(12) STANDARD PATENT APPLICATION (11) Application No. **AU 2015201241 A1**
(19) AUSTRALIAN PATENT OFFICE

(54) Title
Cross Stackable Trays and Blanks Therefor

(51) International Patent Classification(s)
B65D 21/032 (2006.01) ***B65D 5/28*** (2006.01)
B65D 5/20 (2006.01) ***B65D 21/02*** (2006.01)

(21) Application No: **2015201241** (22) Date of Filing: **2015.03.10**

(30) Priority Data

(31) Number	(32) Date	(33) Country
2014900823	**2014.03.11**	**AU**

(43) Publication Date: **2015.10.01**
(43) Publication Journal Date: **2015.10.01**

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ABSTRACT

A carton comprises a base, opposed side walls and opposed end walls. The carton has upstanding corner tabs on the corners thereof. The carton includes recesses or slots on corners of the base, the recesses or slots on the corners of the base being adapted to receive the upstanding corner tabs of an underneath carton stacked underneath when the carton and the underneath carton are stacked such that respective bases thereof are generally aligned. The base also includes corner tab receiving openings for receiving corner tabs of a plurality of underneath cartons that are stacked underneath the carton when the carton and an underneath cartons are stacked crosswise with respect to each other. A blank for the carton is also provided. Separate blanks may be used to form pillars in the erected carton.

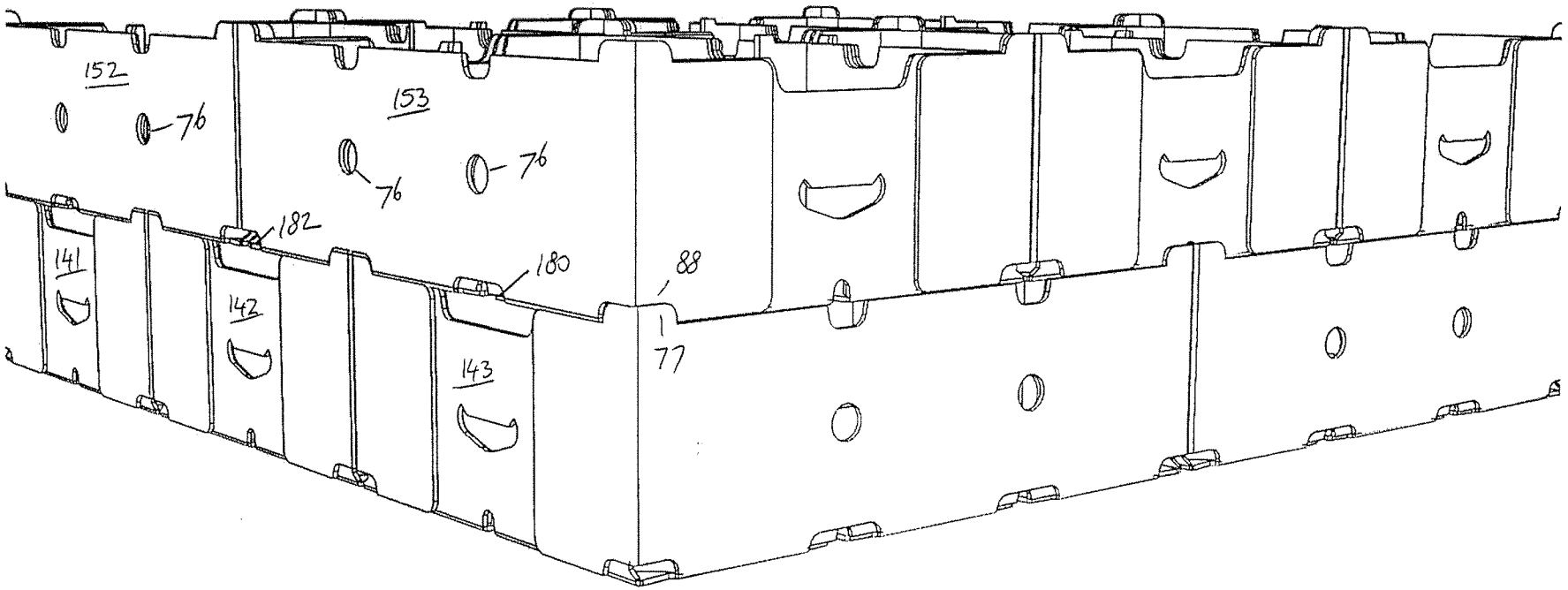

Fig 11

TITLE

Cross stackable trays and blanks therefor.

TECHNICAL FIELD

[0001] The present invention relates to cartons, such as cartons made from paperboard or cardboard. The carton may be erected from a blank. The cartons may be stackable both lengthwise and crosswise.

BACKGROUND ART

[0002] Cartons and trays are widely used for storage and transport of items. Cartons and trays that are made from paperboard or cardboard are widely used. Such cartons and trays are typically erected from a flat blank. The blanks are supplied in flat form as they occupy significantly less volume in that form. When it is desired to use a carton or a tray, the blank is folded into its erected shape. Glue may be used to retain the carton or tray in its erected shape. Some cartons and trays are erected from blanks that contain two or three (or more) blank pieces.

[0003] Once the cartons and trays have been erected and filled with produce, it is often desired to form a stack of cartons or trays. For example, a stack of cartons or trays may be formed on a transport pallet for ease of storage and transport.

[0004] It will be clearly understood that, if a prior art publication is referred to herein, this reference does not constitute an admission that the publication forms part of the common general knowledge in the art in Australia or in any other country.

SUMMARY OF INVENTION

[0005] The present invention is directed to a carton and to a blank for erecting a carton therefrom, which may be cross-stackable or provide the consumer with a useful or commercial choice.

[0006] In a first aspect, the present invention provides a carton comprising a base, opposed side walls and opposed end walls, the carton having upstanding corner tabs on the corners thereof, the base including corner tab receiving openings for receiving a corner tabs of an underneath cartons that is stacked underneath the carton when the carton and the underneath carton are stacked crosswise with respect to each other.

[0007] In a second aspect, the present invention provides a carton comprising a base,

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opposed side walls and opposed end walls, the carton having upstanding corner tabs on the corners thereof, the carton including recesses or slots on corners of the base thereof, the recesses or slots on the corners of the base thereof adapted to receive the upstanding corner tabs of an underneath carton stacked underneath when the carton and the underneath carton are stacked such that respective bases thereof are generally aligned, the base also including corner tab receiving openings for receiving a corner tab of an underneath cartons that is stacked underneath the carton when the carton and the underneath carton are stacked crosswise with respect to each other.

[0008] In one embodiment, the corner tab receiving openings are located on a periphery of an edge of the base and spaced from adjacent edges of the base.

[0009] In one embodiment, the one or more corner tab receiving openings may be located on an edge of the base and spaced from adjacent edges of the base. The one or more corner tab receiving openings may comprise one or more slots for receiving at least part of a corner tab of an underneath carton. The one or more openings may include an opening or a recess extending upwardly into a side wall or end wall of the container. The one or more slots may extend inwardly from one or more side edges of the base. The one or more slots may comprise a plurality of slots. The one or more slots may receive parts of the corner tabs of one or two underneath cartons. In embodiments where the one or more slots receive parts of the corner tabs of two underneath cartons, each slot that receives parts of the corner tabs of two or more underneath cartons acts to hold those corner tabs in position relative to each other.

[0010] In one embodiment, a corner tab receiving opening is spaced from edges of the base and is adapted to hold the corner tabs of the underneath cartons that protrude through the corner tab receiving opening in position relative to each other. In one form of this embodiment, the corner tab receiving openings in the base receive the corner tabs of four adjacent underneath cartons. In this embodiment, the corner tab receiving opening may hold the corner tabs of four cartons in position relative to each other. In this embodiment, the one or more openings may be of general cross shape or include 4 nodes.

[0011] In one embodiment, the carton further includes one or more pillars located on side walls thereof, the one or more pillars including an upstanding tab at an upper end thereof. The carton may also be provided with one or more pillar tab receiving openings for receiving the tab on a pillar of an underneath carton. The one or more pillar tab receiving openings for receiving the tab on a pillar of an underneath carton may be located in the base of the carton.

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[0012] In some embodiments, the one or more pillar tab receiving openings may receive a pillar tab of an underneath carton when the carton and the underneath carton are stacked with their bases generally in alignment.

[0013] In some embodiments, the carton is generally rectangular and has a length that is approximately 1.5 times the width of the carton. With this dimension ratio, a stack containing a first layer having six cartons and a second layer stacked crosswise to the first layer and also having six cartons may be formed. In this embodiment, the corner tab receiving openings may be located along a centreline extending along a length of the carton. The base may be provided with two corner tab receiving openings, one being located along the centreline and located one third of the length of the carton from a first end wall and the other being located along the centreline and located two thirds of the length of the carton from the first end wall.

[0014] In some embodiments, the one or more corner tab receiving openings comprise one or more slots for receiving at least part of a corner tab of an underneath carton on the base and the one or more slots comprise slots extending inwardly from edges of the base. The slots on the side edges of the base may comprise a first slot located one third of the length of the carton from a first end wall and a second slot located two thirds of the length of the carton from the first end wall. The slots on the end edges of the base may be located approximately half way along the end edge of the base.

[0015] In some embodiments, the carton has corner posts or corner pillars. The corner posts or corner pillars may be formed from a separate blank piece.

[0016] In some embodiments, the side wall pillars may be formed from a separate blank piece. The side wall pillars and the corner posts or corner pillars on one side of the carton may be formed from one blank piece and the side wall pillars and the corner posts or corner pillars on the other side of the carton may be formed from another blank piece.

[0017] In some embodiments, the carton comprises an open topped carton. The carton may comprise a tray.

[0018] The carton may be provided with one or more ventilation holes. The ventilation holes may be formed in the side walls of the carton.

[0019] The carton may also be provided with one or more openings adapted to facilitate movement of the carton. The one or more openings may comprise hand openings through which a person may place their hands in order to lift and carry the carton. The openings may be

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provided in end walls of the carton.

[0020] The carton may be used for storing produce, such as bananas or other items of fruit and vegetables.

[0021] In a third embodiment, the present invention provides a blank for erecting a carton therefrom, the blank comprising a base, side wall panels foldably connected to side edges of the base, end wall panels foldably connected to end edges of the base, the side wall panels or the end wall panels having tabs that form upstanding corner tabs in the erected carton, the base including corner tab receiving openings for receiving a corner tab of an underneath cartons that is stacked underneath the carton when the carton and the underneath carton are stacked crosswise with respect to each other.

[0022] In one embodiment, the one or more corner tab receiving openings include one or more slots extending inwardly from the side edges and/or the end edges. Some of the one or more slots may receive parts of the corner posts of a plurality, such as two, underneath cartons when a carton is erected from the blank.

[0023] In one embodiment, the base has a length that is approximately 1.5 times the width of the base. The corner tab receiving openings for receiving corner tabs of a plurality of underneath cartons that are stacked underneath the carton when the carton in the underneath cartons are stacked crosswise with respect to each other may comprise a first opening and a second opening, the first opening and the second opening being positioned along a centre line extending along the length of the base, the first opening being located approximately one third of the length of the base from a first end edge, the second opening being located approximately 2/3 of the length of the carton from the first end edge.

[0024] In one embodiment, the one or more slots may comprise two slots extending inwardly from each side edge of the base and a slots extending inwardly from each end edge of the base. The two slots extending inwardly from each side edge of the base may comprise a first slot located approximately one third of the length of the carton from a first end edge and a second slot located approximately 2/3 of the length of the carton from the first end edge. The slot located in the end edge of the base may be positioned at an approximate midpoint of the end edge of the base.

[0025] In order to fully erect the carton, a second blank and a third blank may also be provided, the second blank being used to form corner posts and a side wall pillar on one side of the carton, the third blank being used to form the corner posts and a side wall pillar on the other

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side of the carton. The second blank and the third blank may be glued to the first blank during erection of the carton.

[0026] The blank may also include recesses that form corner recesses in the erected blank. The corner recesses may be located at the lower end of the corners of the carton erected from the blank. The corner recesses may be of complementary shape to the corner tabs of the carton.

[0027] Any of the features described herein can be combined in any combination with any one or more of the other features described herein within the scope of the invention.

[0028] The reference to any prior art in this specification is not, and should not be taken as an acknowledgement or any form of suggestion that the prior art forms part of the common general knowledge.

BRIEF DESCRIPTION OF DRAWINGS

[0029] Various embodiments of the invention will be described with reference to the following drawings, in which:

[0030] Figure 1 shows a plan view of a blank in accordance with one embodiment of the present invention;

[0031] Figure 2 shows a plan view of second and third blanks for use in one embodiment of the present invention;

[0032] Figure 3 shows a perspective view of a carton in accordance with one embodiment of the present invention. The carton shown in figure 3 is erected from blanks that are largely identical to the blanks shown in figures 1 and 2, except that the openings 30, 32 in the base of the blank shown in figure 1 have been omitted;

[0033] Figure 4 shows a top view of the carton shown in figure 3;

[0034] Figure 5 shows an underneath view of the carton shown in figure 3;

[0035] Figure 6 is a perspective view showing greater detail of some of the features of the carton shown in figure 3;

[0036] Figure 7 shows two cartons that are generally identical to the carton shown in figure 3 that have been stacked together with their bases being generally aligned with each other (in other words, the cartons in figure 7 are stacked lengthwise);

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[0037] Figure 8 shows a view that is generally similar to that shown in figure 6, but with an underneath cartons stacked beneath the carton and with some detail of the underneath carton being visible;

[0038] Figure 9 shows a view from one side of a stack of cartons that have been stacked crosswise. The features shown in the foreground of figure 9 are not related to the present invention;

[0039] Figure 10 shows a view of the stack of cartons shown in figure 9, with figure 10 being viewed from a viewpoint that is 90° to the viewpoint shown in figure 9;

[0040] Figure 11 shows a perspective view of the stack of cartons shown in figures 9 and 10;

[0041] Figure 12 shows a view from above of the stack of cartons shown in figures 9 to 11;

[0042] Figure 13 shows the view from above of the stack of cartons shown in figure 9, with figure 13 looking into a single carton and showing greater detail of the corner posts of underneath cartons extending into openings in the base of the upper carton;

[0043] Figure 14 shows a side view of the stack of cartons shown in figure 9. Figure 14 shows details of two corner posts of two adjacent underneath cartons in the stack having parts of the corner posts extending into slots in the base of the carton above;

[0044] Figure 15 shows a side view of a part of the stack of cartons shown in figure 9; and

[0045] Figure 16 is a view that is generally similar to figure 13 except that the container shown in figure 16 has the openings 30, 32 in the base.

DESCRIPTION OF EMBODIMENTS

[0046] It will be appreciated that the figures had been provided for the purposes of illustrating preferred embodiments of the present invention. Therefore, it will be understood that the present invention should not be considered to be limited solely to the features as shown in the attached figures.

[0047] Figure 1 shows a plan view of a first blank 10 suitable for use in the present invention. The blank 10 includes a base 12 and side wall panels 14, 16 that are foldably connected to the base 12 about respect of fold lines 18, 20. The fold lines 18, 20 define the side edges of the base 12 in the erected carton. The blank 10 also includes end wall panels 22, 24 that

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are foldably connected to the base 12 about fold lines 26, 28. Fold lines 26, 28 define the end edges of the base of the erected carton.

[0048] The base 12 includes openings 30, 32. The openings 30, 32 in the base 12 are adapted to receive corner posts of underneath cartons are located below the erected carton in a stack of cartons in which the cartons in one layer are stacked crosswise with respect to the next higher or lower layer in the stack. The openings 30, 32 are located along a centreline that extends along the length of the base 12. The opening 30 is located approximately one third of the length of the base from the fold line/end edge 28. The opening 32 is located approximately 2/3 of the length of the base from the fold line/end edge 28. In some embodiments, openings 30, 32 may be omitted.

[0049] The base also includes end slots 34, 36 extending inwardly from the respective end edges 28, 26 of the base 12. The end slots 34, 36 are located at approximately the midpoint of the respective end edges 28, 26. As can be seen, the slots 34, 36 also extend into the respective end wall panels 24, 22 in the blank.

[0050] The base further includes side slots 38, 40 that extend inwardly into the base 12 from fold line/side edge 18. Side slots 38, 40 form part of larger T-shaped openings 42, 44. Similar side slots 46, 48 and larger T-shaped openings 50, 52 are provided on the other side of the base 12.

[0051] The side wall panel 14 includes first additional panel 54 that is connected to the end of side wall panel 14 at fold line 56. The side wall panel includes second additional panel 58 that is connected to the side wall panel 14 at fold line 60. Tabs 62, 64 are also formed in the side wall panel 14 and the additional panels 54, 58.

[0052] Similarly, side wall panel 16 has a first additional panel 66 that is connected to side wall panel 16 at fold line 68 and second additional panel 70 that is connected to side wall panel 16 at fold line 72. Tabs 74, 77 are also provided.

[0053] The blank 10 also includes ventilation holes 76 that are formed in the side wall panels 14, 16 and hand holds 78, in the form of openings formed in end wall panels 22, 24.

[0054] The base 12 also includes openings 80, 82. The function of these openings will be explained hereunder. The blank 10 is also shaped to include recesses 84, 86, 88, 90, that, in the erected carton, form corner slots or corner recesses at the lower corners of the carton.

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[0055] Figure 2 shows two further blank pieces 92, 94. These blank pieces are essentially identical and only blank piece 92 will be described in further detail. Blank piece 92 (and blank piece 94) is used to form side pillars and corner posts in the erected carton. The blank piece 92 includes an end flap 96, a corner post region 98 a first side wall region 100, a side wall pillar region 102, a second side wall region 104, a second corner post region 106 and a second end flap 108. Side wall regions 100 and 104 include ventilation openings 110, 112 that, in the erected carton, are essentially in alignment with the ventilation openings 76 in the side walls 14, 16 of the erected carton.

[0056] The blank pieces 92 and 94 form respective inserts that are glued to the blank 10 during erection of the carton. The blank 92 further includes upwardly extending slots 114, 116 that, in the erected carton, are positioned above the slots 38, 40 or 50, 52 in the respective side walls of the carton.

[0057] The side wall pillar region 102 includes a first panel 118 and a second panel 120 that are separated by fold line 122. The first panel 118 and the second panel 120 have an upwardly extending tab 124.

[0058] In order to form a carton from the blanks shown in figures 1 and 2, the blank 10 is erected by folding the end wall panels 22, 24 upwardly about respective fold lines 26, 28. Side wall panels 14, 16 are folded upwardly about respective fold lines 18, 20. The additional panels 54, 66 are folded about fold lines 56, 68 so that they overlie the outer surface of side wall panel 22. Similarly, additional panels 58, 70 are also folded so that they overlie the outer surface of end wall 24. Appropriate glue lines may be used to join the additional panels to the respective end walls. The insert blanks 92, 94 are inserted into the erected blank 10. Glue lines are used to join the side wall regions 100, 104 to the inside of each side wall of the carton. The side wall pillar region 102 is folded inwardly about the respective fold lines shown in figure 2 to form the side wall pillar, the corner posts are formed and the end flaps 96, 108 are glued to the opposed end walls of the erected carton. Blank 94 is similarly arranged on the opposed side wall of the carton. Figures 3 and 4 show various views of the erected carton, albeit the carton shown in figures 3 and 4 is made from a blank that omits openings 30, 32 in the base panel. Figure 3 clearly shows the corner tabs 62, 64, 74 and 77. The tab 124 formed on the side wall pillar can also be seen in figure 3. As shown in figure 4, the additional panels 96 and 96A together extend across substantially the full width of the end wall 22, which provides good strength to the end wall assembly of the carton. This also assists in strengthening the hand holds 78.

[0059] Figures 3 and 5 show the corner recesses 84, 86, 88 and 90. Figure 5 shows the slots

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38, 40, 46, 48. The recesses in the side walls formed by the "cross pieces" of the T-shaped openings 42, 44, 50, 52 can also be seen in figures 3 and 5. Further detail of some of the internal features of the carton can be shown in figure 6.

[0060] The carton shown in figures 3 to 6 is a strong carton by virtue of having corner posts and side wall pillars. The carton is resistant to crushing from above due to the strength of the corner posts and side wall pillars. Further, the presence of the side wall pillars also increases the resistance of the carton to collapsing due to inwardly directed forces applies to the side walls of the carton.

[0061] One advantageous feature of the cartons as shown in figures 3 to 6 is that the carton can be used to form a stack in which the cartons in each layer can be stacked lengthwise (that is, in essentially the same orientation as the cartons above or below), or they can be stacked such that the cartons in one layer of the stack are positioned crosswise relative to the cartons in the next layer of the stack. Figure 7 shows a perspective view of a first carton 130 having a second carton 132 stacked thereon. As can be seen, the corner posts 74, 77 of the lower carton 130 fit into the respective corner recesses 90, 88 of the carton 132 located above. This ensures that the carton located above is held in position relative to the carton underneath by virtue of interaction or engagement between corner posts and corner recesses. This increases the stability of the stack.

[0062] As shown in figure 8, the side wall pillar tab 124 of the underneath carton 130 can extend into or through opening 80 in the base 12 of the upper carton 132. However, the relative dimensions of the corner posts and the lower corner recesses may also result in the tab 124 of the side wall pillar having its upper edge located level with the lower surface of the base 12 of the upper carton.

[0063] The cartons in accordance with the present invention can also be stacked crosswise. That is, the cartons in one layer may be positioned with their longitudinal axis extending in a first direction and the cartons in the next upper or lower layer may be positioned with their longitudinal axis extending in a second direction that is at 90° to the first direction. Figures 9, 10 and 11 show various views of such a crosswise stacked stack of cartons. As can be seen in figures 9 and 10, the lower stack includes six cartons, some of which are numbered as cartons 140, 141, 142, 143 and two other cartons that are obscured by cartons 142 and 143 in figure 10. The upper layer also includes six cartons, shown as cartons 150, 151, 152 153, and two other cartons that are obscured by carton 153 in figure 10. In order to facilitate cross stacking in layers that each contain six cartons, each carton has a length that is approximately 1.5 times its width, so that the ratio of length to width of the cartons is about 3:2.

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[0064] As can be seen from figures 9 and 10, the external corner posts of the lower cartons in the crosswise stack come into contact with the corner recesses of the cartons stacked above.

[0065] Turning now to figure 14, the corner post 74 of carton 140 and corner post 77 of carton 141 include parts that extend parallel to the end walls of those cartons. Those parts of the corner posts 74, 77, extend into the slot formed in the base and end wall of carton 151 by virtue of the blank 10 being provided with slot 34. Not only does the slot 34 that extends upwardly into the end wall of carton 151 provide space to accommodate the end wall extensions of corner post 74 and 77, the part of slots 34 that extends along the base 12 of carton 151 and the side walls of the upwardly extending part of slot 34 act to hold the corner posts 74, 77 in position relative to each other. This is effective to lock the corner posts 74, 77 together which, in turn, locks the cartons 140, 141 in position relative to each other.

[0066] To further securely hold the cartons in one layer in position relative to the next layer, in another embodiment shown in figure 16, the "internal corner posts" of the cartons also extend into one of the openings 30 or 32 of some of the cartons in the upper layer. This is as shown in figure 16, where carton 151 has the corner posts of four adjacent underneath cartons extending through opening 32. Not only does the opening 32 provide room to enable the base 12 of the cartons 151 to extend over the 4 corner posts of the four adjacent underneath cartons, the opening 32 also locks in the corner posts in position relative to each other, thereby effectively locking together the four underneath cartons. The aperture 30 of carton 153 (which is located adjacent to the end wall of carton 151, see figure 16) also receives four corner posts from four adjacent underneath cartons, which also locks the cartons together in position.

[0067] Figure 16 shows greater detail of the base 12 of carton 151. Opening 32 receives four corner posts 170, 171, 172, 173 of four adjacent underneath cartons.

[0068] Figures 12 and 13 show a similar view to figure 16, but in a container in which the openings 30, 32 in the base of the container have been omitted. In this embodiment, the inner corner posts of four adjacent underneath cartons come into contact with the underneath surface of the base of the upper carton. However, the cartons remain firmly held by virtue of the corner posts extending into some of the openings 84, 86, 88, 90. In this embodiment, the location of the trays mainly occurs around the circumference/outer periphery of the trays in the stack or on the pallet, as described in paragraph [0065] above.

[0069] As best shown in figure 15, the recess formed by T-shaped opening 52 in carton 153 receives the corner post 77 of underneath carton 143 and the corner post 74 of underneath carton

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142. This not only assists in locking the corner posts 77, 74 shown in figure 15 in position relative to each other, it also assists in transferring vertical forces from one layer of cartons to the next layer of cartons in the stack.

[0070] Although not clearly shown in the attached drawings, the tabs on the side wall pillars of the lower cartons are positioned such that they come into contact with the base of the upper cartons. This also assists in transferring forces from the upper cartons to the lower cartons whilst also strengthening the overall stack.

[0071] As shown in figures 11 and 15, when the cartons are stacked, ventilation openings on 180, 182 are formed at the ends of the cartons. Ventilation openings 76 also allow efficient ventilation of produce stored in the cartons.

[0072] In the present specification and claims (if any), the word 'comprising' and its derivatives including 'comprises' and 'comprise' include each of the stated integers but does not exclude the inclusion of one or more further integers.

[0073] Reference throughout this specification to 'one embodiment' or 'an embodiment' means that a particular feature, structure, or characteristic described in connection with the embodiment is included in at least one embodiment of the present invention. Thus, the appearance of the phrases 'in one embodiment' or 'in an embodiment' in various places throughout this specification are not necessarily all referring to the same embodiment. Furthermore, the particular features, structures, or characteristics may be combined in any suitable manner in one or more combinations.

[0074] In compliance with the statute, the invention has been described in language more or less specific to structural or methodical features. It is to be understood that the invention is not limited to specific features shown or described since the means herein described comprises preferred forms of putting the invention into effect. The invention is, therefore, claimed in any of its forms or modifications within the proper scope of the appended claims (if any) appropriately interpreted by those skilled in the art.

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CLAIMS

1. A carton comprising a base, opposed side walls and opposed end walls, the carton having upstanding corner tabs on the corners thereof, the base including corner tab receiving openings for receiving a corner tabs of an underneath cartons that is stacked underneath the carton when the carton and the underneath carton are stacked crosswise with respect to each other.

2. A carton comprising a base, opposed side walls and opposed end walls, the carton having upstanding corner tabs on the corners thereof, the carton including recesses or slots on corners of the base thereof, the recesses or slots on the corners of the base thereof adapted to receive the upstanding corner tabs of an underneath carton stacked underneath when the carton and the underneath carton are stacked such that respective bases thereof are generally aligned, the base also including corner tab receiving openings for receiving a corner tab of an underneath cartons that is stacked underneath the carton when the carton and the underneath carton are stacked crosswise with respect to each other.

3. A carton as claimed in claim1 or claim 2 wherein the one or more corner tab openings are located on an edge of the base and spaced from adjacent edges of the base.

4. A carton as claimed in any one of the preceding claims wherein the one or more corner tab receiving openings include one or more slots for receiving at least part of a corner tab of an underneath carton, the one or more slots extending inwardly from one or more side edges of the base, the one or more corner tab receiving openings including an opening or a recess extending upwardly into a side wall or end wall of the container.

5. A carton as claimed in claim 4 wherein the one or more slots receive parts of the corner tabs of one or two underneath cartons, each slot that receives parts of the corner tabs of two or more underneath cartons acting to hold those corner tabs in position relative to each other.

6. A carton as claimed in any one of the preceding claims wherein a corner tab receiving opening is spaced from edges of the base and is adapted to hold the corner tabs of the underneath cartons that protrude through the corner tab receiving opening in position relative to each other.

7. A carton as claimed in claim 4 wherein the corner tab receiving openings in the base receive corner tabs of four adjacent underneath cartons.

8. A carton as claimed in claim 7 wherein the one or more openings are of general cross shape or include 4 nodes.

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9. A carton as claimed in any one of the preceding claims wherein the carton further includes one or more pillars located on side walls thereof, the one or more pillars including an upstanding tab at an upper end thereof.

10. A carton as claimed in claim 8 wherein the carton is be provided with one or more pillar tab receiving openings for receiving the tab on a pillar of an underneath carton, the one or more pillar tab receiving openings for receiving the tab on a pillar of an underneath carton being located in the base of the carton.

11. A carton as claimed in claim 9 wherein the one or more pillar tab receiving openings receive a pillar tab of an underneath carton when the carton and the underneath carton are stacked with their bases generally in alignment.

12. A carton as claimed in any one of the preceding claims wherein the carton is generally rectangular and has a length that is approximately 1.5 times the width of the carton such that a stack containing a first layer having six cartons and a second layer stacked crosswise to the first layer and also having six cartons can be formed.

13. A carton as claimed in claim 12 wherein the corner tab receiving openings are located along a centreline extending along a length of the carton and the base is provided with two corner tab receiving openings, one being located along the centreline and located one third of the length of the carton from a first end wall and the other being located along the centreline and located two thirds of the length of the carton from the first end wall.

14. A carton as claimed in any one of the preceding claims wherein the one or more corner tab receiving openings include a first opening located on one side edge of the carton at a position one third of the length of the carton from a first end wall and a second opening located on the one side edge of the carton and positioned two thirds of the length of the carton from the first end wall and an opening on each end edge, the openings on each end edge of the base being located approximately half way along the end edge of the base.

15. A carton as claimed in claim 9 wherein the wall pillars are formed from a separate blank piece, with the pillars comprising side wall pillars and corner posts or corner pillars, the side wall pillars and corner posts or corner pillars on one side of the carton being formed from one blank piece and the side wall pillars and the corner posts or corner pillars on the other side of the carton being formed from another blank piece.

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16. A blank for erecting a carton therefrom, the blank comprising a base, side wall panels foldably connected to side edges of the base, end wall panels foldably connected to end edges of the base, the side wall panels or the end wall panels having tabs that form upstanding corner tabs in the erected carton, the base including corner tab receiving openings for receiving a corner tab of an underneath cartons that is stacked underneath the carton when the carton and the underneath carton are stacked crosswise with respect to each other.

17. A blank as claimed in claim 16 wherein the corner tab receiving openings include one or more slots extending inwardly from the side edges and/or the end edges, the one or more slots receiving parts of the corner posts of underneath cartons when a carton is erected from the blank.

18. A blank as claimed in claim 16 or claim 17 wherein the base has a length that is approximately 1.5 times the width of the base, the corner tab receiving openings for receiving corner tabs of a plurality of underneath cartons that are stacked underneath the carton when the carton in the underneath cartons are stacked crosswise with respect to each other comprising a first opening and a second opening, the first opening and the second opening being positioned along a centre line extending along the length of the base, the first opening being located approximately one third of the length of the base from a first end edge, the second opening being located approximately 2/3 of the length of the carton from the first end edge.

19. A blank as claimed in claim 17 wherein the one or more slots comprise two slots extending inwardly from each side edge of the base and a slot extending inwardly from each end edge of the base, the two slots extending inwardly from each side edge of the base comprising a first slot located approximately one third of the length of the carton from a first end edge and a second slot located approximately 2/3 of the length of the carton from the first end edge and the slot located in the end edge of the base being positioned at an approximate midpoint of the end edge of the base.

20. A carton erected from a blank as claimed in any one of claims 16 to 19 and a second blank and a third blank, the second blank being used to form corner posts and a side wall pillar on one side of the carton, the third blank being used to form the corner posts and a side wall pillar on the other side of the carton, the second blank and the third blank being glued to the first blank during erection of the carton.

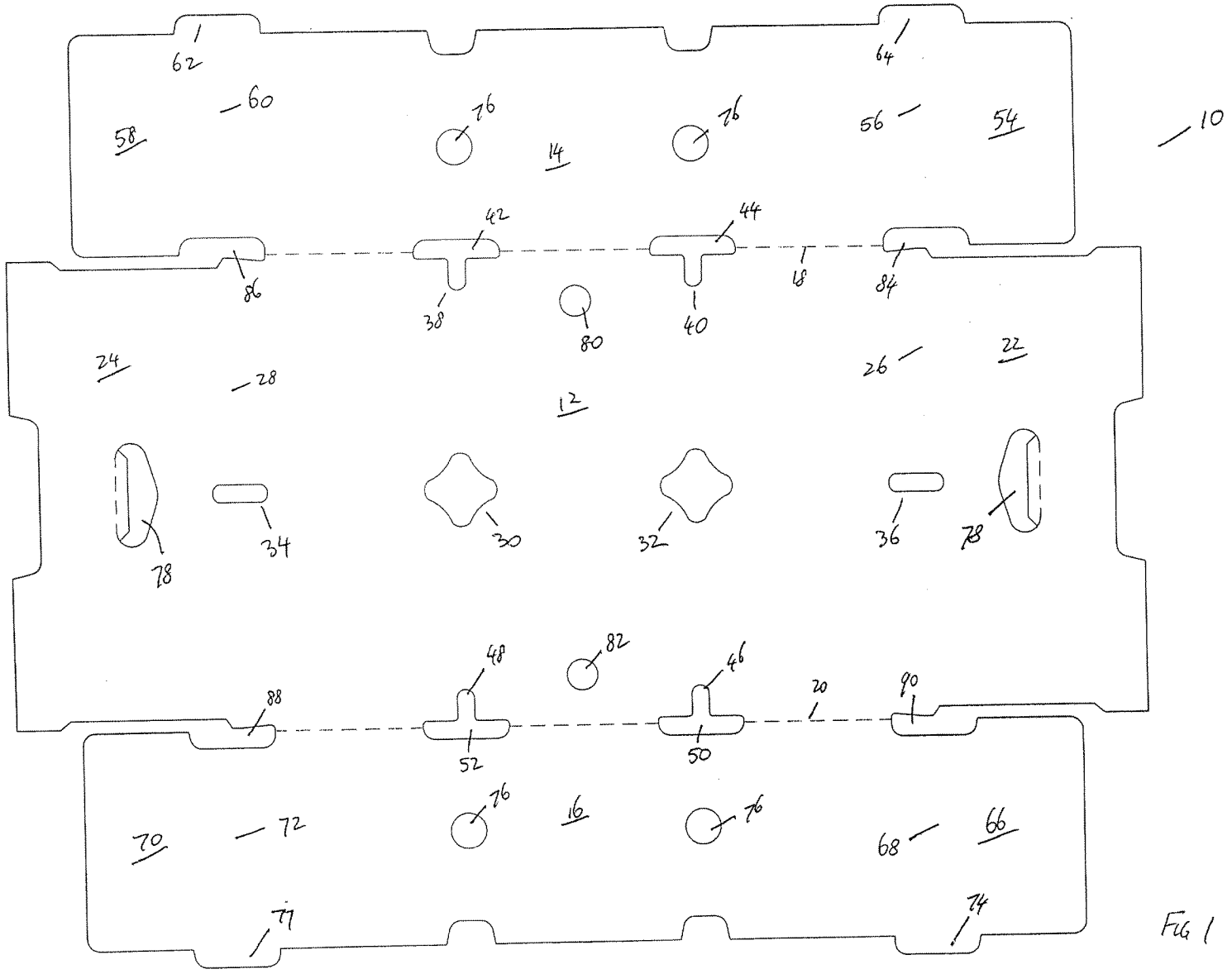
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FIG 1

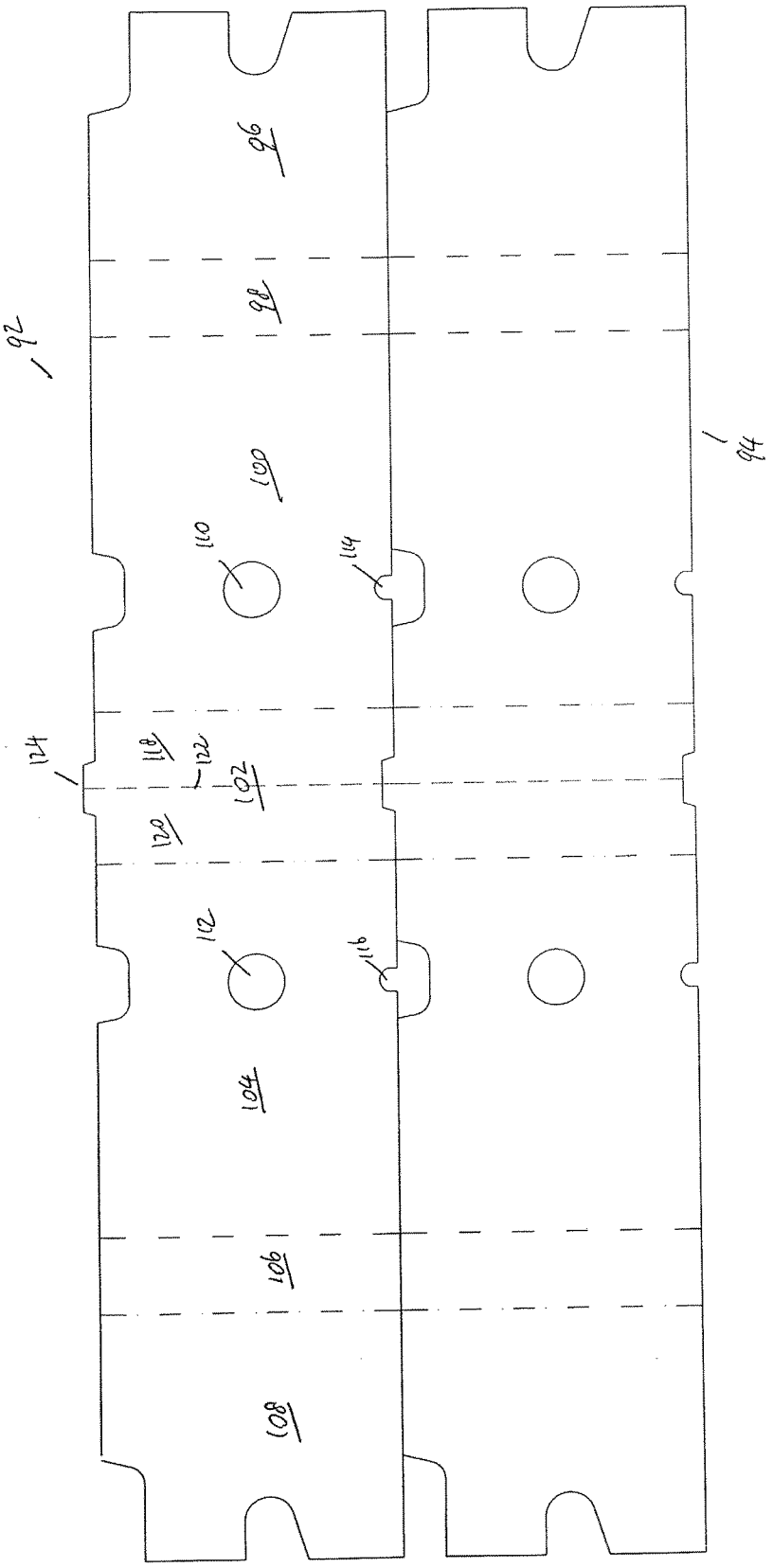

Fig 2

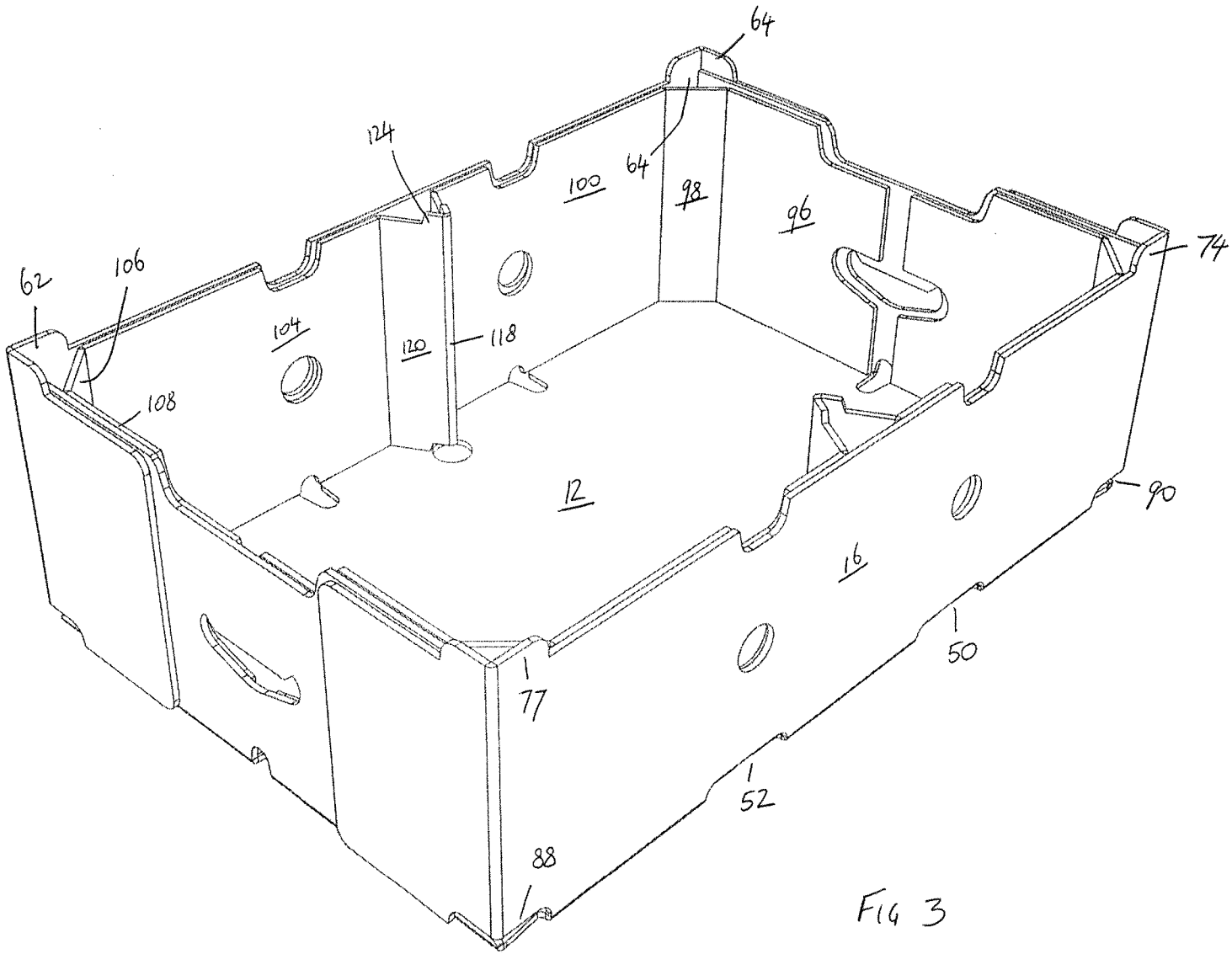

Fig 3

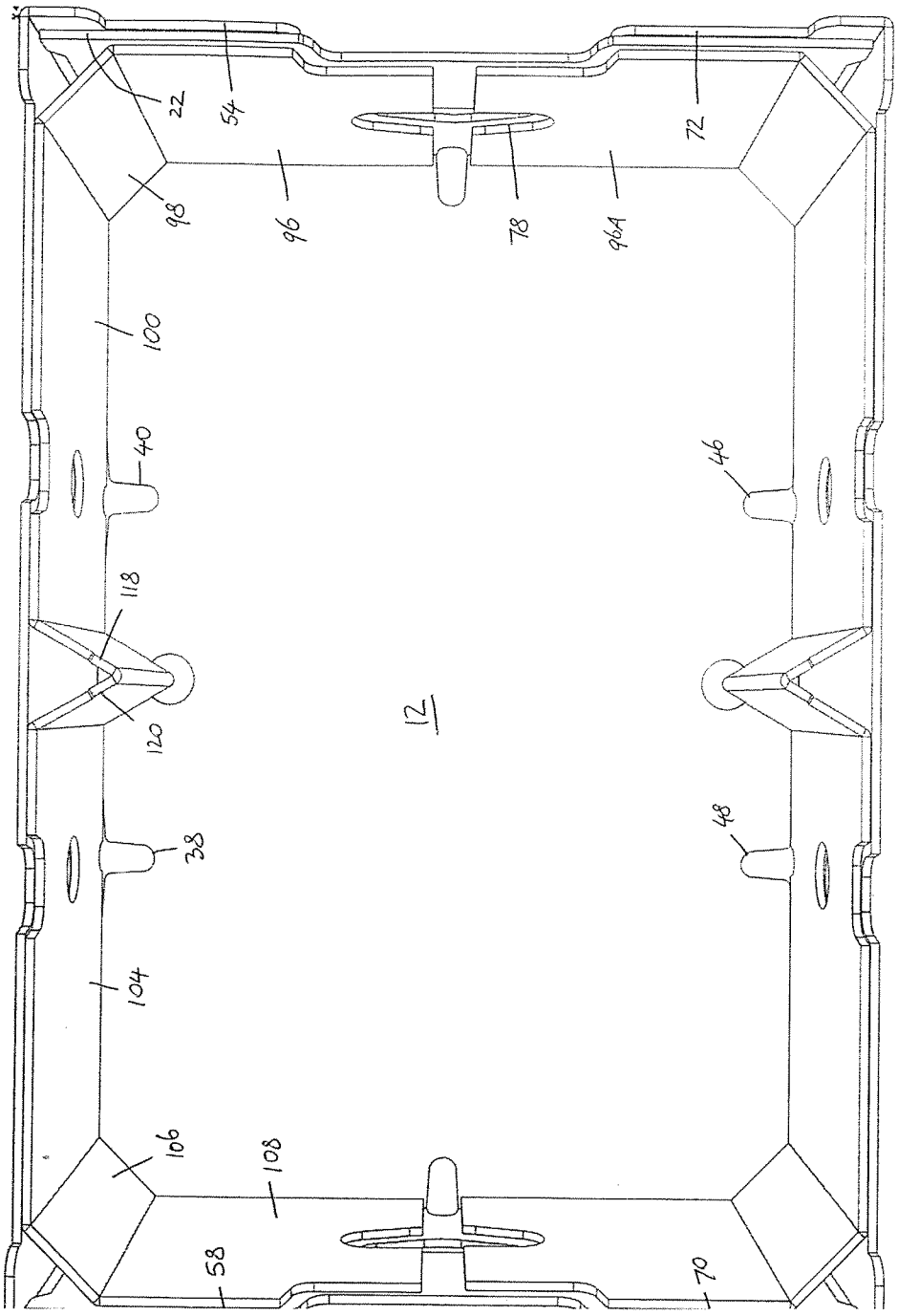

FIG 4

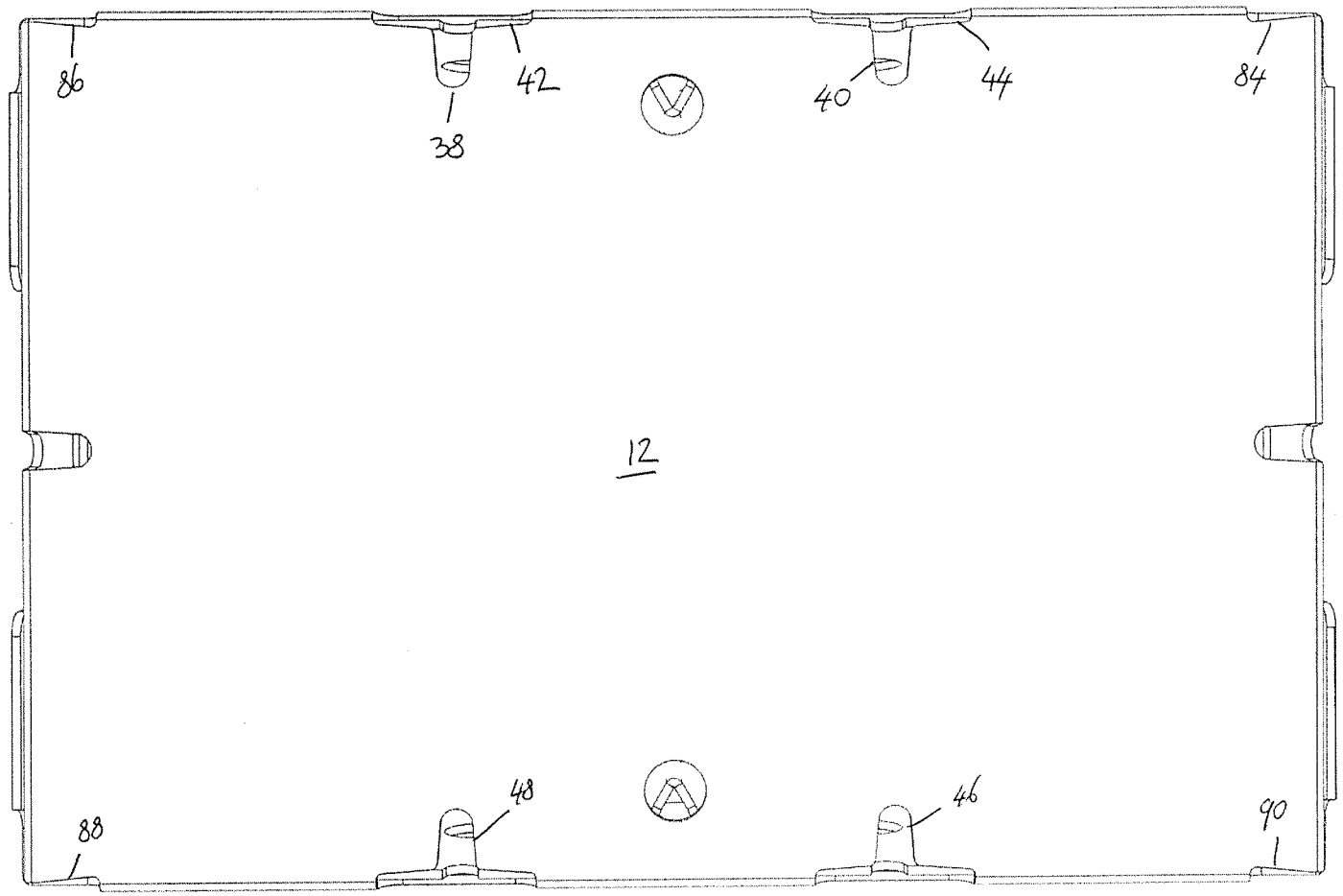

Fig 5

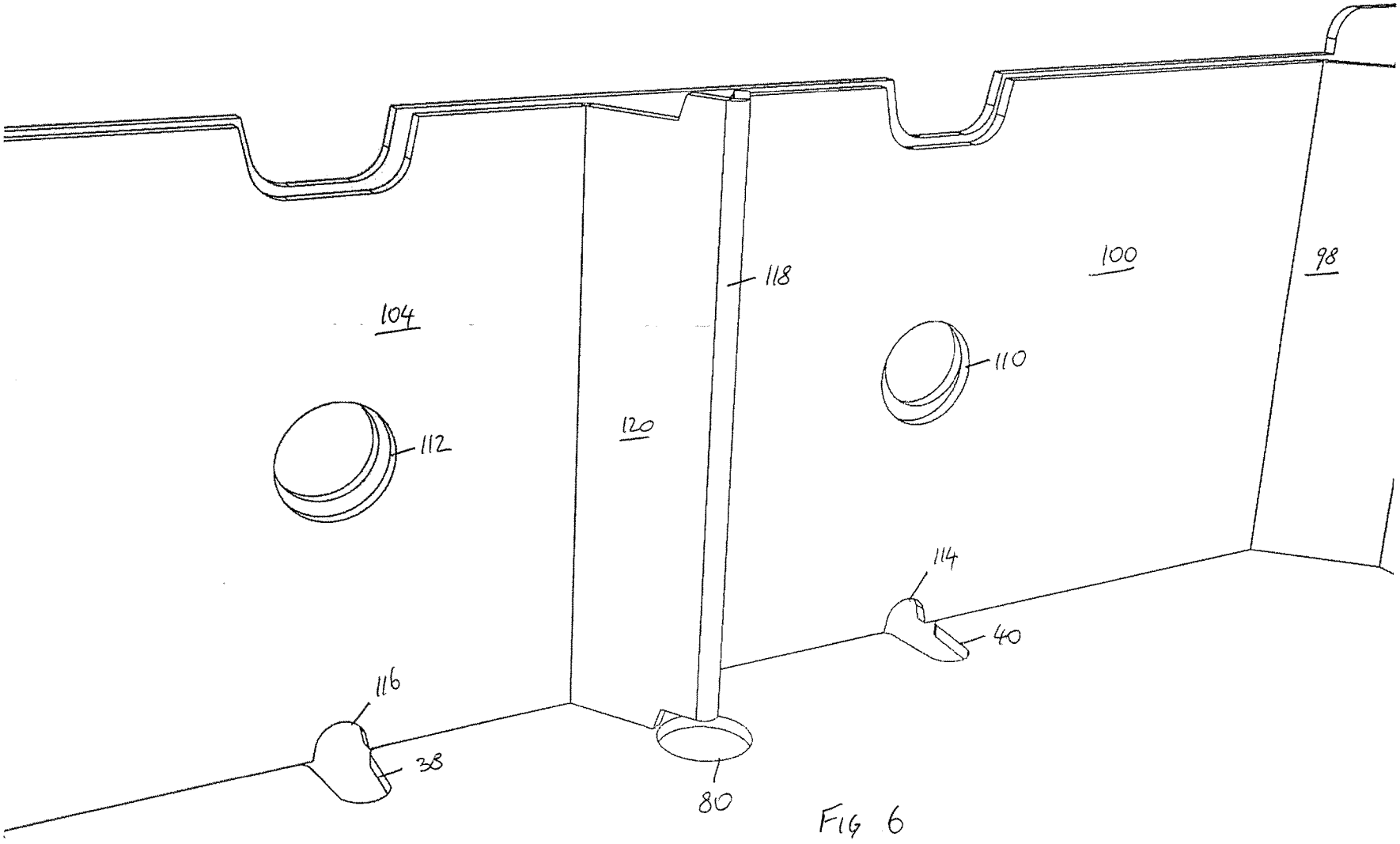

Fig 6

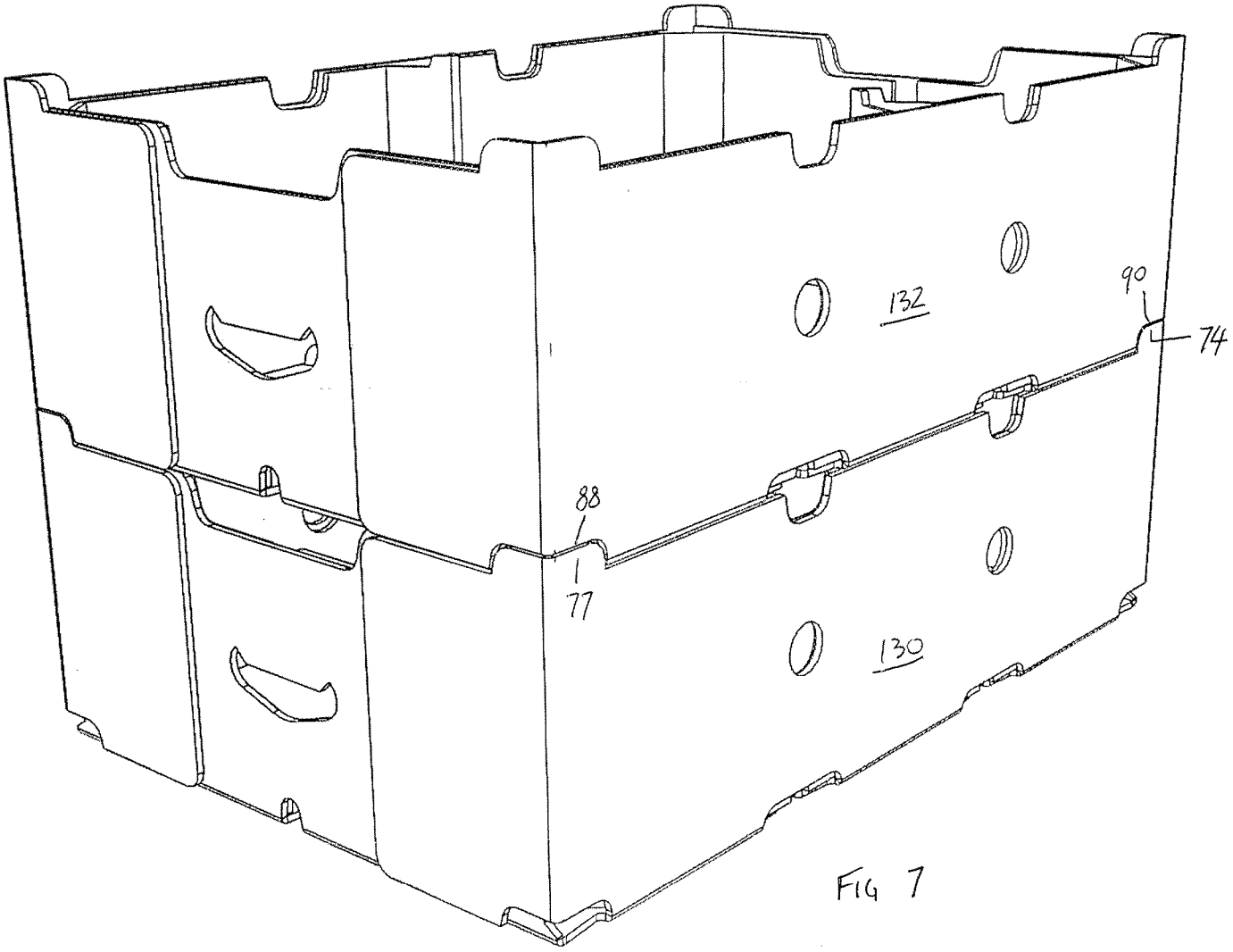

Fig 7

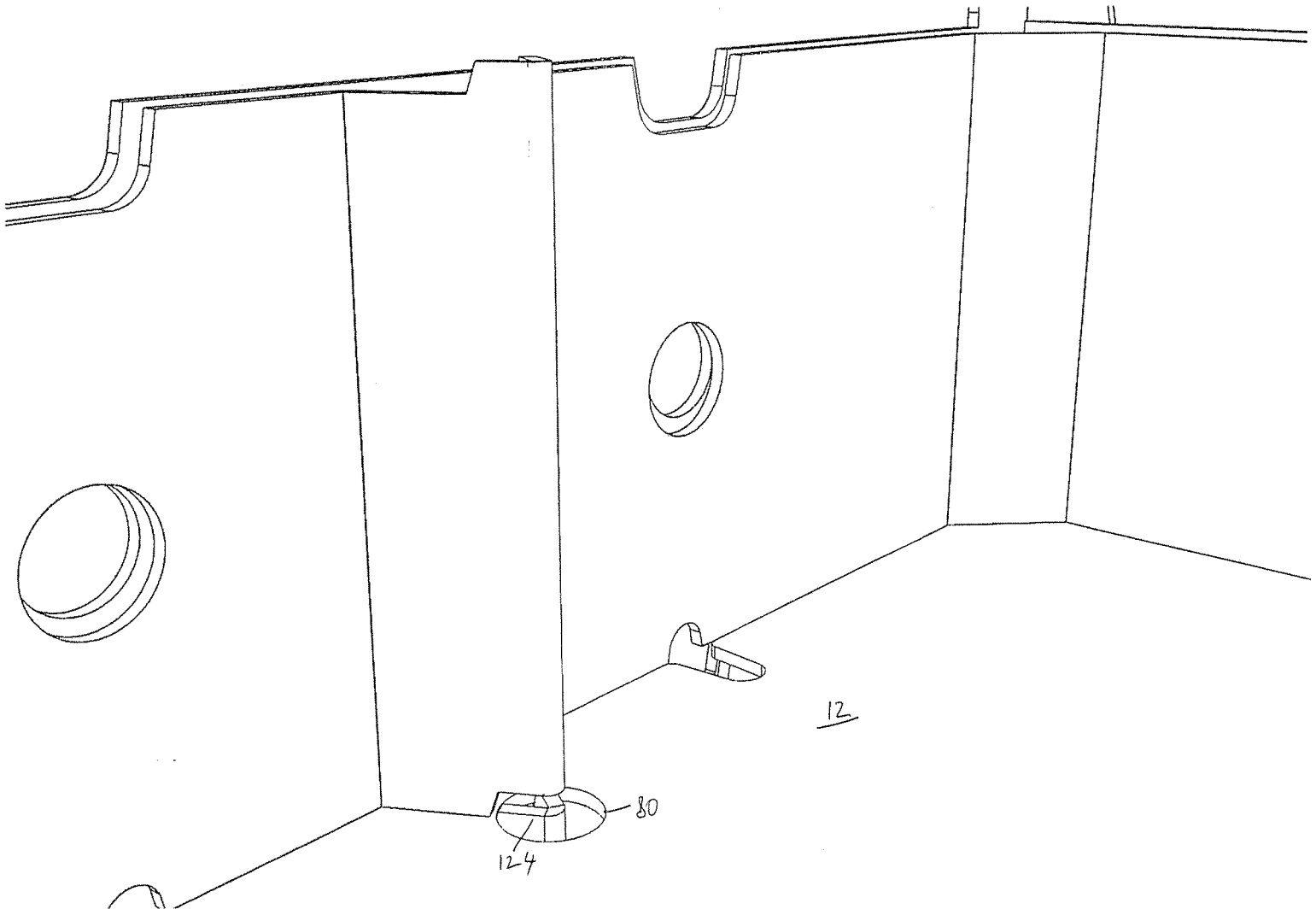

Fig 8

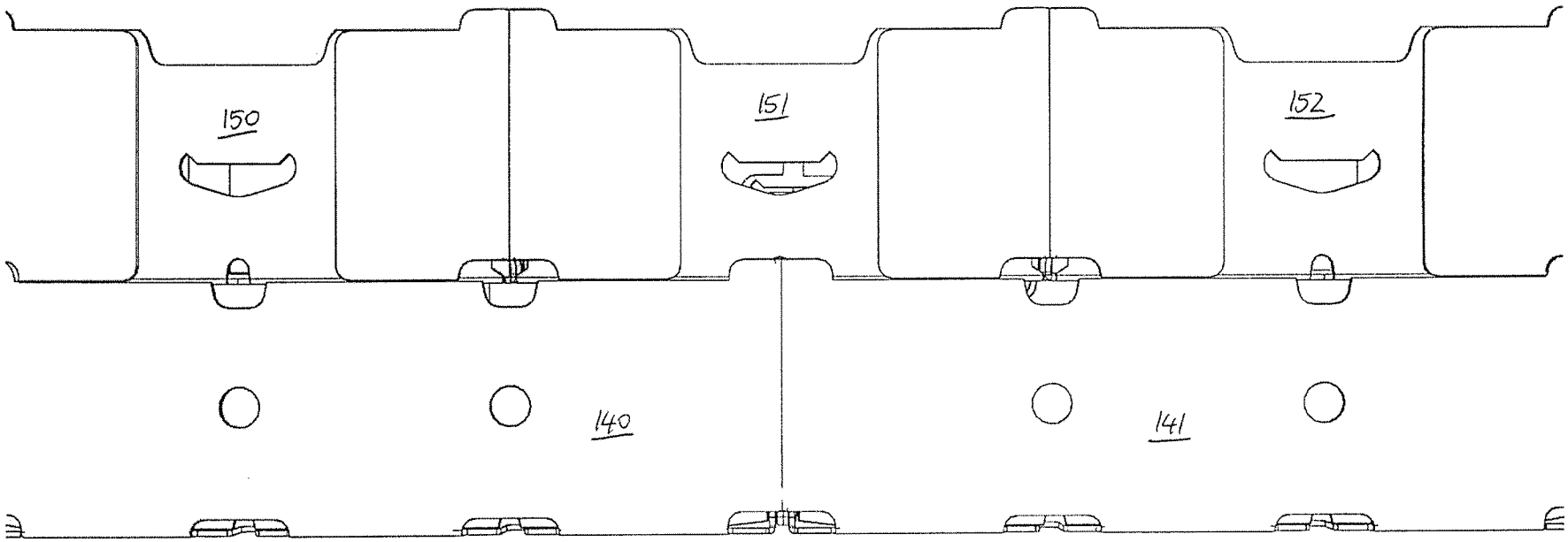

Fig 9

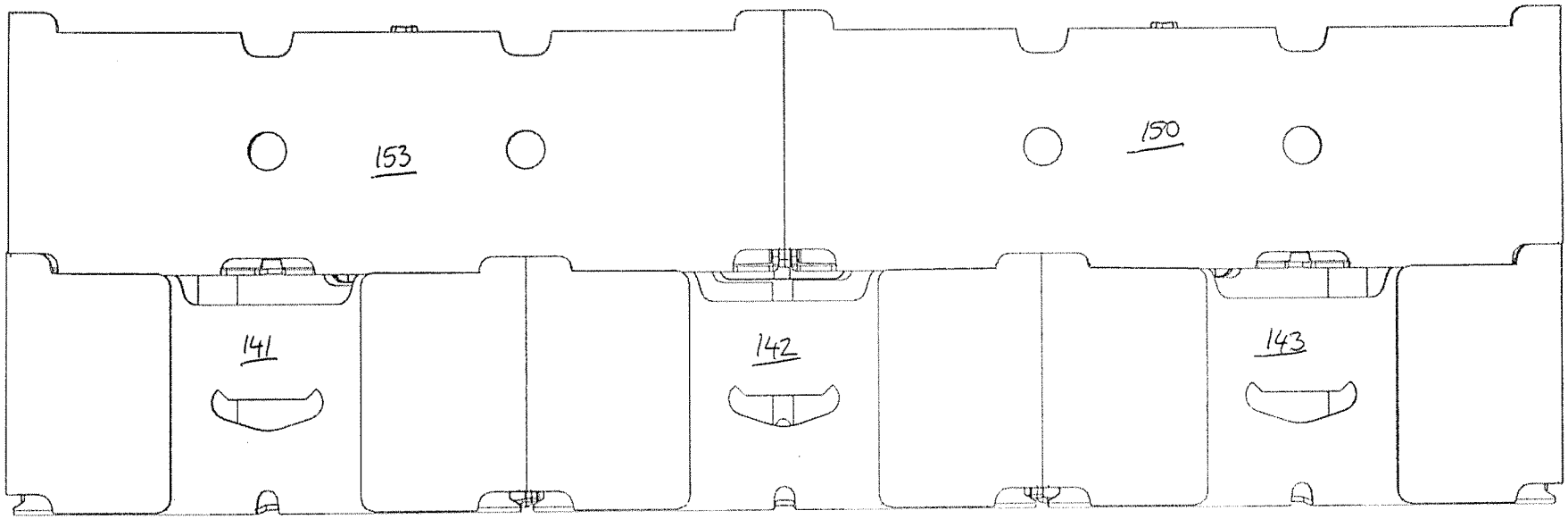

FIG 10

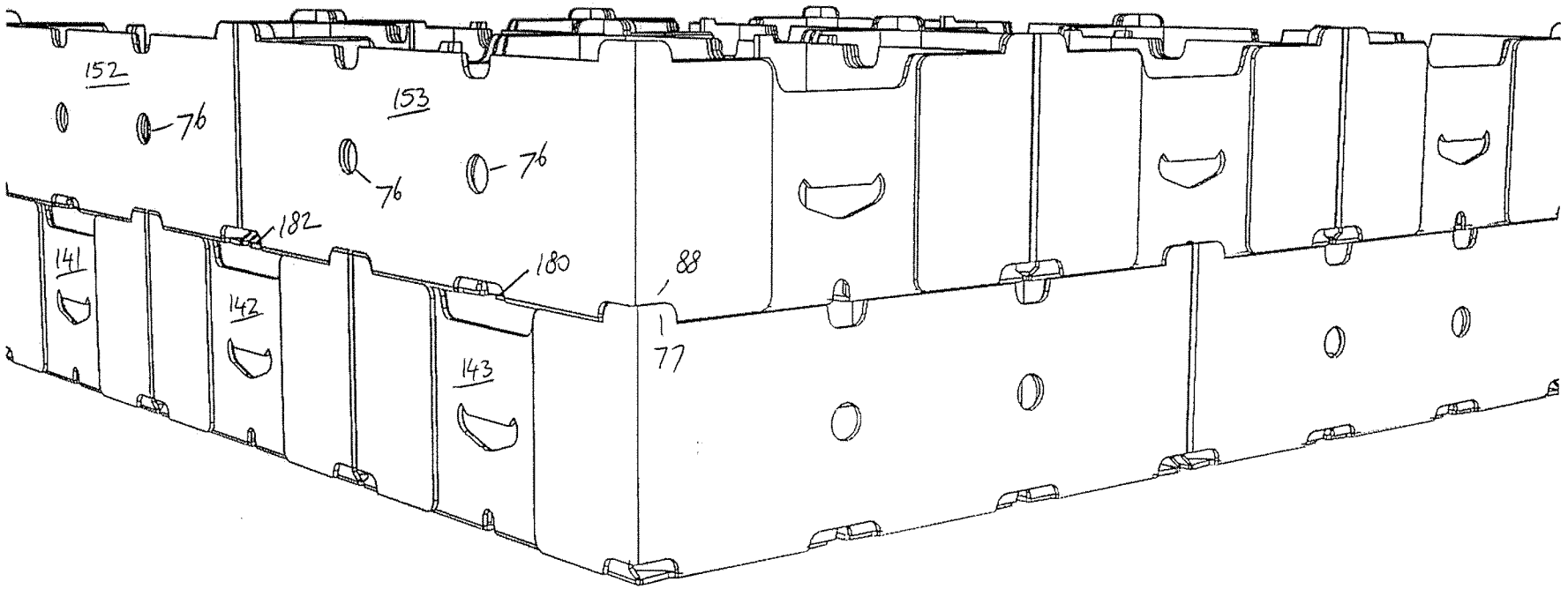

Fig 11

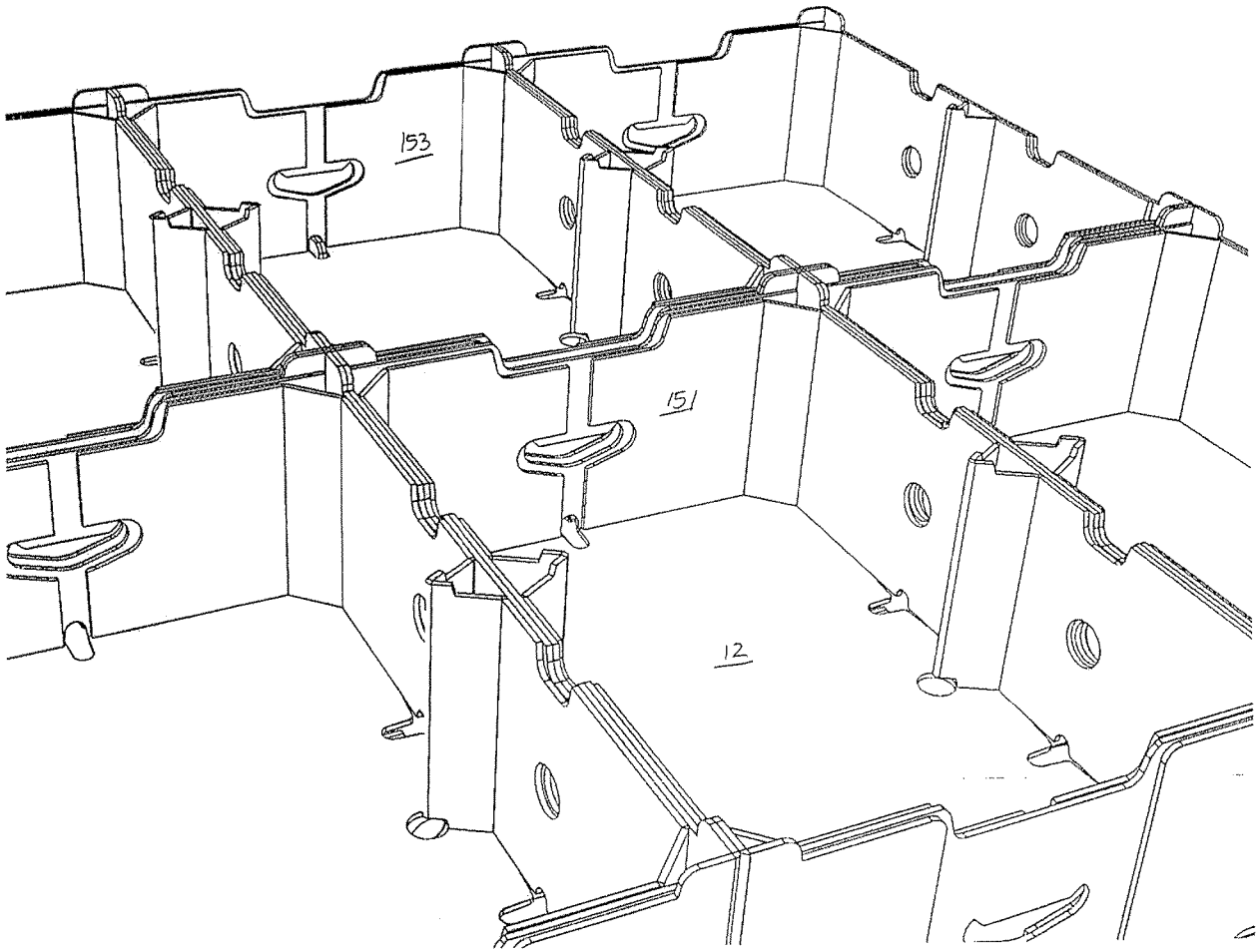

Fig 12

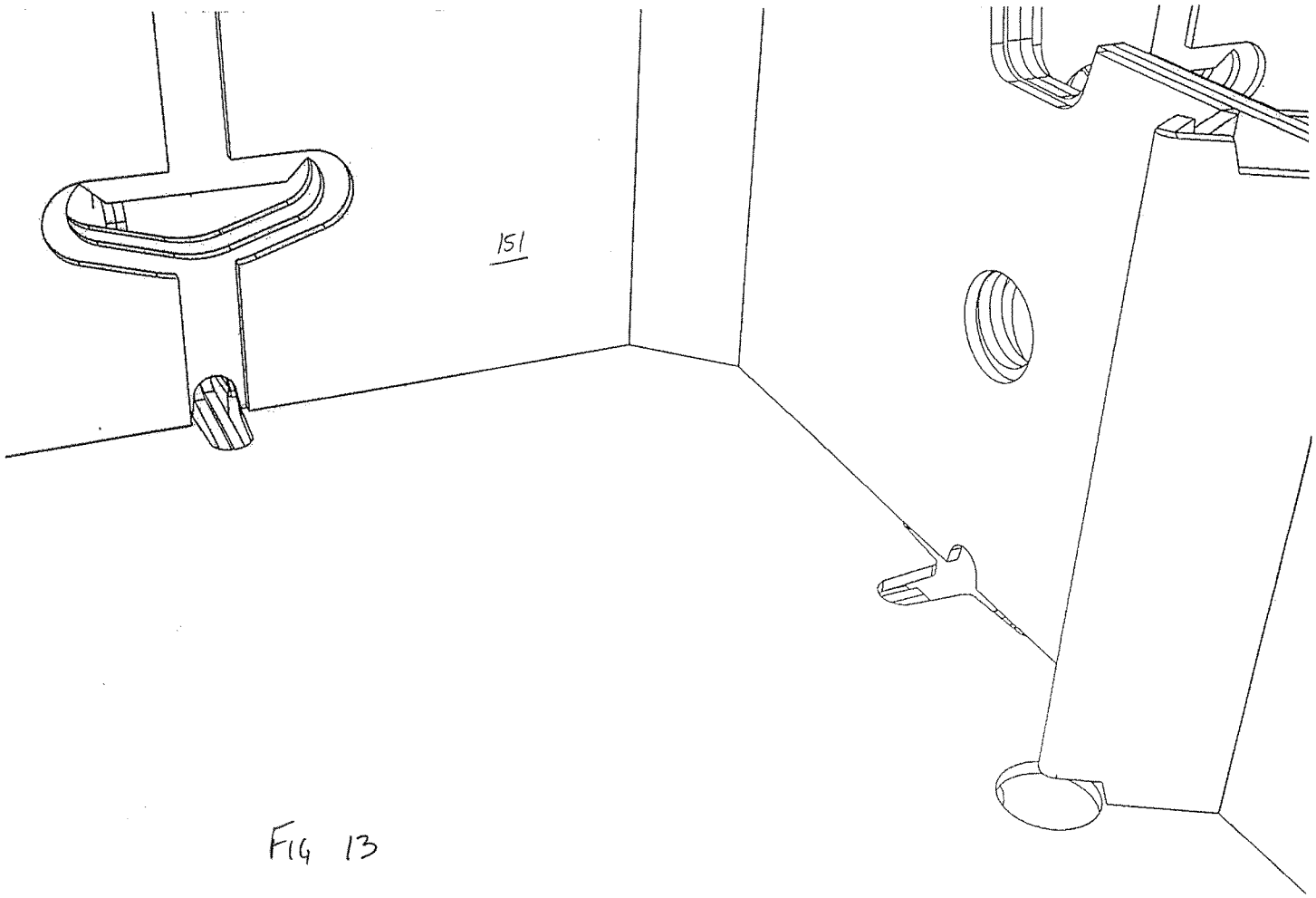

Fig 13

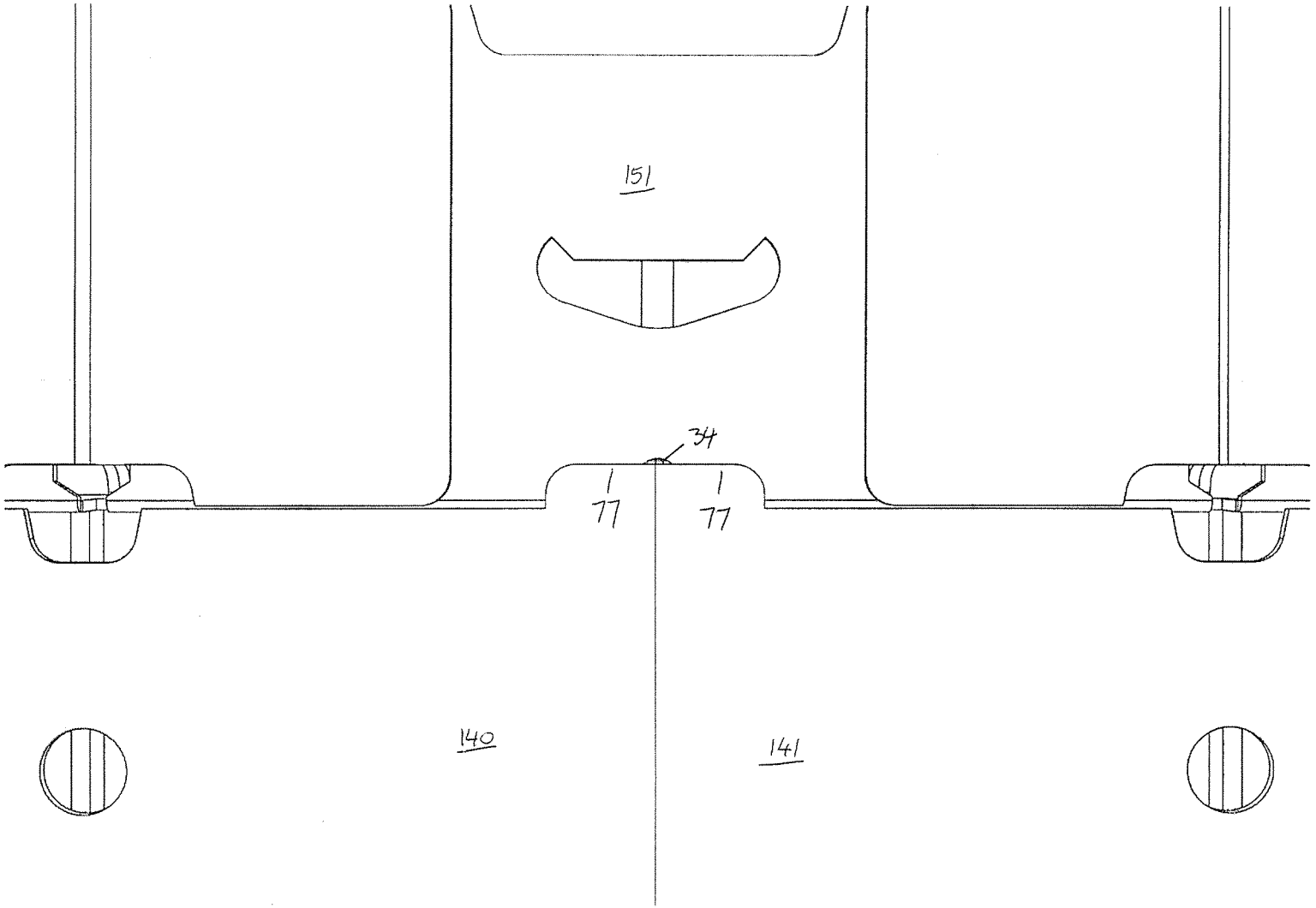

FIG 14

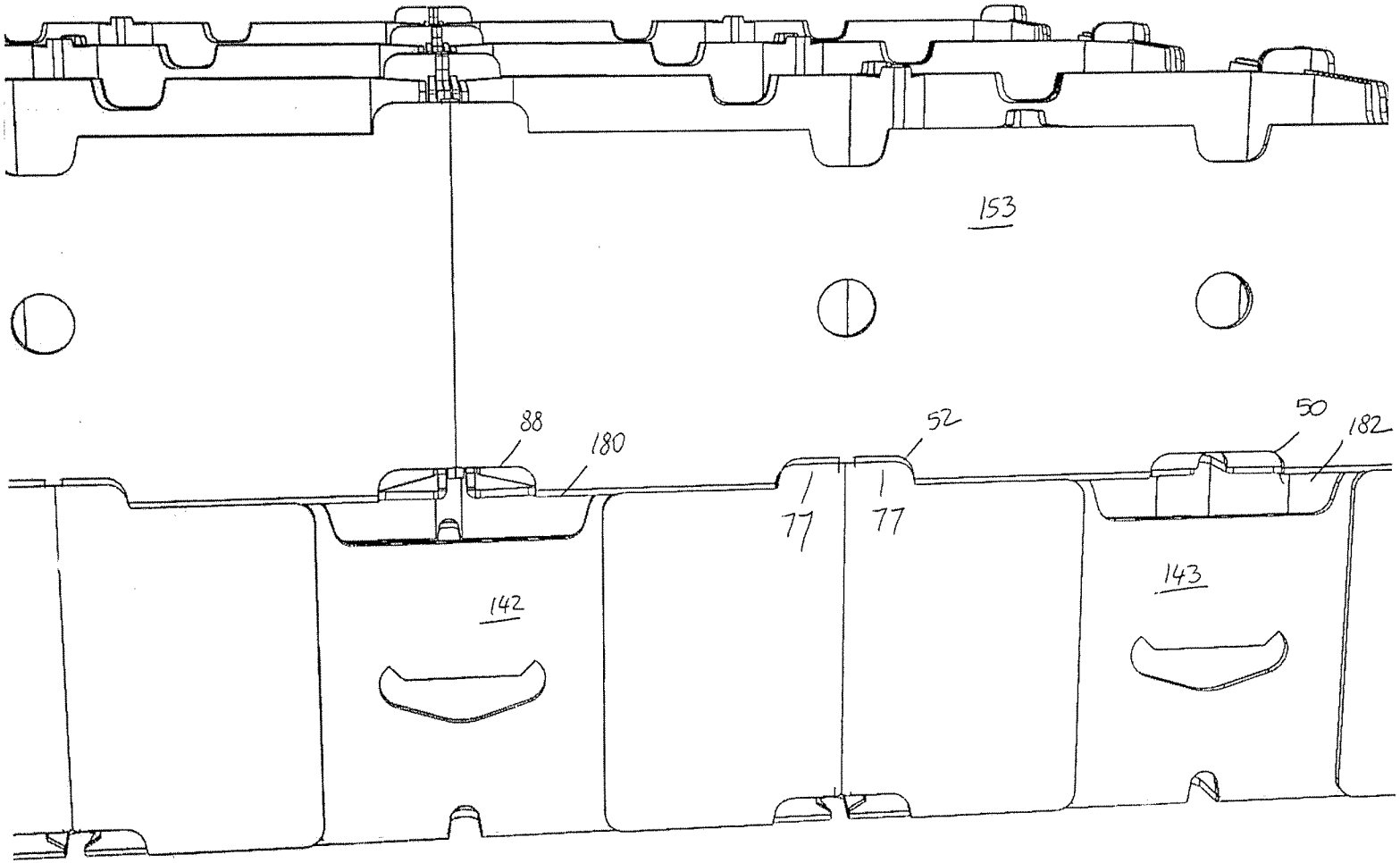

Fig 15

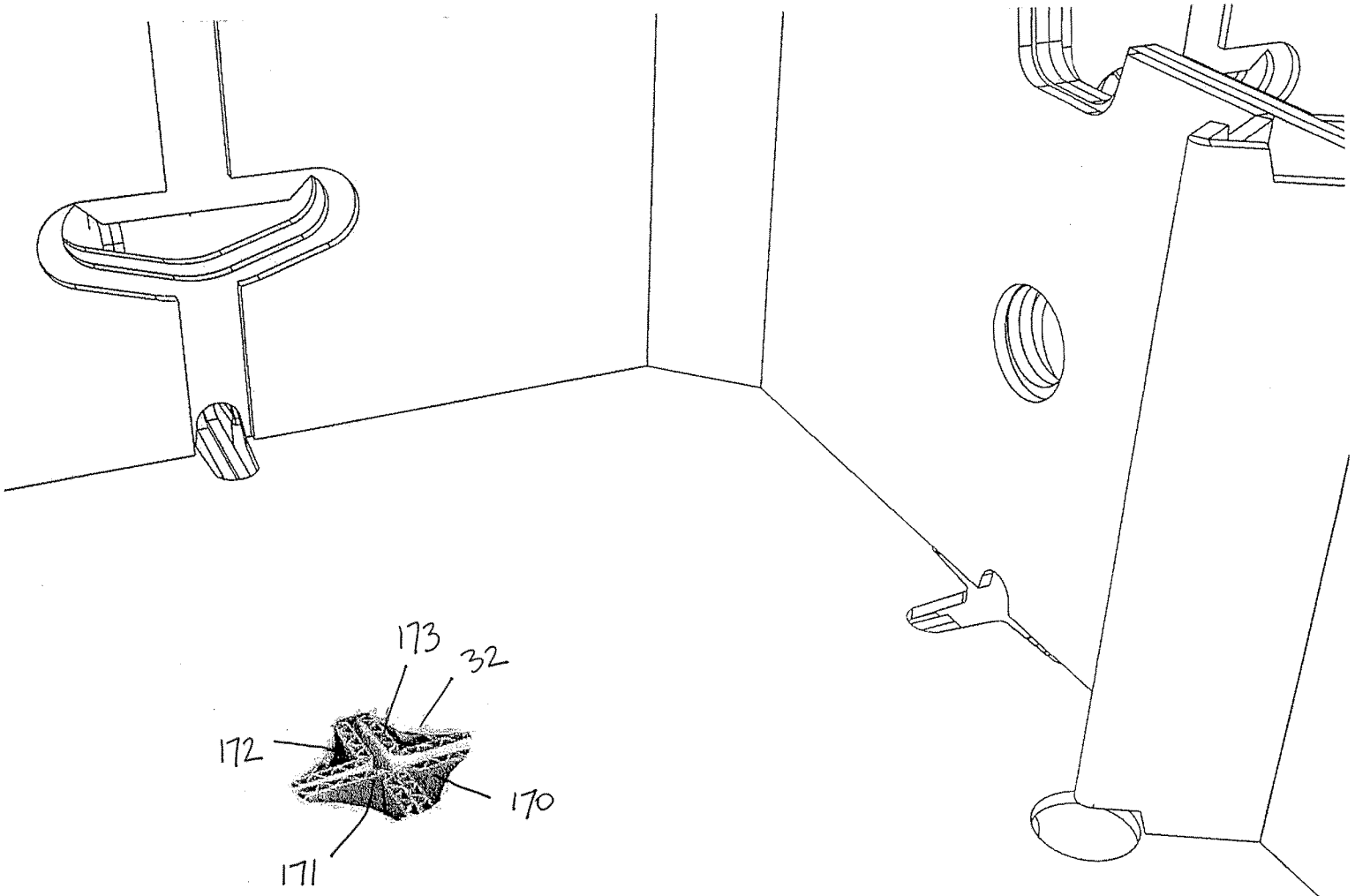

Fig 16