Dec. 13, 1960 M. P. MICKLER, JR 2,964,217

CRATE

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Fig. 1

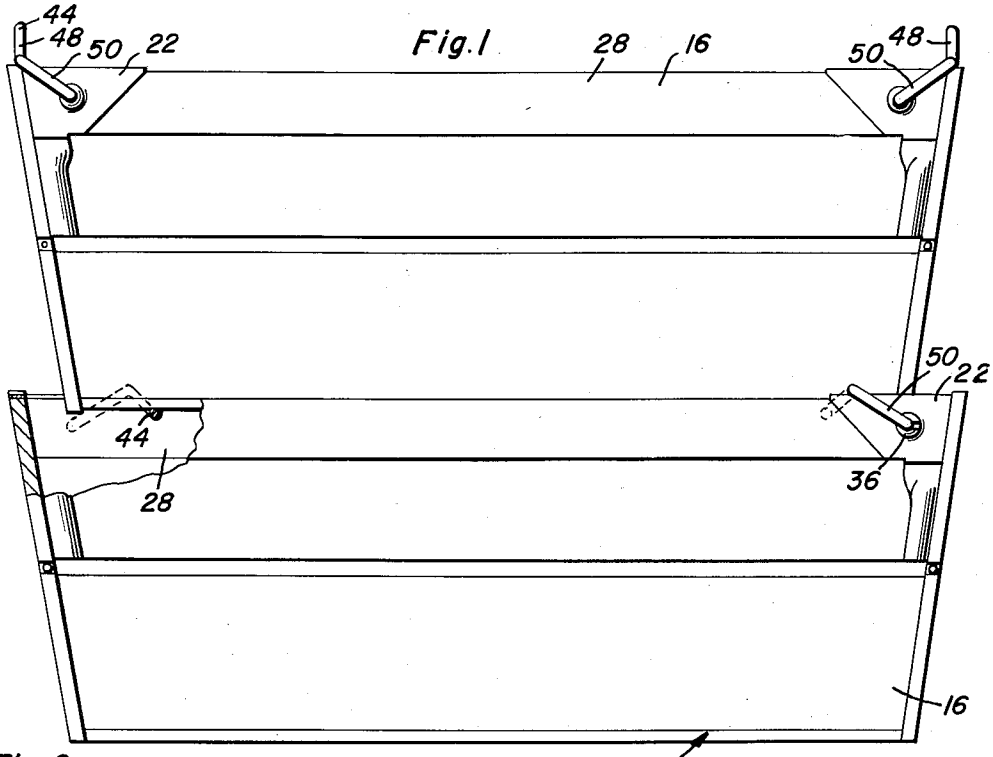


Fig. 2

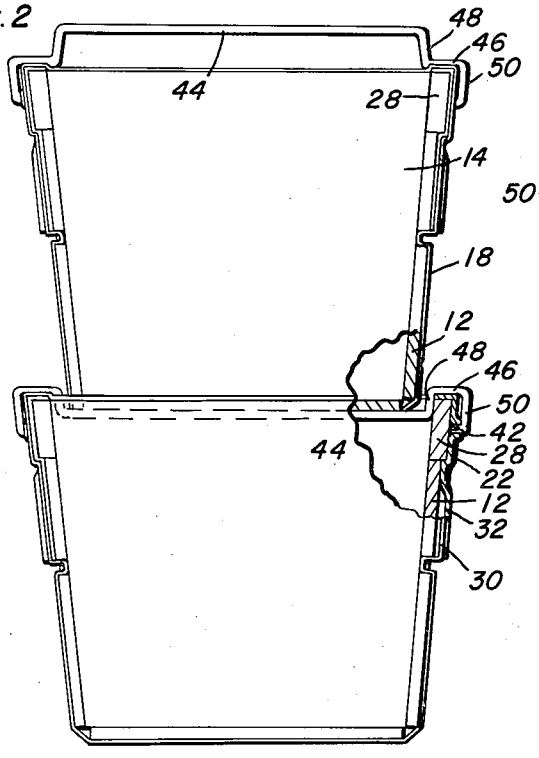
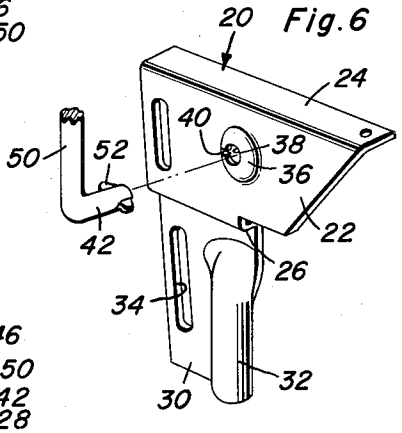


Fig. 6



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Fig. 3

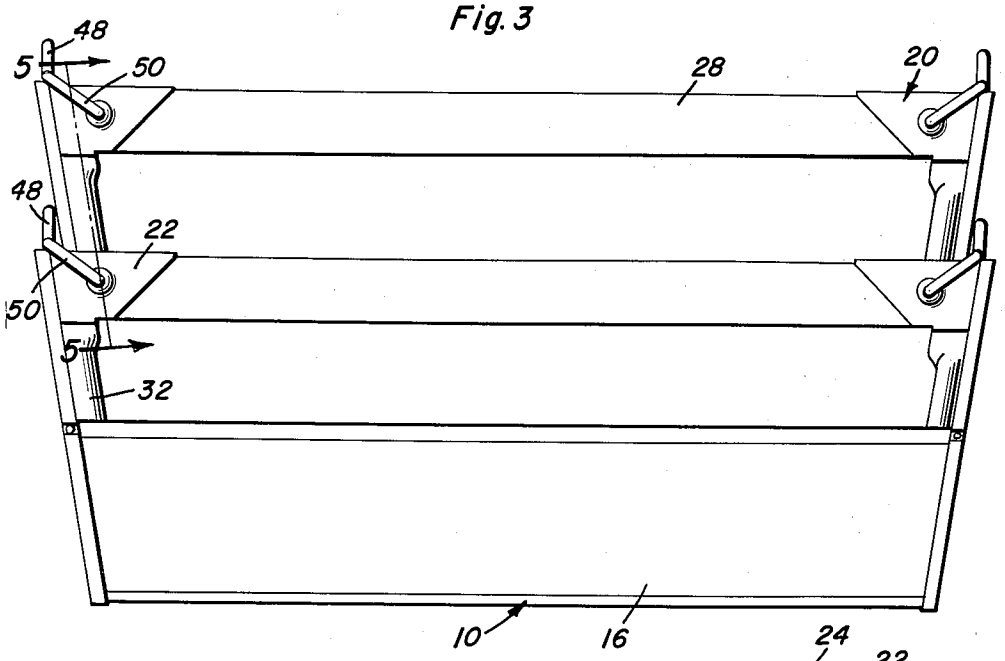


Fig. 4

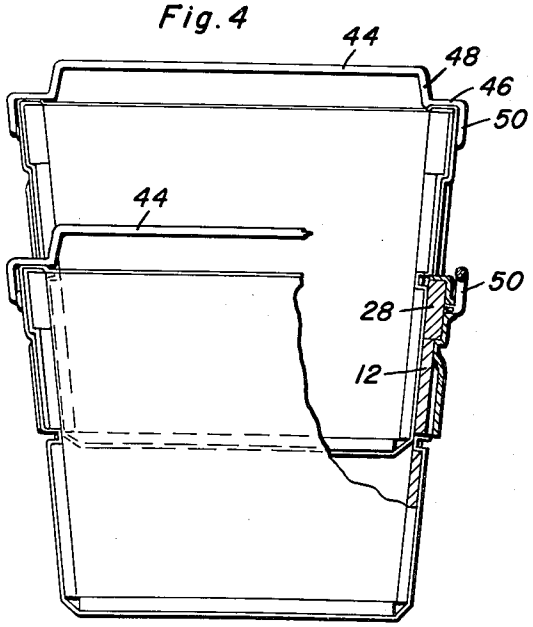
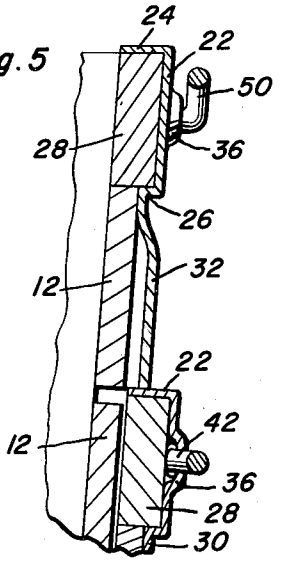


Fig. 5



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2,964,217

CRATE

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2 Claims. (Cl. 220—97)

The present invention generally relates to a crate and more particularly corner hardware for nesting crates which provides a pivotal transverse handle member which may be employed as a conventional handle for permitting the crates to nest and which may be employed as a transverse support for stacked crates for retaining the crates in unnested stacked condition.

An object of the present invention is to provide a novel structural arrangement of a crate and more particularly to corner hardware attached to the crate which limits the nesting of a plurality of crates when in nested condition and which also provides means for supporting the crates in stacked unnested condition such as when the crates are filled with produce which must be proteced from mashing.

Another object of the present invention is to provide a crate having a tapered overall construction and provided with corner brackets which limit the nesting of a plurality of nested crates and also have a transverse pivotal handle connected therebetween which may act as a conventional handle or act as a transverse support rod for supporting the crates in stacked unnested relation.

Other objects of the present invention will reside in its simplicity of construction, utility with crates of various structural materials, adaptation for its particular purposes and its relatively inexpensive manufacturing cost.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a side elevational view of a pair of stacked crates with a portion of the lower crate being broken away showing the position of the transverse support rod;

Figure 2 is an end elevation of the construction of Figure 1 with portions of the crates broken away showing the details of construction thereof;

Figure 3 is a side elevational view of a pair of crates in nested relation;

Figure 4 is an end elevation of the construction of Figure 3 with portions thereof broken away showing the relationship of the crates when in nested condition;

Figure 5 is a detailed sectional view on an enlarged scale taken substantially upon a plane passing along section line 5—5 of Figure 3 illustrating the feature of the corner brackets which limit the telescopic nesting of adjacent crates; and

Figure 6 is a perspective view of one of the corner brackets and illustrating the end of the transverse rod pivotally attached thereto.

Referring now specifically to the drawings, the numeral 10 generally designates the crate of the present invention which may be constructed of any suitable materials but which is shown in the present application as being constructed of longitudinal wooden slats 12 which

are constructed and arranged in such a manner that each end wall 14 and side wall 16 is inclined inwardly thus providing a tapered crate construction which has an open upper end. The slats 12 of the side walls 16 and the end walls 14 are held in assembled relation by metallic straps 18. The foregoing is conventional crate construction and it is pointed out that the crate may be constructed of any suitable material. These crates have many purposes and uses and when they are empty, they may be nested by stacking one within the other. After the crates have been filled with produce, it is absolutely essential that the stacked crates not engage the produce since the stacked crates would have harmful effects thereon. Also, it is desired that the telescopic engagement or relationship of the crates be limited when in nested condition so that the crates will not jam and become inseparable.

For solving these problems, there is provided at each upper corner of each crate 10 a bracket generally designated by the numeral 20. The bracket 20 includes a vertical portion 22 disposed against the outer surface of the upper slat 12 of the crate with the vertical portion 22 terminating at its upper edge in an inwardly extending flange 24 overlying the top edge of the side wall 16. At the bottom of the vertical portion 22 is an inwardly extending offset flange 26 which extends under the ledge defined by the enlarged slat or thick slat 28 at the upper end of the side wall 16. Extending downwardly from the inner end of the offset flange 26 is a second vertical portion 30 lying against the upper panel or slat 12. The inner edge of the vertical portion 30 is provided with a vertically disposed outwardly bowed portion 32 which extends outwardly a sufficient distance to engage the upper flange 24 of an underlying crate 10 when the crates are in nested condition as illustrated in Figures 4 and 5. Both of the vertical portions 22 and 30 are provided with longitudinal slots 34 for receiving fastening members which may also secure the straps 18 in position whereby the brackets 20 may be secured to the crates 10 in any suitable manner.

Formed centrally on the vertical portion 22 is an outwardly bowed portion or member 36 having a central opening 38 having a notch 40 in one endge thereof for receiving an inwardly extending terminal end 42 on an elongated transverse rod 44. The transverse rod 44 has offset end portions 46 connected thereto by connecting portions 48. The offset portions 46 terminate in laterally extending portions 50 which terminate in the inturned ends 42. The inturned ends 42 are provided with laterally extending lugs 52 which secure the transverse rods 44 to the brackets 20 for permitting swinging movement thereof about an axis substantially coincidental with the inwardly extending ends 42. This pivotal movement will permit the rod 44 to act as a handle when the offset portion 46 is resting against the top edge of the crate outwardly of the inturned end 42 as illustrated in Figure 3 thus permitting the crates 10 to be nested to the extent permitted by the engagement between the outwardly bulged portion 32 and the top flange 24 of an underlying crate. This permits shipment of the crates in empty condition in a relatively small space. As the crates are filled with produce or any other articles which must not be crushed, the transverse rods 44 are swung inwardly so that the offset portion 46 engages the top edges of the side wall inwardly of the inturned end 42 substantially as illustrated in the bottom crate of Figure 1 thereby providing a transverse support rod for supporting the upper crate and preventing any of the upper crate's weight being brought into engagement with the articles in the lower crate thereby preventing damage and crushing of the articles.

The crate may be used with various types of vegetables, fruit or similar products as well as any other products or articles. The crate also may be used in transporting such products from the field to a packing house or on long distance hauls. The downward offset in the handle or rod prevents lateral displacement of the crates when in stacked relation and this offset also permits the bottom of an upper crate to drop below the upper edge of the end walls of a lower crate thereby preventing longitudinal shifting thereof. This arrangement maintains the crates in stacked relation during transportation under almost any conditions. The double lug on the inturned end of the rod is assembled through the single notch in the opening by tilting and shifting the bracket before it is assembled on the crate. The lugs are out of registry with the notch after assembly thus preventing displacement of the rod and providing permanent connection between the rod and bracket as long as the bracket is on the crate.

It is pointed out that the crate may be of any construction and of any material and the bracket may be of sheet metal or any equivalent material thus rendering the bracket easy to attach and easy to make and relatively inexpensive.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A corner bracket for a tapered receptacle having a thickened slat at the upper edge thereof, said bracket comprising a generally U-shaped plate conforming to and engaging the top, side and bottom surfaces of a slat, a depending plate member connected with and forming a continuation of the lower leg of said U-shaped plate and disposed against the side wall of a receptacle, said plate and plate member having openings for receiving fasteners, said plate having a centrally disposed outwardly extending boss, said boss having a central opening and a notch extending laterally into the edge of the opening for receiving a swedged end of a handle, said plate member having a vertically disposed outwardly extending projection for engagement with the upper leg of the plate of a bracket on an underlying nested receptacle for limiting the nesting relationship.

2. A crate construction comprising a receptacle having downwardly and inwardly converging peripheral walls adapted to telescope within each other for nesting a plurality of stacked empty receptacles, a corner bracket at each upper outer corner of the receptacles, said bracket including a vertical outwardly extending projection at the lower end thereof for engagement with the top edge of a side wall of an underlying receptacle for limiting the telescopic nesting relationship of a plurality of receptacles, and a pair of transverse rods of generally inverted U-shaped construction having inturned ends pivotally supported from said brackets for movement from an inner position in underlying relation to an overlying receptacle and in engagement with the top of the walls of the receptacle for preventing nesting relationship of the receptacles for protecting articles within the lower receptacle to an outer position exteriorly of the end wall of an overlying receptacle and spaced above the upper edge of the receptacle for use as a handle for carrying the receptacle and permitting nesting of an overlying receptacle into an underlying receptacle with the vertical projection forming the sole means for limiting the nesting of the receptacles, each of said transverse rods including a downwardly offset central portion for receiving the bottom of the upper receptacle thereby preventing lateral displacement of the upper receptacle in relation to the lower receptacle thereby maintaining the receptacles in stacked condition, each of said brackets being provided with a depending plate member disposed against the outer surface of the wall of the receptacle, said plate member having openings for receiving fasteners for attachment to the receptacle, said plate member having a centrally disposed boss, said boss having a central opening therein for receiving the inturned ends of said transverse rods, the inner end of each rod being laterally swedged for retention in the boss.

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