

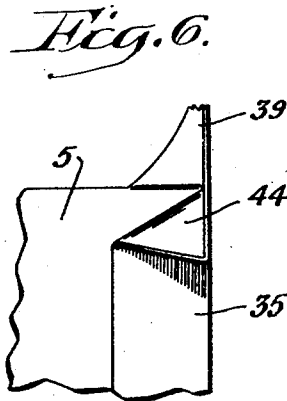
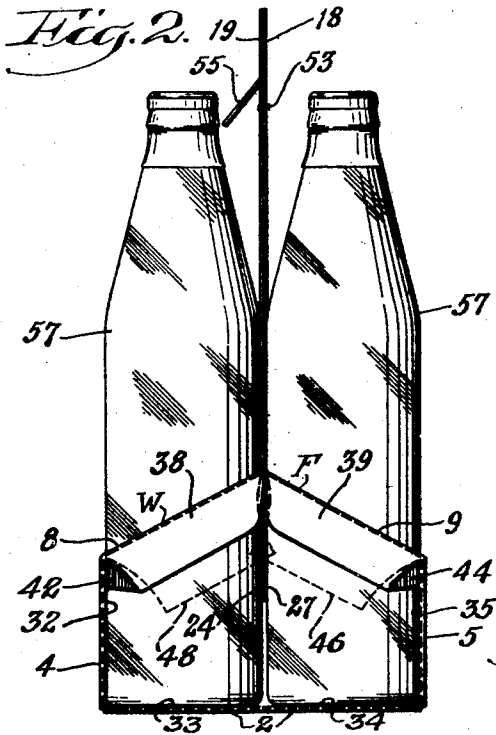
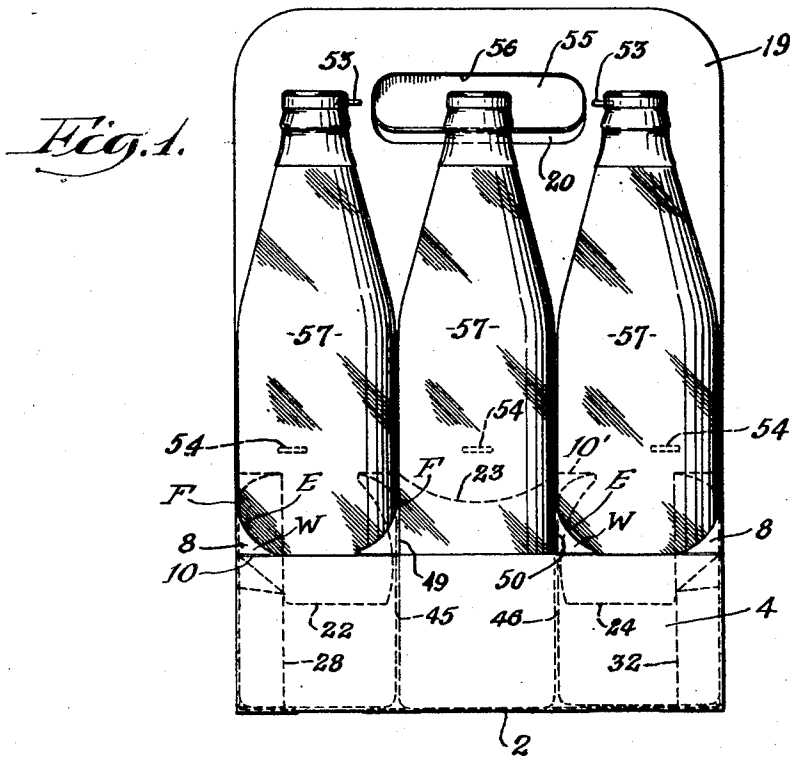
Dec. 9, 1947.

J. L. LYONS, JR
BOTTLE CARRYING CARTON

2,432,481

Filed Feb. 7, 1942

4 Sheets-Sheet 1



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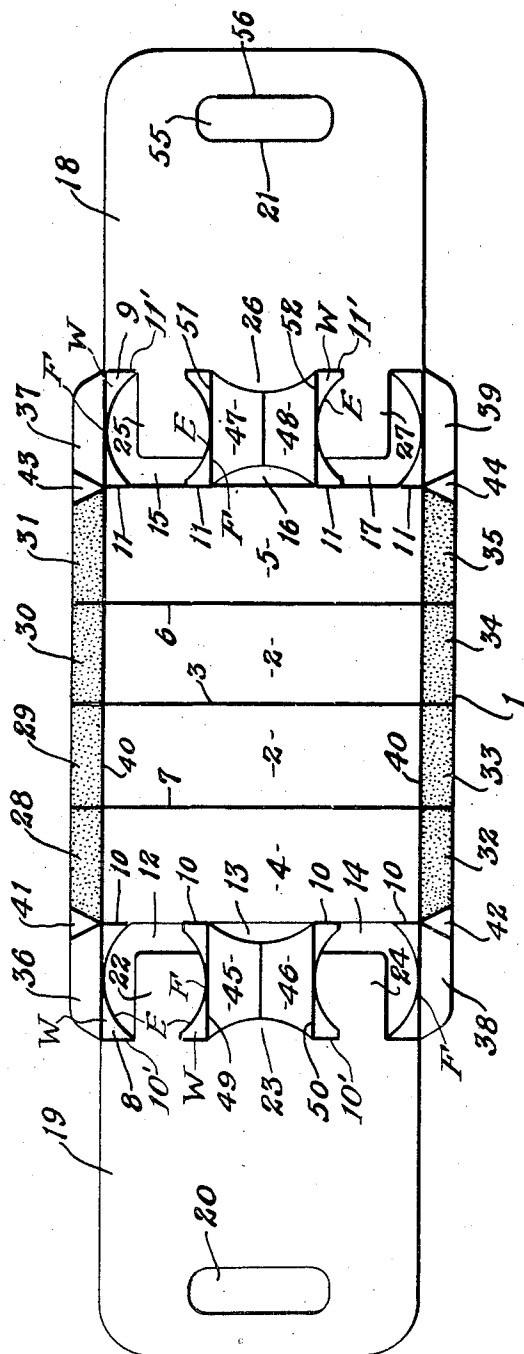
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Fig. 8.



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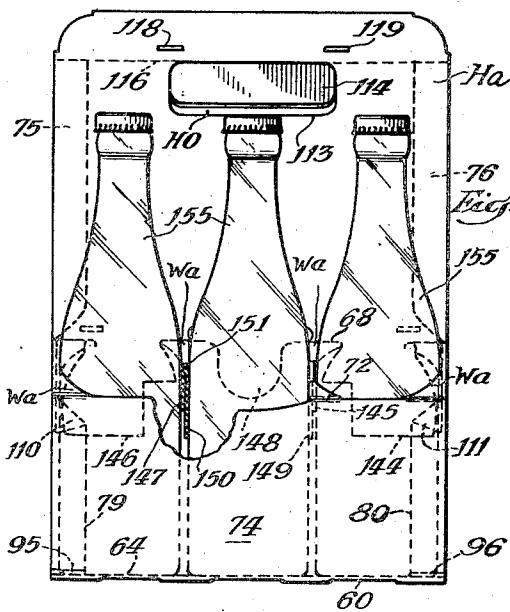
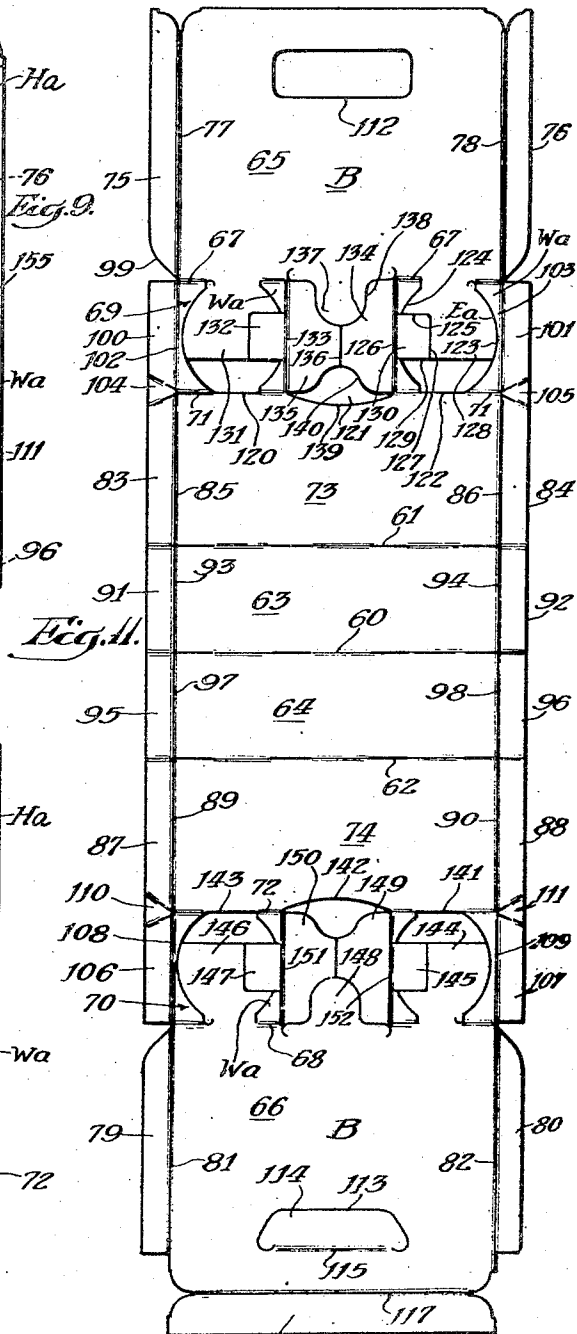
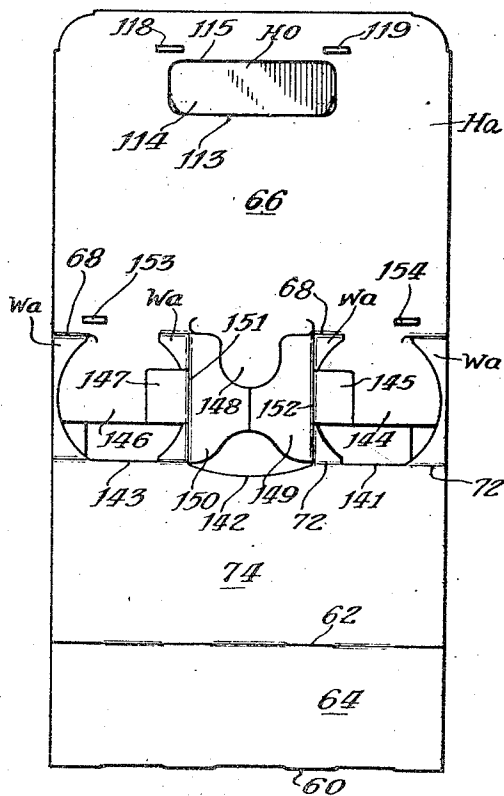


Fig. 10.



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UNITED STATES PATENT OFFICE

2,432,481

BOTTLE CARRYING CARTON

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mesne assignments, to Empire Box Corpora-
tion, Garfield, N. J., a corporation of Delaware

Application February 7, 1942, Serial No. 429,873

15 Claims. (Cl. 224-45)

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This application is a continuation-in-part of my copending application Serial No. 301,915, filed October 30, 1939.

This invention relates to bottle carrying cartons and resides in an improved carton construction which can be shipped in a flat state and which can be quickly erected into an assembled condition to support and protect a plurality of bottles therein whereby the bottles may be readily carried from place to place or stored where and as desired.

One of the important objects of the present invention is to so improve a bottle carrier carton of the aforesaid character that the carton will have an over-all length which is approximately the same as, and not substantially greater than, the length of a row of bottles stored therein.

Another object is to retain the bottles against displacement from the carrier in a novel manner, and a related object is to automatically cause at least selected of the novel bottle retaining means to assume bottle retaining positions as an incident to erection of the carrier to bottle receiving condition.

A further object is to prevent the bottles disposed in side-by-side relation in the carrier from coming in contact with one another by affording parts on the carrier that will extend between such bottles, and a related object is to utilize at least selected of such parts of the carrier as well as other parts afforded thereon to reinforce webs included in the carrier and arranged to define bottle receiving openings therein.

Yet another object is to so arrange the handle portion of a carrier of the aforesaid character that a portion thereof may be extended above the tops of the bottles intended to be placed in the carrier when such bottles are arranged in the carrier and it is desired to grasp the free end of such handle portion and to so relate such handle portion to the other parts of the carrier that the entire handle portion may be so depressed that one loaded bottle carrier of this invention may be directly stacked upon another such carrier to rest upon the tops of the bottles in the lowermost of such carriers.

A still further object of the invention is to provide a bottle carrier carton which is simple in construction, inexpensive to manufacture, neat in appearance, and especially well adapted for the purpose of receiving and holding therein in a compact manner, for example, six bottles of a size usually used for beverages.

Other and further objects of the present in-

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vention will be apparent from the following description and claims and are illustrated in the accompanying drawings which, by way of illustration, show preferred embodiments and the principle thereof and what I now consider to be the best mode in which I have contemplated applying that principle. Other embodiments of the invention embodying the same or equivalent principle may be used and structural changes may be made as desired by those skilled in the art without departing from the present invention and the purview of the appended claims.

In the drawings,

Fig. 1 is a side elevation of the carton with the bottles in place therein;

Fig. 2 is an end view of the carton with the bottles in place;

Fig. 3 is a plan view of the carton in its folded flat state;

Fig. 4 is an edge view of the carton in its folded flat state;

Fig. 5 is an end elevational view showing the carton in a partially opened condition;

Figs. 6 and 7 are detail views showing portions of the flap construction employed in the carton;

Fig. 8 is a plan view of a blank of cardboard or like material cut to form the bottle carton of my invention;

Fig. 9 is a side elevational view of a modified form of my carton;

Fig. 10 is a plan view of the carton shown in Fig. 9 in its folded flat state; and

Fig. 11 is a plan view of the blank of cardboard or like material cut to form the bottle carrier shown in Figs. 9 and 10.

Referring to the accompanying drawings, and first to Figs. 1 to 8 thereof, the bottle carrier there illustrated is formed from a blank generally indicated by 1, Fig. 8, cut from cardboard or like material. This blank includes a medial section 2 which affords the bottom of the carrier when it is in its erected condition, and this section has a medially located fold or score line 3 therein along which the section may be folded when the carrier is to be in its flat state. The blank 1 also has sections 4 and 5 therein which comprise the side walls of the carrier when it is in its erected condition, and these sections are respectively hingedly connected to the bottom section 2 along fold or score lines 7 and 6. The fold lines as 3, 6 and 7 may be produced in any suitable manner as by alternate cuts and webs or interconnecting portions in the material of which the blank is made. The blank 1 also includes sections 18 and 19 which afford the handle portion of the

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carrier and each of these sections has openings as 20 and 21 therein which, when the carrier or carton is in its erected condition with the sections 18 and 19 in side-by-side relation, are adapted to be aligned one with the other to afford an opening through which the fingers may be inserted when the carrier is to be grasped and lifted. Desirably, a flap 55 is defined in affording the opening 21 and is joined to the blank 1 along the fold line 56, and when the carrier is in its erected condition this flap 55 may be folded through the opening 20 to thereby afford a smooth edge faced toward the fingers when the carrier is to be grasped and lifted.

In accordance with my invention, the novel bottle receiving sections 8 and 9 are formed in the blank 1 intermediate the handle section 12 and the side wall 4 and the handle section 18 and the side wall 5. These bottle receiving sections are afforded by webs W which, at their opposite ends, are joined to the upper edge of the adjacent side wall along a fold or score line as 10 or 11 and to the adjacent handle section along a score line as 10' or 11'. Each of the webs W has a bottle embracing edge E formed thereon, and the webs W are spaced one from the other in the bottle receiving section to afford bottle receiving openings therein. Moreover, in a manner that will be described more fully hereinafter, each of the webs W has a reenforcement afforded thereon.

As best shown in Fig. 8, the side wall sections 4 and 5 and the respective sections of the bottom wall 2 have flap extensions 28 to 35 respectively provided at the free edges thereof which, as shown in Fig. 8, are arranged to be adhesively secured to the sections to which they are joined along fold lines as 40 when the carrier is erected to thereby afford reenforcements for the portions of the carrier onto which they are folded in the course of assembly of the carrier into its flat state shown in Fig. 3.

Moreover, flaps 36, 37, 38 and 39 are provided along the outer edges of the web W at the respective ends of the bottle receiving sections 8 and 9, these flaps being joined to the respective webs along fold lines as F which, as best shown in Fig. 8, substantially bisect the bottle embracing edges E. Moreover, the flaps 36 and 38 are connected to the adjacent flaps 28 and 32 on the side wall 4 by bellows folds 41 and 42, and the flaps 37 and 39 are correspondingly connected to the flaps 31 and 35 by bellows folds 43 and 44. When the carrier is arranged in its flat state shown in Fig. 3 and is thereafter to be arranged in erected condition, in the course of which erection the carrier will pass through the semi-erected state shown in Fig. 5, the bellows folds 41 to 44, inclusive, cause the flaps 36 to 39, inclusive, to assume downwardly extending positions substantially at right angles to the webs as W to which they are connected to thereby afford barriers at the ends of the carrier that are effective to prevent the bottles from falling out of the carriers at the ends thereof and when the flaps 36 to 39, inclusive, are in such substantially right angular relation with the webs W to which they are connected, these flaps serve as reenforcements for such webs.

Moreover, flaps 45 and 46 are joined to the intermediate webs W in the bottle receiving section 8 along fold lines 49 and 50 that substantially bisect the bottle embracing edges E on these webs, and the flaps as 45 and 46 have the ends thereof severed from the adjacent handle sec-

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tion as 19 and the side wall as 4 whereby when the carrier is erected, as shown in Figs. 1 and 2, and the bottom of a bottle is engaged with the flaps, these flaps may be forced downwardly to thereby afford a centrally located bottle receiving opening in the bottle receiving section 8. When the flaps 45 and 46 are thus folded downwardly into substantially right angular relation with the webs as W with which they are connected, they serve as reenforcements for such webs and these flaps also serve to space the bottle disposed in such centrally disposed bottle receiving opening from bottles disposed in the end-most bottle receiving openings defined between adjacent edges as E. In this respect it will be noted that flaps as 36, 45, 46 and 38 are joined to the respective webs W along the edges thereof opposite those on which the bottle embracing edges E are formed. Moreover, flaps 47 and 48 are joined to the intermediate webs W in the bottle receiving section 9 along fold lines 51 and 52, and these flaps 47 and 48 correspond to the flaps 45 and 46 described above.

The webs W are so formed and related one to the other in the bottle receiving section 8 that bottle receiving openings 12, 13 and 14 are afforded in this bottle receiving section, and likewise the webs W in the bottle receiving section 9 are so formed and related that bottle receiving openings 15, 16 and 17 are afforded in this bottle receiving section. Moreover, as an incident to forming the bottle receiving openings 12 and 14 in the bottle receiving section 8 and the formation of the bottle embracing edges E on the webs W at each side of such openings, the material of the blank 1 is so cut away that flaps 22 and 24 are defined which, when the carrier is in its erected condition, extend downwardly from, but in alignment with, the handle receiving section 19. Similar flaps 25 and 27 are provided in the bottle receiving openings 15 and 17 in the bottle receiving section 9 and when the carton is erected, the flaps 22 and 25 and the flaps 24 and 27 so cooperate one with the other that bottles disposed in the openings 12 and 15 are held in spaced relation by the flaps 22 and 25 while bottles disposed in the openings 14 and 17 are separated by the cooperating flaps 24 and 27.

In assembling the carton into its flat state, it is folded along the fold or score line 3 after the flaps as 36, 28, 29, 30, 31 and 37 and the flaps 30, 32, 33, 34, 35 and 39 have been folded over onto the sections of the carton to which they are joined along fold or score lines as 40, the flaps at the ends of the side walls as 4 and 5 and at the ends of the sections of the bottom wall 2 desirably being adhesively secured to the sections of the carton onto which they are thus folded. When the blank is so folded along the fold or score line 3, the handle sections 18 and 19 are brought into parallel relation and thereafter these sections are joined together to afford the handle portion of my novel carrier as by having rivets as 53 and 54, Fig. 3, passed therethrough desirably in positions such as shown in Fig. 3. This results in the carton being assembled into the flat state thereof shown in Fig. 3.

In erecting the carton from its flat folded state, the side walls 4 and 5 are caused to separate from each other and the hinged bottom section 2 is caused to be flattened out, and to this end the pressure may be applied through the handle portion onto the fold line 3 whereby the parts move through the position shown in Fig. 5 in the course of attaining the erected condition of the

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carrier shown in Figs. 1 and 2. When the carrier is erected, and as best shown in Fig. 2, the bottle receiving sections 8 and 9 extend in planes somewhat at right angles to the side walls 4 and 5 and in planes somewhat parallel with the bottom wall 2. Furthermore, as stated, by reason of the bellows folds 41, 42, 43 and 44, the end flaps 36, 37, 38 and 39 automatically assume a downwardly extending position substantially at right angles to the webs to which they are joined in the bottle receiving sections for as the carrier is being so erected the bellows folds 44 automatically move from a condition like that shown in Fig. 7 to a position like that shown in Figs. 2 and 6 and, incidentally, the adjacent flap as 39 attains its downwardly extending position. Also in the course of such erection of the carrier and as best shown in Fig. 5, the adjacent flaps as 24 and 27 (and likewise the adjacent flaps 22 and 25) extend downwardly as extensions of the handle sections 18 and 19 to which they are joined.

When the carrier is in its erected condition, bottles as 57 may be inserted through the various bottle receiving openings and when bottles are passed through the openings 13 and 16, the flaps 45, 46, 47 and 48 are pushed downwardly to thereby space the center bottles from the outside bottles and to insure a snug fit with the bottles in the carrier.

The novel carrier of the present invention is so sized and the parts thereof are so related that the carrier is adapted to receive bottles of a predetermined height and the handle portion is so sized that when the carrier is in its erected condition, the free edge of the handle portion may project above the tops of bottles mounted therein. Moreover, the flaps as 22 and 25 and the flaps as 24 and 27 are so sized that when the carrier is in its erected condition, the lower edges of these flaps are spaced from the bottom wall as 2. Thus, the handle portion includes a part which may extend above the tops of bottles of the aforesaid predetermined height that are disposed in the bottle receiving openings and rest on the bottom wall. Moreover, the flaps at the lower edge of the handle portion are normally spaced from the bottom wall sufficiently to enable limited downward movement of the handle portion to thereby enable the upper free end of the handle portion to be moved downwardly substantially into alignment with the tops of the bottles, whereby such parts of the handle portion may be depressed so as not to interfere with the stacking of one bottle carrying carton of the aforesaid character directly over and upon the tops of the bottles in another such carton. This arrangement enables a large number of cartons of the present invention to be directly stacked one upon the other for display purposes and the like.

Moreover, the novel web construction included in the bottle receiving section of the carton of the present invention is such that the webs are relatively thin, primarily in the medial portions thereof, but by reason of the novel reinforcement of the webs that is afforded by the flaps joined thereto in a manner described hereinabove, these webs are so reenforced that they effectively retain the bottles in the carton or carrier. Moreover, by resort to a web arrangement of this character, the over-all length or width of the carrier is so reduced that a loaded carrier of the present invention may be disposed in substantially the same space as that which would be required to accommodate the number of bottles loaded in the carrier, and in this respect it will

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be noted that at least the medial portions of the webs as W are, in accordance with the present invention, of a width not substantially greater than the thickness of the material of which the carrier is made.

Moreover, while flaps 45 and 46, and 47 and 48, may expeditiously be moved to web reenforcing and bottle embracing positions upon the insertion of bottles into bottle receiving openings defined by the severing of such flaps from the material of which the carton is made, it may not always be advantageous to force flaps as 36 and 38 into web reenforcing and bottle receiving positions by inserting bottles into the openings adjacent such flaps. Hence the provision of means as the bellows folds as 41 effective upon the flaps as 36 and 38 to shift these flaps to depending positions, as an incident to the erection of the carrier, is a highly advantageous feature.

Moreover, it will be noted that the flaps as 36 and 38 prevent endwise displacement of the bottles from the carrier. Furthermore, the flaps as 45 and 46, and 47 and 48, serve to separate the center bottles from the endmost bottles and thereby damage to the bottles, as an incident to transportation of bottles in the carrier, is prevented. Furthermore, the flaps as 22 and 25, and 24 and 27, also serve as bottle separators and prevent damage to bottles arranged in the carrier.

In the form of my invention thus far described flaps as 45 and 47 were provided along but one edge of the intermediate webs as W in each of the bottle receiving sections. In some instances, however, it will be advantageous to afford additional reinforcement for these intermediate webs and to this end additional flaps may be afforded on such webs and one manner in which this may be accomplished is illustrated in Figs. 9, 10 and 11, the carton or carrier there illustrated embodying other and additional advantages, as will now be explained.

The blank from which the erected carrier illustrated in Fig. 9 may be formed is shown in Fig. 11 and is generally indicated by B. This blank is substantially rectangular in outline and a fold or score line as 60 is formed therein midway between the shorter edges of the blank B. Other fold or score lines 61 and 62 are formed in the blank B in parallel but spaced relation with the score line 60 on opposite sides thereof and thereby the bottom sections 63 and 64 are formed in the blank B, the bottom sections 63 and 64 being adapted to be arranged in a common plane to afford the bottom of the carrier when it is erected. Moreover, handle sections as 65 and 66 are defined at the ends of the blank B, these handle sections respectively extending from the free ends of the blank to fold or score lines as 67 and 68 along which webs as Wa in the respective bottle receiving sections 69 and 70 are joined to the handle sections as 65 and 66. Furthermore, fold or score lines as 71 and 72 are provided at the opposite ends of the webs as Wa whereby side wall sections 73 and 74 are afforded, the side wall section 73 being disposed between the score lines 71 and 61, while the side wall section 74 is disposed between the score lines 72 and 62.

I have found it advantageous to reenforce the edges of the handle sections 65 and 66, the side wall sections 73 and 74 and the bottom sections 63 and 64. Hence, flaps 75 and 76 are joined to the side edges of the handle section 65 along fold or score lines 77 and 78, respectively, flaps 79 and 80 being similarly joined to the side edges of the

handle section 66 along fold lines 81 and 82, respectively. Likewise, flaps 83 and 84 are joined to the side edges of the side wall section 73 along fold or score lines 85 and 86, while flaps 87 and 88 are joined to the side edges of the side wall section 74 along fold or score lines 89 and 90. Still further flaps as 91 and 92 are joined to the end edges of the bottom section 63 along fold or score lines 93 and 94, while flaps 95 and 96 are joined to the end edges of the bottom section 64 along fold or score lines 97 and 98. As will be observed from Fig. 11, the score lines as 60, 61 and 62 are extended to the edges of the blank so as to serve as dividers between the flaps respectively joined to the end edges of the sides and end walls. Desirably, however, the flap as 75 at the side edges of handle sections as 65 and 66 terminate in cut edges as 99 that merge into the score line as 67 to thereby confine the length of the flap as 75 to the length of the handle section as 65.

Bottle retaining and web reinforcing flaps 100 and 101 are provided at the outer edges of the webs *Wa* at the end edges of the bottle receiving section 69, these flaps being respectively joined to such webs along score lines 102 and 103, respectively. Moreover, bellows folds as 104 and 105 are interposed between adjacent ends of the flaps 100 and 83 and the flaps 101 and 84. Flaps 106 and 107 are joined to the endmost webs *Wa* in the bottle receiving section 70 along score lines 108 and 109 and adjacent ends of the flaps 106 and 87 are interconnected by a bellows fold 110, while adjacent ends of the flaps 107 and 88 are interconnected by a bellows fold 111. As an incident to the assembly of the blank *B* to afford a carton such as shown in Fig. 10, the various flaps at the side edges of the various sections of the blank *B* are folded over onto the adjacent portion of the section to which such flaps are joined along a fold line as, for example, the flap 75 is folded over onto the adjacent portion of the handle section 65 along the fold line 77. With the flaps so folded over onto the adjacent sections of the blank, the blank may thereafter be folded along the medial fold line 60 to thereby arrange the carton in its flat folded state shown in Fig. 10.

The carton afforded by the blank *B* like that afforded by the blank *I* is adapted to accommodate bottles of predetermined height and therefore the various portions of the blank are so related one to the other than when the carton is arranged in its erected condition and bottles are stored therein, a part of the handle portions as 65 and 66 will project above the parts of the bottles stored therein, as shown for example in Fig. 9. Hence in order to afford a handle opening in the handle portion of my carrier and desirably in the part thereof that extends above the tops of the bottles as aforesaid, an opening 112 is suitably located in the handle portion as 65 and desirably the blank is severed along all edges of the opening 112 so as to thereby cut away the material. Another opening 113 is provided in the handle section 66 in a location similar to the location of the opening 112 in the handle section 65 but in forming the opening 113 the material is not cut away along all edges thereof whereby a flap 114 is defined, which is desirably joined to the blank *B* along a fold line 115 that is preferably afforded along the edge of the opening 113 juxtaposed the adjacent short end of the blank *B*. When the carton is in its erected condition, as shown in Fig. 9, the flap 114 may be inserted through the opening 113 and thereby a smooth

edge may be presented along the upper edge of the hand opening thus afforded in the handle portion of my carrier.

I have found it desirable in many instances to reinforce the parts of the handle sections of my carrier intermediate the openings as 112 and 113 in the handle sections 65 and 66 and the adjacent short edge of the blank as *B*. Thus a flap as 116 may be formed along at least one shorter edge of the blank as *B* and in the present instance I have joined the flap 116 to the free edge of the handle section 66 along a fold line 117. The flap 116 is adapted to be folded onto the adjacent portion of the handle section 66 when the flaps as 79 are folded onto this handle section and the flap 116 is sized to lie between a fold line as 115 and the fold line as 117 which will thereupon afford the free edge of the handle section 65. It will be understood that a flap similar to the flap 116 could be provided on the handle section 65. In any event, however, the provision of one or more flaps as 116 intermediate the hand opening afforded by aligned openings as 112 and 113 and the adjacent end of the assembled carton will afford a reinforcement between the hand opening and the upper edge of the carton.

While a reinforcement such as that afforded by one or more flaps as 116 tends to prevent tearing of the handle portion of the carton and similar injury to the carton, I have found that failures of handle arrangements, embodying openings located as the openings 112 and 113 are located in the present carton, have usually been occasioned by tearing of the material away from the shorter edges of an opening as 112, Fig. 11, to the adjacent end of the handle section. Thus in addition to the reinforcement afforded by one or more flaps as 116 which tends to prevent such tearing of the handle portion, I provide rivets 118 and 119 for the purpose of securing the handle sections as 65 and 66 together and I so locate the rivets 118 and 119 that substantially the medial part of the extent thereof is arranged in vertical alignment with the shorter edges of a rectangular hand opening as *HO* in a handle portion as *H*, Fig. 10. Such location of the rivets affords reinforcement for what I have found to be weak portions in prior handle arrangements and mitigates against the likelihood of the carrier tearing away from the shorter ends of hand openings as *HO*.

The spacing of the webs as *Wa* in the bottle receiving section as 69 is such as to define bottle receiving openings 120, 121 and 122 in the bottle receiving section 69, and these openings are defined by severing the material in the bottle receiving sections intermediate the webs as *Wa* in such a manner as to provide bottle separating flaps.

Thus a bottle embracing edge *Ea* is defined on the most right-hand web *Wa* as the blank is viewed in Fig. 11 by severing the material of the bottle receiving section 69 along an arcuate line 123, and a similar bottle embracing edge is provided on the web *Wa* adjacent the aforesaid most right-hand web *Wa* by severing the material along the arcuate line 124. The lines 123 and 124 along which the material of the bottle receiving section 69 is so severed extend from the adjacent ends of the fold line 67 along which the aforesaid webs *Wa* are joined to the handle section 65. The line of severance 124 terminates in a line of severance 125 that extends at right angles to the extent of the web *Wa* adjacent the most right-hand web *Wa*, this line of severance 125 terminating in a fold line 126 in the

web *Wa*, described more fully presently. Moreover, the line of severance 125 is located along the extent of the web *Wa* intermediate the medial part of said web and the fold line 67 along which such web is joined to the handle section 65. The line of severance 125 terminates in a line of severance 127 that extends in parallel relation with the fold line 126 but which is spaced from the fold line to the right thereof as the parts are viewed in Fig. 11. Thus the lines of severance 124, 125 and 127 in cooperation with the line of severance 123 define the outline of a tab 128 which includes a free edge 129 that is extended in parallel relation with, but spaced from, the fold line 71 along which the most right-hand web *Wa* and the web *Wa* immediately to the left thereof are joined to the side wall section 73. Moreover, the edge 129 in cooperation with the lines of severance 125 and 127 define the outline of a flap 130 that has the edge thereof parallel with the line of severance 127 joined to the web *Wa* immediately to the left of the most right-hand web *Wa* along the fold line 126.

Lines of severance as 123, 124, 125 and 127 and an edge like the edge 129 are provided intermediate the most left-hand web *Wa* and the web *Wa* immediately to the right thereof as the parts are viewed in Fig. 11, whereby a tab 131 and a flap 132 are formed in the opening 120 as the tab 128 and the flap 130 are formed in the opening 122, the flap 132 being connected to the web *Wa* immediately to the right of the most left-hand web *Wa* as the parts are viewed in Fig. 11 along a fold line 133 corresponding to the fold line 126. Flaps 134 and 135 are joined to the intermediate webs *Wa* along the fold lines 126 and 133 and are divided one from the other by a line of severance 136 disposed substantially midway between the intermediate webs *Wa*. Moreover, a tab 137 is defined by a line of severance 138 to lie between the intermediate webs *Wa*, the line of severance 138 terminating at the ends of the fold line 67 along which the intermediate webs *Wa* are joined to the handle section 65 and extending inwardly for a short distance and then merging into an arcuate portion in the line of severance to thereby afford an arcuate end portion on the tab 137.

Desirably, a line of severance 139 extends from the adjacent ends of the score line 71 along which the intermediate webs *Wa* are joined to the side wall section 73, such line of severance extending arcuately into the adjacent portion of the side wall section 73. Another line of severance 140 also extends from the aforesaid ends of the score line 71 and includes an arcuate portion faced away from the adjacent part of the side wall section 73 whereby edges are formed on the flaps 134 and 135 in spaced relation with the adjacent part of the side wall section 73.

Furthermore, bottle receiving openings 141, 142 and 143 are provided in the bottle receiving section 70 and a tab 144 and a flap 145 are formed in the bottle receiving opening 141 in the manner in which the tab 128 and the flap 130 are formed in the bottle receiving opening 122. Likewise, a tab 146 and a flap 147 are formed in the bottle receiving opening 143 in the manner in which the tab 131 and the flap 132 are formed in the bottle receiving opening 120. Still further, a tab 148 and flaps 149 and 150 are formed in the bottle receiving opening 142 in the manner in which the tab 137 and the flaps 134 and 135 are formed in the bottle receiving opening

121. Furthermore, the flaps 147 and 150 are joined to one of the intermediate webs *Wa* in the bottle receiving sections along a score line 151 while the flaps 145 and 149 are joined to the other intermediate web in the bottle receiving section 70 along a score line 152.

When the blank B is folded along the fold line 60 in the manner hereinabove described to assume the flat folded state thereof shown in Fig. 10, the upper portions of the handle sections 65 and 66 are desirably joined by rivets as 118 and 119 located as described hereinabove. The lower portions of such juxtaposed handle sections are desirably joined by rivets 153 and 154 extended therethrough adjacent the fold lines 67 and 68 near the side edges of the handle sections as shown in Fig. 10. Rivets located in this manner serve to retain the juxtaposed handle sections together and thereby afford a firm handle portion as H. It will be understood that the handle sections might be adhesively secured together in some instances without departing from the purview of the present invention. In any event, however, when the handle sections are interconnected, the flaps that are folded over onto the sections to which they are joined along fold lines, with the exception of the flaps joined to the side edges of the bottle receiving sections which are acted on by means as the bellows folds, are firmly held in position between the two adjacent sides of the carton when it is in its flat folded state, and such flaps, with the exception of those joined to the end edges of the bottle receiving sections as aforesaid, also remain in reinforcing positions in engagement with the sections of the carton to which they are joined when the carton is erected, and this will be true whether or not such flaps are adhesively secured to these sections or merely folded thereonto as is done in the form of my invention shown in Figs. 9, 10 and 11.

By reason of the aforesaid interconnection of the handle sections to afford a firm handle portion as *Ha* when it is desired to erect the carrying carton from its flat folded state shown in Fig. 10 to its assembled condition shown in Fig. 9, pressure is applied, for example, to the outer edge of the handle portion and along the fold line 60 whereupon the bottom sections 63 and 64 fold into a common plane along the fold line 60 and at this same time the side wall sections 73 and 74 assume substantially parallel, but spaced, relation and at time the bottle receiving section 69 extends in substantially right angle relationship with the handle section 65 and the side wall section 73 by reason of the interconnection thereof with these portions along the fold lines 67 and 71, respectively, the bottle receiving section 70 also assuming such a substantially right angular relationship with respect to the handle section 65 and the side wall section 74 by reason of the interconnection thereof with these sections along the fold lines 68 and 72, respectively. Bottles as 155 may then be inserted into the various bottle receiving openings.

As an incident to the erection of the carton from the flat folded state thereof shown in Fig. 10 to the erected state thereof shown in Fig. 9 and by reason of the bellows folds as 104 and 105, and 110 and 111, the flaps as 100, 101, 106 and 107 move into substantially right angular relationship with the web to which they are joined along fold lines. Moreover, movement of the flaps as 101 into such substantially right angular relationship is insured by reason of the engagement with such flaps of the arcuate edges as 129 on the adjacent

tabs as 128, and such edges in cooperation with the bellows folds insure that the flaps as 101 assume the aforesaid downwardly extending positions in substantially right angular relationship with the webs to which they are joined. Such disposition of the flaps as 101 in such depending positions serves to prevent endwise displacement of the bottles as 155 from the erected carrier.

Moreover, as an incident to the insertion of a bottle 155 into one of the end openings as 143, the flap as 147 in such opening is bent downwardly into substantially right angular relationship with the web *Wa* to which it is joined along a fold line as 151, and such flap as 147 is effective on the bottle inserted into the opening as 143 to snugly embrace the same and thereby insure retention of the bottle in the opening as 143, particularly by reason of the cooperation with such flap as 147 of an adjacent flap as 106. In this respect it will be understood that each of the flaps 132, 130 and 145 are moved into such a depending position as an incident to the insertion of a bottle into the bottle receiving opening into which such tabs respectively project when the carrier is in its erected state shown in Fig. 9.

Furthermore, the insertion of a bottle 155 into a center opening as 142 is effective to move the flaps as 149 and 150 into depending relation with the webs *Wa* to which they are respectively joined. Moreover, when bottles are inserted into each of the openings, the flap 149 is juxtaposed to the flap 145 and the flap 150 is juxtaposed to the flap 147, as shown in the broken-line position of Fig. 9. Thus, a double thickness of material is interposed between each center bottle and each endmost bottle and, moreover, a double reinforcement is afforded for the web *Wa* to which such juxtaposed flaps are connected along a fold line as 151. Thus, effective spacing between the center and endmost bottles is afforded and, moreover, an effective reinforcement for the intermediate webs as *Wa* is afforded by the interrelation of flaps as 147 and 150.

Still further, when the carrier is in its erected state, as shown in Fig. 9, the tabs 131 and 146 depend from the bottle sections 65 and 66 to which they are joined and these tabs extend in juxtaposed relation and thereby afford a double thickness of material between bottles disposed in the openings 120 and 143. The tabs 137 and 148 likewise assume such juxtaposed relation sufficient to separate bottles in the openings 121 and 142. This is also true with respect to the tabs 128 and 144 which serve to separate bottles in the openings 122 and 141. It will therefore be seen that the carrier shown in Figs. 9, 10 and 11 is of such a nature that a double thickness of material is disposed between each adjacent pair of bottles, whereby the bottles are effectively separated one from the other to afford substantial protection therefor during the time the bottles are being transported in the carrier.

Moreover, the handle portion of this novel carrier is so reinforced that the likelihood of tearing thereof in the region of the hand opening as *HO* afforded therein is eliminated, which insures long and efficient service of the carrier.

Further, by reason of the hereinabove described relation between the handle portion as *H* or *Ha* and other portions of the carrier, one loaded carrier may be stacked directly upon another carrier and in such instance the handle portion *H* or *Ha* of the lower carrier will be so depressed as to enable the bottom of the uppermost carrier to

rest on the tops of the bottles in the lowermost carrier.

Yet further, by reason of the effective reinforcement of all of the webs afforded in the bottle receiving sections of the novel carrier shown in Figs. 9, 10 and 11 and particularly by reason of the double reinforcement of the intermediate webs in these bottle receiving sections, the likelihood of damage to such webs in the use of the carrier is substantially eliminated and such webs are rendered sufficiently strong to withstand the service to which they will be put in the course of use of the carrier.

While I have illustrated and described preferred embodiments of my invention, it is to be understood that these are capable of variation and modification and I therefore do not wish to be limited to the precise details set forth, but desire to avail myself of such changes and alterations as fall within the purview of the following claims.

I claim:

1. A collapsible bottle carrier formed from a single blank of material and adapted to carry two parallel rows of bottles, and comprising, in its erected or bottle carrying condition, a bottom wall, side walls, a handle section, and a bottle receiving section at each side of said handle section and adjacent the lower end of the latter, each of said bottle receiving sections being joined at its outer edge to the upper edge of one of said side walls and being joined at its inner edge to the lower end portion of said handle section, each of said bottle receiving sections having a row of spaced bottle receiving openings formed therein and each of said rows of bottle receiving openings including a central bottle receiving opening and an additional bottle receiving opening at each side of said central bottle receiving opening, each of said bottle receiving sections having an end flap formed thereon at each end thereof and there being one of said flaps at the outer side of each of said additional bottle receiving openings, said flaps being collapsed against, and into substantially parallel relationship with, said bottle receiving sections, and on the inner side of the latter, when said bottle carrier is in a collapsed, folded condition, and operating means operable upon said flaps to automatically move said flaps into a downwardly extending or substantially vertical position as and when said bottle carrier is erected into bottle carrying position.

2. A bottle carrier as defined in claim 1 in which each of the side walls has an intumed marginal edge portion at each end thereof and in which said intumed marginal portions are adhesively secured to said bottle receiving sections on the inner side of the latter and in which each of said end flaps has a bellows fold connection at one end thereof with the adjacent one of said intumed marginal edge portions.

3. In a collapsible bottle carrier formed from cardboard or like material, a bottom wall section, side wall sections, a handle section, and bottle receiving sections interposed between the handle section and the side wall sections, flaps joined to at least selected of the free edges of said sections along fold lines whereby each such flap may be folded over onto the section to which it is joined to reinforce such section, and operating means effective on each such flap joined to a bottle receiving section to automatically move such flap into substantially right angular relation with such section when and as the collapsible carrier is erected to bottle carrying position to thereby

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augment the reinforcing effect of such flap on such section.

4. In a collapsible bottle carrier formed from cardboard or like material, a bottom wall section, side wall sections, a handle section, and bottle receiving sections interposed between the handle section and the side wall sections, flaps joined to the free edges of said side wall and bottle receiving sections along fold lines whereby each such flap may be folded over onto the section to which it is joined to reinforce such section, and a bellows fold connection between adjacent ends of such flaps and effective to automatically move the flap joined to the bottle receiving section into substantially right angular relation with such section when and as the collapsible carrier is erected to bottle carrying position to thereby augment the reinforcing effect of such flap on such section.

5. A pre-formed collapsible bottle carrier formed from cardboard or like material and comprising a bottom wall, side walls, a handle portion, and bottle receiving sections extended between a side wall and a handle portion, each of said bottle receiving sections comprising a plurality of webs arranged at spaced intervals therein to afford bottle receiving openings in these sections, said webs having the ends thereof respectively connected to the handle portion and a side wall along score lines, at least selected of said webs being cut away along one side and intermediate the ends thereof to afford bottle embracing edges thereon whereby relatively narrow portions are defined in the webs substantially midway between the ends thereof, and flaps joined to said webs along score lines disposed at the edges of said webs opposite the bottle embracing edges thereon and along which score lines said flaps may be folded into angular relation with said webs to reinforce the webs primarily at the narrow portions thereof.

6. A pre-formed collapsible bottle carrier formed from cardboard or like material and comprising a bottom wall, side walls, a handle portion, and bottle receiving sections extended between a side wall and the handle portion, each of said bottle receiving sections having a plurality of bottle receiving openings afforded therein between webs spanning the space between the handle portion and a side wall and which webs are joined at their opposite ends to the side wall and the handle section along score lines of relatively protracted length, said webs being cut away along an edge thereof toward the medial portion thereof to thereby provide relatively narrow medial portions in the webs, bottle engaging flaps joined to said webs along score lines at the other edges thereof and normally lying in the plane in which the webs are disposed and being foldable to downwardly projecting positions to thereby reinforce the medial portions of said webs and to space apart bottles disposed in adjacent bottle receiving openings whereby bottles may be located in said carrier in closely spaced relation and the over-all width of the carrier is restricted.

7. A bottle carrier made from cardboard or like material and comprising a bottom wall, side walls extended substantially perpendicular to said bottom wall when the carrier is erected, a handle section, and a plurality of webs extended in spaced but substantially parallel relation between each side wall and the handle section, the spacing between adjacent webs on each side of the handle section affording bottle receiving openings through which bottles may be passed to have the lower ends thereof rested on said bottom wall,

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each of said webs including relatively wide end portions respectively joined to a side wall and the handle section, at least selected of said webs having parts thereof severed from the adjacent side wall and the handle section and having fold lines therein along which the severed parts of said webs may be folded to thereby afford depending portions effective to reinforce such webs and which portions, when disposed between bottles arranged in adjacent openings, serve to separate such bottles one from the other.

8. A pre-formed collapsible bottle carrier formed from cardboard or like material and comprising a bottom wall, side walls, a handle portion, and bottle receiving sections extending between a side wall and the handle portion, each of said bottle receiving sections comprising a plurality of webs arranged at spaced intervals therein to afford bottle receiving openings in these sections, said webs having the ends thereof respectively connected to the handle portion and a side wall along score lines, at least selected of said webs having fold lines therein extended therealong in substantially right angular relation with the score lines at the ends thereof, and flaps joined to such a web along the fold line therein and foldable along the fold line into substantially right angular relation with the web and into juxtaposed relation with each other to thereby reinforce the web and be effective to separate bottles arranged in the bottle receiving openings on opposite sides of the web.

9. A collapsible bottle carrier formed from a blank of cardboard or like material that is cut and scored to provide, in the carrier when it is erected to bottle receiving condition, a bottom wall, side walls, a handle portion, and bottle receiving sections respectively disposed between a side wall and the handle portion and each comprising a plurality of webs joined at their opposite ends to the side wall and the handle portion along score lines, the webs in each bottle receiving section being spaced apart therein and the material of the blank intermediate at least selected of adjacent webs being cut to afford a tab separated from said webs and the side wall but joined to said handle portion intermediate adjacent ends of the fold lines along which said adjacent webs are joined to the handle portion whereby said tab may be projected downwardly from said handle portion in alignment therewith when the carrier is erected, said intermediate material also being cut to afford a flap separated from said tab, the handle portion, the side wall and one of said webs, said flap being joined to the other of said webs along a fold line whereby the flap may be folded into substantially right angular relation with the web to which it is joined to reinforce the same, the tab, when in downwardly extending relation with said handle portion, in cooperation with said flap when it is arranged in angular relation with said web disclosing an opening into which a bottle may be inserted between said adjacent webs to have the bottom thereof rested on said bottom wall.

10. A collapsible bottle carrier formed from a blank of cardboard or like material that is cut and scored to provide, in the carrier when it is erected to bottle receiving condition, a bottom wall, side walls, a handle portion, and bottle receiving sections respectively disposed between a side wall and the handle portion and each comprising a plurality of webs joined at their opposite ends to the side wall and the handle portion along score lines, the webs in each bottle receiv-

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ing section being spaced apart therein and the material of the blank intermediate webs at each side of an intermediate web being cut to afford tabs separated from the webs and the side wall but joined to the handle portion intermediate adjacent ends of the fold lines along which said intermediate web and the webs on each side thereof are joined to the handle portion whereby such tabs may be projected downwardly from said handle portion in alignment therewith when the carrier is erected, said intermediate material also being cut to afford flaps separated from said tabs, the handle portion, and the side wall and the webs on each side of said intermediate web, said flaps being joined to the intermediate web along a fold line whereby the flap may be folded into substantially right angular relation with the intermediate web and into juxtaposed relation with each other to reinforce the intermediate web, said tabs, when in downwardly extending relation with the handle portion, in cooperation with said flaps when the flaps are arranged in angular relation with the intermediate web, disclosing openings into which bottles may be inserted between said intermediate web and the webs on each side thereof, said flaps when in juxtaposed relation being effective to separate bottles inserted into such openings to have the lower ends thereof rested on the bottom wall.

11. A collapsible bottle carrier formed from a blank of cardboard or like material that is cut and scored to provide, in the carrier when it is erected to bottle receiving condition, a bottom wall, side walls, a handle portion, and bottle receiving sections respectively disposed between a side wall and the handle portion and each comprising a plurality of webs joined at their opposite ends to the side wall and the handle portion along score lines, the webs in each bottle receiving section being spaced apart therein whereby a web is disposed at each end of each bottle receiving section and other webs are disposed intermediate such end webs, the endmost webs and the intermediate webs in the respective bottle receiving sections being aligned one with the other, the material of the blank intermediate adjacent webs being cut to afford a tab separated from such webs and the side wall but joined to the handle portion intermediate adjacent ends of the fold lines along which such adjacent webs are joined to the handle portion whereby each tab may be projected downwardly from the handle portion in alignment therewith when the carrier is erected, the tabs between aligned webs in the respective bottle sections being arranged in juxtaposed relation when disposed in such downwardly projecting positions, the intermediate material intermediate adjacent webs also being cut to afford a flap separated from the tab between such adjacent webs, the handle portion, the side wall and the one of said adjacent webs disposed at an end of the bottle receiving section, the flaps so afforded on opposite sides of each intermediate web being joined to such intermediate web along a fold line whereby the flaps may be folded into substantially right angular relation with the web to which they are joined to thereby reinforce such web, said tabs, when in downwardly extending relation with the handle portion and in juxtaposed relation with each other, in cooperation with the flaps when the flaps are arranged in angular relation with the web to which they are joined, disclosing openings intermediate adjacent webs into which bottles may be inserted

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to have the lower ends thereof rested on the bottom wall, the juxtaposed tabs and the juxtaposed flaps affording a double thickness of material intermediate bottles arranged in adjacent openings whereby the bottles in such adjacent openings are effectively separated one from the other.

12. A pre-formed bottle carrier formed from cardboard or like material and adapted to receive bottles of predetermined height and comprising a bottom wall, side walls, a handle portion, and bottle receiving sections extended between the side walls and the handle portion whereby the handle portion is disposed above said bottom wall substantially midway between said side walls, said bottle receiving sections having bottle receiving openings therein, flaps cut from said bottle receiving sections and disposed to depend from the handle portion in alignment therewith, said handle portion including a part which may extend above the tops of bottles of said predetermined height that are disposed in said bottle receiving openings and rested on said bottom wall, said part having a handle opening therein, said flaps having the lower edges thereof normally spaced from said bottom wall sufficiently to enable limited downward movement of said handle portion to thereby enable the upper free end of said handle portion to be moved downwardly substantially into alignment with the tops of the bottles whereby said part of said handle portion may be depressed so as not to interfere with the stacking of one bottle carrying carrier of the aforesaid character directly over and upon the tops of bottles in another such carrier.

13. A pre-formed collapsible bottle carrier formed from cardboard or like material and comprising a bottom wall, side walls, a handle portion, and a bottle-receiving section extended between a side wall and the handle portion, said bottle-receiving section comprising a plurality of webs arranged at spaced intervals therein to afford bottle-receiving openings in this section, said webs having the ends thereof respectively connected to the handle portion and said side wall along score lines, at least selected of said webs being cut away along one side and intermediate the ends thereof to afford bottle embracing edges thereon whereby relatively narrow portions are defined in the webs substantially midway between the ends thereof, and flaps joined to said webs along score lines disposed at the edges of said webs opposite the bottle embracing edges thereon and along which score lines said flaps may be folded into angular relation with said webs to reinforce the webs primarily at the narrow portions thereof.

14. A pre-formed collapsible bottle carrier formed from cardboard or like material and comprising a bottom wall, side walls, a handle portion, and a bottle-receiving section extended between a side wall and the handle portion, said bottle-receiving section having a plurality of bottle-receiving openings afforded therein between webs spanning the space between the handle portion and said side wall and which webs are joined at their opposite ends to the side wall and the handle section along score lines of relatively protracted length, said webs being cut away along an edge thereof toward the medial portion thereof to thereby provide relatively narrow medial portions in the webs, bottle engaging flaps joined to said webs along score lines at the other edges thereof and normally lying in the plane in which the webs are disposed and being foldable to downwardly projecting positions to thereby reinforce

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the medial portions of said webs and to space apart bottles disposed in adjacent bottle-receiving openings whereby bottles may be located in said carrier in closely spaced relation and the over-all width of the carrier is restricted.

15. A pre-formed bottle carrier formed from cardboard or like material and adapted to receive bottles of predetermined height and comprising a bottom wall, side walls joined to said bottom wall along score lines at corresponding edges thereof, a handle portion, and bottle-receiving sections extended between the side walls and the handle portion and hingedly connected to said side walls and handle portion along score lines disposed parallel to each other and the first named score lines, said bottle-receiving sections having bottle-receiving openings therein, extensions depending from the handle portion in alignment therewith, said handle portion including a part which may extend above the tops of bottles of said predetermined height that are disposed in said bottle-receiving openings and rested on said bottom wall, said part having a handle opening therein, the lower edges of said extensions being disposed above said bottom wall when said part of said handle portion is extended above the tops of bottles in said bottle-receiving sections and said extensions being so sized that when said part of said handle portion is extended as aforesaid the lower edges of said extensions are spaced from said bottom wall sufficiently to enable limited downward movement of said handle portion to thereby enable the upper free end of said handle portion to be moved downwardly about the said

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second named score lines as hinges substantially into alignment with the tops of the bottles of said predetermined height disposed in said bottle-receiving openings and rested on said bottom wall whereby said part of said handle portion may be depressed so as not to interfere with the stacking of one bottle carrying carrier of the aforesaid character directly over and upon the tops of bottles in another such carrier.

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