May 10, 1960 W. C. RENDALL 2,936,239

CONVERTIBLE CONTAINER AND METHOD OF PACKING AND SHIPPING SAME

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FIG.1.

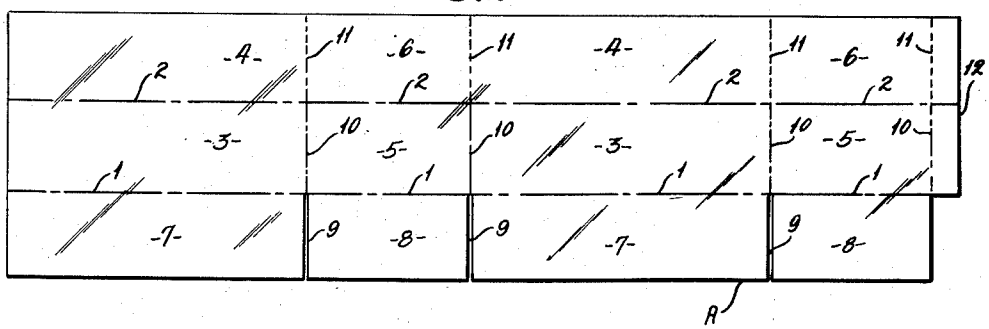


FIG.2.

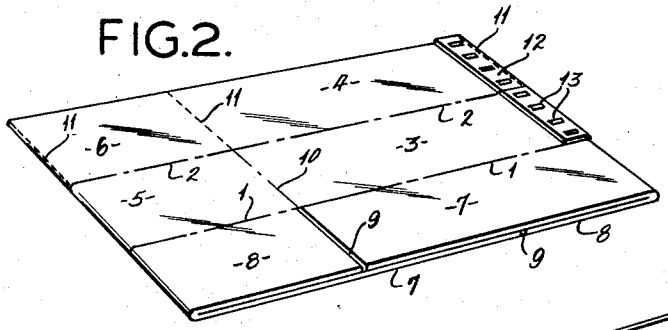


FIG.3.

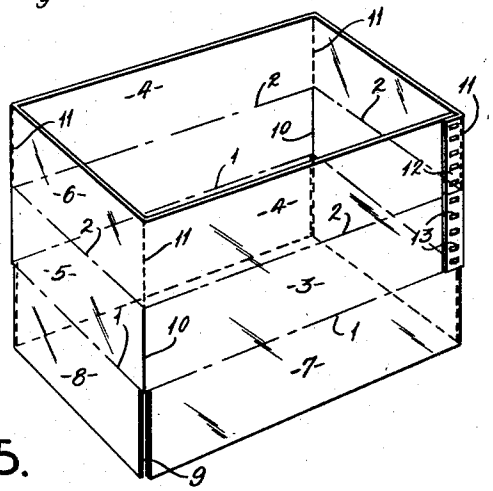


FIG.4.

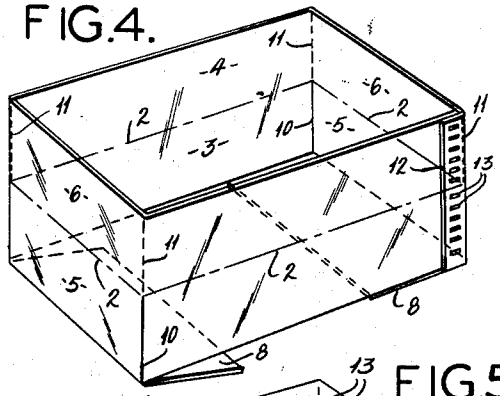
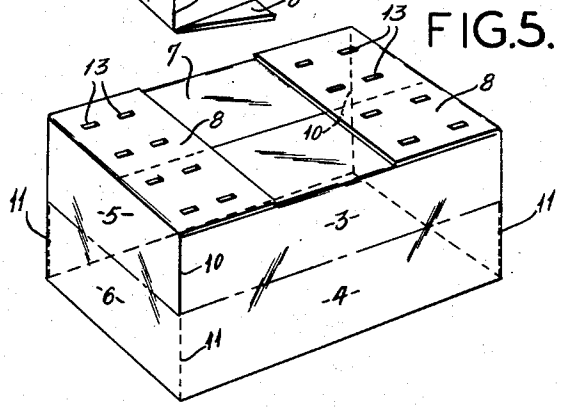


FIG.5.



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FIG.7.

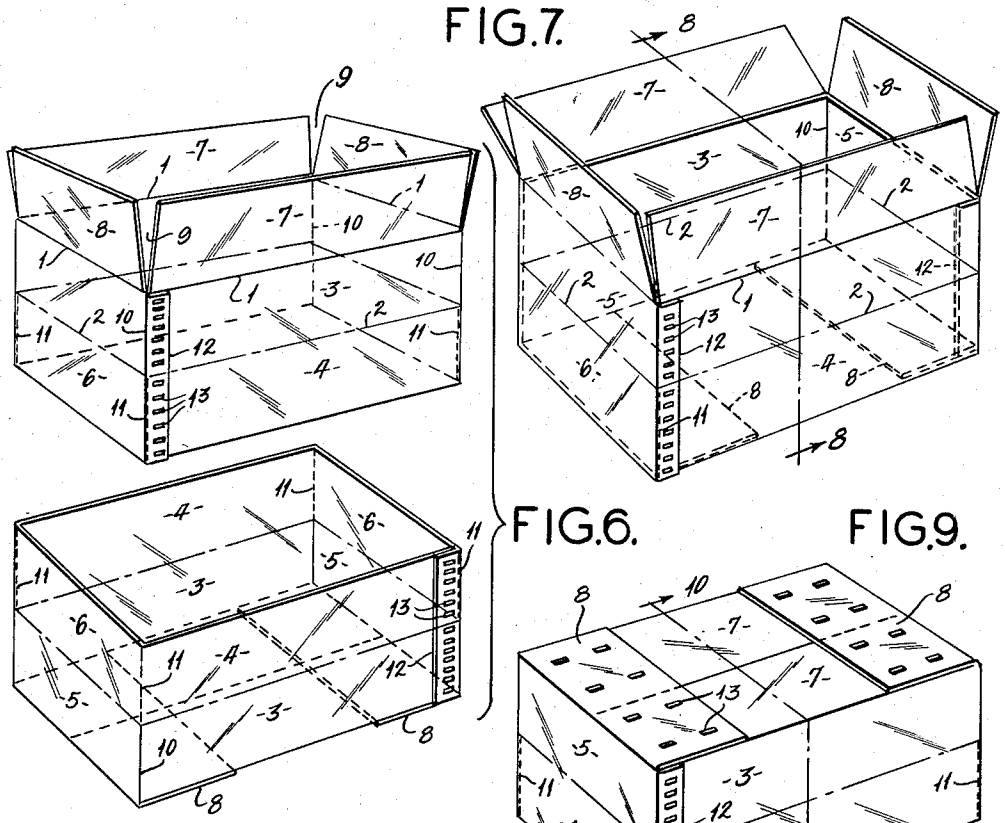


FIG.6.

FIG.9.

FIG.8.

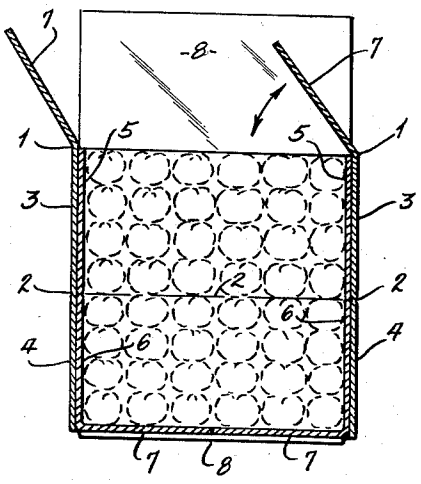
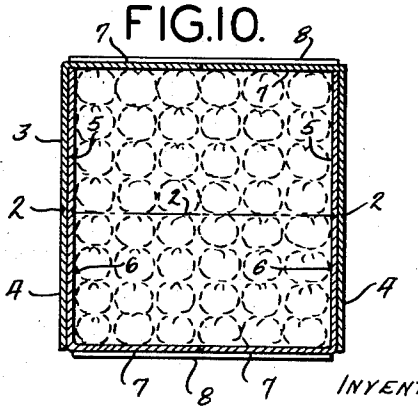


FIG.10.



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FIG.11.

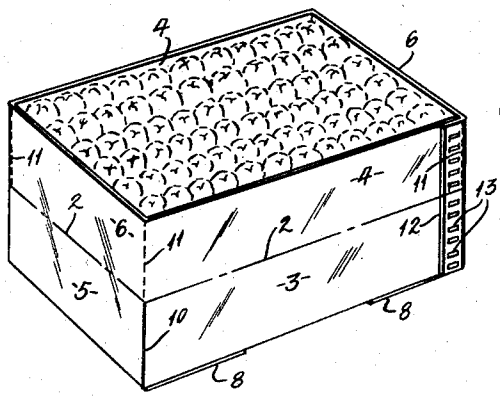


FIG.12.

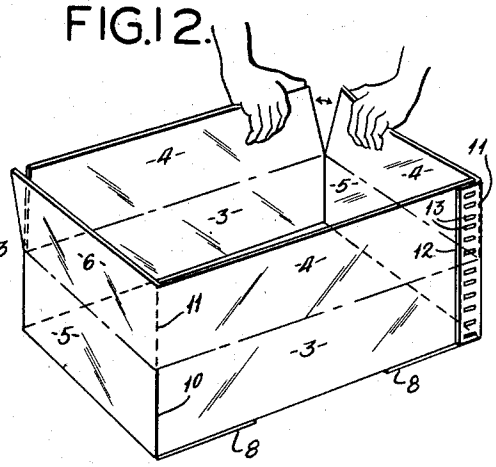


FIG.13.

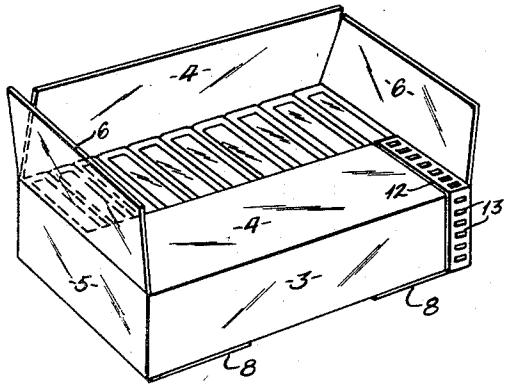


FIG.14.

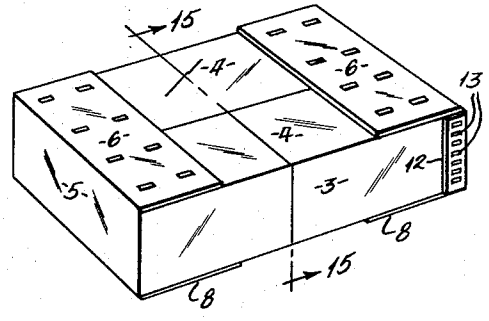
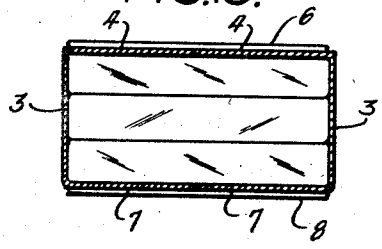


FIG.15.



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2,936,239

Patented May 10, 1960

2,936,239

CONVERTIBLE CONTAINER AND METHOD OF PACKING AND SHIPPING SAME

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Application June 21, 1954, Serial No. 438,125

7 Claims. (Cl. 99—171)

More specifically, the invention relates to a shipping container comprising an inner section with a bottom closure and an outer section closed at the top which completely telescopes the inner section. Each of the sections forming the fully telescoped container may be readily converted into a single smaller container complete with integral cover forming flaps. The original telescoping container is designed especially for bulk shipments of tomatoes and other fruit to distribution points where the fruit is repacked in small display cartons. The smaller containers are especially suitable for delivering the repacked contents of the original telescoped box to the retail markets as will be more fully explained hereinafter.

A very substantial proportion of the fresh tomatoes grown for the markets are bulk packed in 30 to 40-pound containers constructed of wood, paperboard and the like and shipped to the various terminal markets. At the terminals it is customary to repack the tomatoes in one-pound cellophane window display cartons or other smaller packages suitable for the retail trade. The one-pound display cartons are frequently packed in separate containers holding about 15 to 20 of the cartons, the original shipping box being discarded or reclaimed for some other purpose. The container of the present invention fills the need for a highly economical, convenient and safe means of shipping fresh tomatoes or other fresh fruit in bulk to the terminal markets where it may be readily converted into two containers substantially half the size of the original for delivering the repacked fruit without the use of any additional material, equipment or tools of any kind.

In a preferred form of the invention a rectangular shaped open top inner telescoping section is formed with lower marginal wall flaps forming a bottom closure section. The inner faces of the side and end walls of the section are scored in a horizontal plane located preferably approximately midway the height of the walls. Each vertical corner of the section is perforated from the free top edge inwardly to the above described horizontal score. The outer telescoping section is formed, scored and the corners perforated in precisely the same manner as described with respect to the inner section. When the outer section is telescoped over the inner section, the perforated portions of the corners of one section will be in juxtaposed relation to and reinforced by the solid or unperforated corners of the other section. Thus the walls, including the corners of the fully telescoped box, will be of two thicknesses of paperboard and the corners thereof will be of uniform strength throughout their height and with respect to each other. This construction of the telescoped container provides ample strength and rigidity to permit stacking of the loaded boxes eight or ten high in railroad cars or other transportation means. Each of the sections forming the telescoped container is readily convertible into a relatively shallow container complete with top closure flaps and of substantially the same horizontal cross section as the original telescoped

box. This may be accomplished by separating the walls of the sections along the perforated portions of each corner downward to the horizontal score. The separated portions of the walls thus form closure flaps foldable at their inner edges along the horizontal wall score.

The invention comprises a fully telescoped shipping container formed of an inner tubular section with bottom closure flaps and an outer tubular section with top closure flaps, the walls of each of the sections being scored in a horizontal plane intermediate their height, the vertical corners of each section being perforated from their free edges downwardly to the horizontal score, top closure flaps for each of said tubular sections foldable along said horizontal score being formed when the upper portions of the vertical corners thereof are separated along the lines of perforations.

An object of the invention, therefore, is to provide a fully telescoped container for shipping fresh fruits in bulk to the terminal markets, where the container may be readily converted into two smaller units complete with closures, suitable for delivering the contents of the original telescoped container repacked in one-pound or other size display cartons, to the retail outlets.

A further object of the invention is to provide two fully telescoped sections forming a shipping container, the side and end walls of each section being horizontally scored intermediate its height and the corners of each section perforated from the upper free edges inwardly to the horizontal score whereby each section of the original container may be readily converted to a smaller container complete with top and bottom closure flaps without the addition of any material or the use of tools of any kind.

Still another object is to provide a dual-purpose container comprising two similarly shaped tubular sections, each closed at one end, the sections when fully telescoped forming a double wall container especially suitable for shipping bulk loaded fresh tomatoes and other fruit to the terminal markets for repacking in small individual display cartons or other units, each of the tubular sections being readily convertible to a relatively small container complete with closure flaps for delivery of the individual display cartons to the retail outlets.

The invention also consists in the parts and in the arrangements and combination of parts hereinafter described and claimed. In the accompanying drawings which form a part of this specification and wherein like numerals and symbols refer to like parts wherever they occur:

Fig. 1 is a plan view of a blank for forming one of the telescoping sections of the convertible container;

Fig. 2 is a perspective view of the folded blank of Fig. 1 with the sealing flap attached to the remote end of the blank;

Fig. 3 is a perspective view of the folded blank of Fig. 2 erected to rectangular section form;

Fig. 4 is a perspective view of the telescoping section of Fig. 3 showing the bottom flaps partially folded into bottom closure formation;

Fig. 5 is a perspective view of the telescoping section of Fig. 4 showing the completion of the bottom closure;

Fig. 6 is a perspective exploded view of the fully erected, inner telescoping section with the outer section positioned immediately above, preparatory to telescoping over the inner section;

Fig. 7 is a perspective view showing the outer section telescoped over the inner section with the top closure flaps of the former ready for folding inwardly to form the closure;

Fig. 8 is a vertical sectional view taken along line 8—8 of Fig. 7;

Fig. 9 is a perspective view of the telescoped sections

shown in Fig. 7 with the closure of the outer section completed;

Fig. 10 is a vertical sectional view taken along lines 10—10 of Fig. 9;

Fig. 11 is a perspective view of the inner section of the container with the outer section removed and exposing the top layer of tomatoes or other fruit;

Fig. 12 is a perspective view illustrating the method of breaking the perforated scores of either of the sections of the container from the free end edges downward to the horizontal body scores to form the side and end wall closure flaps;

Fig. 13 is a perspective view showing one of the small or half containers formed from one of the telescoping sections packed with small display cartons with part of the contents of the original smaller container;

Fig. 14 shows the small carton illustrated in Fig. 13 with the closure completed; and

Fig. 15 is a vertical sectional view of the small container packed with the display cartons of the fruit taken along lines 15—15 of Fig. 14.

A plan view of the blank A for forming one of the telescoping sections of the shipping container is shown in Fig. 1. The rectangular blank is scored longitudinally at 1 to define the inner edges of bottom closure flaps 7 and 8 and the bottom edges of lower panels 3 and 5 of the side and end walls of the section. Longitudinal score 2 which is parallel to score 1, defines the inner edges of panels 3 and 4 of the side walls and the inner edges of panels 5 and 6 of the end walls of the section. Slots 9 separate the ends of the closure flaps 7 and 8. Vertical scores 10, lying in the same vertical plane as the slots 9, define the end edges of the lower side and end wall panels 3 and 5, while the perforated scores 11, lying in the same vertical planes as the scores 10, define the end edges of the upper side and end panels 4 and 6. The inner edge of a sealing flap 12 is defined by a vertical score 10 and a perforated score 11 at the free ends of end panels 5 and 6.

The blank A may be conveniently erected by folding as shown in Fig. 2 along the central vertical score 10 and perforated score 11, then folding the sealing flap 12 over the free end edges of side panels 3 and 4 and securing same in the folded position by means of staples 13. In this knocked-down form, the sections may be conveniently and economically shipped to the user. At the point of use the knocked-down section shown in Fig. 2 is opened into rectangular form illustrated in Fig. 3, the bottom closure flaps 7 and 8 being in the same plane as the wall panels from which they depend. The side wall panels 7 and 8 are then folded inwardly into abutting relation as shown in Fig. 4 and the end wall flaps 8 folded into flatwise relation over the flaps 7 and secured by staples as indicated in Fig. 5. It desired, the end wall flaps 8 may be first folded inwardly and the side wall flaps 7 folded over them and secured by staples 13 in the same manner. Another obvious variation would be to increase the length of the end flaps 8 so that when folded inwardly at right angles to the panels 5, their free end edges will abut midway the length of the container similar to the side wall flaps 7 as shown in Fig. 5.

After completing the assembly of one of the sections as illustrated in Fig. 5, a second blank of very slightly larger dimensions is assembled in precisely the same manner as illustrated in Figs. 2 and 3 and placed over the first mentioned section as shown in the exploded view of Fig. 6. The upper section is then telescoped over the lower section to the position shown in Fig. 7, the free end edges of panels 4 and 6 of the upper section being in coplanar relation with the bottom closure of the inner section.

The container is now ready for packing with tomatoes or other fruit after which the closure flaps 7 and 8 of the outer section are folded inwardly to close the telescoped container as shown in Fig. 9. The vertical sectional

view Fig. 8 shows the packed fruit in the container of Fig. 7 while the vertical sectional view of Fig. 10 shows the fruit in the completely telescoped and closed container of Fig. 9. The loaded container illustrated in Fig. 9 is ready for transportation to the terminal markets where the contents are usually repacked as hereinbefore described into one-pound cellophane window display cartons.

At the terminal markets, the outer telescoped section is removed, thereby exposing the fruit packed in the inner section as shown in Fig. 11. The fruit is removed from the inner section for repacking into the hereinbefore referred to display cartons or other small units. The empty section may then be converted into a container of the same length and width but of one-half the depth of the telescoping section. The conversion of the telescoping section into a shallow container is illustrated in Fig. 12 wherein the side and end panels are separated along the perforated corners downwardly to the horizontal score lines 2, thus providing upper marginal side wall flaps 7 and upper marginal end wall flaps 8 which may be folded inwardly and downwardly as shown progressively in Figs. 13 and 14 enclosing the repacked display cartons for delivery to the retail outlets. Assuming that the original fully telescoped container carried 40 pounds of fruit, the half depth container formed from each of the telescoping sections will carry approximately 20 of the display cartons which may be packed in three layers as shown in the vertical sectional view, Fig. 15.

It should be particularly pointed out that when the outer section of the shipping container is telescoped over the inner section, the perforated scores 11 between the wall panels 4 and 6 are in juxtaposed relation to the unperforated portions 10 of the inner section and the perforated scores 11 of the inner section is in juxtaposed relation to the unperforated portions 10 of the outer section. Thus the perforated corner portions of each section is reinforced and rigidized by the unperforated portions of the corners of the other section. This novel construction provides a telescoped container with a rigid wall structure throughout, thereby permitting the loaded containers to be stacked to any required height in railroad cars or other transportation means or in storage without damage to the lowermost container in the stack.

While the invention has been described in detail in the drawings and the foregoing description, the same is to be considered illustrative and not restrictive in character.

What I claim is:

1. A corrugated substantially rectangular shaped elongated paperboard shipping container comprising two substantially similar individual sections, each section being so dimensioned and shaped so as to provide for telescoping of one section on the other, each of the sections being tubular and having connected together walls and integral infolded closing flaps at one end only thereof whereby when the sections are telescoped both the top and bottom thereof are closed, the walls of each section intermediate of their heights having a subsatntially horizontal interior score line completely therearound to and including the corners thereof so as to define outer marginal flap forming vertical wall portions, said score line being spaced from a free edge of the open end a distance substantially at least one-half the width of the container, one of the sections being adapted for filling substantially to the upper edge of the marginal portions with the other of the sections telescoped over the walls thereof, and the said one section when the corners of the upper marginal portions thereof are severed thus provides individual infoldable closure flaps for closing the same when the commodity has been removed below the score line thereof or a commodity inserted up to the score line, the said flaps are infolded to close that section, and the other said section being likewise adaptable for use as a container smaller than the original one by the severance of the corners of

its marginal flap forming vertical wall portions and thus providing the infoldable closure flaps for closing that container independently and separately of the said one container.

2. An elongated rectangular corrugated paperboard shipping container comprising two similar slidingly telescoped individual box sections, each section having connected together side and end walls and having at one end only thereof integral closing flaps forming top and bottom closures for the container, the end walls of each section being substantially square, the walls of each section substantially medially of their heights having a substantially horizontal interior score line completely therearound to and including the corners thereof so as to define outer marginal flap forming vertical wall portions, one of the sections being adapted for filling substantially to the upper edge of its marginal portions with the other of the sections telescoped over the walls thereof, and the said one section when the corners of the upper marginal portions thereof are severed thus provides individual infoldable closure flaps for closing the same when the commodity has been removed below the score line thereof or a commodity inserted up to the score line, the said flaps are infolded to close that section, and the other said section being likewise adaptable for use as a container smaller than the original one by the severance of the corners of its marginal flap forming vertical wall portions and thus providing the infoldable closure flaps for closing that container independently and separately of the said one container.

3. A corrugated paperboard shipping container convertible into two separate substantially similar self-sufficient units, said container comprising a substantially rectangularly shaped inner tubular section with a bottom closure only therefor and a substantially similar completely telescoped outer tubular section having only a top closure, a continuous score in a horizontal plane intermediate the height of said walls of each section, and inwardly foldable closure flap forming vertical wall portions for each said separate sections formed by slits in each corner of each tubular section extending from the outer free edges of said corners downwardly to said horizontal score, and the score with the slits defining individual closure flaps foldable on the score to form a closure for each self-sufficient unit.

4. An elongated rectangular corrugated paperboard shipping container comprising two similar slidingly telescoped individual box sections, each section having connected together side and end walls and having at one end only thereof integral closure flaps forming top and bottom closures for the container, the end walls of each section being rectangular, the walls of each section intermediate of their heights having a substantially horizontal score line therearound so as to define outer marginal flap forming vertical wall portions, one of the sections being adapted for filling substantially to the upper edge of its marginal portions with the other of the sections telescoped over the walls thereof, and the one section when the corners of the upper marginal portions thereof are severed thus providing individual infoldable closure flaps for closing the same when a commodity has been removed below the score line thereof or a commodity inserted up to the score line, the said flaps are infolded to close that section, and the other section being likewise adaptable for use as a container smaller than the original one by the severance of the corners of its marginal flap forming vertical wall portions, and thus providing the infoldable closure flaps for closing that container independently and separately of the said one container.

5. The method of packaging and shipping fruits and vegetables comprising shipping the said commodity in bulk to a repacking station in a container comprising an outer member telescoped over an inner member, each member comprising a bottom, side and end walls, and a score line spaced from the top edges of the walls and extending around the perimeter of the member; removing the said commodity from the container; cutting the corner fold lines between the walls of each member from the top edges of the walls to the perimeter score line to provide two smaller containers with cover flaps hinged along the perimeter score line; repacking the commodity in the smaller containers; closing the flaps of the said containers and shipping the same.

6. The method of packaging and shipping fruits and vegetables comprising shipping the said commodity in bulk to a repacking station in a container comprising an outer member in inverted position over an inner member, each member comprising a bottom, side and end walls, a score line spaced from the top edges of the walls and extending around the perimeter of the member, and weakened fold lines extending from the said top edges to the perimeter score line; removing said bulk commodity from the container; repacking a portion of said commodity in each member below the perimeter score line; folding a portion of said side and end walls of each member inwardly along said perimeter score line and said weakened fold lines such that a portion of the commodity is enclosed within each of said members; and shipping the same.

7. A method of packing and shipping fruits and vegetables comprising: providing a container comprising a bottom wall, side walls, end walls, said side walls and end walls being formed with a score line spaced from the top edges thereof and extending around the perimeter of the container and said container being formed with lines of weakness at its corners between the top edge thereof and the score line; packing said commodity in bulk in said container; providing a second container comprising a bottom wall, side walls, end walls, said side walls and end walls being formed with a score line spaced from the top edges thereof and extending around the perimeter of the container and said second container being formed with lines of weakness at its corners between the top edge thereof and the score line; inverting said second container and telescoping the same into engagement with said first container; shipping the bulk commodity container to a repacking station; disengaging said second container from said first container; removing said bulk commodity from said first container; separating the walls of said containers along said lines of weakness; repacking a portion of said commodity in each of said containers; folding a portion of said side and end walls of said containers inwardly along said score lines such that a portion of the commodity is enclosed within each of said containers; and shipping the same.

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