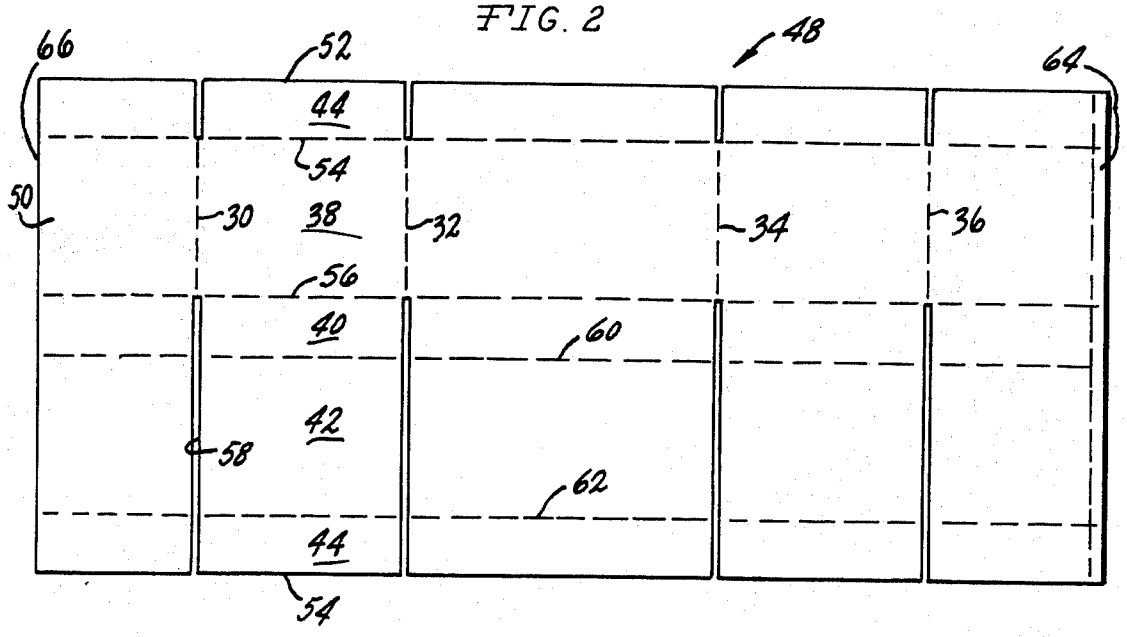
Nov. 14, 1972 D. T. STEPHENS ET AL 3,702,676

PALLET ACCESSORY

Filed Dec. 30, 1970

FIG. 2



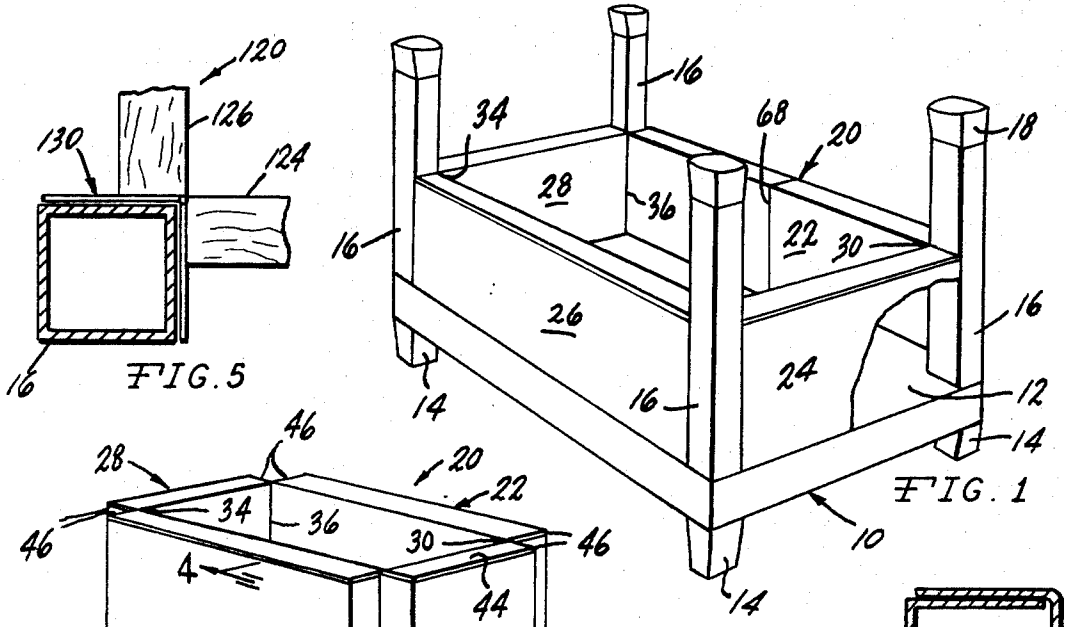


FIG. 5

FIG. 1

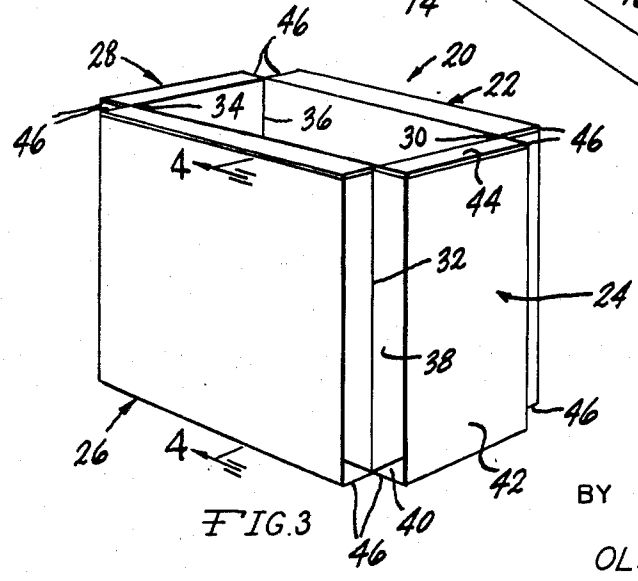


FIG. 3

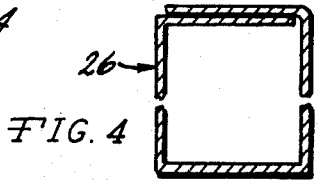


FIG. 4

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PALLET ACCESSORY

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U.S. Cl. 229—14 C 5 Claims

ABSTRACT OF THE DISCLOSURE

Apparatus for use with pallets of the type which have corner posts for stacking loaded pallets one on top of another and which are adapted to be lifted and moved by conventional fork lift devices. The apparatus is formed preferably of paperboard which is blanked and folded to define an enclosure positioned around the upper periphery of the pallet and to be retained in place by interlocking action of the corners of the paperboard enclosure with the corner posts. Modifications in which other materials are used for making the enclosure are also disclosed.

BACKGROUND OF THE INVENTION

The present invention relates to an enclosure which can be positioned on a pallet to confine articles deposited thereon and which has corner constructions which lock the enclosure in place on the pallet.

It is conventional practice to use pallets on which articles can be loaded during manufacturing operations and thereafter to lift the loaded pallet or a stack of pallets by a fork lift device for movement to another location. For stacking purposes, the pallets normally are provided with corner posts which facilitate stacking one loaded pallet upon another.

Handling problems frequently arise when employing these conventional prior art practices, especially in those instances when the articles are unstable in their loaded positions on the pallets. In other instances the pallets may not even be usable because the shapes of the articles preclude loading them on the pallets, such as would be the situation, for example, with round articles.

SUMMARY OF THE INVENTION

The present invention has overcome many of the problems relating to handling of the articles with conventional pallet equipment. More specifically, the present invention relates to an enclosure which can be easily assembled and placed on a conventional pallet, and when assembled, will retain loaded articles in their positions on the pallets.

According to one form of the present invention an enclosure for a pallet has been provided which comprises an elongated blank of material folded and secured together at its ends to provide an endless series of hollow wall panels hingedly connected together to form the enclosure which can be seated on the supporting surface of the pallet. The elongated blank has a continuous strip between its upper and lower edges which provides interior wall panels hingedly connected by transverse folds in the blank. Slots which are aligned with the transverse folds extend inwardly from the longitudinal edges to the transverse folds, and a plurality of longitudinal folds extend between the slots so that the slotted portions of the blank can be folded outwardly and secured together to provide hollow box shaped panels. This procedure for folding the blank results in corners being formed which open outwardly between each of the adjacent wall panels and these corners are located so that they will straddle the interior surfaces of corner posts which may be located on the pallet.

In the preferred form of the invention the material that is blanked is paperboard which can easily be folded as required and then secured by staples or other adhesive or fastening means.

The paperboard enclosures can be stored in their original blank forms, and can be readily folded and secured together to define the enclosure when need for such an enclosure arises. Because of the low cost of the enclosure, it can be thrown away, if desired, as soon as it has served its purpose of retaining articles on the surface of the pallet. However, when in its folded state, the enclosure is a relatively rigid structure which can be reused, if desired.

The enclosure can be formed from other materials which can be folded and secured together, or it can be formed from rigid materials, such as plywood panels, or the like. In instances such as these, the plywood panels can be joined by conventional hinges, and the hinges can be dimensioned so that they can straddle the interior surfaces of the corner posts to assure that the enclosure will remain locked in place on the pallet.

Thus, it is the object of the present invention to provide an improved enclosure which can be used in conjunction with conventional pallets.

Other objects of this invention will appear in the following description and appended claims, reference being had to the accompanying drawings forming a part of this specification wherein like reference characters designate corresponding parts in the several views.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a perspective view of a conventional pallet structure in which an enclosure, embodying one form of the present invention, is positioned;

FIG. 2 is a plan view of one form of a blank from which the enclosure embodying this invention s made;

FIG. 3 is a perspective view of the enclosure prior to being mounted on the pallet;

FIG. 4 is an enlarged fragmentary section taken on the line 4—4 of FIG. 3; and

FIG. 5 is a fragmentary section taken horizontally through a corner post of a pallet showing portions of a modified form of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Before explaining the present invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and arrangement of parts illustrated in the accompanying drawing, since the invention is capable of other embodiments and of being practiced or carried out in various ways. Also, it is to be understood that the phraseology or terminology employed herein is for the purpose of description and not of limitation.

Referring now to the drawings, the invention will be described in greater detail. The pallet **10** is conventional apparatus having a supporting surface **12**, integral legs **14** and removable posts **16** which have sockets **18** at their upper ends into which legs **14** from another pallet can be inserted for stacking a plurality of pallets **10**, one on top of another.

The enclosure structure **20** which embodies the present invention has four upright panels **22, 24, 26** and **28** which are hingedly connected at their interior vertical edges **30, 32, 34** and **36**. As can be seen best in FIG. 3, each of the wall panels is a hollow wall construction. Thus, panel **24** has an interior wall panel portion **38**, a bottom wall panel portion **40**, an exterior wall panel portion **42**, and a top wall panel portion **44**. Each of the other panels **22, 26** and **28** are similarly constructed.

When the enclosure structure **20** is folded to the open position shown in FIG. 3, wherein the wall panels are at right angles to one another, external corners **46** are defined between adjacent hingedly connected ends of the

hollow wall panel. These corners **46** are adapted to straddle the interior surfaces of the posts **16** when the enclosure **20** is mounted on the pallet **10** in the position shown in FIG. 1. It will be observed that the enclosure **20** is firmly locked in place on the pallet **10** by virtue of the interlocking action between the corners **40** and the post **16**. Preferably, the enclosure structure **20** is made from paperboard material that has been blanked in the form shown in FIG. 2. As there shown, the elongated blank **48** has a continuous strip **50** which is spaced inwardly from the longitudinal edges **52** and **54** and is mounted on its upper and lower edges by the longitudinal folds **54** and **56**. The continuous strip **50** has a plurality of transverse folds or creases, which, when folded, provide the hinge connections **30, 32, 34** and **36** between the interior wall of the respective panels.

The blank **48** also has a plurality of slots **58** which extend inwardly from the lateral edges **52** and **54** in alignment with the transverse folds or hinges **30, 32, 34** and **36**, such slots **58** terminating at the longitudinal folds **54** and **56**. Folds or creases are also formed in the blank **48** which extend longitudinally thereof between the slots **58** as indicated by **60** and **62**. By appropriate folding of the slotted portions of the blank and securing the remote portions **44** together, hollow wall panels are formed having a box-shaped cross-section defined by the interior wall portion **38**, bottom wall portion **40**, exterior wall portion **42** and top wall portion **44**. It will be observed that the top wall portion has a double-wall thickness, which on some occasions is desirable to provide greater resistance to wear and abrasion that may occur during loading of articles into the enclosure **20**.

In the normal assembly of the enclosure structure **20**, the end or tab portion **64** will initially be secured to the opposite end **66** to form the joint **68** so that a continuous wall structure is provided for the enclosure **20**.

It will be observed that a large number of blanks **48** can be stored in a relatively small space, and thereafter can readily be folded together and fastened to define an enclosure structure **20**. Such structures need not necessarily be stored in an open position such as is shown in FIG. 3, but can be collapsed easily into a flat package by virtue of the hinged joints at **30, 32, 34** and **36**, as well as at the joined edges of the wall panel portions **38, 40, 42** and **44**. Also, other materials can be used for the blank **48** which can easily be cut and creased or folded as indicated with respect to the paperboard blank **48**.

It is also contemplated that more rigid materials may be used to form the wall panels of the enclosure. Thus, it is contemplated that plywood panels may be used such as are shown in FIG. 5 by reference numbers **124** and **126**. When constructing the enclosure **120** of rigid material, it is contemplated that strap hinges **130** will be employed which have strap portions projecting outwardly beyond the outer surface of the wall panels **124** and **126** so as to completely enclose the interior surfaces of the post **16**, thereby assuring good interlocking action between the enclosure structure **120** and the corner posts **16**.

It is claimed:

1. An enclosure structure for a rectangular pallet which has a supporting surface and four posts extending upward respectively from the four corners of the supporting surface, said posts having square interior corners, said structure comprising four upright panels hingedly connected at their vertical edges and dimensioned to define a rectangular enclosure for said supporting surface when the adjacent hinged panels are positioned perpendicular to one another, the hinge-connection between each pair of adjacent panels being at the inner vertical edges of the panels so that the adjacent ends of the panels define a corner opening outwardly of the enclosure, each said corner defined by the panels being square when the adjacent panels are normal to one another for receiving therein one of the posts of the pallet, said panels being formed of a paperboard material folded to define a hollow box-shaped cross-section, the inner wall of each panel being hingedly connected at its ends to the inner walls of adjacent panels and the remainder of the end portions of the panels conforming to shape of the associated posts.

2. An enclosure structure for a pallet that has a supporting surface and posts extending upward respectfully from the corners of the supporting surface, said structure comprising an elongated blank of material folded and secured together at its ends to provide an endless series of hollow wall panels hingedly connected together to form an enclosure that is seated on said supporting surface adjacent to the periphery thereof, said elongated blank having a continuous strip between its longitudinal edges which provides interior wall panel portions hingedly connected by transverse folds in the blank, slots aligned with said transverse folds extending inwardly from said longitudinal edges to said transverse folds and a plurality of longitudinal folds extending to said slots, the slotted portions of the blank being folded longitudinally and secured together to provide with said interior wall panel portions the top, bottom, exterior and interior wall panel portions of said hollow wall panels.

3. The enclosure structure that is defined in claim **2**, wherein the longitudinal dimensions of said hollow wall panels correspond to the dimensions between said posts so that the external corners defined between adjacent hingedly connected ends of said hollow wall panels are adapted to straddle the interior surfaces of said posts.

4. The enclosure structure that is defined in claim **2**, wherein said blank is a paperboard material.

5. The enclosure structure that is defined in claim **2**, wherein the slotted portions of the blank at one longitudinal edge have dimensions corresponding to said top wall panel portions, and the slotted portions of the blank at the other longitudinal edge are folded longitudinally three times to provide panel portions having the dimensions of the bottom, exterior and top wall panel portions, the top wall panel portions of the structure having a double thickness from securing together the top wall panel portions of each longitudinal edge.

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U.S. Cl. X.R.

108—53; 217—69; 229—23