

Sept. 12, 1933.

E. S. GOMES

1,926,941

FIBERBOARD SHIPPING CONTAINER

Filed Aug. 10, 1931

2 Sheets-Sheet 1

Fig. 1.

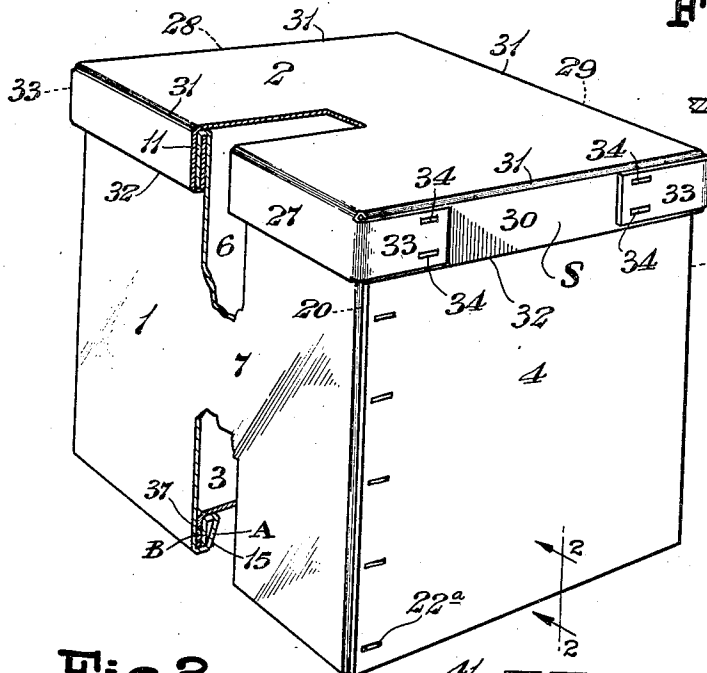


Fig. 2.

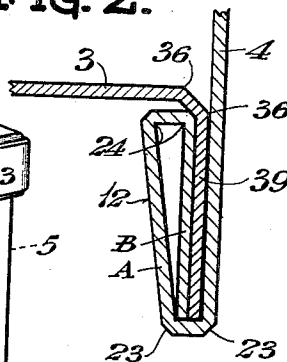
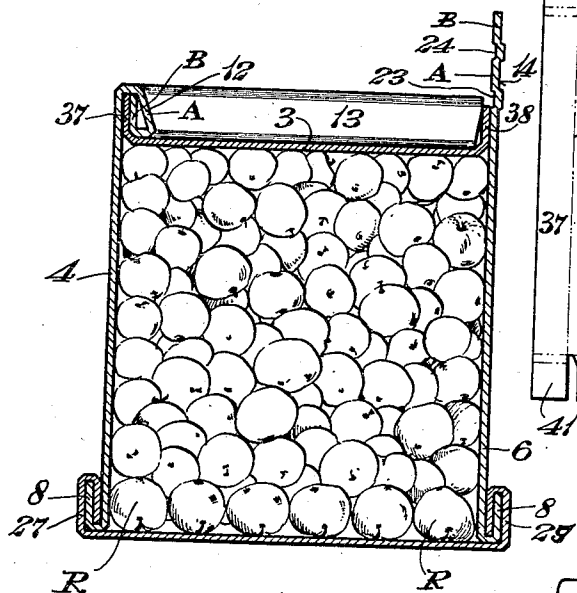
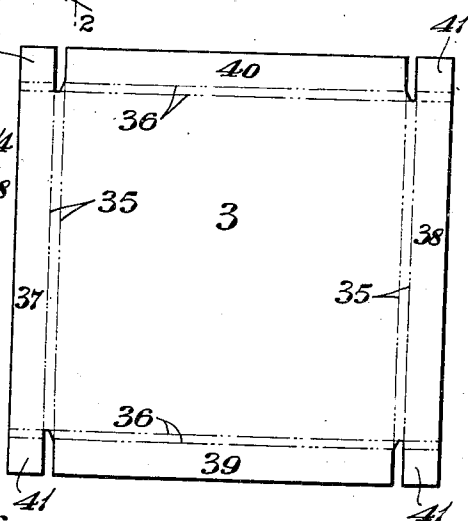


Fig. 4.

Fig. 3.



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2 Sheets-Sheet 2

Fig. 5.

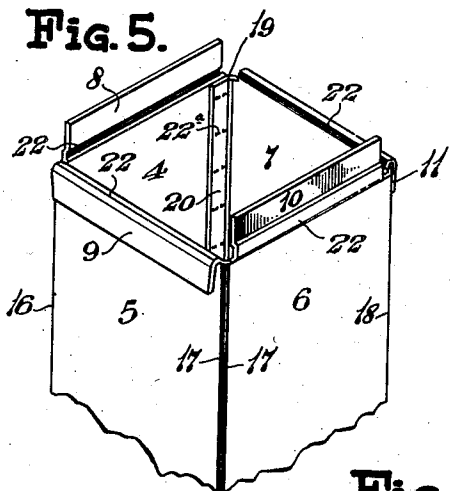


Fig. 6.

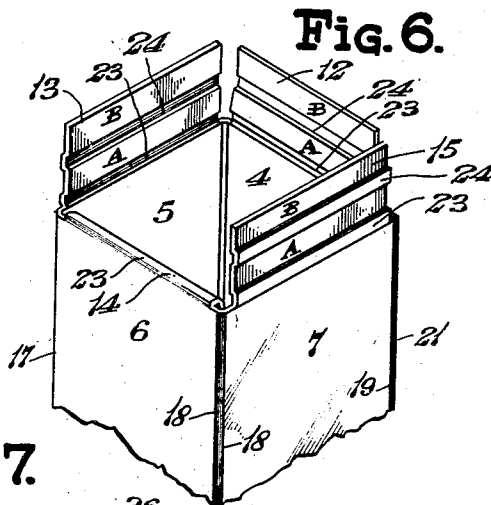


Fig. 7.

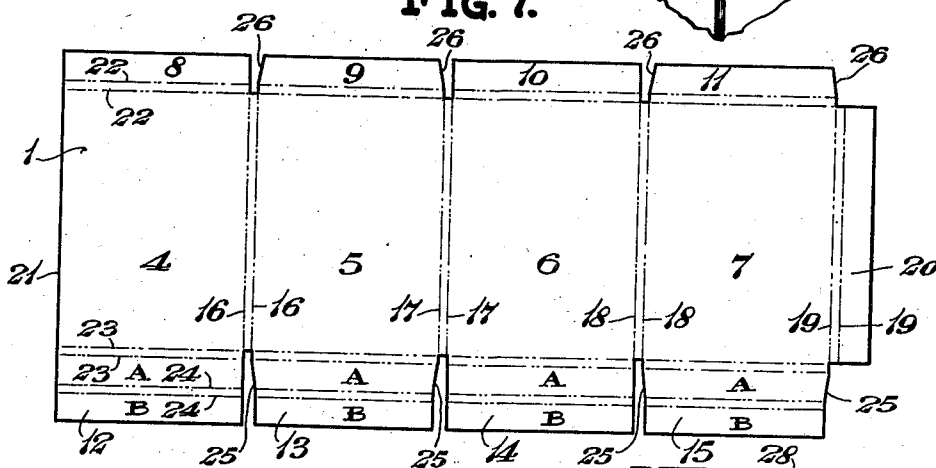


Fig. 9.

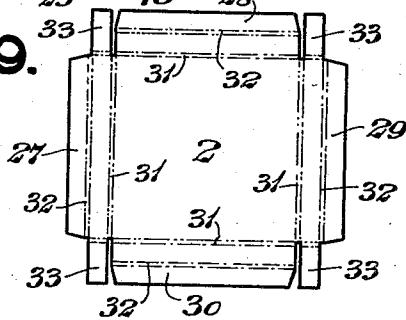
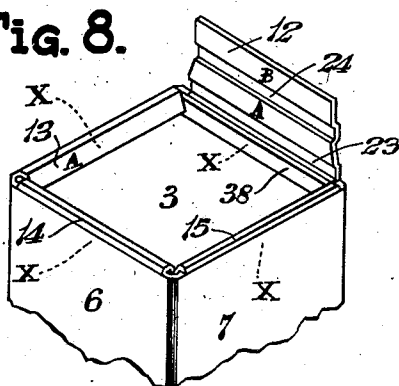


Fig. 8.



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UNITED STATES PATENT OFFICE

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FIBERBOARD SHIPPING CONTAINER

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4 Claims. (Cl. 229-23)

This invention relates to a box preferably made of fiberboard and suitable for use as a shipping container for shipping fruits, vegetables, meats and like merchandise of a perishable nature; and also for use as a display stand.

The principal object of this invention is to provide a fiberboard shipping container or box suitable for shipping merchandise of the class above referred to and which will satisfactorily hold its shape and stand the conditions common to cold storage, such as in warehouses or refrigerator cars.

Another object of this invention is to provide a fiberboard shipping container composed of three separate parts, namely, a body, a lid and a bottom. It is a common and preferred practice in the fruit and vegetable packing industry to fix or place the top layer of the product shipped so that when the top of the container is opened the goods are shown in an orderly manner and displayed in an attractive way in the dealer's store. With this practice in mind, I have found it desirable to place the lid upon the box first, which allows the first layer of the product to be faced in the container and the balance of the product poured or dumped into the box onto said first layer, which dumping is known to those familiar with the industry as the "jumble pack". The bottom is then placed in proper position in the box, ready for shipment.

Another object of the invention is to provide a fiberboard shipping container composed of but three parts, which parts are constructed in such a manner that they can be interlocked, one with another, to form a compact unit or single box without the use of staples, nails, rivets, glue or wire, or any other means of fastening them one with another, other than the interlocking features of the units themselves.

A still further object of the invention resides in the formation of the lid wherein, when interlocked with the body of the container, it projects beyond the side walls of said body, so that when the containers are stacked, one against another, an air space is maintained between each box for ventilation purposes, which space is necessary in such places as cold storage houses and refrigerator cars.

It is also within the objects of the present invention to conceal the major portion of the raw edges of the box so as to guard against deterioration of the same by moisture absorption.

A still further object lies in the fact that when the lid or cover is properly put in place, it forms a ready grip or means of handling the closed

container, which is accomplished by the natural formation of the lid and without the use of staples, nails, wire, tape or any other extraneous means of fastenings or handles.

Other objects and advantages will be evident upon a full understanding of the nature of the container, the invention, residing substantially in the novel features of construction, arrangement and combination of parts, constituting the container.

The invention consists in a shipping container composed of a rectangular body having flaps at its open ends, of a lid having flaps adapted to interlock with the flaps at one end of said body, and of a bottom having flaps adapted to interlock with the flaps at the other end of said body.

A preferred form of the invention is set forth in the accompanying drawings and following description, but it is to be understood that such embodiment is presented, merely for the purpose of illustration and is not to be accorded any interpretation which might be calculated to limit the invention short of its true and most comprehensive scope in the art.

In the drawings:

Fig. 1 is an isometric view of a shipping container made in accordance with the invention and partly broken away and shown in vertical section to clearly illustrate the manner in which the lid is interlocked to the body of the container and the manner in which the bottom is likewise interlocked with the body of the container;

Fig. 2 is an enlarged fragmentary vertical section taken on a plane corresponding to line 2-2 of Fig. 1;

Fig. 3 is a vertical section of Fig. 1, showing the container upside down, as when packing, and showing one of the flaps of the body before being folded inwardly against the bottom;

Fig. 4 is a plan view or blank of the bottom showing the score lines and slots and before being bent to shape;

Fig. 5 is an isometric view of the top of the body of the box, the lower portion being broken away and two of the flaps shown bent and the remaining two before bending;

Fig. 6 is an isometric view of the bottom of the body of the box inverted showing one of the flaps folded inwardly and the remaining flaps before being folded;

Fig. 7 is a plan or blank of the body of the container to clearly illustrate the scorelines and the slots;

Fig. 8 is an isometric view of the bottom of the box inverted similar to Fig. 6 and showing the

bottom held in place by the tabs, one of which is shown before folding; and

Fig. 9 is a blank or plan view of the top or lid of the box before being bent and stapled.

In the embodiment of my invention as illustrated and which shows a preferred construction I provide a three-piece shipping container suitable for use in shipping fruits, vegetables, meats and like perishable products and which is composed, generally, of body 1, top 2 and bottom 3.

In explaining the construction of the container, the description of the body 1 will be given first. Referring to Fig. 7 the body 1 is shown in blank form and comprises four sections designated 4, 5, 6 and 7, respectively which will be hereinafter referred to as wall panels. The size of the container to be produced will, of course, determine the relative width and length of the wall panels. As shown in this figure, the wall panels are substantially rectangular in shape and provided at one end with extension flaps 8, 9, 10 and 11, respectively, and at the opposite end with bottom flaps 12, 13, 14 and 15, respectively. Longitudinal crease lines 16—16, 17—17, 18—18 and 19—19 are preferably heavily scored to divide, so to speak, panels 4, 5, 6 and 7, respectively, so that the body 1, when bent upon these score lines, is substantially rectangular in shape, as shown in Fig. 1. Wall panel 7 is provided with extension 20 so that when the body is bent on the longitudinal crease or score lines 16—16, 17—17, 18—18 and 19—19, respectively said extension 20 can be attached to the outer edge 21 of wall panel 4 in any suitable manner, as, for example, by staples 22*, as clearly shown in Figs. 1 and 5. The body 1 is further provided with transverse crease lines or weakened zone 22—22 and transverse crease lines or weakened zones 23—23 and 24—24 which are likewise heavily scored, the lines 24—24 dividing, as it were, the bottom flaps 12, 13, 14 and 15, respectively, into two members designated A and B. The bottom flaps 13 and 15 formed integral with the wall panels 5 and 7 are slightly tapered at 25, if desired, and the top flaps 9 and 11 are likewise slightly tapered at 26, if desired, to aid in folding them, as will be presently discussed.

Referring next to the construction of the top 2 (which is shown in blank form in Fig. 9) 27, 28, 29 and 30 designate extension flap members, each of which is provided with crease lines 31 and 32 which are heavily scored and the flaps 27 and 29 are further provided with extension tabs 33 which are adapted to be securely fixed to the flaps 28 and 30 by staples 34, as clearly shown in Fig. 1.

Referring to the bottom 3, the blank of which is shown in Fig. 4, and wherein 35 and 36 designate crease lines which are heavily scored to thereby provide flaps 37, 38, 39 and 40, respectively, and the flaps 37 and 38 are further provided with end tabs 41 providing tight fitting corners and aid in reinforcing the bottom of the body of the box.

From the foregoing description, it will be readily apparent that the box manufacturer, after making the blanks of the top, bottom and body of the container is only required to put the staples 22* in the body as the staples 34 are put in the top by the packers.

While I have shown staples 22* for holding the body 1 of the box together, it is to be understood that adhesive tape, glue or similar fastening means, can under certain conditions, be em-

ployed with satisfactory results. The lid or top 2 is held upon the body 1 of the container solely by the interlocking or tucking or slipping between features of the blanks and the bottom 3 is held within the body 1 likewise by the interlocking tucking, or slipping between features of the blanks. If desired, however, when packing and after inserting the bottom 3 and folding the flaps 12, 13, 14 and 15 thereagainst, four additional staples can be put in by the packer, as shown at X in Fig. 8, so that the box can be turned upside down, after removing its contents, and a part of the contents packed upon the bottom 3, thus using the bottom of the box as a display stand, and, therefore, as the weight of the product would be on the bottom 3, it would be necessary to put the four staples in at X, Fig. 8, in order to hold the bottom 3 in place. However, these staples are not necessary in the usual use of the container, or when being shipped, as the flaps 12, 13, 14 and 15 are tightly wedged together and support the weight which is distributed over the bottom 3.

In practice, the box will be shipped to the commission merchants, or other users, in a flat or knocked-down condition, that is the body 1 will be flat, as shown in Fig. 7, with the exception that the extension 20 (formed integral with wall panel 7) will be stapled to the outer edge 21 of wall panel 4. The top will be flat, as shown in Fig. 9, and the bottom will be flat, as shown in Fig. 4. After a commission merchant or other packer receives the box or container in this flat or knocked-down form, it is only necessary that he bend the top 2 on the scored lines 31 and staple the tabs 33 to the flaps 28 and 30 to form the lid shown in Fig. 1. Then open the body 1 to rectangular form (as shown in Fig. 5) and bend or fold the flaps 8, 9, 10 and 11 outwardly and downwardly; then place the top or lid 2 thereover so that the flaps 27, 28, 29 and 30 of the lid pass over the flaps 8, 9, 10 and 11 respectively, of the body; then fold or tuck the lower half of each flap 27, 28, 29 and 30 upwardly beneath its respective flap 8, 9, 10 and 11 of the body 1 to thereby lock the top 2 upon the body 1, as clearly illustrated in Figs. 1 and 3 without any additional or extra fastening means. After the lid 2 has been attached to the body 1 in this manner the body is inverted so that the lid 2 is on the bottom, as shown in Fig. 3 and the first row or layer of merchandise is packed by hand in rows, as indicated by the letter "R", Fig. 3. This row "R", therefore, is directly beneath the top or lid 2 and the remainder of the box can be filled by the pouring, or dumping in of the merchandise which, as before stated, is known as the "jumble pack".

After the box has been filled with merchandise to the proper level, the bottom 3 is folded and inserted within the body, as clearly illustrated in Fig. 3. The flaps 12, 13, 14 and 15 are then bent or folded upon the score lines 24—24 and then folded upon the score lines 23—23, the ends of flaps 12 and 14 wedging against the faces of flaps 13 and 15, thereby producing an interlocking action of said flaps to thereby hold the bottom 3 in proper position within the body 1.

As before stated, a staple shown at X can be inserted within or passed through each of the flaps 12, 13, 14 and 15 of body 1 and flaps 37, 38, 39 and 40 of bottom 3 to securely fix the bottom 3 within the body 1 when the box is inverted and the bottom used as a display stand or shelf.

For some classes of merchandize, especially

fruits and vegetables, it is customary to provide air ventilating holes in the body of the box and as this has been the common practice for many years in shipping merchandise of perishable nature, the showing in the drawings of such ventilating holes was thought to be unnecessary.

The flanged bottom of my box is supported by the interlocking flaps a considerable distance above the bottom of the body of the box and is supported only at the edges of the bottom so that there are considerable yielding qualities or flexibility in the bottom, thereby protecting the fruit or contents from injury by a sudden or severe jolt. The bottom of the box being also spaced a considerable distance upwardly from the projecting lower edges of the box holds the contents from direct contact with the surface and prevents bruising or other damage. It also provides an air space between the bottom of the box and the surface upon which it is mounted and this is important, especially where the surface is damp or moist. When a number of these boxes are stacked in refrigerating cars or in other storage places, the layers being in staggered relation, the indented bottoms, together with the projecting tops with spaces S on the ends of the lid, provide for the application or circulation of air over the entire surface of each box. This permits the cold air to adequately surround each box to protect the contents thereof.

The box constructed in accordance with my invention is provided with integrally formed outwardly folding flaps that interlock with inwardly folding flaps on the top and said flaps on the top embrace the top portion of the box and substantially reinforce said box. Likewise the inwardly folding flaps on the bottom edge of the box overlapping the downturned flaps of the bottom materially reinforce and strengthen the box.

Some of the advantages of my improved fiberboard shipping container are—

1. The body of my box is provided with extension flaps at the top which are bent outwardly and then downwardly against the outside of the body of the box at the score lines 22—22 provided for that purpose. The set-up lid is then placed over this end of the box and its protruding extension flaps are tucked in or folded under in such a way that they interlock with the flaps of the body of the box, thus holding the top permanently in place without the use of staples, nails, rivets, glue, wires or any other additional or extra fastening means. The bottom 3 is likewise permanently held in place by the interlocking features of its flaps with the flaps provided at the lower end of the box when used as a shipping container.

2. As before stated, the inset bottom 3 of the box is sometimes used as a display stand by retail dealers or store keepers after the box has been emptied and to provide such a display stand it is advisable to staple the bottom 3 into position with the use of one staple at the center of each section of the body so that when the box is empty the bottom 3 will be held firmly in place to provide a means of using it as a display stand.

3. The major portion of the raw edges of the box are concealed to guard against deterioration, due to the effect of moisture and condensation in cold storage and thus provides a box which gives superior service.

4. Due to the interlocking features of the top 2 and the bottom 3, the box cannot be pilfered without destroying the setup of the container, thus insuring safe delivery of the contents.

5. Only a few staples are required for the complete box, part of which are put in the body by the box manufacturer and part of which are put in by the packers.

6. The inside of the container presents a smooth surface, thereby guarding against bruising or injuring of the merchandise shipped or packed therein.

The container or shipping carton, forming the subject-matter of the present invention, has been devised with a view to meeting the above-mentioned requirements and these have been met, partly by reason of the peculiar construction of the blanks forming the body, top and bottom from which the container is made and partly by reason of the particular way in which the blanks are folded and otherwise constructed.

While I have described in detail a specific construction for the bottom 3 of my improved shipping container, no claim is made thereto in this application, as this application is intended to cover the specific construction of the top 2, in combination with the body 1, and the rights for the bottom construction are, therefore, reserved for a divisional application.

Having thus shown and described one particular embodiment of my invention, it is to be understood that various changes and modifications can be made without departing from the scope or spirit thereof as defined in the claims.

What I claim as new and desire to secure by Letters Patent is:

1. A container or carton of the class described comprising a body composed of a bottom, body walls and an open end, a body flap extending outwardly and downwardly from each body wall at the open end of the container, a top for said body, walls formed integral with said top and joined to one another, and a locking flap carried by each top wall of such dimension that when said top is placed over the open end of said body, the side walls of the top overlie the flaps of said body, and the flaps of the top fit between the body flaps and the body walls, and the flaps of the body fit between the top flaps and top walls in such a manner that the edge of said body flaps extend to the juncture of said top flaps and top walls and the edge of said top flaps extends to the juncture of said body flaps and body walls to securely hold said top down upon the top edge of said body.

2. A fiberboard shipping container comprising a body composed of a bottom, body walls and an open end, a body flap extending outwardly and downwardly from each body wall at the open end of the container, a top for said body, walls formed integral with said top and joined to one another and a locking flap carried by each top wall of such dimension that when said top is placed upon the open end of said body, the side walls of the top overlie the flaps of said body and the flaps of the top fit between the body flaps and the body walls, and the flaps of the body fit between the top flaps and the top walls in such a manner that the edge of said body flaps extends substantially to the juncture of said top flaps and top walls and the edge of said top flaps extends to the juncture of said body flaps and body walls to securely hold said top down upon the top edge of said body.

3. A container or carton comprising a body composed of a bottom, body walls and an open end, a body flap extending outwardly and downwardly from each body wall at the open end of the container, a top for said body, walls formed

- integral with said top and joined one to another, and a locking flap carried by each top wall and of such dimension that when said top is placed upon the open end of said body the side walls of the top overlie the flaps of said body, and the flaps of the top fit between the body flaps and the body walls, and the flaps of the body fit between the top flaps and top walls in such a manner that the edge of said body flaps extends to the juncture of said top flaps and top walls and the edge of said top flaps extends substantially to the juncture of said body flaps and body walls to securely hold said top down upon the top of said body.
4. A container or carton comprising a body composed of a bottom, body walls and an open end, a body flap extending outwardly and downwardly from at least two of said body walls at the open end of the container, a top for said body, depending walls formed integral with said top and joined one to another, and a locking flap carried by at least two of said top walls and of such dimension that certain side walls of the top overlie the flaps of said body, and the flaps of the top fit between certain of the body flaps and the body walls, and certain of the flaps of the body fit between the top flaps and certain of the top walls in such a manner that the edge of said body flaps extends to substantially the juncture of said top flaps and certain of said top walls and the edge of said top flaps extends to substantially the juncture of said body flaps and certain of said body walls and tightly hold said top down upon the top edge of said body.

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