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R. S. GREGOIRE
LOAD CARRYING PALLET

3,294,040

Filed March 15, 1965

2 Sheets-Sheet 1

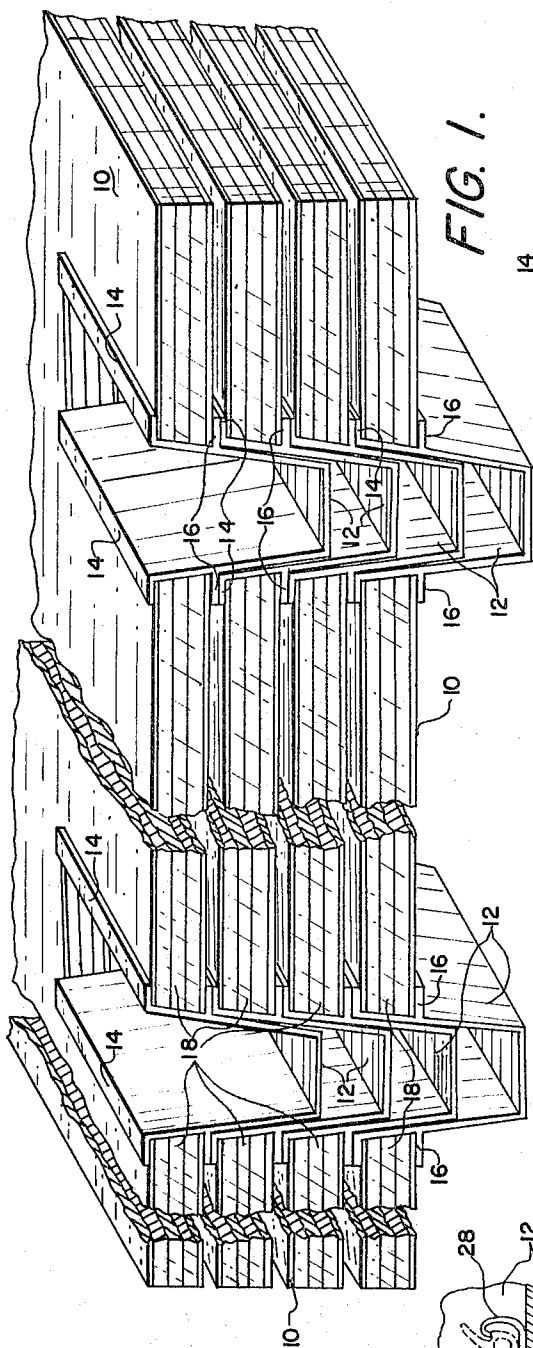


FIG. 1.

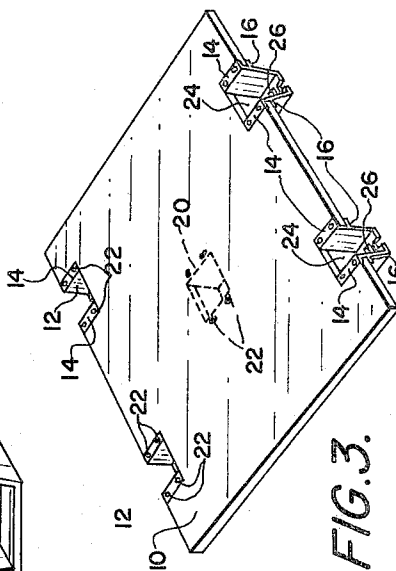


FIG. 3.

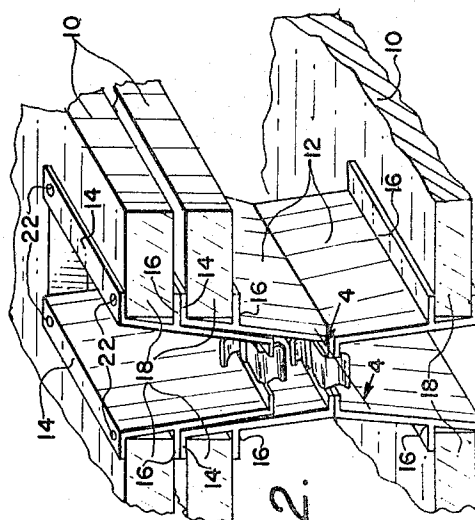


FIG. 2.

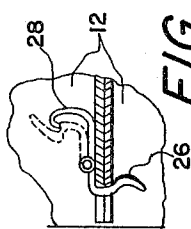


FIG. 4.

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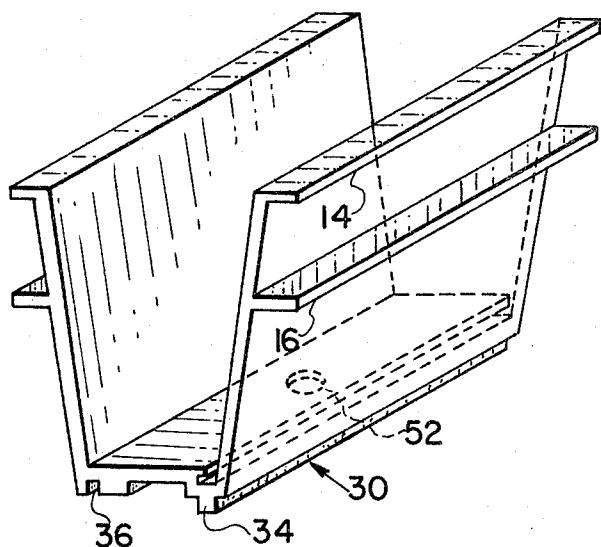


FIG. 7.

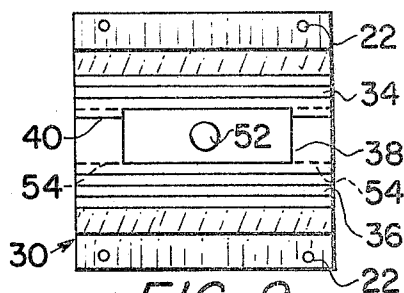


FIG. 9.

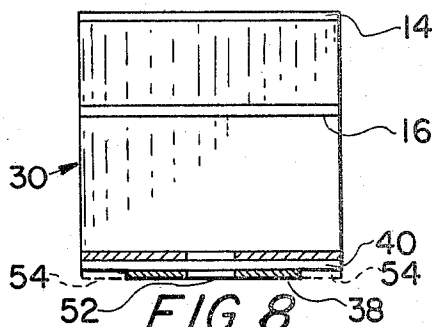


FIG. 8.

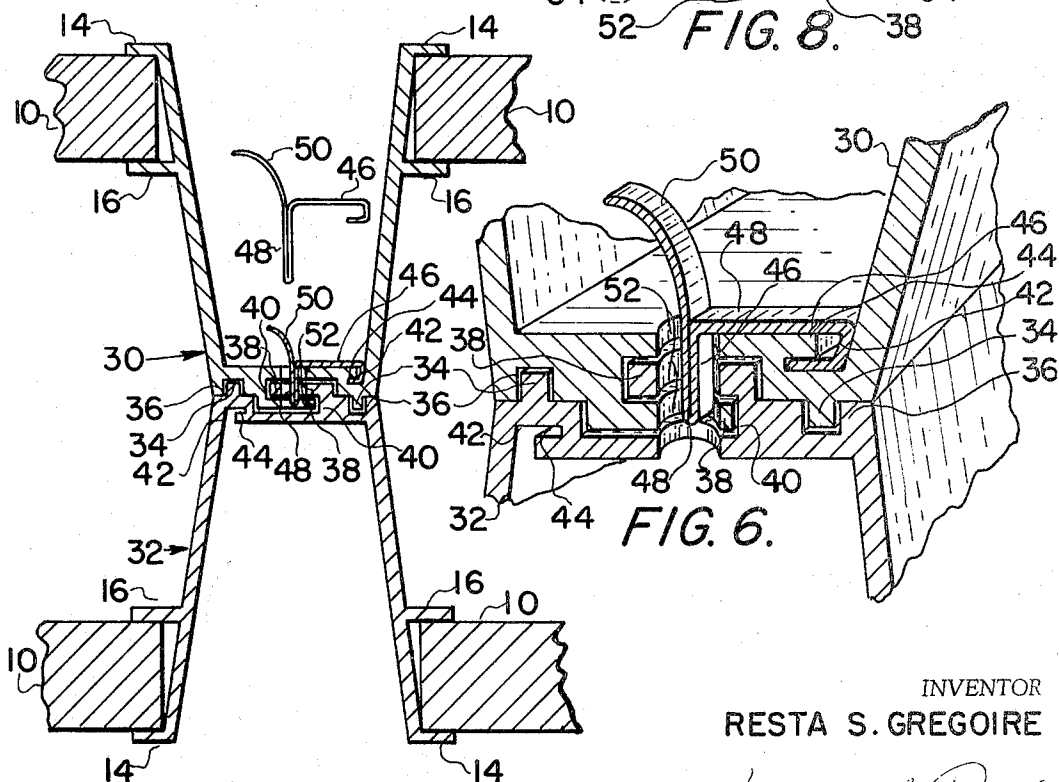


FIG. 5.

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3,294,040

LOAD CARRYING PALLET

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13 Claims. (Cl. 108—53)

This invention relates to load-carrying pallets which may be made of any suitable dimensions for heavy loads and which may be nested and handled in stacks to occupy minimum space when not in use.

The object is to construct a pallet that will be simple, strong and most economical and versatile.

A further object is to provide hollow nestable feet for the platform of a flat-top pallet by setting them into the sides of the platform, so that the pallets may be stacked with the feet nested with corresponding feet on adjacent pallets in the stack so that the overall height of the stack will increase only by the thickness of the platform for each pallet added to the stack.

Another object is to add internal hollow nestable legs in the platform for supporting it between its sides when reinforcement for heavy loads or long spans is desired.

A further object is to make a reversible double pallet by fastening the feet of one pallet to the feet of a reversed pallet, to provide a flat base for the double pallet, whereby the loaded pallets may be stacked on each other if the loads are flat as well as on other substantially flat cargo.

Further and more specific objects will become apparent in the following detailed description of preferred forms of the present invention, as illustrated in the accompanying drawing, wherein:

FIG. 1 is a broken perspective view of portions of a stack of nested pallets constructed in accordance with the present invention,

FIG. 2 is a partial perspective view of a double pallet with a single pallet nesting in it,

FIG. 3 is a perspective view, in a reduced scale, of a substantially square pallet showing a reinforcing leg in the middle in dotted lines,

FIG. 4 is a detail sectional view taken on the line 4—4 in FIG. 2, showing the hinged clips used in making double pallets, and

FIGS. 5 to 9 illustrate a modified form of extrusion which may be used for the legs, having means for interlocking the bottoms of the legs to provide a firmer attachment between the two single pallets in a double pallet combination.

The platforms 10 of the pallets are made of heavy plywood board, but may be made of any suitable sheet material of sufficient strength to maintain rigidity under load. The legs 12 are truncated V-shaped channel members, each having outwardly extending flanges 14 and 16 to form outwardly opening horizontal channels for receiving the opposite edges 18 of a cutout portion in the sides of the platform.

The platforms may be made in any sizes or shapes; and for heavier loads or longer spans, may be reinforced by internally set-in legs 20, which may be the same as legs 12 minus the upper flanges 14, so that they may be set into the cut-out from below. Either type of legs may be fixed to the platform edges by means of rivets 22.

The legs 12 provide ample space under the platform 10 for lift forks, and the openings 24 at the inside of the legs provide for hoist hooks to be hooked to the back of the legs when hoists are used, or chain loops may be readily passed through these openings and looped over the bottoms of the legs for hoisting purposes.

Hinged spring clips 26 may be fixed inside the bottoms of the feet as shown, for clipping the feet together to make up double pallets, to provide a flat bottom for easier stack-

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ing on flat materials. When not in use these spring clips may be held out of the way by C-springs 28 without interfering in the stacking operations in any way.

A modified form of extrusion for making the legs, having slidably interlocking bottoms is shown in FIGS. 5 to 9.

The rectangular ridge and groove formation of the bottom of the extrusion is such that the bottom of one leg 30 may be slidably interlocked with the bottom of another leg 32.

The vertical ridge 34 of each leg extrusion slidably locks into the groove 36 of the other leg extrusion against relative lateral displacement between the legs, and the horizontal ridge 38 of each leg extrusion slidably locks into the groove 40 of the other leg extrusion against vertical separation of the legs. This is possible because the section of the bottom of the extrusion has symmetrically arranged complementary ridges 34 and 38, and grooves 36 and 40 respectively. Ample clearances are provided between the adjacent sliding surfaces to prevent binding when double pallets are assembled or disassembled.

A corner channel groove 42 with an undercut 44 is formed inside the bottom of the extrusion to provide a purchase ledge on which a lock spring 46 may be mounted. This may be a flat spring strip bent as shown, the doubled portion forming a pin 48 and the extrusion 50 forming a handle. These lock springs may be readily applied to the diagonally opposed corner legs in a double pallet combination to hold the component single pallets from sliding relative to each other in the assembly, a bore 52 being provided axially in the bottoms of the corresponding legs as shown, for the pin portion 48 of the lock spring 46 to pass through. This locks the pallets against relative sliding.

When disassembling a double pallet, these lock springs 46 may be readily removed and the single pallets slidably separated.

In order to facilitate lining up the ridges with their corresponding grooves during assembly of two single pallets to form a double pallet, end portions 54 of the horizontal ridges 38 may be removed in diagonally opposed legs of each single pallet in identical corners of the pallets, which will permit a slight overlap in bringing the ends of the bottoms together at all four corners of the pallets to be brought together and guiding the ends of the full ridges 38 into the corresponding shortened grooves 40 simultaneously at all corners without binding.

In place of rivets 22, the flanges 14 may have ears punched into the platform material to hold the legs firmly in place. These ears may be pointed in the direction in which the leg was slid into the cutaway in the platform, so that when it should be necessary to remove the leg, it may be readily hammered off without the ears biting into the platform surface.

Many other obvious modifications may be made in details without departing from the spirit and scope of the present invention as defined in the appended claims.

What is claimed is:

1. A pallet comprising:

a platform having cutouts in its side edges adapted to receive leg members within the periphery of the platform,

a nestable leg member set into each cutout and having outwardly extending flanges on its opposite sides forming channels for slidably receiving the corresponding side edges of the cutouts into which they are set, and

means for fixing said flanges to the corresponding edges.

2. A pallet as defined in claim 1, said nestable leg members being V-shaped with a flat bottom,

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said leg members extending sufficiently below the bottom of said platform to provide lift fork space thereunder and openings under the rear of said cutouts between the legs of the V-shape to facilitate use of fastenings in hoisting operations.

3. A pallet as defined in claim 2,
the outer edges of said flat bottoms of the leg members being cut-out and provided with hinged clips back of the cutout edges for clipping them to adjacent cut-out edges of corresponding leg bottoms of a reversed pallet, to form a double pallet having a flat base formed by the reversed pallet,
said hinged clips having hinge mounts with C-springs for holding said hinged clips out of the way when not in use.

4. A pallet as defined in claim 3, and
a reenforcing nesting leg set in an internal cutout spaced from the sides of the platform for heavy load platforms with long spans between said side cutouts,
said reenforcing leg having no upper channel flanges to facilitate setting it in through the bottom opening of said internal cutout, and
means for fixing the lower channel flanges of said reenforcing leg to the corresponding edges of said internal cutout.

5. A pallet as defined in claim 1,
said platform being a rectangular piece of plywood of suitable strength,
the opposite edges of said cutouts being cut at an angle to conform to the angle of the bottoms of the corresponding channels of the legs.

6. A pallet as defined in claim 2, and
a second pallet having the bottoms of its legs fixed to the bottoms of corresponding legs on the first pallet to form a double pallet with a flat bottom.

7. A leg extrusion for nestable pallets, comprising
a channel member having a truncated V section, with a substantially flat bottom and upwardly diverging sides with a pair of outwardly extending spaced horizontal flanges at the top of each of the channel sides.

8. A leg extrusion as defined in claim 7, and spring clip means attached to said flat bottom for fixing said bottom to a reversed bottom of another leg extrusion, said spring clip means projecting vertically from said bottom a distance less than the spacing between said horizontal flanges.

9. A leg extrusion as defined in claim 7,

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the cross-section of said bottom having outer vertical and horizontal ridges extending from it in symmetrically complementary relation to corresponding vertical and horizontal grooves, whereby when two such bottoms when reversed with respect to each other about the axis of symmetry, will slide axially in interlocking engagement against vertical or horizontal separation from each other.

10. A leg extrusion as defined in claim 9,
said vertical and horizontal ridges and grooves being rectangular and of dimensions to provide ample clearance for slidably assembling pairs of extrusions without binding.

11. A leg extrusion as defined in claim 10, and
a channel groove formed inside a bottom corner of the extrusion, having an undercut groove to form a ledge at one side of the bottom, and
a lock spring having a hook portion for mounting over said ledge.

12. A leg extrusion as defined in claim 11,
an axial bore in said bottom through said horizontal ridge,
said spring clip having a pin portion for passing through said bore to hold a pair of assembled leg extrusions locked together against relative sliding displacement or separation of said extrusions.

13. A leg extrusion as defined in claim 12,
portions of the ends of the horizontal ridge being cut away to provide a guide overlap for a full corresponding horizontal ridge on another extrusion bottom to be guided into its shortened complementary horizontal groove.

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