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CRATE SUITABLE FOR PALLETS, SKIDS, OR THE LIKE

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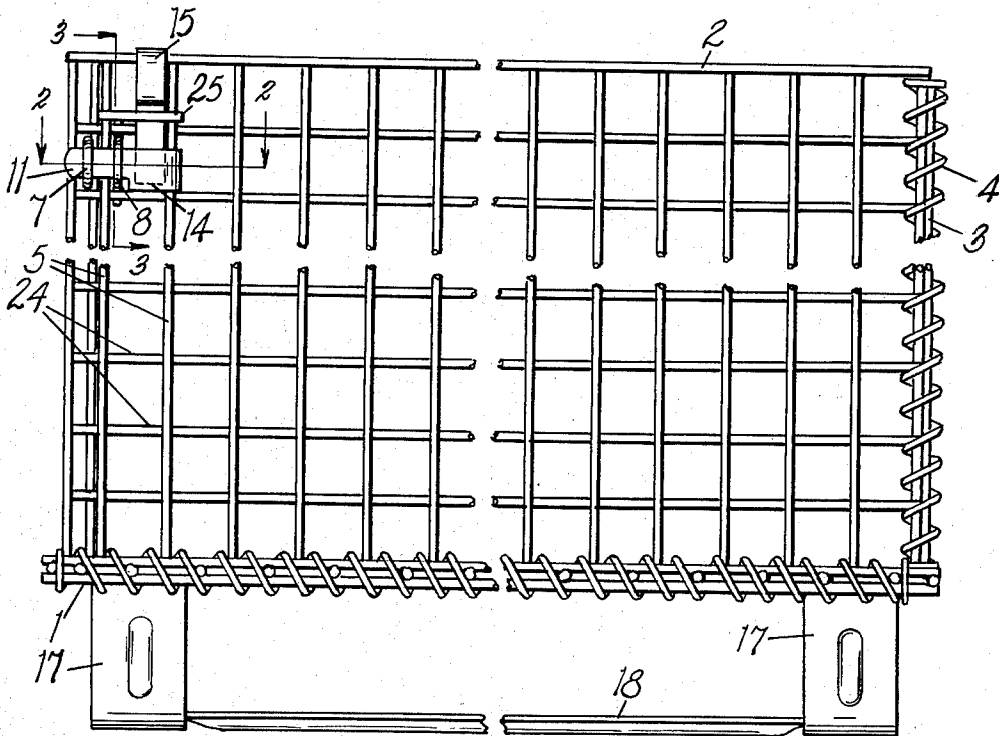


FIG. 1

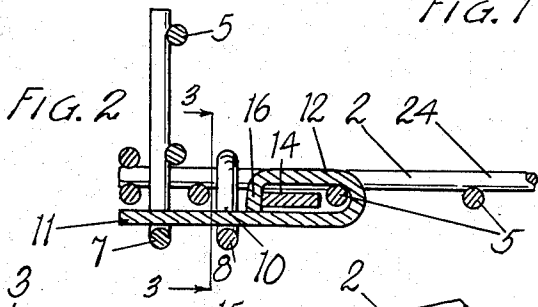


FIG. 2

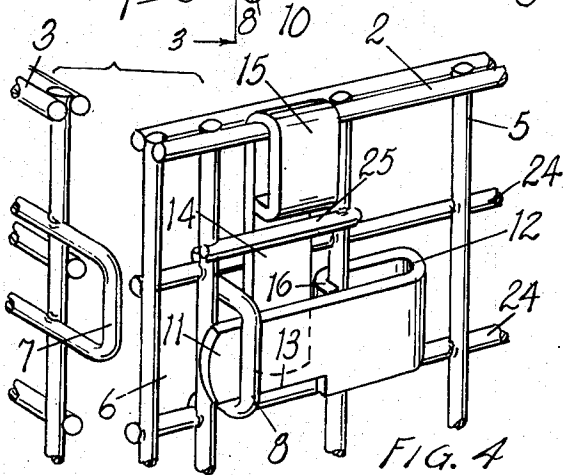


FIG. 4

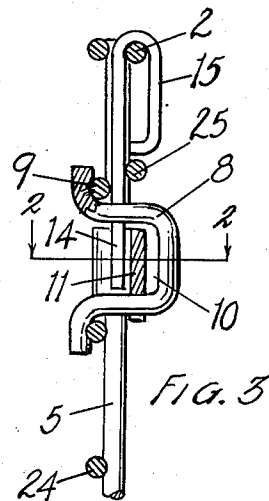


FIG. 3

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CRATE SUITABLE FOR PALLETS, SKIDS,
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5 Claims. (Cl. 220-7)

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This invention relates to improvements in crates suitable for pallets, skids or the like.

The main objects of this invention are:

First, to provide a crate suitable for pallets, skids or the like, the deck of the pallet or skid constituting the bottom of the crate, the crate having walls which are swingably associated and having means for locking in erected position.

Second, to provide a structure having these advantages in which the locking bolt may be easily operated for locking or unlocking and which is secured either in locked or unlocked position.

Third, to provide a structure having these advantages which is simple and economical to produce and at the same time capable of sustaining heavy stresses.

Objects relating to details and economies of the invention will appear from the description to follow. The invention is pointed out in the claims.

A preferred embodiment of the invention is illustrated in the accompanying drawing, in which:

Fig. 1 is a fragmentary side elevational view of a walled pallet embodying my invention.

Fig. 2 is an enlarged fragmentary view in horizontal section on a line corresponding to line 2-2 of Figs. 1 and 3.

Fig. 3 is an enlarged fragmentary view mainly in vertical section on a line corresponding to line 3-3 of Figs. 1 and 2.

Fig. 4 is a fragmentary perspective view showing a pair of adjacent walls in unlocked and disengaged position with the locking bolt retracted and locked in retracted position.

I have illustrated my invention as embodied in a pallet which comprises a grid-like deck 1 which constitutes a bottom for the crate. The side walls 2 and 3 are hingedly connected in pairs by means of the helically coiled hinge members 4. These hinge connections are on diagonally opposite corners and they are designed to permit the hingedly connected pair being folded upon each other and the folded pair collapsed upon the deck; however, as the details of this form no part of my present invention, they are not illustrated herein.

The walls are made up of horizontal slats 24 and vertical slats 5 of heavy gauge wire or light rod welded together at their crossing points. Certain of the vertical horizontal slats of the wall 2 define an opening 6 adapted to receive the loop-like keeper 7 on the wall 3 as is shown in Figs. 1, 2 and 3. The wall 2 is provided with a

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loop-like bolt support 8 which is welded to a pair of adjacent longitudinal slats as indicated at 9 and provides an eye 10 aligned with the keeper 7 when the walls are adjusted to fully erected position as shown in Figs. 1, 2 and 3.

The bolt 11 is slidably supported and retained in the eye 10 by means of the elongated loop 12 formed by turning the rear end of the bolt inwardly and forwardly and then laterally to embrace one of the vertical slats 5. The loop 12 is slidably supported by the horizontal slat 24 below the bolt. The bolt is notched at 13 on its under side to compensate for the thickness of the stock from which the eye 8 is formed. Thus supported, the bolt may be projected into keeper engaging position as shown in Figs. 1, 2 and 3 or it may be retracted as shown in Fig. 4.

To secure the bolt in both its locked and retracted positions, I provide a vertically adjustable detent 14 which has a loop 15 on its upper end embracing the top longitudinal slat 24 of the wall 2. This detent is folded in front and is rearwardly supported by one of the longitudinal slats and is further slidably supported by means of the crosspiece 25 arranged in front of the detent and extending between a pair of adjacent upright slats. The bolt is of such width that it may pass into the loop on the bolt as illustrated in Fig. 2 when the bolt is in locking position, the forwardly turned end 16 of the loop 12 on the bolt constituting a stop or abutment with which the detent engages to hold the bolt in actuated or locking position. When the bolt is retracted, the detent engages or coacts with the front side of the stop 16 to hold the bolt in retracted position. The detent is manually lifted to permit manipulation of the bolt but is actuated by gravity to hold the bolt either in retracted or projected position. It is advantageous to hold the bolt both in its locking and unlocking position as when held in unlocking position, the bolt does not interfere with the positioning of the walls to insert the keeper in the keeper opening. The detent may then be lifted and the bolt projected, the detent released and it automatically engages the bolt to hold it in locking position. The legs of the pallet are shown at 17 and the base at 18.

I have illustrated and described my invention in a highly practical embodiment thereof. I have not attempted to illustrate or describe certain embodiments or adaptations which I contemplate as it is believed that this disclosure will enable those skilled in the art to embody or adapt my invention as may be desired.

Having thus described my invention, what I

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claim as new and desire to secure by Letters Patent is:

1. In a crate, the combination of a bottom, side walls at least one of which comprises spaced horizontal and vertical slats, certain of the slats defining a keeper opening, and adjacent wall having a loop-like keeper projecting from the end thereof adapted to be disposed in said opening, a bolt supporting eye secured to the slatted wall and positioned adjacent the opening, a bolt slidable in said eye and having its rear end turned inwardly and forwardly to provide an elongated loop embracing one of the vertical slats, said loop being disposed above and slidably supported on one of said horizontal slats, said bolt being slidable forwardly to engage said keeper and retain the same in said keeper opening, a vertically shiftable locking detent having an elongated loop at its upper end slidably embracing one of the horizontal slats, said detent being rearwardly supported by another horizontal slat, and a crosspiece secured to a pair of adjacent vertical slats above said bolt and in front of said detent, said detent being engageable within said loop on said bolt when the bolt is in actuated position for retaining said keeper in said keeper opening and engageable with the front end of the loop when the bolt is in retracted position.

2. In a crate, the combination of a bottom, side walls at least one of which comprises spaced horizontal and vertical slats, certain of the slats defining a keeper opening, an adjacent wall having a keeper projecting from the end thereof adapted to be disposed in said opening, a bolt supporting eye secured to the slatted wall and positioned adjacent the opening, a bolt slidable in said eye and having its rear end turned inwardly and forwardly to provide an elongated loop embracing one of the vertical slats, said bolt being slidable forwardly to engage said keeper and retain the same in said keeper opening, and a vertically shiftable locking detent having an elongated loop at its upper end slidably embracing one of the horizontal slats, said detent being rearwardly supported by another horizontal slat, said detent being engageable within said loop on said bolt when the bolt is in actuated position for retaining said keeper in said keeper opening and engageable with the front end of the loop when the bolt is in retracted position.

3. In a crate, the combination of side walls at least one of which comprises spaced horizontal and vertical slats, certain of the slats defining a keeper opening, an adjacent wall having a keeper projecting from the end thereof adapted to be disposed in said opening, a bolt support secured to said slatted wall and disposed adjacent said opening, a bolt slidable in said support and having an elongated loop at its rear end embracing one of the vertical slats, said loop being disposed above and slidably supported on one of said horizontal slats, said bolt being slidable forwardly to engage said keeper and retain the same in said

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keeper opening, a vertically shiftable locking detent having an elongated loop at its upper end slidably embracing one of the horizontal slats, said detent being rearwardly supported by another horizontal slat, and a crosspiece secured to a pair of adjacent vertical slats above said bolt and in front of said detent, said detent being engageable within said loop on said bolt when the bolt is in actuated position for retaining said keeper in said keeper opening and engageable with the front end of the loop when the bolt is in retracted position.

4. In a crate, the combination of side walls at least one of which comprises spaced horizontal and vertical slats, said wall having a keeper opening, an adjacent wall having a keeper projecting from the end thereof adapted to be disposed in said opening, a bolt support secured to said slatted wall and disposed adjacent said opening, a bolt slidable in said support and having an elongated loop at its rear end embracing one of the vertical slats, said bolt being slidable forwardly to engage said keeper and retain the same in said keeper opening, and a vertically shiftable locking detent on said slatted wall, said detent being engageable within said loop on said bolt when the bolt is in actuated position for retaining said keeper in said keeper opening and engageable with the front end of the loop when the bolt is in retracted position.

5. In a crate, the combination of side walls at least one of which comprises spaced horizontal and vertical slats, certain of the slats defining a keeper opening, an adjacent wall having a keeper projecting from the end thereof adapted to be disposed in said opening, a bolt supporting eye secured to said slatted wall and positioned adjacent the opening, a bolt slidable in said eye and provided with a stop, said bolt being slidable forwardly to engage said keeper and retain the same in said keeper opening, a vertically shiftable locking detent having an elongated loop at its upper end slidably embracing one of the horizontal slats, said detent being rearwardly supported by a horizontal slat, and a crosspiece secured to a pair of adjacent vertical slats above said bolt and in front of said detent, said detent being engageable with the rear side of said stop when the bolt is in actuated position for retaining said keeper in said keeper opening and engageable with the front side thereof when the bolt is in retracted position.

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