April 13, 1954 W. G. ANDERSON, JR 2,675,156

BOTTOM STRUCTURE FOR REINFORCED CARRIER RECEPTACLES

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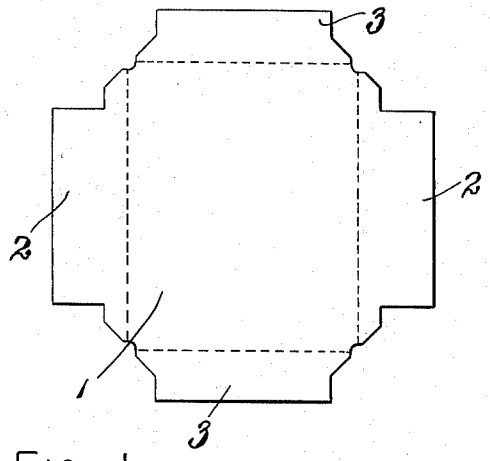


FIG. 1.

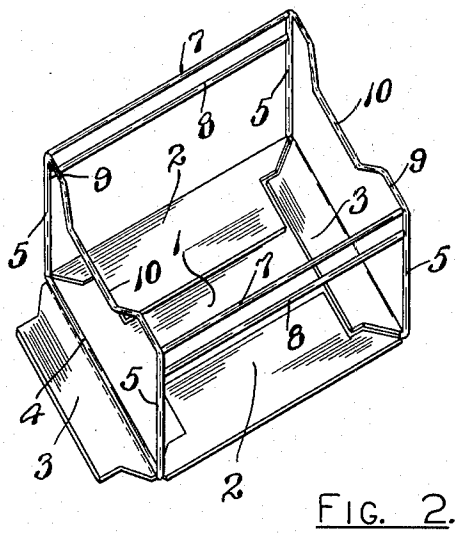


FIG. 2.

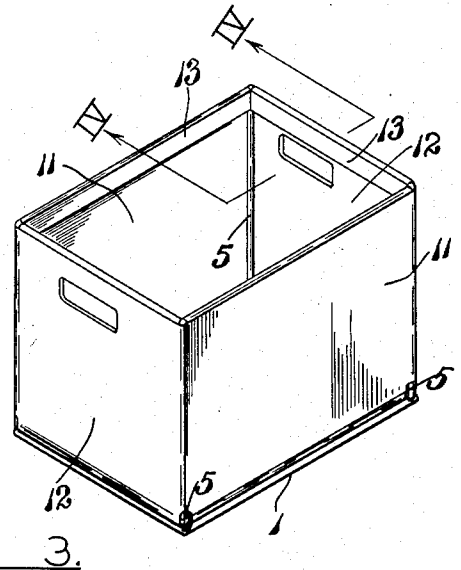


FIG. 3.

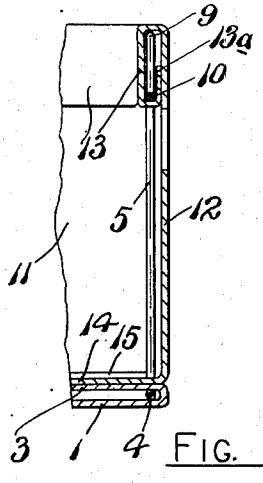


FIG. 4.

INVENTOR.
WILBUR G. ANDERSON JR
BY
Frank E. Liverance, Jr.
ATTORNEY

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BOTTOM STRUCTURE FOR REINFORCED CARRIER RECEPTACLES

Wilbur G. Anderson, Jr., Grand Rapids, Mich., assignor to American Box Board Company, Grand Rapids, Mich., a corporation of Michigan

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3 Claims. (Cl. 229—23)

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This invention relates to a replaceable bottom structure for receptacles or carriers which are of the type adapted to be used for handling bottled goods, as soft drinks or the like. Such carriers are loaded in the bottling works, generally by being placed on conveyors and moved with said conveyors to places where the bottles containing their contents are located. When the carriers are filled with the bottles they are taken from the conveyor, put upon a truck and transported to their retail destinations. The carriers or receptacles have the contents removed, either immediately or in the course of time and, when empty, are re-transported to the bottling works for reloading.

In the handling of such carrier receptacles the bottom is subjected to hard service, both in placing upon and removing from the conveyors and placing in and removing from the trucks, with considerable frictional wear upon said bottoms so that they wear out much sooner than the rest of the receptacles. It is an object and purpose of the present invention to provide a detachable and replaceable bottom which, when it is in place, serves its purposes and functions, being held securely in connection with the receptacle but which when it has become overly worn and needs replacement, can be thrown away and have a new one secured in its place.

Such removable and replaceable bottom is particularly used in connection with a special form of structure of the carrier which is of a reinforced design, the bottom and the walls of the receptacle being of paperboard stock, for lightness in weight and economy of manufacture, and which is metal reinforced for strength and durability. Therefore, the provision of a sturdy, detachable bottom for the body of the receptacle is desirable and is detachable because it will be worn out and useless before the remainder of the carrier.

My invention accomplishes the desired results and effects in a particularly useful manner, the structure embodying the invention being readily produced in large quantity production at low cost.

An understanding of the invention may be had from the following description, taken in connection with the accompanying drawing, in which,

Fig. 1 is a plan view of the blank of paperboard material from which the replaceable bottom is made.

Fig. 2 shows the reinforcing member or frame of the receptacle to which the bottom is detachably secured, with one of the bottoms made

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from the blank shown in Fig. 1 partially attached thereto.

Fig. 3 is a perspective view showing the completed receptacle with the detachable bottom thereon, and

Fig. 4 is a fragmentary, somewhat enlarged vertical section, substantially on the plane of line IV—IV of Fig. 3, said section being through one end of the receptacle substantially midway between the sides thereof.

Like reference characters refer to like parts in the different figures of the drawing.

The bottom member which is to complete the receptacle is made from a single sheet of material, preferably rather heavy gauge paperboard which, at each side, has an outwardly extending flap 2 and at each end an outwardly extending flap 3. These flaps are turned upwardly and inwardly toward each other from opposite sides and ends of a rectangular section 1. defined by bending lines shown as dash lines in Fig. 1 so that when turned upwardly and toward each other all flaps lie in the same plane against the upper side of the rectangular section 1.

Such bottom is adapted to be secured to the reinforcing frame structure of the receptacle to which it is to be attached. The reinforcing frame structure has two open end frames spaced from each other and located vertically, each having a bottom horizontal rod 4 and vertical sections 5 extending upwardly from each end thereof. Such frames are permanently secured together by two upper parallel rods 7 and 8 which are preferably welded at their ends to the upper corner portions of the frames, the rods 7 and 8 being spaced a short distance from each other. The end frames are completed at their upper side by cross rod sections 9, the intermediate portions of which are offset downwardly as indicated at 10. The offset portions 10 may be substantially in the same horizontal plane with the lower rods 8.

Used with this frame is an enclosure providing the vertical walls of the receptacle, having two spaced, parallel vertical sides 11 and two spaced parallel vertical ends 12 which may be made from a single sheet of material connected at adjacent vertical end edges of the sides 11 and 12. It may be slid downwardly over the reinforcing frame structure. From the upper edges of each of the sides 11 and 12 extension flaps 13 are integrally secured which are adapted to be folded downwardly and inwardly over the upper rods 7 and 9 and thence folded back outwardly and upwardly, terminating in lips 13a which pass under-

neath the lower rods 8 and the depressed portions 10 of the upper rods 9 (Fig. 4). Also at the lower edges of the ends 12 are flaps 14 and at the sides 11 other flaps 15, which are turned inwardly toward each other, the latter flaps above the former as in Fig. 4, with the flaps 14 above the lower rod sections 4 of the end frames. The receptacle structure in itself is the subject matter of a copending application filed of even date herewith.

The bottom is located with its rectangular section underneath the flaps 14 and 15. The area of the bottom section 1 is substantially equal to the horizontal cross sectional area of the receptacle. The side flaps 2 are turned inwardly to extend toward each other (Fig. 2), and the end flaps 3 are likewise turned inwardly extending toward each other, and wrapping around the lower rod sections 4 and thence over and above them as shown in Fig. 4.

This completes a receptacle, particularly adapted for carrying the relatively heavy loads of bottled goods which they are designed to handle. The bottom is replaceable when it becomes worn or damaged because of heavy and wearing service to which subjected, the remainder of the receptacle consisting of the reinforcing framework and vertical walls thereof still being in good condition. Thus after a box has been assembled and in use, whenever a bottom member becomes too worn or damaged it may, at the bottling works, be replaced by a new one so that the useful life of the receptacle is extended beyond what it would have if the entire receptacle had to be discarded when the bottom was thrown away.

The invention produces a light, strong and very practical and serviceable carrier receptacle, particularly for handling and transporting bottled goods though, of course, it is not restricted in any way to one form of contents in use. Such receptacles have in the main previously been made of wood with resultant heavy, clumsy structure subject to the warpings and checkings of wood material. Such wood receptacles also are more costly than the receptacles of my inventions, one of which in this application is concerned with the removable and replaceable bottom which, at low cost multiplies the length of life of use of the carrier receptacle.

The invention is defined in the appended claims and it is to be considered comprehensive of all forms of structure coming within their scope.

1. In a receptacle having vertical sides and ends, and a transverse horizontal metal member at and below the lower edge of each end secured

to said receptacle, the improvement comprising, a detachable and replaceable bottom having a generally rectangular section of an area substantially equal to the horizontal cross sectional area of said receptacle, a side flap secured to said section at each side edge thereof, said side flaps extending toward each other above said section, and an end flap secured to each end of said section, said section at its end portions lying below said metal members, and said end flaps extending toward each other over said section and said metal members.

2. A receptacle having edge connected vertical sides and ends, an open rectangular frame secured at the inner side of each end of said receptacle, each having a horizontal bottom member below the lower edge of the adjacent end of said receptacle, the side connected flaps extending horizontally toward each other and the end connected flaps extending toward each other underneath said side connected flaps above the frame bottom members, and a detachable and replaceable bottom comprising a rectangular section having an area substantially equal to the cross sectional area of said receptacle, and a flap secured to each end and side thereof, said section being adapted to lie in a plane immediately below the bottom members of said frames and the end flaps thereof extend upwardly and over said bottom members, and thence inwardly toward each other, and said bottom side flaps of said bottom members extending inwardly toward each other.

3. A receptacle having spaced, vertical sides and ends connected together at adjacent vertical edges, bottom flaps connected to said sides and ends at the lower edges thereof extending horizontally inward, metallic cross rods secured to the receptacle lyling below the lower edges of the ends of said receptacle, over which said end flaps are located, and a bottom underneath said flaps and cross rods, having end flaps extending upwardly and thence horizontally inward toward each other over said cross rods and under said first mentioned flaps.

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