Sept. 1, 1964 J. VESAK 3,146,937

EXTENDABLE HANDLE CARTON

Filed Dec. 13, 1962 2 Sheets-Sheet 1

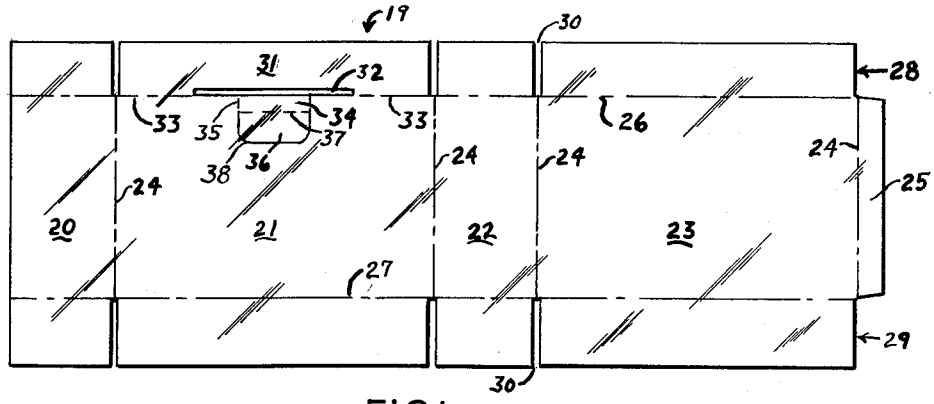


FIG.1

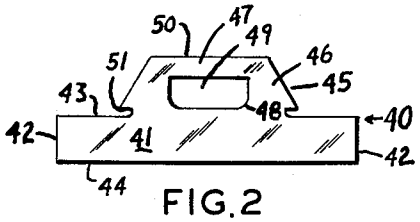


FIG.2

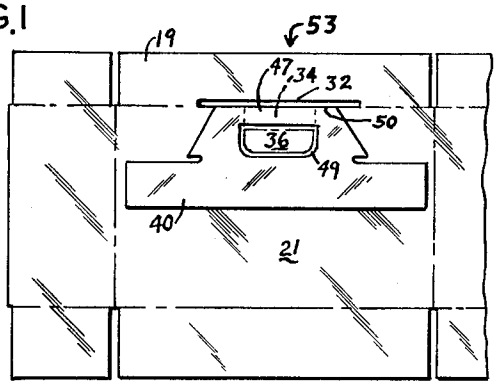


FIG.3

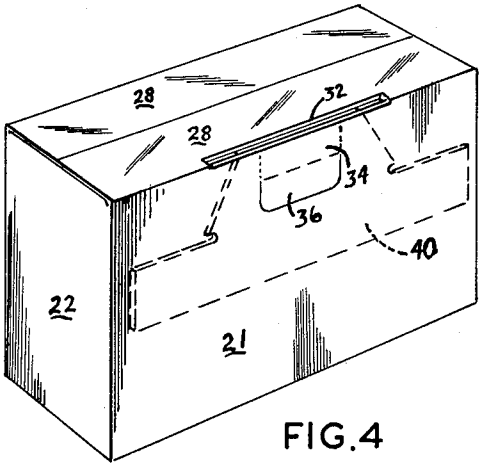


FIG.4

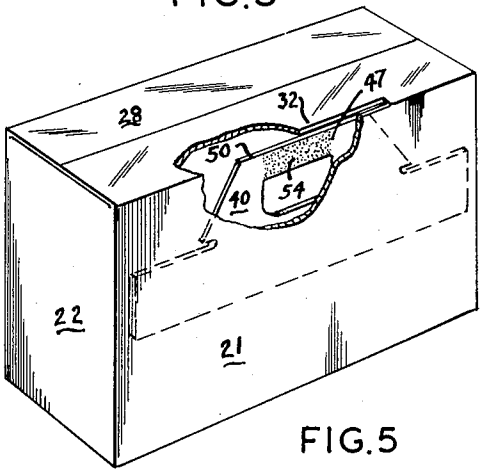


FIG.5

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EXTENDABLE HANDLE CARTON

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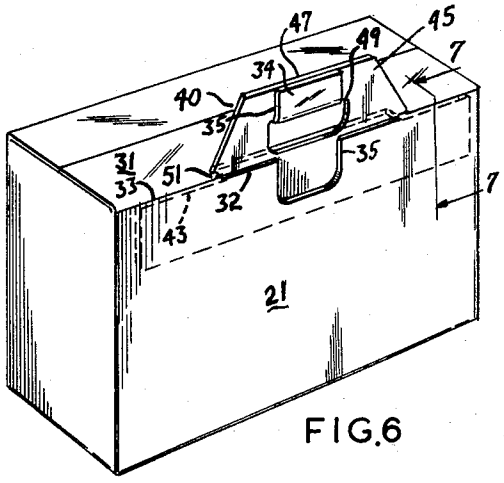


FIG.6

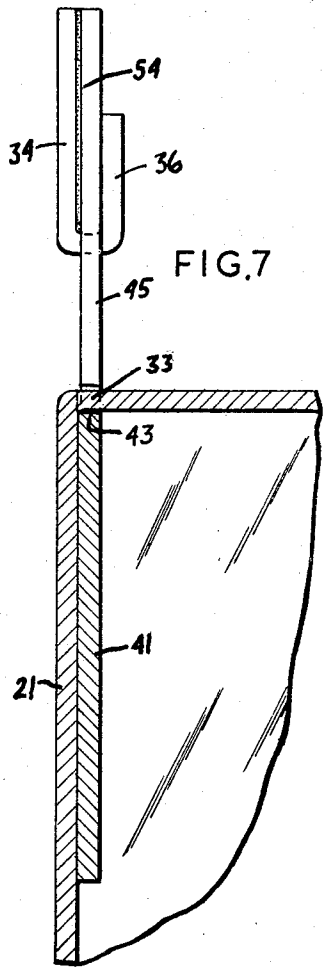
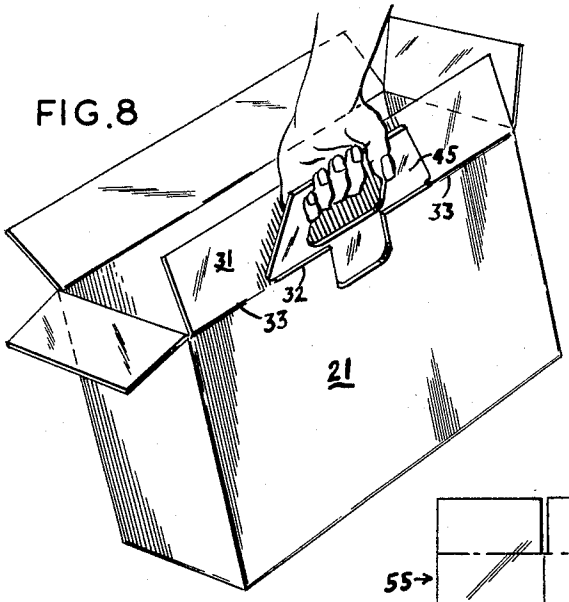


FIG.7

FIG.8



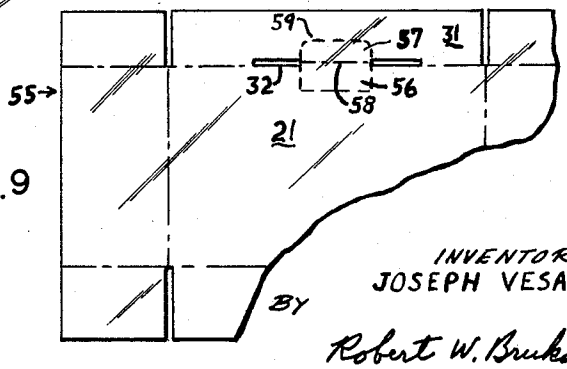


FIG.9

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United States Patent Office 3,146,937 Patented Sept. 1, 1964

3,146,937

EXTENDABLE HANDLE CARTON

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Filed Dec. 13, 1962, Ser. No. 244,444
8 Claims. (Cl. 229—52)

This invention relates to boxes or cartons and more particularly to cartons having extendable handles whereby the handles are initially recessed within the carton for convenience in stacking, storage and shipment and thereafter may be extended to provide convenient handle carrying means.

The invention as herein disclosed is embodied in a carton formed from a foldable blank such as corrugated fibreboard. It is, of course, well known to provide handles in fibreboard cartons and such handles have been used in a construction whereby they may be recessed within the carton and wthdrawn for usage in carrying the same. Handles having this characteristic necessarily require a compromise between providing maximum convenience for the user and at the same time minimizing extra expense in the materials or excessive operations or manipulations required in the manufacture or assembly thereof. The present invention is noteworthy in the degree of success in the compromise of these contradicting factors. The present invention provides an extendable handle carton which exhibits heretofore unrealized economies in manufacture and in materials required and yet the handle member may be readily separated from its recessed condition and extended outwardly from the carton top closure to provide convenient carrying means.

The invention is capable of embodiment in conventional carton designs having tubularly arranged foldably connected walls and hinged top closure flaps or flanges. Further, the invention is particularly susceptible to embodiment in cartons for bottled beverages and the like wherein partitions or cell dividers may be included in the carton without interfering with the extendable handle, thus providing a carton of unusual simplicity and convenience.

With the above and other objects in view, the invention consists in the construction and novel combination and arrangement of parts hereinafter described, illustrated in the accompanying drawings and pointed out in the claims hereto appended, it being understood that various changes in the form, proportions and minor details of construction, within the scope of the claims may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:

FIGURE 1 is a plan view of a carton blank;

FIGURE 2 is a plan view of a handle member;

FIGURE 3 is a plan view of a section of a composite blank including the handle member secured to the carton blank;

FIGURE 4 is a perspective view of an erected carton with the handle member recessed within the confines of the carton;

FIGURE 5 is a perspective view, in section, cut away to show the disposition of the handle member within the carton and securing means;

FIGURE 6 is a perspective view of the erected carton with the handle device extended to carrying position;

FIGURE 7 is a cross-sectional view through line 7—7 of FIGURE 6;

FIGURE 8 is a perspective view of a carton with the handle device extended and the top closure of the carton opened for access to the contents thereof;

FIGURE 9 is a sectional plan view of a carton blank showing an embodiment of the separable wall portion.

The extendable handle carton invention may be embodied in a conventional slotted carton as shown in FIGURE 4. The carton comprises upright walls in connected together tubular relation and closure flaps. During the interval of storage or shipment of such a carton the extendable handle is recessed in secured relation to interior portions of the carton whereby it is maintained free of damage or interference with ordinary handling of the carton as in stacking, trucking, conveying and the like.

The carton illustrated is formed from a foldable sheet of material shown in plan view in FIGURE 1, designated generally as 19, wherein cut edges are shown as solid lines and lines of scoring or hinge connections are shown as intermittent lines as are lines of weakness which are severed in part. The carton blank described in terms applicable to the set-up carton includes upright walls 20–23 which are connected together by the corner hinge connections 24. A corner connecting flap 25 may be connected along one vertical edge of the blank substantially coterminous with the wall panels. The top and bottom edges of the wall panels are determined by top flap score 26 and bottom flap score 27 which serve as the hinge connection of the closure flaps to the respective top and bottom edges of the wall panels. The top closure flaps are indicated generally at 28 and the bottom closure flaps at 29. In each case they are separated by slots 30.

One wall panel 21 and the associated one top flap or flaps 31 includes special provision for the extendable handle. The special provision includes an elongated slot 32 disposed in substantial alignment with the hinge connection 26 but of a determined length whereby it is terminated short of the side edges of the panel, leaving hinge connection portions 33 adjacent each end. The elongated slot may alternatively be disposed on either side of the line of the top flap score 26 or preferably astride the same whereby it may extend into the one wall panel 21 and flange 31 as convenience dictates depending on the thickness and character of the foldable blank material.

The one wall panel 21 is further provided with a separable portion 34 adjacent the elongated slot 32. The separable portion is defined at its side edges by lines of weakness 35 which are severed in part as for example by perforating or cut scoring. The bottom edge of the separable portion is defined by a gripping tab 36 score line 37. The gripping tab 36 is defined by a free edge 38 whereby it is preferably substantially entirely separated from the one wall panel 21 by the line of cut having a confirmation which will permit the insertion of a finger or fingers to grasp the severable portion 34 and permit the separation of the same from the one wall panel 21.

The extendable handle indicated generally at 40 FIGURE 2 comprises an elongated support bar 41 which has a horizontal length dimension extending between the end edges 42 preferably substantially conforming to the width of the one wall panel 21. The vertical height of the support bar extending between the upper edge 43 and lower edge 44 will generally be less than the interior height of the one wall panel 21. An extending gripping portion 45 extends vertically upwardly from the support bar upper edge 43 medially of its length. The gripping portion 45 is comprised of upright end portions 46 and a handle bar 47 each having an internal edge 48 defining a handhole 49. The handle bar 47 has an upper edge 50. A notch retaining means 51 is provided in the base of the upright end portions 46 at the juncture with the support bar upper edge 43.

A composite blank indicated generally at 53 in FIGURE 3 is comprised of the container blank 19 and extendable handle 40. The extendable handle 40 is disposed on the container blank on the one wall panel 21 interior

surface so that the handle bar upper edge 50 is centered beneath the elongated slot 32 and adjacent or slightly spaced therefrom. The handle bar 47 is in juxtaposition to the separable portion 34 of the container blank and the handhole 49 is in alignment with the gripping tab 36 whereby the gripping tab may pass through the handhole as will be hereinafter described.

FIGURE 4 shows an erected carton formed from the composite blank 47 of FIGURE 3. In erecting the carton the remote panels of the blank 20 and 23 are infolded to bring the corner connecting flap 25 into overlapping relation with the remote panel 20 side margin, whereby they may be secured together by conventional means. The carton may then be extended to tubular wall relation, as shown, and the top and bottom closure flaps 28 and 29 infolded and sealed to complete the erection of the carton. In this condition, the carton is in effect quite conventional as regard its handling and stacking qualities, there being no extending protuberances in connection with the extendable handle 40 which might be damaged or interfere with stacking or conveying of the same.

The erected carton is shown cut away in FIGURE 5 to clearly illustrate the disposition of the extendable handle 40 within the confines of the carton. The handle bar 47 is adhesively or otherwise secured to the separable portion 34 of the carton one wall panel 21, which securement means 54 is represented by stipuling in the drawing. The securing means 54 insures the permanent disposition of the handle within the carton in a position whereby it is readily accessible for extension externally of the carton for carrying purposes.

To extend the handle outwardly of the carton into carrying position as shown in FIGURE 6 the fingers are inserted through the gripping tab 36 and handhole 49 whereby the carton separable portion 34 and the handle bar 47 may be grasped. A lifting of twisting force will then sever the lines of weakness 35 of the separable portion 34 and the handle extending gripping portion 45 projected upwardly through the elongated slot 32 until the support bar upper edge 43 comes into abutting relation with the bearing surfaces constituted by the hinge connection portion 33 and adjacent one wall and flap portions 21 and 31. In this position the notch retaining means 51 prevent dislodgement of the extendable handle 40 by their engagements with the end edges of the elongated slot 32.

The abutting relation of the support bar upper edge 43 with the bearing surface at and adjacent the hinge connection portions 33 is best shown in the cross sectional view, FIGURE 7, taken along the line 7—7 of FIGURE 6.

In many cases it is desirable to have continued effective carrying means for a carton after the top closure is opened for access to the contents. This is true, for example, when the carton is used for bottled beverages whereby the bottles may be replaced in the carton for return of the same. It has been found that the present invention affords entirely satisfactory operation in this condition as illustrated in FIGURE 8 wherein the one top closure flap 31 is in free swinging hinge connection to the one wall panel 21. It has been found that the confines of the elongated slot 32 engaging the extending gripping portion 45 of the handle retains the support bar upper edge 37 into abutting relation with the bearing surfaces 33 as hereinbefore described.

A further embodiment of the invention is illustrated in FIGURE 9 showing a section of a carton blank 55 including a modification of the separable portion denoted 56 and gripping tab 57. This construction has in common with the first described embodiment that the gripping tab 57 is in adjacent cooperating relation with the separable portion 56 disposed in the one wall panel 21. However, in this instance the gripping tab 57 is disposed in the one top flap 31 whereby the elongated slot 32 is

initially interrupted medially of its length by the gripping tab 57.

In the operation of this embodiment, to extend the handle, the gripping tab 57 is pushed inwardly about the score 58 to separate the same along the partially severed line of weakness 59 from the one top flap 31 whereby the separable portion 56 and handle bar 39, not shown, may be grasped for the purpose of projecting the extendable handle 40 into carrying position. In the carrying position of the handle it will operate fully and in the same manner as described in connection with the first embodiment of the invention.

The lines of weakness herein described in connection with the one wall separable portions and gripping tabs are generally severed in part as by an interrupted line of cut or perforations or a so-called cut score which is a substantially continuous line of cut but extending only part way through the container board material forming the foldable blank. Further, it is within the purview of the invention that either the separable portion or the gripping tab may be completely severed yet retained in position by the partial connection of the alternate portion to the container blank.

It is to be understood that the embodiments herein described are illustrative and not restrictive, and it is also to be understood that the invention may be susceptible to embodiment in other modified forms, and that all such modifications which are similar to or equivalent hereto come equally within the scope of the claims next appearing.

In the claims:

1. A carton having tubularly arranged wall panels and at least one top flap having a hinge connection to one wall panel and an extendable handle: the carton having an elongated slot substantially in alignment with said hinge connection, the slot terminating short of the ends of the hinge connection to provide handle bearing surfaces at each end, the extendable handle disposed within the carton adjacent the one wall panel and comprising a support bar and an extending gripping portion intermediate the ends of the support bar, a separable portion of said one wall of the carton adjacent the elongated slot determined by lines of weakness, means securing the extendable handle in flatwise relation to said separable portion, the gripping portion of the extendable handle adapted to be projected through the elongated slot upon separating the separable portion of the carton wall.

2. The carton as claimed in claim 1 including a retaining means in the extendable handle comprising a notch in the extending gripping portion adapted to engage the ends of the elongated slot when the handle is in extended condition.

3. The carton as claimed in claim 2 further provided with a gripping tab adjacent to the separable portion, the gripping tab being determined by separable lines of weakness whereby it may be depressed inwardly of the carton to facilitate grasping the separable portion of the carton wall and the subjacent gripping portion of the handle to extend the same into carrying position.

4. A carton of tubularly arranged wall panels and a top closure including at least one top closure flap having a hinge connection to one wall panel and an extendable handle: the carton having an elongated slot substantially in alignment with said hinge connection and extending on at least one side thereof, the slot terminating short of the ends of the hinge connection to provide handle bearing surfaces at each end, the extendable handle disposed within the carton adjacent the one wall panel and comprising a support bar and an extension intermediate the ends of the support bar adapted to project through the elongated slot, the extension having a handhole therein, the carton one wall panel having means providing access from the exterior of the carton to the interiorly disposed handle for gripping the same, a separable portion of the one wall panel adjacent the elon-

gated slot, the handle being secured to said separable portion, whereby the extendable handle extension may be projected through the elongated opening upon separating the separable portion.

5. A composite blank for an extendable handle carton comprising a foldable blank and a handle member secured in flatwise relation thereto, the foldable blank including wall panels in foldably connected relation, a top flange having a fold connection to an upper edge of at least one of said wall panels, an elongated slot substantially in alignment with the top flange fold connection, the slot terminating short of the ends of the fold connection to provide handle bearing surfaces, a separable portion in the said one wall panel adjacent the elongated slot, a handle member in secured relation to the foldable blank and comprising a support bar and an extending gripping portion intermediate the ends of the support bar, the extending gripping portion including upright end portions and a handle bar determining a handhole therein, the handle bar secured in fixed relation to the separable wall portion with the upper edge thereof adjacent the elongated slot

6. The composite blank as claimed in claim 5 wherein the separable portion is defined in the one wall panel by lines of weakness, the lines of weakness being severed in part.

7. The composite blank as claimed in claim 6 wherein the foldable blank includes a gripping tab in hinged relation to the separable portion, the gripping tab being separable from the foldable blank and in aligned relation to the handle member handhole.

8. A composite blank for an extendable handle carton comprising a foldable blank and a handle member secured in flatwise relation thereto, the foldable blank including panels in foldably connected side-by-side relation, a top flange having a fold connection to an upper edge of one of said panels, an elongated slot substantially in alignment with the top flange fold connection, the slot terminating short of the ends of the fold connection to provide handle bearing surfaces, a separable portion in the said one panel adjacent the elongated slot, a handle member in secured relation to the foldable blank and comprising a support bar and an extending gripping portion intermediate the ends of the support bar, the extending gripping portion including upright end portions and a handle bar determining a handhole therein, the handle bar secured in fixed relation to the separable wall portion with the upper edge thereof adjacent the elongated slot.

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