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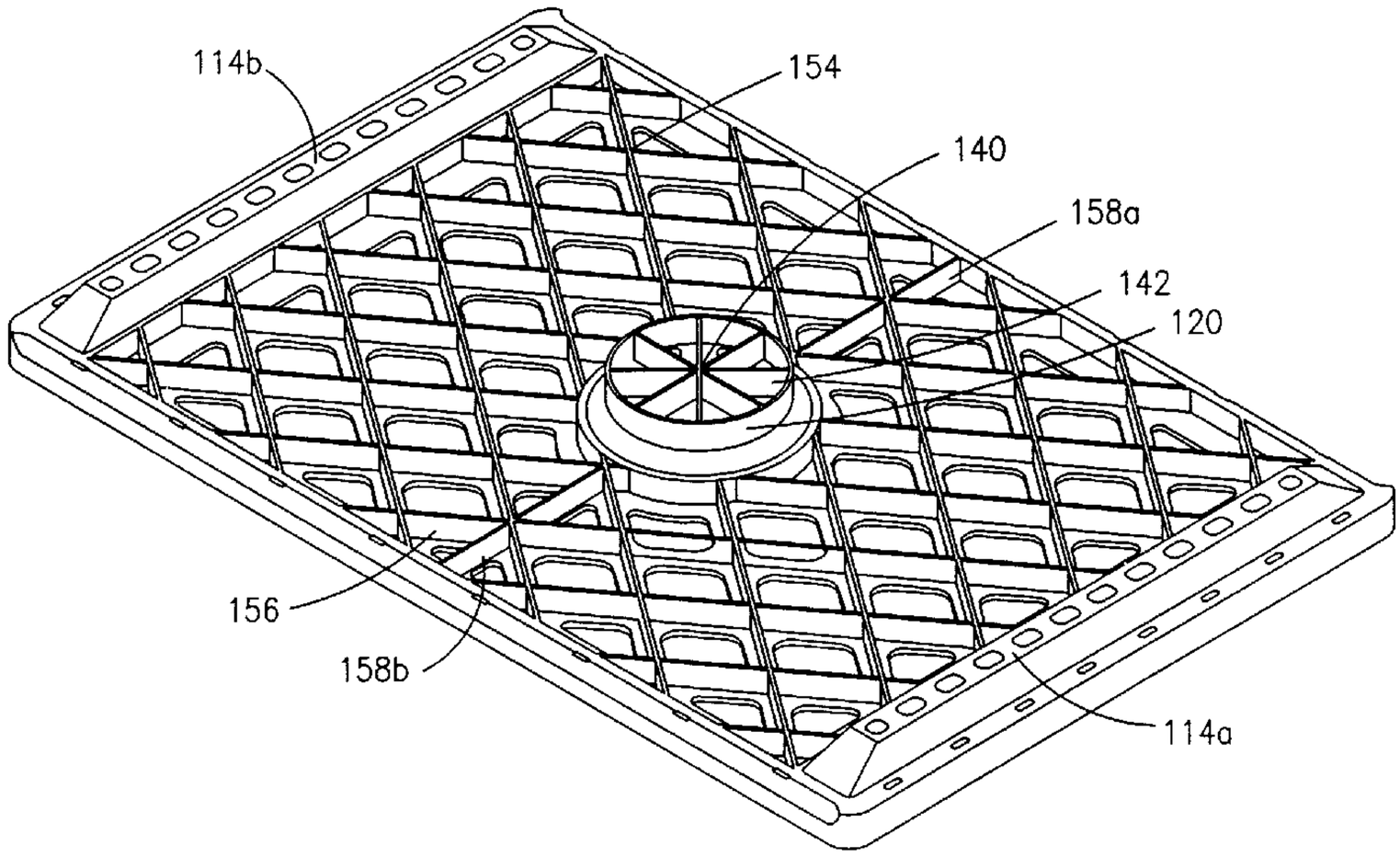
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(54) **PLATEAU D'EXPEDITION AMELIORE**
(54) **IMPROVED SHIPPING TRAY**



(57) The present invention provides a novel mini-pallet to create and organize product stacks. In a preferred configuration, the mini-pallet is a nestable lightweight shipping tray which provides a convenient means for handling packaged units, in particular packages of beverage containers. The mini-pallet can support loads at an elevation above a supporting surface through the use of a deck supported by two side legs and a central support. The legs are located to facilitate a user in positioning a carrier under the deck for transportation. The central support, in a preferred embodiment, compatibly fits with a designated opening in the lifting portion of the carrier. When not loaded, the mini-pallet is capable of "nesting" within another mini-pallet for convenient storage.

ABSTRACT

The present invention provides a novel mini-pallet to create and organize product stacks. In a preferred configuration, the mini-pallet is a nestable lightweight shipping tray which provides a convenient means for handling packaged units, in particular packages of beverage containers. The mini-pallet can support loads at an elevation above a supporting surface through the use of a deck supported by two side legs and a central support. The legs are located to facilitate a user in positioning a carrier under the deck for transportation. The central support, in a preferred embodiment, compatibly fits with a designated opening in the lifting portion of the carrier. When not loaded, the mini-pallet is capable of "nesting" within another mini-pallet for convenient storage.

IMPROVED SHIPPING TRAY

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates to an apparatus to facilitate the distribution of beverages, and particularly beverages with a limited shelf life or rapid sales turnover subject to frequent restocking, such as soft drinks. More particularly, the present invention relates to an improved shipping tray, which when utilized in its preferred embodiment, provides a nestable, lightweight shipping pallet of a moldable material.

Description of Related Art

One current method of beverage distribution essentially considers the beverage truck driver a salesman. The driver's truck is loaded with a selection of beverages, and the driver calls on accounts on a route. At each account, the driver determines what beverages are required or desired by the account, then the driver locates the beverages in his truck, unloads the beverages and delivers them to the account. This process would be relatively easy if only a single beverage were involved. For instance, if the driver only distributed a single brand of cola, his truck would be completely loaded with that one beverage, and it could be easily unloaded at each account, and accounts could be serviced until the truck was completely empty.

However, today beverage brands are proliferating. In addition, a single brand of beverage may come in a variety of package styles and sizes, such as cans, glass bottles, and a range of plastic containers. When a beverage truck is loaded, as many as 350 different stock keeping units (SKU's) or brand/container combinations may be loaded. In order to facilitate access to so many different

SKU's, the most common beverage route truck is a side load truck, such as disclosed in U.S. Patent No. 4,043,569 or variations thereof, with about 12 to 20 separate compartments. In this fashion, usually no more than about ten different SKU's would have to be placed in a single compartment, although in some instances over 30 SKU's may be present. After determining an account's needed beverages, the driver goes to each separate compartment required to access those beverages. In some cases it will be necessary for the driver to unload a portion of a compartment to access the needed SKU. Furthermore, when a single SKU is exhausted from the truck's supply, the driver may no longer be able to properly service the remaining accounts on the route, even though the truck continues to have an adequate supply of other beverages. This leads to trucks returning to the distribution center partially loaded, and places a valuable premium upon correctly guessing the needs of the accounts on each route. Even when side load trucks are loaded to exact route requirements from account order information, the process of having the driver select SKU's from side load truck compartments is time consuming and back breaking work.

Accordingly, as part of a new beverage delivery system to improve delivery service it is desirable to utilize an improved shipping tray. Utilizing the improved shipping tray, a truck may be loaded to specifically meet the orders of each account on a route and to minimize the time needed to select and unload the beverages ordered by each individual account. Individual trays may be loaded with packages, or individual, beverage containers of various sizes and quantities including, for example cases, 6-packs or 2-liter bottles. The packaged units may be stacked in bays in truck trailers or in special carts loaded on a truck and then driven to a delivery point. Packaged units may be loaded in columns onto shipping trays in the desired types and quantity to satisfy an order by a particular retail location. Once at the retail location, the driver can unload the stacked shipping trays with a compatible hand truck or other manual carrier. When unloaded at the retail location, the

shipping tray may be used as the base for floor displays of the beverage products. This prevents damage to the products from the cleaning and floor waxing operations in the retail location.

The shipping tray provides an accessible area, below the stacked units, to receive the lifting portion, or tongue, of a hand truck. Therefore, the hand truck can readily be positioned under the shipping tray with the stacked packaged units. The packaged units may then be simply rocked into position onto the hand truck, transported to the display location and unloaded in a similar fashion. This system avoids, or reduces, manual lifting and re-stacking by the driver. Since the shipping tray is designed to accommodate case sized layers of SKU's, the SKU's can be pre-arranged in a column-stack on the shipping tray.

It is therefore an object of the present invention to provide improved shipping trays to facilitate both the loading and unloading of trucks with beverages sorted by account order.

Another object of the invention is to provide a durable, lightweight shipping tray for handling and transporting packages or packaged units such as beverage containers.

A further object of the present invention is to provide a low profile, nestable shipping tray which occupies relatively little space both when in a loaded stacked relation and when in an empty nested relation.

A further object of the present invention is to provide a lightweight, reusable shipping tray that can be efficiently and economically manufactured.

An additional object of the present invention is to provide a lightweight shipping tray of unitary construction.

A further additional object of the present invention of the present invention is to provide an integrally molded plastic shipping tray that has sufficient structural integrity to withstand repeated and rough handling.

Another object of the present invention is to provide a lightweight shipping tray with a reinforced central support member formed from a moldable material.

Another object of the present invention provides an injection molded, durable shipping tray, preferably, a one-piece injection molded, durable shipping tray.

A still further object of the present invention is to provide a recyclable, lightweight shipping tray.

It is yet a further object of the invention to provide a novel pallet for use with a matching hand truck to facilitate the loading and unloading of beverage trucks with beverages sorted by account order.

SUMMARY OF THE INVENTION

The present invention recognizes and addresses these foregoing and other objects. The durable shipping tray of the present invention provides a convenient means for handling packaged units, in particular, packages of beverage containers. The lightweight shipping tray, or mini-pallet, can support stacked packages of beverage containers at an elevation above the floor. The primary surface or deck of the mini-pallet is substantially open, generally planar and is supported at this elevation by at least two side legs positioned proximate with the sides of the deck and a leg positioned about the center of the deck. The legs are arranged so that a portion of a carrier, such as a hand-truck, can readily be positioned sufficiently with a portion of the carrier underneath the deck to provide stable support during lifting and transporting operations. The center leg is shaped and sized to compatibly fit within a designated opening in the lifting portion of the carrier.

In the preferred embodiment, the center leg presents a continuous surface such that the carrier can be laterally moved unhindered about the leg while being positioned. Furthermore, the center legs is configured to interact with the carrier to guide and maintain the mini-pallet in a proper position

on the carrier. Also in the preferred embodiment, the deck has a lattice-like configuration with a pattern of open spaces which not only allows liquids to drain through, but also requires less material and is lighter than a solid deck.

The preferred embodiment has at least two side legs configured in the shape of rails extending a substantial width of the deck to not only provide a broad support area for the deck, but also a large surface area along the underside of the legs to enhance the wearability of the legs. A further feature of the preferred embodiment is nesting pockets for receiving the legs of an identical tray stacked thereon such that mini-pallets can be nested together.

Additional objects and advantages of the invention will be set forth in part in the following description or accompanying drawings, or may be learned through the practice of the invention.

The accompanying drawings which are incorporated in and constitute a part of the specification, illustrate several embodiments of the invention and together with the description serve to explain the principles of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1A is a perspective view of a mini-pallet in accordance with the present invention depicted with a hand truck;

Figure 1B is a top perspective view of a mini-pallet of Figure 1A with packages positioned thereon shown in phantom;

Figure 1C is a bottom perspective view of the mini-pallet of Figure 1A;

Figure 2A is a top plan view of the mini-pallet of Figure 1A;

Figure 2B is a bottom plan view of the mini-pallet of Figure 1A, with tongue of a hand truck shown in phantom;

Figure 3 is a front elevational view of the mini-pallet of Figure 1A;

Figure 4 is a side elevational view of the mini-pallet of Figure 1A;

Figure 5 is a sectional view taken along line 5-5 of Figure 2A;

Figure 6 is a sectional view taken along line 6-6 of Figure 2A;

Figure 7 is a partial sectional view taken along line 7-7 of Figure 2B;

Figure 8 is a front elevational view showing a plurality of mini-pallets in a stacked, nested disposition.

DETAILED DESCRIPTION OF THE DRAWINGS

Reference will now be made in detail to the presently preferred embodiments of the invention, one or more examples of which are illustrated in the accompanying drawings. Each example is provided by way of explanation of the invention, not limitation of the invention. In fact, it will be apparent to those skilled in the art that modifications and variations can be made in the present invention without departing from the scope or spirit thereof. It is intended that the present invention covers such modifications and variations as come within the scope of the appended claims and their equivalents.

The present invention is concerned with an improved shipping tray or "mini-pallet." This invention can be adapted to hold numerous types of items and is especially adaptable for depicted packaged units, for instance, packaged units of beverage containers. A preferred embodiment of the mini-pallet **100** in accordance with the present invention, is in Figures 1 through 8. The mini-pallet **100** is capable of supporting individual stacks or column stacks, of various units of packaged beverage containers. The deck **102** of lightweight mini-pallet **100** can support stacked packaged units of beverage containers at an elevation above the floor.

Although the mini-pallet **100** may be formed from several connected parts, the mini-pallet **100** is preferably an integrally-molded, unitary article. The mini-pallet **100** may be injection

molded in one-piece from moldable materials such as plastics. Moldable materials may include recyclable materials such as thermoplastics and may include at least in part recycled materials. Preferably, the mini-pallet **100** is formed entirely from polyolefin polymers including polyethylene and/or polypropylene free of fillers or other reinforcing materials.

Accordingly, Figures 1B and 2A show the mini-pallet **100** comprising a deck **102** which, in a preferred embodiment, is a rectangular upper open work planar surface. In the presently preferred embodiment, the dimensions of the deck **102** are approximately 11" x 17" in size. This size has been determined adequate to accommodate a case of twelve ounce beverages and other equivalent SKU package sizes. The perimeter of the deck **102** may include a double-wall edge **128** shown in detail in Figures 5 and 6, that not only strengthens the deck **102**, with respect to loads normal to the deck surface, but also provides a durable edge against impacts which may occur during handling. The double-wall edge **128** extending along the front and back **104**, **105** of the deck **102** are upwardly opening, and U-shaped. These U-shaped edges have a rounded on beveled lower exterior **108**. On the sides **110a**, **110b** of the deck **102**, the double-wall edge **128** has a downwardly opening U-shaped transverse cross-sectional shape **112** to prevent trapping materials within this double-wall edge **128**, as shown in Figure 5.

In Figures 1B and 2B spaced along the double-wall edge **128** are a series of stiffening ribs **150** extending between the inner and outer walls of the double-wall edge **128.** In addition, there are a series of drain holes **152** extending through the double-wall edge **128** in a direction perpendicular to the deck **102** to allow any liquids that may accumulate on the surface or within the edge to drain. These stiffening ribs **150** and drain holes **152** are longitudinally spaced along the double-wall edge **128** in an alternating fashion.

As best shown in Figures 1B and 1C, the balance of the deck **102**, in a preferred embodiment,

is composed of a system **154** of interconnecting, spaced-apart support members **156** which form a grid-like pattern, within the plane of the deck **102**, connecting the central support **120**, which is preferably a cylindrical leg, and rails **114a**, **114b** with the double-wall edge **128.** The support members **156** have a T-shaped transverse cross-sectional shape, as shown in Figure 5. For the maximum strength/weight performance, the support members **156** will be comprised of a horizontal portion **157a** above a vertical portion **157b** as illustrated in Figure 6. The horizontal portion **157a** forms the deck **102** while the vertical portion **157b** provides strength and rigidity to support the deck. The upper surface of the deck **102** is composed of two series of intersecting spaced-apart parallel support members **156** extending diagonally within the double-wall edge **128** that intersect at an angle dictated by the overall dimension of the deck **102.** In a preferred embodiment, the deck comprises an additional support members **158a, 158b** extending radially outward from the central support **120** intersecting with interposing diagonally arranged support members **156** and terminating perpendicularly along the center of the front and back double-walled edge **104, 105**, respectively. The deck **102** preferably contains many openings not only to reduce the amount of material used in manufacture, but also to permit easy drainage for any inadvertent beverage leakage.

Proximate with the sides **110a, 110b** of the deck **102**, there are a pair of downwardly projecting rails **114a, 114b** which act as support rails or legs. The downwardly projecting rails **114a, 114b** extend a substantial width of the deck **102** in a direction parallel with the lateral sides. Preferably, each rail **114a, 114b** has a corresponding rail pocket **116a, 116b** opening upwardly through the upper surface of the deck.

Positioned about the center of the deck **102**, projecting in the same direction and approximately the same distance below the bottom surface of the deck **102** as the rails **114a, 114b,** is a central support **120.** In the preferred embodiment, the central support **120** is cylindrical having

an outside diameter compatible with a cutout portion **21** of a tongue **20** in a compatible hand-truck **10** used as a carrier for the mini-pallet **100**, as shown in Figures 1A and 2B. The preferred shape of the central support **120** is that of a cylinder, but it should be obvious to one skilled in the art that the central support **120** could be rectangular, polygonal arcuate other than circular or any other shape desired. In fact, the outer edge of the central support **120** need not have a continuous outer perimeter at all but could be comprised of multiple elements.

The circular shape allows for easy positioning of the tongue **20** of the carrier **10** about the central support **120**. A multi-sided polygon could easily provide the same function, however, angular supports appear to wear more rapidly. In an alternatively preferred embodiment, an even-numbered polygonal shaped central support **120** provides a similar aspect towards the front as well as to the back of the mini-pallet **100.** This allows a single carrier to be utilized to pick up a loaded mini-pallet **100** from the front or from the back. The diameter of the central support **120** in the preferred embodiment is approximately 3 inches. The lower surface of the rails **114a**, **114b** and the central support **120** form a plane upon which the mini-pallet **100** contacts the supporting surface (such as the floor or a base of a mobile container). In the preferred embodiment, when the plane of the lower surface of the rails **114a**, **114b** and the central support **120** is in contact with a supporting surface, approximately 3/4" clearance is provided for the deck **102** to be supported above the supporting surface. This provides adequate clearance for the tongue **20** of a hand truck **10**.

The outside diameter of the central support **120** will be determined with respect to the opening **21** in the lifting tongue **20** on the carrier designed for use with the mini-pallet **100**, as shown in Figure 2B. Suitable carriers for this purpose may include customized hand-trucks, designed so that when the tray **100** is in the carrying position on the hand-truck **10** the tongue **20** extends sufficiently under the mini-pallet **100** to provide adequate support. A suitable hand-truck is the

narrow aisle configuration of hand-truck model number B16-D-1040-C45-62 available from MagLine, Inc.. Preferably, the tongue **20** interacts with the mini-pallet **100** such that when they are properly positioned the tongue **20** of the hand-truck **10** extends beyond the centerline of the mini-pallet 100. Typically, the central support **120** will be slightly smaller than the opening **21** in the tongue **20** so the tongue **20** and central support **120** can interact to guide and maintain the mini-pallet **100** centered on the carrier. The mating aspect of the tongue **20** and central support **120** is also intended to discourage pilferage as the center segment **72** of mini pallets **120** will not permit a non-compatible handcart tongue to reach under to even the midpoint of the pallet **100**. This will make use of the pallets **100** with non-compatible hand trucks difficult.

As shown in a preferred embodiment in Figure 5, there is an upwardly opening cylindrical pocket **122** in the upper surface of the deck **102** positioned about the center of the deck **102.** The upwardly opening cylindrical pocket **122** has a base **124** parallel with the deck **102** and a generally cylindrical side wall **126** extending perpendicularly from the top surface of the deck **102** to the base **124.** The base **124** of the cylindrical pocket **122** is a substantially continuous web comprising a series of drain holes **136.** It should be apparent to one skilled in the art that cylindrical pocket **122** need not be circular in shape, but may take any shape. In a preferred embodiment, when nesting mini-pallets, the cylindrical pocket **122** receives a portion of a central support **120** of the next upward mini-pallet **100** as illustrated in Figure 8.

Coaxial with the cylindrical pocket **122** and extending from the underside of the base **124** is a central support **120.** The central support **120** projects in the same direction and to substantially the same distance below the bottom surface of the deck **102** as the rails **114a, 114b**. The support base **118a, 118b** of the rails **114a, 114b** and the distal end **144** of the central support **120** as shown in Figure 3 define a plane upon which the mini-pallet **100** contacts the floor or other supporting

surface.

As shown in Figures 4 and 5, the ends of the rails **114a, 114b** extend upwardly and outwardly to form an end bevel **134** which assists in guiding the rails **114a, 114b** into a corresponding rail pockets **116a, 116b** of an identically shaped mini-pallet **100**, upon which it is to be nested, during stacking nested pallets as shown in Figure 8. The degree of bevel in the preferred embodiment is approximately 45 degrees. As shown in Figure 4, the rail end bevel **134** angles inward from the front and back edges of the deck **102.** This not only minimizes the chances of strikes from the carrier but also reduces the force from such a strike by deflecting the impact downwardly. Preferably, the angle of the bevel **134** is such that it not only assists in positioning a leg, or rail **114a, 114b** within a corresponding mini-pallet **100**, during stacking, but also minimizes the lateral movement of the mini-pallets **100** once in a nested position.

As shown in Figure 7, the support base **118a** of the rail **114a** is substantially formed from a series of spaced apart bridging ribs **130** extending between the opposing sides of the given rail **114a, 114b**. These bridging ribs **130** have an essentially inverted T-shaped transverse cross-sectional shape, comprising a horizontal base **131a** and a vertical support member **131b**. These inverted T-shaped bridging ribs **130** provide a substantial areas of material from their horizontal sections **131a** to form the support base **118a**, and added strength through the vertical sections **131b**. This offers a support base with superior rigidity. Positioned along the support base between the bridging ribs **120** is at least one drain hole **132** which communicates between the rail pocket **116a** and the outer surface of the rail **114a**.

The top surfaces of the vertical sections **131b** of the bridging ribs **130** may be coplanar with the upper surface of the base **124** of the cylindrical pocket **120** and together form a stop means. When two or more mini-pallets **100** are nested the support bases **118a, 118b** of an upper mini-pallet

100 rest upon the upper surface of the bridging ribs **130**, as shown in Figure 8. Similarly, the distal end **144** of the cylindrical leg **120** will rest upon the base **124** of the lower mini-pallet **100**.

As shown in Figure 8, the rails **114a**, **114b**, rail pockets **116a**, **116b**, central support **120** and cylindrical pocket **122** combine, in the preferred embodiment, to provide the nesting capability of the mini-pallet **100**. The term "nesting" refers to the ability of one mini-pallet **100** to be positioned on top of another so that the vertical components of the two mini-pallets **100** are such that the overall height is less than the sum of the height of the individual mini-pallets **100**. For instance, the rails **114a**, **114b** and rail pockets **116a**, **116b** may be tapered, as shown in Figures 3 and 5, so that the upper end of a rail pocket **116a** or **116b** defines an area larger than, and therefore capable of, receiving the lower portion of the rail **114a**, **114b**. Similarly, the inside diameter of the cylindrical pocket **122** should be sufficiently large enough to accommodate the outside diameter of the central support **120**, as shown in Figure 5.

In order to provide a secure fit when nesting multiple mini-pallets **100**, a preferred embodiment shown in Figure 2A utilizes fitting beads **170** and fitting teeth **172** located either within, or in close proximity to the rail pockets **116a**, **116b**. The fitting beads and/or fitting teeth of a first mini-pallet **100** will contact a rail **114a**, **114b** when a second mini-pallet **100** is nested atop the first mini-pallet **100**. The fitting beads **170** may restrict side-to-side movement of a nested mini-pallet **100**. The fitting teeth **172**, may restrict front to back movement of a nested mini-pallet **100**. One skilled in the art will know that restricting movement in one direction will likely result in restriction in movement in a perpendicular direction as well. Therefore fitting beads **170** will likely restrict movement of a nested mini-pallet from front-to-back as well as from side-to-side. It should be evident to one skilled in the art that the fitting teeth **172** and fitting beads **170** need not be utilized together in a single rail pocket **116a**, **116b**. It should also be obvious to one skilled in the art that

the fitting beads **170** and fitting teeth **172** may be utilized singularly rather than in multiples as depicted in the drawings. Fitting beads **170** and fitting teeth **172** are fabricated as an integral part of the mini-pallet **100** in a presently preferred embodiment, however, one skilled in the art will know that other materials such as rubbers, other plastics, etc., may be utilized. Fitting teeth **172** may also engage with notches **174** and the end levels **134** of rails **114a, 114b** as shown in Figure 3.

In a presently preferred embodiment, concentrically positioned inside the central support **120** is a cylindrical support **140**. Extending radially from the cylindrical support **140** outwardly to the central support is a series of spaced apart reinforcing ribs **142**, as shown in Figure 2B. The combination of the radially extending ribs **142** and cylindrical support **140** combine to provide a lateral support structure for the central support **120** which improves its ability to withstand forces imposed transverse to its axis. For instance, the force imparted by the tongue of a carrier during transport of the mini-pallet **100** with stacked beverage containers or empty mini-pallets **100** positioned thereon. Typically, the central support **120** and radially extending ribs **142** will extend from the plane defined by the distal end **144** of the cylindrical leg **120** up to the base **124** of the cylindrical pocket. Additionally, in a preferred embodiment, aside from the radially extending reinforcing ribs **142** and the cylindrical support **140**, the interior of the central support **120** is downwardly open from the underside of the cylindrical base so as to prevent trapping of debris within the leg.

We claim:

1. A mini-pallet comprising:

a substantially rectangular deck having an upper surface and having a perimeter comprising at least one double wall edge;

two downwardly projecting rails connected to said deck,

a downwardly projecting central support connected to said deck, and located intermediate of said two downwardly projecting rails.

2. The mini-pallet of claim 1 wherein said deck, said downwardly projecting rails and said central support are integrally connected.

3. The mini-pallet of claim 1 wherein said deck has two lateral sides which are approximately parallel and said downwardly projecting rails extend substantially a width of the deck in a direction parallel with said two lateral sides.

4. The mini-pallet of claim 3 wherein said vertical support is less than half the width of the deck in a direction parallel with said two lateral sides.

5. The mini-pallet of claim 1 wherein said at least one double-wall edge further comprises at least two stiffening ridges longitudinally spaced along and connected to said at least one double-wall edge.

6. The mini-pallet of claim 5 wherein said double-wall edge has a U-shaped transverse cross-section, and further comprises at least two drain holes located on said at least one double-wall edge.

7. The mini-pallet of claim 1 wherein said deck further comprises a plurality of spaced-apart linear support members and at least two openings providing communication from the upper surface through the deck.

8. The mini-pallet of claim 7 wherein said linear support surfaces have a horizontal deck forming portion and a vertical reinforcing portion.

9. The mini-pallet of claim 7 wherein said linear support members have a T-shaped cross-sectional shape.

10. The mini-pallet of claim 7 wherein said deck further comprises a plurality of radially extending reinforcing ribs.

11. The mini-pallet of claim 7 wherein said spaced-apart linear support members form a grid-like pattern among said openings connecting said central support, said downwardly projecting rails, and said double-wall edge.

12. The mini-pallet of claim 1 further comprising a rail pocket opening upwardly through the upper surface of said deck, compatible with a downwardly projecting rail of a similarly shaped mini-pallet, and adapted to receive at least a portion of said similarly shaped mini-pallet rail when multiple mini-pallets are nested.

13. The mini-pallet of claim 12 further comprising a fitting bead within the rail pocket configured to contact a similarly configured mini-pallet's downwardly projecting rail when the similarly configured mini-pallet is nested atop the mini-pallet.

14. The mini-pallet of claim 12 further comprising a fitting tooth within the rail pocket configured to contact a similarly configured mini-pallet's downwardly projecting rail when the similarly configured mini-pallet is nested atop the mini-pallet

15. The mini-pallet of claim 1 wherein said downwardly projecting rails further comprise at least two lateral walls with bridging ribs, a horizontal base to form a lower surface of said projecting rails, and a vertical support member.

16. The mini-pallet of claim 15 wherein said bridging ribs have an inverted T-shaped cross-

section.

17. The mini-pallet of claim 1 wherein said central support has a substantially continuous circular outer perimeter.

18. The mini-pallet of claim 1 wherein said central support has a substantially continuous arcuate outer perimeter.

19. The mini-pallet of claim 1 wherein said central support has an outer edge defining an even-sided polygon.

20. The mini-pallet of claim 1 wherein said central support is compatible with a recessed portion in a tongue of a carrier.

21. The mini-pallet of claim 1 further comprising a pocket on the upper surface of the deck coaxial with said central support and adapted to receive at least a portion of a similarly shaped mini-pallet's central support when multiple mini-pallets are nested.

22. The mini-pallet of claim 2 wherein said pocket further comprises reinforcing ribs connected to an interior surface of said pocket.

23. A shipping tray comprising:

a deck having a pair of opposing lateral sides, said opposing lateral sides being substantially parallel;

a plurality of downwardly extending legs proximate with said opposing lateral sides;

a central support extending downwardly from about the center of said deck;

said deck above at least a portion of said plurality of legs and said central support;

said central support having an exterior surface, and a pocket capable of receiving at least a portion of a similarly configured second shipping tray's central support when said second shipping tray is nested atop the shipping tray.

24. A tray comprising:

a deck;

two legs extending from a bottom surface of said deck;

two rail pockets located on a top surface of said deck and compatible to receive at least a portion of a similarly shaped tray's legs when said trays are stored in a nested position;

a central support located near the center of said deck, extending from a bottom surface of said deck, and having an outer perimeter portion compatible with a portion of a tongue of a carrier; and

a cylindrical pocket located on a top surface of said deck compatible to receive at least a portion of a similarly shaped tray's central support when said trays are in a nested position.

25. A method for distributing beverages from a truck utilizing at least one mini-pallet of the type having a deck having two downwardly projecting rails, a downwardly projecting central support intermediate the two downwardly projecting rails, and a pocket coaxial with said central support adapted to receive at least a portion of a similarly shaped mini-pallet's central support when multiple mini-pallets are nested, said method consisting of the following steps:

a. loading the mini-pallet with at least a part of a customer order to form a beverage stack;

b. placing the pallet on a truck

c. driving the truck having at least one beverage stack to a desired location;

d. placing a tongue of a hand-truck under the mini-pallet, said tongue having a compatible recess adapted to coordinate with the central support of said mini-pallet;

e. lifting said mini-pallet with the hand-truck into a loaded position;

f. maneuvering said loaded hand-truck towards an open door of said truck;

g. off-loading said loaded hand-truck from said truck; and

h. maneuvering said hand-truck to an intended location.

i. unloading said beverage stack from said hand truck.

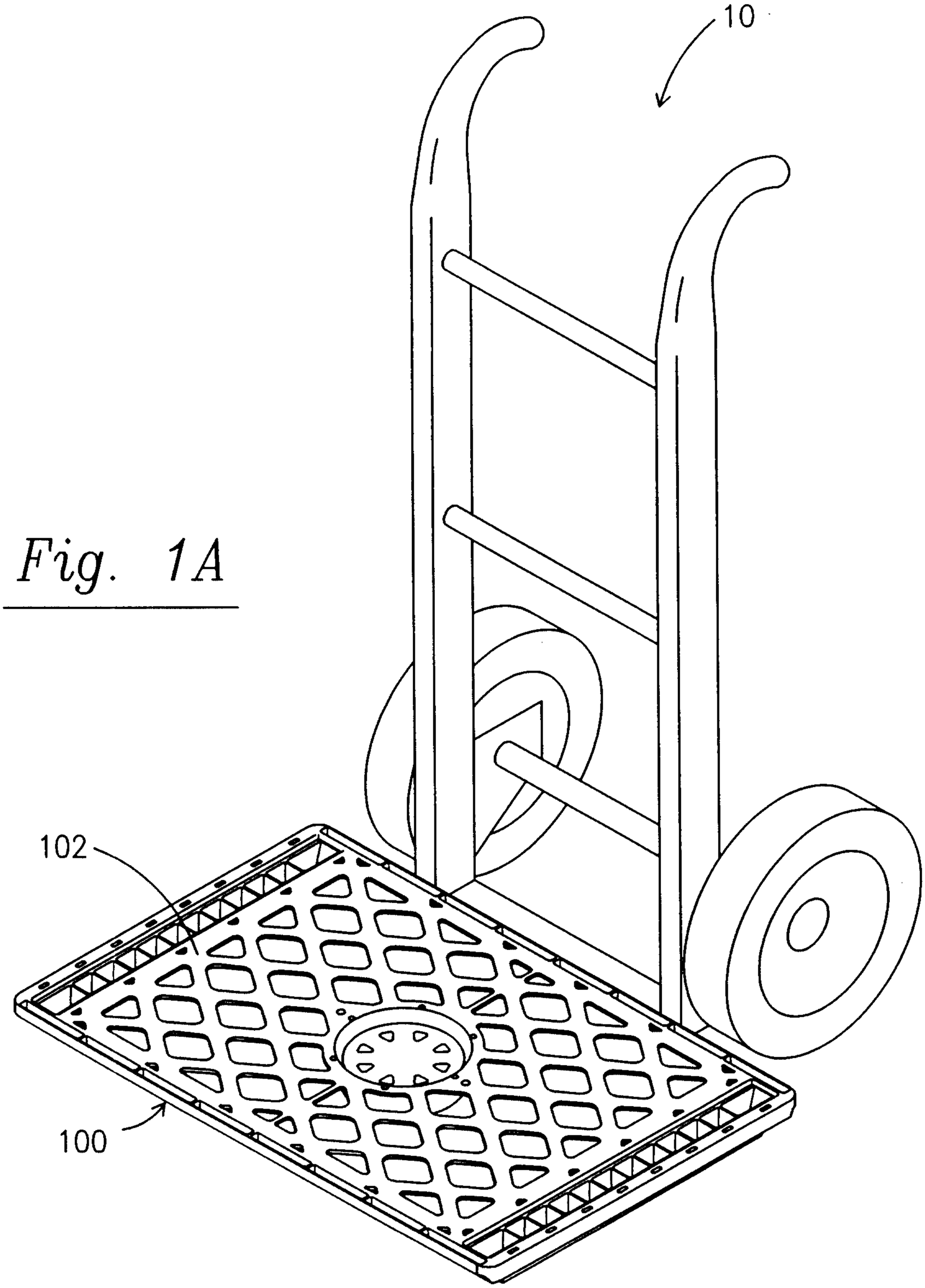


Fig. 1A

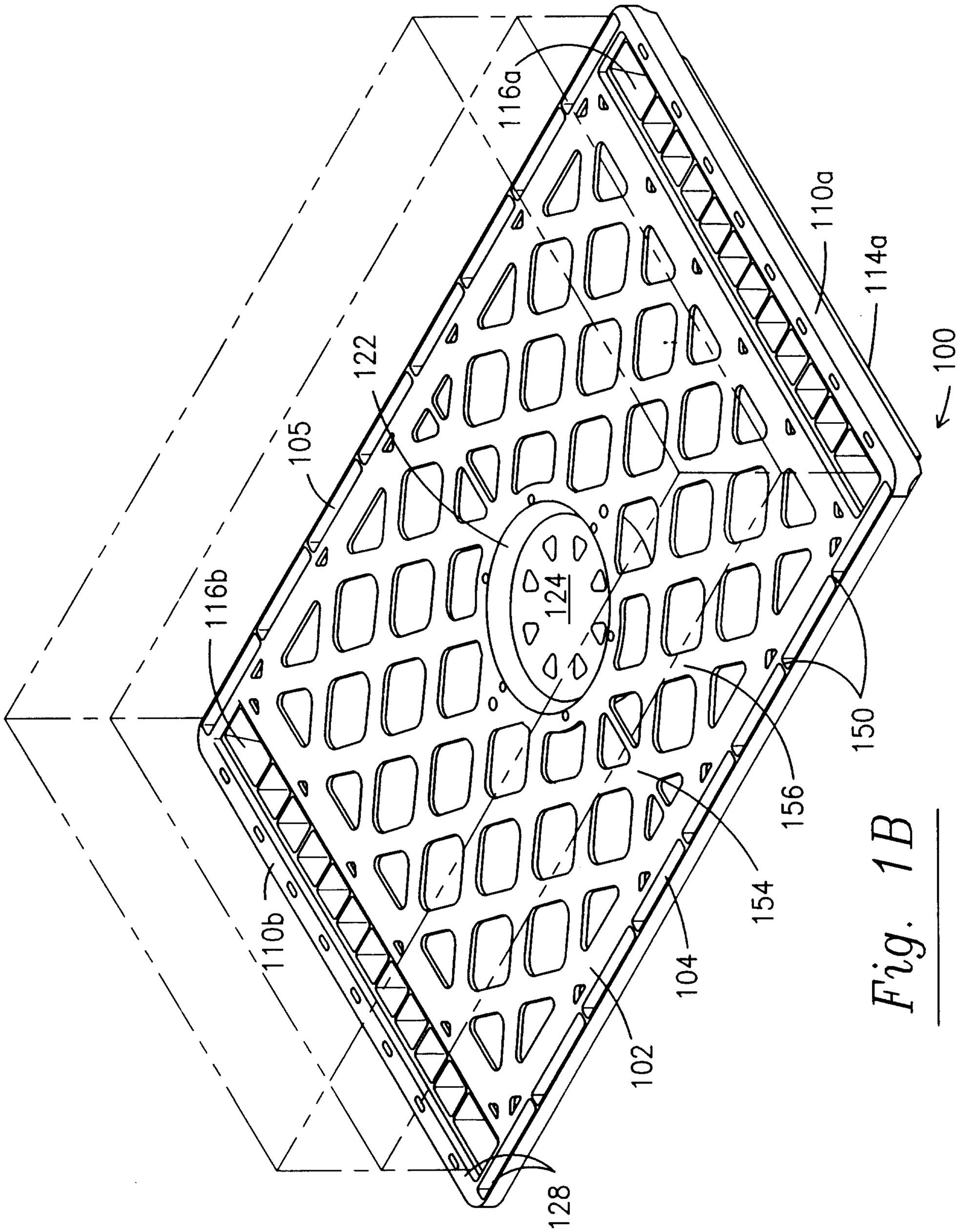

116a
122
105
116b
110b
128
102
104
154
156
124
150
114a
110a
100

Fig. 1B

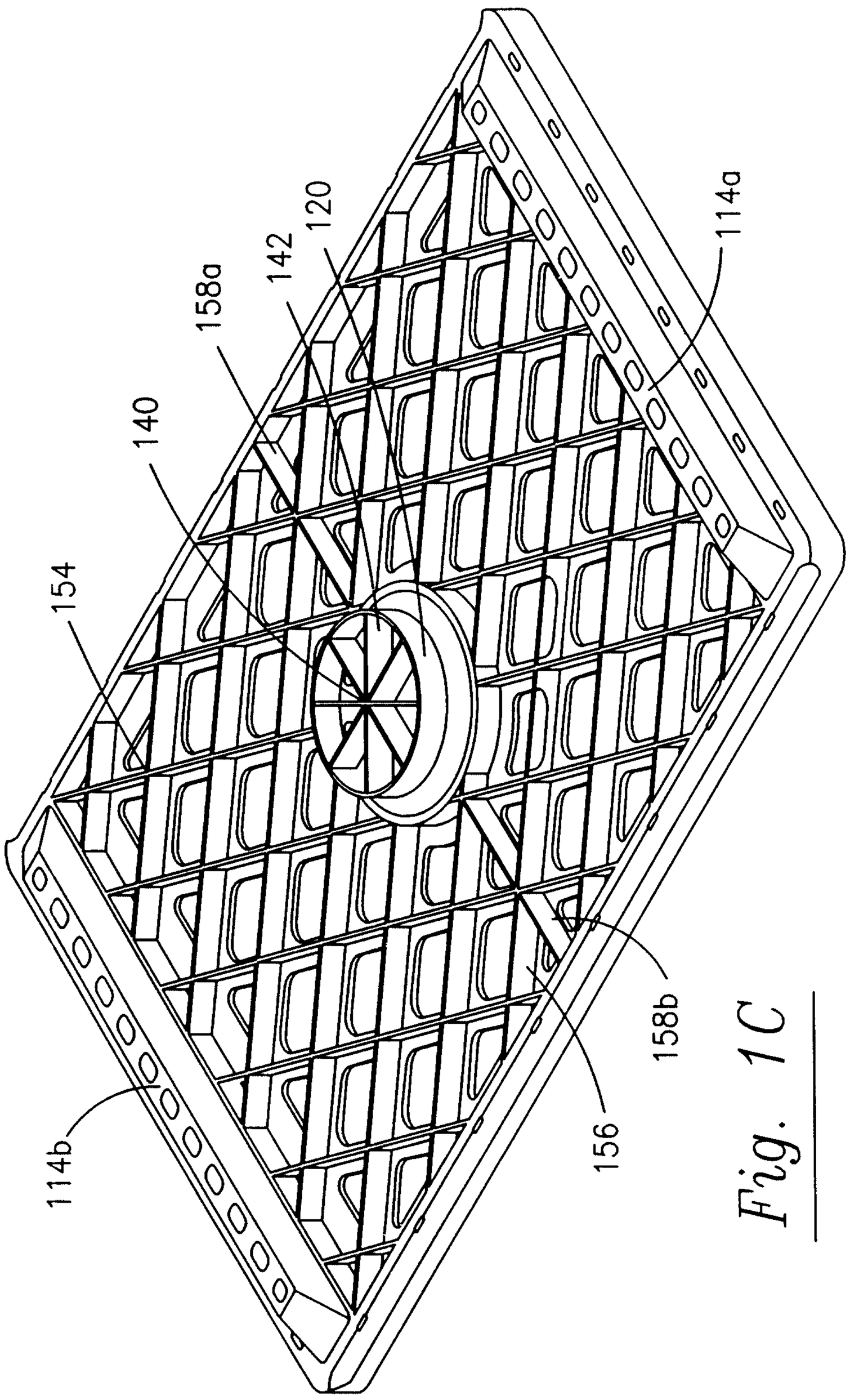


Fig. 1C

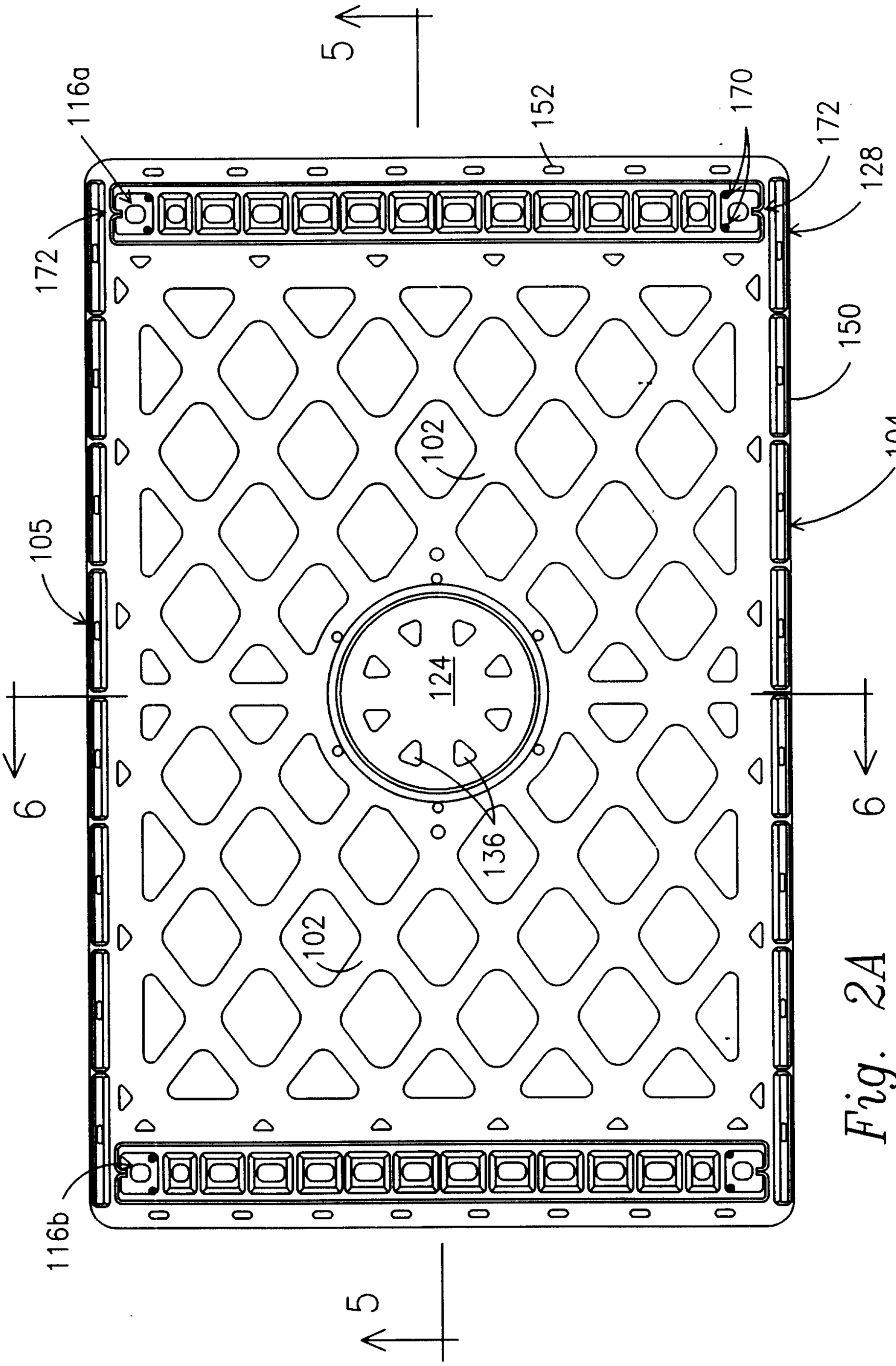


Fig. 2A

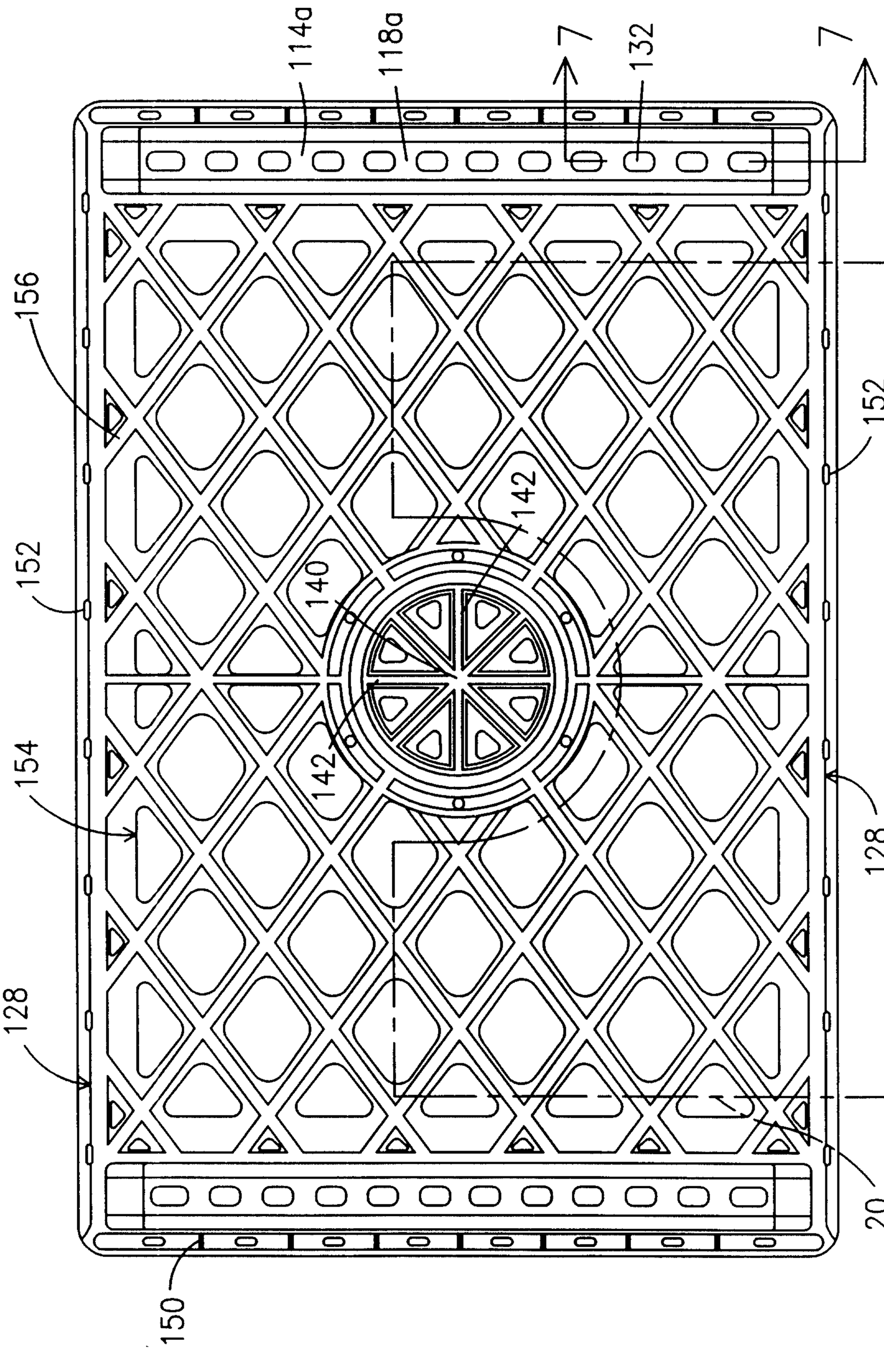


Fig. 2B

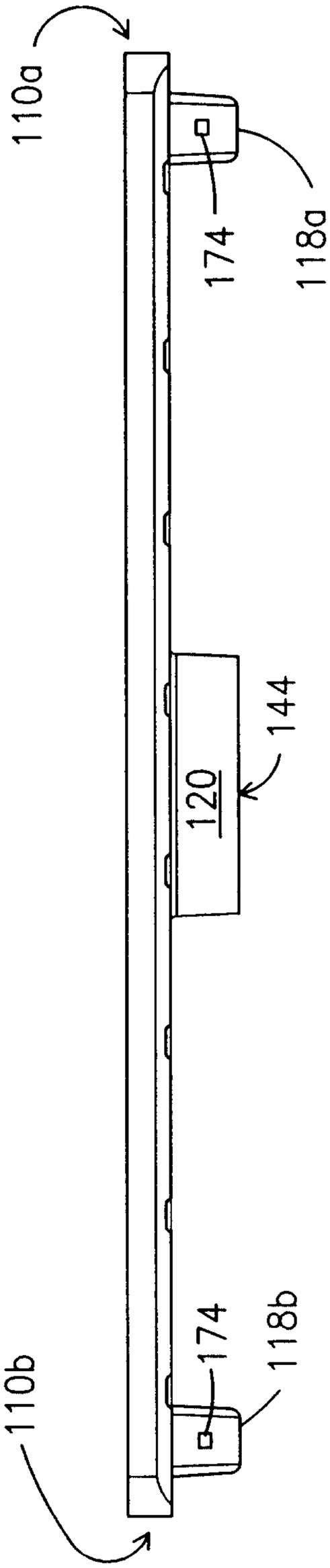


Fig. 3

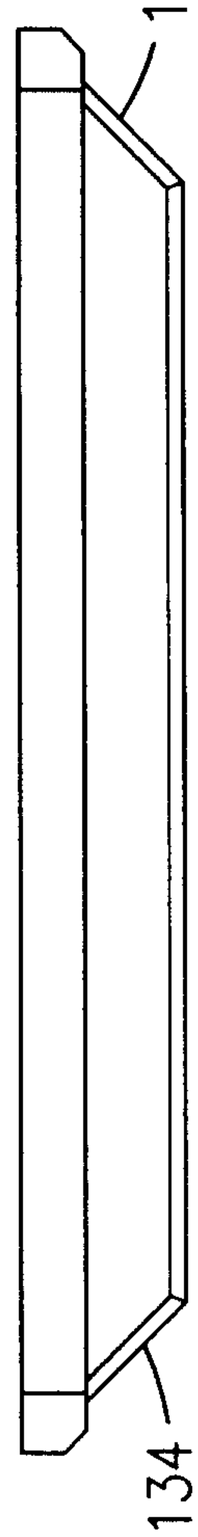


Fig. 4

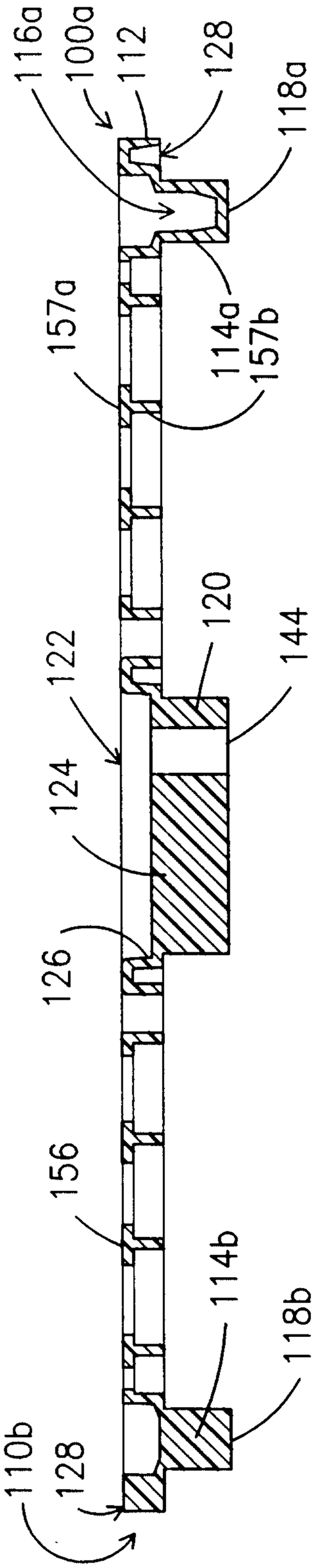

116a
100a
112
128
118a
157a
114a
157b
120
122
144
124
126
156
114b
118b
110b
128

Fig. 5

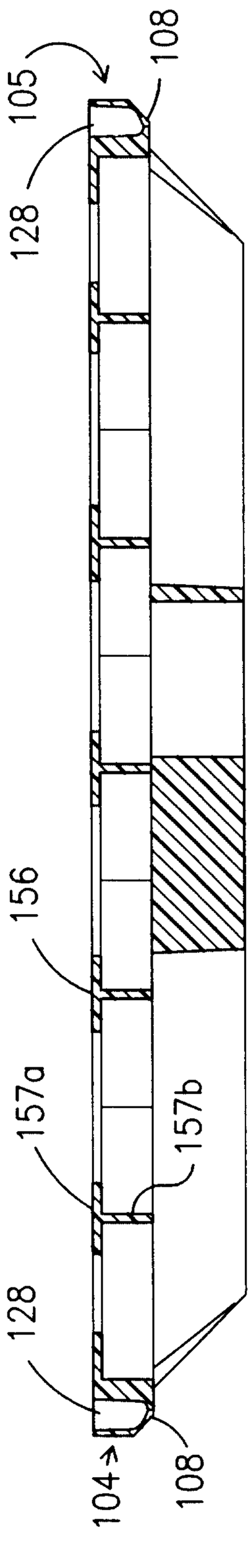

105
108
128
156
157a
157b
128
104
108

Fig. 6

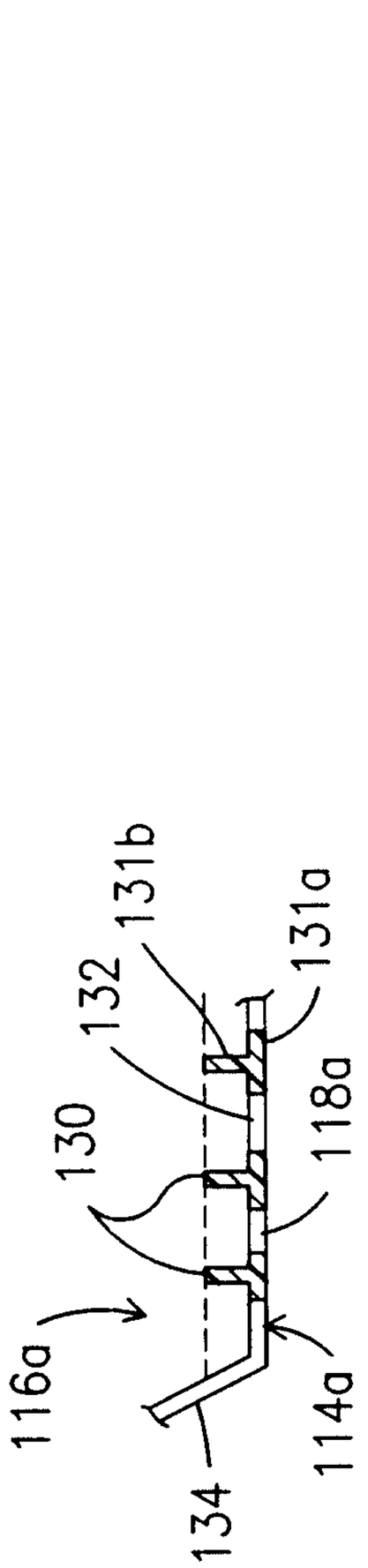

130
132
131b
131a
118a
116a
134
114a

Fig. 7

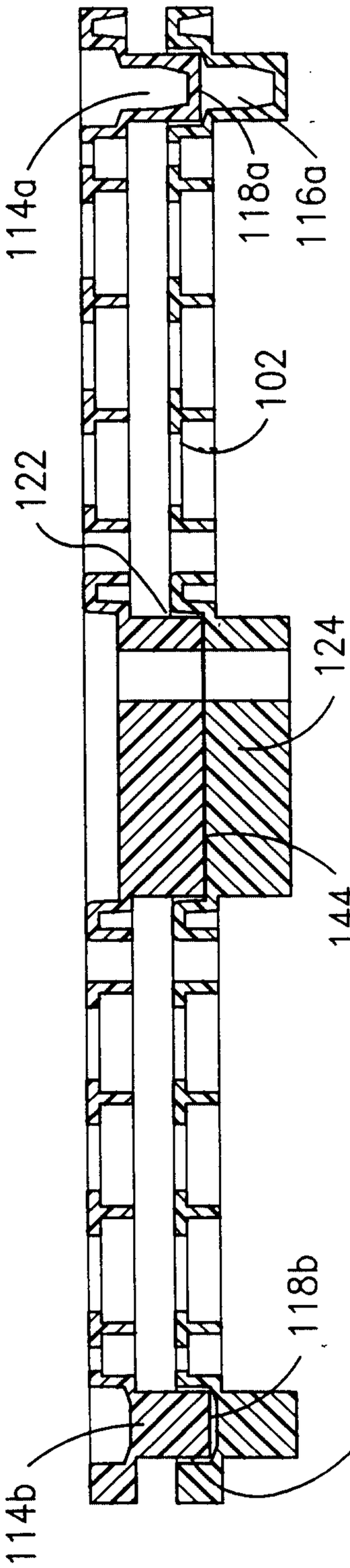

114a
118a
116a
102
122
124
144
118b
116b
114b

Fig. 8