Dec. 9, 1952 E. E. A. NORREFELDT ET AL 2,621,006

PALLET

Filed July 8, 1948

FIG. 1.

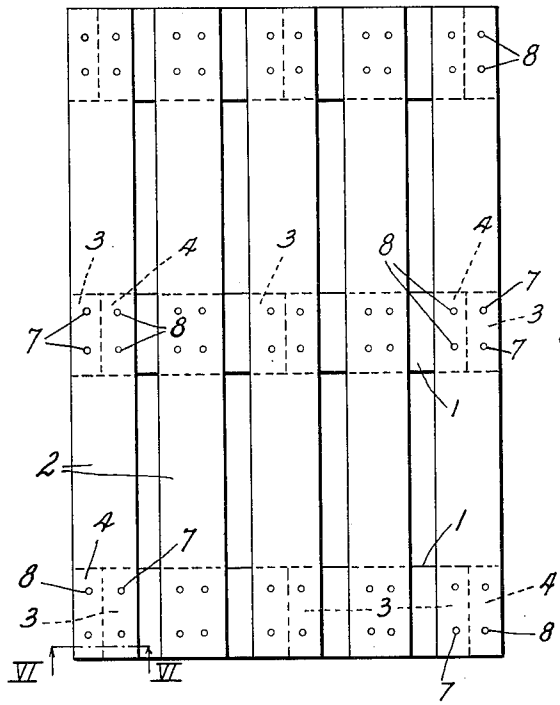
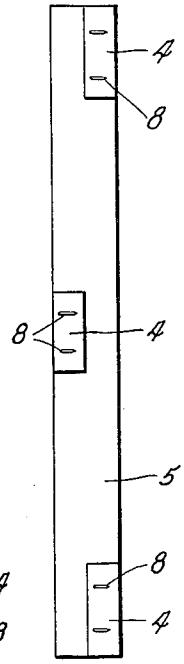


FIG. 2.



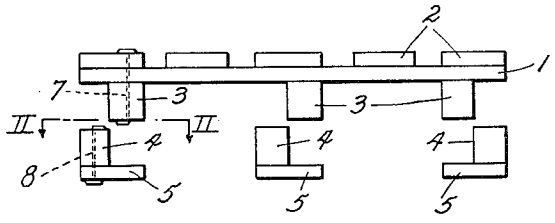


FIG. 3.

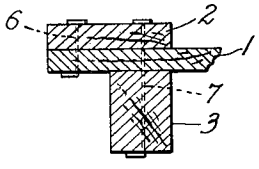


FIG. 4.

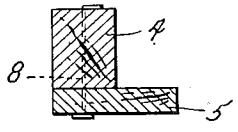


FIG. 5.

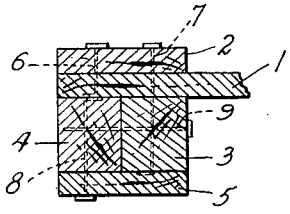


FIG. 6.

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PALLET

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5 Claims. (Cl. 248—120)

1

The present invention relates to a so-called pallet or load cradle of wood, particularly intended to be used for storage and transport of goods by so-called fork trucks. Such pallets consist of an upper load table and a lower support table, both made of boards and distance blocks or bars arranged between said tables and attached to the boards by means of nails. As the total thickness of the assembled wood parts is relatively great, there may arise difficulties in nailing them together, partly because the clinched ends of the nails will easily project and can then cause damage to the goods, and partly because very long nails must be used if they are to be clinched from the outside. If, on the other hand, shorter, not penetrating nails are used and driven in from either side, the bond will not be absolutely reliable, as in this case it is not possible to clinch the nails.

It is an object of the present invention to obviate these drawbacks by making the said distance blocks or bars into at least two portions, one of which being attached to at least one of the boards of the load table by means of nails clinched at the lower side of the block so as to form an angular or L-shaped section, while the other block or bar portion is attached to an opposite board of the support table by means of nails clinched at the upper side of the block so as to form a likewise angular or L-shaped section, said block or bar portions being placed closed to one another and mutually interconnected so as to cover the clinched nail ends of each other.

A further object of the invention is to nail together also comparatively thick wooden layers by means of small nails, which can be clinched without the clinched ends being visible or accessible from outside. By keeping the clinched nail ends pressed against adjacent wooden block parts the strength of the joint is still more increased. It should be noted that in such pallets for storage and transport of goods by means of fork trucks it is very important to retain the nail securely so that the heads and clinched ends of the nails will not protrude from the surface of the load table, as the goods might otherwise easily be damaged.

One embodiment of a pallet according to the invention is illustrated by way of example in the accompanying drawing, in which

Figure 1 illustrates a plan view of the pallet,

Figure 2 is a plan view of a detail along line II—II of Figure 3,

Figure 3 is an end view with certain parts separated, while

Figures 4 and 5 show parts of Figure 3 in cross section on a larger scale and

2

Figure 6 is a cross section of part of Figure 1 along line VI—VI in Figure 1.

According to the embodiment shown the pallet comprises a number of (e. g. three) cross bars 1, on top of which are placed boards 2 suitably spaced from each other. At the lower face of the bars 1 there are provided distance blocks 3 or supporting bars, for instance at every second board, so that the parts 1, 2, 3 right opposite each block 3 form a ⅂-like structure. The parts 1, 2 and 3 are joined together by nails 7, driven into the boards 2 from their upper faces and extending through the boards and the bars 1 as well as through the blocks 3 and clinched at the lower surface as shown in Figures 3 and 4.

The lower face of the pallet comprises boards 5 similar to the boards 2 and nailed to supporting blocks 4 by means of nails 8 so as to form a more or less L-shaped structure as will be seen by Figures 3 and 5. The blocks 4 have substantially the same height as the blocks 3 and have preferably also the same width and length as the latter. Their width corresponds, for instance, to half the width of the boards 2 or 5. The nails 8 are driven in from underneath the boards 5 and extend through these boards and through the blocks 3 and are clinched from the top (Figures 3 and 5).

After the ⅂-shaped parts 1, 2, 3 and the L-shaped parts 4, 5, respectively, have been nailed together in said manner, they are brought together, so that the side faces of the blocks 4 will engage the side faces of the blocks 3, and the upper face of the board 5 will contact the lower face of the blocks 3, having the clinched ends of the nails 7, while the clinched ends of the nails 8 will engage the lower face of the bars 1. The whole unit is now nailed together by transversal nails 9, which extend transversely through the blocks 3 and 4, as shown in Figure 6. It is clearly seen that the clinched ends of the nails 7 and 8 will then be totally covered by the joints between the parts 3, 5 and 1, 4 respectively.

Small nails 6 may, if desired, be placed between the parts 1 and 2. The clinched ends of these nails are also covered by the above-mentioned joints.

In all nail joints glue may be applied if desired.

The finished pallet will consist of an upper load table formed by the boards 2, and a lower support table comprising the boards 5. These tables are securely fixed together and constitute a rigid pallet without any projecting nail ends. The fork of the fork truck is introduced in the spaces between the boards 5.

The arrangement may also be simplified by

nailing the boards 5 directly onto the blocks 3, but this imparts the drawback that the nails cannot be clinched from outside.

We claim:

1. In a pallet having opposite spaced surface portions, a joint connecting said surface portions, said joint comprising, in combination, a pair of blocks located between and each having their opposite ends respectively abutting against said surface portions of said pallet, each of said blocks have a side surface abutting against a side surface of the other block; a first nail extending through one of said surface portions and one of said blocks and having an end clinched over and located between said one of said blocks and the other of said surface portions; a second nail extending through the other of said surface portions and the other of said blocks and having an end clinched over and located between said other block and said one surface portion, said second nail being substantially parallel to said first nail; and a third nail extending almost through said pair of blocks and being substantially perpendicular to said first and second nails, whereby said third nail is subject only to transverse shearing forces when said surface portions tend to pull apart from each other.

2. In a pallet having opposite spaced surface portions, a joint connecting said surface portions, said joint comprising, in combination, a first and second pair of blocks located between said surface portions of said pallet, said pairs of blocks being spaced from each other, and the blocks of each of said pairs of blocks each having opposite ends respectively abutting against said surface portions of said pallet, each pair of blocks having one of the blocks thereof abutting with a side surface thereof against a side surface of the other block, said abutting side surfaces of one of said pairs of blocks being located along a plane substantially parallel to the plane along which the abutting side surfaces of the other pair of blocks are located, each of said blocks of said pairs of blocks being fixedly connected to a different one of said opposite surface portions, and the blocks of said pairs of blocks which are located on the same corresponding sides of said planes being respectively connected to a different one of said opposite surface portions, whereby movement of said surface portions in one direction with respect to each other and transverse to said planes is resisted by one of said pairs of blocks, and whereby movement of said surface portions in the other direction with respect to each other and transverse to said planes is resisted by the other of said pairs of blocks.

3. In a pallet having opposite spaced surface portions, a joint connecting said surface portions, said joint comprising, in combination, a first and second pair of blocks located between said surface portions of said pallet, said pairs of blocks being spaced from each other, and the blocks of each of said pairs of blocks each having opposite ends respectively abutting against said surface portions of said pallet, each pair of blocks having one of the blocks thereof abutting with a side surface thereof against a side surface of the other block, said abutting side surfaces of one of said pairs of blocks being located along a plane substantially parallel to the plane along which the abutting side surfaces of the other pair of blocks are located, each of said blocks of said pairs of blocks being fixedly connected to a different one of said opposite surface

portions by a nail passing through said block and the surface portion to which it is connected and having a clinched over end located between said block and the surface portion to which it is not connected, and the blocks of said pairs of blocks which are located on the same corresponding sides of said planes being respectively connected to a different one of said opposite surface portions, whereby movement of said surface portions in one direction with respect to each other and transverse to said planes is resisted by one of said pairs of blocks, and whereby movement of said surface portions in the other direction with respect to each other and transverse to said planes is resisted by the other of said pairs of blocks, said blocks of each pair of blocks being connected to each other by a nail passing almost through said blocks and extending in a direction substantially parallel to said surface portions, whereby, when said surface portions tend to move away from each other, said last-mentioned nail is subject only to shearing forces.

4. A pallet comprising, in combination, a plurality of spaced substantially parallel top beams; a plurality of spaced substantially parallel cross beams abutting against only one side of said top beams and extending in a direction substantially perpendicular thereto; a plurality of first blocks respectively arranged beneath some of the intersections of said top beams and said cross beams and abutting against said cross beams; a plurality of first nails each extending at one of said intersections through the top beam, cross beam and first block located at said intersection, said nail having its end clinched over and abutting against the under surface of said first block so as to rigidly connect said top beam, cross beam and first block together at said intersection; a plurality of bottom beams respectively arranged beneath said intersections, being substantially parallel to said top beams and abutting against said under surfaces of said first blocks so as to cover the clinched ends of said plurality of first nails; a plurality of second blocks located between and abutting against said cross beams and said bottom beams, each of said second blocks being respectively located beneath one of said intersections of said top beams and cross beams and abutting with a side surface thereof against a side surface of the first block located under the same intersection; a plurality of second nails each extending through one of said bottom beams and one of said second blocks and having its end clinched over and abutting against the upper surface of said second block so that said clinched end of said second nail is covered by a cross beam, said plurality of second nails being substantially parallel to said plurality of first nails; and a plurality of third nails each extending into a pair of abutting first and second blocks and being arranged perpendicularly to said plurality of first nails and said plurality of second nails, whereby said plurality of third nails are subject only to shearing forces when said bottom beams and second blocks tend to pull apart from said top beams, cross beams and first blocks, said pallet being free of any joining means other than said plurality of first nails, said plurality of second nails and said plurality of third nails.

5. In a pallet having opposite spaced surface portions, a joint connecting said surface portions, said joint comprising, in combination, a first and second pair of blocks located between

said surface portions of said pallet, said pairs of blocks being spaced from each other, and the blocks of each of said pairs of blocks each having opposite ends respectively abutting against said surface portions of said pallet, each pair of blocks having one of the blocks thereof abutting with a side surface thereof against a side surface of the other block, said abutting side surfaces of said pairs of blocks being located along a single plane, each of said blocks of said pairs of blocks being fixedly connected to a different one of said opposite surface portions, and the blocks of said pairs of blocks which are located on the same side of said single plane being respectively connected to a different one of said opposite surface portions, whereby movement of said surface portions in one direction with respect to each other and transverse to said plane is resisted by one of said pairs of blocks, and whereby movement of said surface portions in the other direction with respect to each other and transverse to said plane is resisted by the other of said pairs of blocks.

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