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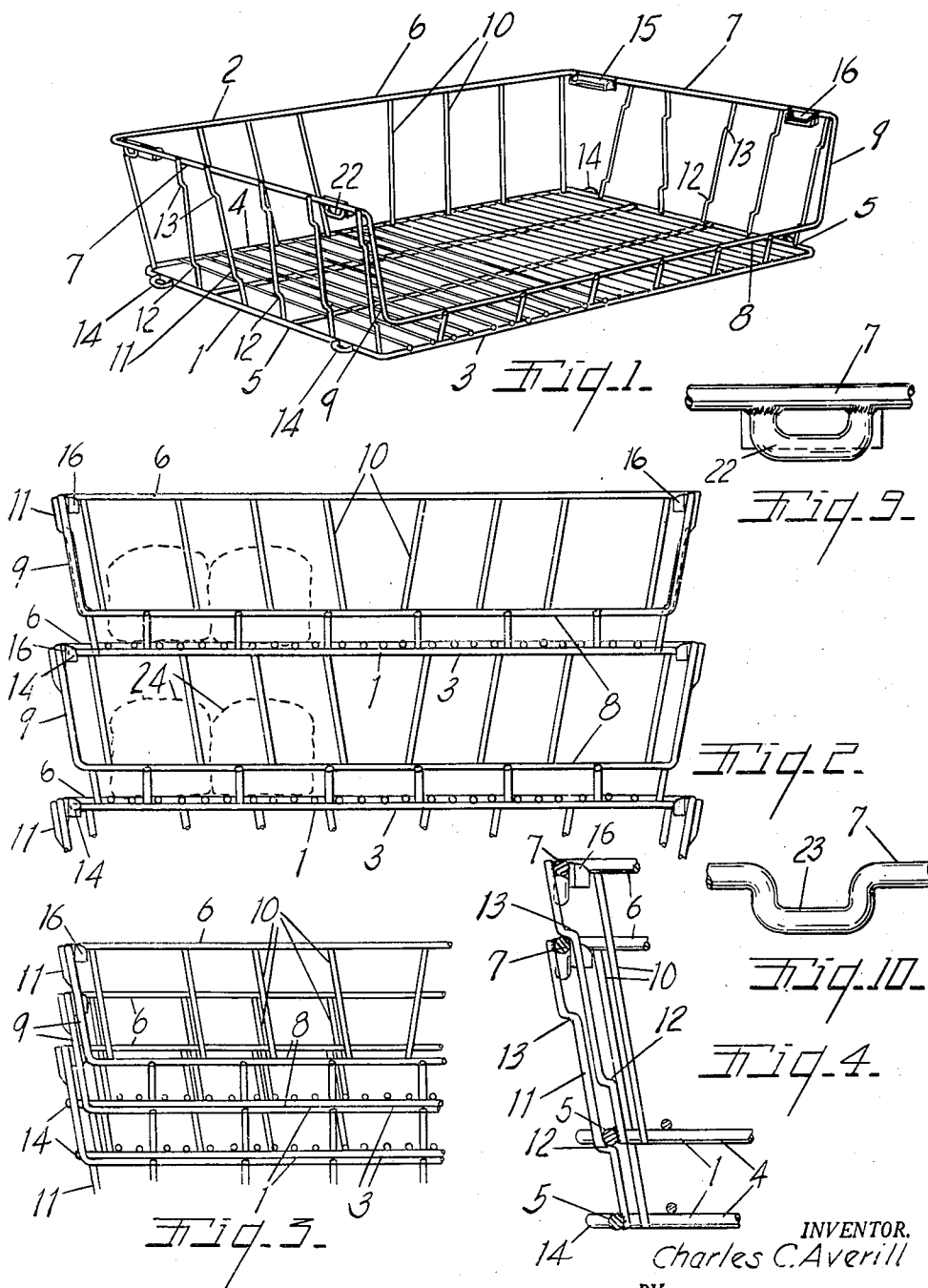
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2,950,825

STACKING CRATES OR RECEPTACLES

Filed Dec. 31, 1958

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

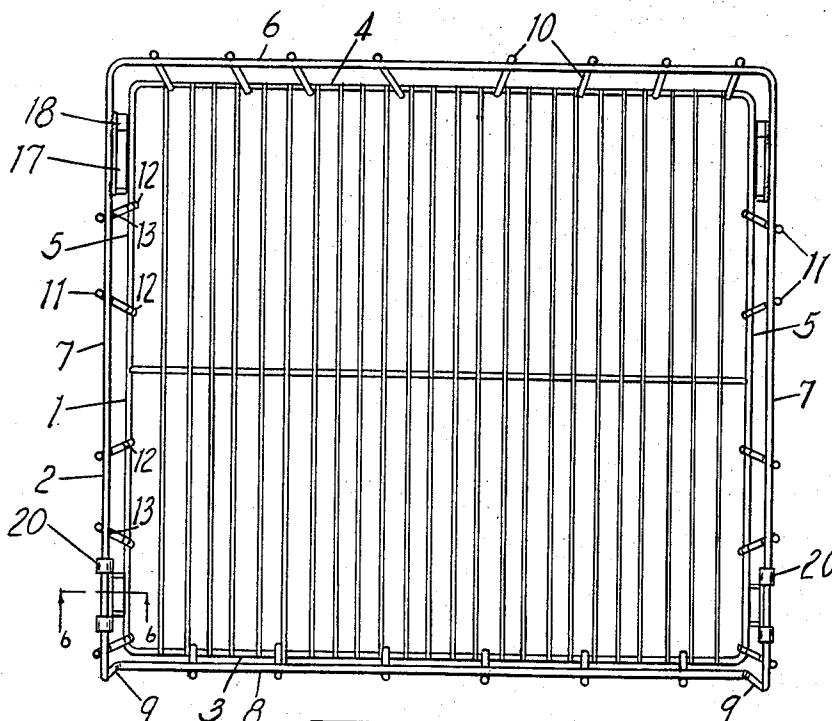


Fig. 5.

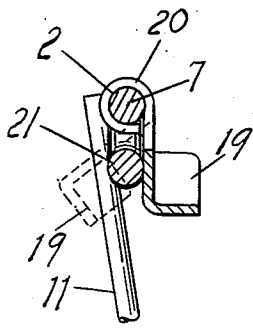


Fig. 6.

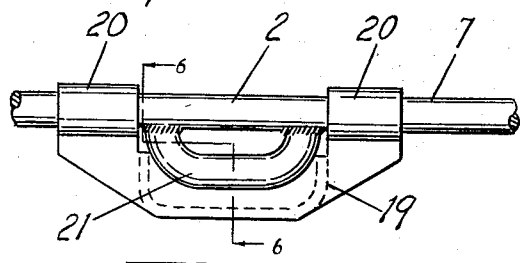


Fig. 7.

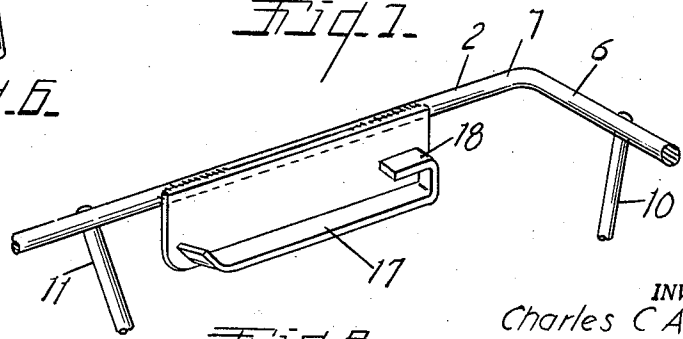


Fig. 8.

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2,950,825

STACKING CRATES OR RECEPTACLES

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15 Claims. (Cl. 211-126)

This invention relates to improvements in stacking crates or receptacles which when in stacked relation permit ready access to the contents and which may be compactly nested for transportation and storage.

The main objects of this invention are:

First, to provide a stacking crate or tray-like receptacle a plurality of which may be securely stacked and affords access of the contents when in stacked relation and may be compactly nested.

Second, to provide a crate having these advantages which may be of substantial size and at the same time is strong and rigid and may be conveniently handled.

Third, to provide stackable crates which may be very quickly and easily stacked one upon another while loaded and are securely supported in stacked relation for transportation by truck or otherwise.

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 drawings, in which:

Fig. 1 is a perspective view of a crate embodying my invention.

Fig. 2 is a fragmentary elevational view of stacked crates embodying my invention.

Fig. 3 is a fragmentary elevational view of crates embodying my invention in nested relation.

Fig. 4 is a somewhat enlarged vertical section illustrating two crates in nested relation.

Fig. 5 is a plan view of a modified form or embodiment of my invention.

Fig. 6 is an enlarged fragmentary view in vertical section on a line corresponding to line 6-6 of Figs. 5 and 7.

Fig. 7 is a detailed fragmentary elevational view from the left of Fig. 6.

Fig. 8 is a perspective view of the rear stacking lug seats of the embodiment shown in Fig. 5.

Fig. 9 is a fragmentary view of a modified form of stacking lug seat.

Fig. 10 is a fragmentary view of another modified form of stacking lug seat.

In the embodiments of my invention illustrated the crates are formed entirely of wire or light rod stock with the exception of the stacking lug seats.

The crates illustrated are well adapted for handling of baked products although they may be used for the handling of numerous products and forming of wire has the advantage of relative lightness in proportion to size and also they may be easily kept in sanitary condition.

The embodiment of my invention illustrated comprises the bottom border frame 1, the top border frame 2, the border frames being of general rectangular shape and the bottom border frame being of such dimensions relative to the top border frame that it may be inserted therein for stacking purposes.

The bottom border frame comprises the front member 3, rear member 4 and side members 5. The top

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border frame comprises the rear member 6, side members 7, and front member 8 which is downwardly offset relative to the side members and its ends are connected thereto by the integral end members 9, that is, the end members are desirably integral with the front member 8 and the side members 7. The rear wall slats 10 are straight and their upper ends connected to the outside of the top frame member and the lower ends to the inner side of the rear bottom frame member. These slats are disposed in inclined relation so that they are disposed in side by side relation when the crates are nested.

The end wall slats 11 are also inclined for nesting purposes and they are provided with inwardly and upwardly facing shoulders 12 and outwardly and downwardly facing shoulders 13. These are spaced so that when the crates are nested, as illustrated in Figs. 3 and 4, the shoulder 13 sets upon the top border frame end member 7 and the bottom frame members 5 engage or seat upon the shoulders 12.

The crates may be stacked one upon another as is illustrated in Fig. 2. In the embodiment illustrated in Figs. 1 to 4 inclusive the side members of the bottom border frame are provided with outwardly projecting stacking lugs 14 and the side members of the top border frame are provided with seats 15 and 16 adapted to supportingly receive these lugs.

In this embodiment these stacking lug seats are formed as sheet metal stampings welded to the inner sides of the side members of the top border frame, as is clearly illustrated in Fig. 1. The rear seats 15 are substantially longer than the width of the stacking lugs so that the crates may be conveniently stacked by positioning the rear stacking lugs 14 on the seats 15 and sliding the same thereon until the crate is positioned so that the front stacking lugs may be dropped into the seats 16. These seats 16 are of such length that when the lugs are engaged therewith the stacked crates cannot be disengaged by a relative sliding movement, that is, to disengage a stacked crate it must be lifted to disengage its front lugs 14 from the front seats 16.

To nest the crates the rear lugs 14 are positioned beneath the rear stacking seats 15 and the crates worked into nesting relation by a tilting swinging movement to positions the lugs below the stacking seats.

In the embodiment shown in Figs. 5 to 8 inclusive the rear stacking seats 17 are substantially like the stacking seats 15 except that they have forwardly projecting retaining lug members 18 at their rear ends. In this embodiment the front stacking seats 19 are pivotally mounted at 20 on the top border frame side members 6 so that they may be swung outwardly in clearance position for the front stacking lugs 14. Stops 21 project downwardly from the top border frame members and are disposed between the parts 20, see Fig. 7, to support the seats in erected position and also to prevent axial or sliding movement thereof on the border frame.

In the embodiment shown in Fig. 9, the stacking seats 22 are formed of wire but function generally the same as the seats 16.

In the embodiment shown in Fig. 10 the stacking lug seats 23 are in the form of offsets in the top border side frame members 7. In all of these embodiments the crates are stacked in substantially the same manner.

In the embodiment shown in Figs. 5, 6 and 7 the nesting is facilitated by swinging of the front stacking seat to inoperative position shown by dotted lines in Fig. 6, however, there is sufficient clearance in the other embodiments to permit rapid and simple stacking.

The stackable and nestable crates of my invention may be used for a wide variety of products but they are well adapted for use in handling baked goods such as loaves

of bread, conventionally illustrated by dotted lines at 24, see Fig. 2. The loaded crates may be stacked and the contents of each crate is accessible for removal and also is exposed to view thereby minimizing the necessity for handling.

I have illustrated and described my invention in highly practical embodiments thereof. I have not illustrated other variations as it is believed this disclosure will enable those skilled in the art to embody or adapt the invention as may be desired.

What is claimed as new is:

1. A crate or receptacle comprising top and bottom border frames, each including front, rear and side members, the top border frame being dimensioned to permit the passing of the bottom border frame of a like crate therethrough, the front member of the top border frame being downwardly spaced relative to the side and rear members thereof, wall slats fixedly secured at their upper end to the outer side of the top border frame and at their lower ends to the inner side of the bottom border frame, the rear and side wall slats being disposed in inclined relation so that slats of one crate will telescope in side by side relation with corresponding slats of another crate when the crates are in nested relation to each other, the side wall slats having inwardly facing shoulders constituting seats for the bottom border frame of a superimposed nested crate and outwardly facing shoulders engageable with the top border frame of an underlying nested crate, a bottom on said bottom frame member, front and rear stacking lugs spaced longitudinally of and projecting laterally outwardly from the side members of the bottom frame, and front and rear stacking lug seats projecting inwardly from the side members of said top border frame and spaced to receive the corresponding stacking lugs of a superimposed crate, the rear stacking lug seats being elongated to permit substantial sliding movement of the coating stacking lugs of a superimposed crate thereon thereby facilitating the engagement and disengagement of the coating stacking lugs of crates, the front stacking lug seats having stops thereon preventing sliding disengagement of lugs disposed thereon, the downward spacing of the front member relative to the side members of the top border frame being such as to provide access to the contents of stacked crates.

2. A crate or receptacle comprising top and bottom border frames, each including front, rear and side members, the top border frame being dimensioned to permit the passing of the bottom border frame of a like crate therethrough, the front member of the top border frame being downwardly spaced relative to the side and rear members thereof, wall slats fixedly secured at their upper end to the outer side of the top border frame and at their lower ends to the inner side of the bottom border frame, the side wall slats having inwardly facing shoulders constituting seats for the bottom border frame of a superimposed nested crate and outwardly facing shoulders engageable with the top border frame of an underlying nested crate, a bottom on said bottom frame member, front and rear stacking lugs spaced longitudinally of and projecting laterally outwardly from the side members of the bottom frame, and front and rear stacking lug seats projecting inwardly from the side members of said top border frame and spaced to receive the corresponding stacking lugs of a superimposed crate, the rear stacking lug seats being elongated to permit substantial sliding movement of the coating stacking lugs of a superimposed crate thereon thereby facilitating the engagement and disengagement of the coating stacking lugs of crates, the front stacking lug seats having stops thereon preventing sliding disengagement of lugs disposed thereon, the downward spacing of the front member relative to the side members of the top border frame being such as to provide access to the contents of stacked crates.

3. A crate or receptacle comprising top and bottom

border frames, each including front, rear and side members, the top border frame being dimensioned to permit the passing of the bottom border frame of a like crate therethrough, the front member of the top border frame being downwardly spaced relative to the side and rear members thereof, wall slats fixedly secured at their upper end to the outer side of the top border frame and at their lower ends to the inner side of the bottom border frame, the rear and side wall slats being disposed in inclined relation so that slats of one crate will telescope in side by side relation with corresponding slats of another crate when the crates are in nested relation to each other, the side wall slats having inwardly facing shoulders constituting seats for the bottom border frame of a superimposed nested crate and outwardly facing shoulders engageable with the top border frame of an underlying nested crate, a bottom on said bottom frame member, front and rear stacking lugs spaced longitudinally of and projecting laterally outwardly from the side members of the bottom frame, and front and rear stacking lug seats projecting inwardly from the side members of said top border frame and spaced to receive the corresponding stacking lugs of a superimposed crate, the downward spacing of the front member relative to the side members of the top border frame being such as to provide access to the contents of stacked crates.

4. A crate or receptacle comprising top and bottom border frames, each including front, rear and side members, the top border frame being dimensioned to permit the passing of the bottom border frame of a like crate therethrough, the front member of the top border frame being downwardly spaced relative to the side and rear members thereof, wall slats fixedly secured at their upper ends to the outer side of the top border frame and at their lower ends to the inner side of the bottom border frame, the side wall slats having inwardly facing shoulders constituting seats for the bottom border frame of a superimposed nested crate and outwardly facing shoulders engageable with the top border frame of an underlying nested crate, a bottom on said bottom frame member, front and rear stacking lugs spaced longitudinally of and projecting outwardly from the side members of the bottom frame, and front and rear stacking lug seats projecting inwardly from the side members of said top border frame and spaced to receive the corresponding stacking lugs of a superimposed crate, the downward spacing of the front member relative to the side members of the top border frame being such as to provide access to the contents of stacked crates.

5. A crate or receptacle comprising top and bottom border frames, each including front, rear and side members, the top border frame being dimensioned to permit the passing of the bottom border frame of a like crate therethrough, the front member of the top border frame being downwardly spaced relative to the side and rear members thereof and having upwardly projecting integral arms at its ends integrally connected to the front ends of the top border frame side members, wall slats fixedly secured at their upper ends to the outer side of the top border frame and at their lower ends to the inner side of the bottom border frame, the side wall slats having inwardly facing shoulders constituting seats for the bottom border frame of a superimposed nested crate and outwardly facing shoulders engageable with the top border frame of an underlying nested crate, a bottom on said bottom frame member, front and rear stacking lugs spaced longitudinally of and projecting outwardly from the side members of the bottom frame, and front and rear stacking lug seats projecting inwardly from the side members of said top border frame and spaced to receive the corresponding stacking lugs of a superimposed crate, the downward spacing of the front member relative to the side members of the top border frame being such as to provide access to the contents of stacked crates.

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6. A crate or receptacle comprising top and bottom border frames including front, rear and side members, the top border frame being dimensioned to permit the passing of the bottom border frame of a like crate therethrough, the front member of the top border frame being downwardly spaced relative to the side members thereof, rear and side wall slats disposed in inclined relation so that corresponding slats of nested crates are in nested side by side relation to each other, at least a portion of the slats having inwardly facing shoulders constituting seats for the bottom border frame of a superimposed nested crate and outwardly facing shoulders engageable with the top border frame of an underlying nested crate, a bottom, front and rear stacking lugs spaced longitudinally of and projecting outwardly from the bottom side members, and front and rear stacking lug seats projecting inwardly from the top border frame side members and spaced to receive the corresponding stacking lugs of a superimposed crate, the rear stacking lug seats being elongated to permit substantial sliding movement of the coacting stacking lugs of a superimposed crate thereon, thereby facilitating the engagement and disengagement of the coacting stacking lugs therewith, the front stacking lug seats having stops thereon presenting sliding disengagement of lugs disposed thereon, the downward spacing of the front member relative to the side members of the top border frame being such as to provide access to contents of stacked crates.

7. A crate or receptacle comprising top and bottom border frames including front, rear and side members, the top border frame being dimensioned to permit the passing of the bottom border frame of a like crate therethrough, the front member of the top border frame being downwardly spaced relative to the side members thereof, wall slats having inwardly facing shoulders constituting seats for the bottom border frame of a superimposed nested crate and outwardly facing shoulders engageable with the top border frame of an underlying nested crate, a bottom, front and rear stacking lugs spaced longitudinally of and projecting from the bottom side members, and front and rear stacking lug seats projecting inwardly from the top border frame side members and spaced to receive the corresponding stacking lugs of a superimposed crate, the rear stacking lug seats being elongated to permit substantial sliding movement of the coacting stacking lugs of a superimposed crate thereon, thereby facilitating the engagement and disengagement of the coacting stacking lugs therewith, the front stacking lug seats having stops thereon presenting sliding disengagement of lugs disposed thereon, the downward spacing of the front member relative to the side members of the top border frame being such as to provide access to contents of stacked crates.

8. A crate or receptacle comprising top and bottom border frames including front, rear and side members, the top border frame being dimensioned to permit the passing of the bottom border frame of a like crate therethrough, the front member of the top border frame being downwardly spaced relative to the side members thereof, rear and side wall slats disposed in inclined relation so that corresponding slats of nested crates are in nested side by side relation to each other, at least a portion of the slats having inwardly facing shoulders constituting seats for the bottom border frame of a superimposed nested crate and outwardly facing shoulders engageable with the top border frame of an underlying nested crate, a bottom, front and rear stacking lugs spaced longitudinally of and projecting outwardly from the bottom side members, and front and rear stacking lug seats projecting inwardly from the top border frame side members and spaced to receive the corresponding stacking lugs of a superimposed crate, the downward spacing of the front member relative to the side members of the top border frame being such as to provide access to contents of stacked crates.

9. A crate or receptacle comprising top and bottom

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border frames including front, rear and side members, the top border frame being dimensioned to permit passing of the bottom border frame of a like crate therethrough, the front member of the top border frame being spaced downwardly relative to the side top members, stacking lugs spaced longitudinally of and projecting outwardly from the bottom side members, and stacking lug seats on the top frame side members spaced to receive said lugs, the rear lug seats being elongated to slidably receive the lugs and having overhanging lug retaining members at their rear ends, the front lug seats being pivotally mounted to be swung inwardly into opposite position or to be swung outwardly in clearance position to facilitate the nesting of the crates, the downward spacing of the front member relative to the top of the side members of the crate being such as to provide access to the contents of stacked crates.

10. A crate or receptacle comprising top and bottom border frames including front, rear and side members, the top border frame being dimensioned to permit passing of the bottom border frame of a like crate therethrough, the front member of the top border frame being spaced downwardly relative to the side top members, rear and side wall members having inwardly and upwardly facing shoulders constituting seats for the bottom border frame of a superimposed nested crate, and outwardly and downwardly facing shoulders engageable with the top frame of an underlying nested crate, stacking lugs spaced longitudinally of and projecting outwardly from the bottom side members, and stacking lug seats on the top frame side members spaced to receive said lugs, the rearmost of said lug seats being elongated to slidably receive the lugs and having overhanging lug retaining members at their rear ends, the downward spacing of the front member relative to the top of the side members of the crate being such as to provide access to the contents of stacked crates.

11. A crate or receptacle comprising top and bottom border frames including front, rear and side members, the top border frame being dimensioned to permit passing of the bottom border frame of a like crate therethrough, the front member of the top border frame being spaced downwardly relative to the side top members to such degree as to provide access to the contents of stacked crates, rear and side wall members having inwardly and upwardly facing shoulders constituting seats for the bottom border frame of a superimposed nested crate, and outwardly and downwardly facing shoulders engageable with the top frame of an underlying nested crate, stacking lugs spaced longitudinally of and projecting outwardly from the bottom side members, and stacking lug seats on the top frame side members spaced to receive said lugs, the rearmost of said lug seats being elongated to slidably receive the lugs and having overhanging lug retaining members at their rear ends, the front lug seats being pivotally mounted to be swung inwardly into opposite position or to be swung outwardly in clearance position to facilitate the nesting of the crates.

12. A crate or receptacle comprising top and bottom border frames including front, rear and side members, the top border frame being dimensioned to permit the passing of the bottom border frame of a like crate therethrough, the front member of the top border frame being spaced downwardly relative to the side top frame members, laterally spaced side slats extending between said top and bottom border frames and fixedly connected thereto with their upper ends on the outer sides of the top border frame side members and their lower ends on the inner sides of the side bottom frame members, the slats having angularly disposed upper end portions engageable with the rim of the top border frame of the lower of a nested pair of crates, stacking lugs spaced longitudinally of and projecting outwardly from the bottom frame side members, and stacking lug seats on the top frame side members spaced to receive said lugs when the crates are in stacked position, the downwardly spacing of the front

member relative to the side members of the top border frame being such as to provide access to the contents of stacked crates.

13. A receptacle comprising top and bottom border frames and rear and side wall members connecting said top and bottom border frames in parallel relation to each other, the top border frame being dimensioned to permit passing of the bottom border frame of a like receptacle therethrough, front and rear stacking lugs spaced longitudinally of and projecting outwardly from said bottom border frame side members a distance less than the distance between the side members of the top border frame, and inwardly projecting front and rear stacking lug seats on said top border frame side members projecting inwardly therefrom and spaced to supportedly receive the stacking lugs of a like superimposed receptacle, the rear lug seats being of such length as to slidably support the rear lugs of a superimposed receptacle and having stops limiting the rearward movement thereon, the front lug seats having stops limiting the forward sliding movement of lugs supportedly engaged therewith, said receptacle having an opening at the front thereof providing access to contents thereof when in stacked relation to like receptacles.

14. A receptacle comprising top and bottom border frames and rear and side wall members connecting said top and bottom border frames in parallel relation to each other, the top border frame being dimensioned to permit passing of the bottom border frame of a like receptacle therethrough, front and rear stacking lugs spaced longitudinally of and projecting outwardly from said bottom border frame side members a distance less than the distance between the side members of the top border frame, and inwardly projecting front and rear stacking lug seats on said top border frame side members projecting in-

wardly therefrom and spaced to supportedly receive the stacking lugs of a like superimposed receptacle, the rear lug seats being of such length as to slidably support the rear lugs of a superimposed receptacle, the front lug seats having stops limiting the forward sliding movement of lugs supportedly engaged therewith, said receptacle having an opening at the front thereof providing access to contents thereof when in stacked relation to like receptacles.

15. A receptacle comprising top and bottom border frames and rear and side wall members connecting said top and bottom border frames in parallel relation to each other, the top border frame being dimensioned to permit passing of the bottom border frame of a like receptacle therethrough, front and rear stacking lugs spaced longitudinally of and projecting outwardly from said bottom border frame side members a distance less than the distance between the side members of the top border frame, and inwardly projecting front and rear stacking lug seats on said top border frame side members projecting inwardly therefrom and spaced to supportedly receive the stacking lugs of a like superimposed receptacle, the front lug seats having stops limiting the forward sliding movement of lugs supportedly engaged therewith, said receptacle having an opening at the front thereof providing access to contents thereof when in stacked relation to like receptacles.

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