June 10, 1952 R. E. WOLFE 2,599,800

SHIPPING AND CARRY OUT CARTON

Filed March 4, 1949 2 SHEETS—SHEET 1

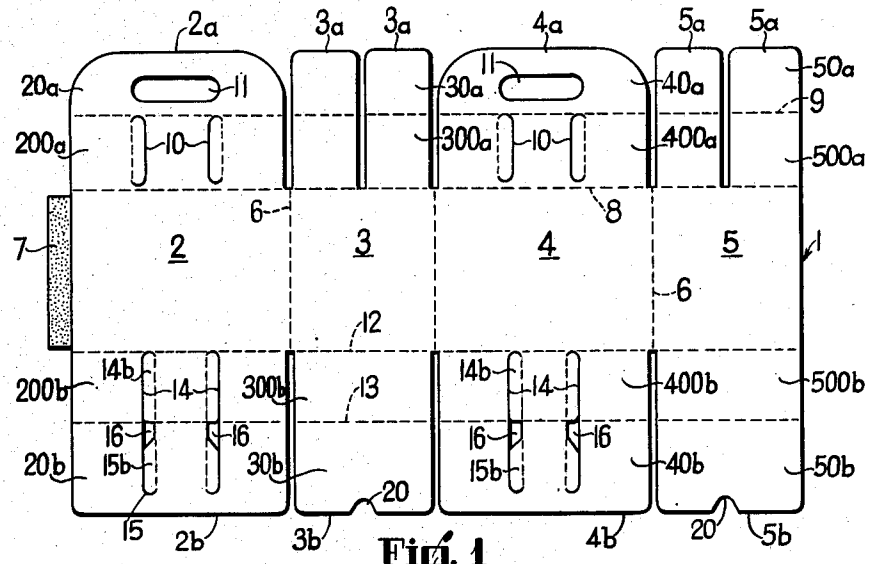


Fig. 1

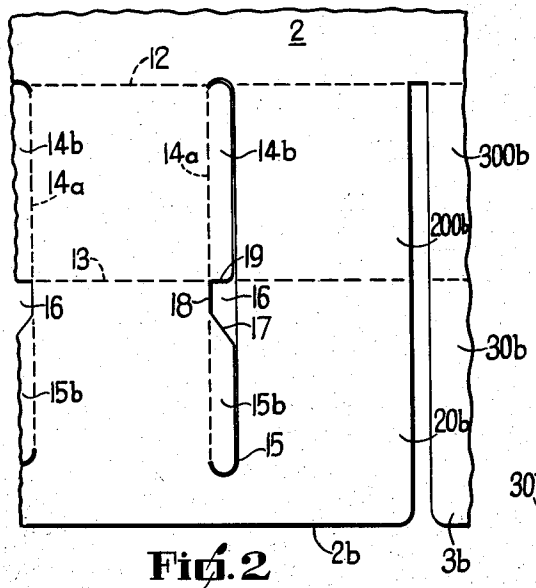


Fig. 2

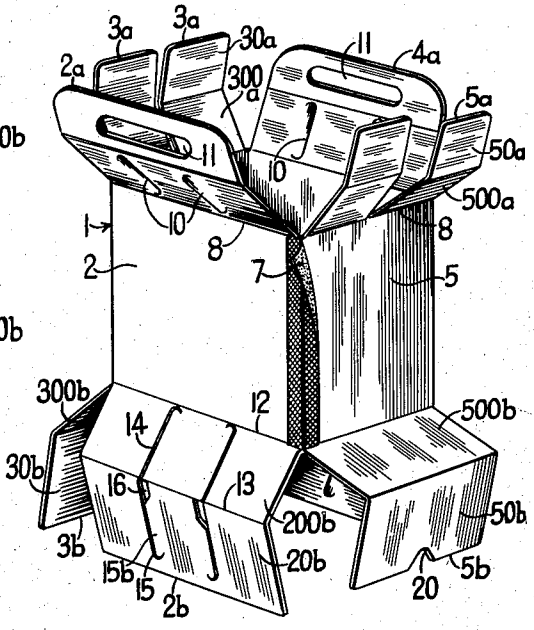


Fig. 3

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SHIPPING AND CARRY OUT CARTON

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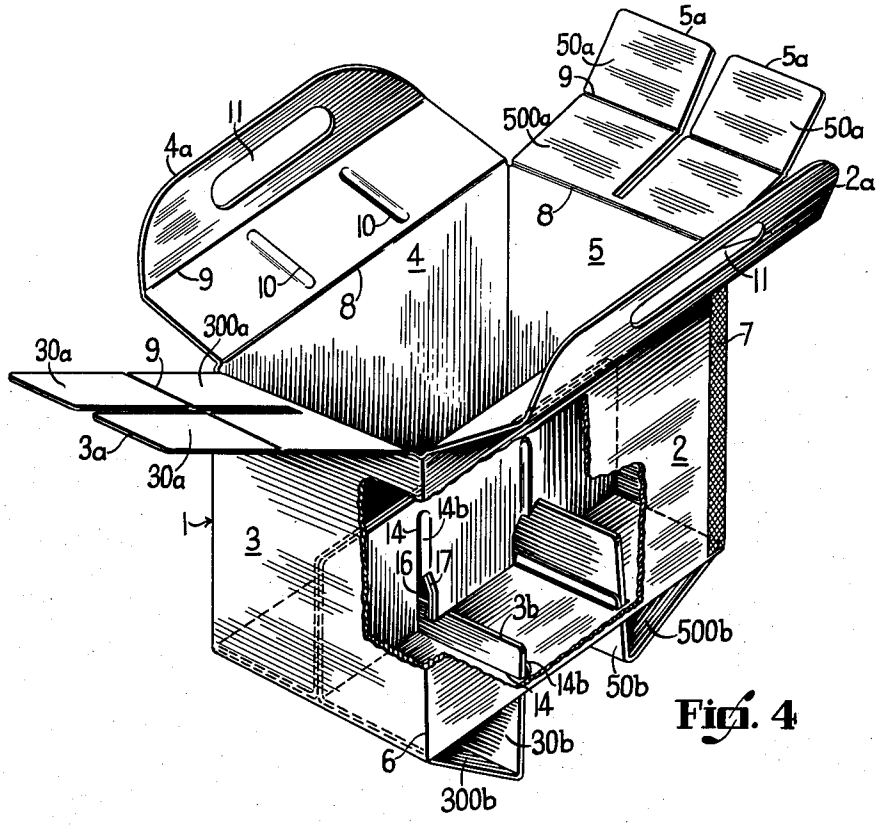


Fig. 4

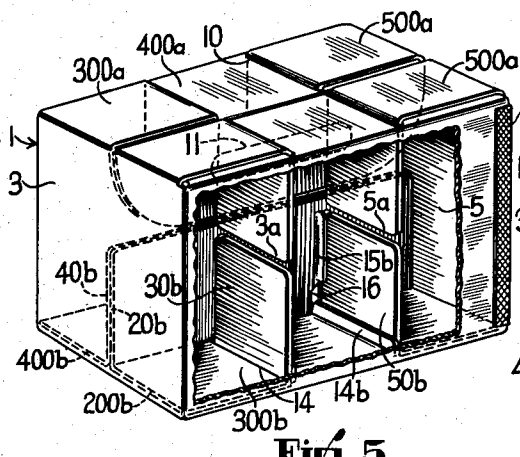


Fig. 5

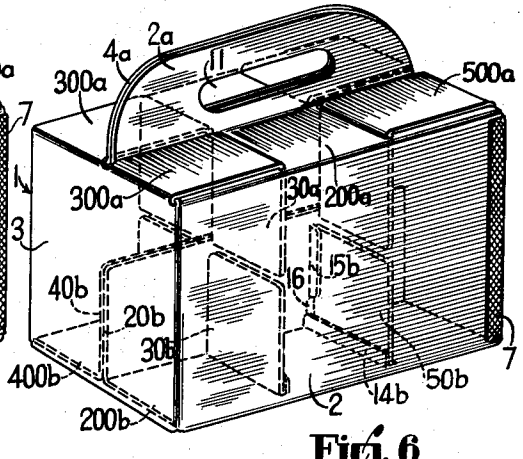


Fig. 6

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SHIPPING AND CARRY-OUT CARTON

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2 Claims. (Cl. 229—39)

1

My invention relates to a shipping and carry-out carton. It has to do, more particularly, with a carton which is particularly useful for shipping bottled goods, for example, to a dealer and which then provides convenient means for the customer to carry away the goods.

This invention relates to that type of carton which is formed of a single piece of cardboard, paper board, strawboard or similar material and which is so slit and scored that it can be folded into a substantially rectangular carton which is provided with partitions for spacing and protecting bottles or other articles to be disposed therein. The upper portion of this type of carton is so formed that closure means is provided for shipping purposes, this closure means being adjustable to provide handles, when desired, for carrying the carton.

One of the objects of my invention is to provide a carton of the type indicated which is provided with upstanding partitions arranged on its bottom which are securely locked in proper relationship to each other so that they will be properly located at all times relative to each other to receive the articles, such as bottles, in the pockets or compartments provided by such properly located partitions, thereby greatly simplifying the packing of such carton with the articles to be shipped therein.

Still another object of my invention is to provide a carton of the type indicated which is of such a nature that not only the bottom is provided with the upstanding partitions of the type indicated above but also the top end or closure means is provided with depending partitions aligning with the upstanding lower partitions, the upper ends of the lower partitions contacting with the lower ends of the upper partitions when the carton is in shipping condition to give the carton increased strength.

Various other objects will be apparent.

The preferred embodiment of my invention is illustrated in the accompanying drawings wherein similar characters of reference designate corresponding parts and wherein:

Figure 1 is a plan view of a blank of a single piece of paperboard or the like properly scored and slit to form the carton of my invention.

Figure 2 is an enlarged plan view of one of the bottom flaps which is provided with special slots which cooperate with locking flaps that cooperate therewith to lock the bottom partition members in upstanding position.

Figure 3 is a perspective view illustrating the first step in the operation of folding a blank to form the invention.

2

Figure 4 is a perspective view looking into the interior of the carton towards the bottom and showing how the bottom flaps are folded upwardly into the carton to form the partitions which are locked in place.

Figure 5 is a perspective view showing the carton substantially completely folded and closed for shipping purposes.

Figure 6 is a perspective view, partly broken away, illustrating the top portion of the carton so folded as to provide the upstanding handle by means of which the carton may be carried.

With reference to the drawings, in Figure 1 I have illustrated a blank 1 formed of a single piece of paperboard or similar material. This blank is scored and cut in the manner indicated. The scoring and cutting provides a sidewall 2, an end wall 3, a sidewall 4 and an end wall 5 which are joined to each other along the vertical fold lines 6. The free edge of sidewall 2 carries an adhesive strip 7 adapted to be attached to the free edge of the end wall 5 when the blank is properly folded.

Extending completely across the blank is a fold line 8 and above this line are formed the top flaps consisting of a flap 2*a* connected to sidewall 2, a pair of tabs 3*a* connected to side wall 3, a flap 4*a* connected to sidewall 4, and a pair of tabs 5*a* connected to end wall 5, all of these flaps being of the same height. A score line 9 extends completely across all of the top flaps intermediate their inner ends and their free outer ends. This score line divides the flap 2*a* into an outer section 20*a* and an inner section 200*a*, the pair of tabs 3*a* into an outer section 30*a* and an inner section 300*a*, the flap 4*a* into an outer section 40*a* and an inner section 400*a*, and the pair of tabs 5*a* into an outer section 50*a* and an inner section 500*a*.

Each of the flaps 2*a* and 4*a* and, more specifically, the inner sections 200*a* and 400*a* thereof are provided with a pair of slits 10 which extend substantially from the fold line 8 to the score line 9 but terminate short thereof. Each of these slits is of substantially C-shape or reverse C-shape to provide slots with flexible edges for receiving the sections 30*a* and 50*a* of the tabs 3*a* and 5*a*. These slots are of a length to tightly receive the tab sections and are spaced from the respective edges of the flaps in which they are formed a distance substantially equal to the length of the inner sections of the tabs, as will be apparent later. The outer sections 20*a* and 40*a* of the flaps 2*a* and 4*a* are provided with finger-receiving openings 11 which extend parallel to their outer edges.

Extending completely across the lower portion

of the blank is a fold line 12 and below this line are formed the bottom flaps consisting of a flap 2b connected to sidewall 2, a flap 3b connected to sidewall 3, a flap 4b connected to sidewall 4, and a flap 5b connected to sidewall 5, all of these flaps being of the same extent outwardly. A score line 13 extends completely across all of the bottom flaps intermediate their inner ends and their free outer ends. This score line divides the flaps 2b into an outer section 20b and an inner section 200b, the flap 3b into an outer section 30b and an inner section 300b, the flap 4b into an outer section 40b and an inner section 400b, and the flap 5b into an outer section 50b and an inner section 500b.

Each of the flaps 2b and 4b is provided with a pair of slots 14 each of which is adapted to receive either the outer section 30b of flap 3b or the outer section 50b of flap 5b. As shown best in Figure 2, each slot 14 is of special design. Each slot extends from a point 15 spaced slightly from the outer end of the flap substantially to the fold line 12. The length of these slots corresponds substantially to the width of the flaps 3b and 5b. Each slot is spaced from the adjacent edge of the flap in which it is formed a distance equal to the width of the inner section 300b of flap 3b or the inner section 500b of flap 5b so that when the carton is properly folded, as will later appear, the outer sections 20b and 50b can be tucked into the proper slots 14.

Each of the slots 14 is also mainly of C-shape or reverse C-shape so that one edge is flexible. The flexible edge is provided with a notch 16 and it will be noted that the notches of the adjacent slots in each flap extend towards each other, it being evident that the notches are formed in the innermost edges of the slots. Each notch 16 is provided with a beveled lower edge 17, a straight inner edge 18 and a straight upper edge 19 at right angles to the edge 18 and lying in alignment with the score line 13. A score line 14a parallels the slot 14 and extends from notch edge 19 to the curved end of the slot. This provides a small flexible tab 14b. The notches 17, as will later appear, will facilitate insertion of the outer sections 30b and 50b of the flaps 3b and 5b into the proper slots 14.

Midway between its side edges, each of the flaps 3b and 5b has a notch 20 formed in its outer edge. Each of these notches, as will later appear, will cooperate with the uncut portions 15 of flaps 2b and 4b to lock the outer sections 20b and 40b of these flaps in position to serve as partitions in the carton.

It will be noted best from Figure 1 that the flaps 2a and 4a have rounded corners to facilitate insertion into the top of the carton and to give a pleasant appearing handle. Also, all of the tabs 3a and 5a have their outer corners beveled to facilitate tucking into the carton. Similarly, all of the flaps on the lower part of the carton have their corners beveled to facilitate insertion into the bottom portion of the carton.

In folding the blank into the carton, the first step is, as shown in Figure 3, to fold it along the vertical fold lines 6 and to attach the adhesive strip 7 to the outer vertical edge of end wall 5. The next step is illustrated in Figure 4 where the lower flaps are indicated as being folded up along and into the body of the carton to produce the bottom. In doing this, the flaps 2b and 4b are first bent inwardly and along line 12 and then the outer sections 20b and 40b thereof are bent upwardly along the line 13 so

that the sections 20b and 40b will be back-to-back and vertically disposed within the body of the carton, extending from the end wall 3 to the end wall 5 and having their top edges in alignment, as shown best in Figures 5 and 6. Next, the locking flaps 3b and 5b are folded inwardly along line 12 and at the same time the outer sections 30b and 50b thereof are bent upwardly along line 13. The outer end of section 30b is inserted in the aligning slot formed in the bottom portions of the carton produced by the sections 200b and 400b, now horizontally disposed, this particular slot being formed by the portion of the right-hand slot 14 (Figure 1) formed in section 200b and the portion of the left-hand slot 14 formed in section 400b. The section 30b will be guided into vertical position by the aligning portions of the two slots referred to which are formed in the now vertically disposed sections 20b and 40b, it being apparent that these sections and section 30b are now at right angles to each other. In inserting the end of section 30b into the bottom slot, the small tabs 14b at the edge of each of the slots 14 will bend inwardly and upwardly, facilitating the insertion, this being important since section 30b will at this time be at an angle relative to the bottom sections 200b and 400b. The notch 16 provides sufficient room for the edge of the section 30b at the inner end of notch 20 therein to move at an angle into the vertical portion of the slot in the upstanding partition sections 20b and 40b. This notch 20 when section 30b reaches its final upstanding position will straddle the uncut portions 15 of sections 20b and 40b now located at the upper edges thereof. Thus, the partition sections 20b and 40b will be locked in central position at the bottom of the carton by cooperating notch 20 and uncut portions 15 of the adjacent end of the partition sections and the upstanding section 30b will be locked in position due to the fact that it fits in the upstanding slot. The flap 5b will be folded inwardly and its outer section 50b will be inserted upwardly into the bottom and partition slot in exactly the same manner, it being understood that the slot in this instance is provided by the left-hand slot 14 (Figure 1) formed in flap 2b and the right-hand slot 14 formed in flap 4b. The notch 20 of flap section 50b will cooperate with the uncut portions or tabs 15b at the top of partition sections 20b and 40b at the adjacent end of the partition sections. Thus, the upstanding partitions at the bottom of the box are held in upstanding relationship and in proper relationship at right angles to each other.

In closing the upper end of the carton, for example after the articles, such as bottles, are disposed within the compartments formed by the upstanding partitions, the flaps 2a and 4a are bent inwardly along the bend line 8 and the sections 20a and 40a thereof are turned downwardly into the carton, being bent on the score line 9. As shown in Figure 5, the sections 20a and 40a will lie in contact with each other and will depend from the top of the container. Next, the two pairs of tabs 3a and 5a are swung inwardly on the bend line 8 and the outer portions thereof are bent downwardly along the score lines 9. The lower ends of these tabs are then passed downwardly through the slots 10 formed in the portions 200a and 400a of the flaps 2a and 4a, the slots serving to frictionally engage the tabs and hold the portions 300a and 500a thereof in contact with the upper surfaces of the sec-

tions **200***a* and **400***a*. It will be noted that the carton is now in condition for shipping. Furthermore, it will be noted that the carton will be reinforced by the fact that the lower ends of the handle section **20***a* and **40***a*, and of the tab sections **30***a* and **50***a* will contact, respectively, with the upper ends of the partitions **20***b* and **40***b* and with the partitions formed by the upstanding sections **30***b* and **50***b*. This will aid in preventing crushing of the contents of the carton when a number of cartons are piled upon each other for shipping and during shipping provides partitions extending the full height of the carton which will better protect the bottles.

When the carton is to be used as a carry-out carton, it is merely necessary to remove the tab sections from the slots **10**, withdraw the handle portions **2***a* and **2***b* and fold them upwardly in the manner indicated in Figure 6. Then the tab sections are replaced in the slots **10** to lock the handle sections in upstanding position.

It will be apparent from the above description that I have provided a shipping and carry-out carton having many advantages some of which have been discussed specifically and others of which will be apparent.

Having thus described my invention, what I claim is:

1. A carton of the type described having four walls, an end structure on the carton including a flap hinged to the edge of each wall, the flaps on each of the pairs of opposite walls being identical with each other but different from the flaps on the other pair of walls, each of the flaps being provided with an inner section hinged to the adjacent wall and an outer section hinged to the inner section, each of one pair of flaps being free of slots, each of the other pair of flaps being provided with a pair of slots

extending substantially from the inner hinge line of the flap through both sections thereof to a point spaced from the outer edge of the flap to provide an unslotted portion at such edge, each of said slots being spaced from the side edge of the flap a distance equal to the width of the inner section of each of the other pair of flaps in a direction at right angles to the hinge connections thereof, and each of the first-named pair of flaps being provided with a notch at its outer edge substantially midway between its side edges, said slots forming tabs in both the inner and outer sections of said other pair of flaps, the tabs in the outer sections of said last-named flaps terminating short of the hinge line of said last-named outer section.

2. A carton according to claim 1 wherein said tabs in the outer sections are separated from the tabs in the inner sections by notches, each of said notches having a straight edge corresponding to the adjacent end of the tab in the inner section, a second edge at right angles thereto and an inclined edge at an angle to the second edge and corresponding to the adjacent end of the tab in said outer section.

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REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
1,134,782	Walter	Apr. 6, 1915
1,881,900	Oman et al.	Oct. 11, 1932
1,928,660	Boeye	Oct. 3, 1933
2,006,725	Unsinger	July 2, 1935
2,450,941	Crane	Oct. 12, 1948
2,462,676	Riley et al.	Feb. 22, 1949