

[54] **WOOD AND METAL PALLET**
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[30] **Foreign Application Priority Data**

May 12, 1971 France..... 71.17079

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[57] **ABSTRACT**

A pallet fabricated partially from wood and partially from metal having an upper, horizontal load engaging platform and a lower, ground engaging platform spaced from the upper platform. The two platforms are interconnected by parallel, spaced metal cross-beams which are engageable by the tines of the fork on lift trucks to raise the pallet.

2 Claims, 3 Drawing Figures

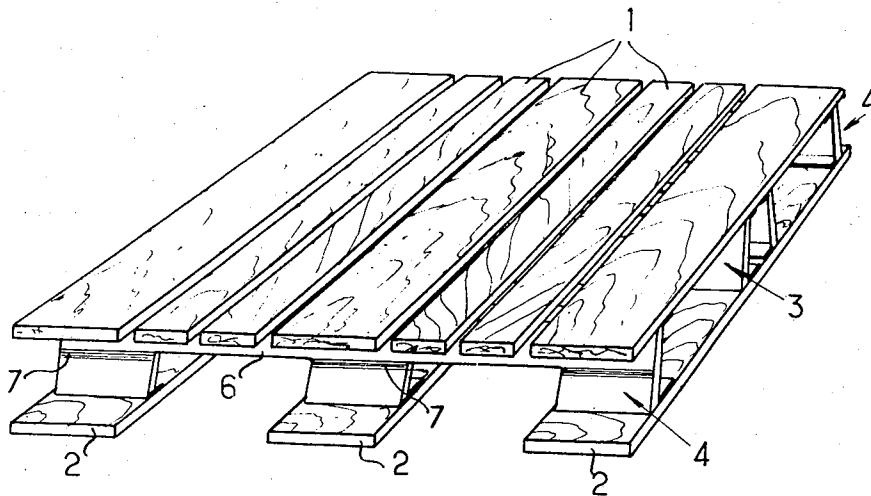


Fig-1

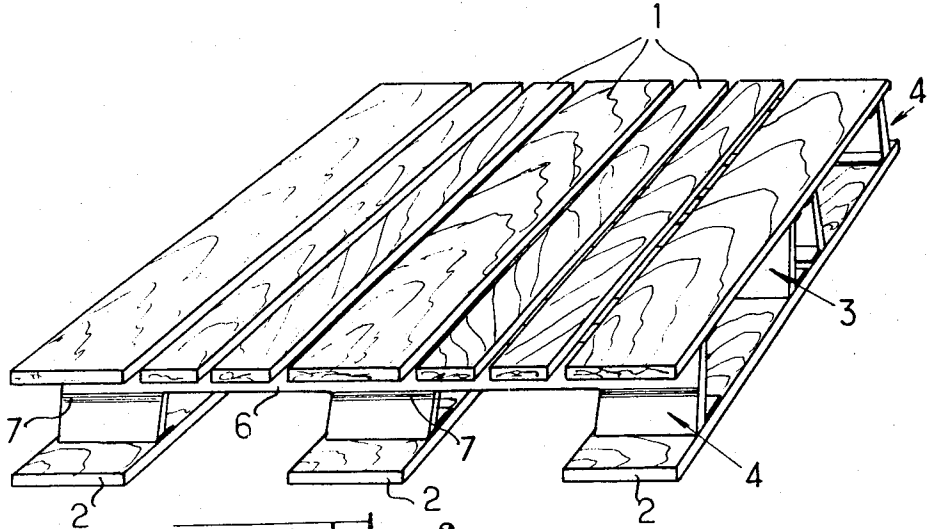


Fig-2

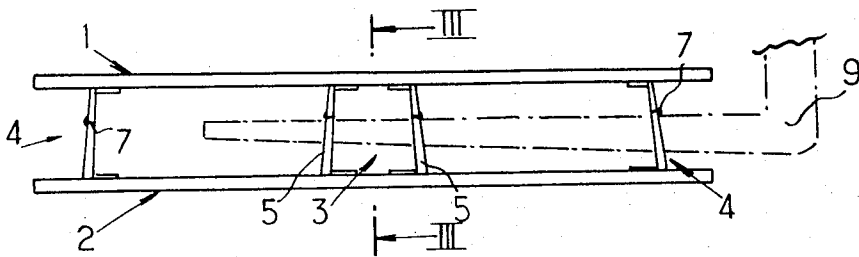
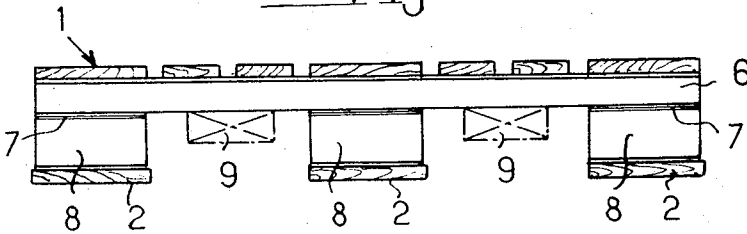


Fig-3



WOOD AND METAL PALLET

This invention relates in general to a pallet, partly of wood and partly of metal, comprising two platforms of wood joined to each other by three parallel and transverse metallic crossbeams, there being one central crossbeam and two crossbeams at the opposite ends of the pallet. The two tines or arms of a forklift on a wheeled vehicle can supportingly engage the crossbeams for the purpose of manipulating the pallet.

When using a forklift to manipulate existing pallets of this type, the lift trucks must have fork tines sufficiently long to supportingly engage simultaneously all three crossbeams of the pallet, so that it is perfectly stabilized and there will be thus no problem. On the other hand, if the fork tines are shorter and can supportingly engage only two of the crossbeams, the existing pallet may be dumped with its load, the central crossbeam acting as a pivot, which can obviously lead to very grave accidents. It follows that, when using existing pallets, one is always obliged to use lift forks with long tines.

The present invention has for its primary purpose the elimination of the foregoing inconvenience and, in order to do this, an object is to furnish a pallet of the type mentioned above which is characterized essentially in that the central crossbeam is comprised of two dual or semicrossbars placed on opposite sides of the median axis of the pallet parallel with the end crossbeams and at specific distances from each other.

As easily seen, the foregoing, improved arrangement avoids the risk of dumping the load if one utilizes a lift truck with a short fork for manipulation of the pallet. In fact, due to the central crossbeam structure, according to the invention, the point of support by the extremity of the fork automatically locates itself well beyond the center of gravity of the pallet, because it engages both central semicrossbars. One will also note, moreover, that this pallet does not require materially more metal than a conventional pallet and, thus, that it is no more costly, while still being as strong, if not more so.

Preferably, the crossbeams at the opposite ends of the pallet are constituted of one or two semicrossbars analogous to those constituting one of the central semicrossbar. It can thus be seen that all of the crossbars of the pallet are comprised of a single standard base element, that which leads to the better saleability of the structure and, thus, to a lower price.

One form of carrying out the invention is described below, by way of example, by referring to the attached drawings, in which:

FIG. 1 is a simplified perspective view of a pallet embodying the invention;

FIG. 2 is a side view of this pallet; and

FIG. 3 is a sectional view taken along the line III—III in FIG. 2.

The pallet disclosed in these figures is essentially constituted by an upper platform 1 and a lower platform 2 which are connected to each other by three, parallel rigid metallic crossbeams, disposed parallel with each other and comprising a central crossbeam 3 and two end crossbeams 4. The upper platform 1 here comprises seven planks, more or less contiguous, while the lower platform 2 comprises, in a customary manner, only three parallel and spaced boards. This disposition permits the manipulation of the pallet by a vehicle

equipped with a forklift and supported on the ground by means of wheels.

According to the invention, the central crossbeam 3 is in fact constituted by a pair of dual or semicrossbars 5 which are placed on opposite sides of the median axis of the pallet at prescribed distances from each other and from the axis for reasons which will become more apparent from the following. One can likewise notice that each end crossbeam 4 is in the form of one of the semicrossbars 5 constituting the central crossbeam 3 for the purpose of simplification and standardization in the fabrication of the pallet. One could, nevertheless, as a function of the load supported by the pallet, add a semicrossbar 5 to each end of the pallet, in order to provide dual, spaced crossbars at both ends.

In the particular embodiment described here, each semicrossbar 5 is comprised of an L-shaped stringer 6 secured to and supporting the upper platform 1. The stringer 6 is connected, as by welding at 7, to three uniformly spaced L-shaped feet or blocks 8 arranged to stand on and be secured to the three, spaced boards of the lower platform 2. It will be noticed, nevertheless, that each semicrossbar 5 could likewise be constructed from a single piece, such as a channel member, if so desired. The semicrossbars are, moreover, contoured according to a particular cross section in order to present a better resistance to compression.

The attachment of the platforms 1 and 2 onto the semicrossbars 5 is effected by means of a well known metal-to-wood assembling procedure using curved tongues (not shown) which are produced by punching and bending the edges of the semicrossbars at right angles to their lengthwise extents. These metal tongues are then forcibly driven into the depth of the wood constituting the platforms, thus assuring an excellent rigidity in the assembly of the pallet.

The pallets of the kind which have been described are built to be manipulated by means of trucks equipped with lift forks of which the two tines are arranged to engage the lower edge of the stringer 6, between the blocks 8, and thereby support the pallet. Generally, the tines of these forks are sufficiently long to supportingly engage, simultaneously, the two end crossbeams 4 in such a way that there is no problem because the pallet is thus perfectly stable.

However, there exists also trucks equipped with forks having shorter tines, such as those shown at 9 in FIGS. 2 or 3. It is thus seen, in this case, that the two arms or tines of the fork are not able to effect supporting engagement at the same of the two end crossbeams. The pallet remains, nevertheless, perfectly balanced due to the fact that the two semicrossbars 5, constituting the central crossbeam 3, have been spread sufficiently apart, one from the other, that the point of support of the central crossbeam by the extremity of the fork is thus located beyond the center of gravity of the pallet.

These pallets according to the invention thus permit the utilization of various trucks with long or short forks without any risk of dumping the pallet which remains always perfectly balanced upon the fork tines.

Although a particular preferred embodiment of the invention has been disclosed in detail for illustrative purposes, it will be recognized that variations or modifications of the disclosed apparatus, including the rearrangement of parts, lie within the scope of the present invention.

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The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. In a partially wood and partially metal pallet adapted for support by the tines of a forklift, said pallet including spaced and substantially parallel upper and lower platforms of wood and three substantially parallel and rigid metal cross beams disposed between and fixedly interconnecting said upper and lower platforms, two of said cross beams comprising elongated end beams disposed adjacent and extending substantially along the opposite edges of said pallet, and said other cross beam comprising a central beam disposed between said two end beams and extending substantially along the median axis of said pallet, comprising the improvement wherein said center beam comprises two spaced and substantially parallel cross bars located on opposite sides of said median axis and spaced a predetermined distance from each other, each of said cross bars being elongated and extending between and fixedly connected to the upper and lower platforms, each of said cross bars and end beams being identical and comprising an elongated metal member extending continuously throughout the length of the pallet and having substantially parallel upper and lower flanges and a single platelike web portion extending transversely between said flanges, the upper and lower flanges being fixed to the upper and lower platforms re-

spectively, each of said cross bars and end beams having a pair of longitudinally spaced opening means extending transversely through the respective web portion thereof, the opening means in the end beams and cross bars being aligned to permit the tines of a forklift to be inserted between the upper and lower platforms of the pallet in a direction substantially perpendicular to the longitudinally extending direction of the cross beams, and each said opening means comprising a recess formed in each said elongated metal member and extending upwardly from the respective lower edge thereof and terminating at a location spaced downwardly from the upper flange of the respective metal member.

2. A pallet according to claim 1, wherein each said end beam and each said cross bar comprises an identical, elongated, channel-shaped member having a base portion extending between said upper and lower platforms and upper and lower leg portions fixedly connected to said upper and lower platforms, respectively, the two channel-shaped members comprising said two cross bars opening sidewardly relative to said platforms and in opposite directions relative to one another, and the two channel-shaped members comprising said end beams opening sidewardly relative to said platforms and in opposite directions relative to one another.

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