

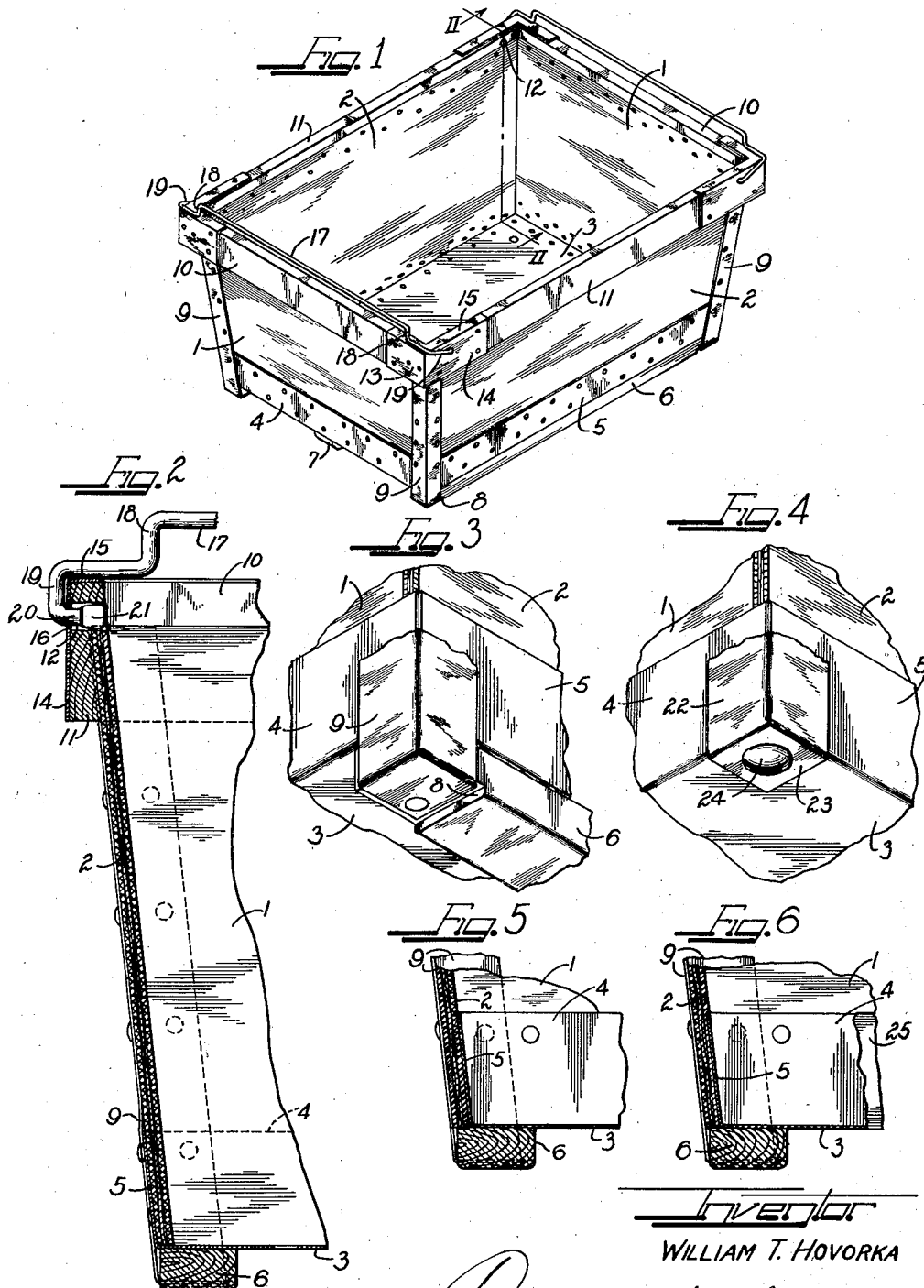
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BOX

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BOX

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1 Claim. (Cl. 217—5)

It has been found that in the handling of commodities such as vegetables, fruits, and the like in wooden boxes or crates that the wooden bottoms and the lower margins of the walls of the boxes or crates deteriorate faster than the upper portions of the box walls due to the fact that fruits and vegetables are moist, so that when the moisture accumulates in the lower portions of the boxes or crates, the bottoms and lower margins of the walls of the boxes or crates become saturated causing the wood of the bottom portions of the boxes or crates to rot or deteriorate. To obviate this condition the present invention has been devised by providing a wooden box or crate with a metal pan bottom.

It is an object of this invention to provide a stacking or nesting box or crate having a flanged metal base pan for making the box or crate more desirable for the handling of moistened vegetables, fruits, and the like.

It is also an object of this invention to provide a wooden box or crate of the tapered type having a metal base pan and metal angle strips overlying the meeting edges of the walls of the box and the flanges of the base pan.

It is furthermore an object of this invention to provide a stacking and nesting type of box provided with stacking irons and having a flanged metal base forming a pan-like bottom, the corners of which are reinforced by metal corner angles the lower ends of which are formed to engage beneath the corners of the pan bottom.

It is a further object of this invention to provide a nesting and stacking type box having stacking units secured to the top frame of the box, with each of said stacking units embracing a bent stacking iron, the end portions of which are bent inwardly toward one another to engage through suitable openings in metal corner brackets, after which the ends of the stacking iron are enlarged or flattened out and rotatably project into suitable enlarged openings in the box top frame to permit pivotal swinging of the stacking irons into stacking and nesting positions with the enlarged head end portions of the stacking irons preventing the irons from being pulled outwardly through the openings in the metal corner brackets.

Still another object of the invention is the provision of a stacking and nesting type box or crate having wooden walls and provided with a metal bottom pan adapted to be positioned either on the exterior or the interior of the bottom portion of the box or crate and which is rigidly connected with the top reinforcing frame

of the box or crate by means of angle corner strips which not only engage over the meeting edges of the box walls and the meeting edges of the flanges of the bottom pan but also are bent over to engage beneath the corners of the pan bottom to produce a strong box which will hold together even if the wooden walls of the box deteriorate or rot through from the constant action of moisture resulting from the constant handling of moist vegetables and the like in the box.

It is an important object of this invention to provide a stacking and nesting box or crate for the handling of vegetables, fruits, and similar commodities, said box or crate being provided with a metal base pan having flanges extending upwardly to overlap the lower margins of the box walls thereby providing a bottom which will not rot off or deteriorate from the action of moisture carried by the commodities which are being handled.

Other and further important objects of this invention will be apparent from the disclosures in the specification and the accompanying drawing.

The invention (in preferred forms) is illustrated in the drawing and hereinafter more fully described.

On the drawing:

Figure 1 is an isometric view of a stacking and nesting box or crate embodying the principles of this invention;

Figure 2 is an enlarged vertical detail section taken on line II-II of Figure 1 and illustrating the mounting of the stacking irons and the positioning of the base pan;

Figure 3 is an enlarged fragmentary isometric view of a bottom corner of the box;

Figure 4 is a fragmentary isometric view of the bottom corner of a modified form of box or crate;

Figure 5 is an enlarged fragmentary vertical detail section through the lower portion of a modified form of box or crate having the base pan positioned on the interior of the lower portion of the box; and

Figure 6 is a similar sectional view to that shown in Figure 5 of a modified form of box or crate wherein the flanges of the base pan are recessed into the inner faces of the lower portions of the box walls.

As shown on the drawing:

The improved box or crate is of the stacking and nesting type and embraces a combination of reinforced wooden walls connected to a metal base pan. The improved box or crate comprises

end walls 1 and side walls 2, constructed of wooden boards, plywood or other suitable material, which are cut and secured together to provide a tapered body smaller at the bottom than at the top, to facilitate nesting.

In the form of the box or crate illustrated in Figures 1 to 3 inclusive the lower margins of the end and side walls of the box project downwardly into a metal base pan comprising a metal bottom 3 having integral end flanges 4 and integral side flanges 5. The lower edges of the end and side walls 1 and 2 of the box body seat against the inner face of the pan bottom 3 and said end and side walls are secured to the flanges 4 and 5 of the base pan by means of rivets, nails, or other suitable fastening devices.

Secured longitudinally to the bottom of the base pan bottom plate 3 are side runners 6 and an intermediate or middle runner 7. Both ends of each of the side runners 6 are cut out or notched at 8.

The corners of the box body are reenforced by means of metal angle strips 9 which overlie or cover the meeting edges of the end and side walls as well as the meeting edges of the flanges 4 and 5 of the base pan. The lower ends of the flanges of the corner strips 9 are bent inwardly to overlap one another and seat in the notches or recesses 8 of the side runners 6 to which the bent over bottoms of the corner strips are rigidly secured to provide reinforcements for the corners of the base pan.

Secured around the upper margins of the body of the box is a top reinforcing frame consisting of end rails 10 and side rails 11. The inner sides of the end and side rails 10 and 11 are recessed, as illustrated in Figure 2, to receive the upper margins of the box walls seated therein so that the inner surfaces of the box walls are flush with the inner faces of the end and side rails of the top frame. Provided in both of the side top rails 11 near the ends thereof are openings or recesses 12 (Figure 2).

For the purpose of permitting the improved boxes or crates to be stacked one upon the other when loaded, the improved box is equipped with stacking units at each end of the top portion of the box. Each of the stacking units comprises a pair of metal angle corner brackets, each consisting of an end flange 13, a side flange 14 and a top flange 15. The side flange of each of the corner brackets is provided with an opening at 16 which is small in diameter and which registers with one of the openings 12 of the top side rail 11 when the corner bracket is secured in place.

Before the corner brackets are secured to the corners of the top frame of the box, each pair of corner brackets is connected by means of a stacking iron 17. Each iron 17 is deflected near both ends at 18 for forming side arms 19, the ends of which are turned inwardly to provide pivots or pintles 20 which project through the openings 16 of the side flanges 14 of the corner brackets. After the pintles 20 are projected through the side flanges 14 of the corner brackets, the ends of the pintles are enlarged or swaged to form flattened heads 21 to prevent the pintles 20 from being pulled outwardly through the openings 16 of the corner brackets. After the swaging of the pintles 20, each of the stacking units, consisting of a stacking iron and two corner brackets, is adapted to be engaged on one end of a box with the enlarged pintle heads 21 projecting into the openings 12 of the side rails 11. The corner brackets

are rigidly secured to the top frame by means of rivets, nails, or other suitable fastening means. As illustrated in Figure 1, the stacking irons 17 are in their outermost position, clear of the open top of the box to permit a similar box to be nested in a lower box with the end rails of the upper box seated on the upturned cross members of the stacking irons 17 to hold the nested boxes sufficiently separated to permit easy disengagement thereof. For the purpose of stacking the boxes, when filled, one upon the other, the stacking irons 17 are swung upwardly and inwardly from the positions illustrated in Figure 1 to rest on the side members of the top flanges 15 of the corner brackets with the cross members of the stacking bails projecting downwardly into the top of the box a short distance to a position to permit an upper box to be stacked upon the lower box supported on the stacking bails or irons 17.

Figure 4 illustrates a fragmentary corner portion of a modified form of box which is constructed similar to the box illustrated in Figure 1, with the exception that the bottom runners are omitted so that the lower ends of the corner angle brackets 22 are bent over flat against the pan bottom 3. Rigidly secured against the bottom members 23 of each of the angle irons 22 is a metal dome or button foot 24. The dome or button foot 24 serves as a support for the box to permit the easy sliding thereof over a floor.

Figure 5 illustrates a sectional detail view of a modified form of box or crate similar to the one illustrated in Figure 1 but having the metal base pan mounted within the bottom portion of the box body instead of on the exterior thereof. In this form of the device the flanges 4 and 5 of the base pan are seated against the inner faces of the lower portions of the walls of the box.

Figure 6 illustrates a fragmentary sectional view of another modified form of box or crate similar to the box illustrated in Figure 5, with the exception that the inner faces of the lower margins of the end and side walls 1 and 2 of the box are recessed at 25 to receive the flanges 4 and 5 of the base pan so that the inner faces of said base pan flanges are flush with the inner faces of the walls of the box to provide substantially smooth surfaces within the box.

It will of course be understood that various details of construction may be varied through a wide range without departing from the principles of this invention and it is therefore not the purpose to limit the patent granted hereon otherwise than necessitated by the scope of the appended claim.

I claim as my invention:

A stacking box or crate for fruit and the like, said crate comprising a rectangular plywood body section of inclined side and end walls, means to protect the lower end of said body section against rot and also to connect said end and side walls, said protecting and connecting means comprising a bottom-forming pan of metal having upstanding flanges which are secured against the inner faces of said end and side walls at the lower ends of said walls in protecting relation thereto, and with the lower ends of said walls providing a buffer for said flanges, metal angle strips on the exterior corners of said box and disposed over meeting edges of said side and end walls, runner strips disposed under said pan, said angle strips being secured to said side and end walls and having their lower ends secured to said runner strips.

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