May 18, 1965 R. N. BRANDON ET AL 3,184,095

CARRYING CASE FOR BOTTLE CARTONS AND THE LIKE

Filed May 28, 1959 2 Sheets-Sheet 1

Fig. 1

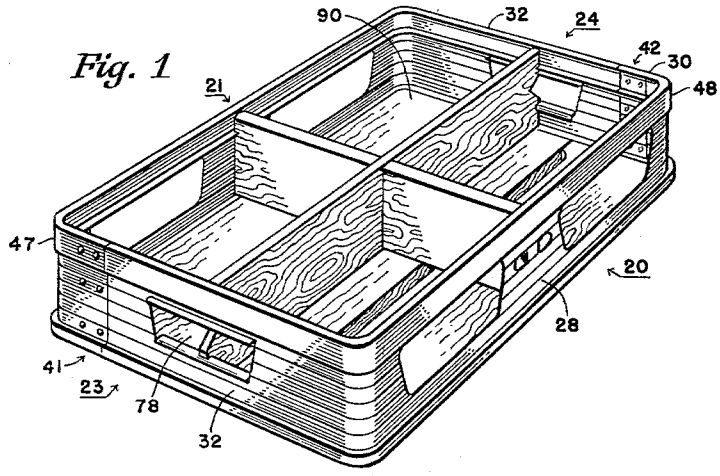


Fig. 2

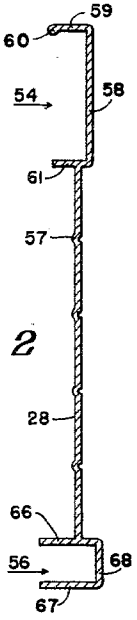


Fig. 4

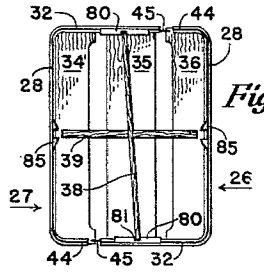


Fig. 3

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CARRYING CASE FOR BOTTLE CARTONS AND THE LIKE

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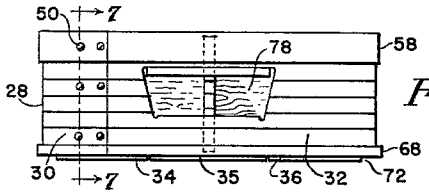


Fig. 5

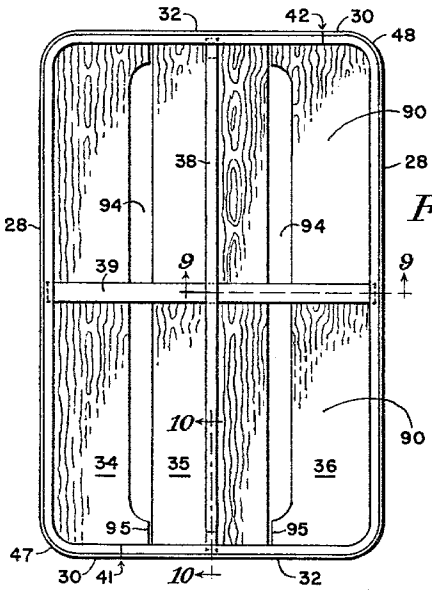


Fig. 6

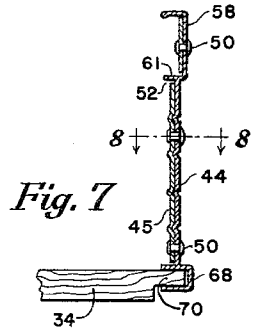


Fig. 7

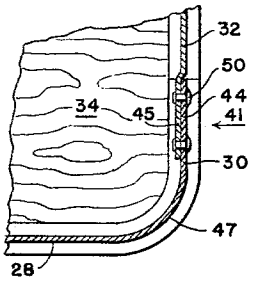


Fig. 8

Fig. 9

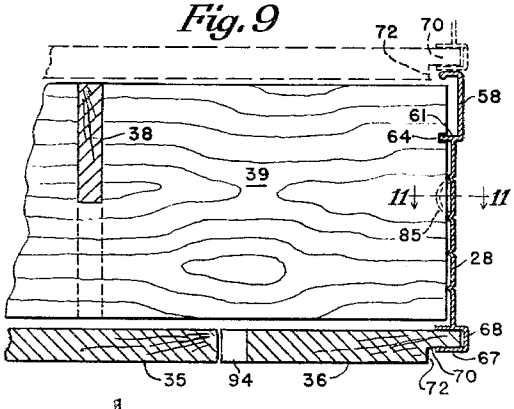
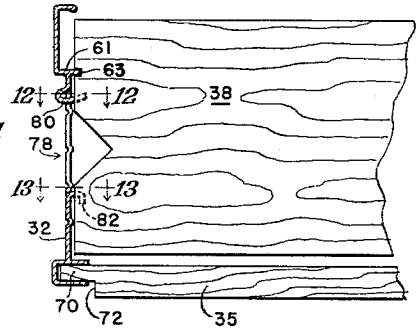


Fig. 10



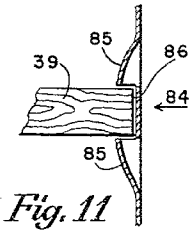


Fig. 11

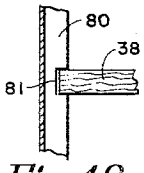


Fig. 12

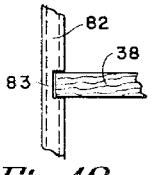


Fig. 13

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CARRYING CASE FOR BOTTLE CARTONS AND THE LIKE

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3 Claims. (Cl. 220—21)

This invention relates to an improved carrying case for bottles in cartons, and the like, in which the sidewall portion of the case is made from extruded metal, such as aluminum or its alloys, the extrusion having a continuous cross-section, and in which the floor and divider construction is made from relatively simple, nonmetallic slabs, ordinarily of rectangular cross-section.

The extruded sidewall material preferably is made of aluminum or its alloys, or similar metal, which lends itself to extrusions of relatively complicated cross-section, and which permits such extrusions to be worked and formed into the desired shapes for the construction of the carrying case. The floor and dividers preferably are made of nonmetallic material, such as wood or plastic material. Such floor and dividers preferably are made of generally rectangular straight slabs which can be worked by sawing, rabbeting, and similar simple operations. The extruded side forming construction, and the floor and divider construction are so coordinated, that the carrying case may be readily assembled in a very simple and efficient manner.

Preferably, the carrying case construction is such that all of the members forming the carrying case may be interlocked and held together by two similar securing joints located adjacent opposite obliquely disposed corners of the case, such joints being held together by simple securing means such as rivets, bolts or the like.

The construction of the case also is such that all of the main components are of a design which permits final assembly to be made by a simple sidewise movement followed by a simple joint fastening procedure.

Accordingly, it is an object of this invention to provide a substantially rectangular carrying case, the sidewalls of which are made from extruded metal having a continuous cross-section, which is coordinated with a floor and dividers, preferably made of non-metallic material in the form of slabs having simple or rectangular cross-section, the construction being such that the members forming the carrying case are securely interlocked by similar securing joints located adjacent opposite obliquely disposed corners of the case.

Another object of this invention is to provide a carrying case according to the foregoing object in which the sidewalls of the case are formed by a pair of similar inwardly facing sidewall forming members, each member forming one complete side or first, substantially straight wall, of the case and having integral therewith a short end, or second substantially straight wall, forming leg and a long end, or third substantially straight wall, forming leg at right angles to the main member.

Another object of this invention is to provide a carrying case according to the foregoing object, in which the long end, or third wall forming leg is provided with an aperture forming a hand hold for the case.

Another object of this invention is to provide a carrying case according to any of the foregoing objects in which

the sidewall forming members may be laterally moved with respect to each other completely to interlock with the floor and dividers, and to form the securing joints so that the members of the case may be securely locked together at the two joints by a simple fastening operation.

Further objects will become apparent as the description proceeds with reference to the accompanying drawings in which:

FIGURE 1 is a view in perspective of a carrying case embodying this invention.

FIGURE 2 is a typical cross-section of the sidewall extrusion, on enlarged scale.

FIGURE 3 is an exploded view, in perspective, of the case shown in FIGURE 1.

FIGURE 4 is a diagrammatic view showing the assembly operation for producing the case.

FIGURE 5 is an end view of the case shown in FIGURE 1.

FIGURE 6 is a top view of the case shown in FIGURE 1.

FIGURE 7 is a cross-section taken along the line 7—7 of FIGURE 5, the view being on enlarged scale.

FIGURE 8 is a horizontal cross-section taken along the line 8—8 of FIGURE 7.

FIGURE 9 is a vertical cross-section taken along the line 9—9 of FIGURE 6, on enlarged scale.

FIGURE 10 is a vertical cross-section taken along the line 10—10 of FIGURE 6, on enlarged scale.

FIGURE 11 is a horizontal cross-section of a portion of FIGURE 9 taken along the line 11—11 of FIGURE 9.

FIGURES 12 and 13 are horizontal cross-sections taken along the lines 12—12 and 13—13 respectively of FIGURE 10.

The words "horizontal," "vertical," and similar connotations are used herein for convenience in describing the invention, it being understood that such description is applied to the case in its normal article carrying position, and that the case may be in other positions at various times, at which times such connotations might not apply.

A substantially rectangular carrying case, according to this invention, preferably has a pair of opposed vertical sides, or substantially straight walls, 20 and 21 and a pair of opposed vertical ends, or substantially straight walls, 23 and 24, as indicated by arrows in FIGURE 1. A pair of similar, somewhat L-shaped inwardly facing, extruded metal, sidewall forming members 26 and 27, indicated by arrows in FIGURE 3, each has a main member 28 extending along one complete side, or substantially straight wall, 20 or 21 in FIGURE 1, of the carrying case. Each such main member 28 has formed integrally therewith a short leg 30 which forms a portion of one end, or second substantially straight wall, 23 or 24 in FIGURE 1, of the carrying case. Each main member 28 also has an integral long leg 32 which forms a portion of the other end, or third substantially straight wall, 23 or 24 in FIGURE 1, of the carrying case. The vertical sides 20 and 21 and the vertical ends 23 and 24 preferably are joined by relatively gentle curves at the corners, which permit bending of the extrusion without deforming the channels, flanges, etc., later to be described.

A flat, non-metallic floor is provided at the bottom of the case, which preferably is formed of a plurality of slats 34, 35 and 36, which may be made of wood, plastic material, or the like.

Two non-metallic slat-like dividers 38 and 39 are placed inside of the case at right angles to each other.

The side members 26 and 27, FIGURE 3, the floor, which may be made of slats 34, 35 and 36, and the dividers 38 and 39 are so shaped that they may be substantially completely secured together by two similar securing joints 41 and 42, FIGURE 1. Each joint, 41 and 42, is produced at a straight end 44 of a short leg 30 of one side wall forming member, and at an offset end 45 of a long leg 32 of the other side wall forming member 28, as shown in FIGURE 3.

As shown in FIGURE 8, the ends 44 and 45 overlap and are directed toward each other to form the joint 41 or 42, and these joints are located adjacent opposite obliquely disposed corners 47 and 48 of the carrying case, FIGURE 1. After all of the parts of the case have been assembled together, the joints 41 and 42 are secured together by any suitable means, such as pinlike members 50 which pass horizontally through openings 51 in the ends 44 and 45. The pinlike members 50 may be rivet pins which may be riveted on the inside of the case, if desired, or they may be bolt and nut constructions. Any other securing means such as spot weld, etc., may be used. When these joints 41 and 42 are so secured, all of the components of the case are substantially completely secured together solely by such joints, and, conversely, if it is desired to disassemble the case for repairs or the like, the joints 41 and 42 may be released by drilling out the pinlike members 50, if they are rivet pins, or by disengaging the bolt and nut constructions, or by drilling out the spot welds. When so released, the entire case may be disassembled for replacement of any injured parts, or for any other desired purpose.

If desired, the end 45 of the leg 32 may be severed at 52, 52*a*, and 52*b* to accommodate flange and channel constructions later to be described.

A typical cross-section of the extruded metal which forms the sides and ends of the carrying case is shown in FIGURE 2. For convenience, it is designated as a side 28 but the cross-section of FIGURE 2 is equally applicable to the end legs 30 and 32, except where the extruded metal has not been changed by forming operations herein described. Such extruded member, as shown in FIGURE 2, has a main body, which has been designated as 28, to which an upper stiffening channel 54 is integrally formed at the top of the extruded member. Another channel 56 is integrally secured at the bottom of the extruded member. If desired, ornamental and stiffening ribs or grooves 57 are formed in the main portion 28 of the extruded member. The upper channel 54 has an outer wall 58, an upper inward flange 59, which is beaded at 60, and a lower inward flange 61. The channel 54 has a rigidifying action on the wall member, and also receives the upper portions of the ends of the dividers 38 and 39, as seen in FIGURES 9 and 10.

The inward flange 61, in addition, forms an inward flange construction which extends into the slits 63 and 64 of the ends of the dividers 38 and 39. The dividers 38 and 39 are securely held against upward or downward movement by this flange and slit construction. This construction permits some sidewise movement of the ends of the dividers 38 and 39, which is useful during the assembly, or disassembly, of the carrying case, as will become apparent.

The lower channel 56, of the extrusion shown in FIGURE 2, may include an upper flange 66 and a lower flange 67, joined by an outer wall 68, these being formed during the extrusion process and being integral with the wall 28. (The entire cross-section of FIGURE 2 is produced during the extrusion process.) The channel 56 receives the upper flange 70, FIGURES 7, 9 and 10, of the floor of the carrying case. This upper flange 70 of the floor extends along a major portion of the entire periphery of the floor, such as along one side and both ends of the slats 34 and 36, and along the ends of the slat 35. The

channel 56, in addition, produces a rigidifying effect upon the sidewall section shown in FIGURE 2. Further, a lower flange 67 is adapted to rest upon an upper flange 59 of empty, and vertically nested similar carrying cases, this nested relationship being shown in dotted lines at the upper part of FIGURE 9. The lower offset 72 of the floor, FIGURES 7, 9 and 10, also extends substantially around the periphery of the floor in a manner similar to the upper flange 70, and aids in preventing any sliding action between vertically nested empty cases, as shown in FIGURE 9.

A double rabbet joint is formed at the intersection of the dividers 38 and 39, FIGURE 3. A downward rabbet 74 is formed in divider 38 and upward rabbet 75 is formed in the divider 39. When these are interconnected, a secure joint is formed at the intersection, which permits slight play at the end of the dividers, which play is useful during the assembly and disassembly of the case, as will become apparent. Notches 76 are formed in the ends of the divider 38 to permit more freedom in the hand holds later to be described.

Hand holds 78 are formed in the long legs 32 at the ends 23 and 24 of the case. These hand holds are formed by cutting slightly tapered openings in the legs 32. The upper edge of the hand holds 78 is formed by a curved flange construction 80, FIGURES 10 and 12. The flange construction 80 has a slot 81 formed therein which receives the end of the divider 38 and locks it against sidewise movement after the carrying case has been completed. The lower edge of the hand hold 78 has another horizontal flange construction 82, FIGURES 10 and 13, which has a slot 83, which likewise receives the end of the divider 38 and holds it against sidewise movement after the carrying case has been completely secured together. The divider 39 also has its ends held against sidewise movement by a pair of slotted constructions 84, FIGURES 1, 3, 9 and 11. Such slotted constructions may be formed by a pair of inwardly struck notches 85 which form a slot 86 between the notches to receive the end of the divider 39 and to hold it against lateral displacement when the carrying case is completely assembled.

Display openings 88 may be cut in sides 26 and 27 of the carrying case. Preferably, these openings are of the same general shape as the hand hold openings 78. They are of sufficient size to display familiar identifying marks on the bottle cartons which are to be placed in the four compartments 90 which are formed by the dividers 38 and 39.

If desired, the sides 92 and 93 of the slats 34 and 36 respectively, FIGURE 3, may be notched or offset, to produce the slots 94, FIGURE 6, between the slats 34, 35 and 36 for drainage purposes. The offsets 95 at the ends of slats 34 and 36 maintain the spacing relationship at the slots 94, as is evident.

While the carrying case has been shown in a form to receive four cartons in each of which a plurality of bottles are placed, the case may be made to receive individual bottles or other articles, as desired.

FIGURE 4 illustrates the simple and efficient sidewise assembly which is possible with the components of this carrying case. The composite side member 27, for example, may have its flange 56, FIGURES 3, 7, 9 and 10, inserted around the top flange 70 of the floor slats 34, 35 and 36, both along the side 28 and also along the short leg 30 and the long leg 32 by sidewise movement ultimately to reach the position shown in FIGURE 4. Thereafter, the side member 26 may have its lower flange 56 moved sidewise into the top flange 70 of the floor so that the corresponding channel 56 received the top flange 70 by a sidewise sliding movement. This sidewise sliding movement may be continued leftward to a position beyond that illustrated in FIGURE 4 until the openings 51, FIGURE 3, in the ends 44 and 45 are aligned to receive the rivets or bolts 50. The rivets or bolts 50 are then

secured in place by a riveting action or by tightening of the nuts.

In the meantime, the dividers 38 and 39 have permitted this sidewise movement to take place because of the slight play which is possible at the intersection of the dividers and at their ends. The divider 39 is placed underneath the divider 38 at the double rabbet joint. The ends of the divider 38 are inserted in the slots 81 and 83, FIGURES 10, 12 and 13, of the flange constructions 80 and 82 by a longitudinal movement of the member 26 before it is moved sidewise to the position shown in FIGURE 4. The ends of the divider 39 are then guided in between the slots of the notches 84, while the slits 63 and 64 at the ends of the dividers are guided into the horizontal flange 61. The final sidewise movement of the side member 26 to the riveting position completely locks all of the components in place, so that the final riveting operation completely assembles the carrying case.

Conversely, the case may be disassembled by drilling out the rivets 50, or by loosening the bolt nut constructions, if used. Thereafter, the case may be disassembled by a converse sidewise movement of the sidewall members 26 and 27.

The floor slats 34, 35 and 36 may be temporarily tacked together on their undersurface, or they may be assembled within a rectangular recess, not shown, on a bench support, which recess receives the lower offset 72 of the floor slats 34, 35 and 36 to hold them in correct assembled position before the composite side members 26 and 27 are applied. Any other method of assembly may be used, if desired.

A construction is thus provided in which the sidewall extrusion may be worked and shaped by simple operations to cooperate with flat, rectangularly cross-sectioned, nonmetallic, slatlike floor and divider members, so that these components may be completely assembled by a simple sidewise movement. This sidewise movement interlocks the components in such a manner that they are securely held by the joining of two securing joints at obliquely opposed corners of the carrying case. The components are relatively inexpensive in their original shape, and are inexpensively worked into their final design. The assembly also is an inexpensive and thorough operation which produces a rugged, attractive, and long lasting carrying case.

While the form or embodiment of the invention now preferred has been disclosed, as required by statute, other embodiments or forms may be used, all coming within the scope of the claims which follow.

What is claimed is:

1. A carrying case for bottles and the like comprising: a pair of identical inwardly facing extruded metal sidewall forming members each having a main member forming a first substantially straight wall of said case and having integrally therewith a short leg at right angles to said main member and forming a portion of a second substantially straight wall of said case, said main member also having a long leg at right angles to said main member and forming a portion of a third substantially straight wall of said case, each sidewall forming member having a floor-receiving channel extending along the main member and short and long leg thereof; a flat, non-metallic floor at the bottom of said case and receivable in said channels; and two non-metallic dividers inside said case at right angles to each other, said sidewall forming members, floor, and dividers being shaped to be substantially completely secured together by two similar securing joints, each joint being produced at an end means of a short leg of one of said sidewall forming members and at an end means of a long leg of the other of said sidewall forming members, said joints being located adjacent and spaced from opposite obliquely disposed corners of said case, said end means of said sidewall forming members permitting said sidewall forming members to be assembled together by effecting relative movement therebetween in the same plane as said floor to insert said floor in said channels and to form said joints, one of said dividers being held within said case against sidewise rocking movement by a slotted flange construction which receives an end of said divider in the slotted portion of said flange, each of said long legs having a hand-hold opening therein one horizontal edge of which is formed by said slotted flange construction.

2. A carrying case for bottles and the like comprising: a pair of identical inwardly facing extruded metal sidewall forming members each having a main member forming a first substantially straight wall of said case and having integrally therewith a short leg at right angles to said main member and forming a portion of a second substantially straight wall of said case, said main member also having a long leg at right angles to said main member and forming a portion of a third substantially straight wall of said case, each sidewall forming member having a floor-receiving channel extending along the main member and short and long legs thereof; a flat, non-metallic floor at the bottom of said case and receivable in said channels; and two non-metallic dividers inside said case at right angles to each other, said sidewall forming members, floor, and dividers being shaped to be substantially completely secured together by two similar securing joints, each joint being produced at an end means of a short leg of said one of said sidewall forming members and at an end means of a long leg of the other of said sidewall forming members, said joints being located adjacent and spaced from opposite obliquely disposed corners of said case, said end means of said sidewall forming members permitting said sidewall forming members to be assembled together by effecting relative movement therebetween in the same plane as said floor to insert said floor in said channels and to form said joints, one of said dividers being held within said case against sidewise rocking movement by a slotted construction which receives an end of said divider in the slotted portion of said construction, said construction being formed by a pair of spaced inwardly struck notches formed in one of the sidewall forming members.

3. A substantially rectangular carrying case for bottles and the like comprising: a pair of identical inwardly facing sidewall forming members each having a main member forming a first substantially straight wall of said case and having integrally therewith a short leg at right angles to said main member and forming a portion of a second substantially straight wall of said case, said main member also having a long leg at right angles to said main member and forming a portion of a third substantially straight wall of said case, each sidewall forming member having a floor-receiving channel along the main member and short and long legs thereof; a flat floor receivable in said channels; and two dividers at right angles to each other, said sidewall forming members, floor and dividers being shaped to be substantially completely secured together by two similar securing joints each being produced by an end means of a short leg of one of said sidewall forming members and an end means of a long leg of the other of said sidewall forming members, said ends overlapping and being directed toward each other, said joints being located adjacent and spaced from opposite obliquely disposed corners of said case, said end wall means of said sidewall forming members permitting said sidewall forming members to be assembled together by effecting relative movement therebetween in the same plane as said floor to insert said floor in said channels and to form said joints, said dividers being interlocked by a double rabbet joint, said overlapping ends being secured together by pin-like members passing through said ends at right angles to said ends, and said dividers being held within said case by an inward flange construction on said sidewall forming members which extends into receiving slits in the ends of said dividers, one of said dividers being held within said case against sidewise rocking movement

by a slotted construction which receives an end of said divider in the slotted portion of said construction, one of said long legs having a hand-hold opening having a horizontal edge which is formed by said slotted construction.

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