Aug. 13, 1946. E. E. MORGAN 2,405,753

BOTTLE CARRIER

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Fig. 2

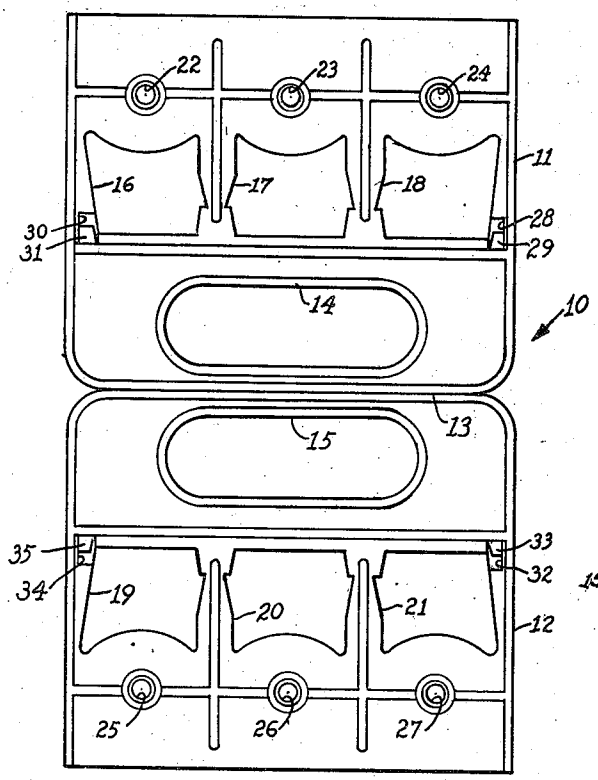
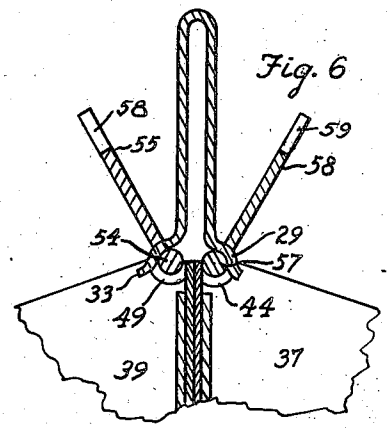


Fig. 6



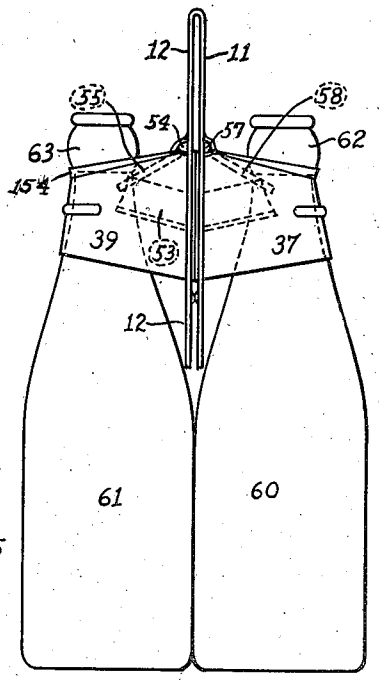


Fig. 1

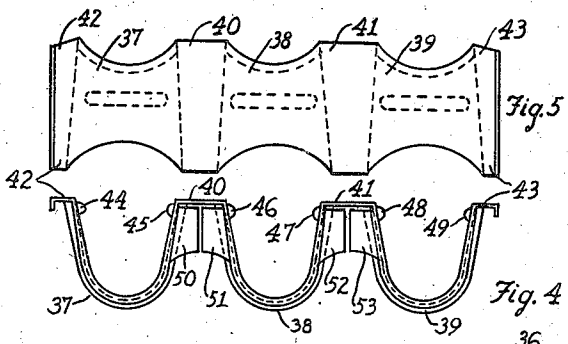


Fig. 5

Fig. 4

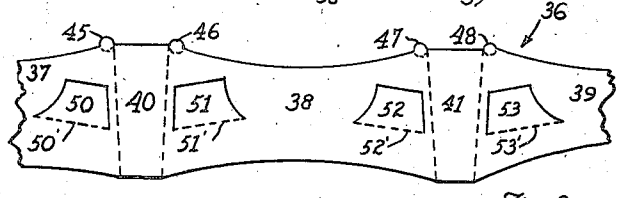


Fig 3

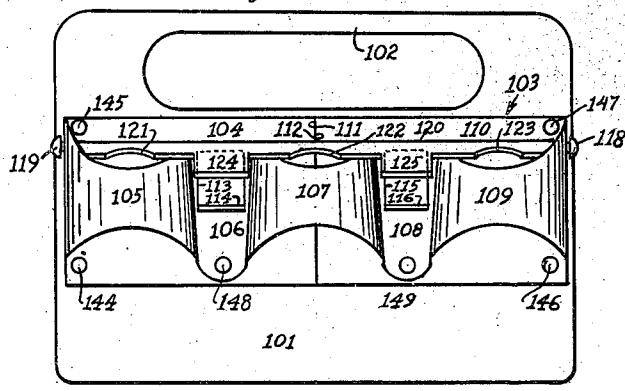
INVENTOR.
EARL E. MORGAN
BY Hood & Hahn
ATTORNEYS

Aug. 13, 1946. E. E. MORGAN 2,405,753

BOTTLE CARRIER

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Fig. 8



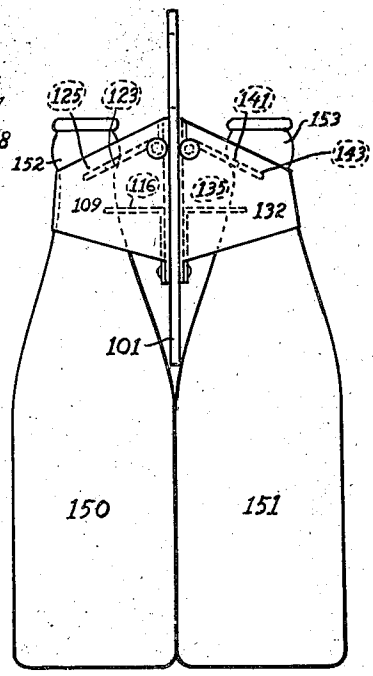
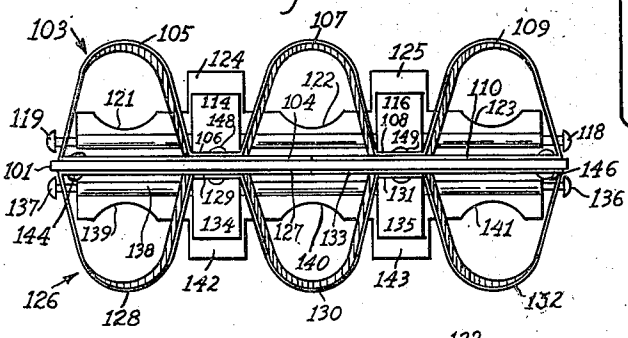


Fig. 7

Fig. 9



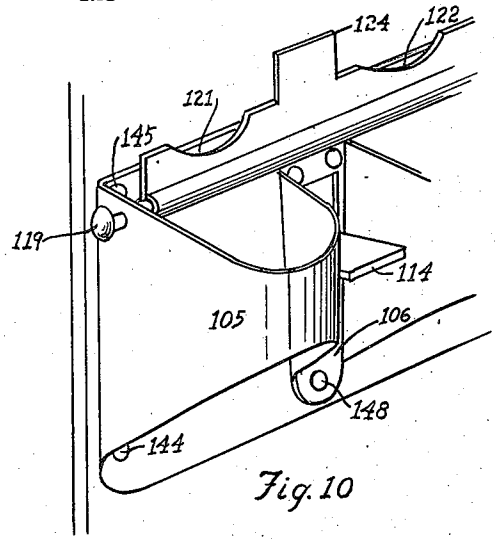
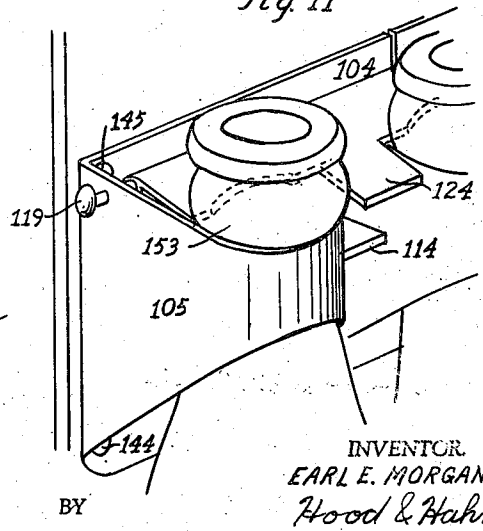


Fig. 10

Fig. 11



INVENTOR.
EARL E. MORGAN
BY Hood & Hahn
ATTORNEY

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UNITED STATES PATENT OFFICE

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BOTTLE CARRIER

Earl E. Morgan, La Fayette, Ind.

Application April 5, 1944, Serial No. 529,558

6 Claims. (Cl. 294—87)

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The present invention relates to a bottle carrier. The primary object of the invention is to provide a carrier for soft drink bottles, and the like, obviating the disadvantages of the numerous forms of carriers which have heretofore been used commercially.

To this end, my new bottle carrier is sturdy and of such character as not to be readily damaged. It is further of such character that a number of bottles less than the maximum for which it is designed may be safely and securely carried thereby. Its construction is such that the bottles will not rattle and bump against each other, or parts of the carrier, when supported in the carrier. Its construction is such that the carrier may simply be set down upon a set of bottles, standing in a "flat" and, without manipulation of the individual bottles, can be so associated with a group of bottles in the flat that, when the carrier is again lifted, those bottles will be removed from the flat and securely supported in the carrier. Conversely, a set of empty bottles, supported in the carrier, may be returned to a flat, without individual manipulation.

A further object of the invention is to provide a carrier, having the characteristics above described, and capable of being inexpensively manufactured. To this end, my carrier is so designed as to be made up of a minimum number of interchangeable parts, individually inexpensively produced, and very simply assembled.

Further objects and accomplishments of the invention will appear as the description proceeds.

To the accomplishment of the above and related objects, my invention may be embodied in the forms illustrated in the accompanying drawings, attention being called to the fact, however, that the drawings are illustrative only, and that change may be made in the specific constructions illustrated and described, so long as the scope of the appended claims is not violated.

Fig. 1 is an end elevation of a carrier constructed in accordance with my invention, with bottles retained therein;

Fig. 2 is a plan view of a blank for a body member of the said embodiment of my invention;

Fig. 3 is a fragmentary elevation of a blank for forming another element of the said embodiment;

Fig. 4 is a top plan of the unit formed from the blank of Fig. 3;

Fig. 5 is a front elevation of the unit of Fig. 4;

Fig. 6 is an enlarged fragmentary section taken upon a plane parallel to the plane of Fig. 1;

Fig. 7 is an end elevation of another embodiment of my invention, with bottles associated with the carrier;

Fig. 8 is a front elevation of the carrier of Fig. 7;

Fig. 9 is a bottom plan of the said carrier;

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Fig. 10 is a partial isometric view of a fragment of the said carrier; and

Fig. 11 is a similar view showing bottles associated therewith.

Referring, now, to the form of the invention illustrated in Figs. 1 to 6, the reference numeral 10 indicates generally a body blank having two portions 11 and 12 symmetrical with respect to a central fold line 13. Blank portion 11 is formed with a hand hole 14 adapted, when the blank is folded, to register with a hand hole 15 in the blank portion 12.

Similarly, the blank portion 11 is punched to provide ports 16, 17, and 18 which, when the blank is folded, register with ports 19, 20, and 21, respectively, punched in the portion 12. Rivet holes 22, 23, and 24 in the blank portion 11 register, when the blank is folded, with corresponding holes 25, 26, and 27 in the blank portion 12.

The blank portion 11 is further punched at 28 to provide a tongue 29, and at 30 to provide a tongue 31, for a purpose later to be described. At symmetrically related points, the blank portion 12 is similarly punched at 32 to provide a tongue 33 and at 34 to provide a tongue 35.

A retainer unit is adapted to be formed from a blank indicated generally by the reference numeral 36. Said blank comprises three portions, 37, 38, and 39, having curved upper and lower edges, and adapted to be bent to the U-shape illustrated in Fig. 4. The sections 37 and 38 are joined by a section 40, having straight upper and lower edges, while the sections 38 and 39 are joined by a section 41 similar to the section 40. Portions 42 and 43 at the opposite ends of the blank likewise remain unbent, and the portions 40, 41, 42, and 43, in the finished unit, lie substantially in a common plane.

Substantially at the juncture of the section 37 with the section 42, the upper edge of the blank 36 is provided with an upstanding ear 44; and similar ears 45, 46, 47, 48, and 49 are provided at each of the junctures between a portion of the blank to be bent and an adjacent portion of the blank to remain unbent. In bringing the retainer unit to its final form, these ears are all bent rearwardly into substantial perpendicularity to the portions of the blank to which they are attached, and the ears are further forced inwardly from the blank edge and dished, so that, in the finished unit, those ears define an upwardly opening substantially horizontal channel extending transversely across the open ends of the U-shaped portions 37, 38, and 39 of the unit.

Adjacent the section 40, a tongue 50 is punched from the wall of the section 37, said tongue being adapted to be bent outwardly about its base 50'. A similar tongue 51 is punched from the wall of the section 38 adjacent the section 40, said tongue likewise being adapted to be bent outwardly

about the line 51'. Thus the tongues 50 and 51, in the finished unit, cooperate to form a finger piece between the U-shaped sections 37 and 38 and lying substantially in a horizontal plane.

A similar tongue 52, punched from the wall of the section 38 adjacent the section 41, is adapted to be bent outwardly along the line 52' to cooperate similarly with a tongue 53 punched from the wall of the section 39 adjacent the section 41 and adapted to be bent outwardly along the line 53'.

A retainer unit, before having its tongues 50, 51, 52, and 53 bent out of the planes of their walls, is assembled with one portion 11 or 12 of a blank 10 by pressing the sections 37, 38, and 39 through, for instance, the ports 19, 20, and 21 of the portion 12. When the tongues 50, 51, 52, and 53 are now bent into the positions illustrated in Fig. 4, they will act to retain the unit against withdrawal through the said ports. The tongues 44, 45, 46, 47, 48, and 49 likewise assist in retaining the unit in place.

A corresponding unit will be similarly associated with the blank section 11 by passing its U-shaped sections through the ports 16, 17, and 18 of said blank portion, from the same side of the blank. If, now, the blank 10 is folded upon the line 13, and if its two portions are secured together by rivets passed through the holes 22—25, 23—26, and 24—27, it will be seen that the bases (40, 41, 42, and 43) of the two retainer units will be imprisoned between the two secured sections 11 and 12 of the blank 10.

A rock shaft 54, supported in the channel defined by the ears 44—49, will be retained in place, upon the outer surface of the body section 12, by bending the ears 33 and 35 into the position indicated in Fig. 6. Said rock shaft carries a retainer leaf 55 adapted to be moved into and out of retaining engagement with the necks 63 of the bottles 61, which bottle necks have previously been projected upwardly through the U-shaped sections 37, 38, and 39, or any of them. The rock shaft and its leaf 55 are manipulable through the medium of a finger piece 56; and when the leaf 55 has been turned into retaining engagement with the upper portion 63 of the bottle necks, such upper portion of any bottle associated with the unit sections 37, 38, or 39 will be so pressed into engagement with its associated U-shaped section that it cannot be withdrawn from such section. Incidentally, it will be further noted that such engagement of the leaf 55 with the bottle necks forces the lower portions of the bottles into contact with the lower edge of the body, as well as into contact with the lower portion of any bottle at that time associated with the corresponding U-shaped retainer section on the opposite side of the body. A rock shaft 57 is similarly mounted in the channel defined by the ears of the retainer unit carried upon the opposite side of the holder, and is retained therein by the tongues 29 and 31, said rock shaft carrying a similar retainer leaf 58 with a finger piece 59. The finger pieces 56 and 59 are arranged in vertical alignment with the finger pieces formed by the tongues 50 and 51 and by the tongues 52 and 53, so that an operator may grasp one of the finger pieces 56 and one of the tongue pairs (52, 53, for instance) between a thumb and finger for operating the leaf 55.

While the above-described embodiment of my invention is believed, now, to be the most practicable form thereof from the standpoint of commercial manufacture and assembly, I have shown another form of the invention in Figs. 7 to 11. In that form, a body 101 may be a sheet of metal, Masonite, plastic, plywood, or any desired material. It is provided, adjacent its upper edge, with a hand hole 102; and secured to each of its opposite faces is a retainer unit, indicated generally by the reference numeral 103.

Each of these units 103 may be formed of a single piece of malleable material. One adaptable material is thin sheet metal.

In the illustrated embodiment of the invention, the unit 103 may consist of a single piece of sheet metal. One end portion 104 of the strip is flat and is adapted to have one surface in contact with, and secured to, a face of the body 101 adjacent the hand hole 102. A second section 105, merges with the section 104 and is curved outwardly therefrom to U-shape, returning into contact with the outer surface of the section 104, where it merges with a third section 106, lying flatly in contact with said surface of the section 104. A fourth section 107 merges with the section 106 and is curved outwardly into U-shape to return to the plane of the section 106, where said section 107 merges with a flat section 108 lying in said plane. A sixth section 109 again curves outwardly and returns, in U-shape, to the plane of the section 104, where it merges with a seventh section 110 lying in said plane in contact with, and secured to, the said surface of the body 101. The end 111 of the section 110 abuts the end 112 of the section 104.

The section 106 is punched at 113 to provide a tongue 114 bent outwardly into substantial perpendicularity with the plane of the section 106; and the section 108 is similarly punched at 115 to provide a similar tongue 116 bent outwardly into substantially the plane of the tongue 114. Journal means 118 and 119 are supported in the walls of the sections 109 and 105 to provide a journal mounting for a retainer leaf 120 which is preferably provided with curved notches 121, 122, and 123 bisected by the bisectors of the U-shaped sections 105, 107, and 109, respectively. Finger pieces 124 and 125 are formed on the leaf 120 to lie in substantially vertical alignment with the tongues 114 and 116.

A similar unit 126 comprises a section 127 corresponding to the section 104, a section 128 corresponding to the section 105, a section 129 corresponding to the section 106, a section 130 corresponding to the section 107, a section 131 corresponding to the section 108, a section 132 corresponding to the section 109, and a section 133 corresponding to the section 110. The unit 126 has its sections 127 and 133 lying in contact with the opposite surface of the body 101. Said unit 126 is provided with tongues 134 and 135 punched out of its sections 129 and 131 in correspondence to the tongues 114 and 116 of the unit 103. Journal means 136 and 137 are supported in the walls of the sections 132 and 128, respectively, to provide a journal mounting for a leaf 138 corresponding to the leaf 120 and having notches 139, 140, and 141 formed therein to cooperate with the unit sections 128, 130, and 132. Said leaf 138 is provided with thumb pieces 142 and 143 corresponding to the thumb pieces 124 and 125.

Rivets 144 and 145 pass through the section 104 of the unit 103, the body 101, and the section 127 of the unit 126 to secure said unit sections to opposite surfaces of the body 101. Similarly, rivets 146 and 147 secure the sections 110 and 133 to opposite surfaces of the body 101. Rivet 148 passes through the section 106 and section

104 of unit 103, through the body 101, and through the sections 127 and 129 of the unit 126; and similarly, a rivet 149 passes through the section 108 and section 110 of the unit 103, and through the section 133 and section 131 of unit 126.

When bottles 150 and 151 have their necks 152 and 153 projected upwardly through the section 109 of unit 103 and the section 132 of unit 126, and when the thumb pieces 125 and 143 of the leaves 120 and 138 are thrown downwardly into the positions illustrated in Fig. 7, the notches 123 and 141 of the said leaves 120 and 138 snap past the beads of said bottle necks to force said beads to overlie the upper edges of the U-shaped sections, thereby positively retaining said bottle necks against withdrawal.

Preferably, the upper edges of the U-shaped sections of the retainer units of both forms of the invention may be rolled slightly outwardly, as indicated at 154 in Fig. 4.

It will be obvious that the embodiment of Figs. 8 to 11 lends itself admirably to production from molded plastic material. That is, it would be entirely feasible to mold or cast a one-piece unit comprising a body like the body 101 provided with integral yokes on its opposite surfaces, like the yokes 105, 107, 109, 128, 130, and 132, and further provided with finger pieces like the finger pieces 114, 116, 134, and 135. With such a unit might be associated pivoted leaves like the leaves 120 and 138, which leaves might be pivotally supported upon the main body either by trunnions like the trunnions 118, 119, 136, and 137 projecting through the end walls of the yoke elements, or by means of trunnions supported in journals formed similar to the journal means of the embodiment of Figs. 1 to 6.

I claim as my invention:

1. A bottle carrier comprising a sheet symmetrical on opposite sides of a median line and formed, on each side of said line, with a hand-hole and a plurality of ports, said hand-hole and ports at one side of said line being adapted and arranged to register with the corresponding openings on the other side of said line when said sheet is folded on said line, two retainer units, each formed to provide a plurality of yokes open at their tops and bottoms and projecting in a common direction from a base, the number of yokes in each retainer unit being equal to the number of ports in said sheet on one side of said line, and the yokes of each unit being projected through said ports with the bases of said units disposed in substantial contact with each other between the sides of said folded sheet, means securing the sides of said folded sheet together to imprison the bases of said units, and means carried at each side of said sheet and cooperable with the necks of bottles projected through the yokes at that side of said sheet to retain such bottle necks against withdrawal from the yokes with which they are associated.

2. A bottle holder comprising a laminated body of at least two laminae, each formed with a plurality of ports therethrough, two retainer units, each formed to provide a plurality of yokes open at their tops and bottoms and projecting in a common direction from a base, the number of yokes in each retainer unit being equal to the number of ports in one of said laminae and the yokes of each unit being projected through the ports of one of said laminae with the bases of said units disposed between said laminae, means securing said laminae together to imprison said unit bases, and means associated with said body and cooperable with the necks of bottles projected through said yokes to retain such bottle necks against withdrawal from the yokes with which they are associated.

3. A bottle holder comprising a laminated body of at least two laminae, each formed with a plurality of ports therethrough, two retainer units, each formed from a blank comprising a plurality of portions adapted to be bent to U-shape interdigitated between portions adapted to remain unbent, the upper edge of said blank being formed, substantially at each point of juncture of one of said first-named portions with one of said second-named portions, with an upstanding ear, said ears being bent into general perpendicularity with the walls of said U-shaped portions and being dished to define an upwardly-open channel traversing the bases of said U-shaped portions, the number of U-shaped portions of each of said units being equal to the number of ports in one of said laminae and said portions being projected through such ports with the bases of said units disposed between said laminae and with said channels disposed outside said laminae, means securing said laminae together to imprison said unit bases, and means supported in said channels and cooperable with the necks of bottles projected through said U-shaped portions of said units to retain such bottle necks against withdrawal therefrom.

4. A bottle holder comprising a laminated body of at least two laminae, one formed with a plurality of ports therethrough, a retainer unit formed to provide a plurality of yokes open at their tops and bottoms and projecting in a common direction from a base, the number of such yokes being equal to the number of such ports and said yokes being projected through such ports leaving said base disposed between said laminae, and means securing said laminae together to imprison said base.

5. A bottle holder comprising a laminated body of at least two laminae, one formed with a plurality of ports therethrough, a retainer unit formed to provide a plurality of yokes open at their tops and bottoms and projecting in a common direction from a base, the number of such yokes being equal to the number of such ports and said yokes being projected through such ports leaving said base disposed between said laminae, means securing said laminae together to imprison said base, and means associated with said body and cooperable with the necks of bottles projected through said yokes to retain such bottle necks against withdrawal from the yokes with which they are associated.

6. A bottle holder comprising a laminated body of at least two laminae, each formed with a plurality of ports therethrough, two retainer units, each formed to provide a plurality of yokes open at their tops and bottoms and projecting in a common direction from a base, the number of yokes in each retainer being equal to the number of ports in one of said laminae and the yokes of each unit being projected through the ports of one of said laminae with the bases of said units disposed between said laminae, and means securing said laminae together to imprison said unit bases.

EARL E. MORGAN.