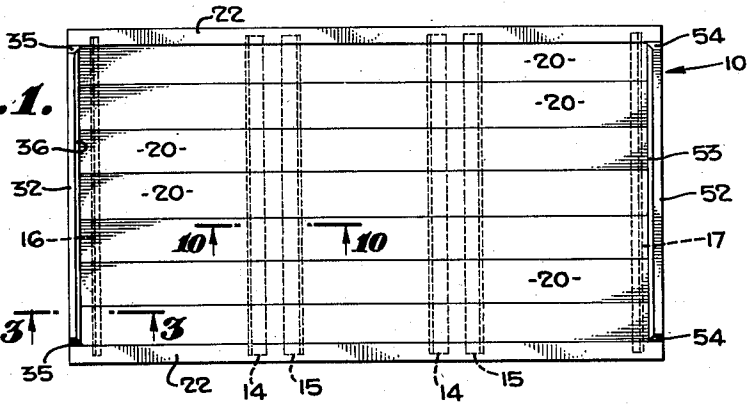
Jan. 20, 1953 W. L. HOLE 2,626,076

PINEAPPLE BOX WITH STACKING FEATURE AND HINGED ENDGATE

Filed June 12, 1948 2 SHEETS—SHEET 1

Fig. 1.



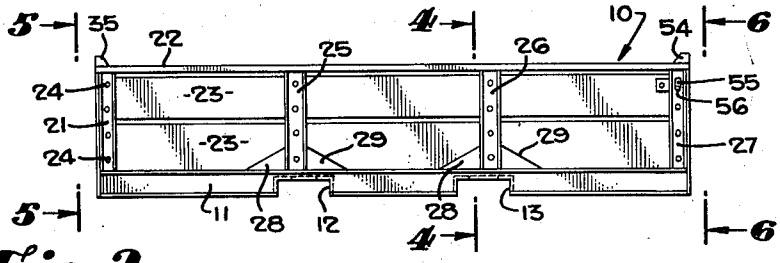
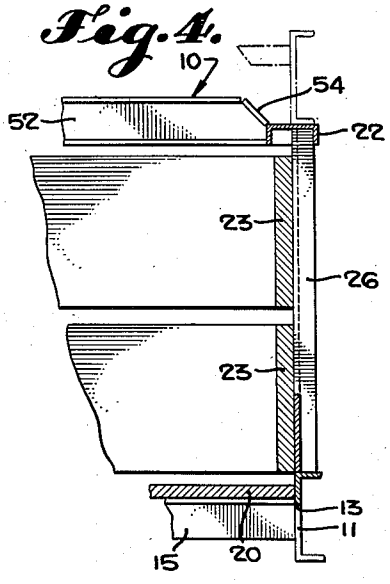


Fig. 2.

Fig. 4.



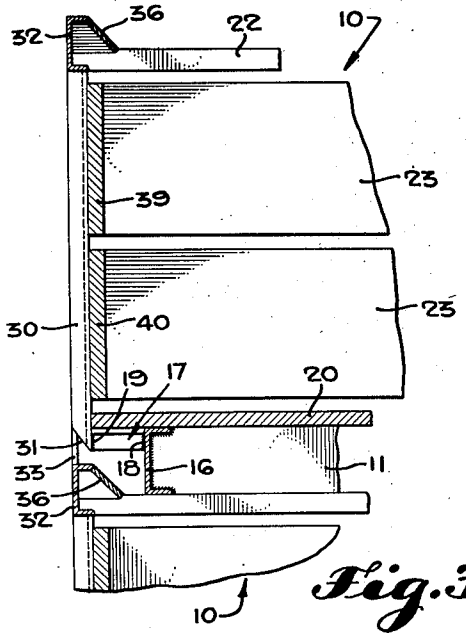


Fig. 3.

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Jan. 20, 1953 W. L. HOLE 2,626,076

PINEAPPLE BOX WITH STACKING FEATURE AND HINGED ENDGATE

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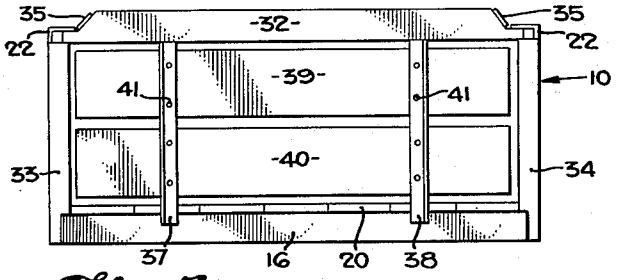


Fig. 5.

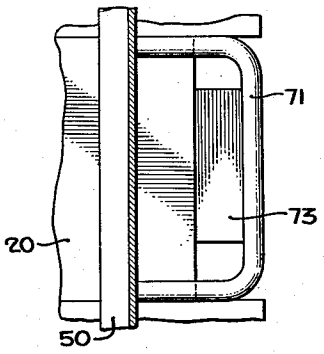


Fig. 9.

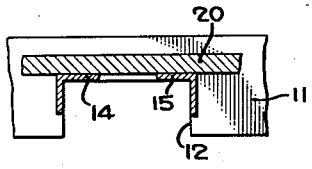


Fig. 10.

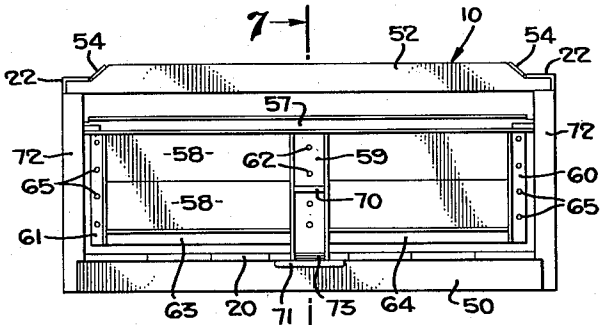


Fig. 6.

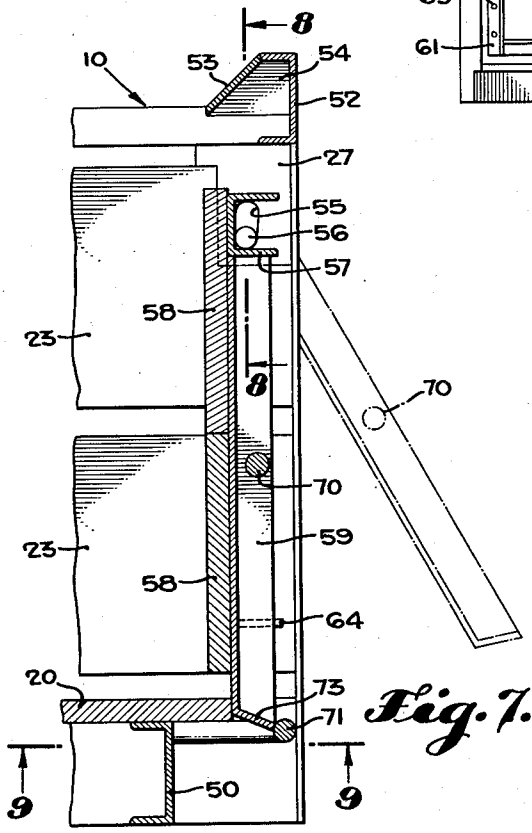


Fig. 7.

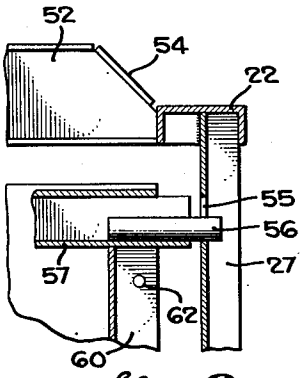


Fig. 8.

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UNITED STATES PATENT OFFICE

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PINEAPPLE BOX WITH STACKING FEATURE AND HINGED ENDGATE

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Application June 12, 1948, Serial No. 32,597

11 Claims. (Cl. 217—13)

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This invention relates to a box or crate, and more particularly to such a box adapted for the transportation and storage of pineapples.

In accordance with the objects of this invention, the pineapple box or crate as hereinafter described is first transported to the field as by means of a suitable truck and loaded with a harvesting machine. The box full of pineapples is then transported to the processing plant where it is stored until ready for use. In accordance with the features of this invention as many as six of the pineapple boxes may be stacked upon each other, thus affording great economy in ground storage space, and also affording economy of space in transportation on seagoing barges. The pineapple boxes of this invention may be stacked safely aboard such a barge without dunnage, lashing, or other means of securing except the nesting feature. Further, when the pineapples stored in the boxes of this invention are ready for processing, the loaded pineapple boxes may be transported to the unloading platform, the tilting end gate raised, and the pineapples would then flow out of the box onto the conveyor system of the processing plant simply by lifting the closed end of the pineapple box.

It is therefore one object of this invention to provide a pineapple storage and handling box which affords an economy of ground space by virtue of its novel interlocking feature. Another object of this invention is to provide such a pineapple box which by reason of its raised floor avoids any bruising of the fruit during handling despite the position of a plurality of such boxes in stacked relation.

It is a further object of this invention to provide a pineapple box as above described which is sturdy and economical of manufacture.

Further objects and advantages will appear from the annexed specification in which:

Figure 1 is a plan view of a pineapple box embodying this invention;

Figure 2 is a side elevation of the box shown in Figure 1;

Figure 3 is an enlarged section taken along the line 3—3 of Figure 1 and showing a pair of pineapple boxes in stacked relation;

Figure 4 is an enlarged section taken on the line 4—4 of Figure 2;

Figure 5 is an end view taken on the line 5—5 of Figure 2;

Figure 6 is a front end view taken on the line 6—6 of Figure 2;

Figure 7 is an enlarged section taken on the line 7—7 of Figure 6;

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Figure 8 is a fragmentary section taken on the line 8—8 of Figure 7;

Figure 9 is a fragmentary section taken on the line 9—9 of Figure 7; and

Figure 10 is a section taken on the line 10—10 of Figure 1.

Referring now more particularly to the drawings, the pineapple box is indicated generally at 10, and comprises a pair of rails or channel members 11 disposed respectively on either side of the box adjacent the bottom thereof. The channel members 11 have a pair of openings 12 and 13 therein for the insertion of hoisting fingers to facilitate the handling of the boxes of this invention, and angles 14 and 15 are provided transversely of the box adjacent the corners of the openings 12 and 13 as clearly indicated in Figures 1 and 10. Adjacent the rear end of the box a bottom transverse rail or channel member 16 is provided transversely of the box as most clearly shown in Figure 3; and between the channel member 16 and the rear end of the box one or more rails or L's 17 may be provided, retained therein by the welds 18 and 19. A flooring is provided in the box comprising wooden slabs 20 resting upon the angles 14 and 15 and the channel 16 and L's 17. A rear and vertically disposed channel 21 is disposed at each of the rear corners with one end resting upon the channels 11 and the other end resting upon a top longitudinal rail or channel 22. Wooden side walls 23 are provided and held in spaced relation as indicated by the bolts or screws 24 in the channel 21 and similar bolts or screws in rails or channels 25, 26 and 27. The channels 25, 26 are similarly disposed between the channels 11 and 22 and are braced by plates 28 and 29.

Adjacent each corner of the end wall a vertically disposed L 30 is provided having a beveled end 31 as indicated, the L's 30 being disposed between the L's 17 and the top transverse rail or channel 32. Corner plates 33 and 34 are provided on the rear end affixed to the L's 30 as shown in Figures 3 and 5. The channel 32 terminates short of the two sides of the box and inclined plates 35 are provided running from the top of the channel 32 to the channels 22. A plate 36 is provided running transversely of the box having its upper edge affixed to the channel 32 and disposed at an angle to the vertical with its lower edge engaging the channel 22. A pair of L's 37 and 38 are provided on the end wall engaging at their lower ends L's similar to the L's 17 previously described and welded at their

upper ends to the channel 32. Spaced end boards 39, 40 are affixed to the L's 37 and 38 as by bolts or screws 41.

The front end of the box is somewhat similar to the rear end of the box, having a bottom transverse rail or channel 50 similar to the channel 16 upon which the floor boards 20 also rest. A top transverse rail or channel 52, similar to the channel 32 is provided transversely of the box, provided with a plate 53 similar to the plate 36 and similarly disposed. The channels 27 mount the channels 22 as indicated in Figure 8, and plates 54 similar to the plates 35 are provided running from the channels 22 to the channel 52. An elongated slot 55 is provided at each of the channels 27, each accommodating pins 56. Pins 56 are mounted in a channel 57 running transversely of the end wall and secured to upstanding L's 60 and 61. A centrally disposed channel 59 is provided affixed to the end boards 58 as by suitable screws or bolts 62. An L 63 is provided along the lower edge of the lowermost board 58 on one side of channel 59 and a similar L 64 is provided on the other side thereof. The upstanding L's 60 and 61 are also affixed to the boards 58 by suitable screws or bolts 65. A lift handle 70 is provided mounted across the two arms of the channel 59 and a catch 71 is provided mounted on the channel 50. Corner plates 72 similar to the corner plates 33 are provided at each of the front corners. A forwardly and downwardly extending lip 73 is provided on the lower end of the channel 59 for engagement with the catch 71.

The operation of the front gate is as follows: Assuming the gate to be closed, as shown in full lines in Figure 7, the operator lifts the entire gate by means of the lift handle 70, thus raising the pins in the slots 55 and causing the lip 73 to rise free of the catch 71, at which time the entire end gate may be swung into a horizontal position and, upon returning, the lower side of the lip 73 will cam over the catch 71 causing the gate to fall into closed position.

Referring now more particularly to Figure 3, it will be noted that a plurality of pineapple boxes of this invention may be nested together. The portions formed by the channels 32 and 52, beveled as they are on the inner sides and ends by the plates 35, 36 and 53, 54, will extend within an empty space adjacent the channels 16 and 50, thus preventing a superimposed box from sliding off the lower positioned box and retaining the superimposed box longitudinally with respect to said lower disposed box. Further, it will be apparent that by reason of the fact that floor boards 20 are mounted on the top of the cross members 16, 14, 15, 17, and 50, a space is left between the lowermost edge of the channels 11 sufficient to accommodate any fruit extending over the top surface of the channels 22; and also by reason of the openings 12 and 13, a superimposed box may be lifted by hoisting fingers or lift prongs, thus eliminating the necessity of loose blocks or pallets.

While there has been described what is at present considered the preferred embodiment of the invention, it will be apparent to those skilled in the art that various changes and modifications can be made therein without departing from the essence of the invention, and it is intended to cover herein all such changes and modifications as come within the true spirit and scope of the appended claims.

What is claimed is:

1. A pineapple box comprising a pair of vertically disposed spaced side walls, a pair of bottom longitudinal rails, each of said bottom rails being disposed adjacent its associated side wall; bottom transverse rails; a floor supported on the tops of said bottom transverse rails in spaced relation with the bottom of said rails; a pair of vertically disposed end walls; each of said end walls having an upper transverse top rail; each of said side walls being provided with a longitudinally extending top rail; said transverse top rails each extending above the upper surface of said longitudinally extending top rails and extending a distance less than the distance between said bottom longitudinal rails and adapted to fit between the bottom longitudinal rails of a like superimposed box.

2. A pineapple box comprising a pair of vertically disposed spaced side walls, a pair of bottom longitudinal rails, each of said bottom rails being disposed adjacent its associated side wall; bottom transverse rails; a floor supported on the tops of said bottom transverse rails in spaced relation with the bottom of said rails; a pair of vertically disposed end walls; each of said end walls having an upper transverse top rail; each of said side walls being provided with a longitudinally extending top rail; said transverse top rails each extending above the upper surface of said longitudinally extending top rails and extending a distance less than the distance between said bottom longitudinal rails and adapted to fit between the bottom longitudinal rails of a like superimposed box; a pair of said bottom transverse rails being disposed respectively each adjacent but spaced inwardly from its associated end wall, said transverse top rails being adapted to lie adjacent and outwardly of the endmost bottom transverse rails of a like superimposed box.

3. A pineapple box comprising a pair of vertically disposed spaced side walls, a pair of bottom longitudinal rails, each of said bottom rails being disposed adjacent its associated side wall; bottom transverse rails; a floor supported on the tops of said bottom transverse rails in spaced relation with the bottom of said rails; a pair of vertically disposed end walls; each of said end walls having an upper transverse top rail; each of said side walls being provided with a longitudinally extending top rail; said transverse top rails each extending above the upper surface of said longitudinally extending top rails and extending a distance less than the distance between said bottom longitudinal rails and adapted to fit between the bottom longitudinal rails of a like superimposed box, said bottom longitudinal rails having notches in their lower edges permitting the insertion of lifting prongs.

4. A pineapple box comprising a pair of vertically disposed spaced side walls, a pair of bottom longitudinal rails, each of said bottom rails being disposed adjacent its associated side wall; bottom transverse rails; a floor supported on the tops of said bottom transverse rails in spaced relation with the bottom of said rails; a pair of vertically disposed end walls; each of said end walls having an upper transverse top rail; each of said side walls being provided with a longitudinally extending top rail; said transverse top rails each extending above the upper surface of said longitudinally extending top rails and extending a distance less than the distance between said bottom longitudinal rails and adapted to fit between the bottom longitudinal rails of a like superimposed

box; a pair of said bottom transverse rails being disposed respectively each adjacent but spaced inwardly from its associated end wall, said transverse top rails being adapted to lie adjacent and outwardly of the endmost bottom transverse rails of a like superimposed box, said bottom longitudinal rails having notches in their lower edges permitting the insertion of lifting prongs.

5. A pineapple box comprising a pair of vertically disposed spaced side walls, a pair of bottom longitudinal rails, each of said bottom rails being disposed adjacent its associated side wall; bottom transverse rails; a floor supported on the tops of said bottom transverse rails in spaced relation with the bottom of said rails; a pair of vertically disposed end walls; each of said end walls having an upper transverse top rail; each of said side walls being provided with a longitudinally extending top rail; said transverse top rails each extending above the upper surface of said longitudinally extending top rails and extending a distance less than the distance between said bottom longitudinal rails and adapted to fit between the bottom longitudinal rails of a like superimposed box; a pivoted end gate in one of said end walls, the lower portion of said end gate extending below said floor; and means mounting said end gate for pivotal motion about a horizontal axis parallel to the plane of the upper portion of said gate.

6. A pineapple box comprising a pair of vertically disposed spaced side walls, a pair of bottom longitudinal rails, each of said bottom rails being disposed adjacent its associated side wall; bottom transverse rails; a floor supported on the tops of said bottom transverse rails in spaced relation with the bottom of said rails; a pair of vertically disposed end walls; each of said end walls having an upper transverse top rail; each of said side walls being provided with a longitudinally extending top rail; said transverse top rails each extending above the upper surface of said longitudinally extending top rails and extending a distance less than the distance between said bottom longitudinal rails and adapted to fit between the bottom longitudinal rails of a like superimposed box; a pair of said bottom transverse rails being disposed respectively each adjacent but spaced inwardly from its associated end wall, said transverse top rails being adapted to lie adjacent and outwardly of the endmost bottom transverse rails of a like superimposed box; a pivoted end gate in one of said end walls, the lower portion of said end gate extending below said floor; and means mounting said end gate for pivotal motion about a horizontal axis parallel to the plane of the upper portion of said gate.

7. A pineapple box comprising a pair of vertically disposed spaced side walls, a pair of bottom longitudinal rails, each of said bottom rails being disposed adjacent its associated side wall; bottom transverse rails; a floor supported on the tops of said bottom transverse rails in spaced relation with the bottom of said rails; a pair of vertically disposed end walls; each of said end walls having an upper transverse top rail; each of said side walls being provided with a longitudinally extending top rail; said transverse top rails each extending above the upper surface of said longitudinally extending top rails and extending a distance less than the distance between said bottom longitudinal rails and adapted to fit between the bottom longitudinal rails of a like superimposed box, said top transverse rails being beveled on their outer ends.

8. A pineapple box comprising a pair of vertically disposed spaced side walls, a pair of bottom longitudinal rails, each of said bottom rails being disposed adjacent its associated side wall; bottom transverse rails; a floor supported on the tops of said bottom transverse rails in spaced relation with the bottom of said rails; a pair of vertically disposed end walls; each of said end walls having an upper transverse top rail; each of said side walls being provided with a longitudinally extending top rail; said transverse top rails each extending above the upper surface of said longitudinally extending top rails and extending a distance less than the distance between said bottom longitudinal rails and adapted to fit between the bottom longitudinal rails of a like superimposed box, said transverse top rails being beveled on their outer ends; a pair of said bottom transverse rails being disposed respectively each adjacent but spaced inwardly from its associated end wall, said transverse top rails being adapted to lie adjacent and outwardly of the endmost bottom transverse rails of a like superimposed box, said top transverse rails being beveled on their inner sides.

9. A pineapple box comprising a pair of vertically disposed spaced side walls, a pair of bottom longitudinal rails, each of said bottom rails being disposed adjacent its associated side wall; bottom transverse rails; a floor supported on the tops of said transverse rails in spaced relation with the bottom of said rails; a pair of vertically disposed end walls, each of said end walls having an upper transverse top rail; each of said side walls being provided with a longitudinally extending top rail; said transverse top rails each extending above the upper surface of said longitudinally extending top rails and extending a distance less than the distance between said bottom longitudinal rails and adapted to fit between the bottom longitudinal rails of a like superimposed box, said transverse top rails being beveled on their outer ends; a pivoted end gate in one of said end walls, the lower portion of said end gate extending below said floor; and means mounting said end gate for pivotal motion about a horizontal axis parallel to the plane of the upper portion of said gate.

10. A pineapple box comprising a pair of vertically disposed spaced side walls, a pair of bottom longitudinal rails, each of said bottom rails being disposed adjacent its associated side wall; bottom transverse rails; a floor supported on the tops of said bottom transverse rails in spaced relation with the bottom of said rails; a pair of vertically disposed end walls; each of said end walls having an upper transverse top rail; each of said side walls being provided with a longitudinally extending top rail; said transverse top rails each extending above the upper surface of said longitudinally extending top rails and extending a distance less than the distance between said bottom longitudinal rails and adapted to fit between the bottom longitudinal rails of a like superimposed box, said transverse top rails being beveled on their outer ends; a pair of said bottom transverse rails being disposed respectively each adjacent but spaced inwardly from its associated end wall, said transverse top rails being adapted to lie adjacent and outwardly of the endmost bottom transverse rails of a like superimposed box, said transverse top rails being beveled on their inner sides; a pivoted end gate in one of said end walls, the lower portion of said end gate extending below said floor; and means mounting said end

gate for pivotal motion about a horizontal axis parallel to the plane of the upper portion of said gate.

11. A pineapple box comprising a pair of vertically disposed spaced side walls, a back wall, a floor, transverse bottom rails supporting said floor, a front wall including a gate, said gate having a pair of pins, one extending outwardly from each side of the upper portion thereof, each of said pins being slidably carried in a vertical slot in each of said side walls, the lower portion of said gate extending below the top of said floor, a vertical channel mounted on said gate, said channel having a forwardly and downwardly extending lip on the lower end thereof, and a catch member secured to one of said bottom rails and engaging said lip, said gate adapted to be moved vertically upwardly and then pivoted outwardly

for disengagement from said catch, and said channel lip adapted to cam over the catch member upon inward pivotal movement of said gate.

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