June 4, 1957 ÅKE E. SJÖBLOM ET AL 2,794,611

PALLET DECK STRUCTURE

Filed April 6, 1953

FIG.1

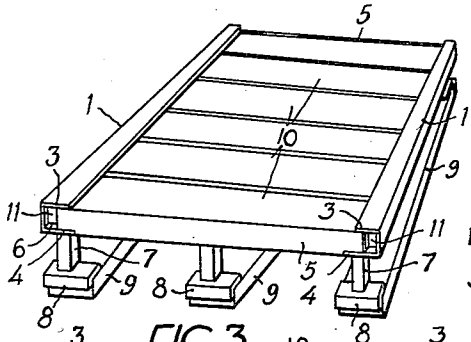


FIG.2

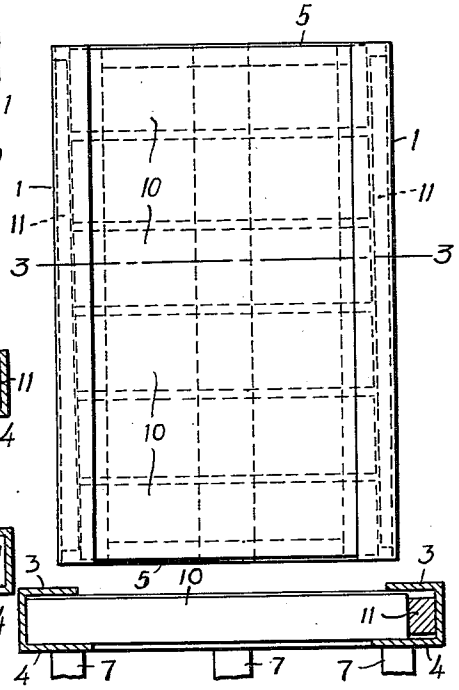
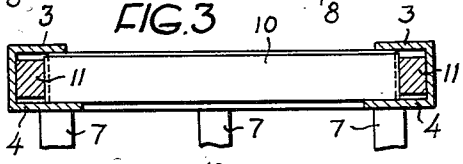


FIG.3



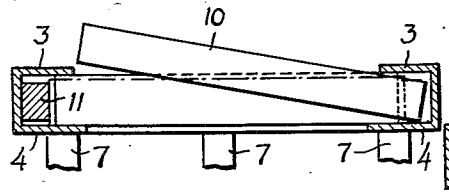


FIG.4

FIG.5

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PALLET DECK STRUCTURE

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2 Claims. (Cl. 248—120)

The present invention refers to a pallet and has for its object to provide a pallet facilitating a simple exchange of the pallet deck after the latter has become damaged.

Hitherto, pallets were generally made substantially from wood in their entirety, which in spite of the fact that the actual manufacturing costs were comparatively low made the stools expensive in use. This is so for the reason that pallets are subjected to severe wear and break-downs in use in connection with heavy transports. The cost of repair might then become so high that it does not pay to put damaged pallets in order. The present invention has for its object to provide a pallet in which the deck in particular is protected by a frame structure preferably made from metal. The deck structure permits fixing and retaining of the deck boards without the use of nail or screw bonds. An exchange of deck boards or supporting planes in connection with break-downs can be readily effected by unqualified labour with repair material prepared beforehand.

The invention is substantially distinguished by the combination of a rectangular frame, preferably from metal, with deck boards laid between two opposed sides of the frame, said deck boards being shorter than the distance between said sides with the addition of at least one wedge filling the remaining space between the ends of the deck boards and the adjacent side of the frame.

A pallet according to the invention will be described in the following with reference to a few examples of embodiment considered in connection with the accompanying drawings, wherein Fig. 1 shows a pallet in a perspective view and Fig. 2 shows the same pallet viewed from above, whereas Fig. 3 shows a section of the pallet on line 3—3 in Fig. 2, Fig. 4 shows the insertion of a deck element in the frame of the pallet, and Fig. 5 shows a section of a pallet with a single wedge on one side of the same.

The frame of the pallet, which is preferably made from iron, is built up of two opposing U-sections or channel bars 1, 1 with flanges 3 and 4 facing each other, of which the flange 3, which is intended to lie on the upper side on the pallet, is shorter than the underlying flange 4. The two U-sections 1, 1 are connected at the ends thereof to angle bars 5, 5, one on each side, so that a rectangular frame is formed. The angle bars 5, 5 are fitted between the flanges of the U-sections, but do not extend as far as to the webs thereof, a rectangular opening 6 being left, which may preferably be of a width somewhat smaller than the distance between the flanges 3, 4.

Arranged at the frame are a number of feet consisting of short angle-pieces 7 welded each to the ends of the flanges 4 with one of them welded to the middle of the angle bars 5. The outer ends of the angle-pieces 7 are welded to the one flange of short angle-pieces 8. These angle-pieces 8 have one of their flanges facing inwardly and the other facing downwardly, whereby securing facilities and edge guards are provided for boards 9 extending underneath the pallet in the direction of the U-sections and of which the pallet rests on the substructure.

The deck is constituted by loose boards 10 of a thickness and a length permitting one end of a board 10 to be thrust in between the flanges 3, 4 against the web of the U-section on the one side, the other end of the board permitting then to be lowered down freely from the upper flange 3 of the opposed U-section and to be thrust in between the flanges on this side. The board 10 consequently is of a length falling below the distance between the webs of the U-sections 1, so that a space is produced between the end of the board and the web at both ends. Arranged in this space are wedges 11 inserted through the opening 6 in the ends of the U-sections. By means of these wedges which are generally coextensive in length with said channel bars, the deck boards 10 are thus retained securely between the U-sections and cannot be displaced in the longitudinal direction thereof.

The thickness of the deck boards 10 must not amount to the full distance between the flanges 3, 4, inasmuch as facilities must be provided to permit lifting of the deck board at the opposite end above the upper plane, while the other end remains between the flanges, so that the board can be pulled out.

In the mounting of deck boards a wedge 11 is inserted into the one U-section, whereupon the deck boards are thrust into the U-section on the opposite side. A wedge is then inserted through the hole 6 on the opposite side, so that the upper deck is securely locked.

In exchanging deck boards on break-downs one proceeds according to the same principle, that is to say, one of the wedges 10 is removed, whereupon the deck boards 10 may be displaced for a length corresponding to the empty space left by the wedge. Hereby one end of the deck boards is disengaged, so that an exchange can be effected.

The pallet hereinabove described is not limited to this example of embodiment, inasmuch as details and the construction may be varied within the scope of the invention. Thus it is conceivable in place of two wedges to make use of a single wedge on the one side according to Fig. 5, the length of the flanges on the one side being then preferably made greater than on the opposite side. Also, it is not necessary that the sides having the wedges bearing thereon are made in the form of a U-section for the whole of the longitudinal direction thereof; to save material, the upper flanges, for instance, may be replaced by projections from the web for each board. The deck boards may also, substantially for the whole length thereof, be made of a thickness which is at least equal to the distance between the flanges 3 and 4, provided that the end which is thrust in between the flanges is provided with recesses to permit the board to be lifted.

What we claim is:

1. A pallet deck having, in combination, a series of juxtaposed deckboards, a rectangular frame comprising two parallel spaced opposed U-shaped channel bars open at the ends thereof, each said channel bar having a vertical web and two horizontally disposed flanges embracing opposite end portions of said deckboards, the distance between said flanges being slightly greater than the thickness of said deckboards at the ends thereof, said deckboards being shorter than the distance between the vertical webs of said channel bars, parallel bars extending between the opposite ends of said channel bars to form the rectangular frame and wedge means for maintaining said deckboards in said channel bars between the flanges thereof, said wedge means being substantially coextensive in length with said channel bars and being driven in lengthwise into the space between the web of at least one of said channel bars and the corresponding end faces of said deckboards to maintain the latter against any appreciable longitudinal movement relative to said opposed channel bars.

2. A pallet deck having in combination a series of

juxtaposed deckboards, a rectangular frame comprising two parallel spaced opposed U-shaped channel bars each having a vertical web and two horizontally disposed flanges embracing opposite end portions of said deckboards, the distance between said flanges being slightly greater than the thickness of said deckboards at the ends thereof, said deckboards being shorter than the distance between the vertical webs of said channel bars and terminating short of said webs, parallel bars extending between the opposite ends of said channel bars to form the rectangular frame, and wedge means abutting the vertical webs of said channel bars and the vertical end faces of said deckboards for maintaining said deckboards against any appreciable longitudinal displacement relative to said opposed channel bars,

said wedge means being generally coextensive in length with said channel bars and said channel bars being open at the ends thereof to permit insertion and removal of said wedge means.

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