May 12, 1953 E. C. MULNIX 2,638,262

CARTON

Filed June 18, 1949 2 Sheets-Sheet 1

Fig. 1

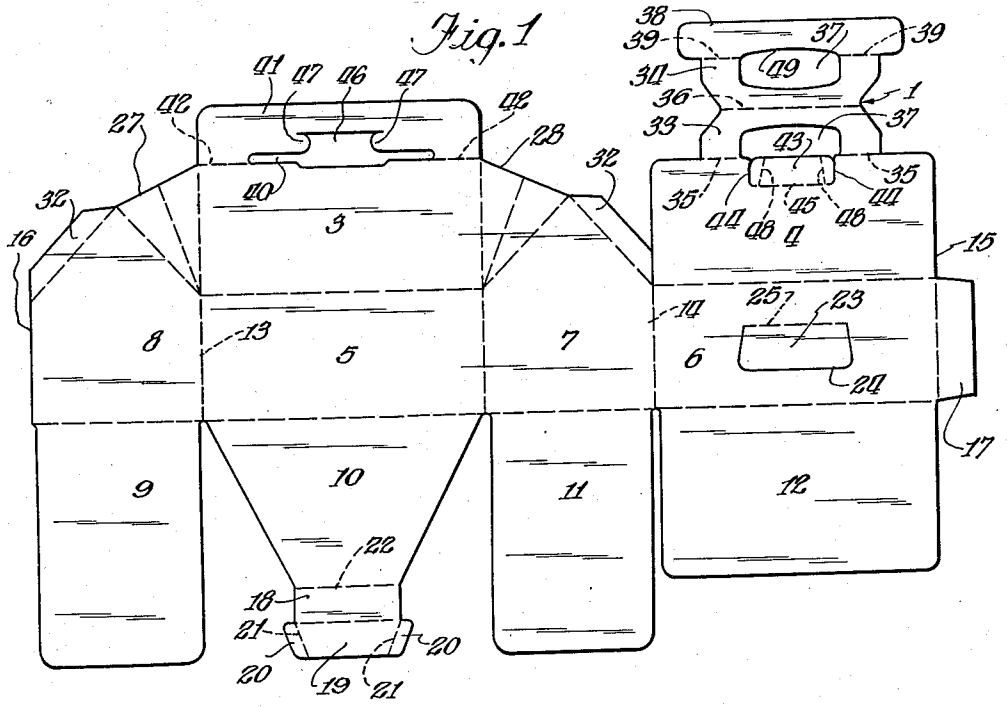


Fig. 2

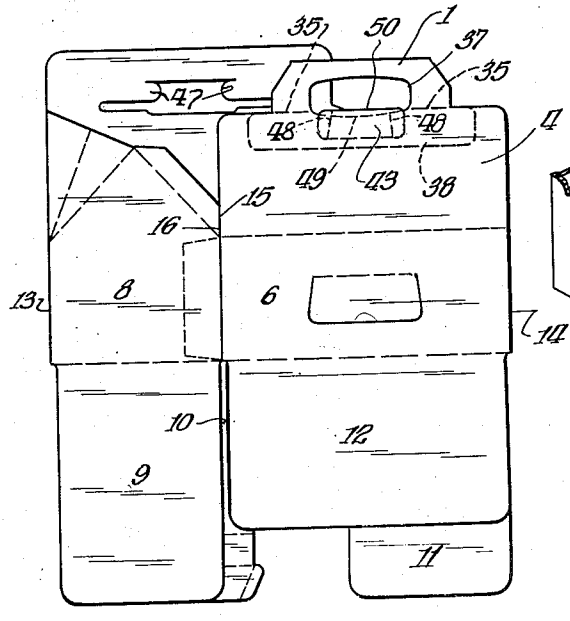
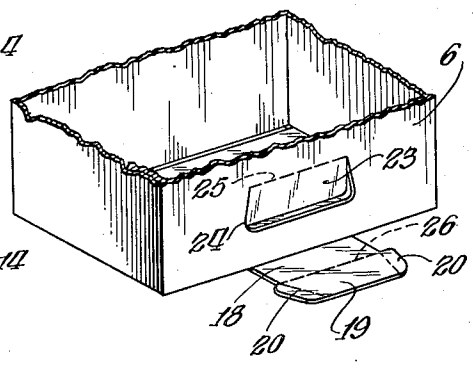


Fig. 3



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Fig. 4

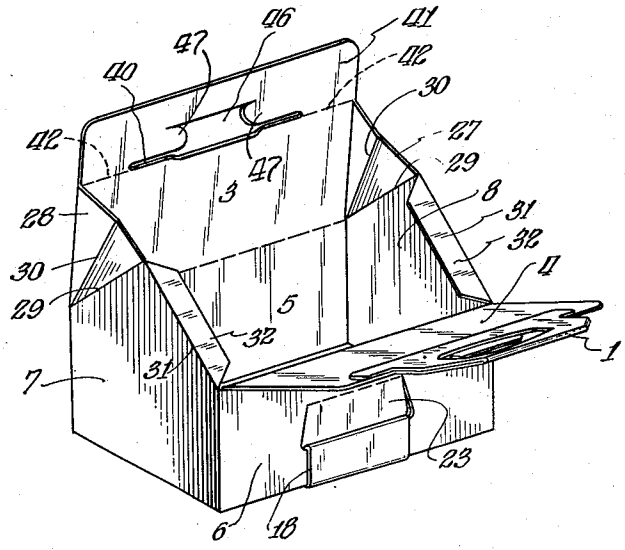


Fig. 5

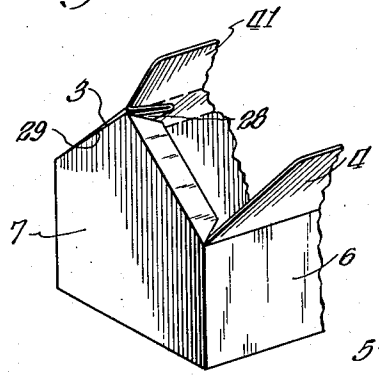


Fig. 6

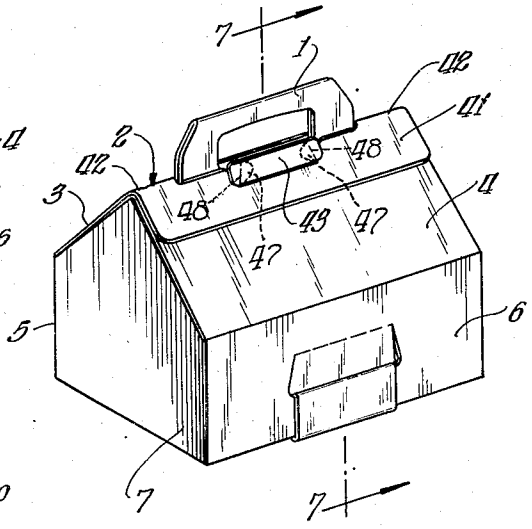
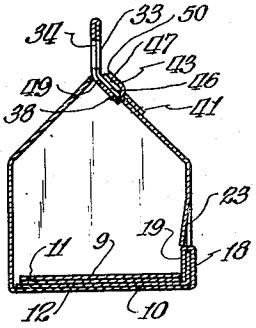


Fig. 7



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CARTON

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6 Claims. (Cl. 229—39)

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This invention relates to a carton and, more particularly, to a satchel-shaped carton.

The main objects of the invention are to provide a carton of attractive style and one which may be easily set up from pre-fabricated collapsed condition to open merchandise receiving condition, and then readily closed; to provide such a carton in which the structure is effectively locked in its set up position and also effectively locked in closed position; to provide such a carton with a convenient carrying handle; to provide a readily collapsible carton of the character indicated which, because of its shape or style, lends itself to the incorporation of toy or like cut-outs so that the carton, itself, may constitute a gift of toy or other cut-outs in connection with the sale of other merchandise; to provide a carton of the character indicated which will provide a sturdy container for goods to be packaged and transported therein; and, in general, it is the object of the invention to provide an improved carton of the character indicated.

Other objects and advantages of the invention will be understood by reference to the following specification and accompanying drawings (2 sheets) in which there is disclosed a carton embodying a selected form of the invention.

In the drawings,

Fig. 1 is a plan of the blank from which the carton is formed;

Fig. 2 is a plan of the blank in preliminarily folded and glued condition to form a collapsed carton in condition for storage or shipment, and which collapsed carton may be readily set up manually into carton forming condition;

Fig. 3 is a perspective illustrating only the lower portion of the carton and a detail of the means whereby the carton is locked in set up condition;

Fig. 4 is a perspective view of the carton in set up open position;

Fig. 5 is a fragmentary perspective illustrating a step in the procedure of closing the carton;

Fig. 6 is a perspective view of the carton in closed condition, and

Figure 7 is a cross section on the plane of the line 7—7 of Figure 6.

As shown in Fig. 6, the carton embodies a carrying handle 1 which projects upwardly from the ridge portion 2 of a gable-like upper carton portion embodying top wall sections 3 and 4. The top wall sections 3 and 4 are foldably connected to lower parallel side wall sections 5 and 6. End walls 7 and 8 connect the opposite side walls 5 and 6.

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The container is formed from a blank such as shown in Fig. 1, wherein the above-mentioned carton portions are identified by the same reference numerals.

In addition to the various parts already identified there are provided bottom forming flaps 9, 10, 11 and 12 which extend from and are foldably connected to the lower edges of the walls 8, 5, 7 and 6 respectively.

The blank structure shown in Fig. 1 is initially folded on itself on fold lines 13 and 14 which define the corners between the walls 8 and 5 and the walls 7 and 6 respectively. By such folding of the blank, the free end 15 of the blank is brought into registry with the opposite end 16 thereof and a glue flap 17 on the end 15 brought into underlying relation to a marginal side portion of the flap 8 to which it is adhesively or otherwise secured. In this manner the blank is converted into a collapsed or flattened tube and it will be understood that the collapsed blank may be readily distended to form a substantially rectangular, tubular body.

When the blank is so distended, the end wall bottom flaps 9 and 11 may be folded inwardly into mutually overlapping relation over the bottom of the carton body after which the flap 12 may be folded into overlying relation to the end wall flaps 9 and 11. Then the side wall bottom flap 10 is folded forwardly from the back wall 5 under the flaps 9, 11 and 12, thereby to form a four-ply bottom structure.

The bottom panel 10 is preferably of outwardly tapered form as shown in Fig. 1, and is provided with a reduced width extension 18 and a locking flap 19 which has end ears 20, 20. The end ears 20, 20 are foldable relative to the locking flap 19, suitable fold lines 21 being provided for that purpose.

When the bottom flap 10 is folded to bottom position, the extension 18 and locking flap 19 will initially project forwardly as shown in Fig. 3. The flap 18 is then folded upwardly on a fold line 22 provided for that purpose thereby to position the locking flap portion 19 in overlying relation to a displaceable ear 23 which is formed in the front wall 6 by means of a U-shaped slit 24 and a fold line 25. The ear 23 may be displaced inwardly by being swung about its fold line connection 25 with the front wall, such displacement being effectable as an incident to inward folding of the locking flap 19 about a fold line connection 26 between the locking flap and said extension 18.

The length of said locking flap is somewhat

greater than the length of the displaceable ear 23 so that the end portions 29 of said locking flap will necessarily be folded out of the normal plane of said locking flap to permit passage of the flap through the opening in the front wall 6.

As soon as the locking flap has passed through the opening in said wall 6, said ears 20 will spring out to resume approximately their normal or initial co-planar relation to the locking flap proper, thereby to prevent return or unlocking movement of the flap 19 through the front wall opening. Said locking flap 19 is adapted to be folded downwardly on the inside of the front wall 6 and the front wall ear 23 returned substantially to its normal front wall position approximately as shown in Fig. 4. Merchandise packaged in the container will, of course, serve to hold this ear 23 in its closed position as shown.

After the bottom structure is locked in place as explained, the carton is in its set up, open position as illustrated in Fig. 4.

The rear top wall panel 3 of the carton has its opposite ends connected by triangular webs 27 and 28 to the rear inclined top edges 29, 29 of the opposite end walls 7 and 8. These triangular connecting gussets 27 and 28 are joined to the top wall flap and the respective end walls by suitable fold lines connections and they are also provided with intermediate centrally disposed bisecting fold lines 30, 30.

To close the carton, the triangular gussets 27 and 28 are first folded inwardly upon themselves substantially as shown in Fig. 5 thereby bringing the top wall portion 3 into the plane of the angular edge portions 29 of the end walls. The front wall top portion 4 is then folded into the front angular top edges 31 of the said end walls. The said edges 31 are provided with ledge forming flaps or ears 32 which are suitably foldably connected to the respective end walls along said edges 31. Said ledges 32 serve to provide effective supporting surfaces for the front top wall portion 4 and the inwardly folded gussets 27 and 28 provide similar supporting ledges for the rear top wall portion.

The handle structure 1 is formed integrally with the front top wall portion 4 by means of extensions 33 and 34, the extension 33 being foldably connected at its ends as indicated at 35 to the upper edge of the front top wall portion 4. The extension portion 34 is hingedly connected as shown at 36 to the adjacent end of the handle extension 33. These extensions 33 and 34 are provided with openings 37, 37 which substantially register when the extension 34 is folded on the fold line 36 into face to face engagement with the extension 33. The extension 34 has a base portion 38 which is foldably connected to the body of the extension part fold lines 39 which substantially register with the fold lines 35 when the extensions are folded into face to face relationship on the fold line 36. The extension 34 is initially folded and adhesively secured in face to face relation to the inside of the handle extension 33. End portions of the base 38 of the extension 34 project beyond the main body of the extension 34 as indicated in Fig. 2.

The handle structure formed as aforesaid, is inserted through a slot 40 provided in a flap 41 which extends from and is hingedly connected as shown by the aligned fold lines 42, 42 to the upper end of the rear top wall panel 3.

This flap 41 is then folded downwardly about the fold lines 42 into face to face engagement with the front top members 4 as shown in Fig. 6. The handle 1 will then project upwardly beyond the ridge 2 (which coincides with the fold lines 42, 42) so as to provide a centrally disposed handle whereby the closed carton may conveniently be carried. The handle has one of its two plies integrally connected to the top wall 4 and the other of its plies is anchored against withdrawal from the slot 40 by engagement of the end portions of the base 38 with the inside of the ridge 2 of the carton. Thus the handle is very effectively attached to the carton and cannot readily be torn therefrom.

The carton is more or less effectively locked in closed position merely by the insertion of the handle through the slot 40 as already explained. However, additional locking may readily be provided to even more effectively lock the flap 41 in its closed position as illustrated in Fig. 6. Such additional locking means may consist, for example, in the provision of a displaceable ear lock section 43 formed by a pair of slits 44, 44 and a connecting fold line 45 in the front top wall 4 and a notch or opening 46 in the flap 41.

Ears 47, 47 integral with the flap 41 project into the notch 46 to reduce its effective length to somewhat less than the length of the ear 43 of the front top wall. Said ear 43 is provided with transverse fold lines 48, 48 which permit end portions of the ear to fold out of the plane of the ear as an incident to forced passage of the ear through the opening 46. When closing the carton, the top panels are folded to their gable-forming position, the handle 1 being passed through the slot 40 and the flap 41 folded down over the panel 4. The ear 43 will then be disposed under said flap 41 but readily accessible through the opening 46. Said ear 43 may then be pulled facewise outwardly about its hinge line 45, through said opening 46, the end or tab portions of said ear being incidentally deflected on the fold lines 48 by the ears or lips 47 until said ear 43 and its end tabs are completely through said opening. The tabs thereupon return automatically to approximately their normal coplanar relation with the intervening portion of the ear, whereby said end portions will overlie ear portions 47 at the opposite ends of the opening 46 to thereby resist unfolding of the flap 41 and opening of the carton.

As shown in Figs. 1 and 2, the bottom edge 49 of the opening 37 in the handle extension 34 is cut so that it extends below the upper edge 50 of the ear 43 when the handle forming portion 34 is folded and secured in handle position as illustrated in Fig. 2. In this manner the free upper edge portion of the ear 43 is readily engageable for displacement of the ear from the top forming panel 4 for locking insertion through the opening 46 in the flap 41.

When the carton is constructed and set up in the manner explained, a very rigid and durable carton results. It embodies relatively large unbroken areas adapted to carry ornamentation or advertising material and in which various cut-outs may be formed. By cut-outs reference is made to toy and similar paper cut-outs which are to be displaced from the walls of the carton to provide independent novelty articles, toys or the like. In some instances, it is preferred to confine the cut-out areas to the inside bottom flaps 9, 11 and 12 which of themselves provide a substantial amount of area to carry a goodly number of small cut-outs or several larger cut-outs. These flaps or, at least, substantial portions of them may be

removed while still retaining a complete bottom for the carton.

Various changes in the described structure and the details thereof may be made while retaining the principles of the invention.

I claim:

1. A fiberboard blank for forming a carton having a rectangular tubular body, a bottom, and a gabled top, said blank comprising pairs of side and end wall panels arranged in alternate relationship, mutually adjacent side edges of said panels being integrally foldably interconnected, the panel at one end of the blank being provided with a flap integrally foldably connected to said panel and adapted to be attached to a marginal side portion of the wall panel at the other end of the blank to form said tubular body, said end wall panels each having upper portions provided with oppositely inclined upper edges defining the angle of said gabled top, flaps respectively extending from the bottom edges of certain of said wall panels and adapted to be folded into bottom forming relation thereto when the latter are formed into said tubular body, a pair of top forming panels respectively integrally hingedly connected at their lower edges to the upper edges of said side wall panels and foldable relative thereto respectively into top forming, body closing positions in the planes of the respectively adjacent inclined edges of said end walls, one of said top panels being provided with a handle-forming extension which embodies two foldably interconnected sections, one of which is integrally foldably connected to the upper edge of said top panel and the other of which is provided with a base part having end portions extending beyond the end edges of said handle forming sections, said handle sections being foldable into face-to-face relation to form a two-ply handle and to position said base part below the top edge of the top panel from which said handle sections extend, the other of said top panels being provided with a top flap which is integrally hingedly connected to the upper edge of said other top panel, said top flap being adapted to be folded on its said hinge connection into face-to-face overlapping relation to the handle-bearing top panel when said top panels are folded into said body closing position, the hinge connection between said top flap and said other top panel serving to define the ridge portion of the gabled top and there being provided adjacent said ridge, an opening through which said two-ply handle is movable as an incident to the folding of top panels to closed position whereby said end extensions of the base portion of said handle will be disposed in underlying relation to said ridge portion of the top for supporting engagement therewith, said opening being shaped to provide a pair of oppositely disposed lips which project into said opening, and the top panel which underlies said top flap when the blank is formed into a carton and closed, being provided with cuts which form in said panel, an ear which is displaceable facewise from the plane thereof through said opening, said ear having end tabs which are adapted to extend into lapping relationship to said lips whereby, when said ear is displaced outwardly through said opening, said tabs and lips will be caused to pass one another and assume lapping positions in which said tabs overlie said lips and thereby serve to lock the carton in closed condition, foldable gussets integrally connecting the opposite ends of said flap-bearing top panel and the respectively adjacent gable defining edges of said end walls, and flaps integral with the other gable defining edges and adapted to be folded inwardly of the carton from the respective end walls to provide stop ledges for the handle bearing top panel.

2. A folding carton having a body part comprising pairs of side and end wall panels having mutually adjacent side edges foldably interconnected to form a collapsible rectangular tubular body, the end wall panels each having upper portions provided with oppositely inclined, gabled top edges, flaps respectively extending from the bottom edges of certain of said wall panels and adapted to be folded into bottom forming relation thereto when the latter are distended into a tubular body, a pair of top forming panels respectively integrally hingedly connected at their lower edges to the upper edges of said side wall panels and foldable relative thereto respectively into top forming, body closing positions in the planes of the respectively adjacent inclined edges of said end walls to form a gabled top for the carton, one of said top panels being provided with a handle forming extension which embodies two foldably interconnected sections, one of which is integrally foldably connected to the upper edge of said top panel and the other of which is provided with a base part having end portions extending beyond the end edges of said handle forming sections, said last mentioned section being foldable on its hinge connection with the other section into face-to-face relation thereto to form a two-ply handle and to position said base part below the top edge of the top panel from which said handle sections extend, the other of said top panels being provided with a flap which is integrally hingedly connected to the upper edge of said other top panel, said flap being adapted to be folded on its hinge connection to said other top panel into face-to-face overlapping relation to the handle-bearing top panel when said top panels are folded into said body closing position, the hinge connection between said flap and said other top panel serving to define the ridge portion of said gabled top and there being provided adjacent said ridge, an elongated opening through which said two-ply handle is movable as an incident to the folding of top panels to closed position, whereby said end extensions of the base portion of said handle will be disposed in underlying relation to said ridge portion of the top for supporting engagement therewith, said opening being shaped to provide a pair of oppositely disposed lips which project into said opening, and the top panel which underlies said top flap when the blank is formed into a carton and closed, being provided with cuts forming an ear which is integrally hinged to said top panel and displaceable facewise from the plane thereof through said opening, said ear having end tabs which are adapted to extend into lapping relationship to said lips whereby, when said ear is displaced outwardly through said opening, said tabs and lips will be caused to pass one another and assume lapping positions in which said tabs overlie said lips and thereby serve to lock the carton in closed condition, foldable gussets integrally connecting the opposite ends of said flap-bearing top panel and the respectively adjacent gable defining edges, and flaps integral with the other gable defining edges and adapted to be folded inwardly of the carton from the respective end walls to provide supporting ledges for the handle bearing top panel.

3. A folding carton having a rectangular body part comprising pairs of side and end wall panels having mutually adjacent side edges foldably interconnected to form a collapsible tubular body, the end wall panels each having upper portions provided with oppositely inclined, gabled top edges, flaps respectively extending from the bottom edges of certain of said wall panels and adapted to be folded into bottom forming relation thereto when the latter are distended into a tubular body, there being three of said flaps of a size to extend over substantially the entire bottom area of said body and one of said flaps being adapted to underlie said three flaps and provided with a locking tab which is lockingly engageable with the wall of the carton opposite that to which said last mentioned bottom flap is hinged, for locking said flaps in said bottom forming position, a pair of top forming panels respectively integrally hingedly connected at their lower edges to the upper edges of said side wall panels and foldable relative thereto respectively into top forming, body closing positions in the planes of the respectively adjacent inclined edges of said end walls to form a gabled top for the carton, one of said top panels being provided with a handle forming extension which embodies two foldably interconnected sections, one of which is integrally foldably connected to the upper edge of said top panel and the other of which is provided with a base part having end portions extending beyond the end edges of said handle forming sections, said last mentioned section being foldable on its hinge connection with the other section into face-to-face relation thereto to form a two-ply handle and to position said base part below the top edge of the top panel from which said handle sections extend, the other of said top panels being provided with a flap which is integrally hingedly connected to the upper edge of said other top panel, said flap being adapted to be folded on its hinge connection to said other top panel into face-to-face overlapping relation to the handle-bearing top panel when said top panels are folded into said body closing position, the hinge connection between said flap and said other top panel serving to define the ridge portion of said gabled top and there being provided adjacent said ridge, an elongated opening through which said two-ply handle is movable as an incident to the folding of top panels to closed position, whereby said end extensions of the base portion of said handle will be disposed in underlying relation to said ridge portion of the top for supporting engagement therewith, said opening being shaped to provide a pair of oppositely disposed lips which project into said opening, and the top panel which underlies said top flap when the blank is formed into a carton and closed, being provided with cuts forming an ear which is integrally hinged to said top panel and displaceable facewise from the plane thereof through said opening, said ear having end tabs which are adapted to extend into lapping relationship to said lips whereby, when said ear is displaced outwardly through said opening, said tabs and lips will be caused to pass one another and assume lapping positions in which said tabs overlie said lips and thereby serve to lock the carton in closed condition, foldable gussets integrally connecting the opposite ends of said flap bearing top panel and the respectively adjacent gable defining edges, and flaps integral with the other gable defining edges and adapted to be folded inwardly of the carton from the respective end walls to provide supporting ledges for the handle bearing top panel.

4. A folding fiberboard carton having a body and a closure and carrying handle comprising a pair of panels respectively hingedly connected at oppositely disposed edges to walls of said body so as to be foldable toward each other into closure forming position and away from each other into open position, one of said panels being provided with a handle forming extension which embodies two foldably interconnected sections, one of which is integrally foldably connected to the upper edge of said panel and the other of which is provided with a base part having end portions extending beyond the end edges of said handle forming sections, said last mentioned section being foldable on its hinge connection with the other section into face-to-face relation thereto to form a two-ply handle and to position said base part below the panel edge from which said handle sections extend, the other of said panels having a portion which, in the closed position of said closure panels, overlaps a portion of the handle-bearing panel adjacent the edge thereof from which said handle extends, said overlapping portion being provided with an elongated opening through which said two-ply handle is movable as an incident to the folding of said panels to closed position, said end extensions of the base portion of said handle being thereby positioned in underlying relation to the panel having said overlapping portion and in supporting engagement therewith, said opening being shaped to provide a pair of oppositely disposed lips which project into said opening, and the portion of handle-bearing panel which underlies said overlapping portion being provided with cuts forming an ear which is integrally hinged to said underlying panel and displaceable facewise from the plane thereof through said opening, said ear having end tabs which are adapted to extend into lapping relationship to said lips whereby, when said ear is displaced outwardly through said opening, said tabs and lips will be caused to pass one another and assume lapping positions in which said tabs overlie said lips and thereby serve to lock the carton in closed condition.

5. A folding fiberboard carton having a body and a closure and carrying handle comprising a pair of panels respectively hingedly connected at oppositely disposed edges to walls of said body so as to be foldable toward each other into closure forming position and away from each other into open position, one of said panels being provided with a handle forming extension which embodies two foldably interconnected sections, one of which is integrally foldably connected to the upper edge of said panel and the other of which is provided with a base part having end portions extending beyond the end edges of said handle forming sections, said last mentioned section being foldable on its hinge connection with the other section into face-to-face relation thereto to form a two-ply handle and to position said base part below the panel edge from which said handle sections extend, the other of said panels having a portion which, in the closed position of said closure panels, overlaps a portion of the handle-bearing panel adjacent the edge thereof from which said handle extends, said overlapping portion being provided with an elongated opening through which said two-ply handle is movable as an incident to the folding of said panels to closed position, said end extensions of the base portion of said handle being thereby positioned in under-

lying relation to the panel having said overlapping portion and in supporting engagement therewith.

6. A fiberboard receptacle having an open side and a closure for said open side, said closure comprising a panel which has one edge hinged to a wall portion of the receptacle so as to be foldable to and from closed position, said panel having a portion which in the closed position of the panel, overlies another portion of the receptacle, said overlying portion of said panel being provided with an opening shaped to provide a pair of oppositely disposed lips which project into said opening, and the receptacle portion which underlies said panel portion being provided with cuts forming an ear which is integrally hinged to said panel portion and displaceable facewise from the plane thereof through said opening, said ear having end tabs which are adapted to extend into lapping relationship to said lips whereby, when said ear is displaced outwardly through said opening, said tabs and lips will be caused to pass one another and assume lapping positions in which said tabs overlie said lips and thereby serve to lock the closure panel in closed condition.

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