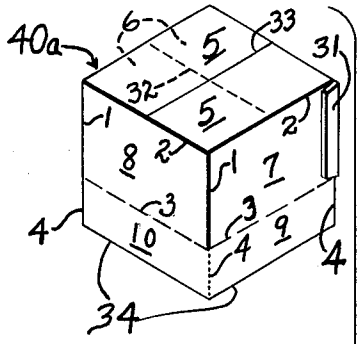
May 30, 1961 W. A. SCHAICH 2,986,321

DUAL PURPOSE SHIPPING CARTON

Filed Oct. 14, 1960



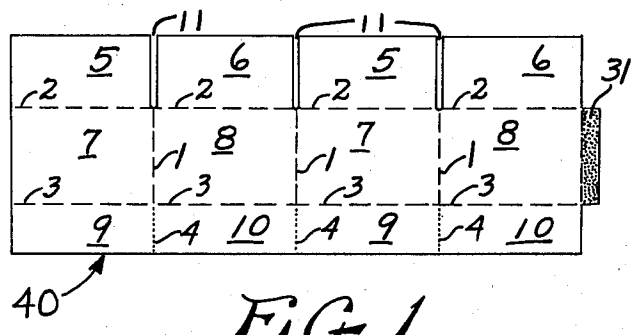
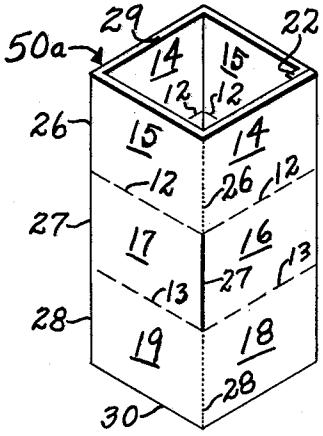


FIG 1.



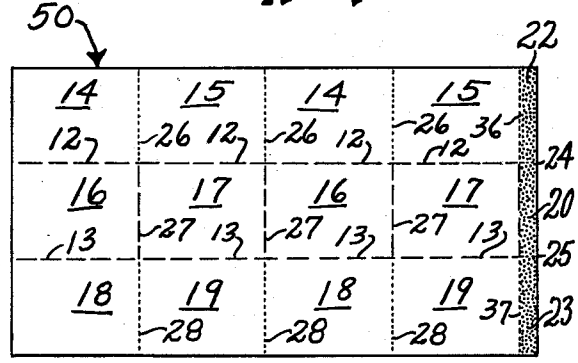


FIG 2.

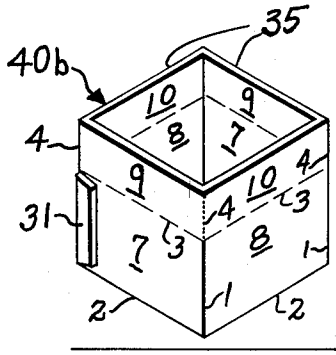


FIG 3.

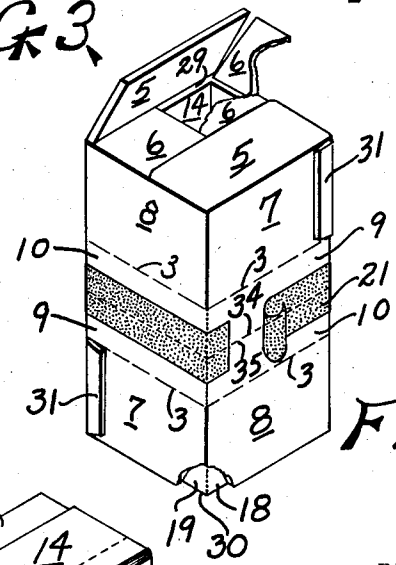
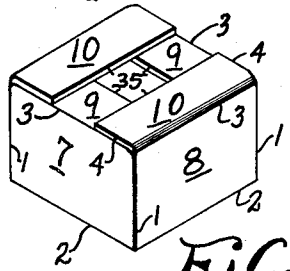


FIG 4.

FIG 5.



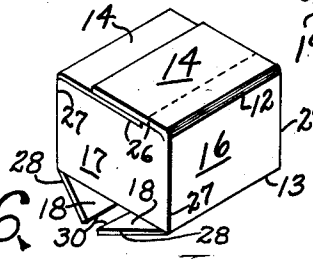


FIG 6.

INVENTOR.
WILBUR A. SCHAICH
BY
J. F. TEIGLAND and
W. A. SCHAICH
ATTORNEYS

United States Patent Office 2,986,321
Patented May 30, 1961

2,986,321

DUAL PURPOSE SHIPPING CARTON

Wilbur A. Schaich, Maumee, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio

Filed Oct. 14, 1960, Ser. No. 62,739

4 Claims. (Cl. 229—23)

This invention relates to an improved paperboard shipping container.

A very substantial portion of the vegetables and fruits grown for market are bulk-packed in thirty to forty pound containers and shipped to terminal markets where they are repacked in retail trade size bags and display boxes.

The present invention provides an adequate container for shipping fresh fruit or vegetables in bulk to the terminal markets, and, in addition, said container may be readily converted into three cartons, substantially one-third the size of the original container, usable for delivering smaller quantities of the repacked items without requiring any additional cartons, equipment or tools of any kind.

Accordingly, the object of this invention is to provide an adequate shipping container for articles in bulk that is immediately reusable for reshipping smaller quantities of such articles.

A specific object is to provide a dual-use container, originally usable for bulk transport and conveniently convertible into three, smaller reshipping cartons without the use of tools, additional material or special equipment.

While dual purpose cartons have been previously known in the art, for instance as disclosed in U.S. Patent 2,936,239 granted W. C. Rendall on May 10, 1960, still none of them have embodied the improved features of cartons embodying this invention.

The specific nature of this invention, as well as other objects and advantages thereof, will become apparent to those skilled in the art from the following detailed description, taken in conjunction with the annexed sheet of drawings, on which, by way of preferred example only, is illustrated an embodiment of this invention.

Figure 1 is a plan view of the blank used in making the top and bottom external units of the bulk shipper.

Figure 2 is a plan view of the blank used to make the inner, tubular unit of the bulk shipper.

Figure 3 is an exploded isometric of the container's three units.

Figure 4 is an assembly drawing partly torn away to show inner, telescoped, tubular unit.

Figure 5 is an isometric of either of the completed outer cartons of Figure 3.

Figure 6 is an isometric of the completed inner carton of Figure 3.

In the plan view of both blanks solid lines represent cut edges, long dashes represent scored lines, dots represent perforated lines, and stippled areas represent glue or other fastening means.

The blank **40** of Figure 1 is used to make the top and bottom cartons **40***a* and **40***b* of Figure 3. This rectangular blank is scored longitudinally at **2** to define the inner edges of pairs of outer closure flaps **5** and **6** and the adjoining outer edges of pairs of panels **7** and **8** of the side wall construction.

Longitudinal score **3**, which is parallel to score **2**, defines the opposite outer edges of pairs of panels **7** and **8**

as well as the adjoining inner edges of pairs of undivided closure flaps **9** and **10**.

Slots **11** free the sides of the closure flaps **5** and **6**.

Vertical scores **1**, lying in the same vertical plane as the slots **11**, define the corners formed when panels **7** and **8** are brought into their normal positions in the finished unit carton, while the perforated scores **4** lying in the same vertical plane as the scores **1** define the continuation of said corners formed when flaps **9** and **10** follow into their normal positions in the unit carton.

These outer cartons are erected as four-sided square-cornered tubes held together by flap **31**, fastened on the outside of panel **7** by glue or staples so that it will not interfere internally during the subsequent carton assembly steps. This tube may be flattened for shipment to bulk filling area. When readied for bulk use, flaps **6** of Figure 3 are folded inwardly meeting at a common central line **32** and their outer surfaces are glued or stapled to flaps **5** folded inwardly and meeting at a common central line **33**. Exactly the same procedure is followed to produce the carton **40***b* at bottom of Figure 3 which rests on a closured end formed as described immediately above.

The blank **50** of Figure 2 is also made into a four-sided square-cornered tube whose slightly narrower panels allow it to telescope inside the two end cartons previously described.

This rectangular blank is scored longitudinally at **12** to define the inner edges of pairs of top closure flaps **14** and **15** and the adjoining edges of pairs of panels **16** and **17** of the side wall construction.

Longitudinal score **13** which is parallel to score **12** defines the inner edges of pairs of bottom flaps **18** and **19** and the opposite, adjoining edges of pairs of panels **16** and **17**.

Vertical score **27** and perforated scores **26** and **28**, lying in the same vertical plane define three of the corners formed when inner blank **50** is made into a square-cornered tube **50***a* of Figure 3. The fourth corner is formed when three portion tabs **20**, **22**, **23** of Figure 2 extending the full length of the tube are glued or stapled internally to opposite free edges of panels **16**, **14**, and **18**, respectively. This arrangement prevents the tab from interfering when tube **50***a* in Figure 3 is inserted into open end carton **40***b* until its lower edges **30** rest upon inner faces of the inner bottom pair of panels **6**. Whereupon the tube **50***a* is packed with tomatoes, or other vegetables or fruit. When this container is filled to whatever weight or level is required, the top outer carton **40***a* is slipped over top of tube **50***a* until its lower edges **34** meet the upper edges **35** of bottom closure carton as seen in Fig. 4. For shipment to repacking plant open edges **34** and **35** are secured by any convenient means, such as glued tape **21**, Figure 4.

At the terminal market or packaging plant, assembly means **21** is removed and top carton **40***a* is lifted off, so that the contents may be removed for washing and sorting prior to being packed into smaller units for retail sale.

The tube **50***a* is removed from its now empty lower closure carton **40***b* and converted into a one-third volume reshipper by severing the flaps **18** and **19** of Figure 2 along perforations **28** and folding them inwardly, overlapping inner bottom flaps **19**, gluing their exposed outer bottom portions and turning inwardly thereon bottom flaps **18** until they adhere. The overlapping area of panels **18** may be held in assembled relationship by stapling.

If a neater base is desired glue tab portion **23** can be torn away at perforations **25** and **37** and removed where adhered to panel **18**. To make a flatter top-seal glue tab portion **22** may be torn away at perforations **24** and **36**

and removed by stripping its adhered area from panel **14**. Glue tab **20** will keep the carton in four square shape because it is still adhered to panel **16**.

When this separated inner carton **50***a* is filled with the desired quantity of merchandise, flaps **14** and **15** are severed at perforations **26**. Flaps **15** are then turned inwardly and their overlapping outer face area is covered with glue and flaps **14** are turned inwardly thereon until they adhere, completing the one-third volume reshipper shown in Figure 6. Alternatively, staples or tape may be utilized to secure the flaps **14** and **15**. The area where panels **14** overlap may be held in assembled relationship if so desired, or left unadhered to give retailer a hand hold for easy opening of the reshipper.

The two identical, outer cartons **40***a* and **40***b* which had one end closed in the bulk shipper can now be filled with the retail package units and made into one-third volume reshippers by first separating flaps **9** and **10** along perforations **4**. Then flaps **9** are turned inwardly at score **3** and flaps **10** are folded over them along the same score **3**, as seen in Figure 5. Areas where flaps **10** overlap flaps **9** are available to means for holding them in assembled relationship.

Assuming that the original fully telescoped container carried forty-two pounds of merchandise, each of the three one-third volume cartons will reship approximately 14 pounds of the repacked fruit or vegetables.

It is particularly pointed out that close examination of Figure 3 reveals that when the two outer units **40***a* and **40***b* of the shipping container are telescoped over the inner unit **50***a*, its perforated scores **26** are in juxtaposed reinforcing relationship to the unperforated scores **1** of the top outer member. Similarly unperforated scores **1** of the bottom outer unit **40***b* are in juxtaposed, reinforcing relationship to the perforated scores **28** of the inner unit **50***a*.

Additionally perforated scores **4** of both outer units are in juxtaposed, reinforcing relationship to unperforated scores **27** of the inner unit.

Thus, the perforated corner portions of each unit are reinforced and rigidized by the unperforated portions of the corners of the other units. This novel construction provides a fully telescoped threesome container, whose rigidity and double construction permits stacking the loaded containers to greater heights in railroad cars, in trucks or in warehouses without damage to the lowermost containers, and without fear of their splitting or twisting out of shape.

From the foregoing description it is apparent that this invention meets the repacker's problems of protecting and reshipping small amounts of packaged fruit or vegetables to the smaller retail stores by providing a cost-free carton to meet his smallest shipping unit need, since this invention permits him to safely and economically send out as little as one-third of the original contents.

It will, of course, be understood that various details of construction may be modified through a wide range without departing from the principle of this invention, and it is, therefore, not the purpose to limit the patent granted hereon otherwise than necessitated by the scope of the appended claims.

I claim:

1. A container, demountable into three, separate cartons, and comprising two, outer, tubular cartons; each of said outer cartons having a plurality of side panels, hingedly connected in closed configuration, a first set of closure flaps respectively attached to one end of said side panels and adapted to fold inwardly for closing one end of said outer carton and a peripheral score line traversing the medial portions of said side panels, whereby separation of said side panels along their hinged connections from the other end thereof to said score line produces a second set of closure flaps adapted for closing the other end of said outer carton; an inner carton having a tubular shape corresponding to that of said outer cartons, comprising a plurality of side walls hingedly connected in a closed configuration, said inner carton having two spaced-apart parallel, peripheral score lines traversing the medial portion thereof, whereby separation of said side walls along their hinged connections from their outer free edges to the nearest score line produces two sets of closure flaps adapted for respectively closing the opposite ends of said inner carton; said outer cartons and the inner carton being constructed and arranged so that one outer carton telescopes over each end of the inner carton and the combined heights of the two outer cartons are substantially equal to the height of the inner carton, thereby producing a closed container whose side walls are of double thickness.

2. A container, demountable into three, separate cartons, and comprising two, outer, tubular cartons; each of said outer cartons having a plurality of side panels, hingedly connected in closed configuration, a first set of closure flaps respectively attached to one end of said side panels and adapted to fold inwardly for closing one end of said outer carton and a peripheral score line traversing the medial portions of said side panels, whereby separation of said side panels along their hinged connections from the other end thereof to said score line produces a second set of closure flaps adapted for closing the other end of said outer carton; an inner carton having a tubular shape corresponding to that of said outer cartons, comprising a plurality of side walls hingedly connected in a closed configuration, said inner carton having two spaced-apart parallel, peripheral score lines traversing the medial portion thereof, whereby separation of said side walls along their hinged connections from their outer free edges to the nearest score line produces two sets of closure flaps adapted for respectively closing the opposite ends of said inner carton; said outer cartons and the inner carton being constructed and arranged so that one outer carton telescopes over each end of the inner carton and the free edges of the two outer cartons are in abutment.

3. A container assembled from three tubular cartons, two of said cartons, when erected, occupying positions telescopically external to the third erected inner carton, and respectively formed from three one-piece blanks; each of said blanks used for forming the two outer cartons having two longitudinal edges and two lateral edges perpendicular to said longitudinal edges, two spaced-apart longitudinal score lines parallel to and intermediate said longitudinal edges and extending the full length of the blank, said score lines defining a medial area intermediate thereof and a closure area at each side of the blank, a series of slots, normally perpendicular to and extending from one score line to the nearest free longitudinal edge, closure flaps separated by said slots and adapted to fold inwardly along said score line for closing that end of said outer carton, a set of lateral score lines respectively extending from the inner ends of said slots, and continuing to the opposite longitudinal edge, thereby dividing said medial area into a plurality of panels, and said other closure area into undivided closure flaps, each flat, outer blank being foldable along said lateral set of score lines into a four-cornered tubular arrangement; means for securing said blank in said tubular arrangement, said folded corners and said panels being constructed and arranged so that said tubular shaped outer cartons may be collapsed for shipment or said slot-separated closure flaps may be folded inwardly and adhered, whereby a closed-at-one-end bottom outer carton and a closed-at-one-end top outer carton are created; said third blank having two longitudinal edges and two lateral edges perpendicular to said longitudinal edges, two spaced-apart score lines parallel to and intermediate said longitudinal edges and extending the full length of the blank, said score lines enclosing a medial area and defining closure areas at each side of said blank, a set of lateral score lines parallel to and intermediate said lateral edges and extending the full width of the blank, said lateral set of score lines dividing said clo-

sure areas at opposite ends of said inner blank into respective sets of undivided, end closure flaps and a glue tab, the sets of undivided closure flaps at each end of inner tubular carton being adapted for separation along said folded score lines into two sets of inwardly folding closure flaps for closing both ends of said inner carton; said third blank being foldable along said lateral set of score lines into tubular arrangement, so that said glue tab may be folded over its score line and adhered to the adjacent edge of said medial area to assure retention of said tubular shape; said tubular shaped, inner carton being constructed and arranged that it may be collapsed for shipment or telescopically inserted into said closed-at-one-end bottom outer carton, then filled with bulk shipment and telescopically covered by said closed-at-one-end top outer carton; the combined heights of the two outer cartons being substantially equal to the height of the inner carton, thereby producing a closed container whose side walls are of double thickness.

4. A container assembled from three tubular cartons, two of said cartons, when erected, occupying positions telescopically external to the third erected inner carton, and respectively formed from three one-piece blanks; each of said blanks used for forming the two outer cartons having two longitudinal edges and two lateral edges perpendicular to said longitudinal edges, two spaced-apart longitudinal score lines parallel to and intermediate said longitudinal edges and extending the full length of the blank, said score lines defining a medial area intermediate thereof and a closure area at each side of the blank, a series of slots, normally perpendicular to and extending from one score line to the nearest free longitudinal edge, closure flaps separated by said slots and adapted to fold inwardly along said score line for closing that end of said outer carton, a set of lateral score lines respectively extending from the inner ends of said slots and continuing to the opposite longitudinal edge, thereby dividing said medial area into a plurality of panels and said other closure area into undivided closure flaps, each flat, outer blank being foldable along said lateral set of score lines into a four-

cornered tubular arrangement; means for securing said blank in said tubular arrangement, said folded corners and said panels being constructed and arranged so that said tubular shaped outer cartons may be collapsed for shipment or said slot-separated closure flaps may be folded inwardly and adhered, whereby a closed-at-one-end bottom outer carton and a closed-at-one-end top outer carton are created; said third blank having two longitudinal edges and two lateral edges perpendicular to said longitudinal edges, two spaced-apart score lines parallel to and intermediate said longitudinal edges and extending the full length of the blank, said score lines enclosing a medial area and defining closure areas at each side of the blank, a set of lateral score lines parallel to and intermediate said lateral edges and extending the full width of the blank, said lateral set of score lines dividing said closure areas at opposite ends of said inner blank into respective sets of undivided, end closure flaps and a glue tab, the sets of undivided closure flaps at each end of inner tubular carton being adapted for separation along said folded score lines into two sets of inwardly folding closure flaps for closing both ends of said inner carton; said third blank being foldable along said lateral set of score lines into tubular arrangement, so that said glue tab may be folded over its score line and adhered to the adjacent panel to assure retention of said tubular shape; said tubular shaped inner carton being constructed and arranged that it may be collapsed for shipment or telescopically inserted into said closed-at-one-end bottom outer carton, then filled with bulk shipment and telescopically covered by said closed-at-one-end top outer carton; the free edges of the two outer cartons being in abutment.

References Cited in the file of this patent

UNITED STATES PATENTS

2,936,239 Rendall ..... May 10, 1960

FOREIGN PATENTS

691,436 Great Britain ..... May 13, 1953