Aug. 18, 1931. J. L. MAULL 1,819,752

BOX HEAD OR END FOR FIELD BOXES

Filed Aug. 27, 1930

Fig. 1

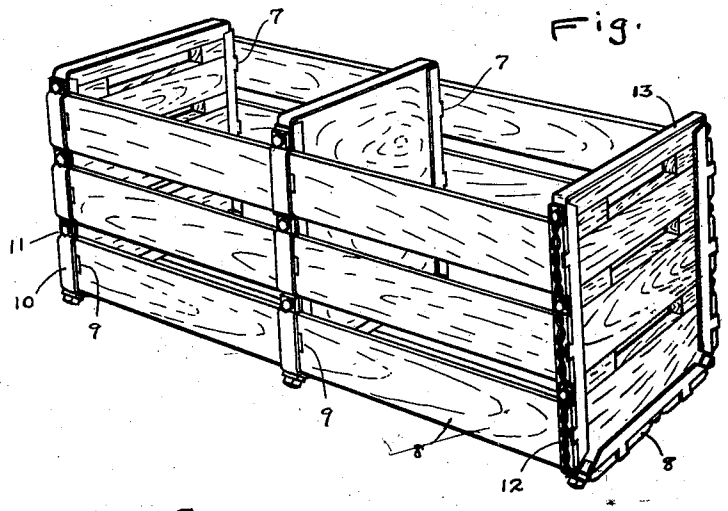


Fig. 5

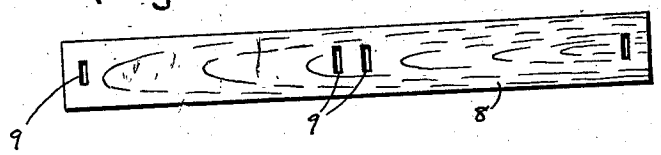


Fig. 3

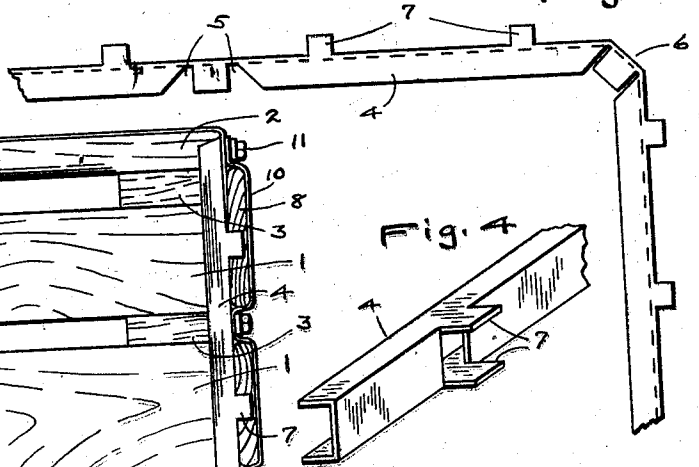


Fig. 2

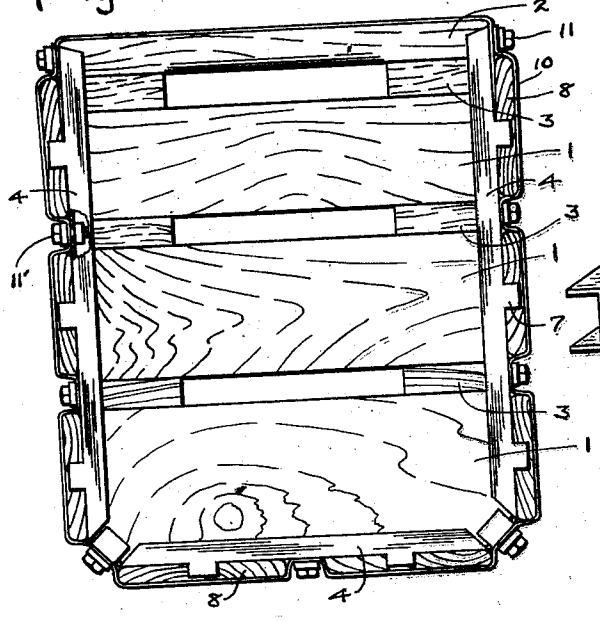


Fig. 4

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UNITED STATES PATENT OFFICE

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BOX HEAD OR END FOR FIELD BOXES

Application filed August 27, 1930. Serial No. 478,211.

This invention relates to boxes and crates and especially to the boxes used by fruit and vegetable growers for collecting their products from orchard and field.

An object of the invention is to provide such a box or crate, of stout construction and without nails, or wood screws, which become loose and allow a box to be wrecked and destroyed.

Another object is to provide a box or crate that is easily repaired, or knocked down for shipment or storage.

Another object is to provide a box of these advantages, that is inexpensive to manufacture.

In the accompanying drawings, which show an embodiment of the invention,

Figure 1 is a perspective view of the assembled box and shows two kinds of binding at its two ends.

Figure 2 is an elevation of one of the end heads recognized in Figure 1.

Figure 3 shows a portion of the channel iron reinforcing edge of the heads.

Figure 4 is an enlarged perspective view of a portion of the channel iron; and

Figure 5 is a view of one of the side boards 8, showing the anchor slots 9.

The same numerals refer to similar parts in the different figures.

As seen in Figure 2, an end head is preferably built up of wood slats 1 and top bar 2, with wood spacers 3 between them, all of at least three quarter inch stock. These are glued or otherwise securely attached into a unit, which has a reinforcing edge 4, of channel iron around three sides.

In Figure 3 is shown one manner of forming the channel iron edge, by cutting out notches as at 5 and of bending as at 6 around a corner. This is seen also in Figure 2 at the two bottom corners, where the bottom wood slat has its corners beveled. But the invention is not limited to any particular manner of forming the channel iron edge.

Pairs of tongues 7 are punched from the channel iron and bent outward, as understood better from Figure 4. When the channel member is in place, these tongues project outward from the three sides of the head. In Figure 2 the near tongue of each pair is seen against the end of a side or bottom board 8, the other tongue of the pair being in an anchor slot.

In Figure 5, one of the side and bottom boards 8, seen in Figures 1 and 2, shows the anchor slots 9 which receive the tongues 7. Some of the slots 9 can be seen in Figure 1 on the exterior of the box and in the same figure some of the tongues 7 can be seen entering the slots on the interior of the box.

With side and bottom boards 8 in place, a binding band 10 is placed around the assembly, having holes for the screws 11. At the points where the screws are to enter, holes are drilled in the heads and recesses made in the edges of the heads to receive square nuts. When the channel iron is in place then, the square nut is in the channel and so is prevented from turning, on tightening of the screw. In Figure 2, the channel iron is broken away to show a nut of screw 11′ inside channel 4.

Washers are preferably used on the screws which draw bands 10 down into the spaces between the side and bottom boards, clamping the boards securely against the heads, with the tongues in the anchor slots.

At 12 is shown a twisted wire cable which may be employed in place of bands 10, its strands being separated to receive the screws and the washers providing broad bearings to prevent the wires from slipping off the screws.

Before top screws are put in, a band 13 is placed over each head, with holes for the top screws.

In this manner a very stout box is provided, iron bound at every edge and corner exposed to wear and knocks; the parts are reinforced by iron channels and anchored by tongues and slots; and the whole is tightly drawn together by machine screws with nuts in the iron channel, which are not apt to work loose with use as nails and wood screws do and which can be tightened again, if loose, as nails cannot. Wood screws may be tightened a few times, but soon wear out

their holes with use and cannot be tightened further. But the machine screw, with nut in the channel, can be tightened so firmly it is not apt to become loose and can be retightened indefinitely.

The top bar 2 at each end, with spacers 3, provides a hand hold, which may have its edges rounded.

The heads may be made of stock a little thicker than the width of the channel iron and have its edges rabbeted to receive the channel iron, so that the iron surface is a little below the wood surface. In this construction no nail, screw or bolt heads or other metal parts project to scratch or bruise the contents of the box.

A box so built, can be shipped knocked down and readily assembled by the merchant or user.

The invention is not intended to be limited to the particular form or any of the details shown or described, but is intended to embrace the scope of the following claims.

What is claimed is:

1. In a box or crate, the combination of heads; metal edges for the heads, having tongues extending outward; boards against the heads, having slots to receive the tongues; and bands binding the boards against the heads.

2. In a box or crate, the combination of heads; metal edges for the heads, having tongues extending outward; boards against the heads having slots to receive the tongues; and wire cables binding the boards against the heads.

3. In a box or crate, the combination of heads; channel iron edges for the heads, having tongues slit from them and bent outward; boards against the heads, having slots to receive the tongues; and bindings holding the boards against the heads.

4. In a box or crate, the combination of heads; channel iron edges for the heads, having tongues slit from them and bent outward; boards against the heads, spaced apart and having slots to receive the tongues; bindings outside the boards; and bolts between the boards for drawing the bindings against the boards.

5. In a box or crate, the combination of two end heads and an intermediate head, each having a channel iron edge with tongues slit from it and bent outward; side and bottom boards, having slots to receive the tongues; and means for binding the boards against the heads.

6. In a box or crate, the combination of two end heads comprising slats with spacers between them, providing vents and hand holds; an intermediate head; a channel iron edge for each head having tongues slit from it and bent outward; side and bottom boards around the heads, spaced apart and having slots to receive the tongues; bindings surrounding the assembled heads and boards; and bolts between the boards, having nuts inside the channels, for drawing the bindings tight against the boards.

7. In a box or crate, the combination of two end heads having hand holds; an intermediate head; channel iron edges for bottom and sides of each head, having tongues extending outward; a band iron over the top of each head; side and bottom boards around the heads, spaced apart and having slots to receive the tongues; and bindings drawn tight by bolts between the boards, so that the bolt heads are within the general surface of the box.

In testimony whereof I affix my signature.

JAMES L. MAULL.