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3,424,110

PALLET

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FIG. 1

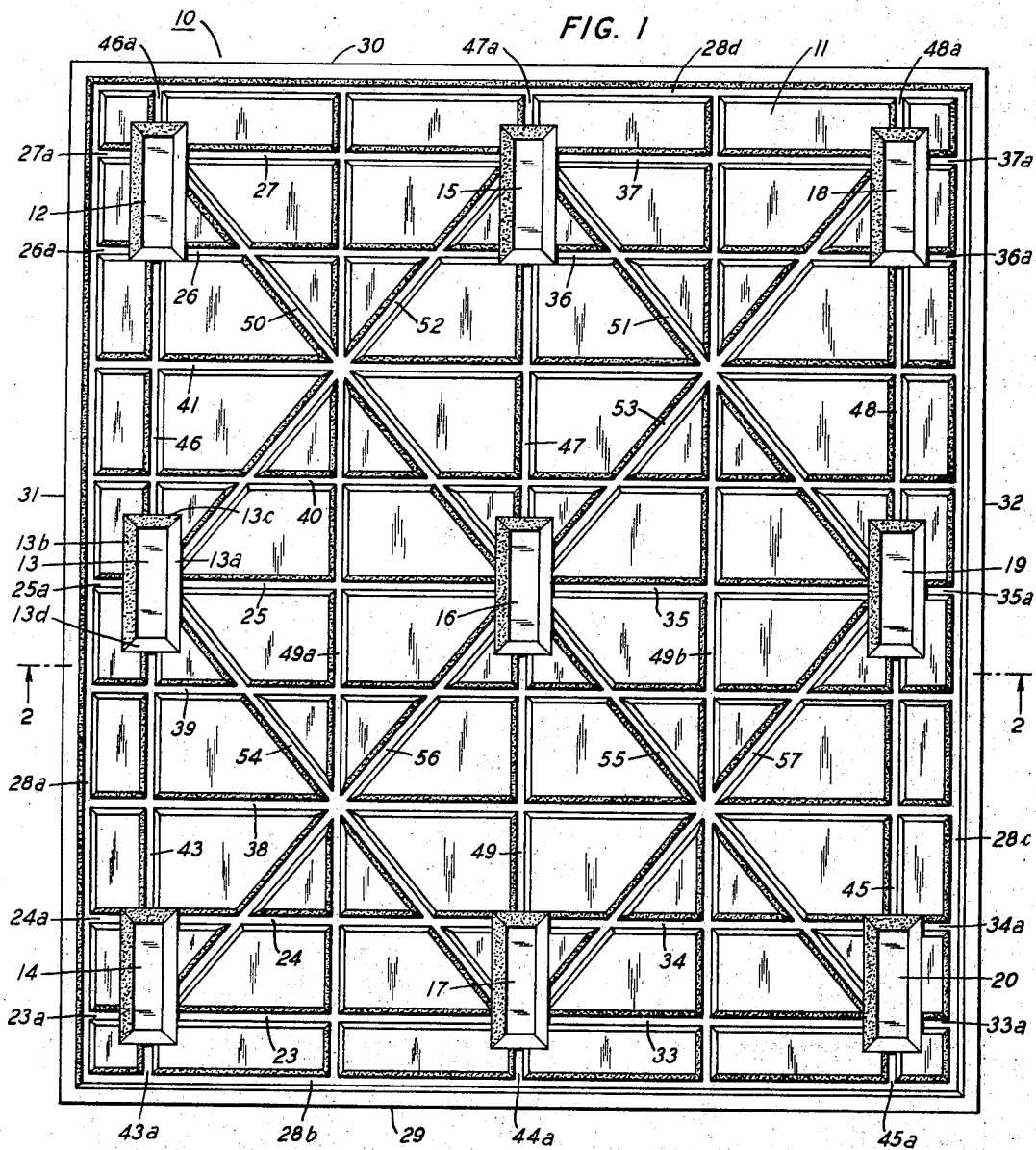
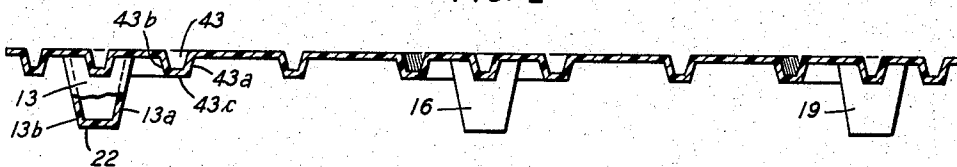


FIG. 2



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7 Claims

ABSTRACT OF THE DISCLOSURE

A one piece molded nestable type pallet is disclosed, having a network of supporting ribs and a plurality of tapered, hollow legs arranged into spaced apart parallel rows. The ribbed network includes: perimeter ribs adjacent and coextensive with the sides; ribs connecting adjacent legs; ribs positioned parallel to the sides, intermediate the legs, and extending the distance between the perimeter ribs; and ribs connecting the side and end legs to the perimeter ribs.

This invention relates to pallets, and more particularly to an improved nestable pallet of a one piece lightweight construction.

Pallets are often made of wood and are used for the support and transport of articles of various sizes and weights. Wood pallets leave much to be desired since they are subject to wear and tear and are difficult to construct and repair economically. Wooden pallets are additionally less than ideal in that they are not nestable and thus require excessive storage space when empty.

It is known in the art to fabricate one piece lightweight nestable-type pallets from metal, plastic, and fiber materials. Although these pallets are suitable for use with light loads, their capacity is such that they are not suitable for use with the heavier loads that may be accommodated by wooden pallets.

It is therefore an object of the invention to provide an improved one piece lightweight pallet that has a load carrying capacity comparable to wooden pallets.

It is a further object to provide an improved pallet of the foregoing type that is nestable and easy to manufacture.

These and other objects will become apparent from the following description taken in conjunction with the drawings, in which:

FIG. 1 is a top plan view of a pallet representing a preferred embodiment of my invention; and

FIG. 2 is a section taken on line 2—2 of FIG. 1.

Like parts shown on the different drawings are represented by like members. The invention comprises a rectangular one piece molded structure 10 having a load bearing surface 11, hollow legs 12, 13, 14, 15, 16, 17, 18, 19, 20, and sides 29—32. The upper extremity of each leg is coplanar with the load bearing surface 11. The bottom 22 of each leg is coplanar with that of all other legs so that these bottoms may rest on the ground or floor or on other flat surfaces to provide resting support for the pallets and the articles thereon.

The legs are arranged into spaced-apart parallel rows so that the forks of a lift truck can pass from any direction between the legs and under the load bearing deck 11. The four walls of each leg, such as walls 13a, 13b, 13c, and 13d of leg 13, for example, are slightly inclined inwardly from vertical as they extend from top to bottom to impart a tapered and trapezoidal shape to the leg when viewed in cross section as shown in FIG. 2. The fact that the legs are both hollow and tapered inwardly toward the bottom facilitates nesting of my pallets when empty.

My pallets have a network of reinforcing ribs and corresponding channels formed from a depression in the

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load bearing surface 11. A first series of ribs 28a, 28b, 28c, and 28d, together form a rectangle and are each adjacent and parallel to one of sides 29, 30, 31, 32. The sides and the ribs 28a—28d form an outer protective perimeter for my pallet.

A second series of ribs, elements 23 through 27, and 33 through 37, each substantially parallel to each other, runs between adjacent hollow legs and parallel to the top and bottom sides 29 and 30. For example, rib 23 runs between legs 14 and 17. A third series of ribs, elements 23a—27a and 33a—37a, extends from one of the legs to one of side ribs 28a and 28b. Thus rib 23a extends from leg 14 to side rib 28a.

A fourth series of ribs, elements 38—41, also parallel to sides 29 and 30, extend across the width of the pallet between side ribs 28a and 28c. A fifth series of ribs, elements 43—48, extend in a vertical direction as shown on FIG. 1 parallel to left and right sides 31 and 32 between adjacent legs. Thus rib 43 extends between legs 13 and 14. A sixth set of ribs, elements 49a and 49b, also parallel to sides 31 and 32, extend from top side rib 28d to bottom side rib 28b.

A seventh series of ribs, elements 50—57, run diagonally between the legs. Thus, rib 50 extends diagonally between legs 12 and 16. Another series of ribs, elements 43a—48a, extend vertically on FIG. 1 from one of the legs to one of side ribs 28b and 28d. Thus, rib 43a extends from bottom side rib 28b to leg 14.

FIG. 2 shows the rib network and the legs in cross section. The rib walls are inclined inwardly from vertical in order to give the rib cross section a trapezoidal configuration. Thus, rib 43 has the inwardly inclined walls 43a and 43b and a flat bottom 43c parallel to surface 11.

It may be seen from the foregoing that my pallets are nestable one within the other, and thus occupy a minimum space for storage when empty. This nesting is facilitated by the fact that the legs are hollow and tapered and that the ribs are also tapered.

It may also be seen that my invention provides a strong one piece pallet which, due to the new and novel rib configuration, is capable of supporting heavy loads of the wood pallet range, but yet which are light in weight and nestable. The pallet will withstand prolonged exposure to moisture and will resist wear when subjected to hard wear.

Various other embodiments may be made by those skilled in the art without departing from the spirit and scope of my invention as defined in the appended claims.

What is claimed is:

1. In a substantially rectangular nestable type pallet, a load bearing top surface, a lower surface parallel to said top surface, a plurality of spaced apart hollow legs depending from said lower surface and arranged to form depressions in said load bearing surface, a network of ribs projecting from said bottom surface so as to form a network of corresponding channels in said load bearing surface, said network comprising an outer rib individual to and adjacent each one of the sides of said pallet and aligned parallel to its associated side with each of said outer ribs extending the entirety of the distance between the two outer ribs aligned transversely thereto.
2. The invention of claim 1 wherein said network further comprises a series of ribs aligned parallel to a pair of said sides and a plurality of said last-mentioned ribs extending between prescribed pairs of said legs with none of said series of ribs crossing any said outer rib.
3. The invention of claim 2 wherein said network further comprises ribs extending diagonally between pairs of

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said legs and crossing predetermined ones of said plurality of ribs.

4. The invention of claim 3 wherein said network further comprises ribs aligned parallel to each of said sides and positioned intermediate said legs and extending the entirety of the distance between the outer ribs transversely aligned with respect thereto.

5. The invention of claim 4 wherein said network further comprises ribs aligned transversely to each one of said side ribs and extending therefrom to said legs without intersecting any other rib.

6. The invention of claim 5 wherein said legs comprise four side walls and a bottom surface with opposite one of said walls being inclined inwardly and extending downwardly from the bottom surface so as to form a trapezoid when viewed from any side of said pallet.

7. A load supporting nestable-type pallet comprising:
a one piece pallet member having a load bearing top surface and a lower surface,
a plurality of hollow legs depending from said lower surface and arranged into spaced-apart parallel rows each of which is parallel to a side of said member,
a network of stiffening ribs on said member with said network including:
a side rib individual and adjacent and parallel to each

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of said sides and extending the distance intermediate the side ribs transversely aligned with respect thereto, ribs aligned parallel to said sides and extending between pairs of said legs,

ribs extending diagonally between each said pairs of legs,

ribs aligned parallel to said sides and intermediate said rows of legs and extending the distance between the side ribs transversely aligned with respect thereto,

and ribs aligned transversely to each of said side ribs and extending therefrom to said legs without intersecting any other rib.

References Cited

UNITED STATES PATENTS

2,544,657	3/1951	Cushman	108—53
3,140,672	7/1964	De Luca	108—53
3,167,341	1/1965	Higgins	108—58 XR
3,187,689	6/1965	Hess	108—58
3,187,691	6/1965	Leitzel	108—58
3,228,358	1/1966	Sepe et al.	108—58

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