United States Patent [19]

Cook, III et al.

[11] **3,768,423**

[45] **Oct. 30, 1973**

[54] **PALLET**

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[22] Filed: **Aug. 16, 1971**

[21] Appl. No.: **171,837**

[52] **U.S. Cl.** **108/51**, 108/58

[51] **Int. Cl.** **B65d 19/00**, B65d 19/38

[58] **Field of Search** 108/51–58

[56] **References Cited**

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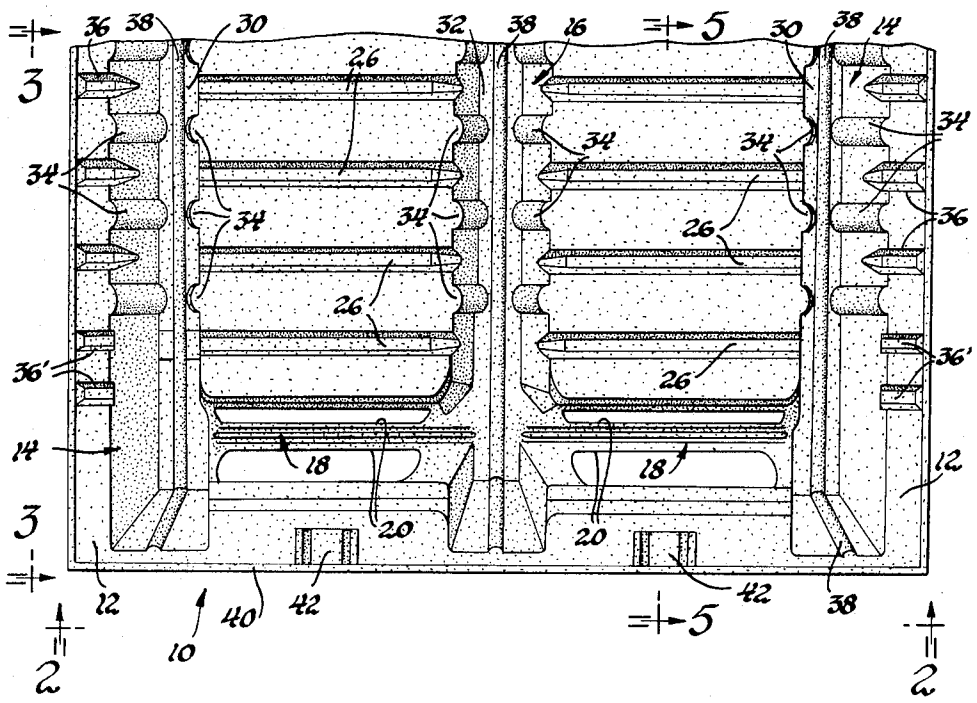
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[57] **ABSTRACT**

This invention relates to an integral one piece pallet made of plastic and including a platform section with three support legs depending therefrom and extending from one side of the pallet to the other. Strengthening ribs, which are generally W shaped in cross-section, are disposed adjacent the side of the pallet and extend between the support legs with the bottoms of the ribs being substantially coplanar with the bottoms of the support legs. These W-shaped strengthening ribs have openings therethrough through which a lift device may be inserted. Reinforcing ribs extend between the support legs and their lower extremities are disposed above the openings in the strengthening ribs so as not to be engaged by the lift means inserted through the openings in the strengthening ribs.

5 Claims, 5 Drawing Figures



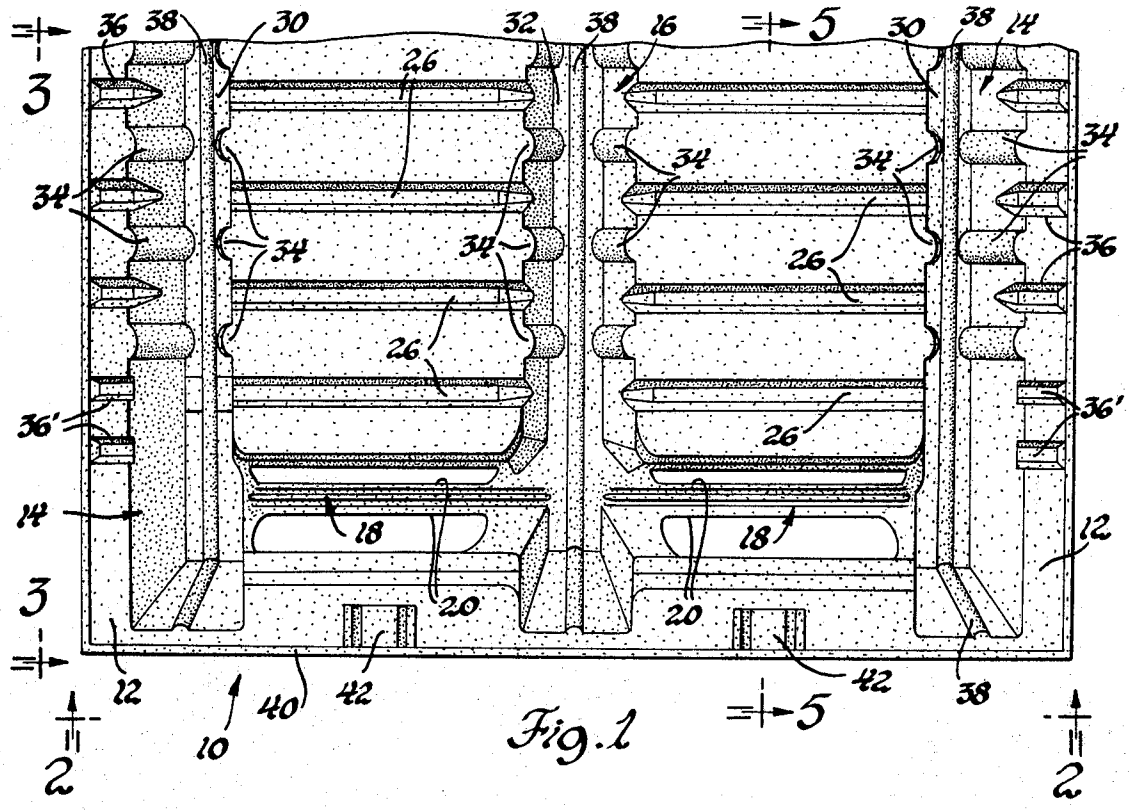


Fig. 1

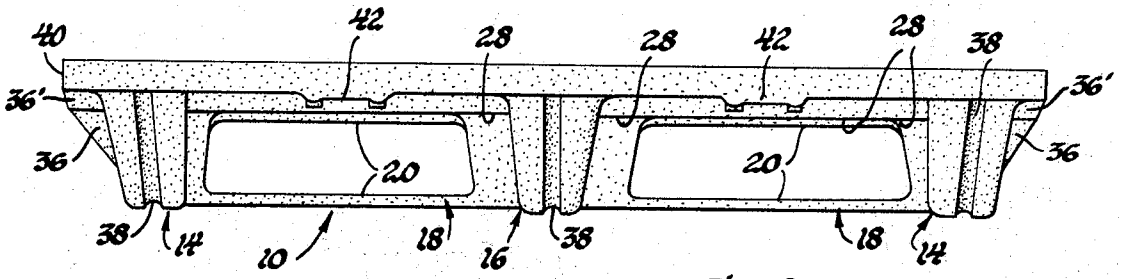


Fig. 2

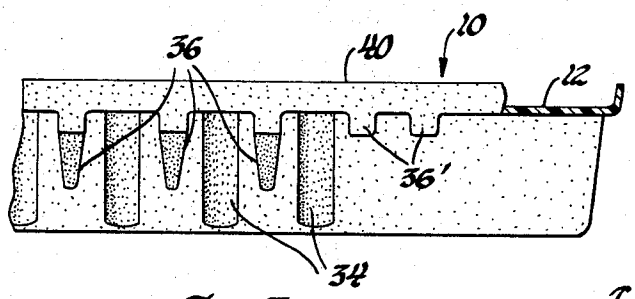


Fig. 3

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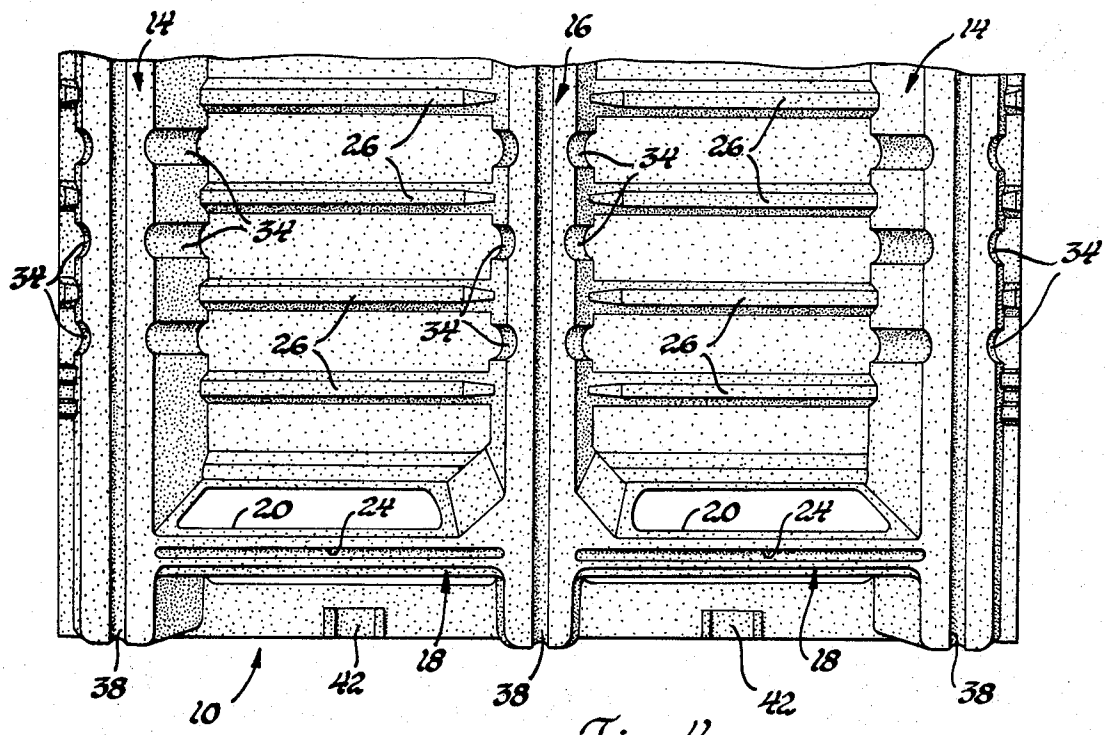


Fig. 4

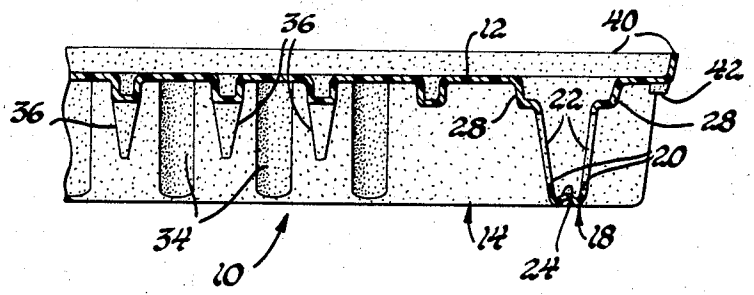


Fig. 5

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PALLET

This invention relates to a pallet made of plastic or organic polymeric material. Such pallets are handled by fork lift vehicles and are usually rectangular in configuration and have an upper load supporting platform section upon which articles are disposed for handling, storage, and transporting.

Plastic pallets are becoming more widely used as they have various advantages over previously used wooden pallets such as being cheaper to manufacture, easier to store, lighter in weight, etc. It is not easy, however, to design a plastic pallet which provides the requisite strength characteristics.

Accordingly, it is an object and feature of this invention to provide an integral one piece plastic pallet having a design providing the requisite strength characteristics.

In correlation with the foregoing object and feature, it is another object and feature of this invention to provide such a pallet including a platform section with a plurality of support legs extending downwardly from the platform section and extending from one side to the other thereof with strengthening ribs extending between adjacent support legs and having openings therethrough.

In correlation with the foregoing objects and features, it is another object and feature of this invention to provide such a pallet wherein the strengthening ribs have a pair of spaced walls with the openings extending through both of the walls.

Other objects and attendant advantages of the present invention will be readily appreciated as the same becomes better understood by reference to the following detailed description when considered in connection with the accompanying drawings wherein:

FIG. 1 is a fragmentary plan view of a preferred embodiment of the instant invention;

FIG. 2 is a side view taken substantially along line 2—2 of FIG. 1;

FIG. 3 is a fragmentary end view taken substantially along line 3—3 of FIG. 1;

FIG. 4 is a fragmentary bottom view taken substantially along line 4—4 of FIG. 2;

FIG. 5 is a fragmentary cross sectional view taken substantially along line 5—5 of FIG. 1.

An integral one piece pallet made of plastic or organic polymeric material constructed in accordance with the instant invention is generally shown at **10.**

The pallet **10** is integral or in one piece and is preferably made by a vacuum molding process. A plurality of support legs extend downwardly from the platform section **12** and from one side to the other of the platform section **12,** the side legs being generally indicated at **14** and the middle leg being generally indicated at **16.**

The strengthening ribs, each of which is generally indicated at **18,** extend downwardly from the platform section between adjacent legs **14** and **16** and have openings **20** extending therethrough. Each of the strengthening ribs **18** has a pair of spaced walls **22** with a void or airspace therebetween as indicated in FIG. **5** and the openings **20** extend through both of the walls **22.** The walls **22** generally define a U-shape because they diverge from one another from the bottom of the strengthening ribs **18** upwardly toward the platform section **12** and, more specifically, the strengthening ribs **18** are generally W shaped when viewed in cross

section as best illustrated in FIG. **5.** In other words, the bases of the strengthening ribs **18** include a rib or depression **24** that define a W shape.

The bottom extremities of the strengthening ribs **18** are substantially coplanar with the bottom extremities of the support legs **14** and **16.**

The pallet also includes reinforcing ribs **26** extending downwardly from the platform section **12** and between the support legs **14** and **16.** The bottom extremities of the reinforcing ribs **26** are coplanar or above the openings **20** in the strengthening ribs **18** for preventing the reinforcing ribs **26** from being contacted by a lift means inserted through the openings **20.**

The upper ends of the walls **22** of the strengthening ribs **18** are integral with half reinforcing ribs **28** as best shown in FIG. **5.** The strengthening ribs **18** are disposed adjacent each side of the pallet **10** and a plurality of the reinforcing ribs **26** are spaced and parallel to one another between the sides of the pallet.

Each of these support legs **14** and **16** includes spaced walls joined by a bottom base section **30** for the side legs **14** and **32** for the middle leg **16.** The side walls of the middle leg **16** diverge from one another from the base section **32** toward the platform section **12.** In the case of the side legs **14,** the outer walls thereof slant upwardly and outwardly from the bases **30** thereof to the platform section **12,** the inner walls being substantially vertical or perpendicular to the base section **12.**

The side walls of the support legs **14** and **16** have gullets **34** therein and each gullet **34** is disposed between a pair of reinforcing ribs **26.**

The outer support legs **14** are spaced inwardly from the periphery of the platform section **12** and the platform includes short reinforcing ribs **36** and **36'** extending from the outer support legs **14** outwardly toward the periphery of the platform section **12.**

A channel **38** extends longitudinally along the base sections of the legs **14** and **16** and up the ends thereof.

All of the features described add to the structural integrity of the pallet and the strengthening ribs **18** prevent the pallet from bending unduly about an axis extending generally parallel to the support legs **14** and **16.**

A flange **40** extends upwardly and is disposed about the periphery of the platform section **12.**

There is also included strap guides **42** extending downwardly from the platform section **12** between the support legs **14** and **16** at the periphery of the platform section **12** whereby banding straps may be disposed about articles on the platform section and over the strap guides **42.**

The invention has been described in an illustrative manner, and it is to be understood that the terminology which has been used is intended to be in the nature of words of description rather than of limitation.

Obviously, many modifications and variations of the present invention are possible in light of the above teachings. It is, therefore, to be understood that within the scope of the appended claims, the invention may be practiced otherwise than as specifically described.

The embodiments of the present invention in which an exclusive property or privilege is claimed are defined as follows:

1. An integral one-piece pallet made of plastic and including: a platform section; a plurality of support legs extending downwardly from the platform section and extending between opposite sides of the platform section; and transversely extending strengthening ribs ex-

tending between the respective adjacent support legs, each strengthening rib having a generally V-shaped cross section by including spaced side walls which diverge from one another in a direction upwardly toward said platform section, said side walls of each strengthening rib having openings therethrough for receiving pallet handling means.

2. A pallet as set forth in claim **1** wherein said strengthening ribs include a base having a depression therein.

3. A pallet as set forth in claim **1** including reinforcing ribs extending between said support legs, the bottom extremities of said reinforcing ribs being coplanar with or above said openings for preventing said reinforcing ribs from being contacted by lift means inserted through said openings.

4. A pallet as set forth in claim **1** wherein each of said support legs includes spaced walls joined by a bottom base section.

5. A pallet as set forth in claim **1** wherein said walls of said support legs have gullets therein with each gullet disposed between a pair of said reinforcing ribs.

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