May 7, 1957 I. COHEN 2,791,365

NESTABLE AND STACKABLE FIBERBOARD CONTAINER

Filed Dec. 4, 1953 4 Sheets-Sheet 1

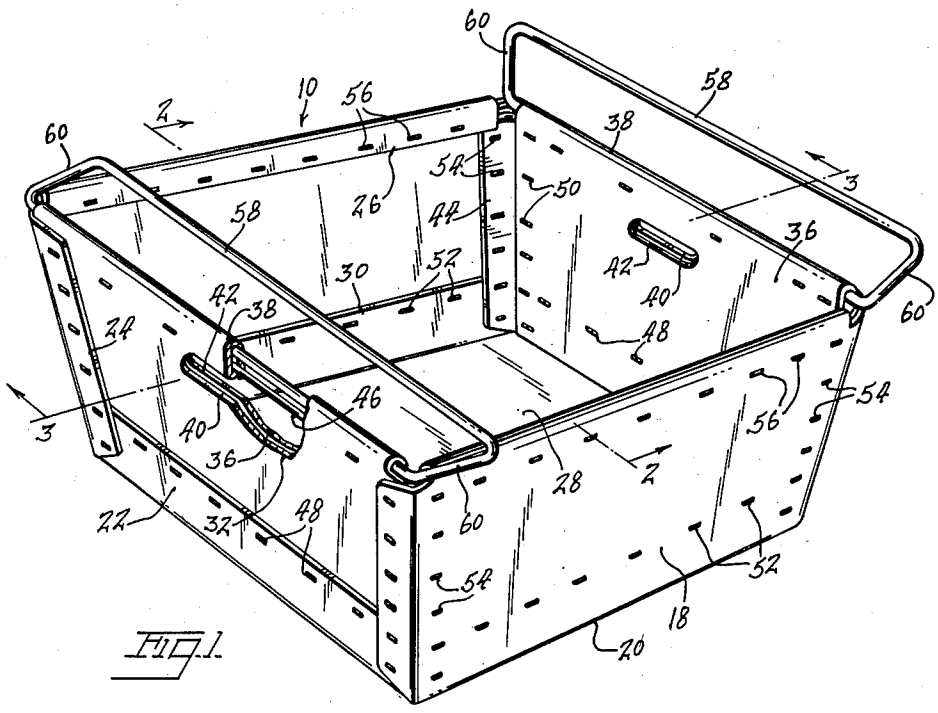


FIG. 1.

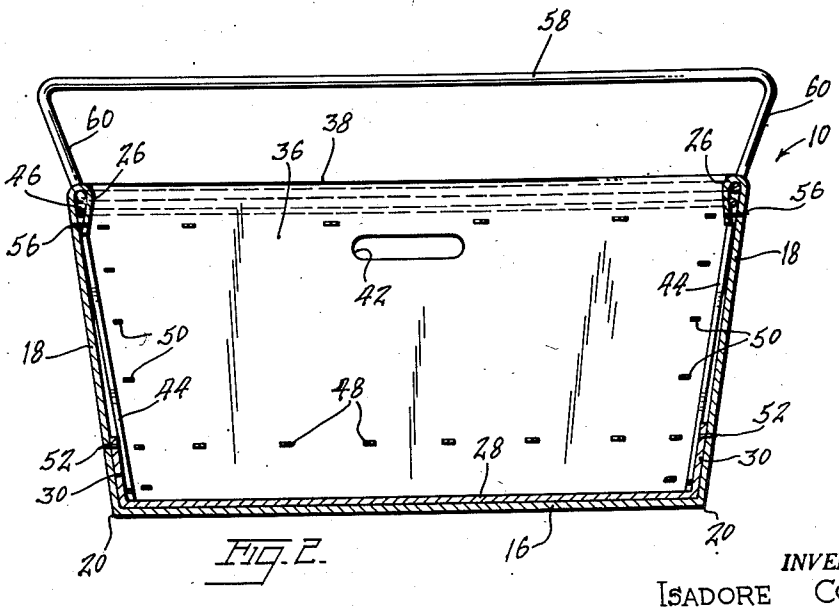


FIG. 2.

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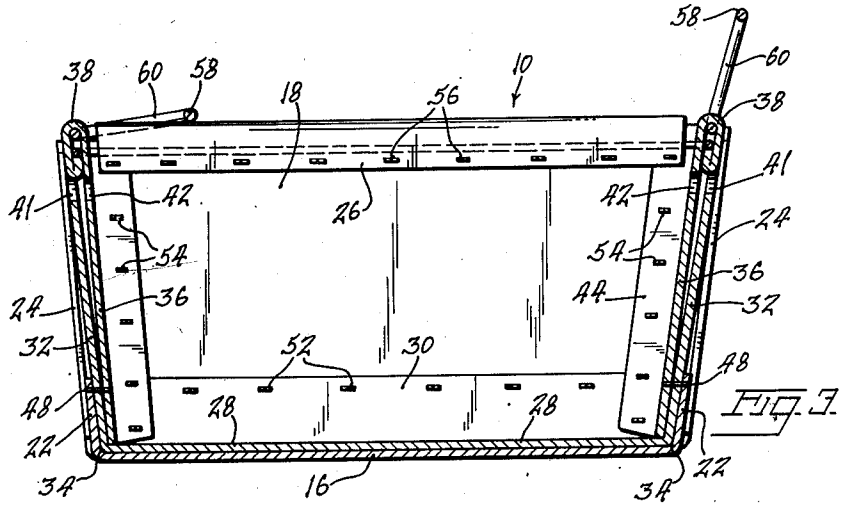


FIG. 3

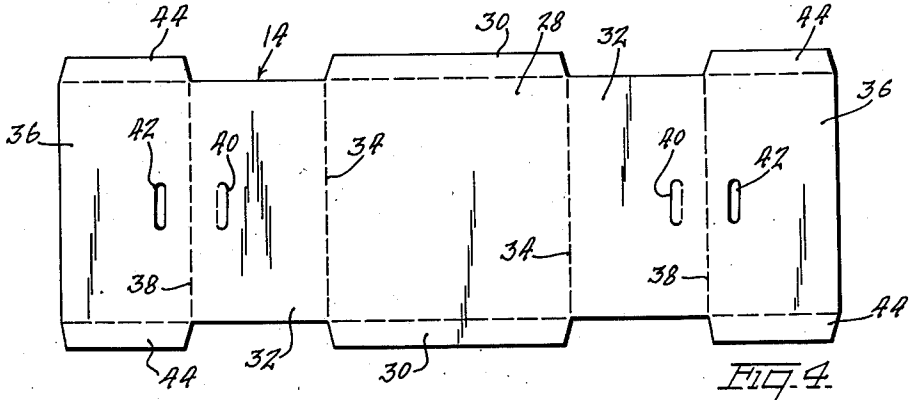


FIG. 4

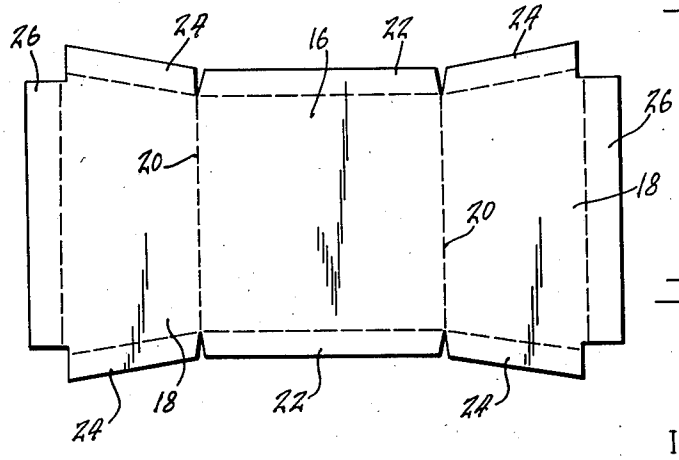


FIG. 5

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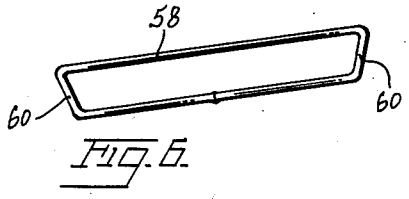


Fig. 6.

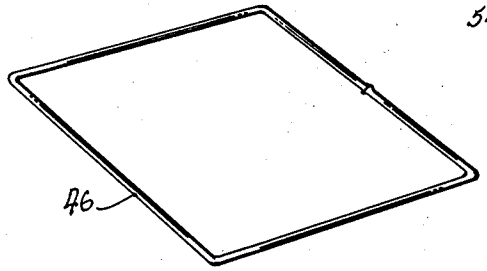


Fig. 7.

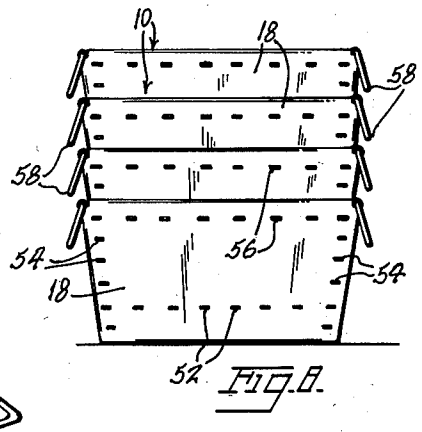


Fig. 8.

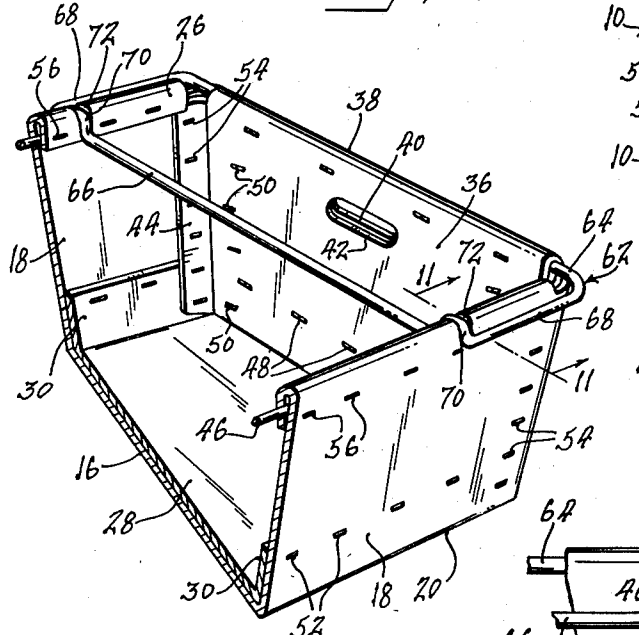


Fig. 10.

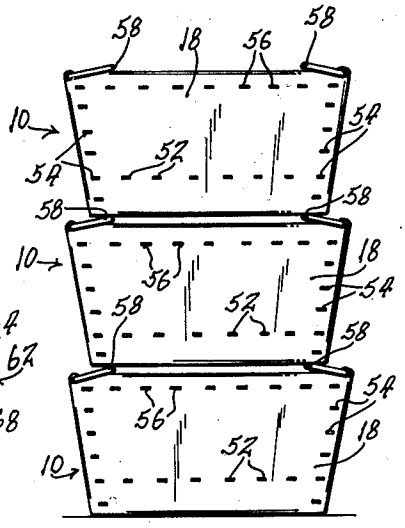


Fig. 9.

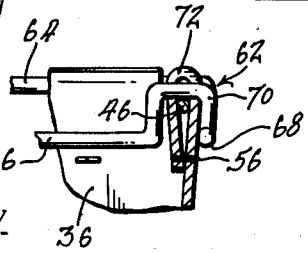


Fig. 11.

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NESTABLE AND STACKABLE FIBERBOARD CONTAINER

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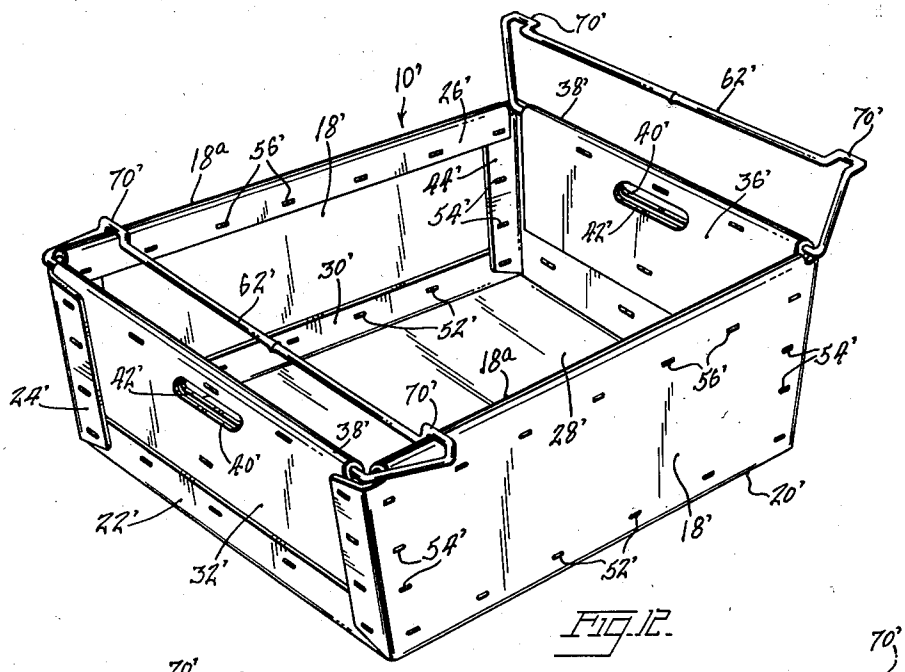


FIG. 12.

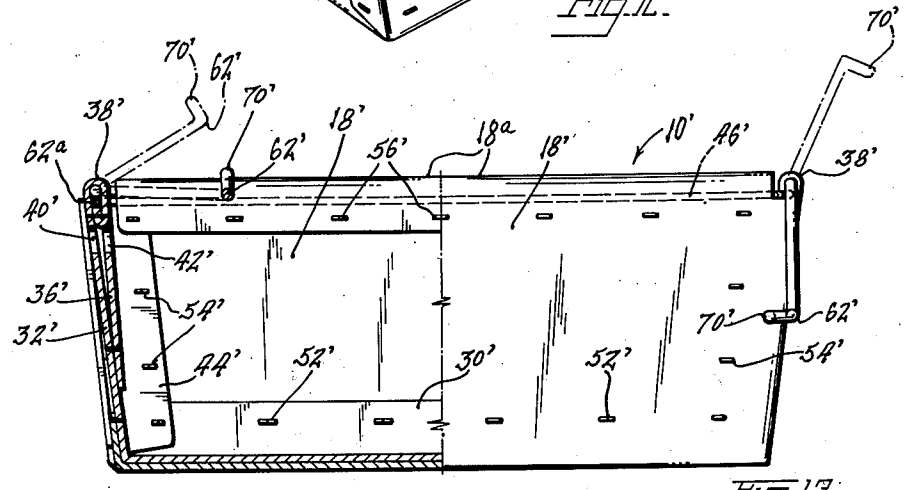


FIG. 13.

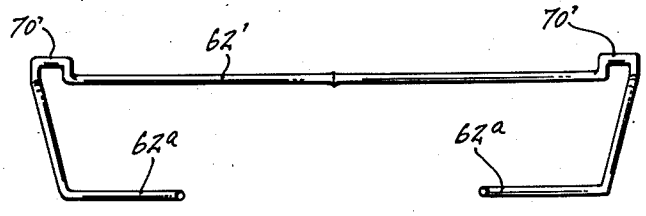


FIG. 14.

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United States Patent Office

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NESTABLE AND STACKABLE FIBERBOARD CONTAINER

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Application December 4, 1953, Serial No. 396,192

1 Claim. (Cl. 229—23)

This invention relates to a fiberboard container of reinforced construction, particularly adapted for nesting and stacking during shipment and use.

An important object of the present invention is to provide a container as described that will be inexpensively but strongly constructed from a pair of readily folded, specially shaped blanks of fiberboard or similar material, easily assembled and strongly secured through the use of conventional staples.

Another object of importance is to provide, in association with the superposed blanks, a continuously extending, inexpensive, reinforcing frame that cooperates with the connecting staples in holding together and bracing the walls of the container.

Yet another object is to provide a container as stated which will include oppositely disposed, swingably mounted stacking frames attached to selected walls of the container by folding of adjacent portions of one of the blanks upon one another, with said frames being swiftly adjustable between positions in one of which they permit stacking of the containers without damage to the contents thereof, and in the other of which they are inoperatively disposed to permit nesting of empty containers.

Still another object is to so shape the stacking frames, in at least one form of the invention, as to cause the stacking frames to provide added reinforcement for opposite walls of the container when the containers are stacked one upon another.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claim in which the various features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is a perspective view, in which part has been broken away, of a container formed in accordance with the invention.

Fig. 2 is a transverse sectional view on line 2—2 of Fig. 1.

Fig. 3 is a longitudinal sectional view on line 3—3 of Fig. 1.

Fig. 4 is a plan view of one blank used in making the container.

Fig. 5 is a plan view of a second blank used in making a container.

Fig. 6 is a perspective view of one of the stacking frames per se.

Fig. 7 is a perspective view of the brace frame per se.

Fig. 8 is a side elevational view showing a plurality of the containers nested.

Fig. 9 is a view similar to Fig. 8 showing the containers stacked.

Fig. 10 is a fragmentary perspective view of a container equipped with a modified form of stacking frame.

Fig. 11 is an enlarged detail sectional view on line 11—11 of Fig. 10.

Fig. 12 is a similar view to Fig. 1 but showing a still further modification of the invention.

Fig. 13 is a front elevational view of Fig. 12, partly in section.

Fig. 14 is a perspective view of a modified stacking frame used in Fig. 12.

The container **10** is formed from first and second fiberboard blanks **12**, **14** (Figs. 5 and 4). Blank **12** is shaped to include a rectangular outer bottom panel **16** integrally connected at its side edges to the lower edges of side panels **18**, along fold lines **20**. At its ends, the bottom panel **16** is integral with bottom panel end flaps **22**, which are foldable upwardly along fold lines extending along the end edges of the bottom panel.

The side panels have end edges oppositely inclined to diverge in a direction away from the bottom panel, that is, upwardly considering the container in its assembled condition. Integrally connected to the end edges of the side panels, and foldable inwardly along the lines of their connections, are side panel end flaps **24**. Integrally connected to the top edges of the side panels are side panel top flaps **26**.

The blank **14** is formed with a rectangular inner bottom panel **28** integral along its side edges with bottom panel side flaps **30**. Outer end panels **32** are integrally connected along fold lines **34** to the end edges of panel **28**, and integrally connected to the upper or outer edges of the end panels **32** are inner end panels **36**, foldable upon the panels **32** along the lines of their integral connections, as shown at **38**. Handle slots **40**, **42** are formed in the panels **32**, **36** respectively, and register when the panels **36** are folded upon the panels **32**. Inner end panel side flaps **44** are integrally connected to the side edges of the respective inner end panels **36**.

A continuously extending, rectangular bracing frame **46** is shown in Fig. 7, and is shaped from a length of stout rod of wire material, the ends of said length being brought into abutting relation and being welded or otherwise fixedly joined.

In assembling the container, the blank **12** is first laid flat upon the floor, and the blank **14** is laid thereover, the relative position of the blanks being as shown in Figures 4 and 5. Then, the outer end panels **32** of the blank **14** are folded upwardly along lines **34**, end flaps **22** are folded upwardly so as to extend along the lower edges of end panels **32** and exteriorly thereof (see Figures 1 and 3), and a row of staples **48** is applied to connect flaps **22** to end panels **32**.

The brace frame is now positioned with its ends against the inner surfaces of the outer end panels **32**, adjacent the fold lines **38**. Stacking frames **58** are now positioned over the inner end panels, and are supported upon the ends of the brace frame. Thereafter, the inner end panels **36** are folded along said lines **38**, to lie against the inner surfaces of panels **32**. One or two staples may be applied just below the brace frame, extending through the superposed outer and inner end panels, to temporarily hold the brace frame and stacking frames, and the container ends, in proper position.

The side panels **18** of blank **12** are now folded upwardly along the lines **20**, and the end flaps **24** thereof are folded to overlie the side edges of the outer end panels **32** at the corners of the container as shown in Figure 1. Staples **50** are now applied, extending through the flaps **24**, and through the side edge portions of the superposed outer and inner end panels **32**, **36**, said staples being spaced vertically to effect a strong connection.

Meanwhile, when the side panels **18** are folded upwardly, the side flaps **30** of the inner bottom panel **28** will have been folded upwardly as shown in Figures 1, 2, and 3, to extend along the inner surfaces of the side panels

18, at the lower edges thereof. Staples 52, spaced longitudinally of flaps 30, are extended therethrough and through the side panels to connect the same.

Further, the side flaps 44 of inner end panels 36 will have been folded to lie against the inner surfaces of side panels 18, at the ends of said side panels. Staples 54 are then applied to connect the same to the side panels.

The top flaps 26 of the side panels, as a next step, are folded inwardly and downwardly to lie against the inner surfaces of the top edge portions of the side panels, and staples 56, spaced longitudinally of the folded top flaps, connect the same to the side panels, thus forming tubular portions along the container sides at the top thereof through which the sides of the brace frame extend.

The stacking frames, are each formed from a single length of wire material, bent into the shape shown in Fig. 6, with parallel, elongated sides, and with short, end portions diverging in the direction of the longer or outer side portion. The inner side portion of each stacking frame is enclosed within the space between the upper edge portions of the end panels 32, 36, and is supported by the adjacent end of the brace frame against excessive downward movement.

Referring now to Figure 8, it is seen that when the containers are empty, they may be nested compactly, for shipment, or for storage. In the nested relationship of the containers, the stacking frames are swung outwardly so as not to interfere with the nesting.

When, however, the containers are filled, as for example with articles that must not be crushed, such as loaves of bread, they may be stacked one upon another by swinging the stacking frames inwardly to the position shown in Figure 9. This causes the outer side portions of the stacking frames to be supported upon the sides of the container, thereby permitting a number of the containers to be stacked without possibility of damage to the contents thereof.

In Figures 10 and 11, a modified form is shown wherein the stacking frames are slightly changed in shape. The container itself is not substantially changed, that is, the blanks are basically shaped as in Figures 4 and 5 and are folded and connected as hereinabove described.

In this form, the stacking frame at each end of the container has been designated generally at 62, and is formed from a single length of material the ends of which are welded together in the same manner as the ends of the wire used in making frame 58. The modified stacking frame has parallel inner and outer side portions 64, 66 respectively, and diverging, short end portions 68. At the ends of the outer side portion, where it merges into the end portions 68, there are formed crimps 70 of inverted U shape, the bights of which are adapted to extend into notches 72 formed in the upper edges of the container sides.

This arrangement has a desirable result, in that when the stacking frames are swung inwardly to stacking position, the crimps engage the sides of the container to prevent spreading thereof under the load of the stacked containers disposed thereabove. Further, the outer side portion is located below the plane of the top of the container, thus insuring that the container supported thereupon will be held against sidewise and endwise movement from its stacked position, by reason of its being

engageable by the upper edges of the supporting container's sides or ends should the supported container tend to shift.

In Figs. 12–14 another modified form is shown wherein the stacking frames 62′ are similar to the previous form shown in Figs. 10 and 11 except that their free ends 62ª are spaced from one another. In this form of the invention no notches are provided in the container sides and therefore the crimps 70′ are adapted to rest on the edges 18ª of the side panels 18′ of the container 10′. In other respects this form of the invention is similar to the previous forms and the various parts may be recognized by corresponding reference numerals with a prime added.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claim.

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

A container comprising a rectangular shaped receptacle having pairs of opposed walls, and endless stacking frames movably connected to one pair of walls, said frames being adjustable between an inoperative position wherein they are disposed exteriorly of the space within the receptacle to permit nesting of a plurality of the containers, and an operative position in which they are supported within said space upon the other pair of opposed walls of the receptacle, for stacking of a plurality of containers one upon another, said receptacle being formed from a pair of folded fiberboard blanks, one of the folded blanks including a bottom panel and the first named walls of the receptacle, and the other folded blank including a bottom panel overlapping the first named bottom panel, said other blank further including said other pair of opposed walls of the receptacle, side flaps on said other blank, each of the first named walls of the receptacle comprising a pair of integrally connected end panels folded upon themselves to form a space therebetween through which the stacking frame associated therewith may extend, said other walls including top flaps overlying said side flaps and secured thereto, the several walls of the receptacle being stapled together at the corners of the receptacle, said receptacle further including a continuously extending brace frame secured to the several walls of the receptacle at their upper edges and extending through the full periphery of the receptacle, including the space receiving the stacking frame.

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