Oct. 4, 1955 W. L. THARPE ET AL 2,719,665

CONTAINER

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Fig. 1.

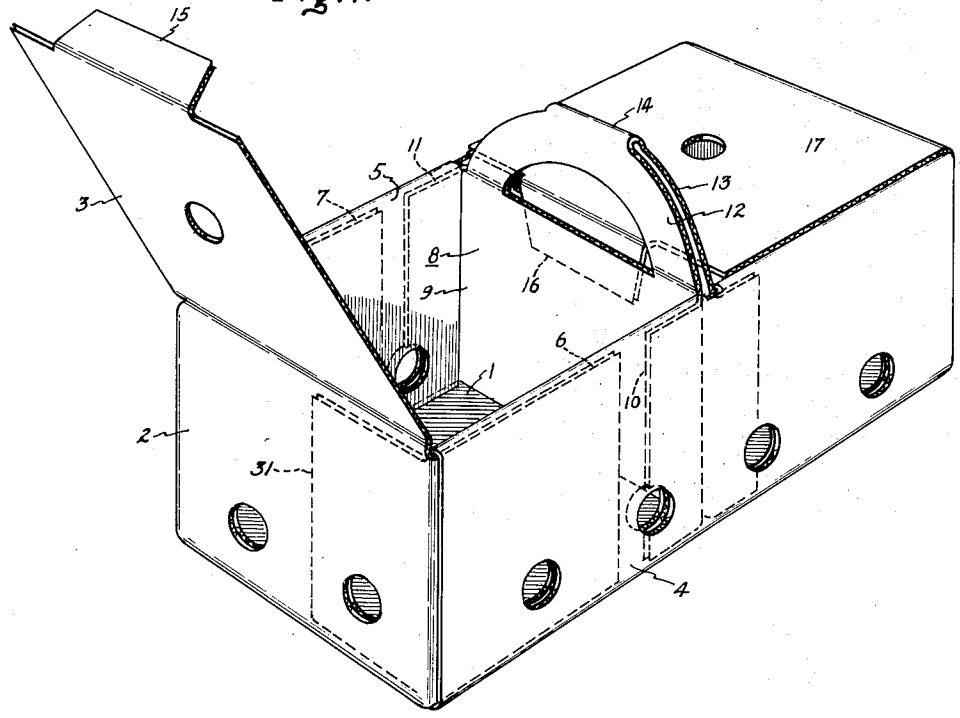
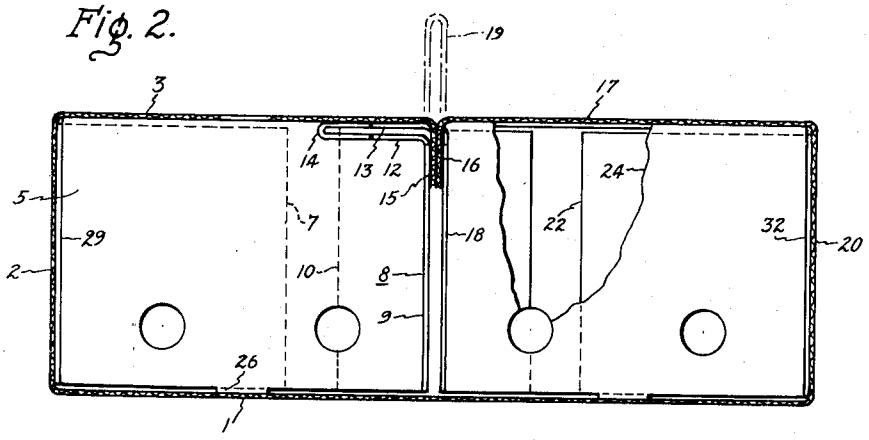


Fig. 2.



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Fig. 3.

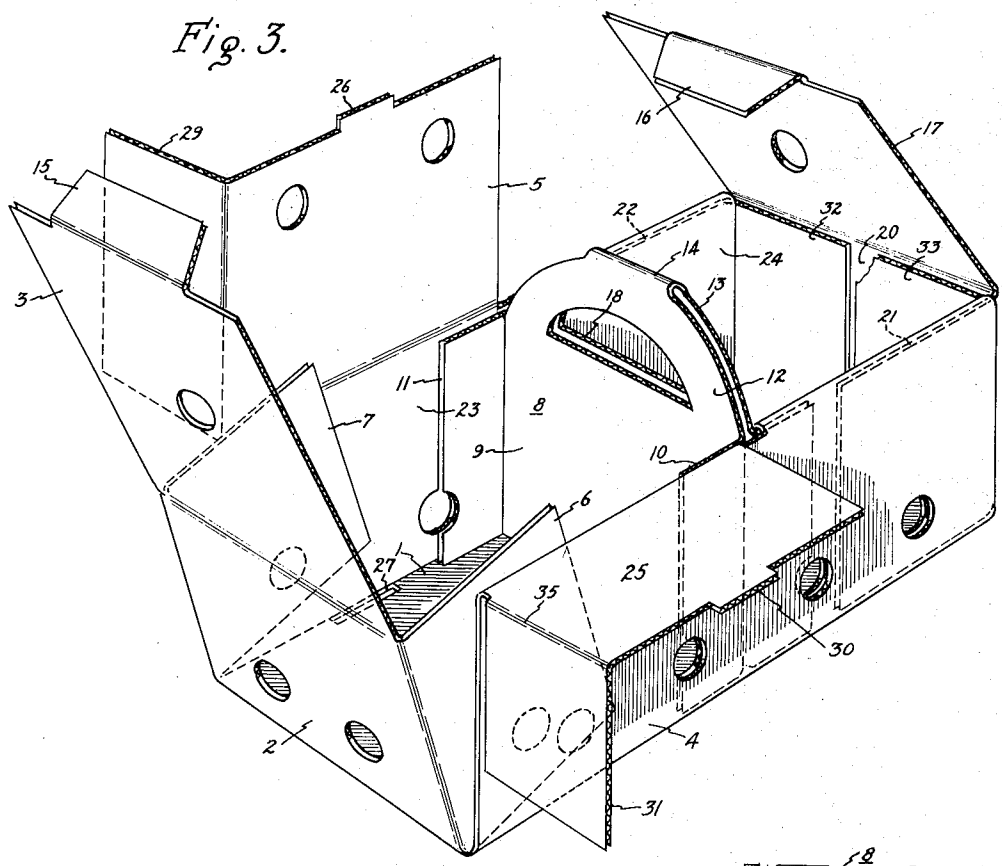
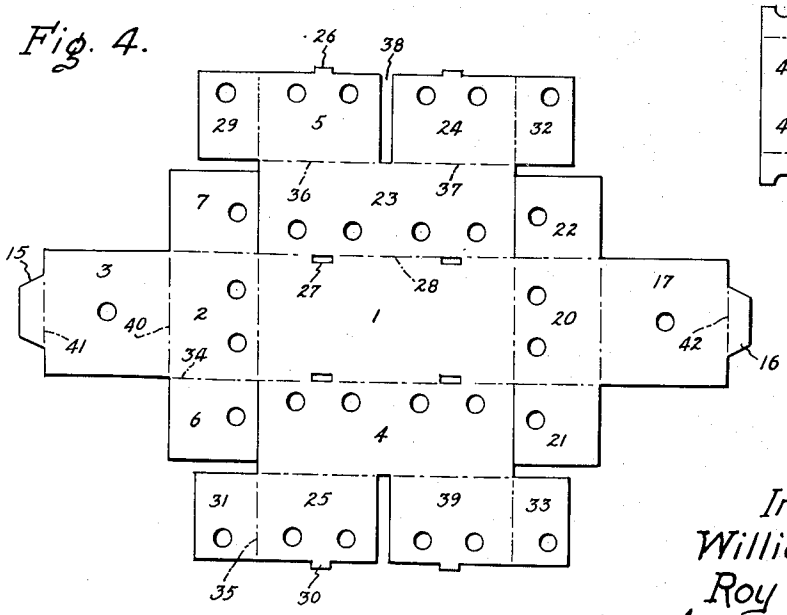


Fig. 4.



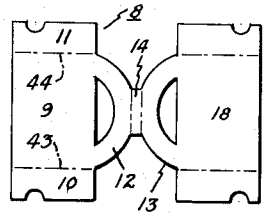


Fig. 5.

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CONTAINER

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Application November 8, 1952, Serial No. 319,581

3 Claims. (Cl. 229—52)

This invention relates to improvements in containers, and more particularly concerns folded containers of the type usually formed of corrugated paper board or the like and particularly adapted for use in the handling of fruits and vegetables and the like.

A general object of this invention is to provide a rectangular box of unusual sturdiness, characterized by double thickness corners, ends and sides, and having top closure panels formed as extended portions of the end wall panels.

Another general object of this invention is to provide, in a folded elongated box having turned-over side walls, a combination handle, partitioning and reinforcing member which additionally performs the function of receiving and retaining tabs formed on top closure panels in a manner releasably to retain said top closure panels in closed position.

A further object of the invention is to provide a combination handle and top closure panel tab retaining member for a rectangular container operative to retain such tabs beneath an upwardly extending handle portion and, alternatively, to retain said tabs with said handle portion retracted into the container.

The novel features which are believed to be characteristic of this invention are set forth with particularity in the appended claims. The invention itself, however, both as to its organization and method of operation, together with further objects and advantages thereof, may best be understood by reference to the following description taken in connection with the accompanying drawings, in which:

Fig. 1 is a perspective view of an assembled container in accord with this invention;

Fig. 2 is a sectional side view of the assembled container of Fig. 1 showing alternative positions of the handle portion;

Fig. 3 is a perspective view of the container of Fig. 1 partially assembled and demonstrating the interrelation of the parts and the method of assembling the container;

Fig. 4 is a reduced plan view of a blank in accord with the invention for forming the body portion of the container of Fig. 1; and

Fig. 5 is a similarly reduced plan view of a blank in accord with the invention for forming a combination partitioning, reinforcing, top-closure-panel-tab-receiving, handle member for use with the blank of Fig. 4 to provide the container of Fig. 1.

The container as seen in Fig. 1 comprises a rectangular body formed from a folded blank of sheet material, such as paper board of the type comprising an intermediate corrugated layer glued between facing flat liner board. The body of the container comprises a flat bottom portion 1 extended at each end to form a respective end panel and top closure panel. An end panel 2 is seen in Fig. 1, and this end panel further extends into a top closure panel 3. The sides of the bottom portion 1 extend into a side panel 4, and into a similar second side panel, and the side panels have extended portions folded

inwardly and downwardly along the upper edge of the side panels into the container to form respective inner side panels as illustrated by inner side panel portion 5. End panel side flaps 6 and 7 are folded inwardly from opposite side edges of end panel 2 and are disposed between the respective outer side panels and their corresponding inner side panels, thereby to lock the end panel in upright position.

A partition member 8 is disposed preferably midway between the ends of the container and divides the body into two compartments. The partition member comprises a separate blank of sheet material folded to form a double wall, one wall panel 9 being visible in Fig. 1, extending laterally across the interior of the container. Wall panel 9 terminates at the sides of the container in flaps 10 and 11, shown in broken lines, which are positioned between the respective outer side panels and their corresponding inner side panels, thereby to be locked in place. The upper edges of the partition wall panels, such as wall panel 9, terminate in respective arcuate handle portions 12 and 13. It will be seen that these handle portions are joined to each other at a crease 14, and it will become apparent that the handle portions are hinged to the respective upper edges of the wall panels.

Top closure panel 3 is formed with a terminal tab 15, which, like terminal tab 16 of top closure panel 17, may be inserted under the handle portions 12, 13 and between the wall panels of the partition member 8.

Further details of the manner in which tabs 15 and 16 fit between the wall panels 9 and 18 of partition member 8 will be seen in Fig. 2, which shows top closure panels 3 and 17 in closed position. When so arranged, the handle may be disposed selectively in either the upright usable operative position indicated by broken lines at 19 or in the retracted inoperative position shown in full lines under top closure panel 3. With handle portions 12 and 13 folded over into the full line position, and with tab 15 tucked in beside tab 16 between wall panels 9 and 18, the top closure panels 3 and 17 form a flush top surface permitting ready stacking of several containers, one on top of the other. To re-expose the handle for use in lifting the container, it is merely necessary to raise top closure panel 3 and its tab 15 to permit the handle to be grasped and raised into the broken line position 19. Thereafter tab 15 may be reinserted between wall panels 9 and 18 beneath and between the hingedly attached ends of the handle.

It will be readily apparent from a consideration of Figs. 1 and 2 that partition member 8 serves to divide the interior of the container into two equal compartments, that it provides a retainer for the tabs 15 and 16 to keep top closure panels 3 and 17 in closed position, that it furnishes reinforcement to support the inner ends of top closure panels 3 and 17 against collapsing into the interior of the container, to brace the side panels of the container against inward crushing, and, being locked at each side by flaps 10 and 11 to the side panels, to brace the side panels against outward bulging. The partition member 8 further tends to prevent the bottom portion from being pushed upwardly into the interior. The partition also comprises the handle 12, 13 and furnishes a rigid connection between the handle and the sides of the container.

Further details of the container construction and arrangement are exhibited in Fig. 3. It will be understood that the container is symmetrical on opposite sides of an imaginary vertical plane passing between wall panels 9 and 18 and through crease 14, and that it is also symmetrical with respect to an imaginary vertical plane perpendicular to and bisecting the end panels and the partition wall panels, and parallel to and equidistantly between the side panels. Thus end panel 2 has its counterpart in opposite end panel 20, and the side flaps 21

and 22 of panel 20, which are shown in broken lines, are duplicates of side flaps 6 and 7 of panel 2. The remaining portions of the container are similarly duplicated, although the bottom portion 1, as seen, extends from end to end and from side to side of the container as a continuous single portion.

Duplicate outer side panels 4 and 23 are unbroken from end to end of the container and comprise upturned side extensions of the bottom portion. Each outer side panel is provided with two similar extending portions, such as portions 5 and 24 of side panel 23, and inner side panel portion 25, extending from side panel 4, corresponds to inner side panel portion 5.

In assembling the container, the steps involved are readily understood from Fig. 3, wherein the near half of the container is shown during assembly and the far half is shown as the assembly is completed. The first steps are to bend the end panels and side panels upwardly from the bottom portion. Thus end panel 2 is raised and its side flaps 6 and 7 are folded inwardly to extend along the inner surfaces of side panels 4 and 23, respectively, as the side panels are brought upwardly into vertical position. The vertical side edges of wall panel 9 extend into flaps 10 and 11, and these flaps, also, are positioned along the inner surfaces of side panels 4 and 23. Inner side panel 5 is now folded inwardly from the upper edge of side panel 23 to overlie flaps 7 and 11, and, in its final position, the inner side panel 5 lies flat against these flaps and is held in position by the engagement of a short tab 26 extending therefrom in a small slot 27 formed in the bottom portion 1 adjacent the fold 28 at which the side panel 23 joints the bottom portion.

Inner side panel 5 further comprises an end flap 29 which, when tab 26 is engaged in slot 27 as described, extends inwardly from the corner of the container across substantially one-half of the inner surface of end panel 2.

Inner side panel 25 is folded over to lie flat against the inner surfaces of flaps 6 and 10, as described for inner side panel 5, and the tab 30 of panel 25 engages in a slot in bottom portion 1 exactly similar to and opposite slot 27. End flap 31 of panel 25 now overlies substantially the full remaining half of the inner surface of end panel 2. The final positions of end flaps 29 and 31 correspond to the positions of similar end flaps 32 and 33 at the opposite end of the container.

It will be noted that the crease or fold 34, at which flap 6 and end panel 2 are joined, is covered, internally, by the crease or fold 35 at which end flap 31 joins inner side panel 25. Accordingly, this and every other vertical corner of the container is of double thickness, the sides are of double and treble thickness, and the ends are of double thickness substantially throughout.

Each of Figs. 1 through 3 shows a plurality of vent openings cut through the side and end panels and top closure panels of the container. Such openings are desirable to prevent spoilage of perishable items packaged in the container, but it will be understood that such vents may be provided or omitted as desired and that they form no part of this invention.

The parts of the blank for a container body shown in Fig. 4 are identified with the same characters as those employed in connection with the respective corresponding parts of the assembled or partly assembled container of Figs. 1–3.

The central portion of the blank comprises a rectangular bottom 1, outer side panels 4 and 23 extending respectively from opposite long edges of the bottom 1 and end panels 2 and 20 extending from respective opposite shorter edges. The edges of bottom 1 are defined by broken lines which indicate respective lines along which the panels are folded in assembling the container. For example, line 28 indicates the fold line, scored on the blank, at which outer side panel 23 joins bottom 1. Inner side panel portions 5 and 24 are joined to outer side panel 23 along appropriately scored fold lines 36 and 37, respectively, and the portions 5 and 24 are separated or severed by a slot 38 through which, in the assembled container, the partition walls will extend. Similar inner side panel portions 25 and 39 are joined to outer side panel 4 by a scored fold line, and it will be noted that end flap 31 is formed as a part of portion 25, end flap 29 is formed as a part of portion 5, end flap 32 is joined to portion 24 and end flap 33 is joined to portion 39. Small tabs, similar to tab 26 on portion 5, are formed on each inner side wall portion 24, 25 and 39, and in assembling the containner, each such tab enters a respective small slot at the adjacent edge of the bottom in the manner in which tab 26 enters slot 27.

End panel side flaps 6 and 7 are formed along opposite edges of end panel 2, and each is joined to the end panel along a scored fold line, such as fold line 34 for flap 6. The remaining three sides of each end panel side flap are completely cut or severed from the stock of the remainder of the container, as indicated by the full line in each instance.

Each end panel 2 and 20 extends into a top closure panel 3 and 17, respectively, the closure panel being joined to the end panel at a scored fold line such as line 40 for closure panel 3. Each top closure panel, in turn, further extends into a tab, such as tabs 15 and 16, respectively, and the tabs are hinged to their respective top closure panels along scored lines 41 and 42, respectively.

Each scored fold line of the blank of Fig. 4 indicates a line along which a panel, tab, flap or panel portion is folded upwardly from the adjacent portion with the exception that each fold line joining an end flap 29, 31, 32, 33 to its respective inner side panel portion indicates a line along which the flap is folded backwardly. For example, end flap 31 is folded backwardly along line 35 from portion 25 as clearly seen in Fig. 3.

The partition member blank 8 is seen in Fig. 5 and comprises wall panel portions 9 and 18 joined by handle portions 12 and 13, the handle portions being joined at a double scored crease area 14. The side edges of wall panel 9 extend into flaps 10 and 11, respectively, which are joined to the respective edges along scored lines 43 and 44. Similar flaps are similarly joined to wall panel 18.

The partition and handle member 8 is assembled for incorporation into the container by folding each of the four flaps, such as flap 10, upwardly along its fold line and by folding the handle portions and wall panels downwardly at the scored crease area 14 until the panels meet in substantially parallel arrangement to form a double thickness wall.

While we have shown and described only certain preferred embodiments of our invention by way of illustration, many modifications will occur to those skilled in the art, and we therefore wish to have it understood that we intend, in the appended claims, to cover all such modifications as fall within the true spirit and scope of our invention.

What we claim as new and desire to secure by Letters Patent of the United States is:

1. In a rectangular box having end and side panels, a double walled upright partition disposed to extend between said side walls and being attached at each end of said partition to a respective said side panel, an arcuate handle hingedly joined at the respective ends of said handle to the upper edge of at least one said wall of said partition, whereby said handle is selectively positionable in an upright operative position and in an approximately horizontal retracted position, portions of the upper edges of said walls of said partition being exposed between said hinged ends of said handle, a top closure panel hinged to each said end panel and arranged to extend to said upper edges of said partition, and a respective tab on each said top closure panel proportioned and arranged to fit between said ends of said handle and selectively to be tucked be-

tween said partition walls with said handle in either said selected position.

2. A folded box comprising a bottom portion having ends and sides and extended and folded at said sides to provide two opposite upstanding outer side panels, each said outer side panel having a horizontal upper edge and extending beyond said edge to form an inner side panel, each said inner side panel being folded inwardly and downwardly along the respective said edge to lie along the respective said outer side panel and each said inner side panel having a respective inwardly folded end flap extending from each end thereof, each said inner side panel being vertically parted to form a slot dividing each said inner side panel into two substantially equal portions, a folded reinforcing handle member comprising a pair of juxtaposed rectangular wall panels disposed across said box from one to the other said side panel, each said wall panel having a flap at each said side panel, said flaps entering the respective said slot of the corresponding said inner side panel and being folded to direct one said flap toward each said end from each said slot, said flaps extending between a respective said portion and the corresponding said outer side panel, a hand-engageable bail extension having respective ends in spaced relation along and attached to the upper edge of each said wall panel, said ends of said bottom portion extending into upwardly folded end walls and the upper edges of said end walls extending into and being joined to inwardly extending top closure panels, said respective inwardly folded end flaps lying along respective said end walls, and a tab formed at the inner edge of each said closure panel, said tabs

being proportioned and arranged to fit between said ends of said hand-engageable extensions and for selective tucking between said wall panels.

3. A rectangular container comprising upstanding side and end panels, a double walled partition extending between and locked at its respective ends to an intermediate portion of each said respective side panel, said partition having intermediate upward handle extensions from each of said partition walls, said extensions being respectively joined at respective spaced end portions to said partition walls on each side of a central upper edge portion of said walls, a top closure panel extending inwardly from each said end panel, a tab on each said top closure panel proportioned to fit between said respective spaced end portions of a respective said handle extension and arranged for insertion between said partition walls at said central upper edge portion.

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