

Nov. 12, 1968

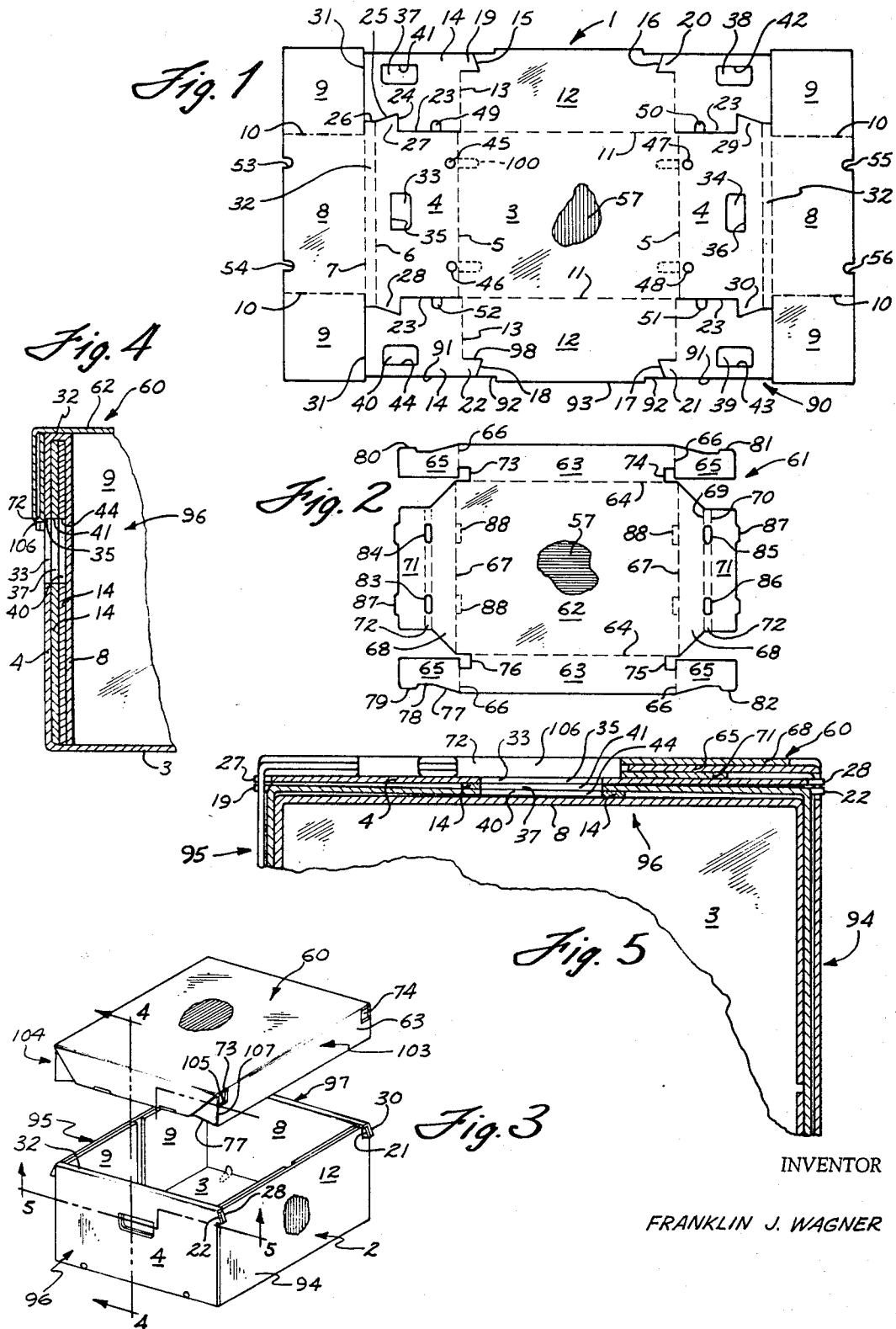
F. J. WAGNER

3,410,475

CONTAINER

Filed July 18, 1966

2 Sheets-Sheet 1



INVENTOR

FRANKLIN J. WAGNER

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CONTAINER

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2 Sheets-Sheet 2

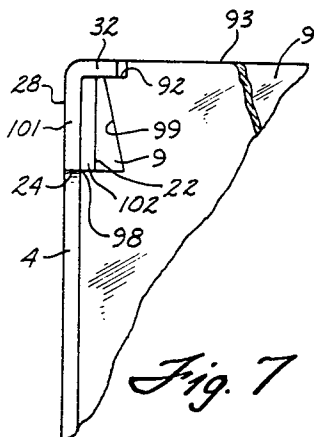


Fig. 7

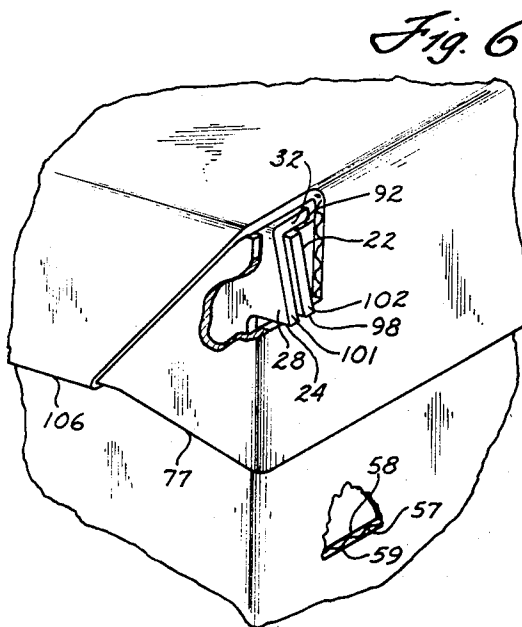


Fig. 6

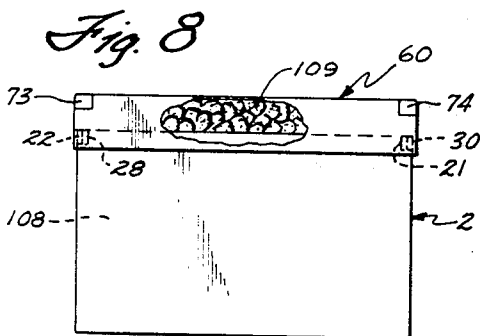


Fig. 8

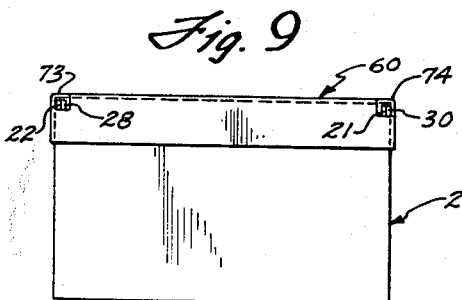


Fig. 9

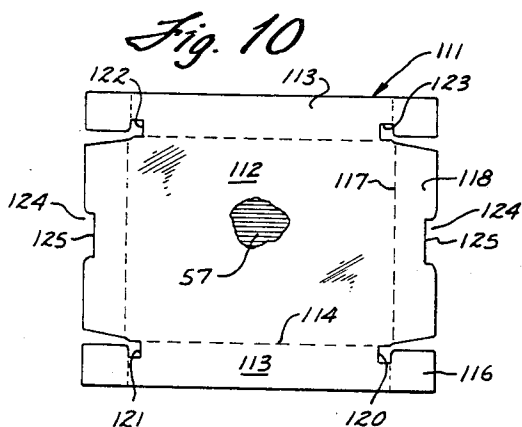


Fig. 10

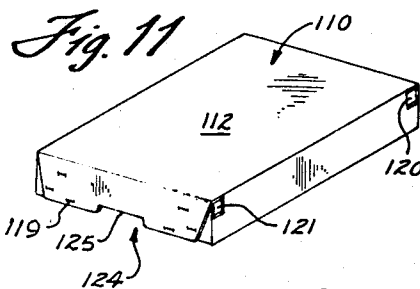


Fig. 11

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3,410,475  
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16 Claims. (Cl. 229-34)

**ABSTRACT OF THE DISCLOSURE**

A paperboard, waterproofed container for packaging food products packed in ice. The container comprises a container cover having lock tab receiving openings and a container body having integral lock tabs for engaging the openings. The container body is erected from a single, flat, substantially rectangular blank and is held together by integral end and side flaps. The cover can be fitted on the container body with its top spaced above the body to accommodate extra ice. Then as the ice melts, the cover can move to a locked position with the tabs engaging the openings.

This invention relates to a unique container for packaging and shipping of various articles, particularly comestible articles. More specifically, the invention relates to a corrugated paperboard container body and cover of unique construction formed from body and cover blanks in such a manner that the several walls of the container body, normally subjected to stress as a result of product therein or handling, are reinforced in a unique manner and the cover cooperates with the body to further strengthen same.

The container of the present invention has particular utility in the shipment of fresh food products such as poultry, which are packed in ice during such shipment.

Among the features of the container of this invention are rigidity, good thermal insulating properties and in one preferred embodiment, the absence of staples or other separate fasteners. By eliminating such separate fasteners, particularly those of metal, not only is the folding of the container and its cover simplified with corresponding decrease in labor cost but in addition, there is a complete absence of contamination of the food product packages in the container as a result of rusting or breaking of the previously used metal fasteners. By virtue of the superior strength of this container and its waterproof characteristics, the container can be reused, if desired.

An additional feature of this invention is the unique cooperation between between the cover and container body which permits packing additional ice between the top of the container body and the inner surface of the top wall of the cover so that when the ice melts, the cover settles and automatically locks itself to the container against displacement or inadvertent removal.

The container of this invention includes a container body adapted to cooperate with two different types of covers. One cover is of a fastener free type which assures the absence of contamination of the product carried in the container as a result of rusting or failure of metal fasteners such as staples normally used to secure either the body or cover in their erected positions. A second embodiment of cover does include fasteners to maintain the cover in a folded position but the staples are so arranged that they are provided only in a skirt portion of the cover which extends around the container body so that the possibility of contamination is completely eliminated and the likelihood of particles of the fasteners falling off during transit into the food product in the container body is virtually eliminated.

Since the food products such as poultry which are normally shipped with ice in the container require the resistance of the container to both grease and water, the corrugated paperboard from which the carton and cover of this invention are formed is preferably impregnated with wax, although it is contemplated that other known modes of waterproofing the paperboard could be used with equal advantage.

It has been found with paperboard containers of the prior art that these containers frequently fail because of the lack of proper reinforcing of the sidewalls as a result of rough handling under the adverse conditions of grease and moisture encountered when a product, such as iced poultry, is shipped in the container. The container bodies sometimes fail as the result of splitting at the vertical side edges thereof as well as because of punctures in the side and end walls of the container bodies. In addition, the locking devices previously known to lock a cover automatically on the top of a container of this type were of flimsy construction. They frequently failed with resultant displacement of the cover during shipment and corresponding contamination of the food products carried in the containers because of refuse and exposure. In addition, by virtue of this flimsy construction of the prior art locking members, the container was virtually useless after a single use.

With the container of this invention, the difficulties with and shortcomings of the prior art constructions are alleviated. The unique construction provides for double reinforcement of the end walls of the container to provide for a double reinforcement of certain portions of the container as well as triple reinforcement of the end walls of the container to provide for a rigid, durable, reliable container for the shipment of iced products such as vegetables and poultry. In addition, the lock tabs provided on the container body and which lock the cover to the body are each of a double thickness of the container paperboard, the double thickness resulting from folding the container body in a unique manner so that a pair of the tabs lie against each other adjacent each side edge of the container body.

In order that the manner in which the advantages and features of the several embodiments of the carton and cover of this invention can be understood in detail, reference is made to the drawings in which

FIG. 1 is a plan view of a paperboard blank from which the container body of this invention is formed;

FIG. 2 is a plan view of a paperboard blank from which one embodiment of the cover is formed;

FIG. 3 is a pictorial view showing the relationship of the cover to the body of the container;

FIG. 4 is a sectional view taken along lines 4-4 of FIG. 3;

FIG. 5 is a sectional view taken along lines 5-5, FIG. 3, but with the cover in locked position on the container body;

FIG. 6 is an enlarged partial pictorial view showing the details of the container body for locking the cover in position, with portions of the cover cut away for clarity;

FIG. 7 is a partial enlarged view in side elevation showing the details of construction at a corner of the container body;

FIG. 8 is a side elevational view of a container with cover thereon showing the position of the cover when the container body is packed with food product and ice;

FIG. 9 is a view corresponding to FIG. 8 showing the position of a cover after the ice is melted;

FIG. 10 is a plan view of the blank from which a second embodiment of the cover of this invention is formed; and

FIG. 11 is a pictorial view of the cover formed by erecting the blank of FIG. 10.

Referring now to the drawings in detail and particularly to FIGS. 1 and 3, there is shown a contained blank 1 from which container body 2 is erected. Container body blank 1 is of corrugated paperboard suitably waterproofed as by impregnation with wax. As shown at FIG. 1, body blank 1 is formed from a flat generally rectangular sheet of paperboard with substantially no wasted material at either the side or end edges of the blank. Body blank 1 includes a plurality of panels separated from each other by score lines or fold lines which hingedly join the panels and cut lines, the score lines being conventionally shown as dotted lines and the cut lines being shown as solid lines.

As shown at FIG. 1, container body blank 1 includes a generally rectangular bottom panel 3 having generally rectangular end panels 4 hingedly connected thereto along fold lines at each end of bottom panel 3. Hingedly connected to end panels 4 and separated therefrom by a double set of parallel fold lines 6 and 7 are rectangular end flaps 8. Hingedly connected to each side edge of each of end flaps 8 is a generally rectangular side support flap 9, separated from the end flap along fold lines 10.

Hingedly connected to the side edges of bottom panel 3 and separated therefrom by fold lines 11 are generally rectangular side panels 12. Hingedly connected to each side edge of each of side panels 12 along the fold lines 13 are generally rectangular end support flaps 14. It is to be noted that fold lines 13 lie slightly inwardly of fold lines 5 at each side of the bottom panel to compensate for the thickness of the paperboard when container body 2 is erected from body blank 1.

Fold line 13 extends only partially between side panels 12 and end support flaps 14, side panels 12 and end support flaps 14 being separated from each other adjacent the periphery of container body blank 1 by V-shaped, die-cuts 15-18 which extend completely through the blank to form generally trapezoidally shaped lock tabs 19-22 which project from end support flaps 14 beyond fold lines 13.

End panels 4 are separated from end support flaps 14 along cut lines 23. Cut lines 23 form a continuation of fold lines 11, for a portion of their length and then extend outwardly at edge 24, parallel with fold line 5, then inwardly at edge 25 to form an acute angle with edge 24, and terminate at edge 26 which extends from fold line 6 to fold line 7 and is perpendicular thereto and is spaced outwardly from but parallel with the longer portion of the cut line 23. Thus, the end panel 4 at the left side of body blank 1 has projecting from its side edges locking tabs 27 and 28, each of which originates at fold line 6 and the other side panel similarly has outwardly projecting locking tabs 29 and 30 which also originate at fold line 6. Side support flaps 9 are separated from each of end support flaps 14 by cut lines 31 which form a continuation of score line 7 and extend from score lines 10 to the outer edge of container blank 1. Fold lines 10 are each located slightly inwardly of fold lines 11 to compensate for the thickness of the paperboard when blank 1 is folded to form container body 2. Between each set of fold lines 6 and 7 is a narrow elongated connecting panel 32.

Formed in end panels 4 are handle openings 33 and 34, respectively, for the lefthand and righthand ones of end panels 4. Handle opening 33 is formed midway between the sides of end panel 4 (as defined by cut lines 23) and the handle opening is offset in a direction toward fold line 6 so that the upper edge 35 of the handle opening is parallel with and spaced slightly from the score line 6. Handle opening 34 is similarly located relative to its end panel and has its upper edge 36 parallel with and slightly spaced from score line 6.

Formed in each of end support flaps 14 are handle forming openings 37-40 having top edges 41-44, re-

spectively, each of which is parallel with and spaced inwardly from the side edges of blank 1. Handle openings 37-40 are identical on outline configuration to handle openings 33 and 34.

Circular outcuts to provide drain openings 45 and 46 are provided in the end panel 4 at the lefthand side of container blank 1. Similar drain openings 47 and 48 are provided in the end panel 4 at the righthand side of body blank 1. The drain openings are each closely adjacent to fold line 5 so they are located adjacent the bottom of the container, when erected. U-shaped drain openings 49-52 are formed in those edges of end support flaps 14 which are defined by cut line 23. The U-shaped openings 49-52 are spaced from fold lines 13, of the respective flaps 14 in which the openings are located, the same distance that drain openings 45-48 are spaced from the respective side edges of end panels 4, so that the U-shaped openings 49-52 will align each with one of the drain openings 45-48 when the container body is folded, in a manner which will subsequently be described in detail.

Four additional U-shaped drain openings 53-56 are formed in the outer end edges of end flaps 8. U-shaped drain openings 53 and 55 are aligned longitudinally with drain openings 45 and 47 so that a line passing through the center of openings 45 and 47 will also pass through the center of U-shaped openings 53 and 55. U-shaped drain openings 54 and 56 are similarly aligned with drain openings 46 and 48.

With reference to FIG. 6, it will be noted that the corrugated paperboard from which container body blank 1 is formed includes a layer of corrugated paper 57 sandwiched between sheets 58 and 59 of relatively heavy dense paper which form the surface layers of the paperboard. At FIG. 1, it will be seen that the corrugated layer 57 of body blank 1 has its corrugations extending predominantly transversely of the body blank. As shown in FIG. 2, the corrugations of corrugated layer 57 of cover blank 61 extend predominantly longitudinally of the cover blank.

Cover 60 is formed from cover blank 61. Cover blank 61 is also formed from a generally rectangular piece of suitably waterproofed corrugated paperboard of the same laminate construction as body blank 1. Cover blank 61 includes a rectangular main panel 62, rectangular side skirt panels 63 hingedly attached to the sides of main panel 62 along fold lines 64, and end flap panels hinged to each of the sides of side skirt panels 63 along fold lines 66. Connected hingedly to end skirt panels 68 by parallel fold lines 69 and 70 are rectangular end skirt flaps 71. Between fold lines 69 and 70 is a narrow rectangular skirt connecting panel 72.

With reference to FIG. 2, end skirt panels 68 are each of regular trapezoid shape, having parallel ends as defined by fold lines 67 and 69, and side edges which form like angles with the base of the trapezoid shape, as defined by fold line 67.

Extending from the intersection of fold lines 64 and 66 into each of side skirt panels 63 are rectangular cut-outs which form lock tab receiving openings 73-76. Formed on each of end skirt support flaps 65 at those edges at the sides of blank 61 are inwardly slanted edges 77 merging with short straight edges 78. At the ends of the end skirt support flaps 65 are connecting lugs 79-82.

Connecting lug receiving openings 83 and 84 are formed in the skirt connecting panel 72 at the left side of cover blank 61. Similar connecting lug receiving openings 85 and 86 are formed in the skirt connecting panel 72 at the righthand side of cover blank 61. Lug receiving opening 83 and connecting lug 79 are so dimensioned and positioned that lug 79 extends into opening 83 when cover 60 is erected. Similarly lugs 80-82 are dimensioned and arranged to extend into openings 84-86.

At the ends of each of end skirt flaps 71 are a pair of spaced apart outwardly extending retaining tabs 87. Re-

taining tabs 87 are each spaced apart the same distance as tab receiving depressions 88 formed at each side of main panel 62 adjacent fold lines 67. Tab depressions 88 are formed by crushing the surface layer of blank 61, as viewed at FIG. 2, into the corrugated layer therebeneath.

To erect container body 2, side panels 12 are first folded upwardly along fold lines 11, so panels 12 are perpendicular to bottom panel 3. The end support flaps 14 at each end of the container body are then folded inwardly along fold line 13 to a position perpendicular to the respective side panels 12 whereupon the end support flaps overlap each other. With the box folded thus far, end support flaps at one end of container blank 1 lie in a vertical plane slightly inwardly of score line 5. Next, end panels 4 are each folded upwardly so they are perpendicular to bottom panel 3. Then each of side support flaps 9 is folded outwardly at right angles to the respective end flaps 8. Connecting panels 32 are then folded inwardly over end support flaps 14 along score line 6. Finally, end flaps 8 are folded downwardly along score lines 7 so the end flaps form the inner surface of the sidewall of container body 2.

It will be observed with reference to FIG. 1 that blank 1 is cut at four places, as at 90, to define edges 91 at each of end support flaps 14. Cut 90 extends into side panels 12 to define ledge faces 92 at the side of each of side panels 12, the ledge faces being spaced slightly inwardly from edge 93 of side panels 12 a distance equal to the thickness of the paperboard from which the container body is formed.

With reference to FIG. 3, it will be seen that the erected container body 2 is comprised of flat sidewalls 94 and 95 projecting perpendicularly from the opposite sides of bottom panel 3. Endwalls 96 and 97 are similarly perpendicular to bottom panel 3, and extend from the opposite ends of the bottom panel.

With reference to FIGS. 3 and 5, each of sidewalls 94 and 95 includes a side panel 12 and a pair of side support flaps 9 which extend along side panel 12 from the opposite endwalls of the container body. Side support flaps 9 each have a height equal to the height of side panel 12 and each side support flap has a length substantially the same as half the length of a side panel 12 so that side support flaps 9 lie closely adjacent to and reinforce each of side panels 12 along substantially the entire length thereof. As a result of folding container body 2 in the manner previously described, end flap 8 forms the inner layer of endwall 96 of the container body 2 and as clearly shown at FIG. 5, side support flaps 9 extend from and are hingedly connected to end flap 8. Endwall 96 also includes a pair of end support flaps 14 and end panel 4, the end panel forming the outer layer of endwall 96.

As shown at FIG. 5, each of end support flaps 14 has a length approximately two-thirds the width of end panel 4. Hence, end support flaps 14 overlap each other and are seen to be sandwiched between end flap 8 and end panel 4. The end support flap 14 in which handle opening 40 is formed lies immediately adjacent end flap 8. The end support flap 14 in which handle opening 37 is formed lies immediately adjacent end panel 4. The handle openings 37 and 44 are so formed in their respective end support flaps that they are aligned with each other and are also aligned with handle opening 33 of end panel 4. It is to be appreciated in addition, that top edges 35, 41 and 44 of handle openings 33, 37 and 40, respectively, are in horizontal alignment (FIGS. 4 and 5) to provide a continuous horizontal surface of sufficient depth to permit easy lifting and handling of the container by a workman.

End support flaps 14 each have a height as measured from cut line 23 to edge 91 which is equal to the height of end panel 4 as measured between fold line 5 and fold lines 6. Hence, when body blank 1 is folded to form container body 2, connecting panel 32 extends over and

engages the upper edges of end support flaps 14 (FIG. 4). Thus, connecting panel 32 cooperates with end panel 4 and end flap 8 to substantially completely enclose end support flaps 14. Correspondingly, end flaps 14 reinforce endwalls 96 and 97 of the container body.

It will be observed with reference to FIGS. 6 and 7 that at their opposite ends, connecting panels 32 seat on ledge faces 92 of side panels 12. Since ledge faces 92 are spaced below edges 93 of side panels 12, the same distance as the thickness of the paperboard from which the container is formed, edges 93 of the side panels are coplanar with the top surfaces of connecting panels 32, in the erected container.

As shown at FIG. 1, cuts 15-18 define edges 98 of lock tabs 19-22, edges 98 extending horizontally in the folded body. Edges 98 are the same distance from bottom panel 3 as edges 24 of lock tabs 27-30 are from the bottom panel.

Hence, by virtue of the dimensional relationships between end support flaps 14 and end panels 4, it will be observed that lock tab 22 of end support flap 14 is immediately adjacent lock tab 28 of end panel 4 (FIGS. 3 and 5) and that lock tab 19 is immediately adjacent lock tab 27 (FIG. 5). Lock tab 20 is immediately beside lock tab 29 (not shown) and lock tab 21 is immediately beside lock tab 30 (FIG. 3). As illustrated with regard to lock tabs 22 and 28 (FIGS. 6 and 7), the outwardly projecting portions of these lock tabs are of generally triangular outline configuration, tabs 22 and 28 having upwardly facing inwardly sloping surfaces 101 and 102, respectively. Surface 101 originates at horizontal edge 24 of tab 28 whereas surface 102 originates at horizontal edge 98 of tab 22. By virtue of the like spacing of lock tabs 22 and 28 from the bottom panel of the container, these tabs are aligned with each other, and hence, surfaces 101 and 102 are coplanar, and edges 24 and 98 are likewise coplanar. It is thus apparent that tabs 22 and 28 cooperate to form a double thickness lock tab. Similarly, lock tab 19 cooperates with lock tab 27, lock tab 20 cooperates with lock tab 29 and lock tab 21 cooperates with lock tab 30 to provide a double thick lock tab arrangement at each corner of container body 2.

When end support flaps 14 are folded at right angles to side panels 12, a generally trapezoidally shaped opening remains at each of side panels 12 as a result of the die cuts 15-17 which define the lock tabs. With reference to FIG. 7, a trapezoidal shaped opening 99 results when the end support flap 14 in which lock tab 22 is formed, is folded. However, since a side support flap 9 is hinged to the side edge of and extends from each of end flaps 8, the openings such as opening 99 at each corner of the container body are closed by the respective side support flaps 9 which extend from each corner of the container body.

To permit liquid, resulting from melting of ice packed with the product in container body 2, to drain from the container body, the several drain openings are provided in the endwalls of the container body. To funnel the liquid to the drain openings, bottom panel 3 is provided with narrow elongated crushed portions 100 adjacent each of drain openings 45-48 and which extend toward these openings in a direction parallel with fold lines 11. By virtue of the location of the several U-shaped drain openings 49-52 in the several end support flaps 14, and the location of U-shaped drain openings 53-56 in the end flaps 8, four drain openings which extend, two through each endwall, are formed when the container is folded. Hence, openings 45, 49 and 53 are aligned to form a continuous drain opening; openings 47, 50 and 55 are aligned; openings 48, 51 and 56 are aligned; and openings 46, 52 and 54 are aligned. Each of the openings extends adjacent the plane of the bottom panel.

Cover blank 61 is folded in the following manner to form cover 60. First, each of side skirt panels 63 is folded along fold line 64 to lie perpendicular with main

panel 62. Next, each of end skirt support flaps 65 is folded inwardly toward main panel 62 so that the end flaps generally align with fold lines 67. Next, end skirt panel 68 is folded along fold lines 67 in the same direction as the side skirt panels to extend perpendicularly from main panel 62. Then, end skirt flaps 71 are folded inwardly across end skirt support flaps 65 along the fold lines 69, and are subsequently folded inwardly along fold lines 70 so that retaining tabs 87 seat in tab depressions 88. During this step of folding, connecting lugs 79-81 align with connecting lug openings 83-86, respectively, and project into these openings to positively prevent unfolding of side skirt panels 63. Cover 60 is thus folded. It will be observed with reference to FIG. 3 that side skirt panels 63 each depend perpendicularly from main panel 62 to provide cover sidewalls 103. In addition, end skirt panels 68, end skirt flaps 71 and skirt connecting flaps 72 cooperate to form cover endwalls 104, each of which extends perpendicularly from main panel 62. The end skirt support flaps 65 are sandwiched between panel 68 and flap 71. With the cover 60 thus folded, rectangular lock openings 73-76 are located respectively at the sides of each of cover sidewalls 103. With regard to FIGS. 3, 6 and 9, it will be observed that the vertical height of each of openings 73-76 is slightly higher than the height of each pair of locking tabs at the corners of the container body. In addition, the inside dimensions of the cover are such that the inner surfaces of the cover walls snugly engage the exterior of container body 2 when the cover is placed on the container body (FIG. 5). By virtue of the flexibility of the locking tabs and sidewalls of the container, pushing cover 60 down onto container body 2 to its fullest extent allows sufficient deformation for the several lock tabs to extend through the lock tab receiving openings 73-76. In this locked position of cover 6, edges 24 and 48 of the lock tabs extend across the upwardly facing locking edges 105 of lock tab receiving openings 73-76. To remove the cover after it has been fully seated on the container as shown at FIG. 9, it is necessary to deform the lock tabs inwardly while simultaneously pulling outwardly on the cover skirt until the locking edge 105 of each of the lock tab receiving openings clears the bottom as defined by edges 24 and 98. Then, cover 60 can be slipped upwardly to remove same from container body 2.

With reference to FIG. 4, it can be seen that with cover 60 fully seated on container body 2, the lower surface 106 of skirt connecting panel 72 is coplanar with the top edges 35, 41 and 44 of the handle forming openings. This provides additional surface to facilitate grasping of a covered container for handling by a workman. However, side skirt panels 63 have a height greater than the distance from main panel 62 to surface 106 and hence, the lower edges of side skirt panel 63 are in a plane below but parallel to surfaces 106. This dimensioning provides additional reinforcing strength at corners 107 of cover 60, edges 77 of end skirt support flaps 65 slanting upwardly and inwardly toward skirt connecting panel 72.

The construction of cover 60 provides an extremely strong rigid cover. Since the cover closely embraces the top of container body 2 when the cover is in position, it is to be appreciated that the cover further reinforces and strengthens the container body.

FIGS. 8 and 9 show the container of this invention in use as a package for iced food products. As shown at FIG. 8, the container body is filled with food produce 108 and ice. Then, an extra amount of ice 109 is placed on produce 108 so the ice extends above the top edge of the container body. Cover 60 is then placed on the container body and pushed down to the position of FIG. 8 wherein the surfaces 101 and 102 of the locking tabs at each corner of the container body are below the lock tab receiving openings 73-76 of the cover and engage the inner surfaces of the cover sidewalls below the openings to frictionally hold cover 60 in position. Because of the

height of the cover sidewalls (about one-quarter the height of the container body), a substantial amount of extra ice can be placed above the food product of the container while permitting complete filling of the container body with the food product so that the space within the container can be used to its fullest advantage. Observe that so long as the cover remains in the position of FIG. 8, relative to the container body, the cover can be easily removed to add more ice as may be occasioned by delays in shipping of the food product. Note particularly that with the cover in the FIG. 8 position, containers can be stacked one on the other in the usual fashion.

After the excess ice has melted, cover 60 settles to its locked position as shown at FIG. 9, wherein the lock tabs extend through the lock tab receiving openings, only tabs 22, 28, 21, 30 and openings 73 and 74 being shown in FIGS. 8 and 9. Such settling of the cover normally occurs as a result of the weight of the containers when stacked on each other. It will be appreciated, however, that where excess ice is not required, the cover can be fully seated to the position of FIG. 9 immediately after the container is filled with the food product.

It is to be noted with particularity that container body 2 and cover 60 cooperate to provide an extremely strong and rigid container, free of separate fasteners to hold same together. By virtue of the structure of container body 2 wherein connecting panels 32 extend across and engage the top edges of end support flaps 14, container body 2 is prevented from unfolding as a result of transverse pressures from the product in the container. In addition, both sidewalls 95 and endwalls 96 of the container body are reinforced, as previously described. Cover 60 serves to further reinforce both the end walls and sidewalls of the container by closely embracing the periphery of the container body adjacent its upper end. Since cover 60 is locked against unfolding by the engagement of tabs 79-82 with the sides of openings 83-86, the side and end walls of cover 60 strengthen container body 2 diagonally as well as transversely. Also, with the cover fully sealed on the container body, side support flaps 9 are prevented from pivoting in a vertical plane and thus, the cover further functions to prevent unfolding of container body 2.

FIGS. 10 and 11 show a second embodiment of a cover which can be used with container body 2, the second embodiment taking the form of a cover 110 folded from a cover blank 111. Cover blank 111 is formed from a generally rectangular sheet of paperboard similar to the paperboard from which cover 60 is formed. As shown at FIG. 10, corrugations 57 extend predominantly longitudinally of cover blank 111. Cover blank 111 includes a rectangular main panel 112 having side skirt panels 113 connected to the opposite sides thereof along fold lines 114. Connected to each side of each of side skirt panels 113 along fold lines 115 is an end skirt support flap 116.

Hingedly connected, one to each of the opposite ends of main panel 112 along fold lines 117 are end skirt panels 118. The folding of cover 110 is similar to that of cover 60. First, side skirt panels 113 are folded along fold lines 114 to extend perpendicular to main panel 112. Then, end skirt support flaps 116 are each folded inwardly perpendicular to side skirt panels 113. Then, end skirt panels 118 are each folded along fold lines 117 until they are perpendicular with main panel 112 and engage end skirt panels 113. Cover 110 is then held in this position and staples 119 are driven in a predetermined pattern through end skirt panels 118 and end skirt support flaps 115, whereupon the skirt portion of cover 110 is fixed against unfolding. At each side of each of side skirt panels 113, adjacent fold line 114, is a rectangular cutout which provides lock openings 120-123 similar to lock opening 73-76 previously described with regard to cover 60. Lock tab receiving openings 120-123 are identical in configuration and function to those of cover 60 and hence will not be described in detail.

At the center of the sides of each of end skirt panels

118 is a U-shaped recess 124 with a downwardly facing edge 125 that is coplanar with the top edges 35, 41, 44 of the handle openings of the container body when the cover is fully seated on the container body. The recess permits the use of higher cover sidewalls with the advantage previously described, including the retaining of excess ice.

Cover 110 cooperates with container body 2 in a manner identical to that described for cover 60. When the cover is fully seated on the top of the container, the lock tabs extend through the lock tab receiving openings 120-123 to lock the cover in position. When cover 110 is in position such as that shown at FIG. 8, with regard to cover 60, the outer edges of the lock tabs engage the inner surface of side skirt panels 113 to frictionally hold the cover in position. Hence, it is apparent that cover 110 is functionally the same as cover 60 although the structure is different.

While a preferred embodiment of a container body, and several preferred embodiments of a cover for the container body, have been shown and described in detail, it is to be understood that numerous changes and variations can be made in the structure and relationships set forth without departing from the scope of this invention.

What is claimed is:

1. A high strength paperboard container comprising in combination
  - a rectangular bottom panel;
  - generally rectangular end panels hingedly connected, one to each end of said bottom panel along fold lines, and extending generally perpendicularly therefrom;
  - end flaps hingedly connected, one at each of the outer ends of the end panels, along fold lines and extending parallel to the end panels;
  - generally rectangular side panels hingedly connected one to each of the opposite sides of said bottom panel along fold lines and extending generally perpendicularly therefrom;
  - end support flaps hingedly connected, one to each side of each of said side panels along fold lines, said end support flaps each extending perpendicularly from said side panels and between said end flaps and said end panels;
  - side support flaps hingedly connected, one to each of the sides of each of said end flaps along fold lines and extending perpendicularly therefrom to lie along the inside of said side panels and parallel thereto to reinforce said side panels;
  - said side support flaps each having a height substantially the same as the height of the side panels;
  - a set of cover lock tabs, one tab of said set projecting outwardly from a side of each of said end support flaps;
  - the exposed portion of each of said lock tabs being of generally triangular outline configuration.
2. A container in accordance with claim 1 wherein the material which forms said lock tabs is cut from the sides of said side panels.
3. A high strength paperboard container comprising in combination
  - a rectangular bottom panel;
  - generally rectangular end panels hingedly connected, one to each end of said bottom panel along fold lines, and extending generally perpendicularly therefrom;
  - end flaps hingedly connected, one at each of the outer ends of the end panels, along fold lines and extending parallel to the end panels;
  - generally rectangular side panels hingedly connected one to each of the opposite sides of said bottom panels along fold lines and extending generally perpendicularly therefrom;
  - end support flaps hingedly connected, one to each side of each of said side panels along fold lines, said end support flaps each extending perpendicularly from

- said side panels and between said end flaps and said end panels;
- side support flaps hingedly connected, one to each of the sides of each of said end flaps along fold lines and extending perpendicularly therefrom to lie along the inside of said side panels and parallel thereto to reinforce said side panels;
- said side support flaps each having a height substantially the same as the height of the side panels;
- a first set of cover lock tabs, one tab of said set projecting outwardly from a side of each of said end support flaps;
- a second set of lock tabs, one tab of said second set projecting outwardly from the opposite sides of each of said end panels;
- one of said second set of lock tabs lying immediately adjacent each one of the first set of lock tabs in aligned relation therewith to provide reinforced double thickness lock tabs at each end of said container.
4. A container in accordance with claim 3 wherein said container further includes a cover comprised of a main panel, and a peripheral skirt depending therefrom; said peripheral skirt having formed therein lock tabs receiving openings in alignment with each of said lock tabs.
5. A high strength reusable paperboard container comprising in combination
  - a rectangular bottom panel;
  - generally rectangular end panels hingedly connected, one to each end of said bottom panel along fold lines, and extending generally perpendicularly therefrom;
  - end flaps hingedly connected, one at each of the outer ends of the end panels, along fold lines and extending parallel to the end panels;
  - generally rectangular side panels hingedly connected one to each of the opposite sides of said bottom panels along fold lines and extending generally perpendicularly therefrom;
  - end support flaps hingedly connected, one to each side of each of said side panels along fold lines, said end support flaps each extending perpendicularly from said side panels and between said end flaps and said end panels;
  - side support flaps hingedly connected, one to each of the sides of each of said end flaps along fold lines and extending perpendicularly therefrom to lie along the inside of said side panels and parallel thereto to reinforce said side panels;
  - said side support flaps each having a height substantially the same as the height of the side panels;
  - said end support flaps each having a height substantially the same as the height of said end panels and a length only slightly greater than half the length of said end panels whereby the end panels overlap each other;
  - each of said end panels having a handle opening formed therein approximately midway between the sides thereof;
  - each of said end support flaps further having a handle opening formed therein, the handle openings of the end support flaps at a common end of the container being in alignment with each other and in alignment with the handle opening at the end panel;
  - said side support flaps each having a length approximately equal to half the length of a side panel, whereby said side support flaps extend along and reinforce the entire length of each of the side panels; and
  - said container being erectable from a flat blank of cut and scored paperboard, said blank having an outline that is substantially rectangular whereby little waste results from forming the blank.
6. A container in accordance with claim 5 wherein



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said end flaps, end panels and end support flaps are each of approximately the same height and each have drain openings therein adjacent the plane of said bottom panel;

said drain openings being generally aligned with each other to provide passages for draining liquid from the container.

7. A container in accordance with claim 5 wherein each end flap has a height substantially the same as each end panel and each end flap is in a plane parallel with and spaced inwardly of said end panels; and which further includes

a narrow rectangular connecting panel between each end flap and end panel, said connecting panel extending across each of said end support flaps and forming the top edge of the endwalls of the body of the container.

8. A container in accordance with claim 5 which further includes

a set of cover lock tabs, one tab of said set projecting outwardly from a side of each of said end support flaps.

9. A high strength container comprising, in combination

a container body comprising  
 a rectangular bottom panel,  
 a pair of upright side walls extending upwardly one from said side of said bottom panel, and  
 a pair of upright end walls projecting upwardly one from each end of said bottom panel and each of essentially the same height as each of said side walls;

each of said end walls including an end panel hingedly connected to said bottom panel along a fold line, and reinforcing end flap means hingedly connected to one of said pairs of upright walls

a first set of lock tabs comprising  
 a lock tab projecting outwardly from each side of each of said end panels;

a second set of lock tabs comprising a lock tab extending parallel with and aligned with each lock tab of said first set and closely adjacent thereto, said second set of lock tabs projecting from said flap means;

each of said lock tabs of said first and second set projecting outwardly beyond said walls; and cover means for said container body, said cover means including

means engageable with said sets of lock tabs to lock same to said body.

10. A container in accordance with claim 9 wherein said reinforcing end flap means are hingedly connected one to each side of each of said side walls.

11. A container in accordance with claim 9 wherein said cover is separable from said container body and comprises

a rectangular panel,  
 a side skirt panel projecting downwardly from each side of said main panel, and  
 end skirt means projecting downwardly from each end of said main panel;  
 said side skirt panels including said means engageable with said sets of lock tabs to lock said cover on said container body.

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12. A container in accordance with claim 11 wherein each of said side skirt panels has an opening therein at the opposite sides thereof, an edge of each of said openings providing said means engageable with said sets of lock tabs to lock said cover on said container.

13. A container in accordance with claim 11 wherein said side skirt panels and end skirt means of said cover are dimensioned to closely embrace said end walls and side walls respectively of said container body; said lock tabs projecting outwardly a distance sufficient to frictionally engage the inside of said side skirt panels;

whereby said cover can be maintained against displacement in a partially closed position by said lock tabs.

14. A high strength container in accordance with claim 11 wherein

each of said pair of upright side walls comprises  
 a side panel hingedly connected to a side of said bottom panel along a fold line,  
 a side support flap hingedly connected to one end wall and extending along said side panel, and  
 a second side support flap hingedly connected to the other end wall and extending along said side panel;

each of said side support flaps having a height substantially equal to the height of said side panel, and a length substantially one-half the length of a side panel;

whereby, said side support flaps reinforce said side panels along substantially the entire length of each of said panels.

15. A high strength container in accordance with claim 11 wherein

said end skirt means of said cover are each comprised of

an end skirt panel hinged to the end of the main panel along a fold line,

a connecting panel hingedly connected to an end of said end skirt panel along a fold line,

an end skirt flap hingedly connected to said connecting panel along a fold line and parallel with said end skirt panel, and

end skirt support flaps hingedly connected to the sides of said side skirt panels and extending between said connecting panel and said end skirt flap.

16. A high strength container in accordance with claim 11 wherein

said end skirt means are each comprised of  
 an end skirt panel hinged to the end of the main panel along a fold line; and

end skirt support flaps hingedly connected to the sides of said side skirt panels and extending along said end skirt panel.

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