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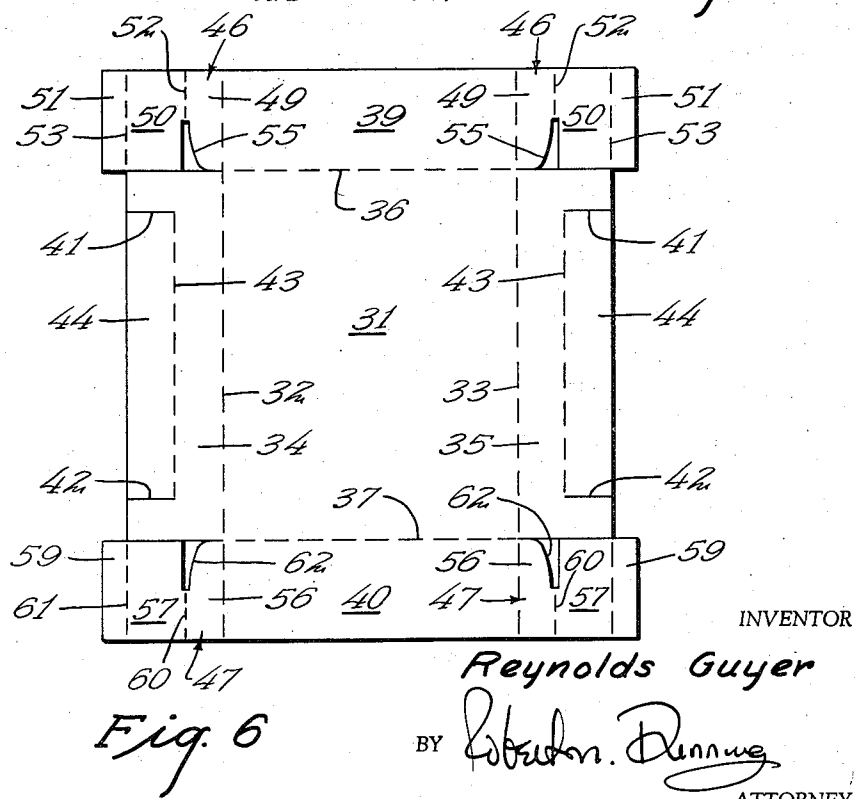
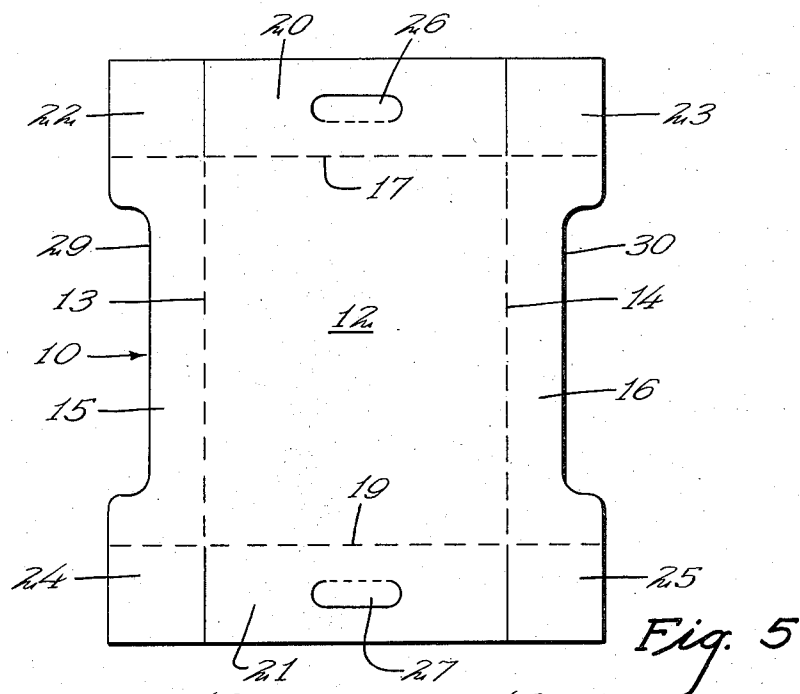
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STACKING CONTAINERS

Filed Feb. 21, 1956

3 Sheets-Sheet 2



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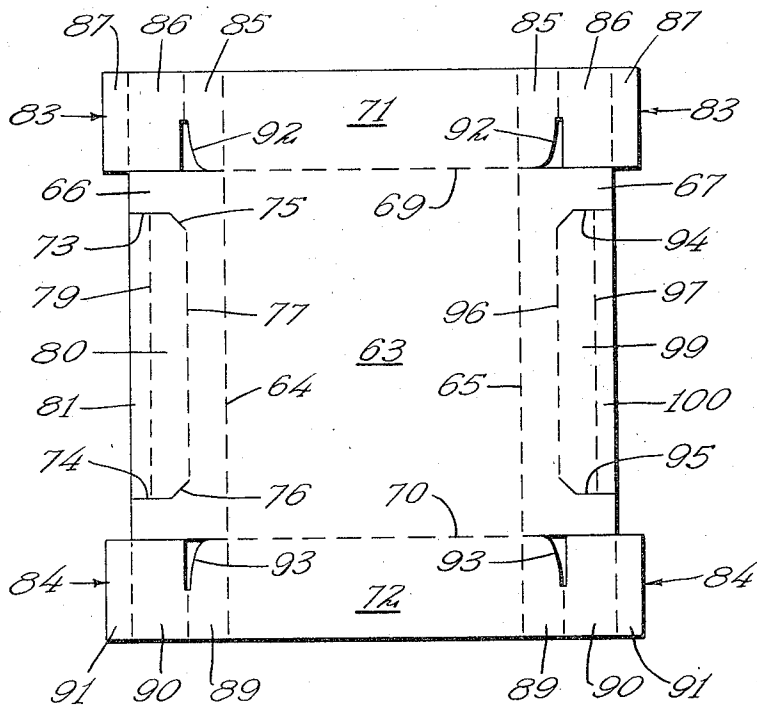
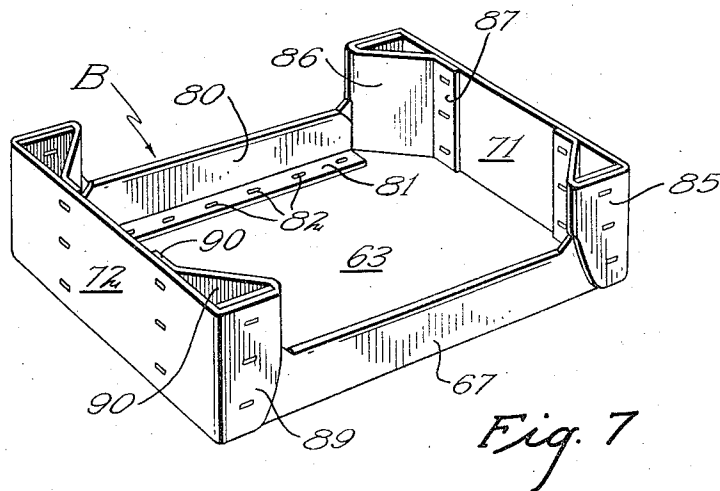


Fig. 8

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2,885,137

STACKING CONTAINERS

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6 Claims. (Cl. 229—6)

This invention relates to an improvement in containers and deals particularly with a type of container possessing high stacking strength.

In recent years, it has become common practice to package chickens, turkeys and the like, in paperboard containers. The containers and the contents are then placed in a freezer and the contents are thoroughly frozen at a low temperature. During this operation and during the subsequent storage, the containers are stacked in relatively high piles in order to conserve freezer space. The present container is constructed to accomplish these results.

A feature of the present invention resides in the provision of a simple container, which is formed as a two piece telescope box including a body portion and a cover. The body portion of the container is provided with side walls having portions of reduced height. Accordingly when the contents are placed in the container and the containers are stacked one upon the other, the sides of the container are partially open to permit a free circulation of air. As a result, the contents are quickly frozen.

A further feature of the present invention resides in the provision of a container having triangular corner posts which are formed in a unique manner. The end walls of the container are provided with flaps which may fold outwardly of the end portions of the side walls. These flaps are provided with a slit in their lower edge, these slits or slots being designed to accommodate the reduced height portions of the side walls. The ends of the flaps on the end walls are then folded diagonally of the corners of the container and are stitched back upon the end walls so as to provide a container possessing high stacking strength.

A further feature of the present invention resides in the provision of a container having side walls which are only a part of the height of the remainder of the body portion of the container. The portions of the side walls, which would normally continue to the full height of the container, are folded down inwardly of the side walls and may be attached thereto to strengthen the side walls materially.

A further feature of the present invention resides in the fact that in the preferred form of construction, the cover of the container is formed similarly to the bottom insofar as the side walls of reduced height are concerned. As a result, the bodies of the containers may be telescoped into the inverted covers during the freezing and storing of the goods or at least during the freezing operation. When the covers are inverted and telescoped onto the bodies of the containers, the side walls of the two parts overlap to form a side closure.

These and other objects and novel features of the present invention will be more clearly and fully set forth in the following specification and claims.

In the drawings forming a part of the specification:

Figure 1 is a perspective view of the container in closed condition thereof.

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Figure 2 is a perspective view of the cover in inverted position.

Figure 3 is a perspective view of the body of the container with the cover removed.

Figure 4 is a horizontal sectional view through an end wall of the container and through the triangular corner posts at opposite ends thereof.

Figure 5 is a diagrammatic view of the blank from which the cover is formed.

Figure 6 is a diagrammatic view of the blank from which the body of the container is formed.

Figure 7 is perspective view of a modified form of container body.

Figure 8 is a diagrammatic view of the blank from which the container body portion shown in Figure 7 is formed.

The container is indicated in general by the letter A and includes a top portion 10 and a body or bottom portion 11. In closed position of the container, the two parts are telescoped together.

The container top is formed as will be seen in Figure 5 of the drawings. The container top includes a top panel 12, which is foldably connected along parallel fold lines 13 and 14 to side wall panels 15 and 16. The top panel 12 is also connected along parallel fold lines 17 and 19 to end wall panels 20 and 21 respectively. The top panel 12 is preferably rectangular in form and the fold lines 17 and 19 intersect the fold lines 13 and 14 at substantially right angles.

The side walls 15 and 16 are foldably connected along extensions of the fold line 17 to end flaps 22 and 23. These side wall panels 15 and 16 are also connected along extensions of the fold line 19 to end flaps 24 and 25 respectively. When the top is erected, the flaps 22 and 23 fold inwardly of the end wall 20 and are stitched or otherwise secured thereto. The flaps 24 and 25 are similarly folded into surface contact with the end wall 21 and are attached thereto.

As is indicated in Figure 5 of the drawings, a handle hole 26 is provided in the end wall 20 and a similar handle hole 27 is provided in the end wall 21. These hand holes provide a means by which the cover may be lifted. The side wall panels 15 and 16 are notched as indicated in their upper edges intermediate the ends of the side walls. The notches 29 and 30 extend throughout the major portion of the length of the side wall panels but terminate short of the fold lines 17 and 19. These notches 29 and 30 are usually slightly less than one-half the height of the side walls, this arrangement being made so that the side walls of the cover and body portion will overlap when the container is closed.

The body portion 11 of the container is constructed as is best illustrated in Figure 6 of the drawings. This body portion includes a bottom panel 31 which is foldably connected along opposed parallel fold lines 32 and 33 to side wall panels 34 and 35. The bottom panel 31 is also foldably connected along parallel fold lines 36 and 37 to end wall panels 39 and 40 respectively. The fold lines 36 and 37 are usually at right angles to the fold lines 32 and 33.

A pair of spaced cut lines 41 and 42 extend into each of the side wall panels 34 and 35, the cut lines extending parallel to the ends of the side wall panels and spaced therefrom a relatively short distance. Fold lines 43 which are parallel to the fold lines 32 and 33, connect the inner ends of the cut lines 41 and 42. Accordingly, the area between the cut lines 41 and 42, the fold line 43 and the edge of the side wall forms a flap 44, which is foldable inwardly into surface contact with the side wall to which it is hinged and is secured in this position by stitches 45 or by other suitable means.

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Flap structures 46 are foldably connected to opposite ends of the end wall 39 along extensions of the fold lines 32 and 33. Flap structures 47 are foldably connected to the end wall panel 40 along extensions of these fold lines 32 and 33. These flap structures 46 and 47 are similar but opposed and include several sections which will be described.

The flap structures 46 include three panels 49, 50 and 51, which are foldably connected along parallel fold lines 52 and 53. The panels 49 are designed to lie outwardly of the end portions of the side wall panels 34 and 35 and to be in surface contact therewith. The panels 50 are designed to extend diagonally across the corners of the container from the side wall to the inner surface of the end wall. The panels 51 are designed to extend in surface contact with the inner surface of the end wall 39. Stitches 54 or other suitable means are provided for holding the panels 51 in surface contact with the end panel 39.

Notches 55 are provided in the under sides of the flap structures, these notches being designed to accommodate the reduced height portions of the side walls 34 and 35 formed by folding inwardly the flaps 44. As a result, the panels 49 forming a part of the flap structures 46, may lie outwardly of the side walls and the remaining panels 50 and 51 of the flap structures may be enclosed within the containers. In other words, the flap structures actually interlock with the side walls and strengthen the same considerably.

The flap structures 47 are identical with the flap structures 46 previously described. These members 47 include three panels, 56, 57 and 59, which are foldably connected along parallel fold lines 60 and 61. Notches 62 are provided in the lower edge of the flap structures 47 substantially in alignment with the fold lines 60. These notches are designed to accommodate the reduced height portions of the side walls 34 and 35 so that the panels 56 may lie outwardly of the ends of the side walls and the panels 57 and 59 may extend within the body of the container.

From the foregoing description, it should be clear that when the cover portion 10 of the container is inverted, as shown in Figure 2 of the drawings, the body portion 11 may be placed therein in a manner to form a double tray possessing considerable strength. The material to be contained, such as a series of chickens or turkeys, are then placed within the containers and the containers are stacked one above the other on skids and placed in a cold storage room. Due to the openings in the sides of the containers, the air may circulate freely about the contents, thus permitting the contents to freeze more quickly than if the containers were closed.

After the desired freezing period, the containers may be re-stacked. During this re-stacking operation, the cover is removed from the bottom of the container and is placed over the top of the body portion to telescope into the condition shown in Figure 1 of the drawings. The side walls of the two parts of the container are preferably so proportioned that these side walls overlap when the container is closed.

In Figures 7 and 8 of the drawings, I disclose the lower portion of a container B, which may be used in place of the container A. The container B is very similar in construction to the container A, but the side walls are cut down to a more marked degree. As a result, the notches in the side walls of the cover portion are extremely shallow or are entirely eliminated. When containers, such as B are used, the goods to be frozen are first placed in the body portion illustrated in Figure 7 and frozen. The covers of the containers are applied at the end of the freezing operation.

As shown in Figure 8 of the drawings, the container body B includes a bottom panel 63, which is foldably connected along parallel fold lines 64 and 65 to side wall panels 66 and 67. The bottom panel 63 is also connected along parallel fold lines 69 and 70 to end wall panels 71 and 72. Each side wall panel 66 and 67 is

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provided with a pair of parallel cut lines 73 and 74, which extend downwardly parallel to the ends of the side walls. These cut lines 73 and 74 preferably terminate inwardly and downwardly diverging cut line portions 75 and 76 respectively. A fold line 77 extends between the ends of the cut lines 75 and 76 and a parallel fold line 79 extends the length of the flap 80, which is defined between the cut lines described for a purpose which will be later described. The fold line 77 is preferably midway between the fold line 64 and the fold line 79.

When the side walls of the container are erected, the flap 80 between the side walls 77 and 79, is folded to overlie the portion of the side wall beneath the flap and the flap portion 81 between the fold line 79 and the upper edge of the side wall is folded to overlie the bottom panel 63. Stitches such as 82 (see Figure 7) hold these parts in their proper relation.

The end walls 71 and 72 are provided with end flap structures 83 and 84 respectively, which are substantially identical with the end flap structures previously described. Each end flap structure is connected to its end wall panel 71 and 72 along continuations of the fold lines 64 and 65. The flap structures 83 are divided into hingedly connected panels 85, 86 and 87, while the flap structures 84 are similarly divided into panels 89, 90 and 91. Notches 92 are provided in the lower edges of the flap structures between the panels 85 and 86. Similar notches 93 are provided in the lower edge of the flap structures 84 at the juncture between the panels 89 and 90. These notches are designed to accommodate the double thickness portion of the side walls, one of which has been described in detail.

The side wall 67 is constructed similarly to the side wall 66 and includes spaced parallel cut lines 94 and 95 having inwardly diverging extremities. Fold lines 96 and 97 fold the area between the cut lines 94 and 95 into a first flap 99 and a second flap 100. In folded condition of the container, the flap 99 is folded against the inner surface of the portion of the side wall 67 immediately below the fold line 96 and the flap 100 overlies the bottom panel 63 and is attached thereto by means of the stitches 82.

The flap structures 83 and 84 thus interlock with the side walls. The panels 86 and 90 extend diagonally across the corners of the container and the flaps 87 and 91 are stitched to the inner surface of the end walls 71 and 72 to provide triangular corner posts. Stitches such as 101, are employed for securing the flaps 87 and 91 to the end walls 71 and 72.

In accordance with the patent statutes, I have described the principles of construction and operation of my stacking container, and while I have endeavored to set forth the best embodiments thereof, I desire to have it understood that obvious changes may be made within the scope of the following claims without departing from the spirit of my invention.

I claim:

1. A stacking container body including a bottom panel, end walls extending upwardly from opposite ends of said bottom panel, side walls extending upwardly from opposite sides of said bottom panel, notches formed in the upper edges of said side walls forming intermediate portions of reduced height, said notches terminating in spaced relation to the ends of said side walls to provide side wall portions of full height adjoining said end walls, flap structures hingedly connected to the ends of said end walls, said flap structures including first panels extending outwardly of the full height portions of said side walls, second panels extending diagonally across the corners of the container, and means securing said diagonally extending panels in diagonal condition, said flap structures having notches of a length equal to the height of said intermediate side wall portions in their lower edges at the juncture between said first panels and said diagonally extending panels, said notches accommodat-

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ing the portions of said side walls beneath the ends of said notches.

2. The construction described in claim 1 and in which said notches in said side walls are formed by providing cut lines near opposite ends of the side walls, and folding a portion of the side wall between said cut lines downwardly and inwardly into surface contact with the inner surfaces of the side walls.

3. The construction described in claim 1 and in which the means for holding said diagonally extending panels in proper position includes panels secured to the diagonally extending panels and means attaching said last named panels in surface contact with said end walls.

4. A stacking container body including a bottom panel, end walls extending upwardly from opposite ends of said bottom panel, side walls extending upwardly from opposite sides of said bottom panel, notches formed in the upper edges of said side walls, said notches being formed by providing cut lines near opposite ends of said side walls and folding a portion of the side walls between said cut lines downwardly and inwardly into surface contact with the inner surfaces of the side walls, said notches terminating in spaced relation to the ends of said side walls, flap structures hingedly connected to the ends of said end walls, said flap structures extending diagonally across the corners of the container, means securing said diagonally extending panels in diagonal condition including panels secured to said diagonally extending panels and means attaching said last named panels in surface contact with said end walls, said flap structures having notches at the juncture between said first panels and said diagonally extending panels, said notches accommodating the portions of said side walls beneath the ends of said notches.

5. A stacking container body including a bottom panel, end walls extending upwardly from opposite ends of said bottom panel, side walls extending upwardly from opposite sides of said bottom panel, notches formed in the upper edges of said side walls, said notches being formed by providing cut lines near opposite ends of said side walls and folding a portion of the side walls between said cut lines downwardly and inwardly into surface contact with the inner surfaces of the side walls, said notches terminating in spaced relation to the ends of said side walls, flap structures hingedly connected to the ends of said end walls, said flap structures extending diagonally across the corners of the container, means securing said

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diagonally extending panels in diagonal condition including panels secured to said diagonally extending panels and means attaching said last named panels in surface contact with said end walls, said flap structures having notches at the juncture between said first panels and said diagonally extending panels, said notches accommodating the portions of said side walls beneath the ends of said notches, a cover designed to telescope onto said container body portion, said cover having a top panel and side and end walls attached thereto and extending downwardly therefrom, said side walls having notches therein designed to register with the notches in the side walls of the container body portion when said body portion is telescoped into the inverted cover.

6. A stacking container body including a bottom panel, end walls extending upwardly from opposite ends of said bottom panel, side walls extending upwardly from opposite sides of said bottom panel, notches formed in the upper edges of said side walls, said notches being formed by providing cut lines near opposite ends of said side walls and folding a portion of the side walls between said cut lines downwardly and inwardly into surface contact with the inner surfaces of the side walls, said notches terminating in spaced relation to the ends of said side walls, flap structures hingedly connected to the ends of said end walls, said flap structures extending diagonally across the corners of the container, means securing said diagonally extending panels in diagonal condition including panels secured to said diagonally extending panels and means attaching said last named panels in surface contact with said end walls, said flap structures having notches at the juncture between said first panels and said diagonally extending panels, said notches accommodating the portions of said side walls beneath the ends of said notches, the portion of the side wall folded into surface contact with the inner surfaces of the side walls having connected thereto panel portions overlying the bottom panel in surface contact therewith.

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