June 28, 1960 R. E. PADDOCK 2,942,734

RECEPTACLE STACKING DEVICE

Filed Oct. 9, 1957

Fig. 1.

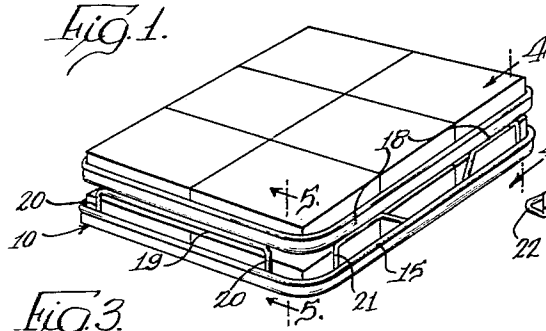


Fig. 2.

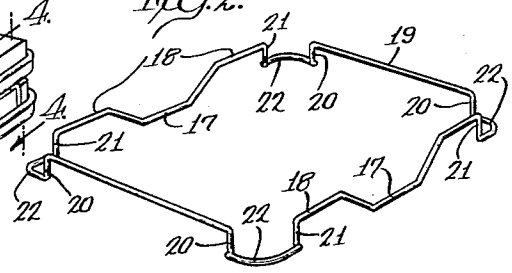


Fig. 3.

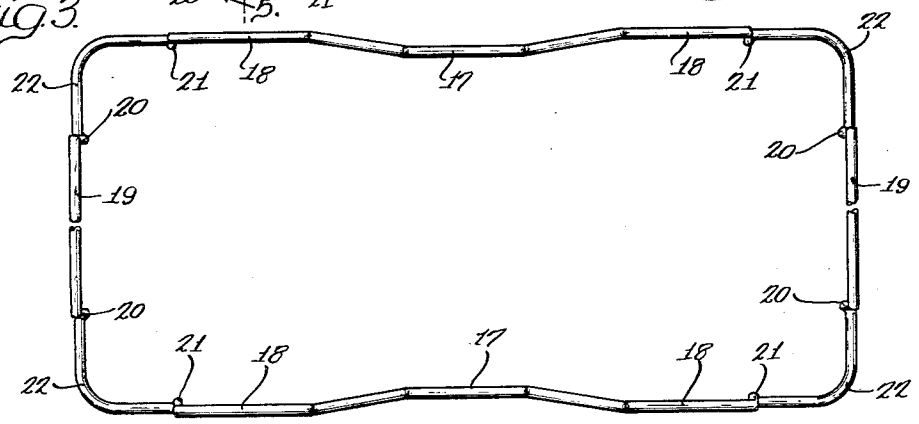


Fig. 4.

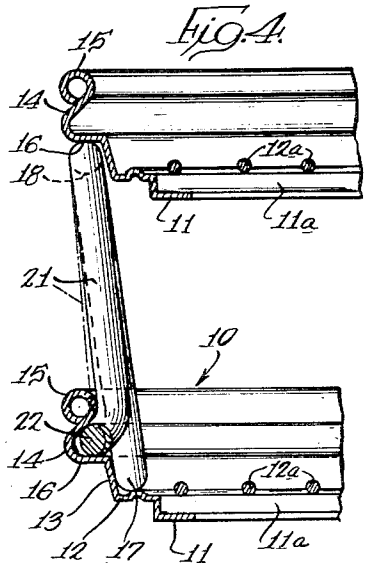
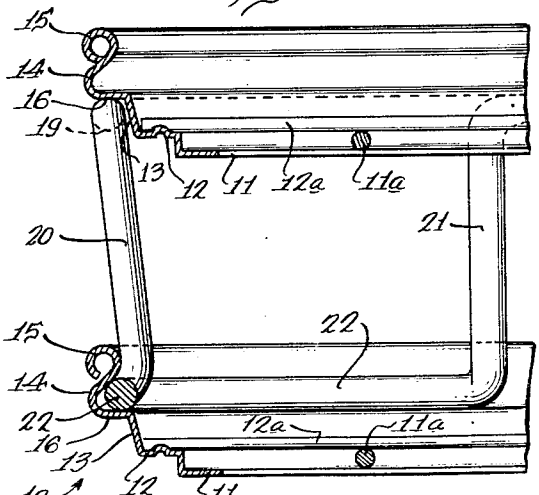


Fig. 5.



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RECEPTACLE STACKING DEVICE

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10 Claims. (Cl. 211—126)

The present invention relates to improvements in receptacle stacking means for connection to a pair of superposed receptacles of like shape and size whereby said receptacles may be retained securely as a built up unit while premitting access to the interior of the receptacles from all sides.

An object of the present invention is the provision of a stacking device of the character indicated which may be readily attached to or detached from the receptacles cooperating therewith without requiring tools or the use of special skill.

Another object of the present invention resides in the provision of a simple and inexpensive yet sturdy receptacle stacking device.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and arrangement of parts hereinafter more fully described and pointed out in the claims appended hereto, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

In the drawings:

Fig. 1 is a top perspective view of a pair of loaded receptacles having receptacle stacking means embodying the features of the present invention operatively applied thereto.

Fig. 2 is a similar view of the receptacle stacking device as it appears when detached from the receptacles.

Fig. 3 is an enlarged top plan view of the stacking device shown in Figs. 1 and 2.

Fig. 4 is an enlarged fragmentary vertical section taken on line 4—4 of Fig. 1.

Fig. 5 is a similar view taken on line 5—5 of Fig. 1.

For the purpose of illustrating the use of a receptacle stacking device in operative relation to a pair of superposed receptacles of like shape and size, the drawings disclose such receptacles in the form of trays **10**, such as used in the storage and transportation of packaged sweet bakery goods and bread. Each receptacle **10** preferably comprises a rectangular open frame providing a marginal lip portion **11** which forms downwardly and inwardly offset extension of a marginal bottom portion **12**, wire strips **11a** welded or otherwise secured to the lip **11**, and wire strips **12a** similar fastened to the portion **12** in criss-cross relation to the wire strips **11a** provide a grid-like bottom across the space between the portions **12** at opposite sides of the receptacle **10**. Side walls extending upwardly from the outer limits of the marginal bottom portion **12** include a lower portion **13**, an intermediate portion **14** and an upper rim **15**. The intermediate portion **14** is offset outwardly to provide an upwardly facing ledge **16**. As will be noted from Figs. 4 and 5, the intermediate side wall portion **14** extends upwardly and inwardly from the ledge **16** to define a pocket facing inwardly of the area enclosed by the side walls of the receptacle **10**. It will also be observed that

the rim **15** is made up of a hollow bead developed by outwardly curling the upper edge of the side walls.

A stacking device embodying the features of this invention preferably comprises a generally rectangular open frame work of rod-like construction having opposed side members and end members in spaced apart relation conforming to the rectangular outline of the receptacles **10** so as to have entry to the space within the side walls of such receptacles as shown in Figs. 4 and 5. Each side member includes a lower runner section **17** located centrally of the distance between the end members as shown in Fig. 3. Reference numeral **18** denotes upper runner sections forming extensions of each lower runner section **17** at opposite ends of the latter, said upper runner sections being offset outwardly of a vertical plane coincident with the lower runner sections **17**. The upper runner sections are adapted for upward engagement with the under face of the ledge **16** of the uppermost receptacle **10**, as shown in Fig. 4. Each of the opposed end members also includes an upper runner section **19** centrally of the distance between the side members, said upper runner sections **19** being horizontally aligned with the upper runner sections **18** of the side members whereby said upper runner sections **19** have upward engagement with the under surface of the ledge **16** of the upper receptacle **10**, as shown in Fig. 5. A leg **20** extends downwardly from each end of the upper runner sections **19** and a similar leg **21** extends downwardly from each of the ends of the upper runner sections **18** at the ends most removed from the lower runner section **17** of each side member. The legs **20** and **21** are joined in pairs at respective corners of the framework by means of a bridging member **22** connecting the lower ends of said legs. As shown in Figs. 4 and 5, each of the legs **20** and **21** is inclined inwardly and downwardly from its associated upper runner section while the bridging member **22** is offset outwardly in relation to the lower ends of the legs joined thereby. In order that the bridging sections **22** may have entry to the receptacle **10** preparatory to positioning the stacking device within the lower receptacle **10**, as shown in Fig. 4, the bridging member is moveable relative to its associated runner section in a direction inward of the framework in repsonse to inward flexing of the framework and normal stresses within the framework provides expansion means for applying a holding pressure to the internal surfaces of the pocket defined by the intermediate side wall portion **14** and the ledge **16** so as to prevent unintentional withdrawal of the stacking device from the lower receptacle **10**. It will be noted that the lower runner section **17**, as shown in Fig. 4, has downward engagement with the upwardly facing surface of the marginal bottom portion **12** of the lower receptacle when the bridging members **22** are engaged with the upwardly facing surface of the ledge **16**.

The present invention accordingly provides an arrangement of vertically spaced receptacles in combination with a stacking device which is convenient and easy to apply as well as to remove from operative assembly with the receptacles, and also provides for the spacing of such receptacles at a distance apart affording necessary clearance for free access to the contents of the lower receptacle while the receptacles are in stacked relation.

What is claimed is:

1. A stacking device for removable attachment to an open top receptacle for supporting a second like receptacle in spaced superposed relation to said first receptacle, said device comprising an endless generally rectangular open framework of rod-like construction having opposed side members and opposed end members, said side members each including a lower runner section adapted for engagement with upwardly facing internal

surfaces of the first receptacle along opposite side walls of the latter, and upper runner sections offset outwardly of a vertical plane coincident with and forming extensions of each lower runner section at opposite ends of the latter, said upper runner sections being adapted for upward engagement with downwardly facing external surfaces of the second receptacle along opposite side walls of and above the lower limits of said second receptacle, said opposed end members of said framework each including an upper runner section in horizontally coplanar alignment with the upper runner sections of the side members, a leg extending downwardly from each end of said upper runner section of said end members and a leg extending downwardly from each of the ends of said upper runner sections of said side members remote from its associated lower runner section, said legs of said end members and side members being joined in pairs at respective corners of the framework by means of a bridging member connecting the lower ends of said legs.

2. A stacking device in accordance with claim 1, wherein each bridging member includes a portion in cornerward relation to the legs joined thereby which is offset outwardly in relation to the lower ends of the legs joined thereby.

3. A stacking device in accordance with claim 1, wherein said legs are inclined inwardly and downwardly and each bridging member includes portions which are offset outwardly in relation to the lower ends of the legs joined thereby.

4. A stacking device in accordance with claim 1, wherein said upper runner sections of the side members and portions of the bridging members extending longitudinally of said latter runner sections are internally stressed to normally occupy vertically aligned positions, and each bridging member is movable relative to its associated runner section in a direction inward of said framework in response to inward flexing of the leg joining said bridging member and said associated runner section so as to apply holding pressure to internal surfaces of the first receptacle engaged by said bridging members when said device is in operative position relative to said first receptacle.

5. The combination of a pair of receptacles of like size and shape, each receptacle having a marginal bottom portion of rectangular outline and side walls rising upwardly from said marginal bottom portion, a rim at the upper limits of said side wall, and a ledge between said marginal bottom portion and said rim from which said side walls rise upwardly and inwardly, and a stacking device for supporting said receptacles in stacked relation at a selected distance apart including a rod like frame having upper portions engaging downward facing surfaces of said ledge in the upper receptacle and having lower portions engaging upward facing surfaces of said ledge on the lower receptacle when said receptacles are in vertically aligned relation.

6. The combination in accordance with claim 5, wherein said stacking device is provided with means for effecting interlocking engagement with a pocket defined by the ledge of said lower receptacle and the surface of the side wall extending upwardly from said ledge.

7. The combination in accordance with claim 5, wherein said stacking device is provided with yieldable means for establishing interlocking engagement with a pocket defined by the ledge of said lower receptacle and the surface of the side wall extending upwardly from said ledge.

8. The combination in accordance with claim 5, wherein each of said receptacles is nestable within the other receptacle to a depth wherein the rim of the outermost receptacle engages the downwardly facing surface of the ledge on the innermost receptacle.

9. The combination in accordance with claim 5, wherein the upper and lower portions of the stacking device are joined by means, including a bridge member having a downward engagement with upwardly facing surface of the marginal bottom portion of the second receptacle.

10. A stacking device in accordance with claim 1, wherein said bridging members occupy a position in upwardly offset relation to the position occupied by the lower runner sections of said side members.

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