

Sept. 17, 1957

M. H. BECKNER
COMBINED CRATE AND PALLET

2,806,623

Filed Feb. 24, 1956

4 Sheets-Sheet 1

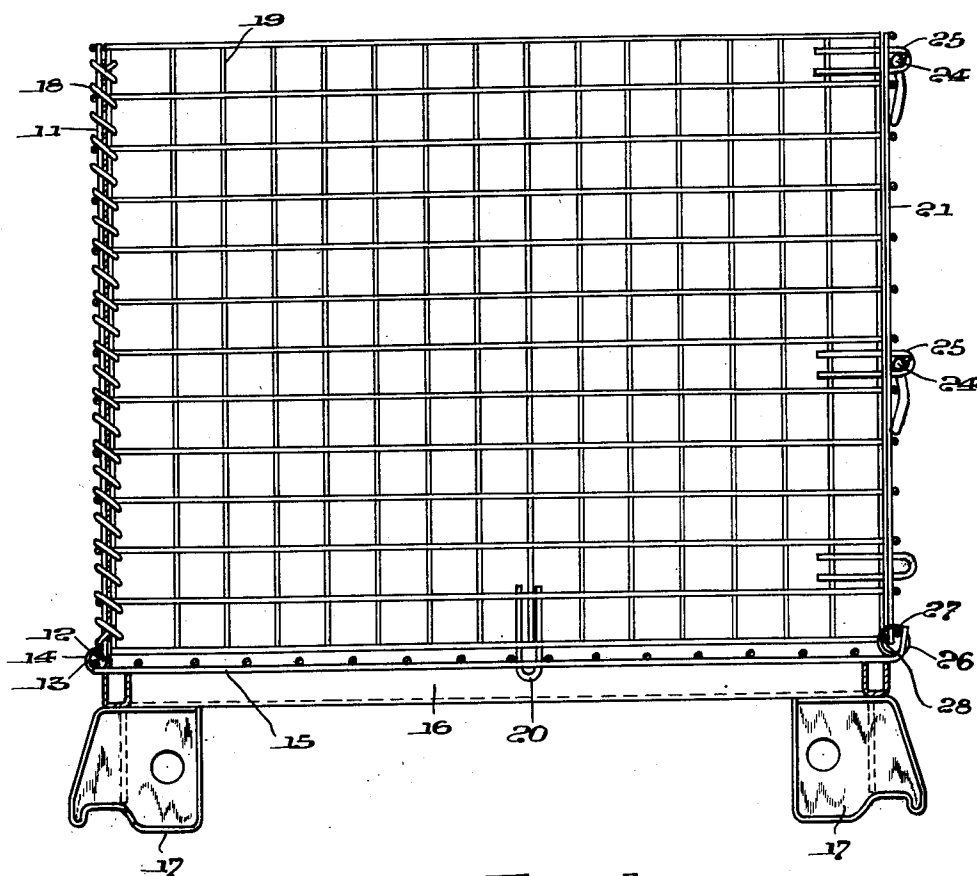


Fig. 1.

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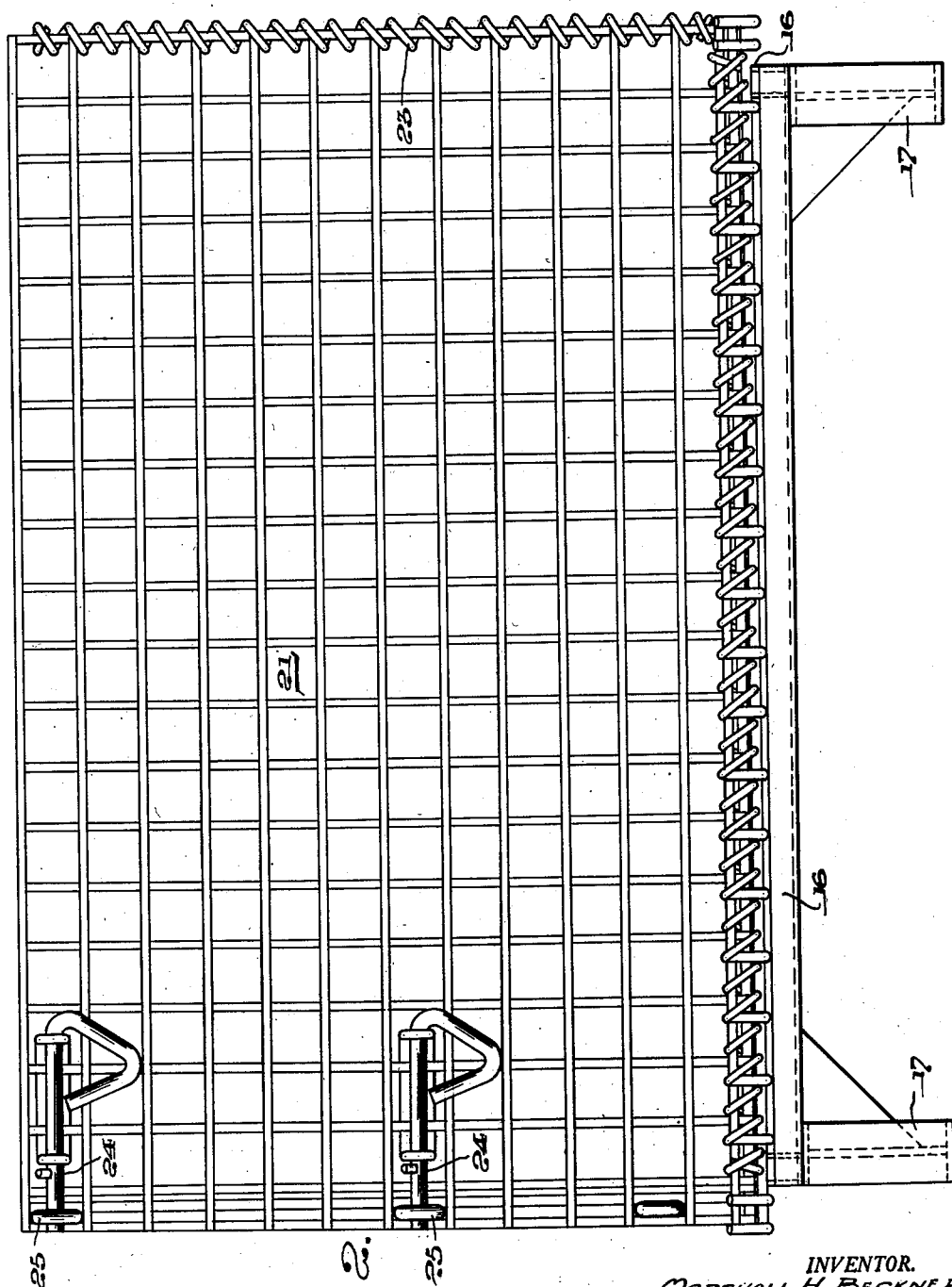


Fig. 2.

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Fig. 3.

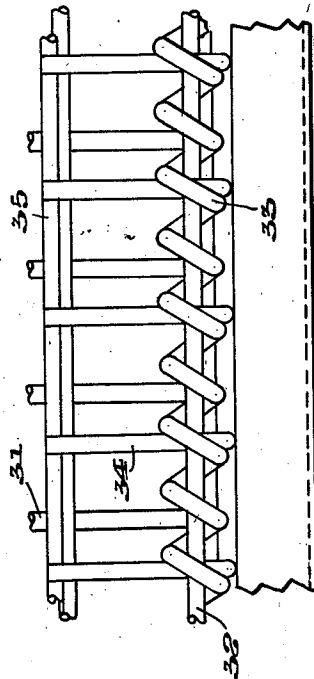


Fig. 6.

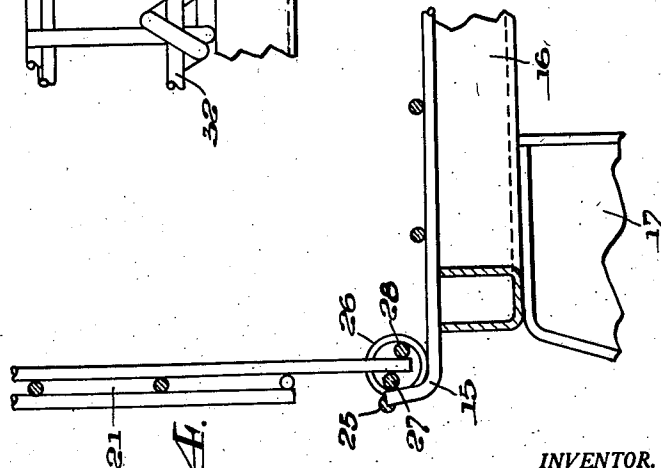


Fig. 4.

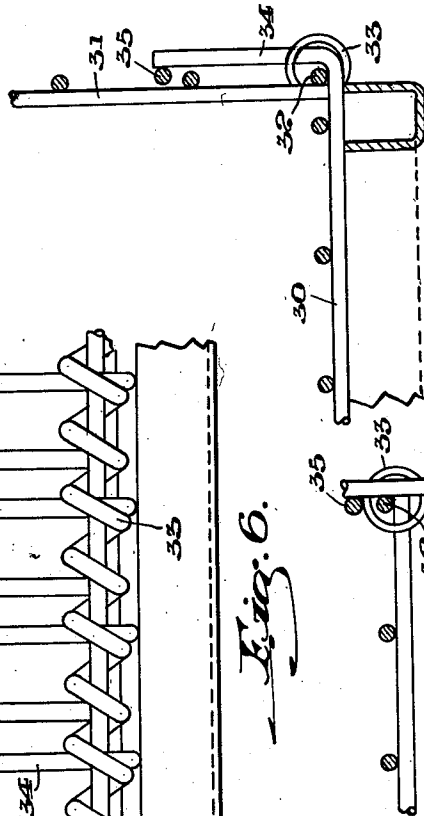


Fig. 5.

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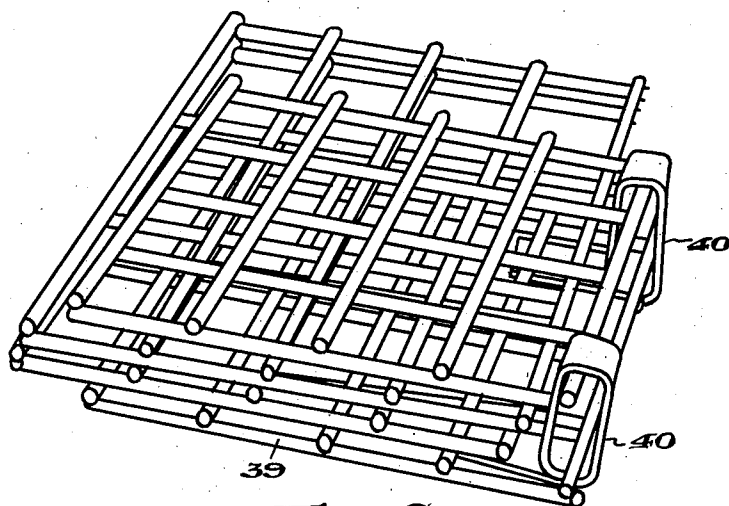


Fig. 8.

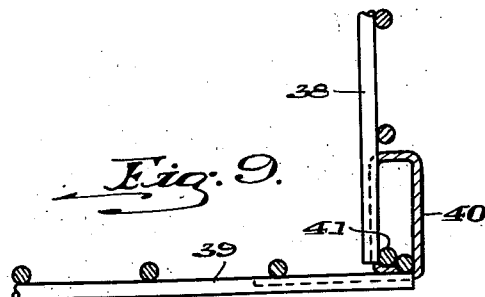


Fig. 9.

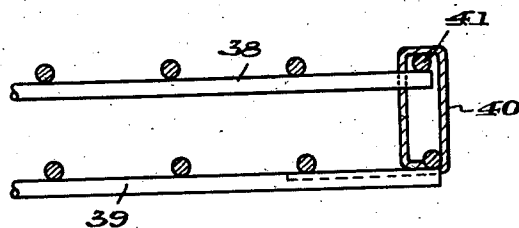


Fig. 10.

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2,806,623

COMBINED CRATE AND PALLET

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Application February 24, 1956, Serial No. 567,533

2 Claims. (Cl. 220—6)

The invention relates to combined crate and pallet structures constituting a modification of my co-pending application Serial No. 567,537, filed February 24, 1956, and has for its principal object the provision of a structure of such form wherein the end walls are foldable upon the side walls and one of the side walls has shiftable connection with the deck or bottom wall of the structure, whereby although it may rest directly upon the deck when in vertical position, can be raised slightly from the deck and folded into horizontal position and into parallelism with the other vertical walls when they are folded.

Some of the forms which my invention may take are shown in the accompanying drawings wherein Figure 1 is an end elevational view of a combined crate and pallet embodying one form of my invention;

Fig. 2 is a side view thereof looking at the right hand side of Fig. 1;

Fig. 3 is a view showing the crate of Fig. 1 folded upon the deck or pallet portion of the structure;

Fig. 4 is an enlarged sectional view of a portion of the structure of Fig. 1;

Fig. 5 is a sectional elevational view showing a modification of the structure of Fig. 1;

Fig. 6 is a face view thereof;

Fig. 7 is a view showing the side wall of Fig. 5 folded to horizontal position above the deck;

Fig. 8 shows a modification of the structure of Figs. 1 to 3, with the side walls and ends in folded position upon a deck;

Fig. 9 shows a side wall of Fig. 8 in upright position upon the deck, and

Fig. 10 the wall in folded position relative to the deck, but with the other walls of Fig. 8 omitted.

Referring first to Figs. 1 to 4, the crate comprises a side wall 11 of rods welded in crossed relation, the lowermost horizontal rod 12 of the wall being hingedly connected to a rod 13 by a helical wire 14. The rod 13 is one of a series of transverse rods welded to horizontal rods 15 to thereby form the deck sheet of the pallet. The deck sheet is welded to an underframe 16 of channel bars to which legs 17 are welded.

The side wall 11 is hingedly connected by a helical wire 18 to an end wall 19 that has a stop 20 on its lower end which extends behind one of the underframe bars and prevents bulging of this end wall under internal pressures.

The other side wall 21 has an end wall 22 hingedly connected thereto by a spiral hinge 23, at that corner of the crate diagonally opposite to the hinge 18. At the other diagonal corners, the side walls 21 and 11 are respectively detachably connected to the end walls by bolts 24 that are slidably supported on these side walls, for movement into and out of loop-like eyes 25 that are welded to the end walls 19 and 22 respectively, which eyes extend through mesh openings in the walls 21 and 11, as shown more clearly in Figs. 1 and 2. The end walls are therefore foldable against the side walls, on the hinges 18 and 23, when the latches are disengaged and it is desired to fold the side walls 21 and 11 flatwise upon the deck. A shoulder 25 (Fig. 4) on the deck prevents the lower edge of the wall 21 moving outwardly past the edge of the deck.

In order to permit of this flatwise folding, clearance must be provided between the panels or walls, and to this end, I bend the longitudinal deck wires 15 upwardly

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at one end, to provide for an upwardly-offset hinge connection with the side wall 21. To this end, a helical wire 26 is rotated into engagement with a rod 27 that is welded to the upturned ends of the deck rods at 15a and a rod 28 that is welded to the side wall 21. When the vertical walls are in upright position, they will all be supported directly by the deck, including the side walls 21, since as shown in Fig. 4, there is some looseness or play as between the helix 26 and the rods 27 and 28 that will allow the side wall to rest upon the deck as shown in Fig. 4 or to be raised slightly as shown in Fig. 3. The vertical walls of the crate can be readily removed by unscrewing the wires 14 and 26, thereby permitting use of the base as an ordinary pallet.

Referring now to Figs. 5, 6 and 7, I show a structure that is similar to the structure of Figs. 1 to 4, but differing therefrom only in the manner in which the vertical shiftable side wall 31 is connected to the deck. In this case, the deck rods 30 which correspond to the deck rods 15 of Fig. 1 are bent upwardly for a much greater distance and the side wall 31 therefore has a greater range of vertical shifting to permit folding thereof to flatwise position. Here, the bottom horizontal rod 32 of the wall 31 is connected by a helical wire 33 to bent-up ends 34 of the deck rods 30, the said bent ends being disposed outwardly of the rod 32 (Fig. 5) and having a rod 35 welded thereto. The helix 33 extends around the rods 32 at its inner side, and the outer-turned portions of the helix partly embrace the vertical extensions 34 of the deck.

In Figs. 8, 9 and 10, still another form of the invention is shown. In common with the form shown in Fig. 5, it provides for a great amount of clearance for folding. In this case, the wall 38 at one side of the deck (that corresponds to the wall 21) has lost-motion connection with the deck 39 by straps or yokes 40 that are of loop-like form welded at their lower ends to the deck and loosely encompassing the bottom rod 41 of the side wall 38. In this case as in the other two forms above described, all vertical walls have direct support by the deck. As in Fig. 2, the other side wall of this structure can be hinged closely down to the deck as at 14 in Fig. 1.

I claim as my invention:

1. A combined pallet and crate structure, comprising a pallet-like deck of sheet-like form having legs, the deck being bent upwardly at one edge, a side wall hingedly connected to the opposite edge of the deck and foldable thereon, a second side wall hingedly connected to the bent-up edge, the last-named hinge connection being vertically movable on the bent-up edge, so that the second side wall, when in vertical position, will rest upon the deck and when turned to a horizontal plane, it may be disposed in such vertically-spaced relation to the deck as to overlie other walls laid upon the deck, and end walls engageable with the said side walls, the deck and vertical walls being all of welded mesh form, and the hinge connection of said second side wall to the deck being of spiral form and vertically slidable on the bent-up mesh members of the deck.

2. A structure as recited in claim 1, wherein said opposite edge of the deck sheet is bent upwardly a relatively short distance and to which the first-named side wall is connected by a lost-motion hinge device that permits of this wall to rest directly upon the deck when in vertical position.

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