Aug. 25, 1942. W. F. BEST 2,293,966

RECEPTACLE

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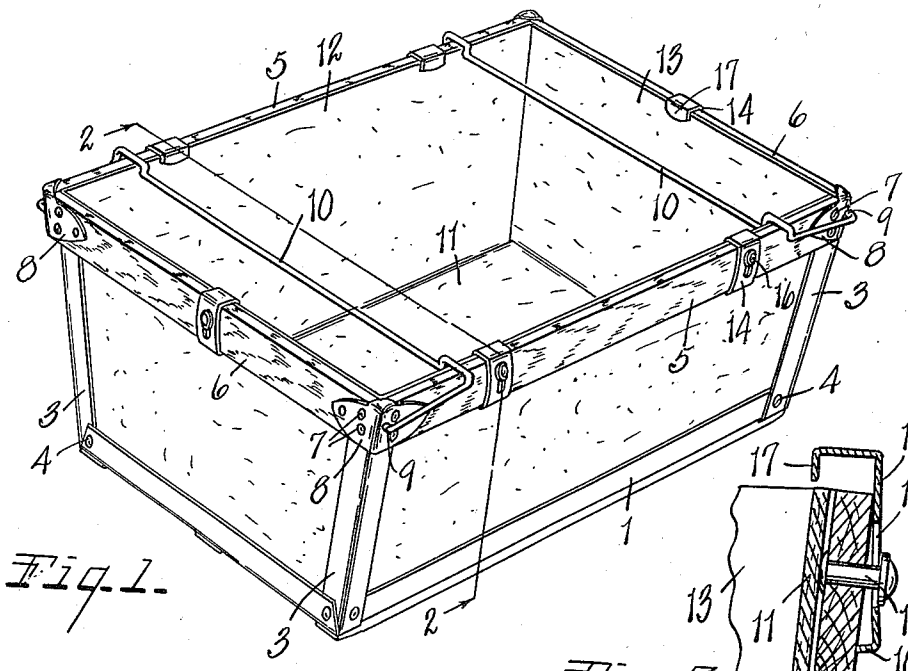


Fig. 1.

Fig. 3.

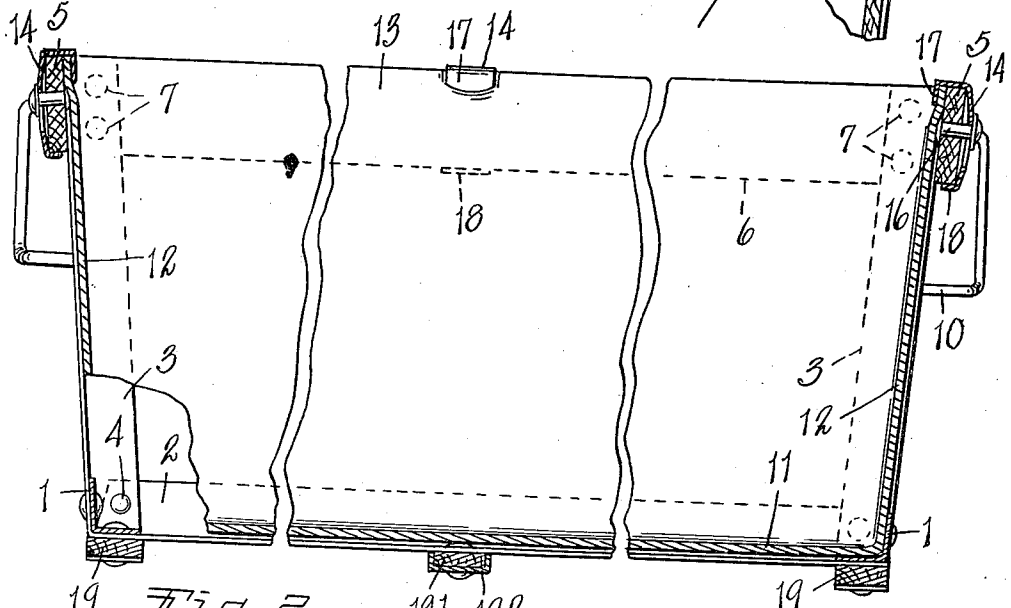


Fig. 2.

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Fig. 4.

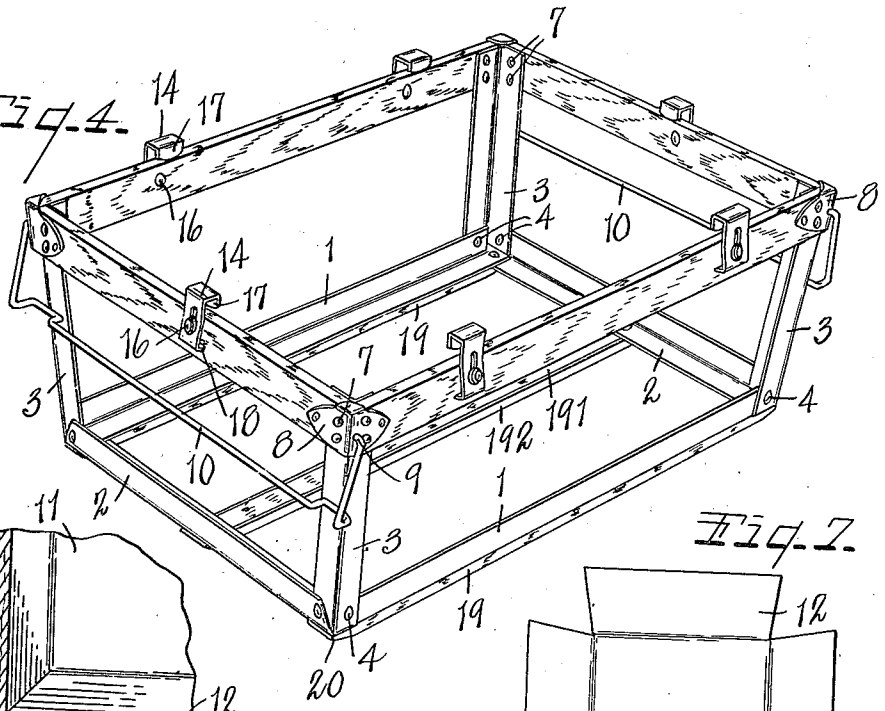


Fig. 8.

Fig. 7.

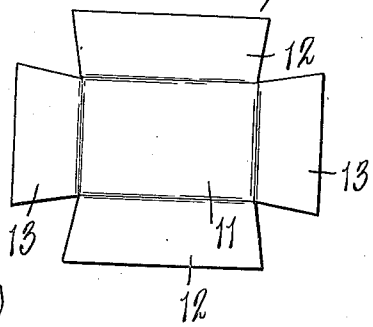


Fig. 9.

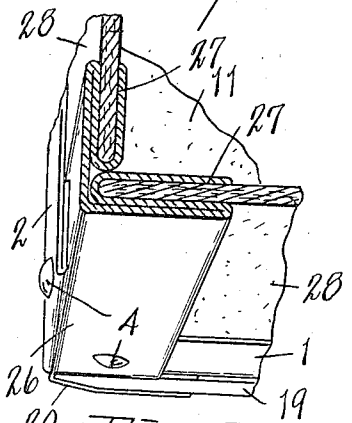


Fig. 5.

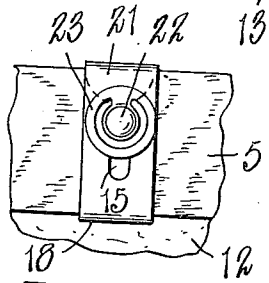
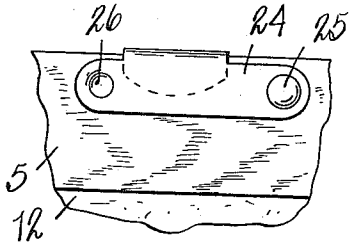


Fig. 6.



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UNITED STATES PATENT OFFICE

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RECEPTACLE

Wilson F. Best, Grand Rapids, Mich.

Application February 12, 1940, Serial No. 318,391

6 Claims. (Cl. 220—84)

This invention relates to improvements in receptacles.

The main objects of this invention are:

First, to provide a receptacle of the stacking nesting type in which the walls may be formed of light inexpensive material such as container board or the like and, while effectively supported for carrying relatively heavy loads, may be removed when they they become soiled or damaged and renewed at relatively small expense by the user without the aid of tools.

Second, to provide a structure having these advantages which is very sturdy and comprises a frame that is strong and rigid without being unduly heavy.

Objects pertaining to details and economies of the invention will definitely appear from the description to follow. The invention is defined in the claims.

A receptacle embodying the features of the invention is clearly illustrated in the accompanying drawings, in which:

Fig. 1 is a perspective view of a receptacle embodying the features of my invention with the stacking irons or bails in stacking position.

Fig. 2 is a fragmentary transverse vertical section on line 2—2 of Fig. 1 with the stacking bail in collapsed position.

Fig. 3 is an enlarged fragmentary section corresponding to that of Fig. 2 in which one of the wall retaining clips is shown in its wall disengaging position.

Fig. 4 is a perspective view of the frame of the receptacle with the wall retaining clips in position to receive the wall unit.

Fig. 5 is fragmentary side elevation of a modified form of clip retaining and tensioning means.

Fig. 6 is a fragmentary side elevation of a further embodiment of the retaining clip.

Fig. 7 is a plan view of the combined bottom and wall unit in the flat or extended position.

Fig. 8 is a horizontal section showing the relation of the side walls to the corner upright.

Fig. 9 is a fragmentary perspective view of a modified form or embodiment of my invention.

The embodiment of the invention illustrated is especially designed as a stacking box or receptacle adapted for use in handling merchandise and the like such as groceries and fruit for transportation or storage.

The embodiment illustrated comprises a frame consisting of bottom side pieces 1, 1, bottom end pieces 2, 2 and corner uprights 3. These parts are formed of angle iron or are of angle section and are disposed with the angles facing inwardly, the parts being rigidly secured together as by means of rivets 4 or spot welding, or other suitable means. The corner uprights are arranged in an outwardly diverging relation to permit nesting of the receptacles one within another.

The top frame side and end pieces 5 and 6 are arranged on the outer sides of the uprights at the top thereof and secured by means of rivets 7. These top pieces are preferably formed of wood. It will be understood that the terms "side" and "end" pieces are relative terms and that the receptacle may be square if desired.

The frame is provided with angled corner irons or brackets 8 which overlap the side and end members and effectively reinforce the top frame pieces. These also provide supports for the inturned pintles 9 of the bail-shaped stacking members or irons 10. These members 10 are adapted to swing to erected position extending across the top of the receptacle and resting on the upper edges or side pieces 5 for supporting a superimposed box, or they may be swung to collapsed position as shown in Figs. 2 and 4, depending at the ends of the receptacles. This provides a very strong and rigid frame and one adapted to receive and effectively support wall panels of relatively light material such as container or box board.

The walls are preferably in the form of a unit as illustrated in Fig. 7 consisting of the bottom 11, side walls 12 and end walls 13. The ends of the side and end walls are cut at an angle so that when the walls are swung at an angle to the bottom a tapered wall unit is provided. This wall unit may be dropped into or placed in the frame, the angle iron side and bottom portions covering the joint between the walls and the bottom, the blank being scored to facilitate folding at this point while the angled uprights cover and protect the joints between the ends of the side and end walls.

When the walls are assembled in the frame the receptacle has a very substantial and complete appearance. The relatively weak or thin bottom and side walls are fully protected and supported so that the box is capable of carrying heavy loads. However, should the walls become injured or soiled they can be readily replaced without the aid of tools and by an unskilled workman.

The bottom and wall unit is retained in position by means of the springable clips 14 which are longitudinally slotted at 15 to receive the rivets 16 whereby the clips are supported for

vertical sliding movement. The clips have hooks 17 at their upper ends which overhang the upper edges of the top pieces and also the upper edges of the walls as shown in Fig. 1. The inturned ends 18 at the lower ends of these clips serve as detents engaging under the top pieces. These clip members are sprung somewhat so that they are normally under tension, tending to hold their upper hooked ends and the detents in engaged position.

Wooden runners or skid members 19 are preferably provided having upwardly beveled ends 20 so that the box can be dragged across a floor, platform or truck floor. The bails when in collapsed position serve effectively as handles. The runners 191 are reinforced by metal channels 192.

In the embodiment of the invention shown in Fig. 5 the clips 21 are retained by rivets or fastener members 22 which also serve to hold the spring washers 23 so that the spring washers serve as means for applying spring or clamping tension to the clips.

In the embodiment shown in Fig. 6 the clips 24 are pivoted at 25 and have detents 26 which engage the top pieces for retaining the clips in engaged position.

In the embodiment of Fig. 9 the corner uprights 26 are formed of sheet metal folded upon itself to a general angular section, the edges of the flanges being reversely folded upon themselves to provide channels 27 receiving the wall panels 28. This is also an effective means for supporting the wall panels, but is a somewhat more expensive structure than that previously described.

This improved box or receptacle is highly practical in that a frame is provided which is very strong and rigid and is adapted to receive and support bottom and wall panels which may be formed of very economical material. This material is so supported that the receptacle is suitable for quite heavy loads. The walls may be removed when they become soiled or damaged, and the renewal of the wall panels is quite nominal in cost.

I have illustrated and described my invention in a highly practical embodiment. No attempt has been made to illustrate or describe other embodiments or adaptations which I contemplate as it is believed this disclosure will enable those skilled in the art to embody and adapt my invention as may be desired.

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

1. In a receptacle, the combination of a frame comprising connected bottom, side and end pieces and corner uprights all formed of angle iron and disposed with the angles facing inwardly, side and end top pieces secured on the outer sides of said corner uprights at the upper ends, a wall unit of container board or the like comprising a bottom and side and end walls extending from the edges of the bottom, said wall unit being adapted when set up to be inserted within said frame within the angles of said bottom and corner upright members with the bottom pieces covering the joints between the bottom and walls and the corner uprights covering the joints between the end edges of the side and end walls, longitudinally slotted springable wall retaining clips, and headed fasteners securing said clips to the outer sides of said top frame pieces for vertical sliding adjustment, said clips having hook portions at their upper ends overhanging said top frame members and adapted to engage over the upper edges of the walls and inturned lower ends engageable below the top frame pieces when the clips are in wall engaging position.

2. In a receptacle, the combination of a frame comprising connected bottom, side and end pieces and corner uprights all formed of angle iron and disposed with the angles facing inwardly and with the corner uprights in upwardly diverging relation, side and end top pieces secured on the outer sides of said corner uprights at the upper ends, corner brackets secured to the outer sides of said top members, a wall unit of container board or the like comprising a bottom and side and end walls extending from the edges of the bottom, said wall unit being adapted when set up to be inserted within said frame within the angles of said bottom and corner upright members with the bottom pieces covering the joints between the bottom and walls and the corner uprights covering the joints between the end edges of the side and end walls, and wall retaining clips adjustably mounted on said frame top pieces for vertical adjusting movement relative thereto and slidingly engageable over the upper edges of the walls to releasably retain said unit in said frame.

3. In a receptacle, the combination of a frame comprising connected bottom, side and end pieces and corner uprights all formed of angle iron and disposed with the angles facing inwardly, side and end top pieces secured on the outer sides of said corner uprights at the upper ends, corner brackets secured to the outer sides of said top members, a wall unit of container board or the like comprising a bottom and side and end walls extending from the edges of the bottom, said wall unit being adapted when set up to be inserted within said frame within the angles of said bottom and corner upright members with the bottom pieces covering the joints between the bottom and walls and the corner uprights covering the joints between the end edges of the side and end walls, and wall retaining clips adjustably mounted on said frame top pieces for vertical adjusting movement relative thereto and slidingly engageable along the inner sides and over the upper edges of the walls.

4. In a receptacle, the combination of a frame adapted to removably secure bottom and wall panels and comprising connected bottom, side and end pieces and corner uprights all formed of angle iron and disposed with the angles facing inwardly top pieces secured on the outer sides of said corner uprights, longitudinally slotted springable wall retaining clips, and headed fasteners securing said clips to the outer sides of said top frame pieces for vertical sliding adjustment, said clips having hook portions at their upper ends overhanging said top frame members and adapted to engage over the upper edges of the walls and inturned lower ends engageable below the top frame pieces when the clips are in wall engaging position.

5. In a receptacle, the combination of a frame comprising bottom, side and end pieces and corner uprights of angle iron disposed with the angles of the corner uprights facing inwardly, top pieces secured to the outer sides of said corner uprights, a wall unit of container board or the like comprising a bottom and side walls extending from the edges of the bottom, said wall unit being adapted when set up to be inserted within said frame with the corner uprights covering the joints between the end edges of the side and end walls, and adjustable retaining members mounted on

said top pieces for vertical adjusting movement relative thereto and slidingly engageable along the inner sides and over the upper edges of the walls for removably retaining the walls within the frame.

6. In a receptacle, the combination of a frame comprising connected side and end bottom pieces and corner uprights of angle iron disposed with the angles of the corner uprights facing inwardly, and side and end top pieces secured to the outer sides of said corner uprights and extending between the same, wall panels supported on said side and end bottom pieces and arranged on the inner sides of said side and end top pieces in supported relation thereto and with their ends within the angles of said corner uprights and supported thereby, and releasable retaining clips for said panels adjustably mounted on the outer sides of said top pieces and having downwardly facing U-shaped portions closely embracing the upper edges of said top pieces and said wall panels.

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