

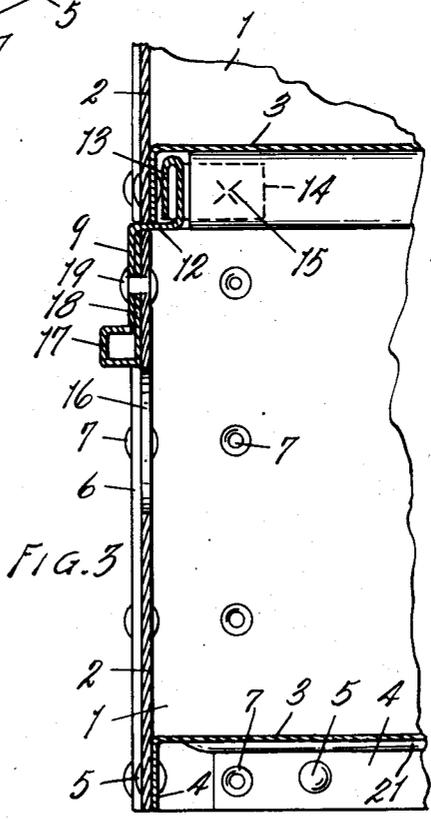
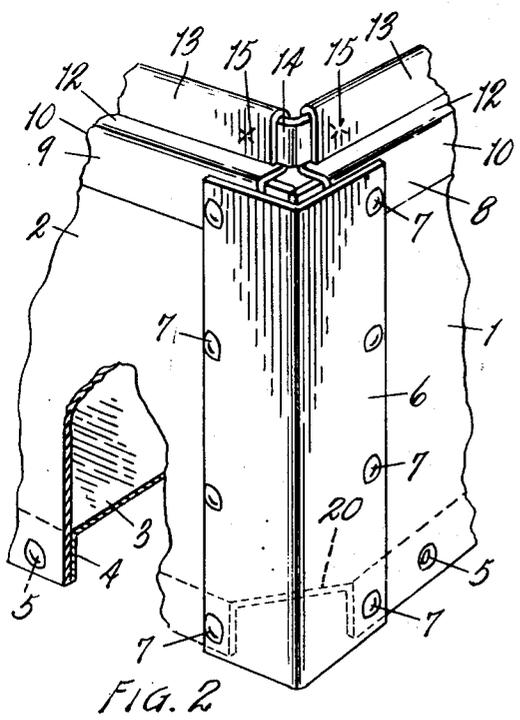
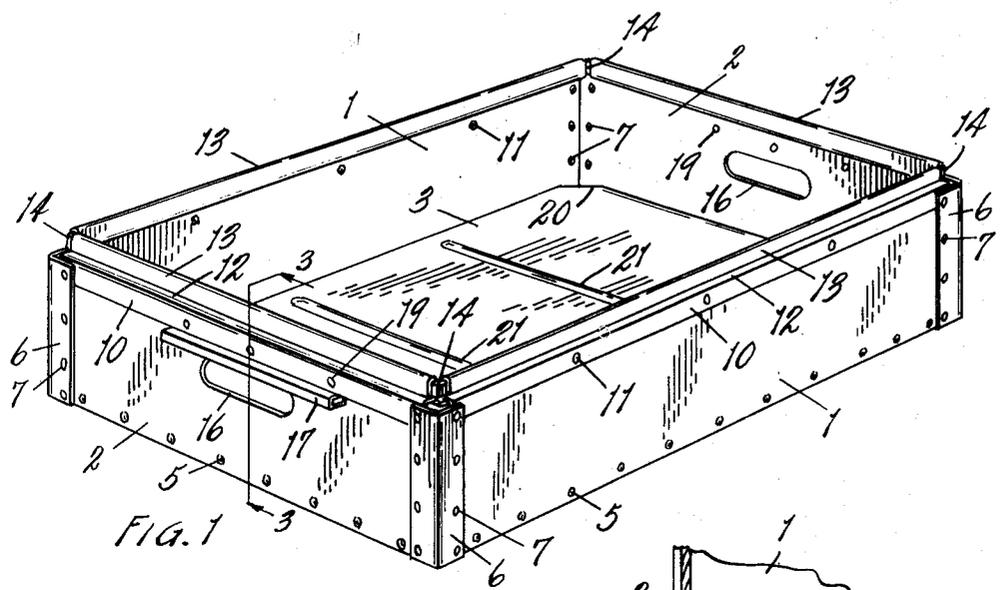
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STRAIGHT SIDED STACKING TOTE OR PACKING BOX

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## STRAIGHT SIDED STACKING TOTE OR PACKING BOX

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5 Claims. (Cl. 220-4)

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This invention relates to improvements in straight sided stacking tote or packing boxes.

The main objects of this invention are:

First, to provide a straight sided tote or packing box which is light in weight and at the same time is capable of carrying heavy loads and withstanding severe usage.

Second, to provide a stacking box having these advantages which provides a reenforcing upper edge or rounded rim formed of sheet metal which is not likely to injure an operator or abrade or tear objects which may be contacted therewith or slid over the same.

Third, to provide a structure having these advantages which may be economically produced and easily kept in a sanitary condition even though repeatedly used.

Objects relating to details and economies of the invention will appear from the description to follow. The invention is defined and pointed out in the claims.

A preferred embodiment of the invention is illustrated in the accompanying drawing, in which:

Fig. 1 is a perspective view of a straight sided tote or packing box embodying my invention.

Fig. 2 is an enlarged fragmentary perspective view, parts being broken away and in section to show structural details.

Fig. 3 is a fragmentary vertical section illustrating fragments of a pair of the boxes in stacked relation.

The box of my invention is desirable for many uses. It is particularly desirable for handling baked goods and other merchandise which commonly necessitates the use of a plurality of boxes.

The embodiment of my invention illustrated comprises side walls 1 and end walls 2 preferably formed of fiber board. The bottom 3 is formed of sheet metal and has downwardly projecting flanges 4 at its edges fitting within and secured to the inner sides of the side and end walls as by means of the rivets 5. The lower edges of the bottom flanges are preferably flush with the lower edges of the walls and constitute reenforcing members for the side walls, the bottom and its flanges preventing buckling of the lower portions of the walls either inwardly or outwardly.

The adjacent ends of the side and end walls are secured together by the angled corner pieces 6 fitting thereover and secured thereto as by the rivets 7. These corner pieces are desirably of fiber board, although they may be of metal if desired. In addition to securing the adjacent ends of the wall together, they serve as wear members for the corners and conceal the wall joints. The walls are provided with side and end rim members 8 and 9 formed of sheet metal conformed to angle section and disposed with the angles facing inwardly and downwardly. The vertical legs 10 of these members are lapped upon the outer sides

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of the side and end walls and secured thereto as by rivets 11. The horizontal legs 12 of the rim members extend inwardly over the upper edges of the walls and terminate in reversely bent flanges 13. These flanges are connected by the angled corner irons 14 inserted within the folds and secured thereto desirably by spot welding as indicated at 15.

The corner pieces 6 are secured to the rim members by rivets 7 passing therethrough and through the walls, and they are also secured to the downturned bottom flanges by rivets 7 so that the corner pieces 6 constitute tie members for the bottom and the rim.

The rim members provide upwardly facing shoulders 12 constituting supports for a superimposed box as shown in Fig. 3 with the upwardly projecting rim flanges within the recessed bottom. This maintains the boxes in stacked relation. The load of the superimposed boxes is effectively supported by the lower box, the parts of the box being arranged so that, even when formed of light material, they are capable of withstanding heavy superimposed loads.

The end walls in the embodiment illustrated are provided with hand openings 16 and with grip members 17 desirably formed of sheet metal folded to provide a tubular grip and an upwardly projecting attaching flange 18 disposed within the vertical legs of the end rim members and secured thereto by rivets 19 passing through the end walls. The grip members extend substantially beyond the hand openings and constitute reenforcing members for the end walls. The grips abut the lower edges of the rim members so that the load is effectively distributed.

The corners of the bottom are desirably beveled or cut away as at 20 to provide ventilation and drain openings, as it is desirable to wash the boxes and, also ventilation is desirable for some merchandise. The bottoms are reenforced by transverse ribs 21.

I have illustrated and described my invention in a highly practical embodiment thereof. I have not attempted to illustrate or describe other adaptations or embodiments which I contemplate, as I believe this disclosure will enable those skilled in the art to embody or adapt my invention as may be desired. Further, it will be understood that I have used the term, "side" and "end" wall, in the specification and claims for convenience in description. While the box illustrated is elongated, my invention is equally well adapted to square boxes and boxes of other shapes and relative dimensions.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A straight sided stacking box comprising fiber board side and end walls, a sheet metal bot-

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tom disposed within said walls in inset relation to their lower edges and having downturned side and end flanges riveted to and constituting reinforcing elements for the said side and end walls, the lower edges of said flanges being substantially flush with the bottom edges of the side walls, angled corner joint pieces embracing the adjacent ends of the side and end walls and riveted thereto, side and end rim members of sheet metal bent to angled section and disposed in inwardly facing relation to the walls and with their vertical legs riveted upon the outer sides of the side and end walls, their horizontal inwardly projecting legs constituting supporting shoulders for a superimposed crate and terminating at their inner edges in inset upwardly projecting return bent flanges engageable within the walls of a superimposed box below the bottom thereof, corner irons engaged between the vertical folds of said inset rim flanges and welded thereto, said corner joint pieces being riveted to said rim members and to said bottom flanges and constituting vertical tie members therefor.

2. A straight sided stacking box comprising fiber board side and end walls, a sheet metal bottom disposed within said walls in inset relation to their lower edges and having downturned side and end flanges riveted to and constituting reinforcing elements for the said side and end walls, the lower edges of said flanges being substantially flush with the bottom edges of side walls, angled corner joint pieces embracing the adjacent ends of the side and end walls and riveted thereto, sheet metal side and end rim members of angled section disposed in inwardly facing relation to the walls and with their vertical legs riveted upon the outer sides of the side and end walls, their horizontal inwardly projecting legs constituting supporting shoulders for a superimposed crate and terminating at their inner edges in inset upwardly projecting flanges engageable within the walls of a superimposed box below the bottom thereof, corner irons connecting the adjacent ends of said rim flanges, said corner joint pieces being riveted to said rim members and to said bottom flanges and constituting vertical tie members therefor.

3. A straight sided stacking box comprising fiber board side and end walls, a sheet metal bottom disposed within said walls in inset relation to their lower edges and having downturned side and end flanges riveted to and constituting reinforcing elements for the said side and end walls, the lower edges of said flanges being substantially flush with the bottom edges of the side walls, angled corner joint pieces embracing the adjacent ends of the side and end walls and riveted thereto, sheet metal side and end rim members of angled section disposed in inwardly facing relation to the walls and with their vertical legs riveted upon the outer sides of the side and end walls, their horizontal inwardly projecting legs constituting supporting shoulders for a superimposed crate and terminating at their inner edges in inset upwardly projecting flanges engageable within the walls of a superimposed box below the bottom thereof, corner irons connecting the adjacent ends of said rim flanges, said corner joint pieces being riveted to said rim members and to said bottom flanges and constituting vertical tie members therefor, said end walls having hand openings therein, and hand

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grip members having their lower edges substantially flush with the upper edges of the hand openings and provided with upwardly projecting attaching flanges disposed on the inner sides of the end rim members and secured thereto, the ends of said grip members extending substantially beyond the ends of said hand openings and constituting wall reinforcing members.

4. A straight sided stacking box comprising fiber board side and end walls, a sheet metal bottom disposed within said walls in inset relation to their lower edges and having downturned side and end flanges riveted to and constituting reinforcing elements for the said side and end walls, the lower edges of said flanges being substantially flush with the bottom edges of the side walls, the corners of the bottom being beveled to provide ventilating and drain openings, said bottom having transverse reinforcing ribs, angled corner joint pieces embracing the adjacent ends of the side and end walls and riveted thereto, sheet metal side and end rim members of angled section disposed in inwardly facing relation to the walls and with their vertical legs riveted upon the outer sides of the side and end walls, their horizontal inwardly projecting legs constituting supporting shoulders for a superimposed crate and terminating at their inner edges in inset upwardly projecting flanges engageable within the walls of a superimposed box below the bottom thereof, corner irons connecting the adjacent ends of said rim flanges, said corner joint pieces being riveted to said rim members and to said bottom flanges and constituting vertical tie members therefor.

5. A stacking box comprising side and end walls of fiber board, a bottom disposed within the walls in spaced relation to their lower edges to provide a recessed bottom and having downturned side and end flanges secured to corresponding walls and constituting reinforcing members therefor, angled side and end rim members disposed to face inwardly and downwardly with their vertical legs on the outer sides of the walls and fixedly secured thereto, the horizontal legs of the rim members overhanging the walls and constituting seats for the bottom edge of a superimposed box, the horizontal legs terminating in upwardly projecting retaining flanges projecting into the recessed bottom of a superimposed box, corner irons connecting the adjacent edges of said rim flanges and angled corner pieces lapping the ends of adjacent side and end walls and fixedly secured thereto and to said rim members and to said flanges on said bottom.

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## REFERENCES CITED

The following references are of record in the file of this patent:

## UNITED STATES PATENTS

Number	Name	Date
895,209	Smith	Aug. 4, 1908
1,010,269	Klocke	Nov. 29, 1911
1,137,759	Johnson	May 4, 1915
1,283,351	Stone	Oct. 29, 1918
1,420,992	Erickson	June 27, 1922
1,919,428	Foreman	July 25, 1933
2,017,264	Taylor	Oct. 15, 1935
2,513,709	Blackwell	July 4, 1950