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(54) **SYSTEM FOR VERTICALLY STACKING TRAYS**

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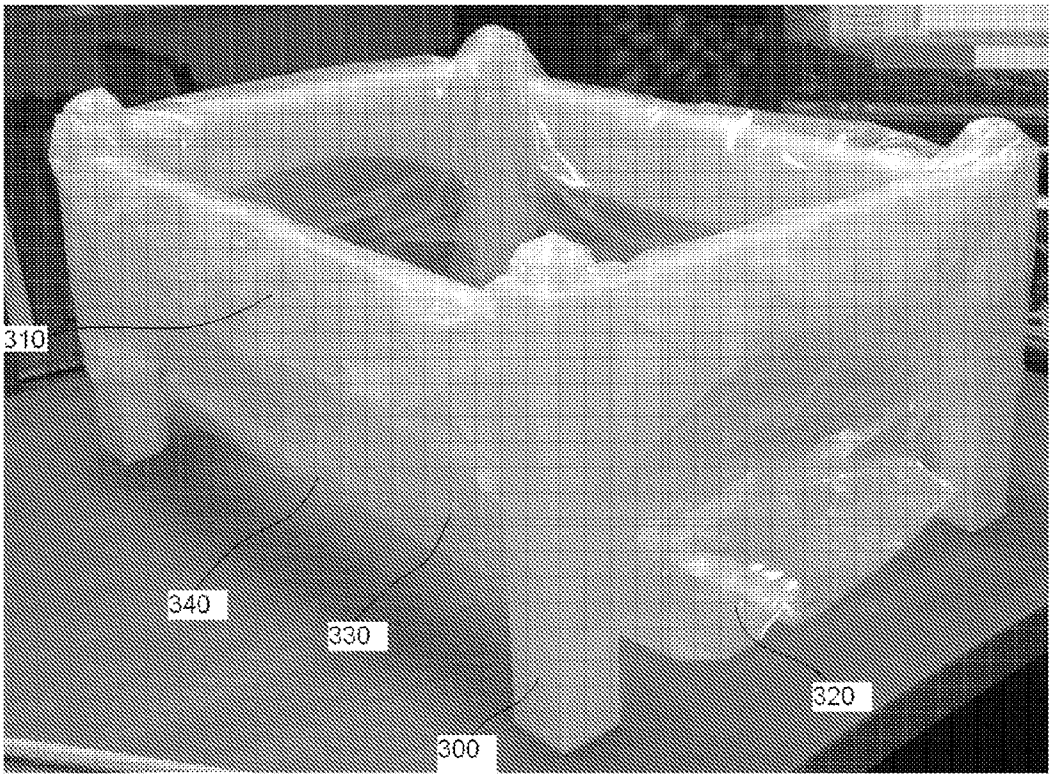
(57) **ABSTRACT**

A system for vertically stacking trays of at least two standard types is disclosed. The system comprises a plurality of adapting elongate members which are vertically mountable between the trays. Each elongate member has a longitudinal axis; each elongate member has a first terminal and a second terminal. The first terminal has a taper head provided with at least two off-axis pins are oppositely disposed relative to the axis. The second terminal has at least one recess within a wall of the second terminal. Each tray of each type has a first side and a second side. Each tray is provided with matching sites such that the matching sites located on the first side are configured for receiving the heads of the first terminals and the matching sites located on the second side are configured for receiving the recess of the second terminals.



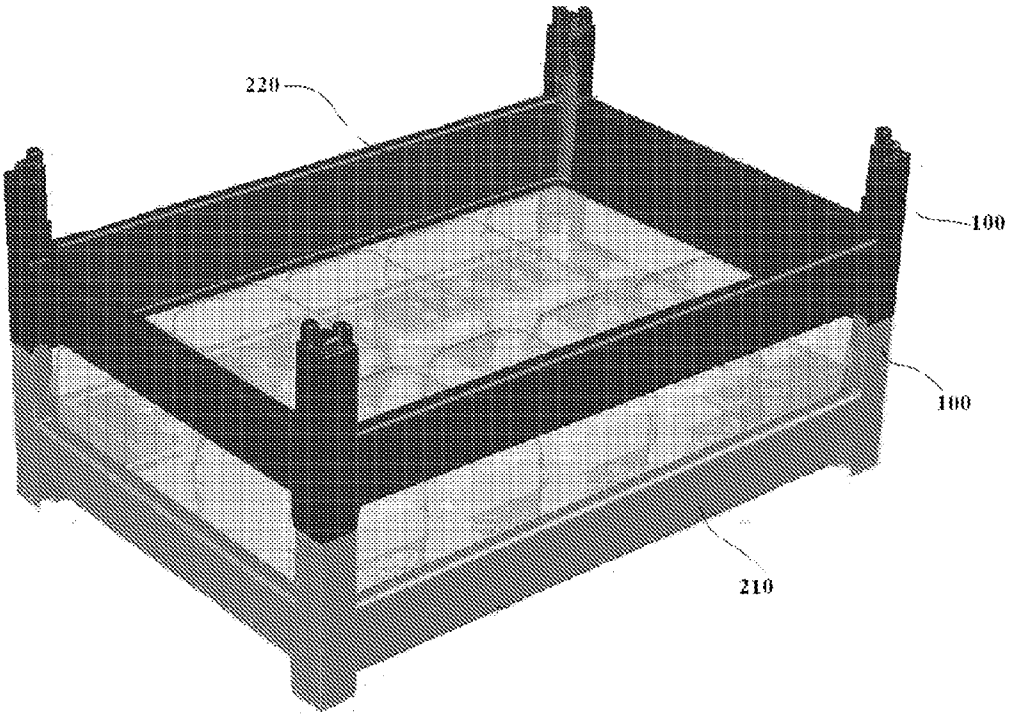


Fig. 1

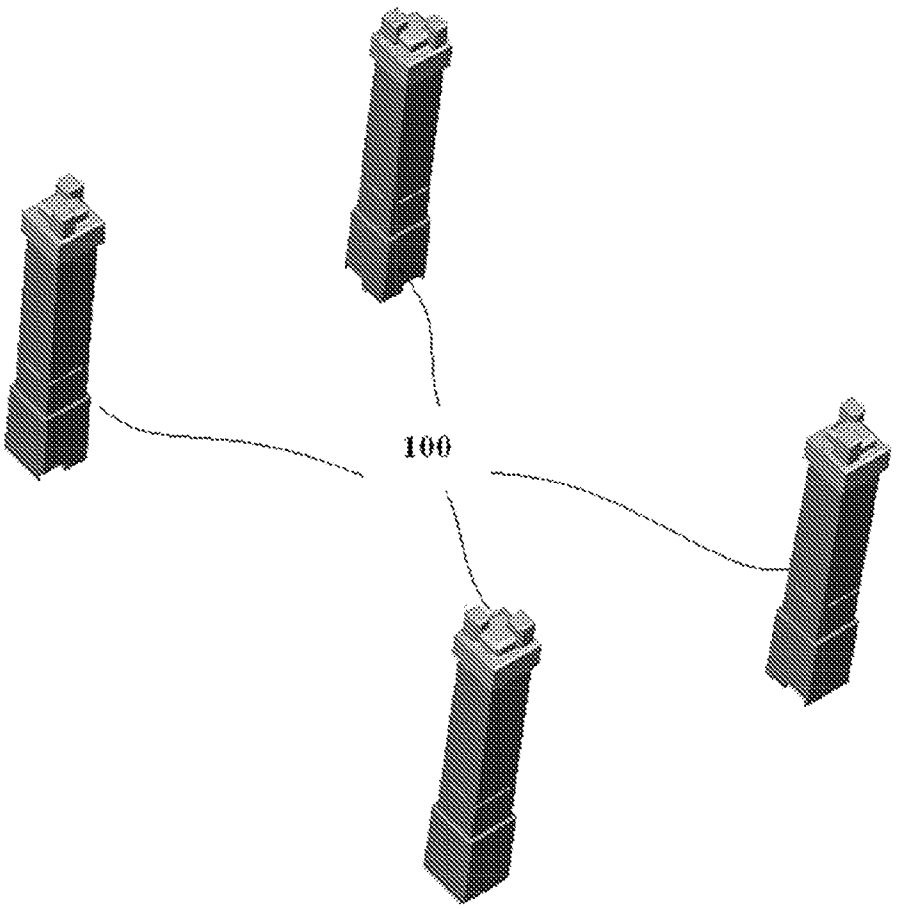


Fig. 2

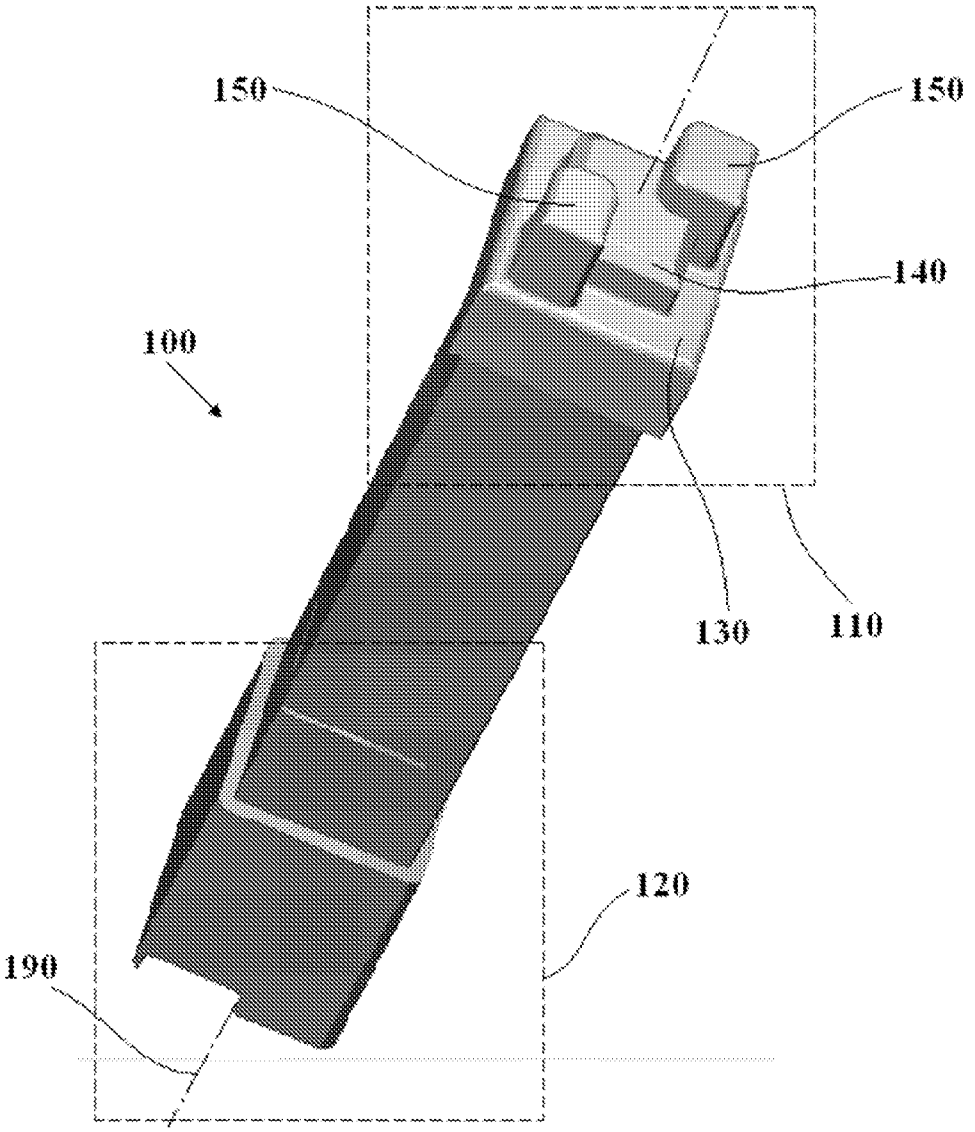


Fig. 3

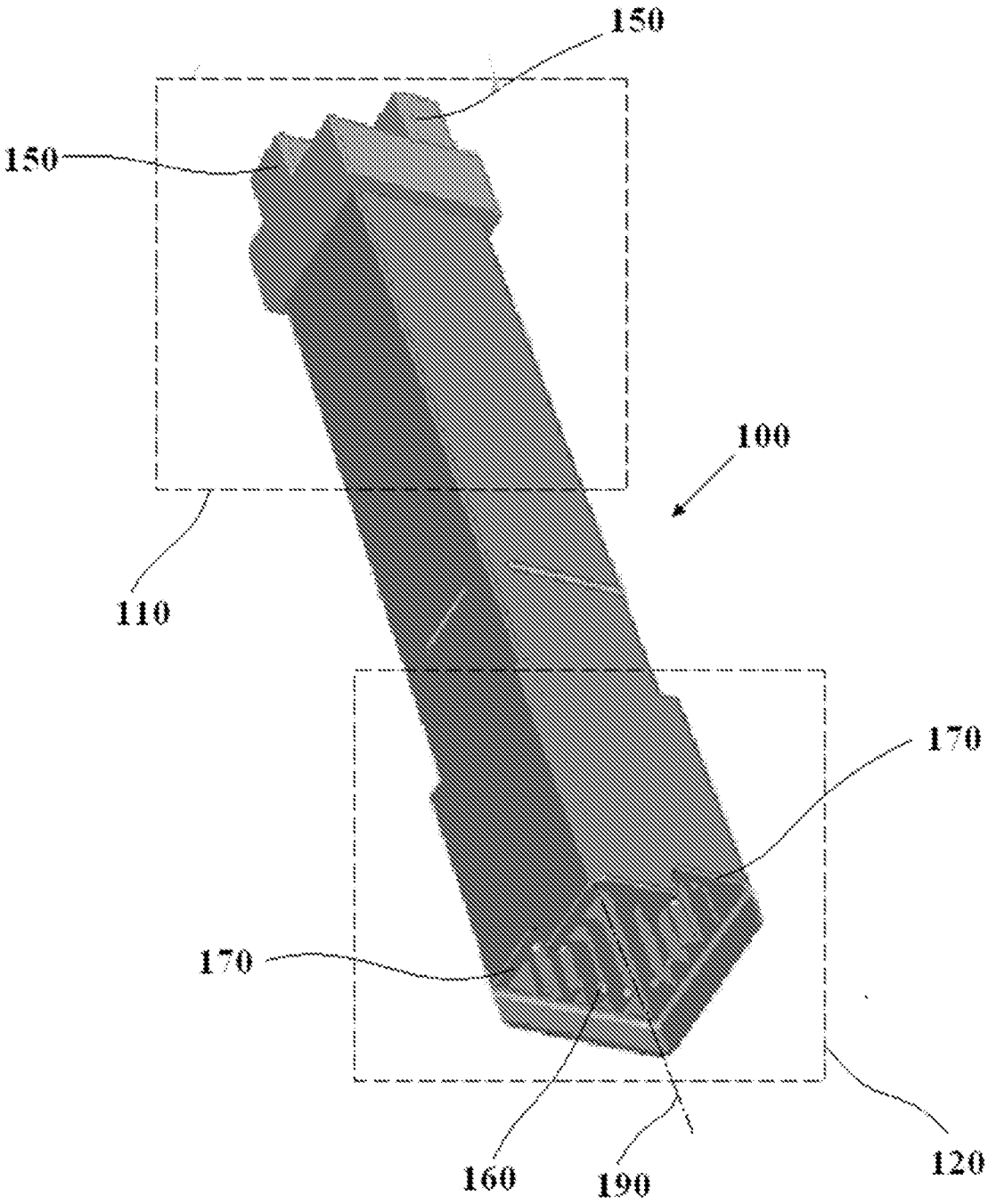


Fig. 4

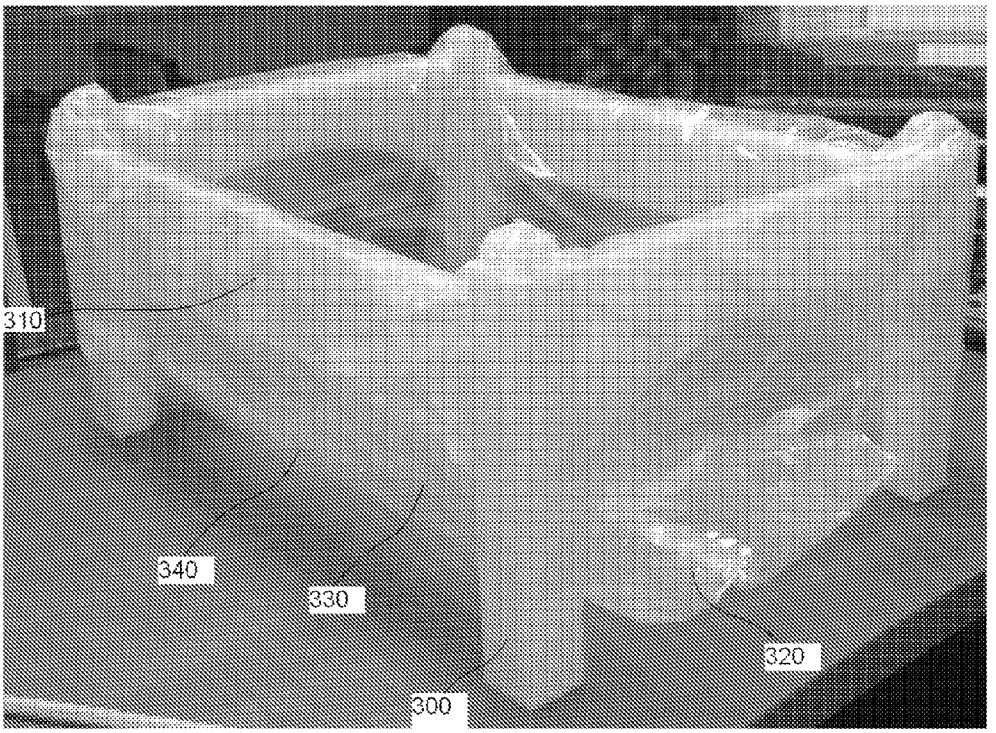


Fig. 5

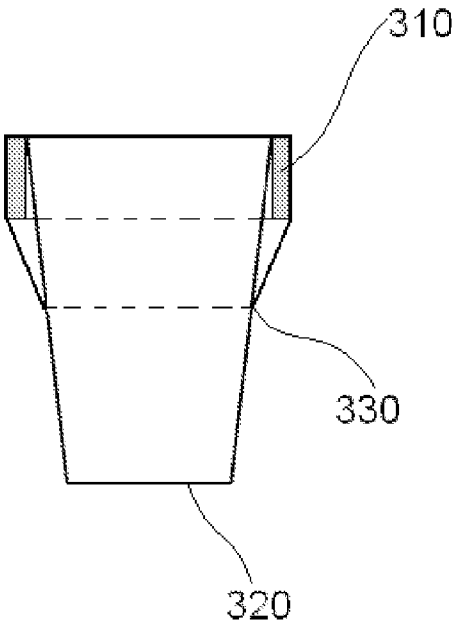


Fig. 6a

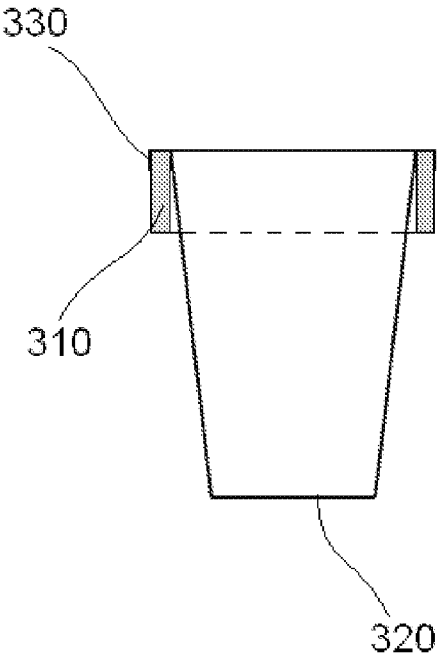


Fig. 6b

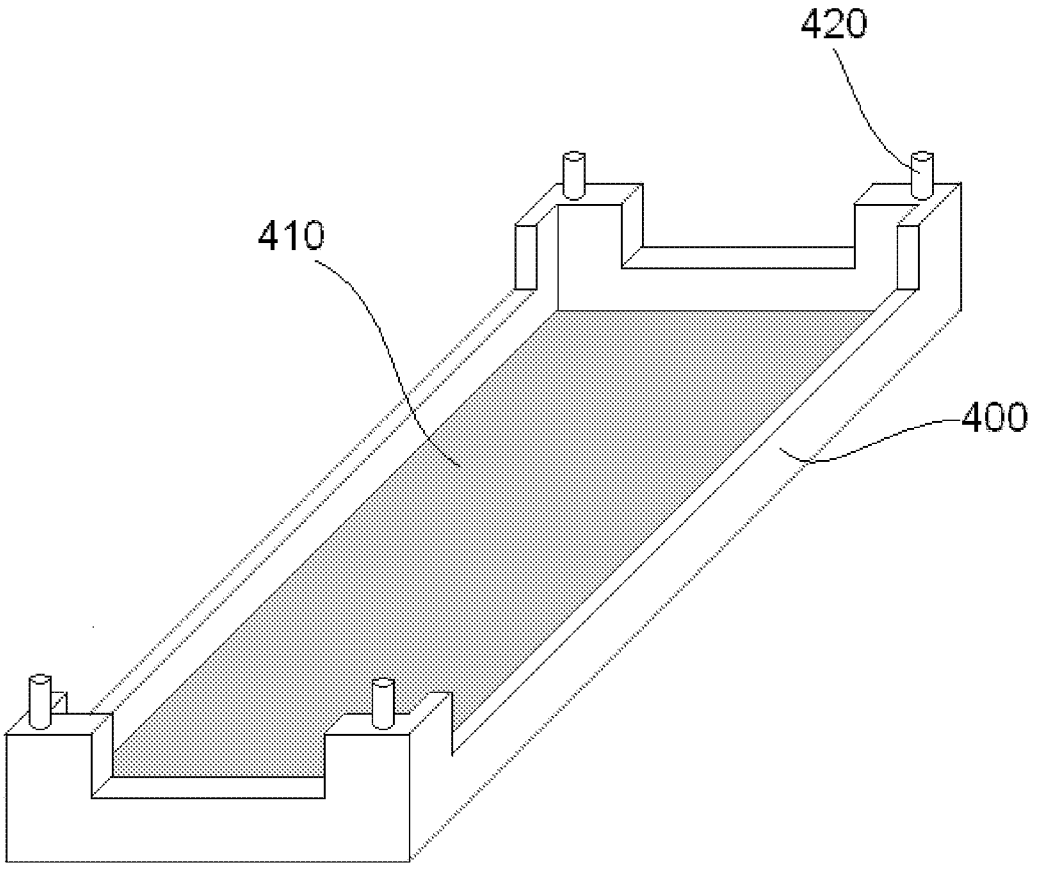


Fig. 7

SYSTEM FOR VERTICALLY STACKING TRAYS

FIELD OF THE INVENTION

[0001] The present invention is related to packaging, shipping and warehousing, and more specifically, to combined stacking of trays of at least two types.

BACKGROUND

[0002] At the moment, there are the following kinds of packaging: (a) plastic boxes, (b) carton boxes and Ecopack® trays. During conveying and warehousing of the goods, intermixture of goods takes place. The goods packaged in different type of trays should be stored and conveyed together. Logistic operators use main three types of packaging unit, specifically, Ecopack® trays, plastic trays and plastic boxes. The difficulty is that packaging units of different types can not be stacked one upon the other in an arbitrary sequence.

[0003] Thus, there is a long-felt and unmet need for a system providing vertical stacking of packaging units of different types in the arbitrary sequence. Three opportunities should be provided: (a) mounting the Ecopack® tray onto the plastic tray; mounting the plastic box onto the Ecopack® tray; and mounting the Ecopack® tray onto the Ecopack® tray.

SUMMARY OF THE INVENTION

[0004] It is hence one object of the invention to disclose a system for vertically stacking box trays of at least two standard types. The aforesaid system comprises (a) a plurality of box trays of a first type; and (b) a plurality of box trays of a second type.

[0005] It is a core purpose of the invention to provide the system further comprising a plurality of adapting members which are vertically mounatable between the trays. The members are of a hollow elongate configuration. Each elongate member has a longitudinal axis. Each elongate member has a first terminal and a second terminal. The first terminal has a taper head. The taper head is provided with at least two off-axis pins oppositely disposed relative to the axis. The second terminal has at least one recess within a wall of the second terminal. Each tray of each type has a first side and a second side. Each tray is provided with matching sites such that the matching sites located on the first the are configured for receiving the heads of the first terminals and the matching sites located on the second side are configured for receiving the recess of the second terminals.

[0006] Another object of the invention is to disclose the first side of the tray which is an upper side thereof and the second side of the tray which is a lower side thereof.

[0007] A further object of the invention is to disclose the first side of the tray which is a lower side thereof and the second side of the tray which is an upper side thereof.

[0008] A further object of the invention is to disclose an internal surface of the adapting member provided with at least one reinforcing rib.

[0009] A further object of the invention is to disclose the trays which are of a rectangular shape.

[0010] A further object of the invention is to disclose the matching sites which are located at corners of the trays.

[0011] A further object of the invention is to disclose the adapting member made of metal alloy, wood, polypropylene, polyethylene, polyamide, polyurethane and any combination thereof.

[0012] A further object of the invention is to disclose a method of vertical stacking trays of at least two standard types. The aforesaid method comprises the steps of: (a) providing a plurality of trays of a first type and a plurality of trays of a second type; (b) providing a plurality of adapting members vertically mounatable between the trays; (c) stacking the trays of the first and second type.

[0013] It is another core purpose of the invention to provide the step of staking the trays further comprising mounting the trays of the first and second types one upon the other in an arbitrary sequence whereby the trays are spaced apart by means of vertically mounted adapting members between the trays. The members are of a hollow elongate configuration. Each elongate member has a longitudinal axis. Each elongate member has a first terminal and a second terminal The first terminal has a taper head. The taper head is provided with at least two off-axis pins oppositely disposed relative to the axis. The second terminal has at least one recess within a wall of the second terminal. Each tray of each type has a first side and a second side. Each tray is provided with matching sites such that the matching sites located on the first side are configured for receiving the heads of the first terminals and the matching sites located on the second side are configured for receiving the recess of the second terminals.

[0014] The method according to claim **8**, further comprising a step of connecting the first terminals of the adapting members to an upper side of the trays and connecting the second terminals of the adapting members to a lower side of the tray.

[0015] A further object of the invention is to disclose the method further comprising a step of connecting the second terminals of the adapting members to an upper side of the trays and connecting the first terminals of the adapting members to a lower side of the tray.

[0016] A further object of the invention is to disclose the method comprising a step of connecting the adapting members to the matching sites located at corners of the trays.

[0017] A further object of the invention is to disclose an open top container for loading, storing and shipping goods in bulk. The aforesaid container comprises a rigid structure further comprising (a) a rectangular frame comprising at least four frame members defining a perimeter of the frame; and (b) four legs extending from the four corners of the frame.

[0018] It is another core purpose of the invention to provide the container provided with a bag having a main portion for accommodating the goods in bulk and a rim of the bag; the bag rim is mechanically secured to the perimeter of the rectangular frame such that the portion for accommodating the goods is downwardly housed into the rectangular frame.

[0019] A further object of the invention is to disclose the legs provided with stacking means comprising male and female connectors disposed at opposite terminals thereof.

[0020] A further object of the invention is to disclose the bag which is of a rectangular cross-section.

[0021] A further object of the invention is to disclose the bag which is of an enlarging cross-section from a bottom to the rim portion.

[0022] A further object of the invention is to disclose the bag secured to the frame by means selected from the group consisting of glue, clamps, sutures and any combination thereof.

[0023] A further object of the invention is to disclose a material of the bag is selected from the group consisting of hessians, paper, polyethylene, polypropylene and any combination thereof.

[0024] A further object of the invention is to disclose an open top container for loading, storing and shipping goods in bulk, the container comprising a rigid structure further comprising (a) a rectangular frame comprising at least four frame members defining a perimeter of the frame; and (b) four legs extending from the four corners of the frame.

[0025] It is a further core purpose of the invention to provide the container with a bag having a main portion for accommodating the goods in bulk and a rim portion of the bag; the rim portion is bent over the perimeter and mechanically secured to outer surface of the main portion of the bag such that the portion for accommodating the goods is downwardly housed into the rectangular frame.

[0026] A further object of the invention is to disclose an open top container for loading, storing and shipping goods in bulk. The aforesaid container comprises a rigid structure further comprising a rectangular frame comprising at least four frame members defining a perimeter of the frame.

[0027] It is a further core purpose of the invention to provide the container with a sheet of flexible material mechanically secured to the frame.

[0028] A further object of the invention is to disclose a method of manufacturing an open top container configured for loading, storing and shipping goods in bulk. The aforesaid method comprises the steps of (a) providing a rigid structure further comprising (i) a rectangular frame comprising at least four frame members defining a perimeter of the frame; and (ii) four legs extending from the four corners of the frame; (b) providing a bag having a main portion for accommodating the goods in bulk and a rim portion of the bag; (c) inserting the bag into the frame; (d) mechanically securing the bag rim the perimeter of the rectangular frame such that the portion for accommodating the goods is downwardly housed into the rectangular frame.

[0029] A further object of the invention is to disclose a method comprising the steps of (a) providing a rigid structure further comprising (i) a rectangular frame comprising at least four frame members defining a perimeter of the frame; and (ii) four legs extending from the four corners of the frame; (b) providing a bag having a main portion for accommodating the goods in bulk and a rim portion of the bag; (c) inserting the bag into the frame; (d) bending the rim portion over the perimeter; (e) mechanically securing the bag rim to outer surface of the main portion of the bag such that the portion for accommodating the goods is downwardly housed into the rectangular frame.

[0030] A further object of the invention is to disclose a method comprising the steps of (a) providing a rigid structure further a rectangular frame comprising at least four frame members defining a perimeter of the frame; (b) providing a sheet of flexible material mechanically secured to the frame; and (c) mechanically securing the sheet of flexible material to the frame.

BRIEF DESCRIPTION OF THE DRAWINGS

[0031] In order to understand the invention and to see how it may be implemented in practice, a plurality of embodiments is adapted to now be described, by way of non-limiting example only, with reference to the accompanying drawings, in which

[0032] FIG. **1** is a schematic view of an elemental vertical stack of trays;

[0033] FIG. **2** is an isometric view of a set of adapting members;

[0034] FIG. **3** is a detailed view of a first terminal of the adapting member;

[0035] FIG. **4** is a detailed view of a second terminal of the adapting member;

[0036] FIG. **5** is a photograph of a container provided with a bag;

[0037] FIGS. **6***a* and **6***b* are schematic views of alternative embodiments of the present invention; and

[0038] FIG. **7** is an isometric view of a tray provided with a bottom sheet.

DETAILED DESCRIPTION OF THE INVENTION

[0039] The following description is provided, so as to enable any person skilled in the art to make use of said invention and sets forth the best modes contemplated by the inventor of carrying out this invention. Various modifications, however, are adapted to remain apparent to those skilled in the art, since the generic principles of the present invention have been defined specifically to provide a method for vertically stacking trays of at least two standard types and a method of using the same.

[0040] Reference is now made to FIG. **1**, presenting an elemental vertical stack of trays. The aforesaid stack comprises trays of different types **210** and **220** which are vertically spaced apart by means of adapting members **100**. The aforesaid members **100** provide stable and reliable connection between the trays of different types **210** and **220**.

[0041] Reference is now made to FIG. **2**, presenting a set of the adapting members **100** which should be disposed at corners of the trays **210**/**220**.

[0042] Reference is now made to FIG. **3** presenting a detailed view of an exemplary embodiment of a first terminal **110** of the adapting member **100**. In an unlimited manner, the first terminal **110** has a taper head comprising areas **130** and **140** at least two off-axis pins **150** oppositely disposed relative to the axis **190**. In accordance with a preferred embodiment of the current invention, the first terminal **110** is received by a matching site in a lower side of the tray (not shown).

[0043] Reference is now made to FIG. **4**, presenting a detailed view of an exemplary embodiment of a second terminal **120** of the adapting member **100**. In an unlimited manner, the second terminal **120** is provided with recesses **170**. In accordance with a preferred embodiment of the current invention, the second terminal **120** is received by a matching site in an upper side of the tray (not shown).

[0044] It should be emphasized that all adapting members **100** are standard and interchangeable.

[0045] It should be emphasized that the disclosed configuration of the adapting member **100** provides stable and reliable connection of different trays. Combined stacking of trays of different types dramatically increases efficiency of logistic processes.

[0046] Reference is now made to FIG. **5**, presenting an open top container for loading, storing and shipping goods in bulk constituting an alternative embodiment of the present invention. A rectangular frame **310** comprises at least four frame members which define a perimeter of the frame. Four legs **300** extend from the four corners of the frame.

[0047] A bag has a main portion **320** for accommodating the goods in bulk and a rim portion **330** of the bag. The rim

portion **330** is bent over the frame **310** and mechanically secured to outer surface of the main portion **320** of the bag. The portion **320** for accommodating the goods is downwardly housed into the rectangular frame **310** such that goods to be loaded, stored or shipped within the portion **320** can be placed in its internal volume so formed.

[0048] An alternative embodiment of the present invention, the rim portion **330** is mechanically secured to the perimeter of the frame **310** (not shown). The legs **300** can be provided with stacking means comprising male and female connectors disposed at opposite terminals thereof (not shown). The bag can be of a rectangular cross-section enlarging from a bottom to said rim portion. The bag is secured to the frame by means of glue, clamps, sutures and any combination thereof.

[0049] Reference is now made to FIGS. **6***a* and **6***b*, presenting two abovementioned embodiments in detail. Specifically, in FIG. **6***a*, the rim portion **330** of the bag is bent over the frame **310** and mechanically secured to outer surface of the main portion **320** of the bag, while the main potion **320** for accommodating the goods is downwardly housed into the rectangular frame **310**. In FIG. **6***b*, rim portion **330** of the bag is mechanically secured to the perimeter of the frame **310**.

[0050] Reference is now made to FIG. **7**, presenting an embodiment of the present invention constituting a cargo tray comprising a rectangular frame **400** wherein a sheet of a flexible material **410** is mechanically secured underneath the frame **400**. Pins **420** constitute male connecting means in a non-limiting manner. The pins **420** are disposed above the frame **400**. When the cargo trays shown in FIG. **6** are stacked, the pins **420** are inserted into female means (holes) beneath the frame (not shown).

[0051] In accordance with the present invention, a system for vertically stacking trays of at least two standard types is disclosed. The aforesaid system comprises (a) a plurality of trays of a first type; and (b) a plurality of trays of a second type.

[0052] In Table, approximate storage parameters for fresh produce and flowers are provided. The containers of the present invention are adapted for loading, storing and shipping goods in bulk under the imposed requirements.

TABLE

Approximate storage parameters for fresh produce and flowers

Name	Storage/ Transport temp.	Temp. of first 24 h	Relative humidity	Freezing temp.	Ethylene production	Ethylene sensitivity	Respiration rate	Fresh air supply
Apricot	0.5	−0.5	95	−1.1	M	M	L	10%
Artichoke	0.5	0.5	98	—	L	L	L	75%
Aubergine	12	11	95	−0.8	L	M	very H	75%
Avocado	5-7	4-6	90	−1.6	H	H	M	25%
Carrot	0.5	−0.5	98	−1.4	very L	M	L	5%
Celery	0.5	0.5	98	−0.5	very L	M	L	10%
Dates (fresh)	1	−0.5	90	−15.7	very L	L	L	5%
Dates (frozen)	−18	−0.5	75	−15.7	very L	L	L	close
Fig	0.5	−0.5	90	−2.4	M	L	L	10%
Grapes	−0.5	−0.5	90	−2.7	very L	L	L	close
Guava	10	8	90	—	L	M	M	50%
Litchi	0.5	0.5	95	−1	M	M	L	10%
Loquat	0.5	−0.5	90	−1.9	L	L	L	10%
Mango	10-12	9-11	90	−1.4	M	H	M	25%
Melon	6-10	6-9	95	−1.2	H	M	L	50%
Nectarine	0.5	−0.5	95	−0.9	M	M	L	10%
Passionfruit	10	10	90	—	very H	M	very H	100%
Peach	0.5	−0.5	95	−0.9	H	H	L	10%
Pepper	7-10	6-9	95	−0.7	L	L	L	10%
Plum	0.5	−0.5	95	−0..8	M	M	L	5%
Pitaya/ Dragon Fruit	8	8	90	—	H	M	H	75%
Pomegranate	6-10	5-9	95	−3	L	L	L	25%
Potato	6	5	95	−0.8	very L	M	L	50%
Radish	0.5	−0.5	95	−0.7	very L	L	L	5%
Sharon fruit	−1	−1	90	−2.2	L	H	L	close
Sweet Corn	1	0.5	98	−0.6	very L	L	H	75%
Sweet Potato	14	14	90	−1.3	very L	L	L	75%
Strawberry	0.5	−0.5	95	−0.8	L	1	L	5%
Tomato	10	9	90	−0.5	H	H	L	25%
Watermelon	10	10	90	−0.4	very L	H	L	25%
Basil	10	10	90	—	very L	H	H	50%
Herbs	1	0.5	95	−0.7	L	M	H	50%
Flowers	2	1	95	0	M	H	H	30%
Easy Peelers	4	2	95	−1.1	very L	M	L	25%
Grapefruit and Sweetie	8	8	90	−1.1	very L	M	L	25%
Kumquat	4	4	95	—	L	L	L	25%
Lemon and Lime	10	10	90	−1.4	L	L	L	25%
Limequat	10	10	90	−1.4	L	L	L	25%
Minneola	4	4	95	−0.9	very L	M	L	25%
Orange	2-5	1-4	90	−0.8	very L	M	L	25%
Pomelo	8	8	90	−1.6	very L	M	L	25%

[0053] The system comprises a plurality of adapting members which are vertically mounatable between the trays. The members are of a hollow elongate configuration. Each elongate member has a longitudinal axis. Each elongate member has a first terminal and a second terminal. The first terminal has a taper head. The taper head is provided with at least two off-axis pins oppositely disposed relative to the axis. The second terminal has at least one recess within a wall of the second terminal. Each tray of each type has a first side and a second side. Each tray is provided with matching sites such that the matching sites located on the first side are configured for receiving the heads of the first terminals and the matching sites located on the second side are configured for receiving the recess of the second terminals.

[0054] In accordance with one embodiment of the present invention, the first side of the tray is an upper side thereof and the second side of the tray is a lower side thereof.

[0055] In accordance with another embodiment of the present invention, the first side of the tray is a lower side thereof and the second side of the tray is an upper side thereof.

[0056] In accordance with a further embodiment of the present invention, an internal surface of the adapting member is provided with at least one reinforcing rib.

[0057] In accordance with a further embodiment of the present invention, the trays are of a rectangular shape.

[0058] In accordance with a further embodiment of the present invention, the matching sites are located at corners of the trays.

[0059] In accordance with a further embodiment of the present invention, the adapting member is made of metal alloy, wood, polypropylene, polyethylene, polyamide, polyurethane and any combination thereof.

[0060] In accordance with a further embodiment of the present invention, the method of vertical stacking trays of at least two standard types is disclosed. The aforesaid method comprises the steps of: (a) providing a plurality of trays of a first type and a plurality of trays of a second type; (b) providing a plurality of adapting members vertically mounatable between the trays; (c) stacking the trays of the first and second type.

[0061] The step of staking the trays further comprises mounting the trays of the first and second types one upon the other in an arbitrary sequence whereby the trays are spaced apart by means of vertically mounted adapting members between the trays. The members are of a hollow elongate configuration; each elongate member has a longitudinal axis. Each elongate member has a first terminal and a second terminal. The first terminal has a taper head. The taper head is provided with at least two off-axis pins oppositely disposed relative to the axis. The second terminal has at least one recess within a wall of the second terminal. Each tray of each type has a first side and a second side. Each tray is provided with matching sites such that the matching sites located on the first side are configured for receiving the heads of the first terminals and the matching sites located on the second side are configured for receiving the recess of the second terminals.

[0062] In accordance with a further embodiment of the present invention, an open top container for loading, storing and shipping goods in bulk is disclosed. The aforesaid container comprises a rigid structure further comprising (a) a rectangular frame comprising at least four frame members defining a perimeter of the frame; and (b) four legs extending from the four corners of the frame.

[0063] It is another core feature of the invention to provide the container provided with a bag having a main portion for accommodating the goods in bulk and a rim of the bag; the bag rim is mechanically secured to the perimeter of the rectangular frame such that the portion for accommodating the goods is downwardly housed into the rectangular frame.

[0064] In accordance with a further embodiment of the present invention, the legs are provided with stacking means comprising male and female connectors disposed at opposite terminals thereof.

[0065] In accordance with a further embodiment of the present invention, the bag is of a rectangular cross-section.

[0066] In accordance with a further embodiment of the present invention, the bag is of an enlarging cross-section from a bottom to the rim portion.

[0067] In accordance with a further embodiment of the present invention, the bag is secured to the frame by means selected from the group consisting of glue, clamps, sutures and any combination thereof.

[0068] In accordance with a further embodiment of the present invention, a material of the bag is selected from the group consisting of hessians, paper, polyethylene, polypropylene and any combination thereof.

[0069] In accordance with a further embodiment of the present invention, an open top container for loading, storing and shipping goods in bulk is disclosed. The aforesaid container comprises a rigid structure further comprising (a) a rectangular frame comprising at least four frame members defining a perimeter of the frame; and (b) four legs extending from the four corners of the frame.

[0070] In accordance with a further embodiment of the present invention, the container with a bag has a main portion for accommodating the goods in bulk and a rim portion of the bag; the rim portion is bent over the perimeter and mechanically secured to outer surface of the main portion of the bag such that the portion for accommodating the goods is downwardly housed into the rectangular frame.

[0071] In accordance with a further embodiment of the present invention, an open top container for loading, storing and shipping goods in bulk is disclosed. The aforesaid container comprises a rigid structure further comprising a rectangular frame comprising at least four frame members defining a perimeter of the frame.

[0072] It is a further core feature of the invention to provide the container with a sheet of flexible material mechanically secured to the frame.

[0073] In accordance with a further embodiment of the present invention, a method of manufacturing an open top container configured for loading, storing and shipping goods in bulk is disclosed. The aforesaid method comprises the steps of (a) providing a rigid structure further comprising (i) a rectangular frame comprising at least four frame members defining a perimeter of the frame; and (ii) four legs extending from the four corners of the frame; (b) providing a bag having a main portion for accommodating the goods in bulk and a rim portion of the bag; (c) inserting the bag into the frame; (d) mechanically securing the bag rim the perimeter of the rectangular frame such that the portion for accommodating the goods is downwardly housed into the rectangular frame.

[0074] In accordance with a further embodiment of the present invention, a method comprises the steps of (a) providing a rigid structure further comprising (i) a rectangular frame comprising at least four frame members defining a perimeter of the frame; and (ii) four legs extending from the

four corners of the frame; (b) providing a bag having a main portion for accommodating the goods in bulk and a rim portion of the bag; (c) inserting the bag into the frame; (d) bending the rim portion over the perimeter; (e) mechanically securing the bag rim to outer surface of the main portion of the bag such that the portion for accommodating the goods is downwardly housed into the rectangular frame.

[0075] In accordance with a further embodiment of the present invention, a method comprises the steps of (a) providing a rigid structure further a rectangular frame comprising at least four frame members defining a perimeter of the frame; (b) providing a sheet of flexible material mechanically secured to the frame; and (c) mechanically securing the sheet of flexible material to the frame.

1-32. (canceled)

33. An open top container for loading, storing and shipping goods in bulk, said container comprising a rigid structure further comprising

a. a rectangular frame **310** comprising at least four frame members defining a perimeter of said frame; and

b. four legs **300** extending from the four corners of said frame;

wherein said container is provided with a bag having a main portion **320** for accommodating said goods in bulk and a rim **330** of said bag; said bag rim is mechanically secured to said perimeter of said rectangular frame such that said portion for accommodating said goods is downwardly housed into said rectangular frame.

34. The open top container according to claim **33**, wherein legs are provided with stacking means comprising male and female connectors disposed at opposite terminals thereof.

35. The open top container according to claim **33**, wherein said bag is of a rectangular cross-section.

36. The open top container according to claim **33**, wherein said bag is of an enlarging cross-section from a bottom to said rim portion.

37. The open top container according to claim **33**, wherein said bag is secured to said frame by means selected from the group consisting of glue, clamps, welds, welts, heat welds, pressings, staples, clips, folds, sutures and any combination thereof.

38. The open top container according to claim **33**, wherein a material of said bag is selected from the group consisting of hessians, paper, polyethylene, polypropylene, polythene, polyamide, polyurethane and any combination thereof.

39. The open top container according to claim **33** vertically stackable into a stack together with containers differing from said open top container, said open top container is provided with a plurality of adapting members **100** which are vertically mountable between said trays; said members are of a hollow elongate configuration; each elongate member has a longitudinal axis; each elongate member has a first terminal **110** and a second terminal **120**; said first terminal **110** has a taper head **130**; said taper head is provided with at least two off-axis pins **150** oppositely disposed relative to said axis; said second terminal **120** has at least one recess **170** within a wall of said second terminal; each tray of each type has a first side and a second side; each tray is provided with matching sites such that said matching sites located on said first side are configured for receiving said heads of said first terminals and said matching sites located on said second side are configured for receiving said recess of said second terminals.

40. An open top container for loading, storing and shipping goods in bulk, said container comprising a rigid structure further comprising

a. a rectangular frame **310** comprising at least four frame members defining a perimeter of said frame; and

b. four legs **300** extending from the four corners of said frame;

wherein said container is provided with a bag having a main portion **320** for accommodating said goods in bulk and a rim portion **330** of said bag; said rim portion is bent over said perimeter and mechanically secured to outer surface of said main portion of said bag such that said portion for accommodating said goods is downwardly housed into said rectangular frame.

41. The open top container according to claim **40**, wherein legs are provided with stacking means comprising male and female connectors disposed at opposite terminals thereof.

42. The open top container according to claim **40**, wherein said bag is of a rectangular cross-section.

43. The open top container according to claim **40**, wherein said bag is of an enlarging cross-section from a bottom to said rim portion.

44. The open top container according to claim **40**, wherein said bag is secured to said frame by means selected from the group consisting of glue, clamps, sutures and any combination thereof.

45. The open top container according to claim **40**, wherein a material of said bag is selected from the group consisting of hessians, paper, polyethylene, polypropylene, polyamide, polyurethane and any combination thereof.

46. The open top container according to claim **40** vertically stackable into a stack together with containers differing from said open top container, said open top container is provided with a plurality of adapting members **100** which are vertically mountable between said trays; said members are of a hollow elongate configuration; each elongate member has a longitudinal axis; each elongate member has a first terminal **110** and a second terminal **120**; said first terminal **110** has a taper head **130**; said taper head is provided with at least two off-axis pins **150** oppositely disposed relative to said axis; said second terminal **120** has at least one recess **170** within a wall of said second terminal; each tray of each type has a first side and a second side; each tray is provided with matching sites such that said matching sites located on said first side are configured for receiving said heads of said first terminals and said matching sites located on said second side are configured for receiving said recess of said second terminals.

47. An open top container for loading, storing and shipping goods in bulk, said container comprising a rigid structure further comprising a rectangular frame **400** comprising at least four frame members defining a perimeter of said frame; wherein said container is provided with a sheet **410** of flexible material mechanically secured to said frame.

48. The open top container according to claim **47**, wherein at least one of the following is true:

a. corners of said rectangular frame are provided with stacking means comprising male and female connectors disposed at opposite terminals thereof; and

b. a material of said bag is selected from the group consisting of hessians, paper, polyethylene, polypropylene and any combination thereof.

49. The open top container according to claim **47** vertically stackable into a stack together with containers differing from said open top container, said open top container is provided

with a plurality of adapting members **100** which are vertically mountable between said trays; said members are of a hollow elongate configuration; each elongate member has a longitudinal axis; each elongate member has a first terminal **110** and a second terminal **120**; said first terminal **110** has a taper head **130**; said taper head is provided with at least two off-axis pins **150** oppositely disposed relative to said axis; said second terminal **120** has at least one recess **170** within a wall of said second terminal; each tray of each type has a first side and a second side; each tray is provided with matching sites such that said matching sites located on said first side are configured for receiving said heads of said first terminals and said matching sites located on said second side are configured for receiving said recess of said second terminals.

50. A method of manufacturing an open top container configured for loading, storing and shipping goods in bulk; said method comprising the steps of

a. providing a rigid structure further comprising
   i. a rectangular frame comprising at least four frame members defining a perimeter of said frame; and
   ii. four legs extending from the four corners of said frame;
b. providing a bag having a main portion for accommodating said goods in bulk and a rim portion of said bag;
c. inserting said bag into said frame;
d. mechanically securing said bag rim said perimeter of said rectangular frame such that said portion for accommodating said goods is downwardly housed into said rectangular frame.

51. A method of manufacturing an open top container configured for loading, storing and shipping goods in bulk; said method comprising the steps of

a. providing a rigid structure further comprising
   i. a rectangular frame comprising at least four frame members defining a perimeter of said frame; and
   ii. four legs extending from the four corners of said frame;
b. providing a bag having a main portion for accommodating said goods in bulk and a rim portion of said bag;
c. inserting said bag into said frame;
d. bending said rim portion over said perimeter;
e. mechanically securing said bag rim to outer surface of said main portion of said bag such that said portion for accommodating said goods is downwardly housed into said rectangular frame.

52. A method of manufacturing an open top container configured for loading, storing and shipping goods in bulk; said method comprising the steps of

a. providing a rigid structure further a rectangular frame comprising at least four frame members defining a perimeter of said frame
b. providing a sheet of flexible material mechanically secured to said frame; and
c. mechanically securing said sheet of flexible material to said frame.

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