Jan. 25, 1955 C. C. AVERILL ET AL 2,700,522

MATERIAL HANDLING PALLET

Filed Jan. 18, 1951 2 Sheets-Sheet 1

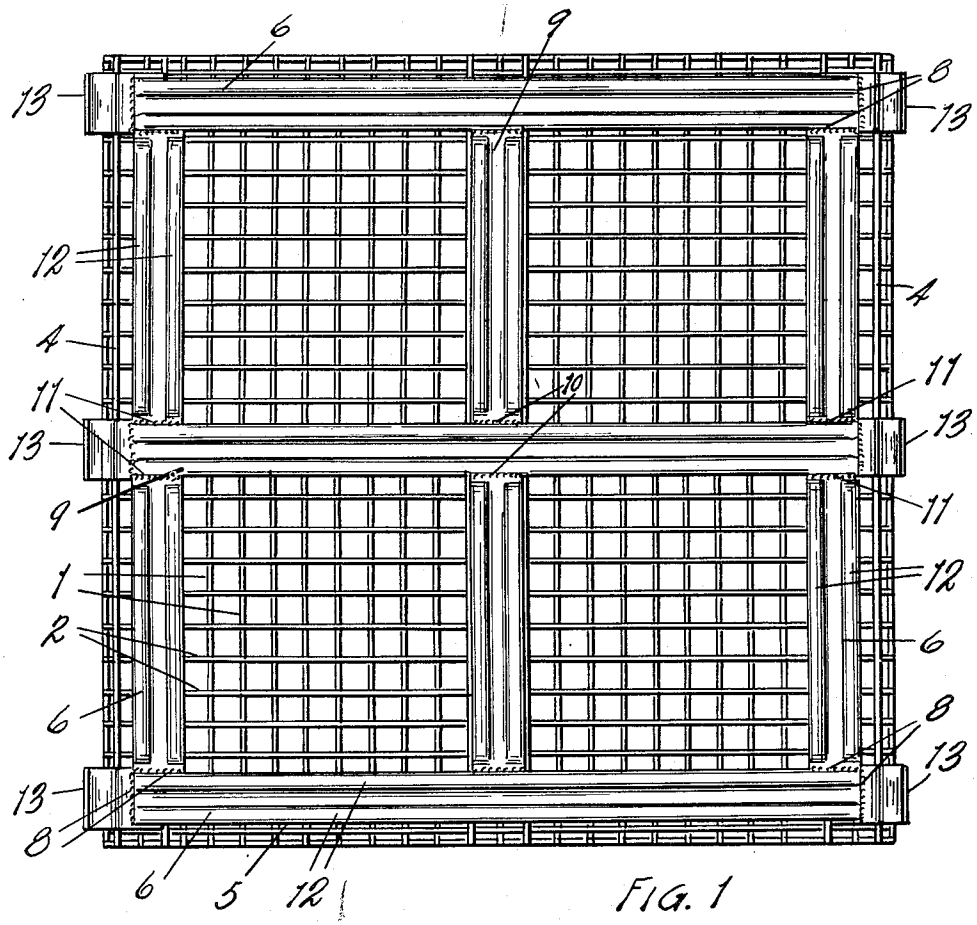


FIG. 1

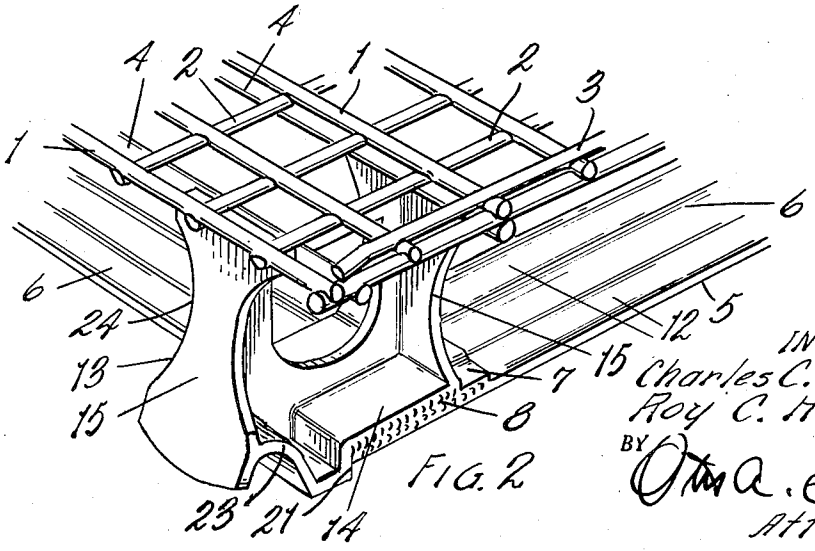


FIG. 2

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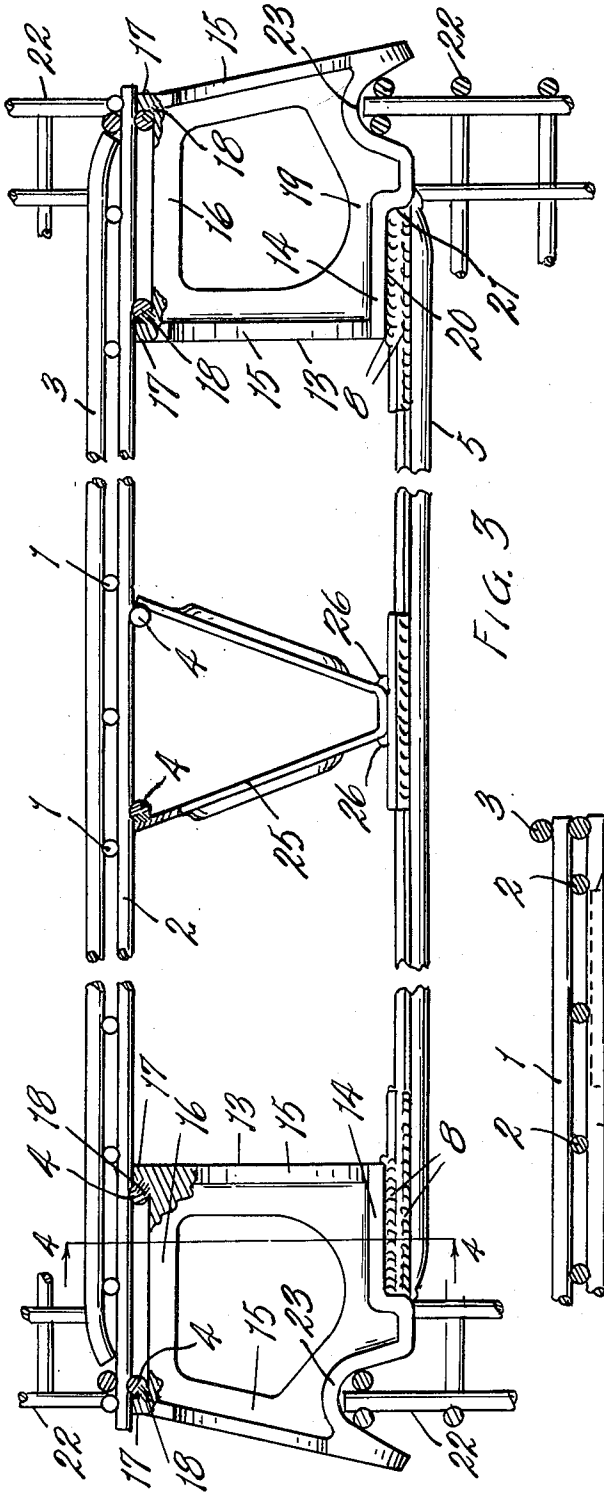


FIG. 3

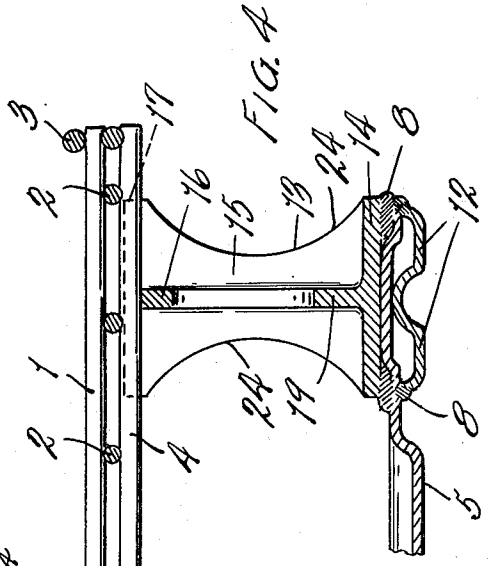


FIG. 4

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MATERIAL HANDLING PALLET

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Application January 18, 1951, Serial No. 206,546

7 Claims. (Cl. 248—120)

This invention relates to improvements in material handling pallets.

The main objects of this invention are:

First, to provide a material handling pallet of the walled stacking type which may be economically produced and at the same time is capable of carrying heavy loads and withstanding severe usage.

Second, to provide a material handling pallet having legs formed as integral castings which may be of relatively light weight and at the same time capable of sustaining heavy loads and severe shocks.

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 drawings, in which:

Fig. 1 is a bottom or inverted view of a pallet embodying my invention.

Fig. 2 is a fragmentary perspective view of one corner of the pallet.

Fig. 3 is an enlarged fragmentary view partially in vertical transverse section with the pallet in upright position, fragments of pallet walls being illustrated to show the cooperating relation of parts.

Fig. 4 is a fragmentary view in section on a line corresponding to line 4—4 of Fig. 3.

In the embodiment of our invention illustrated, the deck or top comprises an upper series of spaced parallel slats 1 and an under series of parallel slats 2 arranged in crossing relation to the slats 1 and fixedly secured thereto as by welding. Reinforcing bars 3 are preferably provided, these being disposed above the upper series of slats and secured thereto. Spaced pairs of leg attaching bars 4 are disposed in crossing relation to the lower series of slats 2 and fixedly secured thereto desirably by welding.

The base designated generally by the numeral 5 comprises border base members 6 formed of sheet metal disposed horizontally flatwise and with the adjacent ends overlapping as best shown at 7 in Fig. 2 and fixedly secured together, desirably by arc welds as indicated at 8. The intermediate base bars 9—9 are disposed in crossing relation and welded together at 10, their ends being lapped upon the border base bars and welded thereto as conventionally shown at 11. These base bars are desirably ribbed as shown at 12 to stiffen and reinforce the same.

The leg members designated generally by the numeral 13 are formed as integral castings. They comprise base portions 14 and upright portions 15 connected at their upper ends by top crosspieces 16. The uprights project above the crosspieces at 17 to provide upwardly facing angles reeciving the leg attaching bars 4, the leg members being fixedly secured to the leg attaching bars by welds 18. The bars 4 are spaced so that they fit within the upwardly facing angles of the leg members.

The uprights 15 are in this preferred embodiment of T-section disposed with the central webs or arms facing inwardly and merging into the webs 19 on the base portions. The base portions of the leg members have upwardly offset portions providing seats 20 for the base bars, the outer ends of these offsets or seats providing shoulders 21 engaging the outer edge of the base bars as is clearly shown in Figs. 2 and 3. Pallet walls of the grid type are shown at 22.

To facilitate stacking of one walled pallet upon another, the base portions of the leg members have downwardly facing offsets 23 adapted to engage the upper edges of the walls 22 of a lower pallet, as is shown in Fig. 3. The outer uprights 15 of the leg members are preferably inclined upwardly and the uprights also have inwardly curved side edges 24. This inclining of the outer uprights and the curved edges serves to deflect the fork of a lifting truck which may be rammed against the same either accidentally or intentionally as such intentional ramming is frequently done for the purpose of positioning the pallet after it has been moved by the truck or preliminary to picking it up.

The cast leg members of our invention may be very economically produced and are very strong and rigid and capable of sustaining heavy loads and very severe shocks and strains to which they may be subjected in use. In Fig. 3 we illustrate a V-shaped leg member 25 formed of sheet metal which is disposed at the center of the pallet, its arms being welded to the attaching bars 4 and its bight being welded to the intermediate bars at their crossing point as indicated at 26. While we have illustrated the wire grid type of deck or top, the leg units or assembly of our invention may be readily embodied in a sheet metal or other type of deck.

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

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is:

1. In a pallet, the combination of a deck, spaced pairs of parallel leg attaching bars fixedly secured to the underside of the deck, base bars of sheet metal disposed horizontally flatwise with their adjacent ends in lapping fixedly connected relation, and integrally cast leg members comprising base portions, spaced uprights, and connecting crosspieces for the uprights adjacent their upper ends, said leg member base portions having upwardly offset inner portions disposed upon and fixedly secured to the said overlapping ends of the base bars with the outer ends of the offsets providing shoulders disposed in abutting relation to the base bars, said leg member crosspieces being in supporting engagement with said leg attaching bars and fixedly secured thereto and with the uprights projecting at the sides of the said leg attaching bars in supporting engagement therewith above said connecting cross pieces.

2. In a pallet, the combination of a deck, spaced pairs of parallel leg attaching bars fixedly secured to the underside of the deck, and integrally cast leg members comprising base portions, spaced uprights, and connecting crosspieces for the uprights adjacent their upper ends, said leg member crosspieces being in supporting engagement with said leg attaching bars and fixedly secured thereto and with the uprights projecting upwardly at the sides of the said leg attaching bars in supporting engagement therewith above said connecting crosspieces.

3. In a pallet, the combination of a deck, base bars of sheet metal disposed horizontally flatwise with their adjacent ends in lapping fixedly connected relation, and integrally cast leg members comprising base portions, spaced uprights, and connecting crosspieces for the upper ends of the uprights, said leg member crosspieces and uprights being in supporting relation to said deck and fixedly secured thereto, the base portions of said leg members having downwardly facing recesses at the outer ends thereof adapted to engage a wall of a pallet upon which the leg members are disposed, and having downwardly facing recesses at the inner ends thereof provided with inwardly facing shoulders, said sheet metal base bars being fixedly secured in the last mentioned recesses with the edges thereof in abutting relation to said shoulders.

4. An integrally cast leg member for material handling pallets, comprising a base portion, spaced uprights projecting from said base portion, one of said uprights constituting an outer upright, a cross piece connecting the uprights adjacent to the upper ends thereof, the top of said uprights and said cross piece forming a seat adapted to be attached to a deck, said base portion having a downwardly facing recess disposed inwardly of and adjacent to

said outer upright for engaging the upper edge of a wall of a lower pallet, said outer upright extending from adjacent its lower end upwardly and inwardly to adjacent its upper end, the upper end portion of the outer leg overhanging the downwardly facing recess of the base portion, a web-like member integral with and extending inwardly from the outer upright, and a web-like member integral with and extending inwardly from the base portion including the portion thereof having the downwardly facing recess therein, the web-like member of the outer upright merging integrally into the web-like member of the base portion at the juncture of the outer upright with the base portion and above the downwardly facing recess.

5. In a pallet, the combination of a deck, a leg attaching bar fixedly secured to the underside of the deck, and integrally cast leg members spaced longitudinally of said bar and comprising base portions, spaced uprights, and connecting crosspieces for the uprights disposed with portions projecting above the crosspieces and coacting therewith to form a seat for said leg attaching bar, said leg attaching bar being supportedly disposed on and fixedly secured to said seat with an upwardly projecting portion in side supporting engagement with said leg attaching bar and fixedly secured thereto.

6. In a pallet, the combination of a deck provided with a fixed leg attaching member, and an integrally cast leg member comprising a base portion, spaced uprights, and a connecting crosspiece for the uprights constituting a seat for said leg attaching member being disposed upon and fixedly secured to said seat, portions of the leg member projecting upwardly at the side of and in laterally supporting engagement with said leg attaching member and fixedly secured thereto.

7. In a pallet, the combination of a deck, integrally cast leg members provided with seats at their upper ends in supporting relation to said deck and fixedly secured thereto, said leg member hacing base portions provided with downwardly facing recesses having inwardly facing shoulders, and sheet metal base bars disposed horizontally flatwise and fixedly secured in said recesses with the end edges thereof in abutting relation to said shoulders, the base portions of the legs having downwardly facing recesses at the outer sides of said shoulders adapted to engage a wall of the pallet upon which the leg members are disposed.

References Cited in the file of this patent

UNITED STATES PATENTS

1,830,998	Harbord	Nov. 10, 1931
1,944,845	Rickwood	Jan. 23, 1934
2,452,356	Coit	Oct. 26, 1948
2,475,370	Bitney	July 5, 1949
2,547,624	Coit	Apr. 3, 1951
2,590,941	Coit	Apr. 1, 1952