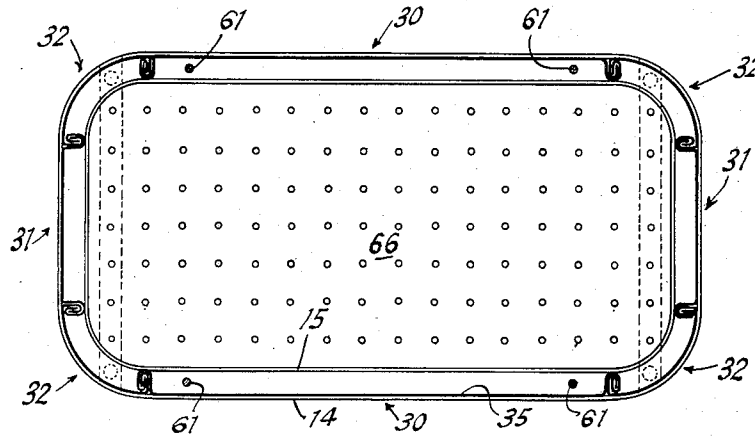
June 10, 1958 S. K. WOLFF 2,838,197

KNOCK-DOWN RECEPTACLES

Filed Aug. 17, 1955 2 Sheets-Sheet 1

FIG. 2



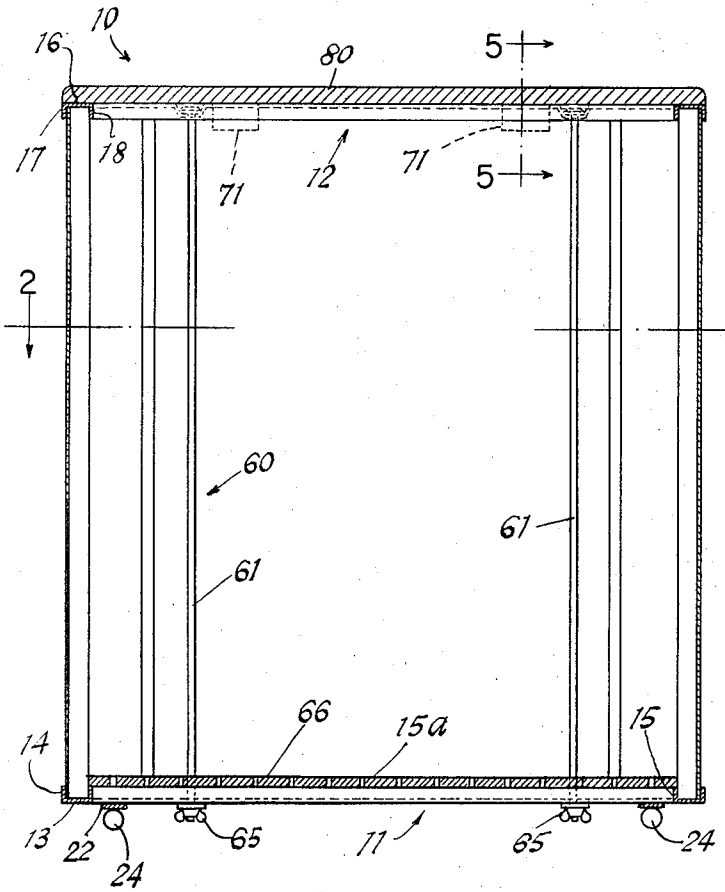


FIG. 1

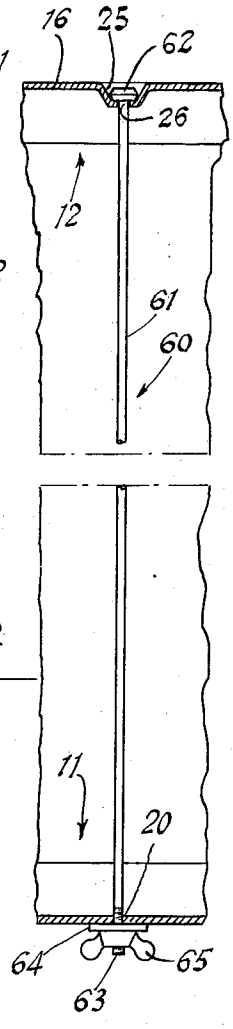


FIG. 4

INVENTOR
SAUL K. WOLFF
BY
ATTORNEY

June 10, 1958 S. K. WOLFF 2,838,197

KNOCK-DOWN RECEPTACLES

Filed Aug. 17, 1955 2 Sheets-Sheet 2

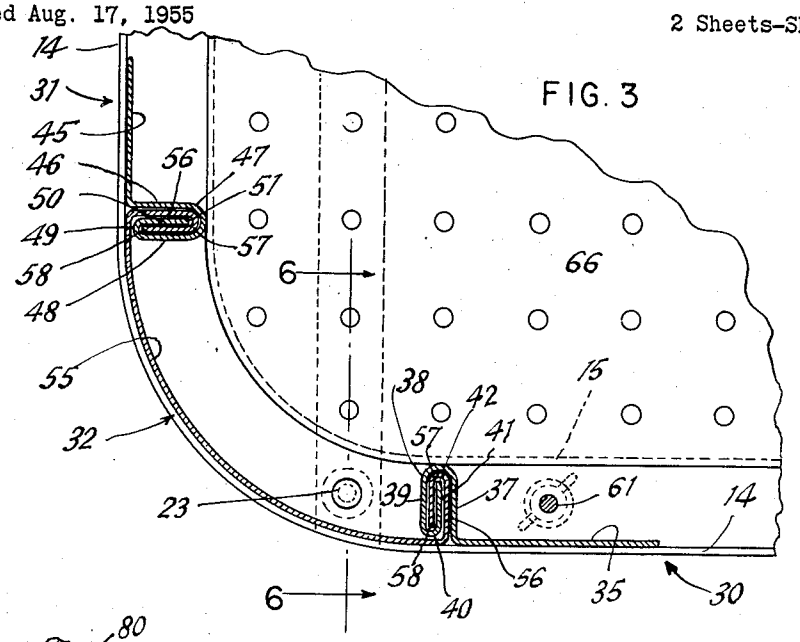


FIG. 3

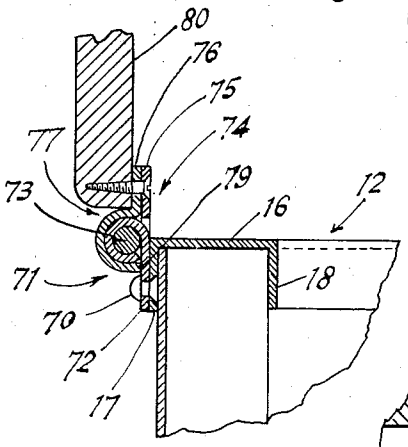


FIG. 5

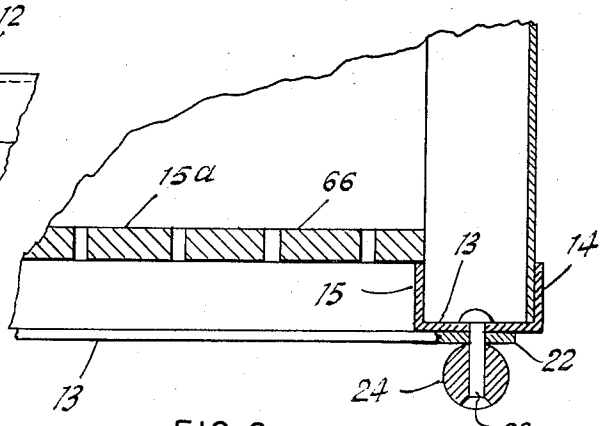


FIG. 6

INVENTOR
SAUL K. WOLFF
BY J. B. Feeley
ATTORNEY

United States Patent Office 2,838,197 Patented June 10, 1958

2,838,197

KNOCK-DOWN RECEPTACLES

Saul K. Wolff, Long Beach, N. Y., assignor to Wolff Appliance Corp., Long Island City, N. Y., a corporation of New York

Application August 17, 1955, Serial No. 528,972

4 Claims. (Cl. 220—4)

This invention relates to knock-down receptacles such as hampers and the like articles.

An object of this invention is to provide a receptacle comprising top and bottom channel-shaped frames opening toward each other, panels having a sliding interlock with respect to one another and having their upper and lower ends received in said channel-shaped frames, and tie members interconnecting said frames for clamping the frames to said panels.

Another object of this invention is to provide a device of the character described in which a bottom member is removably mounted on the upper edge of the inner flange of the bottom channel-shaped frame to form a bottom wall for the receptacle.

Yet a further object of this invention is to provide in a device of the character described, a cover hinged to the rear of the outer flange of the top channel-shaped frame, said hinge being provided with means to limit the upward swinging movement of the cover to a predetermined angle.

Still a further object of this invention is to provide a receptacle of the character described which may be made in various heights, widths and lengths.

Yet a further object of this invention is to provide a receptacle of the character described supported on ball feet attached to cross strips welded to the underside of the web of the bottom channel-shaped frame for supporting the receptacle.

Yet another object of this invention is to provide an improved device of the character described which may be readily set up or taken apart, and which may be shipped in knock-down compact condition, and set up without the necessity for any special tools or skills.

Yet a further object of this invention is to provide a strong, rugged and durable receptacle of the character described which shall be relatively easy to manufacture, easy to manipulate and which shall be practical and efficient to a high degree in use.

Other objects of this invention will in part be obvious, and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements, and arrangement of parts which will be exemplified in the construction hereinafter described, and of which the scope of invention will be indicated in the following claims.

In the drawing, forming a part of this specification and accompanying the same:

Fig. 1 is a longitudinal vertical cross-sectional view of a receptacle embodying the invention and shown, for the purpose of illustration, in the form of a hamper;

Fig. 2 is a cross-sectional view taken on line 2—2 of Fig. 1;

Fig. 3 is a partial enlarged view of one corner of the structure shown in Fig. 2;

Fig. 4 is a cross-sectional view taken on line 4—4 of Fig. 3;

Fig. 5 is an enlarged cross-sectional view taken on line 5—5 of Fig. 1; and

Fig. 6 is an enlarged view of one of the lower corners of the structure shown in Fig. 1.

Referring now in detail to the drawing, 10 designates a receptacle embodying the invention, here shown for the purpose of illustration only in the form of a hamper, it being understood that various other boxes, receptacles and containers may be constructed in accordance with the invention.

The receptacle 10 comprises lower and upper opposed frames 11 and 12 of transverse channel-shaped construction. The bottom frame member 11 comprises a bottom web 13 from which extends upwardly an outer flange 14, and an inner flange 15. The bottom frame is rectangular in shape with curved corners. The top frame 12 is of the same size and shape as the frame 11 and comprises a top web portion 16, an outer downwardly extending flange 17, and an inner downwardly extending flange 18. The web 13 of the bottom frame 11 is formed with four through openings 20 located at the front and rear of the frame and inwardly of the corners thereof. Said webs 13 are interconnected by a pair of parallel transverse strips 22 which may be welded to said web. The strips 22 extend from front to rear and are located adjacent the corners of the frame. Riveted to the ends of the strips by rivets 23 are ball feet 24 on which the hamper is supported.

The web 16 of the top frame 12 is formed with four downwardly depressed walls 25 located at the front and rear of the frame and inwardly of the corners thereof and above the openings 20 in the bottom web 13. Each of the depressed walls 25 is formed with a pair of spaced openings 26 for the purpose hereinafter appearing.

Interposed between the frames 11 and 12 are similar symmetrically disposed front and rear panels 30, similar symmetrically disposed end panels 31 and four similar symmetrically disposed curved corner panels 32. The panels 30, 31 and 32 are all of the same height. Their lower and upper ends are received within the lower and upper channel-shaped frames 11 and 12, respectively. Each of the corner panels 32 has sliding interlocking engagement with the adjacent panels, 30 and 31. The lower ends of the panels 30, 31 and 32 contact the upper surface of the web 13 of the bottom frame 11. The upper edges of side panels 30, 31 and 32 contact the under surface of the web 16 of the top frame member 12.

Each of the panels 30 comprises a flat wall 35 contacting at its lower and upper ends, the inner surfaces of the flanges 14 and 17 of the frame members 11 and 12 at the front and rear of the latter.

Extending from the outer ends of each wall 35 at right angles thereto, toward the webs 15 and 18 are flanges 37. Extending from the flanges 37 are curved bent back portions 38 contacting the inner surfaces of the webs 15 and 18. Extending from the bent back portions 38 are flanges 39 extending outwardly toward the webs 14 and 17. Extending from the flanges 39 are curved bent back portions 30 somewhat spaced from the webs 14 and 17 and of smaller radius than the curved bent back portions 38. Extending from the bent back portions 40 toward the webs 15 are end flanges 41 parallel to the flanges 37 and 39 and disposed substantially midway therebetween.

Flanges 41 have end edges 42 spaced from the bent back portions 38. The end panels 31 are similar to the panels 30 except that they are of less width. They have outer walls 46 contacting the inner surfaces of the outer flanges 14 and 17 of the bottom and top frames 11 and 12. Extending inwardly from the outer ends of each of the walls 45 are flanges 46 which extend inwardly toward the inner flanges 15 and 18 of the frame. Extending from the flanges 46 are rounded bent back portions 47 contacting said flanges 15 and 18. Extending from said bent back portions 47 outwardly toward the outer flanges 14 and 17 are flanges 48. Extending from the flanges

48 are round bent back portions 49 of smaller radius than the bent back portions 47 and somewhat spaced from the webs 14 and 17. Extending from the bent back portions 49 are flanges 50 parallel to and substantially equally spaced from the flanges 46 and 48, and having end edges 51 spaced from the bent back portions 47.

Each of the corner panels 32 comprises a curved wall 55 contacting the curved corner portions of the outer flanges 14 and 17 of the frame members 11, 12. Extending inwardly from the outer end of each of the curved walls 55 are flanges 56. One flange 56 is received between the flanges 37 and 41 of an adjacent panel 30, while the other flange 56 is received between the flanges 46 and 50 of an adjacent panel 31. Extending from the flanges 56 are curved bent back portions 57. One curved bent back portion 57 fits within the curved bent back portion 38 of an adjacent panel 30, while the other curved bent back portion 57 is vested within the curved bent back portion 47 of an adjacent panel 31. Extending from the curved bent back portions 57 are flanges 58. One flange 58 is received between the flanges 39 and 41 of an adjacent panel 30, while the other flange 58 is received between flanges 48 and 50 of an adjacent panel 31.

Thus, the corner panels have sliding interlocking engagement with adjacent panels 30 and 31. Also, these interlocks serve as spacers and reinforcement between the inner and outer flanges of the frame members 11, 12 and also serve to rigidify the hamper.

Frame members 11 and 12 may be clamped against the opposite ends of the panels 30, 31 and 32 by means of a plurality of rods 60. Four such rods are shown for the purpose of illustration. Each tie rod 60 comprises an elongated rod portion 61 provided at its upper end with a head 62 passing through the opening 26 in one of the depressed wall portions 25 of the upper frame 12. The lower threaded ends 63 of the rods 61 pass downwardly through the openings 20. On the lower end of each rod is a washer 64 contacting the underside of the web 13. Screwed to each threaded portion 63 is a wing nut 65. Upon tightening the wing nuts 65 of the tie rods, the bottom and top frames 11 and 13 are drawn together and clamped against opposite ends of the panels 30, 31 and 32.

Mounted on the upper edge 15*a* of the inner flange 15 of the bottom frame member 11 is a perforated board 66 which may be formed of fiber board, wood, metal, or any other suitable material, and serves as a bottom wall for the hamper.

Attached to the outer flange 16 of the top frame 12 at the rear side thereof, as by rivets 70, are a pair of spaced hinge members 71. Each comprises a leaf 72 contacting the flange 17 and a pair of spaced horizontally aligned portions 72 receiving a hinge pin 73. Rotatably mounted on each hinge pin is a hinged member 74 comprising a sleeve portion received on the hinge pin and a leaf 75 extending therefrom. Attached to the outer surface of each leaf 75 is the wall 76 of a stop member 77. Each member 77 comprises a substantially semi-cylindrical portion 78 extending from the wall 76 and having an edge 79 adapted to contact the outer side of leaf 72.

Attached to the leaf 75 and wall 76 is a cover member 80 for the hamper. The cover 80 may be made of wood or any other suitable material. The cover 80 may have a shape to fit over the top of the hamper. As the cover is swung upwardly, edges 19 contact the back of leaves 72 to limit upward swinging movement of the cover to vertical position.

It will now be understood that the hamper may be shipped in knocked-down, compact condition and easily set up or collapsed. To set up the hamper, the panels may be first interlocked by means of the sliding lock connection explained hereinabove. The lower ends of the panels may be inserted into the bottom frame 11.

The bottom board 66 may then be dropped into place to rest on the upper edges of the inner flange of the lower frame 11. The heads 62 of the tie rods 60 may then be engaged through the openings 26. The top frame member 12 may then be fitted over the upper ends of the interlocked panels 30, 31 and 32, and the lower ends of the rods passed through the openings 20. The washers 64 and wing nuts 65 may then be applied and the nuts tightened. The entire hamper may be disassembled by merely removing the wing nuts 65 of the washer. When the parts are disassembled, a compact package may be made, because the panels, the frame and the various other parts may be compactly packaged into a comparatively small box, thereby saving shipping costs. The panels may be of any suitable height and width, depending on the size of receptacle desired. Instead of employing four tie rods only two may be employed if desired, and they may be placed at the ends of the receptacle instead of at the front and rear.

It will thus be seen that there is provided an article in which the several objects of this invention are achieved and which is well adapted to meet the conditions of practical use.

As possible embodiments might be made of the above invention, and as various changes might be made in the embodiment above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawing, is to be interpreted as illustrative and not in a limiting sense.

I claim:

1. A receptacle comprising front, rear, side and corner vertical coextensive panels, each panel comprising a wall and means at the ends of each wall having sliding interlocking engagement with complementary means at the ends of the adjacent walls, a bottom frame having a bottom web and inner and outer upwardly extending flanges, the outer flange contacting the outer surfaces of the lower ends of said walls of said panels, said complementary interlocking means extending transversely between said flanges of the bottom frame and contacting the inner flange of said frame, a top frame similar in shape and symmetrically disposed with respect to the bottom frame and having a top web and downwardly extending flanges, the outer flange of the top frame contacting the outer surfaces of the upper ends of said walls of said panels, and the inner flange of the top frame contacting the inner sides of said complementary interlocking means, a bottom wall mounted on the inner flange of said bottom frame, a cover hinged to the upper frame and means to tie said frames together to clamp them to opposite ends of said panels, said tie means being disposed between said walls of said panels and said inner flanges, and extending through said webs.

2. The combination of claim 1, said tie means comprising tie rods having heads at the upper ends thereof engaging the web of the top frame and threaded end portions extending through openings in the web of the bottom frame, and receiving nuts for tightening the tie rod to draw said frames together.

3. A receptacle comprising top and bottom inwardly facing, channel-shaped, similar symmetrically disposed frames each having inner and outer flanges, and coextensive panels having their upper and lower ends received within said frames, tie means interconnecting said frames, of said panels comprising a wall contacting the inner surfaces of the outer flanges of said frames, a flange extending from said wall transversely toward the inner flanges of said frames, a bent back portion extending from the flange and contacting the inner flanges of said frames, a flange extending transversely from the bent back portion toward the outer flanges of the frames, a bent back portion extending from the outer end of the last flange and spaced from the outer flanges of said frames and a flange extending transversely from the last bent back portion and disposed between the first and second flanges of said panel, an adjacent panel having a wall contacting the

outer flanges of said frames, a flange extending from one end of the wall of the last mentioned panel, and disposed between the first and third flanges of the first panel, a bent back portion extending from the flange of the second panel and nesting within the first bent back portion of the first panel, and a second flange extending from the bent back portion of the second panel and received between the second and third flanges of the first panel, said flanges and bent back portions of the two panels having sliding interlocking engagement, and a bottom wall supported by said bottom frame.

4. The combination of claim 3, said top frame having a plurality of depressions each formed with an opening, the web of the bottom frame having openings aligned with said depressed portion, and said tie means comprising tie rods interlocking said frames, each tie rod having a head at its upper end received in one of said

depressions, and said tie rod passing through an opening in said depression and having a lower end passing through an opening in the web of the bottom frame, and a nut screwed to the lower end of each rod.

References Cited in the file of this patent

UNITED STATES PATENTS

397,301	McKeever et al.	Feb. 5, 1889
1,220,621	Friedel	Mar. 27, 1917
1,731,747	Mayerson	Oct. 15, 1929
2,187,403	Rubin	Jan. 16, 1940
2,591,104	Stone	Apr. 1, 1952

FOREIGN PATENTS

123,192	Australia	Dec. 19, 1946
653,689	Great Britain	May 23, 1951
655,099	Great Britain	July 11, 1951