Oct. 9, 1951 D. M. HAZENFIELD 2,570,804

BOX CARRIER

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Fig. 1.

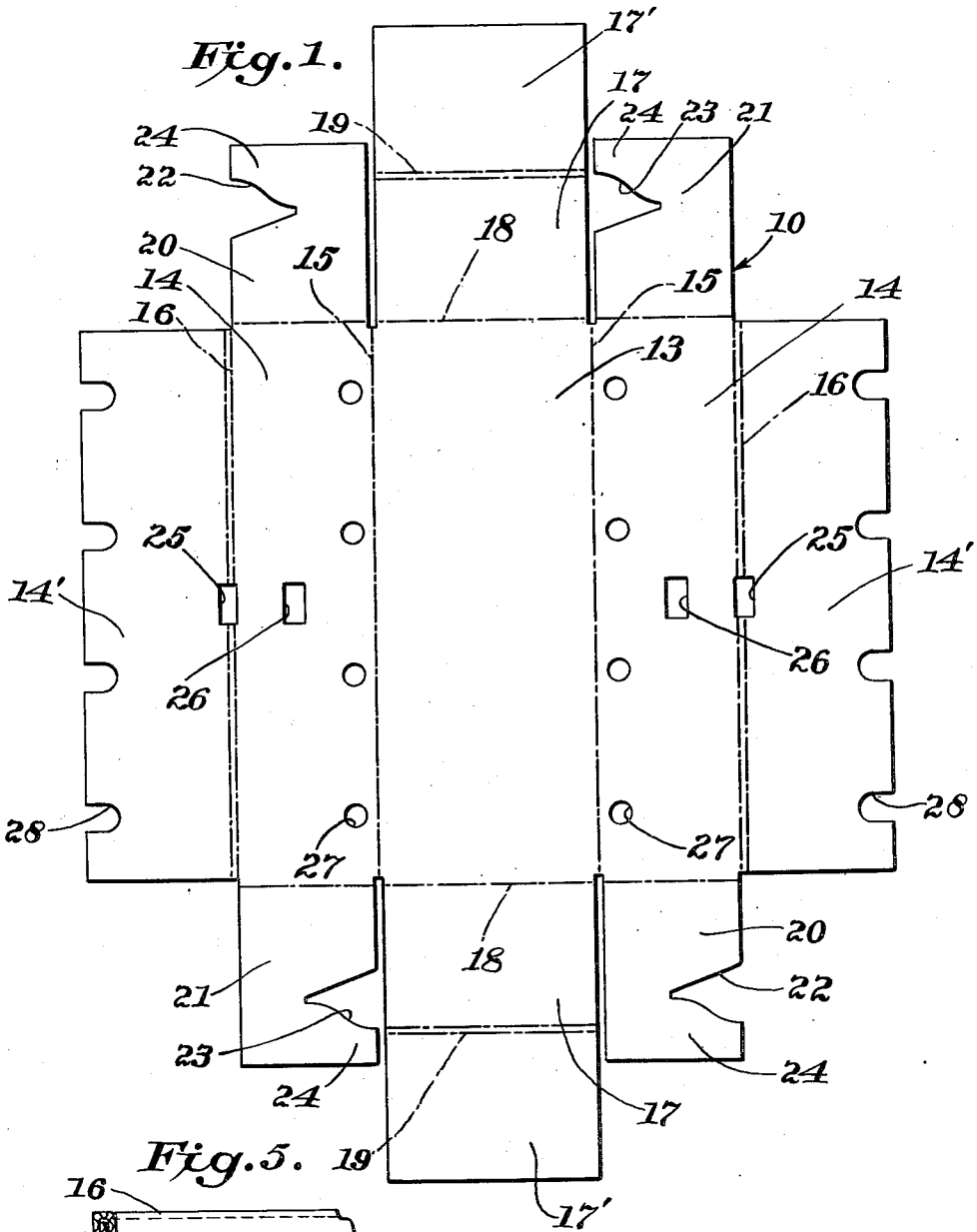
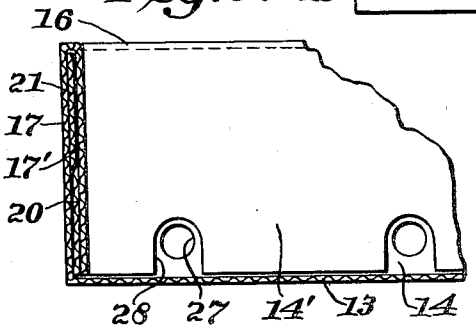


Fig. 5.



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Fig. 2.

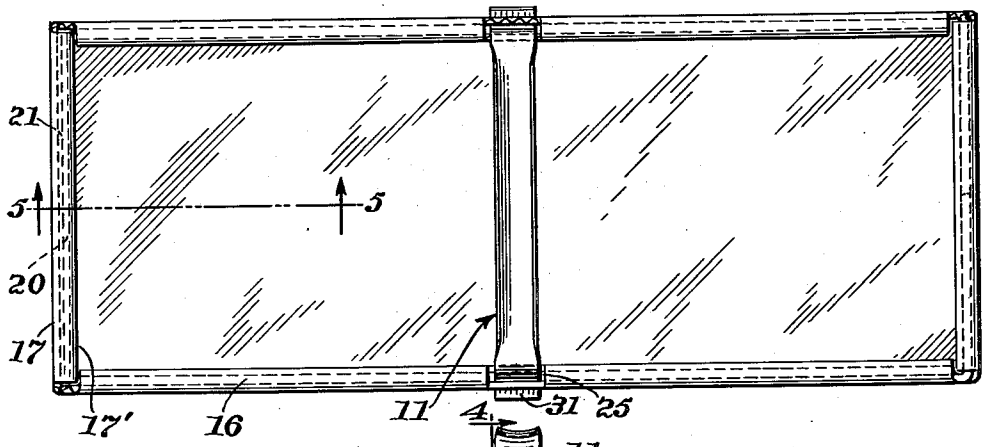


Fig. 3.

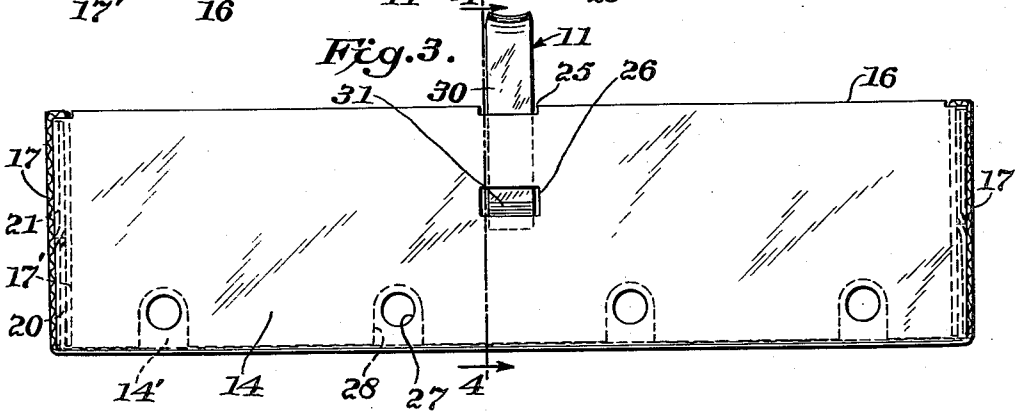


Fig. 4.

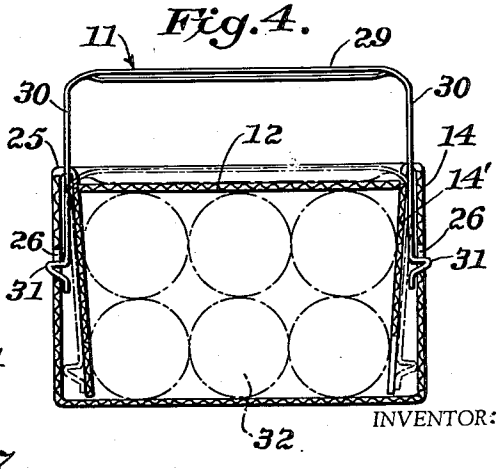


Fig. 6.

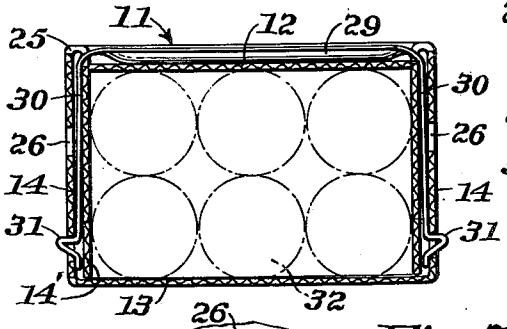
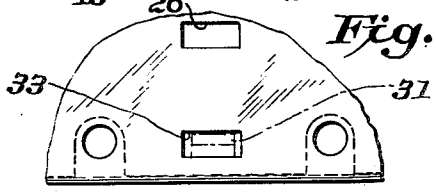


Fig. 7.



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BOX CARRIER

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Application December 14, 1949, Serial No. 132,846

6 Claims. (Cl. 229—52)

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This invention concerns a box carrier which is particularly suitable for packaging fruits and vegetables. In particular, this invention relates to a double side wall box carrier which may be carried by means of a handle which is depressible into the double side walls when it is desirable to stack a number of box carriers one on top of the other.

One of the main objects of this invention is to provide a strong and economical box carrier of foldable material such as corrugated paper of single face and double face or multiple face material, fiberboard and the like, wherein the foldable parts of the body of the carrier include interlocking features which hold the carrier securely in its assembled position without the need of cleats, staples or other separate securing means.

Another object of this invention is to provide a box carrier of the type described which has a readily attachable and detachable handle arranged in conjunction with the carrier so that it may be depressed within the same in an out-of-the-way position allowing stacking of one carrier on top of another and so that it may also be securely fixed in an elevated position with respect to the box carrier to afford a strong and durable handle for carrying when desired.

Another object of this invention is to provide a box carrier of the type described which includes double side and end walls and which also is provided with a separate cover which may be retained in position, when the carrier is filled, by means of the readily depressible handle which is inserted between the double side walls of the box carrier.

These and various other objects and advantages will become apparent from the following description taken in connection with the accompanying drawings wherein the invention is shown in its preferred forms. It is to be understood that various other specific arrangements and forms of construction within the scope of the description and appended claims may be adopted in carrying out the objects and purposes of this invention.

In the drawings:

Figure 1 is a plan view of the blank of foldable material from which the box carrier of this invention is made in its preferred form;

Figure 2 is a plan view of the assembled box carrier of this invention;

Figure 3 is an elevational view of the box carrier of Figure 1 with the handle in its extended position;

Figure 4 is a vertical cross-sectional view taken along the line 4—4 of Figure 3 showing the handle in phantom in a depressed position;

Figure 5 is a partial cross-sectional view of Figure 2 taken along the line 5—5;

Figure 6 is a similar view to that shown in Figure 4 showing a modification of the same with the handle in a depressed position positively interlocked for retaining a cover in position; and

Figure 7 is a fragmental side view of Figure 6 illustrating the arrangement of two slots for positively positioning the handle in an elevated or depressed position.

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The form of the invention, as shown in Figures 1 through 5, comprises a box carrier body 10 formed of a single blank of foldable material which is easily set up to provide a carrier box; a handle 11 which may extend above the body for carrying purposes, which is arranged to be readily attached and detached, and which may also be depressed into the body so that the boxes may be stacked one upon the other when filled; and a top or lid 12 which may be positioned on top of the articles in the filled box and retained there by the side and end walls of the carrier box and the handle 11 when this handle is in its depressed position. These three parts are detachably combined to provide a strong and durable carrier box without the use of any separate securing elements. The box carrier further provids a neat exterior and a smooth and even interior to avoid injuring the contents such as fruits and vegetables.

The unassembled box carrier body 10, as shown in Figure 1, consists of a single blank of foldable material such as corrugated paper which may be of single face or of multiple face corrugated construction or of heavy fiberboard and the like. This blank from which the box carrier body 10 is assembled comprises a bottom 13 from which outer side sections 14 of the two side walls may be folded upwardly along the fold lines 15, inner side sections 14' extending from the outer edges of outer side sections 14 and foldable downwardly into engagement with bottom 13 along the double fold lines at 16 which form continuous top side edges, outer end wall sections 17 which may be bent upwardly from the bottom 13 along the fold lines 18, and inner end wall sections 17' extending from the outer edges of outer end sections 17 and foldable downwardly into engagement with bottom 13 along the double fold lines at 19 which form continuous top end edges.

In order to provide interlocking means for the sides and ends of the box carriers, companion flaps 20 and 21 extend outwardly one from each

of the ends of the two outer side sections 14. Flaps 20 are each provided with a notch 22 extending inwardly from the top edge of the flap and companion flaps 21 are each provided with a notch 23 extending inwardly from the bottom edge of the flap. The notches 22 and 23 thereby provide tongues 24 on the outer end of the flaps 20 and 21 so that when the flaps 20 and 21 interengage they are interlocked one to the other.

The top side edges of the carrier box formed at 16 by the double fold lines are each provided substantially at their mid-points with a slot 25 for receiving a handle 11 described hereinafter. Also, slots 26 are provided substantially centrally in each outer side section 14 vertically in line with the slots 25 which are located on the double fold line at 16. Slots 26 serve to positively lock handle 11 in an elevated position for carrying purposes.

If desired, ventilation holes 27 are provided in the outer side sections 14 and companion notches 28 are formed on the outer edges of the inner side section 14'. Upon assembly of the carrier box as described hereinafter, these in line companion holes 27 and slots 28 provide communication from the exterior to the interior of the box thereby permitting ventilation of the same.

In order to assemble the blank of foldable material as shown in Figure 5 and as described supra, it is only necessary to fold the outer side sections 14 upwardly along the fold lines 15 and at the same time fold the flaps 20 and 21 upwardly so that when outer side sections 14 are parallel to each other in a substantially vertical position relative to the bottom 13, flaps 20 and 21 may be interlocked by means of tongues 24 and notches 22 and 23. Next, outer end sections 17 are bent upwardly along fold lines 18 and inner end sections 17' are folded downwardly along double fold lines 19 over the interlocked flaps 20 and 21 so that the outer edges of inner end sections 17' touch the bottom 13 and so that the sections 17 and 17' therefore enclose the interlocking flap means 20 and 21. Thereafter, inner side sections 14' are bent downwardly along the double fold line top edge section 16 so that the outer edges of inner side sections 14' touch the bottom 13.

Handle 11, as best shown in Figures 2 through 4 and 6, comprises preferably a metal U-shaped member having a base portion 29 which may be of rounded construction on the inside for the purpose of providing an easy means of gripping. Two flat leg portions 30 extend substantially laterally from the base portion 29. Substantially at the ends of each of the leg portions 30 there is an outwardly extending ear portion or hook member 31 for cooperating with the slot 26 when the legs are inserted in the slots 25. As shown in the assembled position and particularly in Figure 4, the handle 11 having its legs inserted between the inner and outer side sections 14 and 14' by way of slots 25 may be depressed to an out-of-the-way position or may be elevated to a carrying position such that ears 31 engage slots 26.

In the modification of Figure 4, it is seen that the weight of the materials 32, such as fruits and vegetables, forces the free ends of inner side walls 14' outwardly in a manner that will retain the ears or hooks 31 in the slots 25 when the handle is in an elevated position. Also, if it is desired that the handle 11 be in a depressed position for the purpose of holding the top or lid 12 securely in position and permitting stacking of the carrier boxes, the weight of the fruits or vegetable material 32 forces the ears 31 against the inner side of the outer side sections 14 and thereby frictionally prevents the upward movement of the handle which would permit possible dislocation of the top or lid 12.

In another modification as shown in Figures 6 and 7, slots 33 are provided vertically in line with slots 25 and 26 at a distance from slot 25 equal to the length of the leg portion 30 extending from the top of ear or hook 31 to the lower inside portion of base 29. The additional slot 33 serves to positively lock the ears 31 and hence the handle 11 in a depressed position in a manner assuring the firm and permanent positioning of the top or lid 12. In order to elevate the handle 11 so that ears 32 engage the slots 26 in a carrying position, it is only necessary to push inwardly on the ears 31 and then pull the handle upwards until the ears 31 engage the slots 26.

The novel arrangement of the box carrier including the handle and top provides a sturdy and economical box carrier of double wall thickness whose handle is depressible between the double side walls in a manner assuring the proper positioning of the top. Furthermore, the same handle may be elevated and positively locked for carrying purposes, if desired.

I claim:

1. A box carrier comprising a bottom and integral walls arising therefrom including a pair of opposite walls each having an inner and outer section joined at the top edge and each provided with a slot in the joined top edge, each of said outer sections of the opposite walls having at least one slot substantially vertically in line with said first slot in said joined edge, and a handle substantially U-shaped having a base and a pair of legs extending therefrom, each leg having substantially at the end thereof an ear extending outwardly, the said legs extending through the first said slot in the joined top edge and being depressible between the inner and outer sections of each of said opposite walls a distance sufficient to place the base section of said U-shaped handle adjacent the joined top edge of said opposite walls, said handle also being capable of interlocking by means of said ears with any one of said second vertically in line slots of each of said outer and opposite walls.

2. A box carrier comprising a bottom and integral walls arising therefrom including a pair of opposite walls each having an inner and outer section joined at the top and each provided with a slot in the joined top edge, each of said outer sections of the opposite walls having a slot substantially vertically in line with said first slot in said joined edge, and a handle substantially U-shaped having a base and a pair of legs extending therefrom, each leg having substantially at the end thereof an ear extending outwardly, the said legs extending through the said first slot in the joined top edge and being depressible between the inner and outer sections of each of said opposite walls a distance sufficient to place the base section of said U-shaped handle adjacent the joined top edge of said opposite walls, said handle also being capable of interlocking by means of said ears with said second vertically in line slot of each of said outer and opposite walls.

3. A box carrier comprising a bottom and integral walls arising therefrom including a pair of opposite walls each having an inner and an outer section joined at the top and each provided with a slot in the joined top edge, each of said outer sections of the opposite walls having two slots substantially vertically in line with said

first slot in said joined edge, and a handle substantially U-shaped having a base and a pair of legs extending therefrom, each leg having substantially at the end thereof an ear extending outwardly, the said legs extending through the said first slots in the joined top edge and being depressible between the inner and outer sections of each of said opposite walls a distance sufficient to place the base section of said U-shaped handle adjacent the joined top edge and simultaneously interlock said ears of said legs in the lower of said vertically in line slots, said handle also being capable of interlocking by means of said ears with said upper vertically in line slot of each of said outer and opposite walls.

4. A box carrier comprising a bottom and integral walls arising therefrom including a pair of opposite walls each having an inner and outer section joined at the top and provided with a slot in the joined top edge, each of said outer sections of the opposite walls having at least one slot substantially vertically in line with said first slot in said joined edge, a top of a width substantially equal to the distance between the inner sections of the opposite walls, and a handle substantially U-shaped having a base and a pair of legs extending therefrom, each leg having substantially at the end thereof an ear extending outwardly, the said legs extending through the first said slots in the joined top edge and being depressible between the inner and outer sections of each of said opposite walls a distance sufficient to place the inner side of the base section of said U-shaped handle on the upper surface of said top, said handle also being capable of interlocking by means of said ears with any one of said second vertically in line slots of said outer and opposite walls.

5. A box carrier comprising a bottom and integral walls arising therefrom including a pair of opposite walls each having an inner and outer section joined at the top and provided with a slot in the joined top edge, each of said outer sections of the opposite walls having a slot substantially vertically in line with said first slot in said joined edge, a top of a width substantially equal to the distance between the inner sections

of the opposite walls, and a handle substantially U-shaped having a base and a pair of legs extending therefrom, each leg having substantially at the end thereof an ear extending outwardly, the said legs extending through the said first slots in the joined top edge and being depressible between the inner and outer sections of each of said opposite walls a distance sufficient to place the inner side of the base section of said U-shaped handle on the upper surface of said top, said handle also being capable of interlocking by means of said ears with said vertically in line slot of each of said outer and opposite walls.

6. A box carrier comprising a bottom and integral walls arising therefrom including a pair of opposite walls each having an inner and outer section joined at the top and provided with a slot in the joined top edge, each of said outer sections of the opposite walls having two slots substantially vertically in line with said first slot in said joined edge, a top whose width is substantially equal to the distance between the inner sections of the opposite walls, and a handle substantially U-shaped having a base and a pair of legs extending therefrom, each leg having substantially at the end thereof an ear extending outwardly, the said legs extending through the first said slots in the joined top edge and being depressible between the inner and outer sections of each of said opposite walls a distance sufficient to place the inner side of the base section of said U-shaped handle on the upper surface of said top and simultaneously interlock by means of said ears with the lower of said two vertically in line slots, said handle also being capable of interlocking by means of said ears with the upper slot of said two vertically in line slots of each of said outer and opposite walls.

DARYOLD M. HAZENFIELD.

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The following references are of record in the file of this patent:

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