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**Gleeson et al.**(10) **Pub. No.: US 2006/0174808 A1**(43) **Pub. Date: Aug. 10, 2006**(54) **BREAK-DOWN PALLET AND METHOD OF USE****Publication Classification**(76) Inventors: **James A. Gleeson**, North Curl Curl  
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Ranch, CA (US)(51) **Int. Cl.****B65D 19/12** (2006.01)(52) **U.S. Cl.** ..... **108/56.1**

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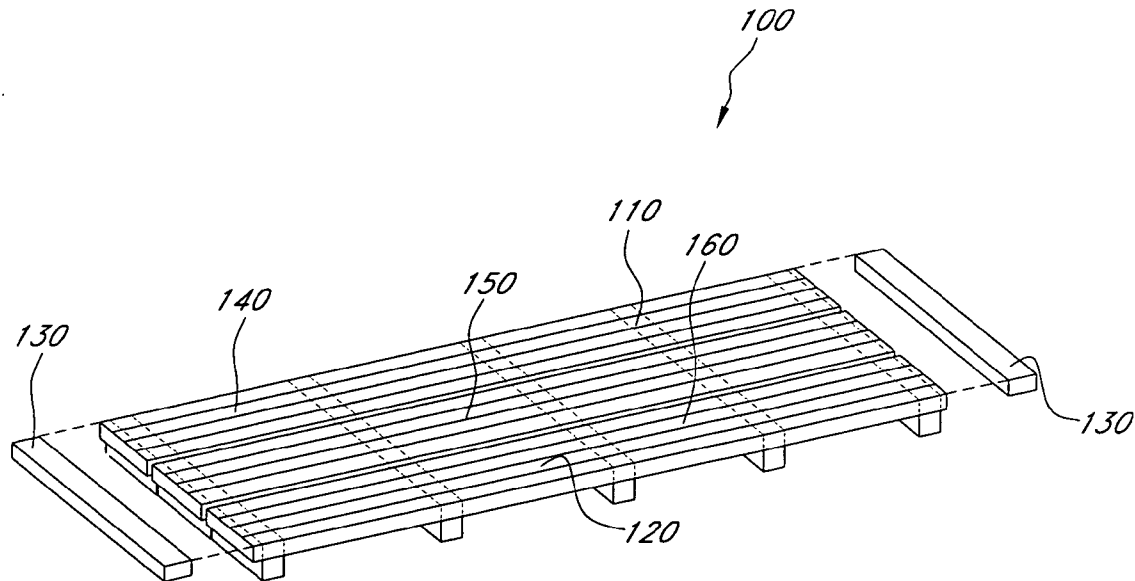
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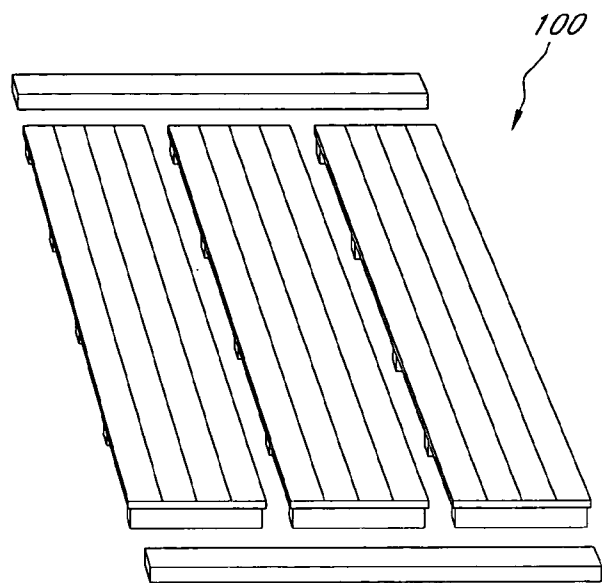
**ABSTRACT**

A pallet and method of use are provided for carry large quantities of materials for shipping. The pallet is configured to be divided into smaller sub-pallets, such that the pallet can be broken down, or otherwise subdivided, into smaller, more usable sub-pallets containing job lot quantities. Each sub-pallet may comprise decking and one or more skid blocks attached underneath the decking. Stringer boards may be attached to each of the sub-pallets to hold the sub-pallets relatively together. These stringer boards may be removable from each of the sub-pallets so that each of the sub-pallets can be separated from one another.

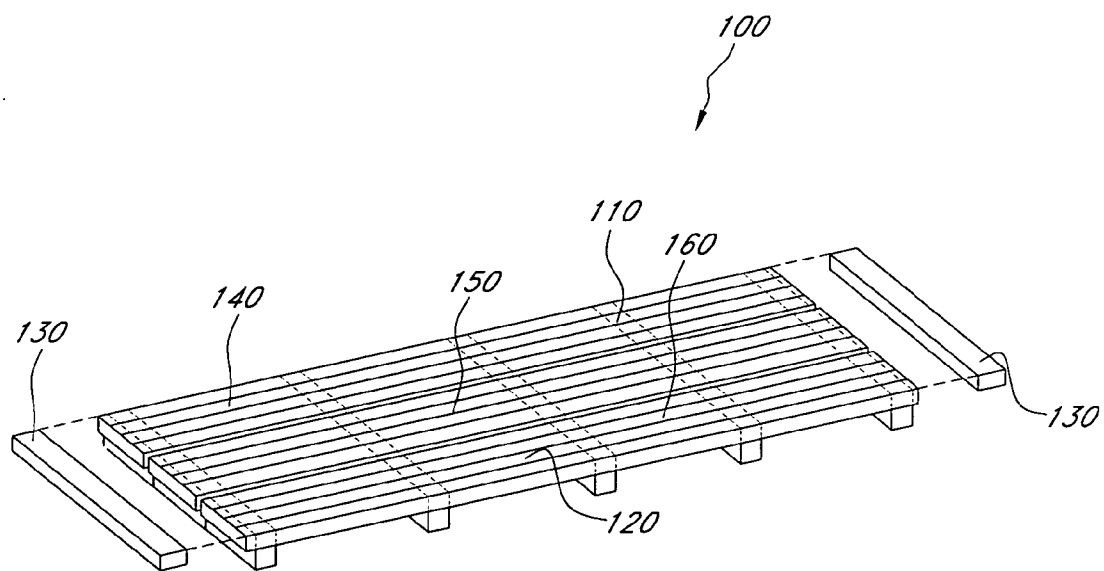
(21) Appl. No.: **11/336,595**(22) Filed: **Jan. 20, 2006****Related U.S. Application Data**

(60) Provisional application No. 60/645,259, filed on Jan. 20, 2005.





*FIG. 1A*



*FIG. 1B*

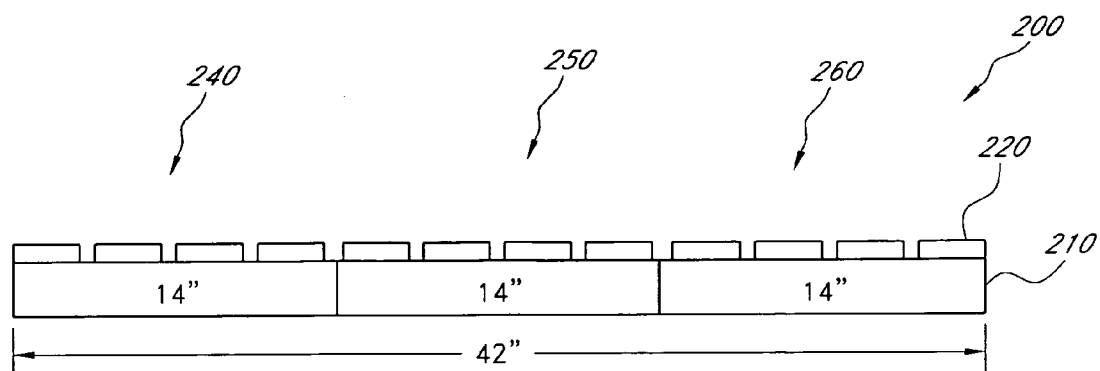


FIG. 2A

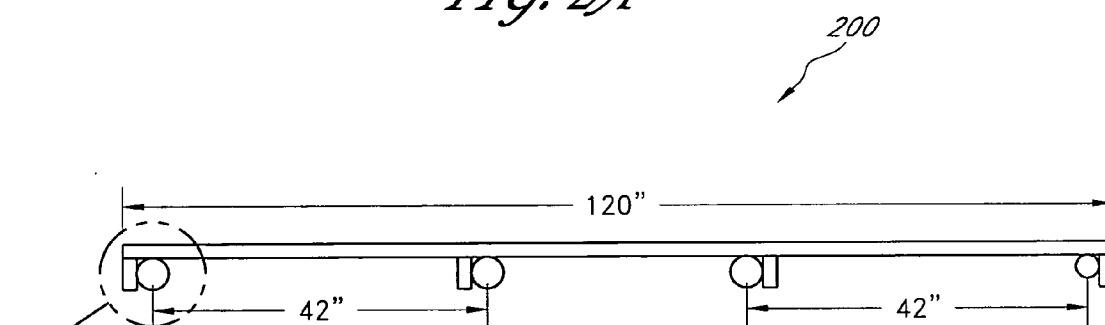


FIG. 2B

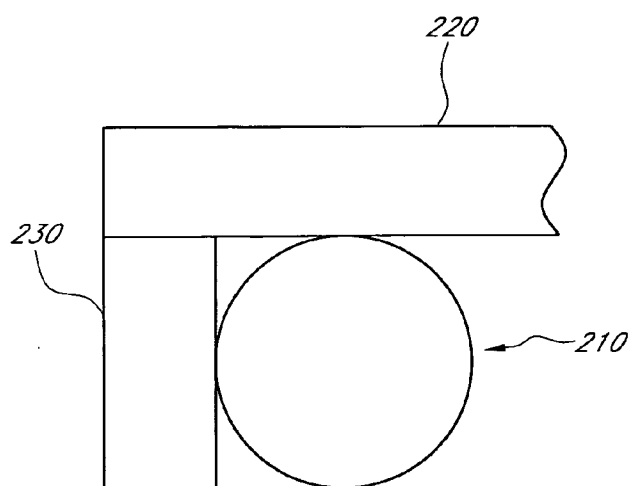
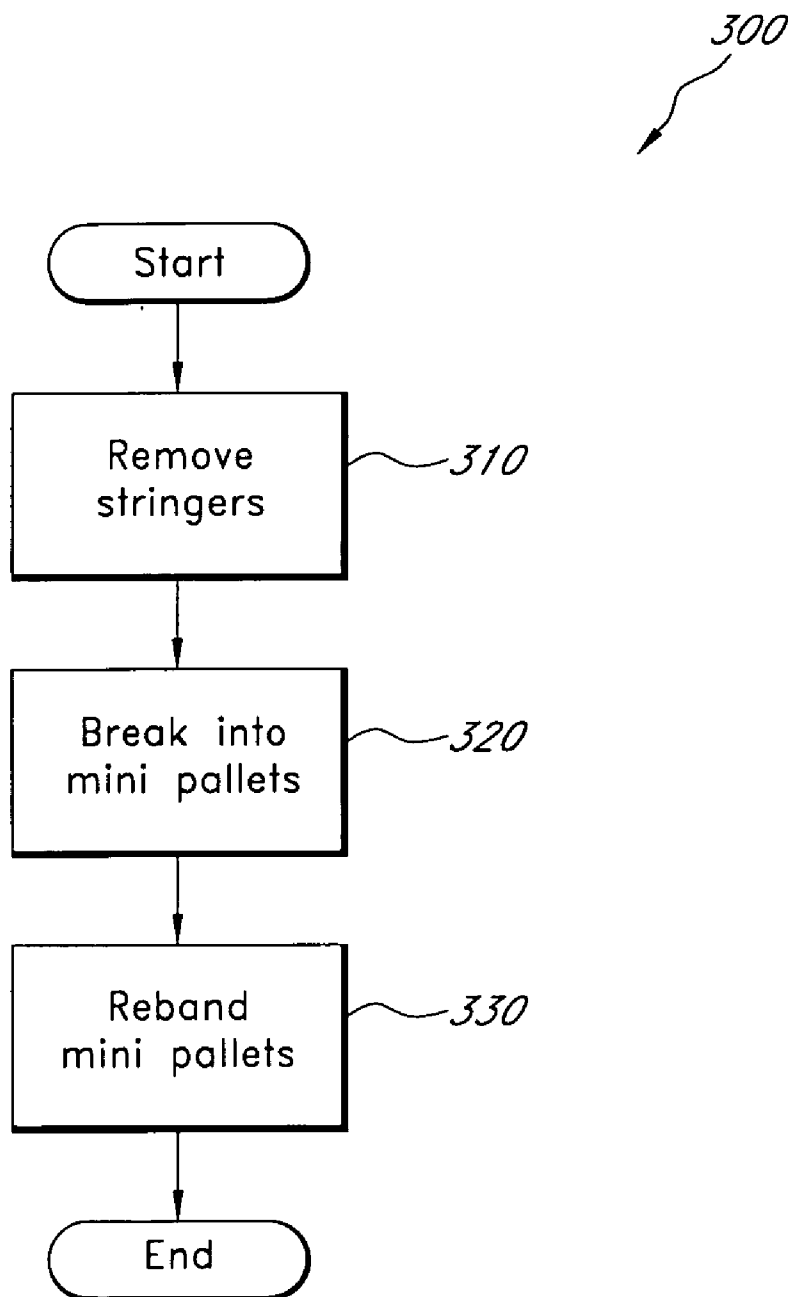


FIG. 2C



*FIG. 3*

**BREAK-DOWN PALLET AND METHOD OF USE****CROSS-REFERENCE TO RELATED APPLICATION**

[0001] This application claims the benefit of U.S. Provisional Application No. 60/645,259, filed Jan. 20, 2005, the entirety of which is hereby incorporated by reference.

**BACKGROUND OF THE INVENTION****[0002] 1. Field of the Invention**

[0003] Preferred embodiments of the present invention relate to the pallet industry, more specifically, pallets for trim products.

**[0004] 2. Description of the Related Art**

[0005] In a building and construction market once dominated by wood, and then vinyl, fiber cement is beginning to gain a significant presence. Previously, in order to complete a home with trim, only traditional materials such as wood and vinyl were available. Recently, James Hardie Building Products has worked on introducing a fiber cement trim to complete a house with a full-wrap of fiber cement warranted exterior products. Such materials include Hardiplank® lap siding, Hardishingle™ siding, Hardipanel® vertical siding, Hardisoffit® soffit panels, and Harditrim® trim planks.

[0006] In most residential housing building sites, materials are delivered to the site in predetermined quantities for each specific house or development stage. The main medium for transporting siding, trim, fascia, soffit, etc. is by way of pallets, more specifically wooden pallets. When exterior products are manufactured, they are typically fastened to and transported in large quantities on pallets. Because the products are typically shipped in large quantities on large pallets, it is the job of the distributor to break down the materials into manageable sizes requested by the contractors.

[0007] For example, when trim planks, such as Harditrim® XLD® trim planks, are manufactured, the amount of trim stacked onto a pallet is often enough to finish off approximately 8-10 houses. This is done for economic reasons to the manufacturer; however, it also creates work for the distributor to take the pallet apart and supply the contractor with the required footage. The distributor then, typically, throws the trim on top of pallets that may carry other materials, such as siding. Because these other materials, such as siding, may have greater flexibility than the trim, the siding may tend to sag toward their ends underneath the trim. The more rigid trim is usually bound together with the siding using straps or other means. As the underlying siding provides little support for the trim, once the materials are bound some of the trim may flex and break during transportation. What is needed is a way to ship small (job lot) quantities of trim planks such as Harditrim® XLD® trim planks, and other building products, to construction sites without causing damage to the product.

**SUMMARY OF THE INVENTION**

[0008] One way to ameliorate some of the above-mentioned disadvantages is to provide a pallet configured to carry large quantities of materials for shipping, which is further configured to be divided into smaller sub-pallets. Accordingly, one embodiment of the present invention is a

manufactured pallet that can be broken down, or otherwise subdivided, into smaller, more usable sub-pallets containing job lot quantities. Another embodiment of the present invention is directed to a method of separating a larger manufactured pallet into smaller, more usable sub-pallets for particular jobs.

[0009] Another embodiment of the invention is directed to a method of easily separating the sub-pallets.

[0010] In one embodiment, a pallet is provided comprising a plurality of sub-pallets. Each sub-pallet comprises decking and one or more skid blocks attached underneath the decking. One or more stringer boards is attached to each of the sub-pallets, holding the sub-pallets relatively together. The one or more stringer boards are removable from across the skid blocks of each of the sub-pallets so that each of the sub-pallets can be separated from one another.

[0011] Preferably, the decking comprises a plurality of decking boards. Stringer boards may be provided at either end of the decking and in some embodiments, are provided at both ends of the decking. Additional stringer boards may also be provided between the ends of the decking. A plurality of skid blocks may be attached underneath the decking. In one embodiment, the stringer boards are attached to each of the sub-pallets using smooth pallet nails.

[0012] In another embodiment, a method of transporting material is provided. A pallet is provided supporting said material. The pallet includes a plurality of sub-pallets attached by stringer boards, each of the sub-pallets supporting a portion of the material. The stringer boards are removed from the sub-pallets, and each of the sub-pallets is separated from one another. Each sub-pallet can then be individually transported for a particular desired use.

[0013] Preferably, removing the stringer boards comprises removing smooth shank nails connecting the stringer boards across each of the sub-pallets. Each of the sub-pallets may include decking and skid blocks underneath the decking. In one embodiment, each of the sub-pallets supports trim material. The method may further comprise banding together the portion of the material on each of the sub-pallets.

**BRIEF DESCRIPTION OF THE DRAWINGS**

[0014] **FIG. 1A** is a perspective view showing a pallet according to one embodiment of the present invention.

[0015] **FIG. 1B** is a schematic view showing the pallet of **FIG. 1A**.

[0016] **FIG. 2A** is an end view of another embodiment of a pallet, without showing the stringer boards attached.

[0017] **FIG. 2B** is a side view of the pallet of **FIG. 2A**, showing the stringer boards attached.

[0018] **FIG. 2C** is an enlarged view of the end of a stringer board of **FIG. 2B**.

[0019] **FIG. 3** is a flow chart illustrating a method of separating a manufactured pallet into sub-pallets.

**DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS**

[0020] One embodiment of the present invention is a pallet, preferably made from wood, that is able to be broken

down into 3 smaller job lot pallets for delivery to construction sites from the distributor without causing damage to the building product being delivered. In one embodiment, the pallet is adapted for delivery of trim. It will be appreciated that the pallet can be broken down into a fewer or a greater smaller job lot pallets, as desired. It will also be appreciated that any viable pallet material can be used, including, but not limited to, wood, plastic, metal, plastic or wood composite and any combination thereof. Of course, different components of the pallets can each be manufactured of different materials, if desired.

[0021] **FIGS. 1A and 1B** illustrate a break-down pallet **100** according to one embodiment of the present invention. The pallet **100** includes skid blocks **110**, decking **120**, and stringer boards **130**. The decking **120** preferably comprises a plurality of elongated boards, more preferably 12 boards provided side by side in parallel relationship with each other. In one embodiment, each of the decking boards is 1"×4"×10' in dimension. In another embodiment, the decking boards can have varying widths, for example, between about 2" and 12", more preferably between about 3" and 4", more particularly, 3" or 3½". The decking can be longer or shorter, for example, between about 6' and 12', or can be even longer or shorter, to accommodate different sized building materials. For example, the decking can be as short as about 2' to capture smaller items such as boxes. Further details are described below.

[0022] In one preferred embodiment, the decking boards are preferably divided into three sets having four decking boards **120** each. Each set of decking boards **120** preferably makes up a sub-pallet **140**, **150** and **160**. The decking boards **120** of each sub-pallet can be spaced from each other, or can be placed flush against each other. Each of the sub-pallets can also be spaced from each other, or can be flush against each other. The skid blocks **110** preferably comprise a plurality of elongated boards, gluts, peeler cores or round timbers, or similar structure (such terms being used interchangeably herein), arranged in generally transverse relationship with the decking boards **120**. As illustrated in the embodiment of **FIGS. 1A and 1B**, each set of decking boards **120** has five skid blocks **110** attached to an underside of the decking boards **120**, with two adjacent the ends and three in between. Fewer or greater numbers of skid blocks **110** may be used depending on the length or size of the material being shipped. Standard pallet nails may be used to attach the decking **120** to the skid blocks **110**, although it will be appreciated that other fasteners, such as screws, may be used. Accordingly, in this embodiment, 15 total skid blocks **110** are provided. In one embodiment, each of the skid blocks is 4"×4"×14" in dimension. The skid blocks **110** may be of any appropriate dimension suitable for use with a desired number and size of decking **120**.

[0023] In the illustrated embodiment, a stringer board **130** is preferably attached to the skid blocks **110** at each end of the decking, as shown in **FIGS. 1A and 1B**. In one embodiment, the stringer boards **130** are 2"×4"×47" in dimension. The stringer board **130** is preferably attached to the three skid blocks at each end of the decking, preferably using six smooth shank pallet nails across the skid blocks.

[0024] In one embodiment, each sub-pallet is adapted to support 30 to 60 pieces of 4" trim, with each sub-pallet holding four pieces of trim across its width, and stacked 15

pieces high. Thus, the whole pallet assembly may hold 12 pieces of trim across and 15 pieces of trim high.

[0025] **FIGS. 2A-2C** illustrate another embodiment of a pallet capable of being broken down into sub-pallets. As with the embodiment of **FIGS. 1A-1B**, the pallet **200** comprises 12 decking boards **220** forming three sets or sub-pallets **240**, **250** and **260**, with each set being attached by separate skid blocks **210**. The decking boards of this embodiment can each have the same width. Alternatively, in one preferred embodiment, in each sub-pallet the two center decking boards are 3½" wide and the two decking boards on each side are 3" wide. The decking boards can be flush with each other or have a gap, preferably up to about ¼". Each of the sub-pallets may be spaced apart by between about ¼" and 1½", more preferably by between about ½" and 1¼", and even more preferably by about 1".

[0026] As shown in the side view of **FIG. 2B**, four skid blocks (here in the form of round timbers **210**) are provided along the length of the decking boards **220**, each skid block **210** provided generally transverse to the length of the decking boards **220** and attached along an undersurface of four decking boards. Stringer boards **230** are provided adjacent each of the skid blocks **210**, the stringer boards **230** extending generally transversely across an undersurface of all twelve of the decking boards **220**. As illustrated, two stringer boards **230** are provided at the ends of the decking boards, with two additional stringer boards **230** provided between the two outer stringer boards, preferably 42" from the outer stringer boards. Alternatively, the stringer boards **230** and timbers **210** can be equally spaced from each other. Thus, in this embodiment, four stringer boards **230** are attached to reinforce the pallet during shipment, and accordingly, when the pallet is broken down, all four stringers **230** should be removed. Preferably, the stringer boards **230** and the skid blocks **210** provided at the ends of the decking boards are located right at or near the ends of the decking boards, for example, no more than about 6" from each of the ends. It will be appreciated that although **FIG. 2B** illustrates the skid blocks located to the inside of the stringer boards, they can also be provided to the outside of the stringer boards.

[0027] As illustrated in the embodiment shown in **FIGS. 2A-2B**, when connected together the whole pallet is 42" by 120" in dimension, with each skid block (and consequently each sub-pallet) being 14" long (or wide). The stringer boards **230** of this embodiment may therefore be 42" in length. Alternatively, the stringer boards may be longer or shorter, for example, between about 36" and 48". It will be appreciated that the whole pallet and each of the sub-pallets can have any suitable dimension for transporting material, and that the number of sub-pallets can differ from three. Therefore, in alternate embodiments, two, four, five, six, seven, eight or more sub-pallets can be used. The number or length of the skid blocks may also vary. The length, for example, can be between about 8" and 24", more preferably between about 12" and 16". It will also be appreciated that for any given assembly of sub-pallets, each of the sub-pallets need not have the same dimension, so that some sub-pallets are wider than others. Additionally, the sub-pallets need not all be attached parallel along a longitudinal edge. For example, a substantially square pallet can be comprised of four smaller square sub-pallets.

[0028] Referring to the embodiment of **FIGS. 2A-2C**, **FIG. 3** illustrates one method of separating a pallet into sub-pack pallets, including the steps of:

[0029] Step 310: Removing the Stringers

[0030] In this step, after the banding is removed from around the pallet and the material on the pallet, the four stringers are completely removed from the sides of the round timbers. This can be done by using a hammer or pry-bar or any other means suitable for prying. Nailing is minimal on the stringers (with roughly 6-10 smooth shank nails across each stringer), so removal is preferably easily accomplished by a person, without requiring substantial mechanical force or assistance. Thus, nails or other suitable fasteners should be used that are sufficient to hold the stringers against the timbers during transport, but allow for removal of the fasteners without excessive force. The pallet is preferably elevated during this stage (preferably by at least 12 inches) using a forklift or pallet jack.

[0031] Step 320: Break Into Mini Pallets

[0032] In this step, after the stringers are removed, the pallet is set down on a flat surface. The forklift driver then reverses out until only about 12" of the forks remain under the pallet. Then the first mini or sub-pallet is elevated slightly (preferably about 3-4 inches) and moved away from the other two sub-pallets. This step can be repeated for the second mini or sub-pallet.

[0033] Step 330: Reband Mini Pallets

[0034] In this step, the trim on the mini or sub-pallets are rebanded, preferably using corner protectors on the trim. Banding, which may include metal or plastic straps or other suitable means, is preferably at least put around each of the sub-pack pallet ends and one in the center.

[0035] Alternatively, the job lot quantities of trim can be primarily banded to each sub-pallet by the manufacturer, thus creating job lot quantities already banded to a sub-pallet. The banded job lot quantities can be secondarily banded together on the assembled sub-pallets. When banded this way by the manufacturer, the distributor need only remove the stringers and the secondary banding, thus leaving the job lot quantities banded to the sub-pallets ready for delivery to work sites.

[0036] Advantageously, the preferred embodiments described above provide a way to safely ship job-lot packs to the construction site without damaging the product. These embodiments also provide a way to have a more convenient means of logistically gathering an order for the builder/contractor from the distributor. Furthermore, these embodiments provide a way to possibly capture more smaller/stocking dealers on the basis they would have less risk of large quantities in inventory and better pricing.

[0037] The pallet described above, while being applicable for fiber cement trim product, can be used for any type of product whether it is building products (e.g., cladding),

landscaping materials (e.g., retaining walls), or materials that are shipped in boxes. Any material or product that is broken down at the distributor from the manufacturer for further distribution in bundles can use this design.

[0038] Although the foregoing invention has been described in terms of certain preferred embodiments, other embodiments will become apparent to those of ordinary skill in the art, in view of the disclosure herein. Accordingly, the present invention is not intended to be limited by the recitation of preferred embodiments.

What is claimed is:

1. A pallet, comprising:

a plurality of sub-pallets, wherein each sub-pallet comprises decking and one or more skid blocks attached underneath the decking; and

one or more stringer boards attached to each of the sub-pallets and holding the sub-pallets relatively together, wherein the one or more stringer boards are removable from each of the sub-pallets so that each of the sub-pallets can be separated from one another.

2. The pallet of claim 1, wherein the decking comprises a plurality of decking boards.

3. The pallet of claim 1, comprising stringer boards at either end of the decking.

4. The pallet of claim 1, comprising stringer boards at both ends of the decking.

5. The pallet of claim 1, comprising a plurality of skid blocks attached underneath the decking.

6. The pallet of claim 1, comprising stringer boards at each end of the decking and additional stringer boards between the ends of the decking.

7. The pallet of claim 1, wherein the stringer boards are attached to each of the sub-pallets using smooth pallet nails.

8. A method of transporting material, comprising:

providing a pallet supporting said material, wherein said pallet includes a plurality of sub-pallets attached by stringer boards, each of said sub-pallets supporting a portion of said material;

removing said stringer boards from said sub-pallets; and

separating each of said sub-pallets from one another.

9. The method of claim 8, wherein removing said stringer boards comprises removing smooth shank nails connecting said stringer boards to said sub-pallets.

10. The method of claim 8, wherein each of said sub-pallets includes decking and skid blocks underneath said decking.

11. The method of claim 8, wherein each of said sub-pallets supports trim material.

12. The method of claim 8, further comprising banding together the portion of said material on each of said sub-pallets.

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