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COMPLETE SPECIFICATION.

Improvements in or relating to Load Supporting Pallets and Cargo Boards.

We, HARRY EDWARD HUNN, a British Subject, of Gossoms Lodge, Berkhamsted, in the County of Herts, and EAST & SON LIMITED, a British Company, of Berkhamsted, in the County of Herts, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement :—

This invention relates to load supporting pallets and cargo boards intended particularly for use with what are known as fork elevator trucks for stacking cargo on dock sides and for use with dock cranes for slinging cargo into or out of ships' holds and for other similar uses.

The purpose of the present invention is to provide a combined pallet and cargo board of improved construction which is equally convenient for use as a pallet or as a cargo board and which has adequate strength for both purposes.

The improved construction according to the invention comprises upper and lower surfaces composed of boards or like members attached at their ends to opposite sides of two metal bearers which extend along opposite sides of the structure and carry loops, rings or eyes welded or otherwise seamed to the bearers at the four corners of the device to enable the device to be lifted by a crane. The metal bearers thus serve to space the upper and lower surfaces apart so that the fork of a lifting truck can be engaged between them when the device is to be used as a pallet, whereas when the device is used as a cargo board, the metal bearers serve to carry the load from the four loops, rings or eyes. The boards or like members may be constituted for example, by planks of wood or other suitable material or by metal plates or the like.

The invention will now be described by way of example with reference to the accompanying drawings, wherein :—

Fig. 1 is a side view of a combined pallet and cargo board ; and

Fig. 2 is a plan view of Fig. 1 :

Fig. 3 shows an enlarged view of a modification of a detail of Figs. 1 and 2.

Referring first to the drawings, a pallet and cargo board is provided with an upper load supporting surface which consists of four or any other suitable number of boards 1, 2, 3, 4. The boards 1 to 4, which may be made of wood, are spaced slightly apart in parallel relation and the associated sets of ends are secured to a metal bearer 5, 6 which is of channel section, the two channel section members 5, 6 thus provided, one at each end of the boards 1 to 4 are disposed with their mouths facing outwardly beneath the boards.

Secured to the underside of the channels 5, 6 and also to the underside of a wood bearer 7 secured to the underside of the boards 1 to 4 centrally of their lengths is a second set of boards of which one is indicated at 8, which are equal in number to those comprising the upper load supporting surface and are positioned in registration thereunder. Thus the board has two identical upper and lower surfaces so that the board can be reversed and either of the surfaces used as a load supporting surface. If desired, more than one wooden bearer 7 may be provided between the sets of boards 1 to 4 and 8 so as to distribute the strain over the boards of the two sets.

Each of the metal channel section end bearers 5, 6 is provided at each end with a substantially strong loop, ring or eye 9, which is circular in cross section and conveniently of "C" shape for enabling the combined pallet and cargo board to be engaged by a sling device of a lifting crane.

From the foregoing, it will be appreciated that the fork mechanism of a fork lifting truck may be engaged in the space between

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the upper set of boards 1 to 4 and the lower set of boards 8 of the pallet board with the load thereon, and may be raised off the ground and transported by the truck to the required position, e.g. a stacking site and then stacked. For this purpose, the fork may be power raised to the required height, some trucks being capable of raising their fork mechanism up to 10 feet above the ground.

Conveniently, the channel section bearers 5, 6 may be 4 inches × 2 inches channels and the " C " shape loops 9 are welded or otherwise secured to the ends of these channels 5, 6 so as to extend from the ends of said channels at an angle of 45°, the outer corners of the end boards 1, 4 and the flanges of the channels 5, 6 being cut away at 10 at an angle of 45°. The top and bottom flanges of each of said channels 5, 6 have bolted or otherwise secured thereto the ends of the upper and lower sets of boards, so that the boards are spaced apart by the channels and also by the wooden bearer 7 which is disposed centrally between the end channels 5, 6.

Fig. 3 is an enlarged view showing a modified shape of loop 9 which may be used.

What we claim is :—

1. A combined pallet and cargo board for the purpose referred to comprising upper and lower surfaces composed of boards or like members attached at their ends to opposite sides of two metal bearers which extend along opposite sides of the structure and carry loops, rings or eyes welded or otherwise secured to the bearers at the four corners of the device to enable the device to be lifted by a crane.

2. A combined pallet and cargo board according to Claim 1, wherein the upper and lower surfaces are similar so that either can be disposed uppermost and used as a load supporting surface.

3. A combined pallet and cargo board according to Claim 1 or 2, wherein the metal bearers are channel section members the mouths of which face outwards.

4. A combined pallet and cargo board according to any one of the preceding claims, wherein a wood bearer serving as an additional spacer and support for the surfaces is secured to the surfaces centrally of their lengths.

5. A combined pallet and cargo board according to Claim 3 or 4, wherein the ends of the channel members are cut away at an angle of 45°, in a horizontal plane, whilst the loops or eyes are welded or otherwise secured to the cut away ends of the channel members so as to be located at an angle of 45° to the members.

6. A combined pallet and cargo board, substantially as hereinbefore described and as shown with reference to Figs. 1 and 2 of the accompanying drawings.

7. A combined pallet and cargo board as herein described with reference to Figs 1 and 2 but incorporating the device of Fig. 3 of the accompanying drawings.

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PROVISIONAL SPECIFICATION.

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This invention relates to load supporting pallets and cargo boards intended particularly for use with what are known as fork lifting elevator trucks for stacking cargo on dock sides and for use with dock cranes for slinging cargo into or out of ships' holds and for other similar uses.

Up to the present, no efficient method has been devised for handling the loads on the pallets in one operation, it being necessary to transfer the load from a pallet on to a cargo board or load sling before the load could be handled by a crane during loading. Similarly, during unloading, it has been necessary to transfer the load from the cargo board on to a pallet before the load could be lifted by a fork elevator truck and transported to another location.

The object of the present invention is to provide a combined pallet and cargo board having a dual purpose, e.g. that of a pallet and also that of a cargo board.

Broadly, according to the present invention, there is provided a combined pallet and cargo board for the purpose referred to, which comprises a normally horizontal upper load supporting surface with members connected to the underside of said supporting surface and spaced away therefrom to enable the lifting fork of a fork lifting truck to be

the upper set of boards 1 to 4 and the lower set of boards 8 of the pallet board with the load thereon, and may be raised off the ground and transported by the truck to the required position, e.g. a stacking site and then stacked. For this purpose, the fork may be power raised to the required height, some trucks being capable of raising their fork mechanism up to 10 feet above the ground.

Conveniently, the channel section bearers 5, 6 may be 4 inches × 2 inches channels and the " C " shape loops 9 are welded or otherwise secured to the ends of these channels 5, 6 so as to extend from the ends of said channels at an angle of 45°, the outer corners of the end boards 1, 4 and the flanges of the channels 5, 6 being cut away at 10 at an angle of 45°. The top and bottom flanges of each of said channels 5, 6 have bolted or otherwise secured thereto the ends of the upper and lower sets of boards, so that the boards are spaced apart by the channels and also by the wooden bearer 7 which is disposed centrally between the end channels 5, 6.

Fig. 3 is an enlarged view showing a modified shape of loop 9 which may be used.

What we claim is :—

1. A combined pallet and cargo board for the purpose referred to comprising upper and lower surfaces composed of boards or like members attached at their ends to opposite sides of two metal bearers which extend along opposite sides of the structure and carry loops, rings or eyes welded or otherwise secured to the bearers at the four corners of the device to enable the device to be lifted by a crane.

2. A combined pallet and cargo board according to Claim 1, wherein the upper and lower surfaces are similar so that either can be disposed uppermost and used as a load supporting surface.

3. A combined pallet and cargo board according to Claim 1 or 2, wherein the metal bearers are channel section members the mouths of which face outwards.

4. A combined pallet and cargo board according to any one of the preceding claims, wherein a wood bearer serving as an additional spacer and support for the surfaces is secured to the surfaces centrally of their lengths.

5. A combined pallet and cargo board according to Claim 3 or 4, wherein the ends of the channel members are cut away at an angle of 45°, in a horizontal plane, whilst the loops or eyes are welded or otherwise secured to the cut away ends of the channel members so as to be located at an angle of 45° to the members.

6. A combined pallet and cargo board, substantially as hereinbefore described and as shown with reference to Figs. 1 and 2 of the accompanying drawings.

7. A combined pallet and cargo board as herein described with reference to Figs 1 and 2 but incorporating the device of Fig. 3 of the accompanying drawings.

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The object of the present invention is to provide a combined pallet and cargo board having a dual purpose, e.g. that of a pallet and also that of a cargo board.

Broadly, according to the present invention, there is provided a combined pallet and cargo board for the purpose referred to, which comprises a normally horizontal upper load supporting surface with members connected to the underside of said supporting surface and spaced away therefrom to enable the lifting fork of a fork lifting truck to be

introduced in the space between said surface and said members to facilitate lifting of the load by the truck. Preferably, the said members are similar to the upper load supporting surface so that either side of the combined pallet and cargo board may be disposed uppermost and utilised as a lifting surface. The upper and lower surfaces thus provided may be interconnected at their ends by channel section metal bearers interposed between them and these bearers are formed or fitted at their ends (at the four corners of the board) with loops or eyes to facilitate slinging of the board by a crane.

To enable the invention to be clearly understood, one specific form thereof, will now be described by way of example, although it will be appreciated that many modifications can be incorporated without departing from the nature of the invention.

According to this embodiment, the combined pallet and cargo board comprises an upper load supporting surface which consists of four or any other suitable number of boards. These boards are spaced slightly apart in parallel relation and the associated sets of ends are secured to a metal bearer which is of channel section, the two channel section members thus provided, one at each end of the boards are disposed with their mouths facing outwardly beneath the boards.

Secured to the underside of these channels, and also to the underside of a wood bearer secured to the underside of the boards centrally of their lengths, is a second set of boards which are equal in number to those comprising the upper load supporting surface and are positioned in registration thereunder. Thus the board has two identical upper and lower sections so that the board can be reversed and either of the sections used as a load supporting surface. If desired, more than one wooden bearer may be provided between the sets of boards to as to distribute the strain over the boards of the two sets.

Each of the metal channel section end bearers is provided at each end with a substantially strong loop or ring or eye, which is circular in cross section and conveniently of "C" shape for enabling the combined pallet and cargo board to be engaged by a sling device of a lifting crane.

From the foregoing, it will be appreciated that the fork mechanism of a fork lifting truck may be engaged in the space or spaces between the upper and lower sets of boards and the pallet board with the load thereon may be raised off the ground and transported by the truck to the required position, e.g. a stacking site and then stacked. For this purpose, the fork may be power raised to the required height, some trucks being capable of raising their fork mechanism up to 10 feet above the ground.

Conveniently, the channel section bearers may be 4 inches × 2 inches channels and the "C" shape loops are welded or otherwise secured to the ends of these channels so as to extend from the ends of said channels at an angle of 45°, the outer corners of the end boards being cut away at an angle of 45°. The top and bottom flanges of each of said channels have bolted or otherwise secured thereto the ends of the upper and lower sets of boards, so that the boards are spaced apart by the channels and also by the wooden bearer which is disposed centrally between the end channels.

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