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(54) **PALLET WITH INTEGRATED SHIFT PREVENTION FEATURES**

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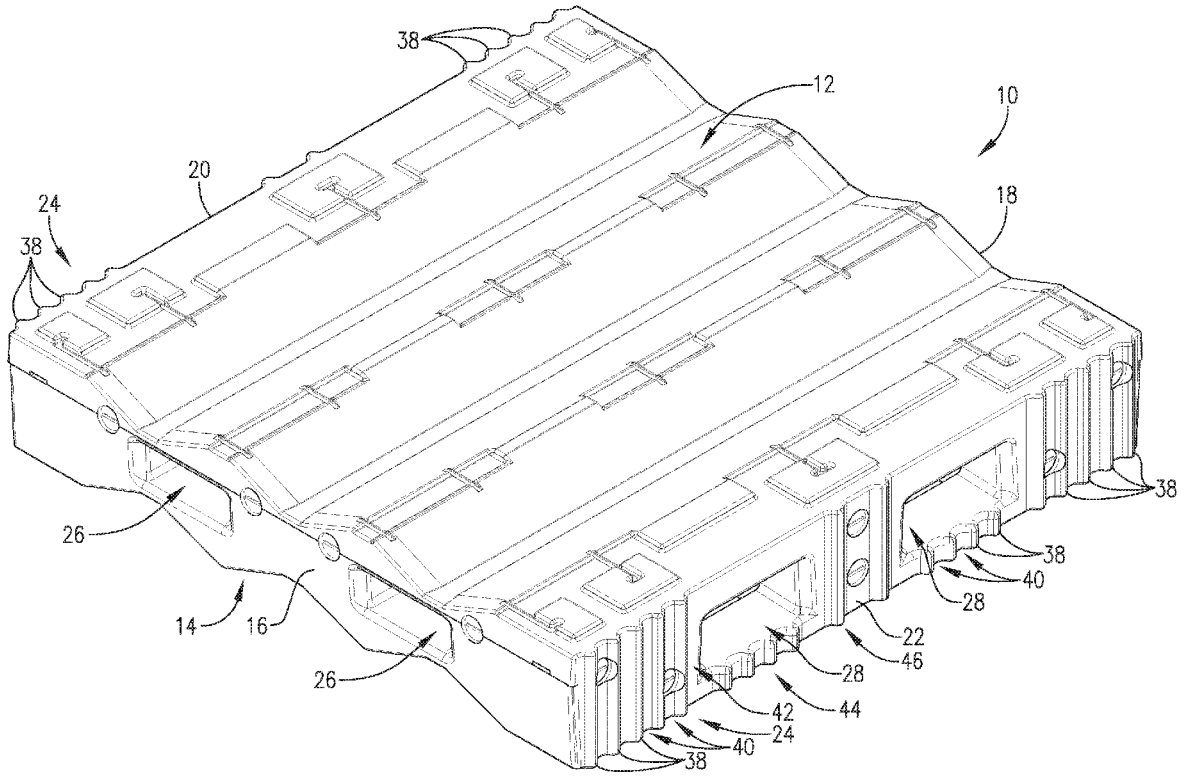
(57) **ABSTRACT**

A pallet comprising an upper deck, a lower deck, a front wall, a rear wall, left and right sidewalls, and interlocking structure. The interlocking structure interconnect two or more pallets without external fasteners or tools and may include a number of spaced apart vertically extending protrusions and a number of recesses positioned between the vertically extending protrusions. The vertically extending protrusions may be equally spaced apart from each other or spaced apart from each other at discrete multiples of a predetermined unit distance. The vertically extending protrusions may be U-shaped teeth or of any other suitable geometry and may partially or fully extend between the upper deck and lower deck. The pallet may engage adjacent pallets via the interlocking structure in an offset arrangement so that the pallets engage opposing walls of a transportation enclosure. This prevents the pallets from shifting laterally during transport.



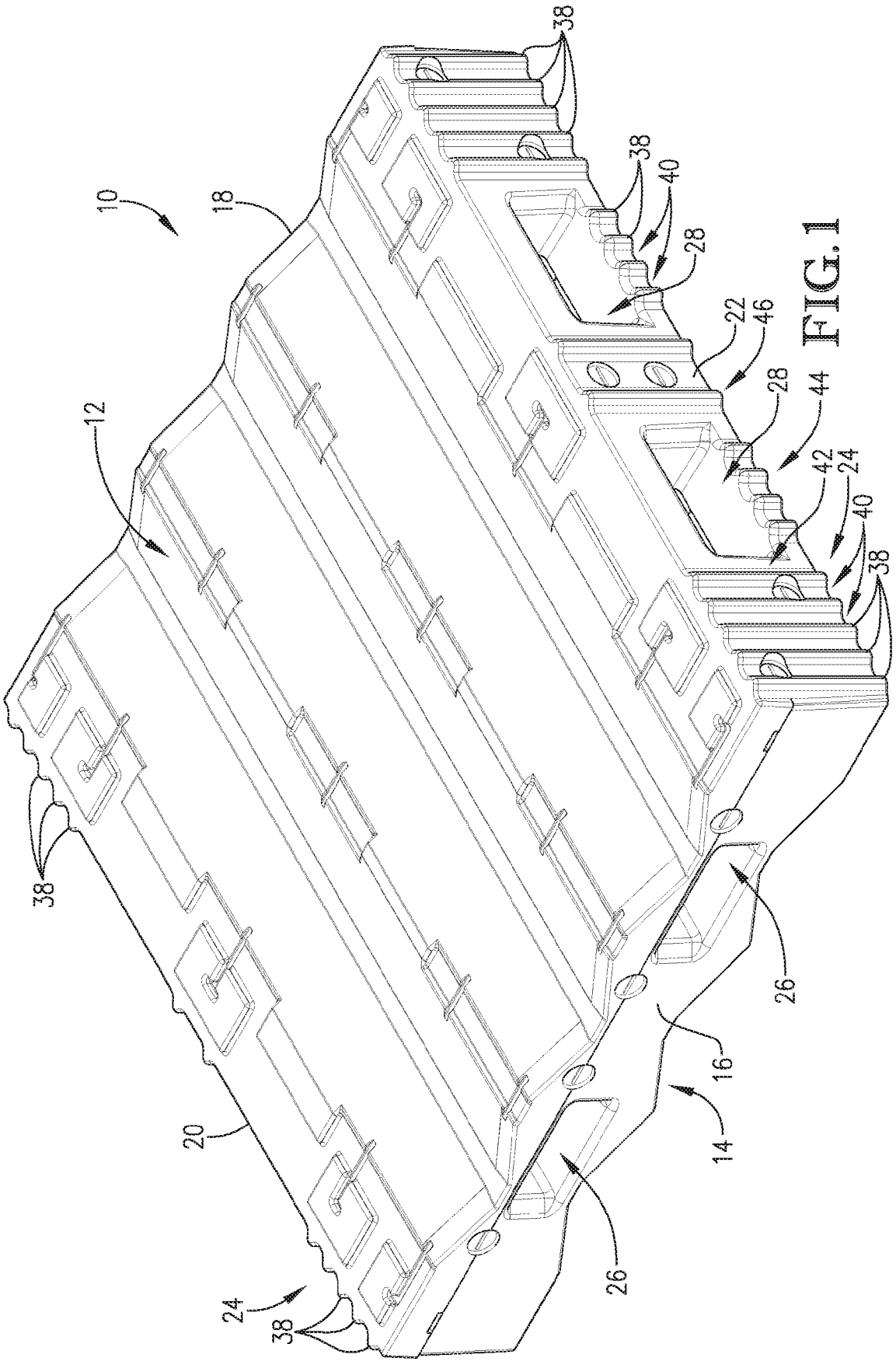


FIG. 1

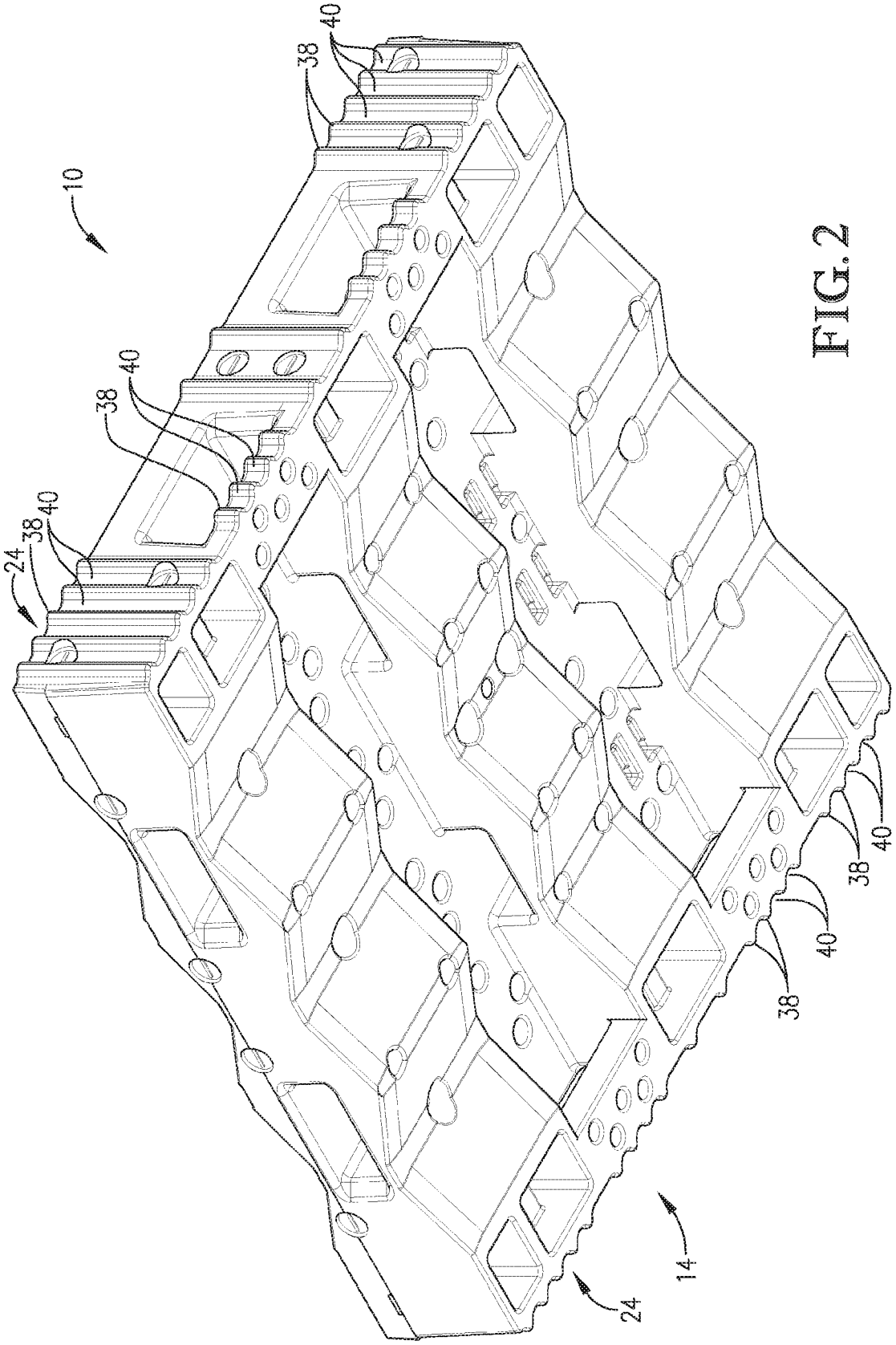


FIG. 2

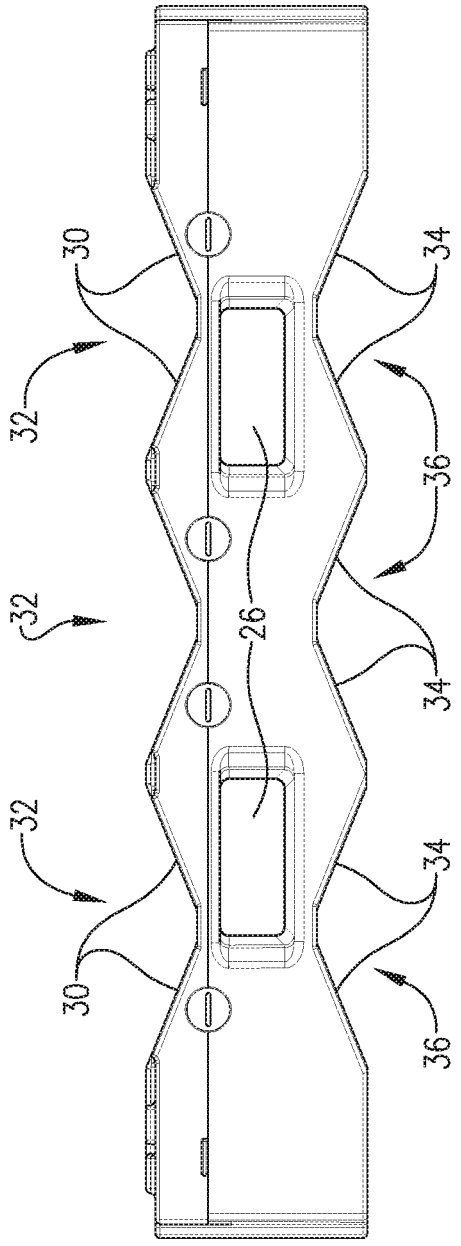


FIG. 3

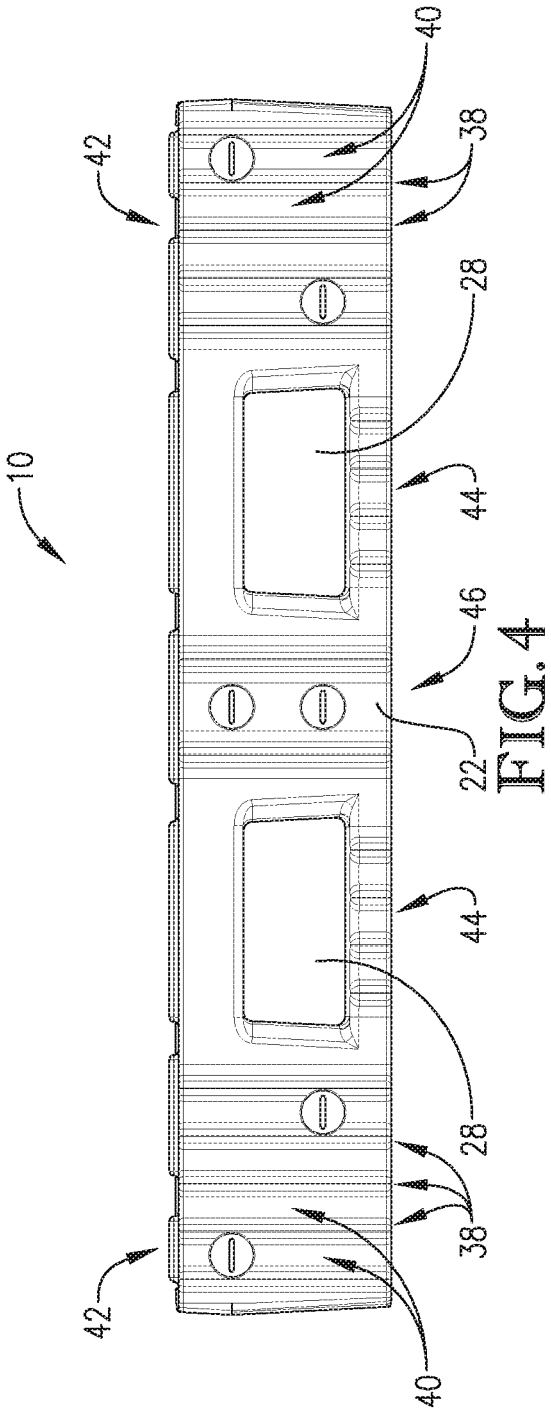


FIG. 4

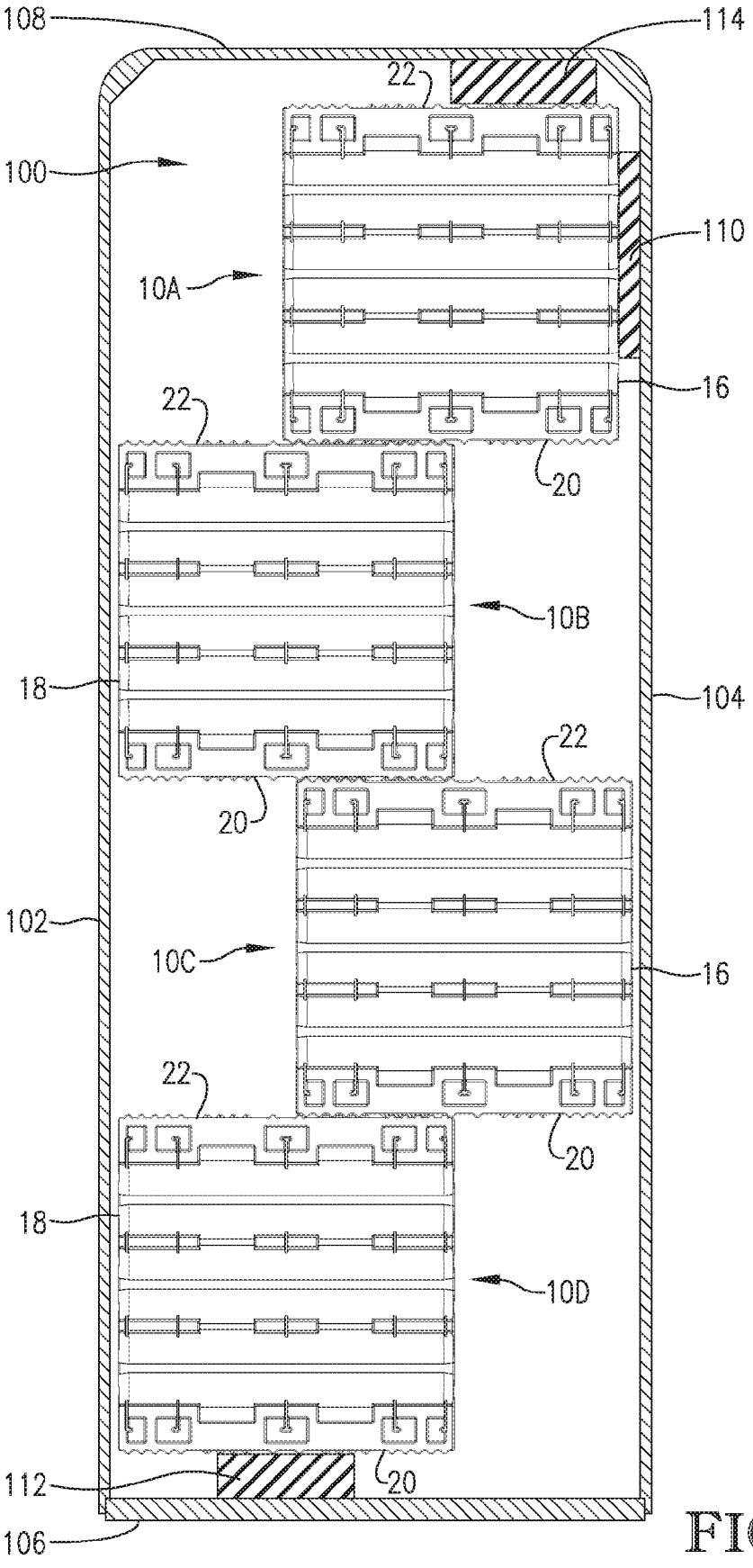

108
114
22
100
110
10A
16
22
20
10B
18
104
22
20
102
10C
16
22
20
18
10D
112
20
106

FIG. 5

PALLET WITH INTEGRATED SHIFT PREVENTION FEATURES

RELATED APPLICATIONS

[0001] This patent application is a regular utility non-provisional patent application and claims priority benefit with regard to all common subject matter of earlier-filed U.S. Provisional Patent Application Ser. No. 62/267,539, filed on Dec. 15, 2015, and entitled "PALLET WITH INTEGRATED SHIFT PREVENTION FEATURES". The identified earlier-filed provisional patent application is hereby incorporated by reference in its entirety into the present application.

BACKGROUND

[0002] Pallets are often used for supporting and moving various types of articles and may be constructed from many different materials including wood, metal, fiberglass or plastic. Pallets and the articles supported on them are often transported from place to place in tractor trailers, rail cars, trucks, shipping containers, or other transportation enclosures. To prevent the pallets from shifting during transport, they must be tied down or otherwise secured. Unfortunately, this typically requires the use of straps, belts, or other tie-down mechanisms, the installation of which is difficult and time-consuming. Workers therefore sometimes fail to properly or adequately secure pallets before transporting them. To partially brace pallets against lateral or longitudinal shifting during transport, they may be placed against the walls of the trailer or transportation enclosure in which they are transported. However, unless the width or length of the pallets is a factor of the width or length of the transportation enclosure, the pallets can't be sandwiched between two opposing walls of the enclosure. For example, two pallets that are each fifty inches wide or fifty inches long can be placed side-by-side or end-to-end to engage opposite walls of an enclosure that is one hundred inches wide or long, but they can't be placed side-by-side or end-to-end to engage opposite walls of an enclosure that are not multiples of fifty inches wide or long.

SUMMARY

[0003] Embodiments of the invention solve the above-mentioned problems and provide a distinct advance in the art of pallets. More particularly, the present invention provides a pallet that can interlock with adjacent pallets in an offset arrangement to reduce shifting of the pallets during transport.

[0004] An embodiment of the pallet comprises an upper deck, a lower deck, a front wall, a rear wall, two sidewalls, front forklift channels, side forklift channels, and interlocking structure. The pallet may be formed of molded plastic, synthetic resin materials, or any other suitable material.

[0005] The upper deck may include downwardly sloping walls defining a number of V-shaped roll-supporting cradles for supporting rolls, spools, or other irregularly shaped objects. The lower deck may include upwardly sloping walls defining a number of V-shaped roll-engaging cradles for engaging rolls, spools, or other irregularly shaped objects positioned below the pallet. In other embodiments, the upper deck and lower deck may be relatively flat for supporting boxes and the like.

[0006] The front forklift channels extend between the front and rear walls of the pallet and the side forklift channels extend between sidewalls of the pallet and allow fork lifts, pallet jacks, or hand jacks to retrieve and lift the pallet from all four sides. The front forklift channels and side forklift channels may intersect each other or may be vertically offset from each other.

[0007] The interlocking structure allow the pallet to interconnect with adjacent pallets without external fasteners or tools and may include a number of spaced apart vertically extending protrusions and a number of recesses positioned between the vertically extending protrusions. The vertically extending protrusions may be equally spaced apart from each other or at least spaced apart from each other at discrete multiples of a predetermined unit distance. The vertically extending protrusions may be U-shaped teeth or of any other suitable geometry and may extend all or part of the thickness between the upper deck and lower deck.

[0008] The vertically extending protrusions may be arranged in a number of groupings such as outer groups, channel groups, and central groups, or any other arrangement. The outer groups are positioned near the front wall and rear wall of the pallet and may extend to corners of the pallet. The channel groups are positioned between the outer groups and the central group near or in line with the side forklift channels. The channel groups may extend only from the lower deck to the bottom of the side forklift channels or only from the upper deck to the top of the side forklift channels. The central groups are positioned along a middle of the sidewalls between the channel groups.

[0009] The vertically extending protrusions may be positioned only on the sidewalls, only on the front and rear walls, or on all of the walls. The vertically extending protrusions may be positioned so that the pallet is laterally symmetric and/or longitudinally symmetric. Alternatively, the vertically extending protrusions on the left sidewall may be offset one half unit distance from the vertically extending protrusions on the right sidewall so that adjacent pallets can be interlocked in-line with each other.

[0010] The interlocking structure of each pallet may engage similar interlocking structure of adjacent pallets so that the pallets cannot shift laterally relative to each other. The pallet may be loaded with other pallets in a transportation enclosure such that each pallet is offset from adjacent pallets (e.g., in a staggered arrangement) with at least one pallet engaging one wall of the transportation enclosure and at least another pallet engaging an opposite wall of the enclosure. This allows the walls of the transportation enclosure to serve as bulwarks against lateral or longitudinal shifting of the pallets even when the widths or lengths of the pallets are not factors of the width or length of the transportation enclosure.

[0011] The above-described pallet provides several advantages. The pallet can be positioned adjacent to another similar pallet via the pallets' interlocking structures such that the adjacent pallets cannot shift laterally relative to each other. The vertically extending protrusions are spaced from each other so that the adjacent pallets can be selectively offset from each other according to the width of the transportation enclosure. Some or all of the vertically extending protrusions may fully extend from the bottom lower deck to the upper deck so that adjacent pallets will interlock with each other even if they are not completely vertically level with each other. The pallet may be symmetric so that it can

be positioned in a number of different orientations. The pallet includes front lift channels and side lift channels so that it can be lifted and moved from a number of directions. This may be particularly useful when pallets are closely positioned in a storage container or transportation enclosure and one or more sides of the pallet is not accessible.

[0012] This summary is provided to introduce a selection of concepts in a simplified form that are further described below in the detailed description. This summary is not intended to identify key features or essential features of the claimed subject matter, nor is it intended to be used to limit the scope of the claimed subject matter. Other aspects and advantages of the present invention will be apparent from the following detailed description of the embodiments and the accompanying drawing figures.

BRIEF DESCRIPTION OF THE DRAWING FIGURES

[0013] Embodiments of the present invention are described in detail below with reference to the attached drawing figures, wherein:

[0014] FIG. **1** is a perspective view of a pallet constructed in accordance with an embodiment of the invention;

[0015] FIG. **2** is a bottom perspective view of the pallet of FIG. **1**;

[0016] FIG. **3** is a front elevation view of the pallet of FIG. **1**;

[0017] FIG. **4** is a side elevation view of the pallet of FIG. **1**; and

[0018] FIG. **5** is a plan view of a number of pallets positioned in a transportation enclosure in a staggered arrangement.

[0019] The drawing figures do not limit the present invention to the specific embodiments disclosed and described herein. The drawings are not necessarily to scale, emphasis instead being placed upon clearly illustrating the principles of the invention.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0020] The following detailed description of the invention references the accompanying drawings that illustrate specific embodiments in which the invention can be practiced. The embodiments are intended to describe aspects of the invention in sufficient detail to enable those skilled in the art to practice the invention. Other embodiments can be utilized and changes can be made without departing from the scope of the present invention. The following detailed description is, therefore, not to be taken in a limiting sense. The scope of the present invention is defined only by the appended claims, along with the full scope of equivalents to which such claims are entitled.

[0021] In this description, references to "one embodiment", "an embodiment", or "embodiments" mean that the feature or features being referred to are included in at least one embodiment of the technology. Separate references to "one embodiment", "an embodiment", or "embodiments" in this description do not necessarily refer to the same embodiment and are also not mutually exclusive unless so stated and/or except as will be readily apparent to those skilled in the art from the description. For example, a feature, structure, act, etc. described in one embodiment may also be included in other embodiments, but is not necessarily included. Thus, the current technology can include a variety of combinations and/or integrations of the embodiments described herein.

[0022] Turning to the drawings, a pallet **10** constructed in accordance with an embodiment of the invention is illustrated and will now be described in detail. The pallet **10** broadly comprises an upper deck **12**, a lower deck **14**, a front wall **16**, a rear wall **18**, two sidewalls **20**, **22**, and interlocking structure **24**. Embodiments of the pallet **10** may also include front forklift channels **26** and/or side forklift channels **28**. The pallet **10** may be constructed of molded plastic, synthetic resin materials, or any other materials. In one embodiment, the pallet **10** has a generally square-shaped upper surface and is approximately sixty-six inches long, sixty-six inches wide, and twelve inches thick. However, the pallet may be formed in any shape and size without departing from the scope of the invention.

[0023] The upper deck **12** may include downwardly sloped walls **30** defining a number of generally V-shaped roll-supporting cradles **32** for supporting rolls, spools, or other irregularly shaped objects. In one embodiment, the upper deck **12** has three cradles **32** for supporting three small rolls or two larger rolls. In another embodiment, the upper deck **12** is substantially flat for supporting boxes, panels, or other flat-bottom objects.

[0024] The lower deck **14** may include upwardly sloped walls **34** defining a number of generally V-shaped roll-engaging cradles **36** for engaging rolls, spools, or other irregularly shaped objects. In one embodiment, the lower deck **14** has three cradles **36** for engaging three small rolls or two larger rolls. The cradles **36** are the same shape and size of and vertically aligned with the cradles **32** on the upper deck. This allows the cradles **36** to engage and rest upon the rolls below them when several pallets with rolls on them are stacked. In another embodiment, the lower deck is substantially flat for allowing the pallet **10** to be stacked on top of boxes, panels, or other flat-top objects.

[0025] The upper roll-supporting cradles **32**, lower roll-engaging cradles **36**, and the optional forklift channels **26**, **28** may be cooperatively designed such that the cradles **32**, **36** prevent objects stored on the pallet **10** from interfering with the insertion of forklift tines, pallet jacks, or hand jacks into the forklift channels **26**, **28**. For example, the forklift channels **26**, **28** may have upper walls which are below the lowermost apices of the cradles **32** and lower walls which are above the uppermost apices of the cradles **36**. Thus, the rolls supported on each pallet do not extend into the forklift channels **26**, **28** and block or otherwise interfere with the insertion of forklift tines into the forklift channels. Similarly, the rolls on which a pallet rests when several of the pallets are stacked do not extend into the forklift channels **26**, **28** of the pallet above and block or otherwise interfere with the insertion of forklift tines into the forklift channels. This allows fork lifts, pallet jacks, or hand jacks to retrieve and lift the pallets via the forklift channels without damaging the rolls even when several of the pallets are stacked on top of each other.

[0026] Although an embodiment of the pallet **10** includes cradles **32**, **36** and forklift channels **26**, **28** configured to prevent rolls or other objects stored on the pallet from extending even partially into the forklift channels, other embodiments of the pallet may be configured such that the

rolls extend partially into the forklift channels **26**, **28** as long as the rolls don't prevent forklift tines from entering the forklift channels.

[0027] The interlocking structure **24** interconnect two or more pallets without external fasteners or tools and may include a number of spaced apart vertically extending protrusions **38** and a number of recesses **40** positioned between the vertically extending protrusions **38**. The vertically extending protrusions **38** may be equally spaced apart from each other or at least spaced apart from each other at discrete multiples of a predetermined unit distance. For example, a second vertically extending protrusion may be spaced one unit distance from a first vertically extending protrusion, while a sixth vertically extending protrusion may be spaced two unit distances from a fifth vertically extending protrusion. The vertically extending protrusions **38** may be U-shaped teeth or any other suitable geometry and may partially or fully extend between the upper deck **12** and lower deck **14**. The vertically extending protrusions **38** may be integrally formed in the pallet **10** or connected to the pallet **10** via fasteners or other attachment components.

[0028] The vertically extending protrusions **38** may be arranged in outer groups **42**, channel groups **44**, and central groups **46**, or any other arrangement. The outer groups **42** are positioned near the front wall **16** and rear wall **18** and may extend to corners of the pallet **10**. In one embodiment, the outer groups **42** include five vertically extending protrusions **38** and four recesses **40**. The channel groups **44** are positioned between the outer groups **42** and the central group **46** near the side forklift channels **28**. The channel groups **44** may extend only from the lower deck **14** to the bottom of the side forklift channels **28** or only from the upper deck **12** to the top of the side forklift channels **28**. In one embodiment, the channel groups **44** include four vertically extending protrusions **38** and three recesses **40**. The central groups **46** are positioned along a middle of the sidewalls **20**, **22** between the channel groups **44**. In one embodiment, the central groups **46** include two vertically extending protrusions **38** and one recess **40**.

[0029] The vertically extending protrusions **38** may be positioned only on the sidewalls **20**, **22**, only on the front wall **16** and rear wall **18**, or on all of the walls **16**, **18**, **20**, **22**. The vertically extending protrusions **38** may be positioned so that the pallet **10** is laterally symmetric and/or longitudinally symmetric. Alternatively, the vertically extending protrusions **38** on the left sidewall **20** may be offset one half unit distance from the vertically extending protrusions **38** on the right sidewall **22** so that adjacent pallets can be interlocked in-line with each other.

[0030] Other aspects of the invention are described and illustrated in U.S. Pat. No. 9,162,797 (the '797 patent) entitled PALLET WITH TRAY STACKING STRUCTURE, issued Oct. 20, 2015, which is hereby incorporated by reference in its entirety. For example, as described in the '797 patent, the pallet **10** may include stacking features that "lock" several pallets together when they are stacked empty and a number of dimples that provide structural support and reduce the weight of the pallet.

[0031] In other embodiments, the pallet **10** may include a container, canister, tank, frame, crate, or any other retainer or stacking component. The retainer or stacking component may be connected to or may be an integral part of the pallet body. For example, the pallet **10** may include crate walls or a tank frame integrated with and extending upwardly from the walls **16**, **18**, **20**, **22** for holding a fluid container. Alternatively, the crate walls or tank frame may be bolted or welded to the pallet body. The pallet **10** may also include other features not relevant to the present invention.

[0032] Use of the pallet **10** will now be described in more detail. First, lifting forks of a forklift, lifting jack, or hand jack may be inserted into the front lift channels **26** or side lift channels **28**, depending on which set of lift channels is more accessible. The pallet **10** may then be raised and moved via the lift channels **26**, **28**. The pallet **10** may then be positioned in a transportation implement or enclosure or on a floor, ground surface, shelf, rack, another pallet, or previously stacked flat objects.

[0033] The pallet **10** may also be positioned on previously stacked round objects via the lower cradles **36**. That is, the pallet **10** may be positioned so that the previously stacked round objects are positioned in some or all of the lower cradles **36**. Additional flat objects or other pallets may be stacked on top of the pallet **10**. Round objects may be also be stacked on the pallet **10** via the upper cradles **32**.

[0034] With reference to FIG. **5**, a number of pallets **10**A-D may be positioned adjacent each other in interlocking engagement in a transportation enclosure **100** having a left wall **102**, a right wall **104**, a front wall **106**, and a rear wall **108**. The transportation enclosure **100** may also include a side brace **110**, a front brace **112**, a rear brace **114**, or any other spacers or bumpers.

[0035] The pallet **10**A may be positioned near the rear wall **108** and right wall **104** such that the left sidewall **20** of the pallet **10** faces the rear wall **108** and abuts the rear brace **114** and the rear wall **18** of the pallet **10** faces the right wall **104** and abuts the side brace **110**. The pallet **10**B may be positioned adjacent to and offset from the pallet **10**A such that the interlocking structure **24** on the right sidewall **22** of the pallet **10**B interlocks with the interlocking structure **24** on the left sidewall **20** of the pallet **10**A. That is, the recesses **40** of the pallet **10**A may receive vertically extending protrusions **38** of the pallet **10**B while recesses **40** of the pallet **10**B receive vertically extending protrusions **38** of the pallet **10**A. The pallets **10**A, **10**B can engage each other at one of a plurality of laterally offset distances, with the laterally offset distances being multiples of the unit distance plus between zero and one half of the unit distance. For example, because the pallets **10**A and **10**B each are symmetric, they must always be laterally offset from each other some multiple of the unit distance plus one half of the unit distance. The particular offset distance may be chosen so that the pallets **10**A, **10**B cannot shift between the left wall **102** and right wall **104** of the transportation enclosure **100**.

[0036] Additional pallets **10**C and **10**D may then be inserted into the transportation enclosure **100** such that adjacent pallets are offset from each other in a staggered formation. The front brace **112** may then be positioned adjacent the end pallet **10**D so that the pallets **10**A-D cannot shift between the front wall **106** and the rear wall **108**. In this way, the pallets **10**A-D may be transported in horizontally fixed positions within the transportation enclosure **100**.

[0037] The above-described pallet **10** provides several advantages over conventional pallets. For example, the pallet **10** can be positioned adjacent to another similar pallet via interlocking structure **24** such that the adjacent pallets cannot shift laterally relative to each other. The vertically extending protrusions **38** are spaced from each other so that the adjacent pallets can be selectively offset from each other

according to the width of the transportation enclosure or implement. Some or all of the vertically extending protrusions **38** may fully extend from the bottom lower deck **14** to the upper deck **12** so that adjacent pallets will interlock with each other even if they are not completely vertically level with each other. The pallet **10** may be symmetric so that it can be positioned in a number of different orientations. The pallet **10** includes front lift channels **26** and side lift channels **28** so that it can be lifted and moved from a number of directions. This may be particularly useful when pallets are closely positioned in a storage container or transportation enclosure and one or more sides of the pallets are not accessible.

[0038] Although the invention has been described with reference to the embodiments illustrated in the attached drawing figures, it is noted that equivalents may be employed and substitutions made herein without departing from the scope of the invention as recited in the claims.

Having thus described various embodiments of the invention, what is claimed as new and desired to be protected by Letters Patent includes the following:

1. A pallet comprising:

an upper deck for supporting objects thereon, the upper deck having a front edge, a rear edge, a first side edge, and a second side edge;

a lower deck opposite the upper deck, the lower deck having a front edge, a rear edge, a first side edge, and a second side edge;

a front wall extending between the front edge of the upper deck and the front edge of the lower deck;

a rear wall extending between the rear edge of the upper deck and the rear edge of the lower deck;

a first sidewall extending between the first side edge of the upper deck and the first side edge of the lower deck;

a second sidewall extending between the second side edge of the upper deck and the second side edge of the lower deck; and

interlocking structure configured to interconnect with interlocking structure of an adjacent pallet to inhibit relative shifting of the pallets.

2. The pallet of claim **1**, wherein the interlocking structure is further configured to interconnect with the interlocking structure of the adjacent pallet such that the pallets are laterally offset from each other for inhibiting lateral shifting of the pallets relative to a transportation implement during transport.

3. The pallet of claim **2**, wherein the interlocking structure comprises a plurality of spaced apart vertically extending protrusions and a plurality of recesses between the vertically extending protrusions, the vertically extending protrusions being configured to engage recesses of the interlocking structure of the adjacent pallet and the recesses being configured to receive vertically extending protrusions of the interlocking structure of the adjacent pallet such that the vertically extending protrusions of the pallet and the vertically extending protrusions of the adjacent pallet cooperatively prevent the pallets from shifting laterally relative to each other.

4. The pallet of claim **3**, wherein the vertically extending protrusions are spaced from each other at discrete multiples of a predetermined unit distance such that the pallet can engage the adjacent pallet at one of a plurality of laterally offset distances, the laterally offset distances being multiples of the unit distance plus between zero and one half of the unit distance.

5. The pallet of claim **3**, wherein at least some of the vertically extending protrusions extend from the lower deck to the upper deck.

6. The pallet of claim **3**, further comprising lift channels extending from the first sidewalls to the second sidewalls, some of the vertically extending protrusions extending from the lower deck to the lift channels.

7. The pallet of claim **3**, wherein the interlocking structure comprises a plurality of interlocking structure groupings for interlocking with interlocking structure groupings of the adjacent pallet.

8. The pallet of claim **7**, further comprising lift channels extending from the sidewalls to the second sidewalls, wherein the interlocking structure groupings include outer groups positioned near corners of the pallet, lift channel groups positioned near the lift channels, and center groups positioned near midpoints of the first and second sidewalls.

9. The pallet of claim **8**, wherein the interlocking structure of the outer groups and the center groups extend from the lower deck to the upper deck and the interlocking structure of the lift channel groups extend from the lower deck to the lift channels.

10. The pallet of claim **9**, wherein the outer groups each include five vertically extending protrusions, the lift channel groups each include four vertically extending protrusions, and the center groups each include two vertically extending protrusions.

11. The pallet of claim **1**, wherein the interlocking structure is positioned on the first sidewall and the second sidewall for interlocking the pallet with adjacent pallets in a side-by-side arrangement.

12. The pallet of claim **1**, wherein the interlocking structure is positioned on the first sidewall and the second sidewall for interlocking the pallet with adjacent pallets in a side-by-side arrangement and the front wall and rear wall for interlocking the pallet with adjacent pallets in a front-to-back arrangement.

13. The pallet of claim **1**, wherein the pallet is laterally symmetric and longitudinally symmetric.

14. The pallet of claim **1**, wherein the interlocking structure is integrally formed in the pallet.

15. A pallet comprising:

an upper deck for supporting objects thereon, the upper deck having a front edge, a rear edge, a first side edge, and a second side edge;

a lower deck opposite the upper deck, the lower deck having a front edge, a rear edge, a first side edge, and a second side edge;

a front wall extending between the front edge of the upper deck and the front edge of the lower deck;

a rear wall extending between the rear edge of the upper deck and the rear edge of the lower deck opposite the front wall;

a first sidewall extending between the first side edge of the upper deck and the first side edge of the lower deck;

a second sidewall extending between the second side edge of the upper deck and the second side edge of the lower deck opposite the first sidewall;

a plurality of lift channels extending from the first sidewall to the second sidewall; and

interlocking structure integrally formed in the pallet, the interlocking structure comprising:

a plurality of spaced apart vertically extending protrusions; and

a plurality of recesses between the vertically extending protrusions,

the vertically extending protrusions being configured to engage recesses of interlocking structure of an adjacent pallet and the recesses being configured to receive vertically extending protrusions of the interlocking structure of the adjacent pallet such that the vertically extending protrusions of the pallet and the vertically extending protrusions of the adjacent pallet cooperatively prevent the pallets from shifting laterally relative to each other.

16. The pallet of claim **15**, wherein some of the vertically extending protrusions extend from the lower deck to the lift channels.

17. The pallet of claim **15**, wherein the interlocking structure comprises a plurality of interlocking structure groupings for interlocking with interlocking structure groupings of the adjacent pallet.

18. The pallet of claim **17**, wherein the interlocking structure groupings include outer groups positioned near corners of the pallet, lift channel groups positioned near ends of the lift channels, and center groups positioned near midpoints of the first and second sidewalls.

19. The pallet of claim **18**, wherein the interlocking structure of the outer groups and the center groups extend from the lower deck to the upper deck and the interlocking structure of the lift channel groups extend from the lower deck to the lift channels.

20. The pallet of claim **19**, wherein the outer groups each include five vertically extending protrusions, the lift channel groups each include four vertically extending protrusions, and the center groups each include two vertically extending protrusions.

21. A pallet comprising:

an upper deck for supporting objects thereon, the upper deck having a front edge, a rear edge, a first side edge, and a second side edge;

a lower deck opposite the upper deck, the lower deck having a front edge, a rear edge, a first side edge, and a second side edge;

a front wall extending between the front edge of the upper deck and the front edge of the lower deck;

a rear wall extending between the rear edge of the upper deck and the rear edge of the lower deck opposite the front wall;

a first sidewall extending between the first side edge of the upper deck and the first side edge of the lower deck;

a second sidewall extending between the second side edge of the upper deck and the second side edge of the lower deck opposite the first sidewall;

a plurality of lift channels extending from the first sidewall to the second sidewall; and

interlocking structure integrally formed in the pallet, the interlocking structure comprising:

a plurality of vertically extending protrusions spaced from each other at discrete multiples of a predetermined unit distance; and

a plurality of recesses between the vertically extending protrusions,

the vertically extending protrusions being configured to engage recesses of interlocking structure of an adjacent pallet and the recesses being configured to receive vertically extending protrusions of the interlocking structure of the adjacent pallet such that the pallet can engage the adjacent pallet at one of a plurality of laterally offset distances, the laterally offset distances being multiples of the unit distance plus one half of the unit distance so that the vertically extending protrusions of the pallet and the vertically extending protrusions of the adjacent pallet cooperatively prevent the pallets from shifting laterally relative to each other and relative to a transportation implement.

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