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L. J. ROSS
CARRYING TRAY

2,828,059

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FIG. 1.

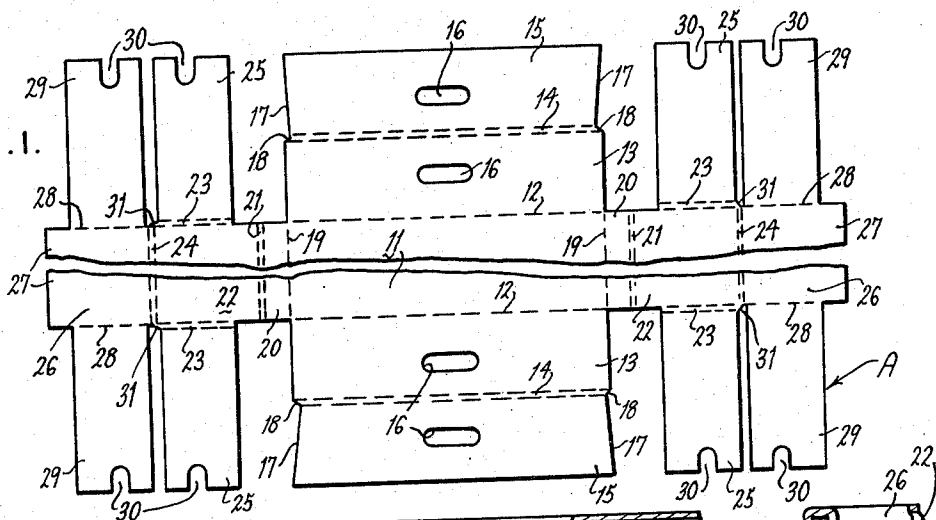


FIG. 3.

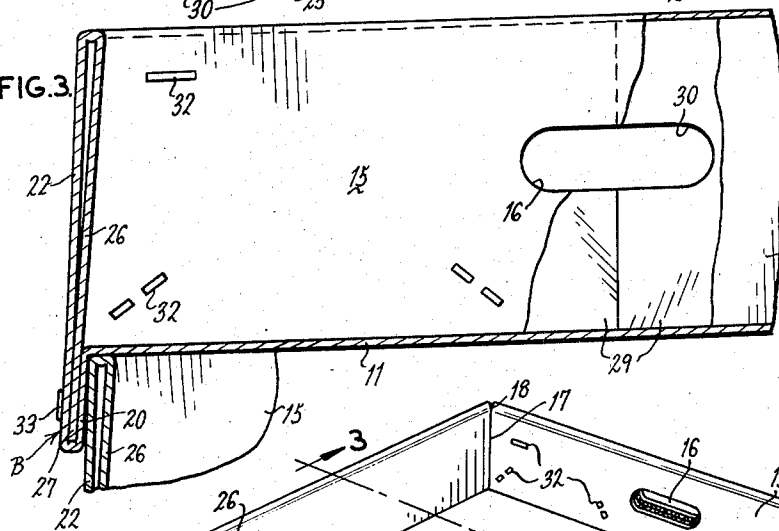


FIG. 4.

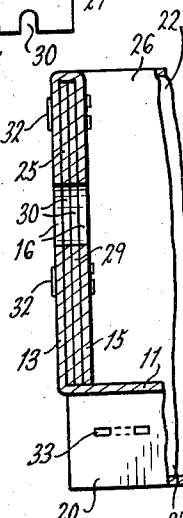


FIG. 2.

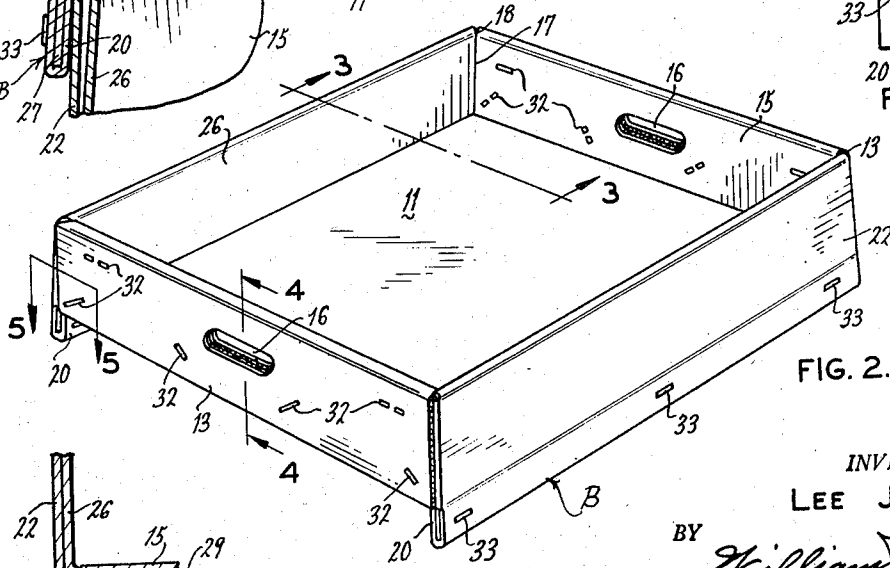
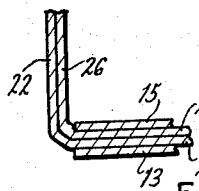


FIG. 5.



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2,828,059

CARRYING TRAY

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3 Claims. (Cl. 229—34)

This invention appertains, in general, to containers and more particularly to a carrying tray having integral stacking flanges which extend below the level of the bottom of the container.

In the shipment of many commodities, such as fruit, vegetables, bakery goods, or other perishables it is desirable to provide means for readily stacking the container trays carrying these commodities one upon the other. It is desirable that each container be at least frictionally engaged by the adjacent container so as to prevent wobbling and vibration. It is also important to provide, in containers of the type described, trays which may be used singly if desired.

One of the most common usages of stackable trays and containers is in delivery wagons for bakery goods and the like. Trays containing bakery goods are placed one upon the other in the delivery wagons. It is desirable to be able to remove any single tray or any combination of trays without disturbing or injuring the contents of the adjacent containers. It is, therefore, one of the objects of this invention to provide a container which has downwardly disposed flange means which will frictionally engage the container beneath so as to prevent vibration or wobbling when one or more containers are stacked one upon the other.

Another object of this invention is to provide a container having a downwardly disposed, reinforcing flange which is of three-ply thickness and adaptable to support the entire loaded tray.

A further object of this invention is to provide a container and a pair of downwardly disposed reinforcing flanges which are in substantially coplanar relationship with the adjacent side walls, the side walls being inclined downwardly and outwardly.

A still further object is to provide a container having a pair of downwardly depending stacking flanges adapted to frictionally engage the upper, outer margins of the side walls of the container upon which it is placed.

Another object is to provide a vertically stackable receptacle which may be readily disengaged from the stack by sliding it from the adjacent receptacles.

Still another object of this invention is to provide a stackable tray having a reinforcing stacking flange which will permit containers of the same type to be stacked one upon the other so that the weight of the contents will be supported independently of the contents of the subjacent container.

Another object is to provide a stacking flange for a container which will also provide an efficient means for reinforcing the side walls of the container.

These and other objects of the invention will be apparent to those skilled in the art upon a full and complete understanding of the detailed description which follows:

In the drawings accompanying this specification like numerals and like symbols refer to like parts wherever they occur.

Fig. 1 is a top fragmentary plan view of a blank embodying a preferred form of this invention;

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Fig. 2 is a perspective view of a container erected from the blank illustrated in Fig. 1;

Fig. 2 is a view taken along section 2—3 of Fig. 2, illustrating a container employing this invention stacked in position against another subjacent container;

Fig. 4 is a view taken along section 4—4 of Fig. 2;

Fig. 5 is a view taken along section 5—5 of Fig. 2.

The blank A, illustrated in Fig. 1, comprises a bottom panel 11 defined by parallel side scores 12. Opposing end panels 13, which are defined in part by the side scores 12, are provided with parallel, intermediate scores 14. End panel top flaps 15 are foldably connected to the end panels 13 along the intermediate scores 14. The end panels 13 and the end panel top flaps 15 are each provided with handholes 16 which are positioned so that they will be in registering relation as the panel 13 and flap 15 are folded in flatwise relationship with each other. The end edges 17 of the end panel top flaps 15 are preferably tapered inwardly toward the intermediate scores 14 as illustrated. Similarly, the end edge portion 18 adjacent the panel intermediate scores 14 is tapered sharply outwardly. The reason for providing the tapered portions 17 and 18 will be fully set forth later in the description of the device. Parallel, opposed end scores 19 define the end margins of the bottom panel 11 and the margin of the adjacent flange member 20. A pair of parallel bottom scores 21 define the bottom edges of the flange member or reversely inwardly folded portion 20 and the adjacent body side wall 22. Parallel side wall end scores 23 and side wall top scores 24 define the end and top margins respectively of the side walls 22. Each side wall 22 is provided with outer end extensions 25 which are foldably connected thereto along the end scores 23. A side wall top member 26 is foldably connected to the side wall 22 along the top scores 24 as illustrated. It will be noted that each side wall top member 26 is provided with a bottom projection 27 which is adapted to extend below the bottom panel 11 when the container is erected. Auxiliary scores 28, which define the end edges of the side wall top flap 26, also define the inner edges of the opposed inner end extensions 29 similar in size and shape to the previously described outer end flaps 25. The end extensions 25 and 29 are provided with a half-handhole cut-out 30 in their free end margins. Each cut-out 30 is positioned so as to be in substantially registering relation with the handholes 16 as the tray is erected. It will be also noted that the side edges 31 adjacent the ends of the side wall top scores 24 are tapered sharply inwardly in a manner similar to the end edge portions 18 previously described.

The container blank A may be erected in any desired manner, however, a preferred means of manual erection is to infold the side wall top flaps 26 and their attached end extensions 29 inwardly about the side wall top scores 24 into substantially flatwise, contacting relationship with the adjacent side walls 22. In this position, the free side edge of the bottom projections 27, are adjacent to the bottom scores 21. Next, the flange members 20 are folded downwardly about the end scores 19 until they are in substantially right angular relationship with the bottom panel 11. The previously positioned top flaps 26 and the side walls 22 are then folded upwardly about the bottom scores 21 into flatwise contacting relation with the previously positioned flange member 20. The side walls of the container are now in erected position.

The outer end extensions 25 and the inner end flaps 29 are then folded simultaneously inwardly about the side wall end scores 23 and the auxiliary scores 28 respectively, until they are in substantially right angular relationship to the erected side wall 22. It will be noted that the half-handhole cut-outs 30 are in registering relationship with each other. The end panels 13 are then folded up-

wardly about the side scores 12 into flatwise contacting relationship with the exposed outer face of the positioned outer end extensions 25. Finally, the end panel top flaps 15 are folded inwardly and downwardly about the intermediate scores 14 into flatwise contacting relation with the exposed inner face of the adjacent inner end extensions 29. The end walls are then secured into position by means of stitches, staples or any other desired securing means 32. In the container described, it is customary to extend the securing means entirely through the end panels 13, the outer end extensions 25, the inner end extensions 29 and the end panel top flaps 15. If desired, the side wall 22, the bottom projection 27 and the flange member 20, which comprise the integral bottom flange structure B, may be secured together by stitches 33 or any other desired securing means.

The container or tray is now ready for use. It may be used individually as illustrated in Fig. 2, that is, it may be rested on a flat plane surface. It is often desirable to elevate the contents a substantial distance above the supporting surface. The sturdy bottom flanges or downwardly and outwardly inclined flange structure B provide suitable support and elevation to maintain the bottom of the container a substantial distance above the supporting surface. If desired, containers employing this invention may be stacked one upon the other as illustrated in Fig. 3. It is merely necessary to place a second container over a lower, previously positioned container. The parallel spaced bottom flanges B will snugly engage the outer face of the adjacent side wall panel 22 thereby preventing accidental slippage and/or wobbling of the containers relative to each other. The upper container may be removed by sliding it in the direction of the parallel bottom flanges B or it simply may be lifted off. It is apparent that any other, lower container may also be removed by sliding it in the direction of the flanges B.

The tapering end edges 17 of the end panel top flaps fit rather tightly against adjacent end margins of the top wall side flaps 15. The side walls 22 and the side wall top members 26 are inclined outwardly and downwardly as illustrated. The side walls, and bottom flanges or downwardly and outwardly inclined flange structure B, are inclined so that the inner ply flange member 20 or reversely inwardly folded portion which is integral with the bottom structure 11 is substantially vertically beneath the outer, upper margin of the adjacent side wall 22. With the tapering or inclined side wall structure, it is possible to provide a container having a bottom portion which is relatively wider than the top portion, wherein the side wall panels 22 have integral bottom flange portions B which will firmly engage the subjacent container when they are stacked one upon the other even after repeated use. The tapered end edges 17 assist in maintaining and rigidifying the side wall structure in the proper, outwardly inclined orientation. If desired, the tray structure described may be provided with a flat cover panel. Such a closure member will not in any way affect the use of the trays of the container in stacked relation.

The entire weight of the contents of each tray as well as the weight of the containers above is transmitted through the outwardly inclined side walls completely independently of the contents. This is a very desirable feature since often relatively fragile materials, such as bakery goods, fresh fruits and the like are transported in these containers.

It is to be understood that the foregoing detailed description is given merely by way of illustration and many variations may be made without departing from the spirit and scope of the invention.

What I claim is:

1. A container comprising connected together opposed pairs of walls and a bottom structure, each wall consisting of folded overlapping inner and outer panels, the panels of only one pair of opposed walls with their upper edges

defined by the fold are inclined downwardly and outwardly and with similar lower marginal portions of said one pair only of opposed walls forming a depending flange structure, the inclination of the flange structure being substantially coplanar with the inclination of the said one pair of opposed walls and extending beyond the outer face of the bottom structure, a downwardly and outwardly inclined flange integral with the bottom and with the lower end portion of the outer wall panel and substantially coextensive in length with the length of the flange forming marginal portions of the outer panel and providing a space therebetween, a lower free end portion of the inner panel disposed and held in said space and in contacting engagement with adjacent portions of the inner surface of the bottom flange and the inner surface of the marginal portion of the outer panel, the distance between the inner surface of the inclined flanges being substantially the distance between upper marginal outer surface portions of the opposed outer panels, the inclination of the flanges is substantially the inclination of the said upper marginal outer surface portions of the outer panels thereby enabling the flanges to overlap and contact the upper marginal outer surface portions of the outer panels with the said folded upper edges contacting an outer surface of the bottom adjacent the juncture thereof with the flange of a similarly formed container, whereby one container is disengageable from an adjacent similar container by a lateral sliding movement.

2. A container comprising connected together pairs of opposed walls and a bottom structure, one pair only of opposed walls being downwardly and outwardly inclined and having upper edges and with similar lower marginal portions of said one pair only of opposed walls forming an integral depending flange structure, the lower ends of the other pair of walls being substantially in the plane of the bottom structure, the inclination of the flange structure being substantially coplanar with the inclination of the said one pair of opposed walls and depending beyond the outer face of the bottom structure, said downwardly and outwardly inclined flange structure having a reversely inwardly folded portion integral with the bottom structure, said depending flange structure being substantially coextensive in length with the length of said reversely inwardly folded portion, the distance between the inner surface of the reversely inwardly bent portions adjacent the bottom structure being substantially the distance between the outer surface of the upper edges of said one pair of opposed walls, wherein the upper edges of a similar container may be positioned between the reversely inwardly bent portions in stacked relation, and whereby when two or more containers are positioned in stacked relation one container is disengageable from a subjacent similar container by a lateral sliding movement.

3. A container comprising connected together pairs of opposed walls and a bottom structure, one pair only of opposed walls being downwardly and outwardly inclined and having upper edges and with similar lower marginal portions of said one pair only of opposed walls forming an integral depending flange structure, the lower ends of the other pair of walls being substantially in the plane of the bottom structure, the inclination of the flange structure being substantially coplanar with the inclination of the said one pair of opposed walls and depending beyond the outer face of the bottom structure, said downwardly and outwardly inclined flange structure having a reversely inwardly bent portion integral with the bottom structure, said depending flange structure being substantially coextensive in length with the length of said reversely inwardly bent portion, said one pair of opposed walls each having an infolded flap integral with its said upper edge and each flap having a similar lower free marginal end portion, the said marginal end portions positioned and held between each depended flange structure and the said reversely inwardly bent

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portion, the distance between the inner surface of the reversely inwardly bent portions adjacent the bottom structure being substantially the distance between the outer surface of the upper edges of said one pair of opposed walls, wherein the upper edges of a similar container may be positioned between the reversely inwardly bent portions in stacked relation, and whereby when two or more containers are positioned in stacked relation one container is disengageable from a subjacent similar container by a lateral sliding movement.

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