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(19) **United States**(12) **Patent Application Publication**
Rego Garcia De Alba(10) **Pub. No.: US 2011/0011312 A1**(43) **Pub. Date: Jan. 20, 2011**(54) **PALLET FOR CONTAINING AND
TRANSPORTING OBJECTS**(52) **U.S. Cl. 108/55.1**(75) **Inventor: Luis Felipe Rego Garcia De Alba,**
Mexico City (MX)(57) **ABSTRACT****Correspondence Address:****BROOKS KUSHMAN P.C.****1000 TOWN CENTER, TWENTY-SECOND
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The present invention relates to a novel pallet design to hold and transport products from the point of manufacture to the point of sale.

The advantage of this pallet design is that it provides the necessary means for coupling at each corner, a vertical profile which in turn is attached by an upper frame, because of which there is no need to change the product from the pallet in the trajectory from the factory to the point of sale, since the fixing of vertical profiles to the pallet together with the upper frame provide the product with the security and necessary firmness for the transportation of the same.

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One of the most important pieces of the present invention are the corner lugs, which are disposed in each of the corners of the pallet, and an angular cut which works together with a fastening sleeve coupled to the corner lug so as to form a hollow space of the required size to receive vertical profiles and keep them firm and strong during the whole trajectory of the product.

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There are also other lugs in a preferred embodiment of the invention which are disposed in a cross shape and their function along with the corner lugs is to support the weight of the product and provide firmness to the structure of the pallet.

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One of the advantages of the lugs is that in an embodiment of the invention they may be manufactured from recycled materials such as used tires.

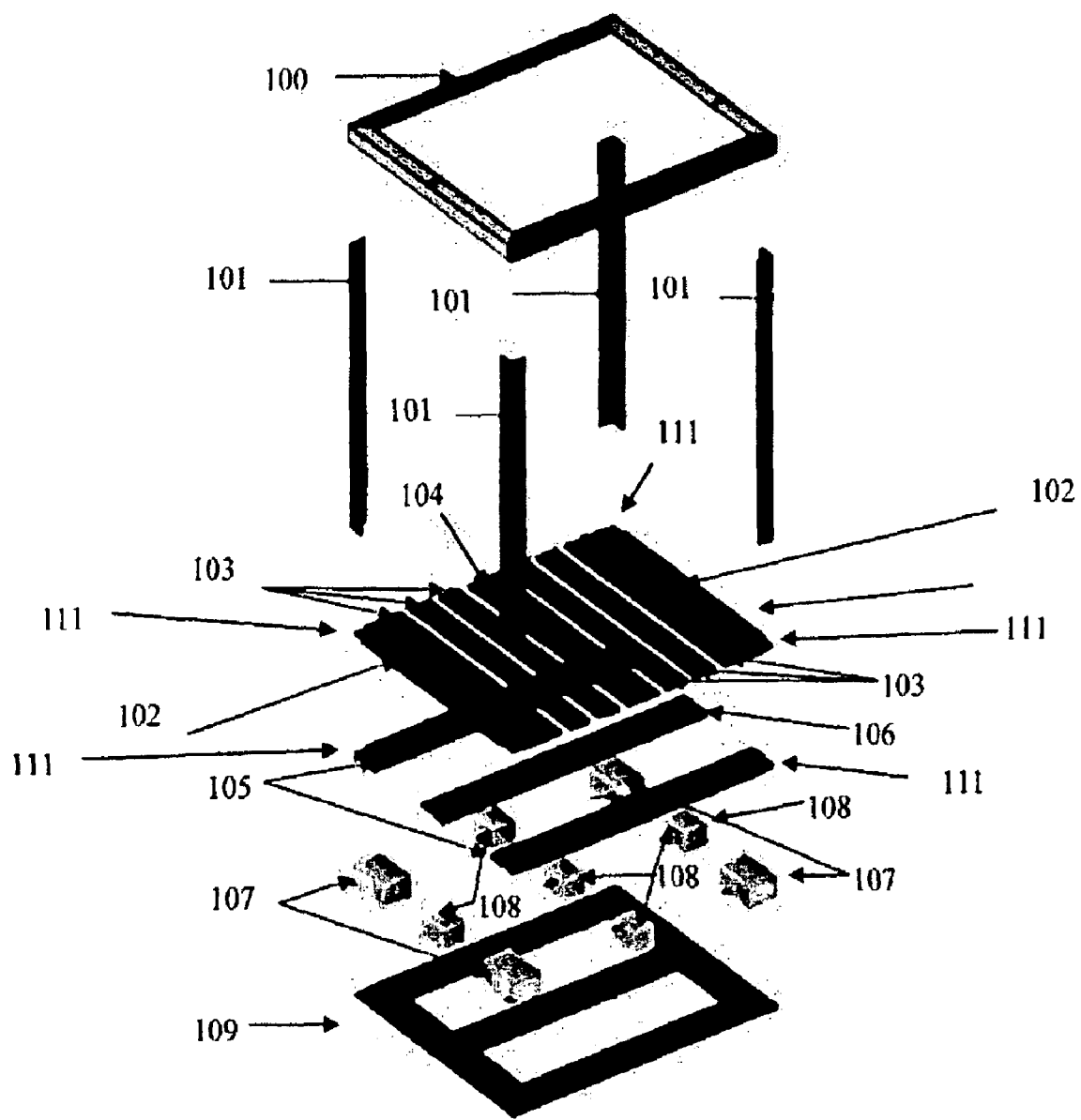
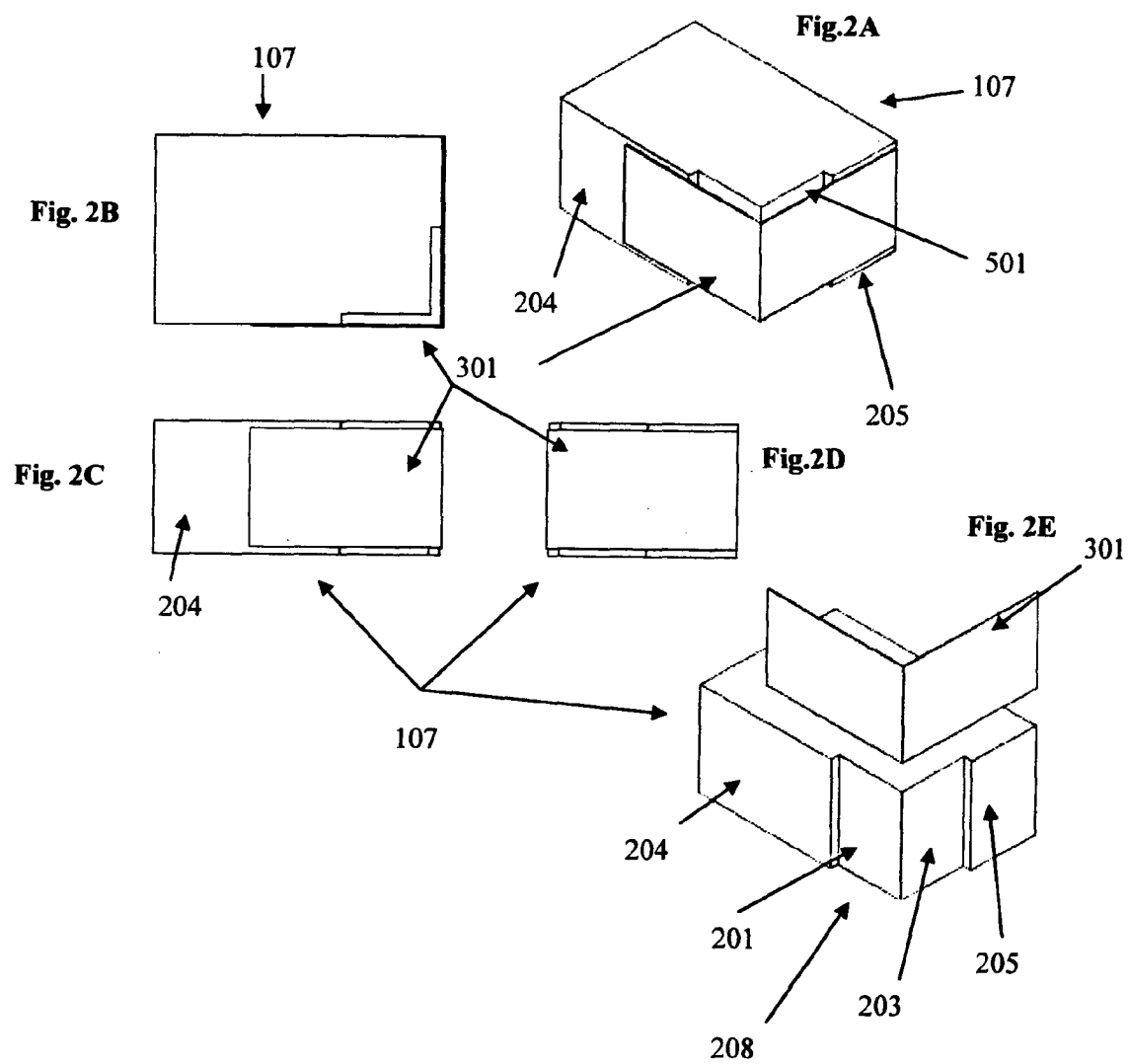


Fig. 1



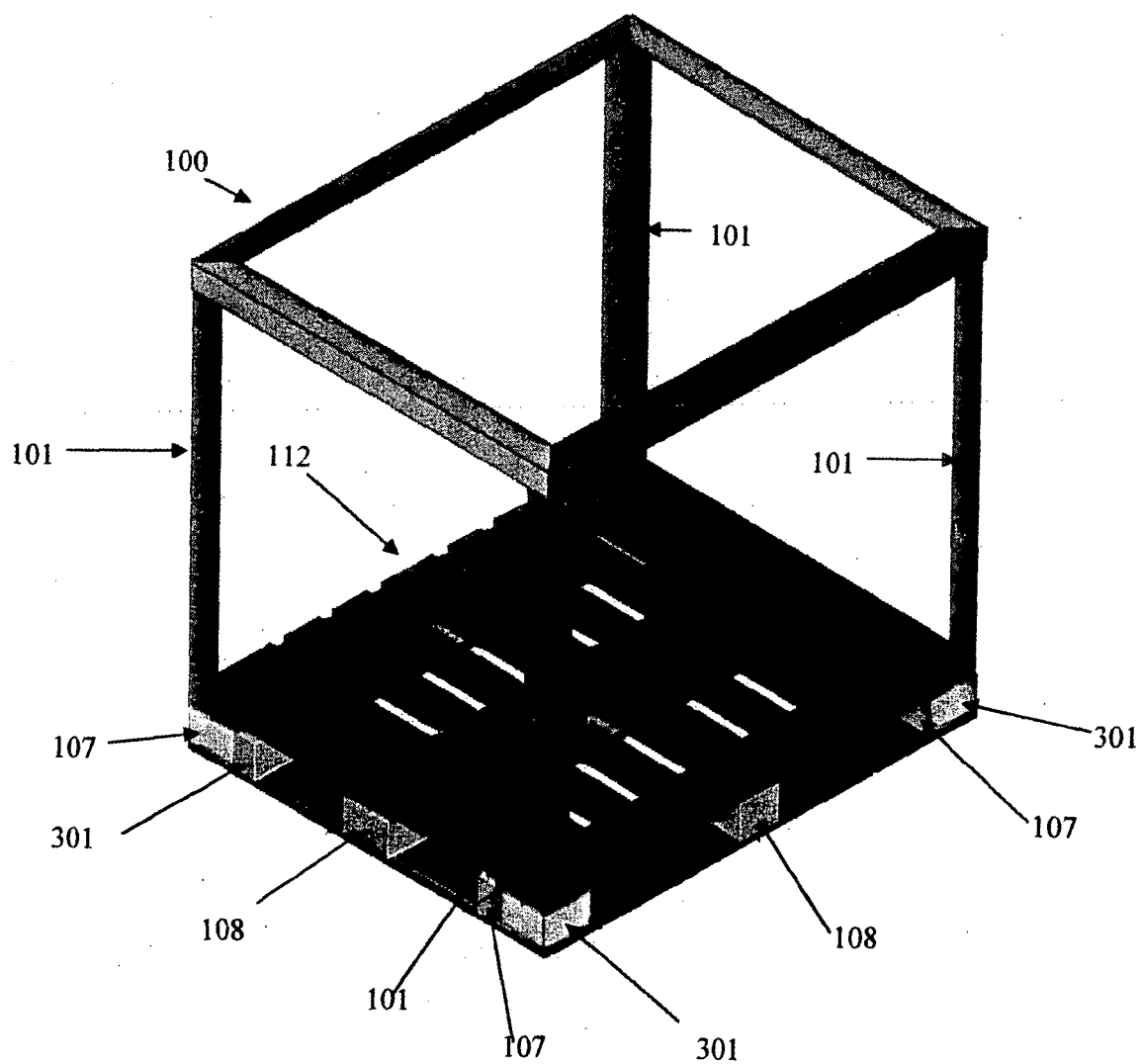


Fig. 3

PALLET FOR CONTAINING AND TRANSPORTING OBJECTS

FIELD OF THE INVENTION

[0001] The present invention relates to a novel design of pallets to hold and transport objects.

[0002] It is an object of the present invention to provide a pallet to which may be easily adapted a frame with the functionality to hold and transport products from the factory to the point of sale of the product.

[0003] Another object of the present invention is to provide a pallet with means for reception of vertical profiles in each one of its corners in order to form a frame.

[0004] Yet another object of the invention is to provide a rectangular corner lug which has angular cuts in one of its corners to hold a vertical profile.

[0005] Yet another object of the present invention is to provide a rectangular corner lug with such versatility that it can be made of various materials including recycled wastes such as car tire wastes.

BACKGROUND OF THE INVENTION

[0006] There are in the state of the art, numerous pallets and items for freight packing and transportation; however there is not one that is used for both packaging and transportation wherein the load is contained.

[0007] Application number PA/a/2005/011459 by Luis Felipe Rego Garcia de Alba, inventor of the pallet of the present invention, describes and claims a package structure for the containment, transportation, exhibition and sale of large volumes of product at points of sale, intended for the final consumer. More specifically, it refers to a three-dimensional cube frame conformed by four angled poles separated each one from the others, which are attached by a few angular cross members. However, this frame was not focused on pallets, it lacked some innovative elements which allowed the advance of the art, and now it has a new and extremely strong pallet that besides saving money, allows using the same pallet from the point of manufacture to the point of sale inclusive.

SUMMARY OF THE INVENTION

[0008] The invention relates to a novel pallet design to hold and transport various products from the point of manufacture to the point of sale, which confers various competitive advantages with respect to the pallets already known in the market, e.g. material savings through the innovative pallet design since only one pallet is used from the factory to the point of sale.

[0009] Similarly, it prevents having to move products transported on the pallet, since they are transported on the same pallet, and are exhibited at the point of sale.

[0010] Pallet design is more stable because by using a frame and profiles to hold products, the result is a pallet that confines the products, is more stiff and stable while avoiding having to move products to a second pallet and then packing them into various types of boxes or packages.

[0011] A very important part of designing the pallet of the invention is the rectangular corner lug which can be manufactured from various materials such as wood, cardboard, recycled material from used tires among many others, which

gives to the pallet an additional advantage, since it helps the environment by re-using waste materials.

BRIEF DESCRIPTION OF THE FIGURES

[0012] FIG. 1 is an exploded view of the pallet and the frame to hold and transport products.

[0013] FIGS. 2A, 2B, 2C, 2D, and 2E relate to perspective views of the rectangular corner lug.

[0014] FIG. 3 is a perspective view of the pallet and frame to hold and transport products.

DETAILED DESCRIPTION OF THE INVENTION

[0015] FIG. 1 illustrates an exploded view of the pallet including a horizontal upper frame **100** attached in its corners to four vertical profiles **101**; an upper base **112** that includes support elements **104**, **103** and **102** with angular cuts **111** at its corners; a plurality of support elements **106** and **105** with angular cuts **105** to provide stiffness and support to the pallet; a plurality of lugs of different features **108** and **107** joined to a fastening sleeve **301** and a lower base **109** wherein rests the whole structure and provides the space where the lift fingers are inserted.

[0016] The upper frame **100** of the invention, based on the PA/a/2005/011459 application of the same applicant, has as an object, to conform a structure which allows the attachment profiles **101** with the structure **100** in order to conform a cube within which the objects to be transported are disposed.

[0017] The upper base **112** comprises a plurality of support elements, all of them disposed in the same sense, which can be made from different materials and in different sizes, but the most important thing is that they provide stiffness and the necessary strength to withstand the weight that will be placed on it.

[0018] The angular cuts **111** of the support elements are arranged in such a way that allows the insertion of the profiles **101** therein, without excessive play or allowing the profiles **101** to be too tight so as to prevent breakage; in a preferred embodiment cuts are disposed at a right angle on the outside of the corners.

[0019] The lugs consist of a sleeve **301** and a plate **107**, are disposed in two versions which are the corner lugs **107** and the central lugs **108**. In a preferred embodiment, the corner lugs are disposed in the corners of the pallet, and receive the profiles **101** while the central lugs **108** in a preferred embodiment of the invention are disposed to form a cross, and the support elements **105** and **106** are resting on the same. However, the arrangements of the various lugs can change as may be desired depending on the weight and materials to be loaded, the preferred embodiment being the above mentioned.

[0020] In a preferred embodiment, the pallet rests on a series of five lugs **108** arranged in a cross shape and four rectangular corner lugs **107** disposed in each of the corners of the pallet; the corner lugs in turn have angular cuts **111** on each of the external corners of the pallet.

[0021] In an embodiment of the invention, FIG. 2A illustrates a rectangular corner lug **107** made from a material that can be selected from the group of wood, sheetrock, or used tire wastes. Structurally, it comprises a first end wall **204** and a second end wall **205**. In addition, FIG. 2E includes a partial cut **208** in one of its corners which forms a first inner wall **202**, a second inner wall **203** and two first vertical contact surfaces **206**.

[0022] The cut down walls **202** and **203** of the corner piece **107** are seen in FIG. 2E which is a top view of the corner or rectangular lug **107**.

[0023] In a preferred embodiment, the fastening sleeve is metallic, comprises a first inner fastening wall, a second inner fastening wall and two sleeve contact rims or edges **304** that allow the lug to be fixed with the sleeve.

[0024] The rectangular corner lug **107** is assembled with the fastening sleeve **301** as may be seen in FIG. 2A; this assembly is achieved through the insertion of the sleeve contact edges **304** with the vertical contact surfaces **206**; the assembly generates a hollow space **501** where the profiles **101** are disposed.

[0025] The hollow space **501** works jointly with the angular cuts **111** for receiving and storing the vertical profiles **101**, achieving therewith the assembly of the part.

1. A pallet to hold and transport objects including a horizontal upper frame attached at its corners to four vertical profiles, an upper base that includes support elements with angular cuts at the corners, a plurality of support elements with angular cuts to provide stiffness and support to the pallet, a plurality of lugs of different features, which are attached with a fastening sleeve and a lower base wherein rests the whole structure and which provides the space where the lift fingers are inserted.

2. The pallet according to claim 1, wherein the upper frame has as object to shape a structure to attach the profiles with the structure in order to conform a cube within of which the objects to be transported are disposed.

3. The pallet according to claim 1, wherein the upper base comprises a plurality of support elements, all of them disposed in the same sense.

4. The pallet according to claim 1, wherein the upper base provides stiffness and the necessary strength to withstand the weight that will be placed on it.

5. The pallet according to claim 1, wherein the angular cuts of the support elements are disposed in such a way that allows the fitted insertion of the profiles in the same with such a play that the profiles are not excessive adjusted so as to prevent possible breakage.

6. The pallet according to claim 1, wherein the cuts are disposed at a right angle on the outside of the corners.

7. The pallet according to claim 1, wherein the lugs consist of a sleeve and a plate, and are disposed in two versions which are the corner lugs and the central lugs.

8. The pallet according to claim 1, wherein the lugs are disposed in the corners of the pallet so as to receive the profiles.

9. The pallet according to claim 1, wherein the central lugs are disposed forming a cross and the support elements rest in the same.

10. The pallet according to claim 1, wherein the lugs are disposed as may be desired depending on the weight and materials to be loaded.

11. The pallet according to claim 1, wherein the corner or rectangular lug can be made of a material consisting of wood, sheetrock, or used tire wastes.

12. The pallet according to claim 1, wherein the lugs are made of a material consisting of used tire wastes.

13. The pallet according to claim 1, wherein the lugs structurally comprise a first end wall, and a second end wall, a pair of opposing holes being one mirror image of the other, disposed at the opposite ends of the plate in the lug.

14. The pallet according to claim 1, wherein the fastening sleeve comprises a first inner fastening wall, a second inner fastening wall and two sleeve contact rims or edges which allow the lug to be fixed with the sleeve.

15. The pallet according to claim 1, wherein the rectangular corner lug is assembled with the fastening sleeve by inserting the contact edges of the sleeve with the vertical contact surfaces; the assembly produces a hollow space wherein the profiles are disposed.

16. The pallet according to claim 1, wherein the hollow space works jointly with the angular cuts so as to receive and store the vertical profiles, achieving therewith the assembly of the part.

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