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(54) **CARTON, CARTON BLANK AND METHOD OF ERECTING AND FILLING THE CARTON**

KARTONVERPACKUNG, ZUSCHNITT SOWIE METHODE DER AUFRICHTUNG UND BEFÜLLUNG  
BOITE EN CARTON, FLAN ET PROCEDE POUR LA REALISATION ET REMPLISSAGE D'UNE  
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## Description

### Technical Field of the Invention

**[0001]** The present invention relates to a carton for holding and dispensing a plurality of items, to a blank for forming such a carton and to a method of erecting and filling such a carton.

### Background to the Invention

**[0002]** Cartons made from cardboard, cartonboard or similar materials are widely used for holding and dispensing multiple product items, particularly food items such as snack and confectionery products that are intended for sharing. The known cartons are typically formed by assembly of corresponding carton blanks through a series of folds to provide the required carton shape defining an interior void for the containment of the items to be stored and dispensed.

**[0003]** Some known cartons have a top end closure though which the carton is filled before it is closed. The top end opening can be reopened by an end user to allow access to the interior of the carton to dispense the contents of the carton. Once opened, the carton can be passed between a number of people in turn to allow them to each remove a selected item or items. It is a drawback of this arrangement that the contents can only be accessed through the open upper end, which can make it difficult to reach product items at the bottom of the carton as it empties or to select a particular item when the contents of the carton include a range of different product items.

**[0004]** To address these issues, it is known to provide cartons having a so called "bin type" dispenser in one of the peripheral walls. A bin type dispenser usually takes the form of a hinged flap in a lower region of the wall which can be pivoted outwardly to allow access to a bottom end region of the interior through an aperture in the wall. The hinged flap has side tabs which project into the carton to form a chute-like arrangement to contain the items and prevent them spilling out.

**[0005]** It is an advantage of bin type dispensers that they allow direct access to the bottom region of the container so that items can be more easily reached as the carton empties. Depending on the carton design, a bin type dispenser can also provide a wider opening than in the conventional top opening cartons making it easier to select a particular item from among a range of items in the carton.

**[0006]** Whilst cartons having a bin type dispenser arrangement have advantages over conventional top opening cartons, they are more complex in design and accordingly more difficult to erect and fill. In some cases, it is necessary to use more than one blank of material to form the carton which adds a further manufacturing step in having to erect the various blanks and connect them together to form the completed carton. Due the complex-

ity of design with bin type dispensers, it can be necessary to fill the carton through the open bin dispenser. This is less efficient than top filling and may require use of specially designed filling apparatus which adds to the overall cost.

**[0007]** A drawback with both top opening cartons and bin type dispenser cartons is that they only provide a single dispensing opening. This usually means that only one person at a time can remove items from the carton. When sharing, the carton has to be passed from person to person.

**[0008]** US 2,891,711 discloses a carton formed from a single blank of material which incorporates two bin type dispensers on opposing sides. However, in the completed carton, the dispenser flaps are spaced upwardly from the base and additional internal panels are required inside the peripheral walls of the carton at a lower end where the dispensers are located. This arrangement uses additional packaging material and results in the inner surfaces of the carton being stepped.

**[0009]** There is a need then to provide an improved or alternative carton which overcomes, or at least mitigates, the drawbacks of the known cartons.

**[0010]** There is also a need in particular for an improved or alternative carton from which it is easier to dispense items to more than one person either simultaneously or sequentially.

**[0011]** There is a need then to provide an improved or alternative carton which overcomes, or at least mitigates, the drawbacks of the known cartons but which is relatively easy to manufacture and fill.

**[0012]** There is also a need then to provide an improved or alternative blank for forming a carton which overcomes, or at least mitigates, the drawbacks of the known cartons.

**[0013]** There is also a need in particular for an improved or alternative blank for forming a carton from which it is easier to dispense items to more than one person either simultaneously or sequentially.

**[0014]** There is also a need to provide an improved or alternative blank for forming a carton which overcomes, or at least mitigates, the drawbacks of the known cartons but which is relatively easy to erect into a carton and fill.

**[0015]** There is a further need for an improved method of erecting and filling a carton which overcomes, or at least mitigates, the drawbacks of the known methods

### Summary of the Invention

**[0016]** According to a first aspect of the invention, there is provided a carton for holding and dispensing a plurality of items, the carton having a main body comprising a base at a lower end of the carton, peripheral walls extending from the base to define a volume within which a plurality of items can be held, and a top end closure for the main body at an upper end of the carton opposite the base, the peripheral walls including opposed front and rear walls and opposed side walls extending between

the front and rear walls, each of the front and rear walls having a fixed upper wall panel and a bin type dispensing flap in a lower region, the bin type dispensing flap being pivotally movable between an open position in which an upper end of the flap is spaced from the fixed upper wall panel allowing access to the interior volume for dispensing of items in the carton and a closed position in which the upper end of the flap is located adjacent the fixed upper wall panel, wherein the carton is erected from a single unitary blank of material, and characterised in that the base consists of a single unitary panel, the bin type dispensing flap in each of the front and rear walls comprising a lower wall panel hingedly attached along a lower edge to an edge of the base panel for pivotal movement between said open and closed positions and a pair of opposed side tabs extending inwardly from opposite side edges of the lower wall panel, each side tab extending into the interior of the main body adjacent the inner surface of a respective one of the side walls.

**[0017]** The carton may be configured such that the top end closure can be formed after the main body has been erected to define an interior volume so as to allow for the carton to be filled through the open top end prior to forming the top end closure.

**[0018]** In a carton in accordance with the first aspect of the invention, the top end closure may comprise a plurality of end closure flaps and tabs hingedly attached to upper ends of panels defining the peripheral walls.

**[0019]** The side tabs may each have a stop projection for engagement with an inner surface the fixed upper wall panel to limit movement of the lower wall panel on opening. An upper edge region of the lower wall panel may overlap a lower edge region of the fixed upper wall panel by a distance when in the closed position.

**[0020]** A locking mechanism may be provided for each bin type dispensing flap to releasably hold the bin type dispensing flap in the closed position. In an embodiment, the locking mechanism comprises a locking tab on the lower wall panel and a corresponding slot in the fixed upper wall panel, the locking tab being insertable in the slot to retain the bin type dispensing flap in the closed position.

**[0021]** In an embodiment a first one of the opposed side walls is wholly defined by a single integral panel and a second one of the side walls comprises an upper side wall panel extending between the fixed upper panels of the front and rear walls and a further second side wall panel member extending from the base panel, an upper end region of the further side wall panel member extending parallel to and adjacent the inside surface of the upper side wall panel, a lower end region of the further second side wall panel member defining a lower portion of the second wall between the upper side wall panel and the base.

**[0022]** The top end closure may comprise a first and second major end closure flaps, each major end closure flap being pivotally connected to an upper end of a panel of a respective one of a first opposed pair of the peripheral

walls, and a pair of minor end closure tabs, each minor end closure tab being pivotally connected to an upper end of a panel of a respective one of a second opposed pair of the peripheral walls. In an embodiment, the first and second major end closure flaps are each pivotally connected to an upper edge of a fixed upper panel of a respective one of the front and rear walls, a first of the minor end closure tabs being pivotally connected to an upper edge of the panel defining the first side wall and the other of the minor end closure tabs being pivotally connected to an upper end of the further second side wall panel member. In an embodiment, the first major end closure flap is innermost in the top end closure and substantially fills the area defined between the peripheral walls at the top of the main body, the minor end closure tabs overlie the first major end closure flap, and the second major top end closure flap overlies the minor end closure tabs and substantially covers the entire area of the top of the main body. A free edge of the second major end closure flap may have a locking tab which is insertable in a locking slot defined at the junction between the first major end closure flap and the peripheral wall panel to which it is attached to hold the second major end closure flap in a closed position.

**[0023]** In a carton in accordance with the first aspect of the invention, an integral handle may project upwardly from the top end closure. In an embodiment, the handle comprises a first handle tab hingedly connected to one of the minor end closure tabs and a second handle tab hingedly connected to the other one of the minor end closure tabs, the handle tabs extending substantially perpendicular to the minor end closure tabs in adjacent overlapping relation, the second major end closure flap having a slot through which the handle tabs project.

**[0024]** In accordance with a second aspect of the invention, there is provided a blank of foldable material for forming a carton in accordance with the first aspect, the blank comprising: a generally rectangular base panel, a first side wall panel connected to a first side edge of the base by a fold line, a fixed upper front wall panel connected by a fold line to a front edge of an upper end region of the first side wall panel, a fixed upper rear wall panel connected to a rear edge of the upper end region of the first side wall panel by a fold line, a fixed upper second side wall panel connected by a fold line to a side edge of the fixed upper front wall panel on the side opposite from the first side wall panel, a glue tab connected by a fold line to one of a side edge the fixed upper rear wall panel on the side opposite the first side wall panel or a side edge of the fixed upper second side wall panel on the side opposite the fixed upper front wall panel; a further second side wall panel member connected by a fold line to a second side edge of the base panel opposite the first side edge, the further second side wall panel being substantially the same length as the first side wall panel; a pivotal lower front wall panel connected along a lower edge by a fold line to a front edge of the base panel, a first front side tab connected to a first side edge of the

pivotal lower front wall panel by a fold line and a corresponding second side tab connected to the other side edge of the pivotal lower front wall panel by a further fold line; a pivotal lower rear wall panel connected along a lower edge by a fold line to a rear edge of the base panel, a first rear side tab connected to a first side edge of the pivotal lower rear wall panel by a fold line and a corresponding second rear side tab connected to the other side edge of the pivotal lower rear wall panel by a further fold line; a first major top end closure flap connected by a fold line to an upper edge of the fixed upper rear wall panel, a second major top end closure flap connected by a fold line to an upper edge of the fixed upper front wall panel, a first minor top end closure tab connected by a fold line to an upper edge of the first side wall panel and a second minor top end closure tab connected by a fold line to an upper edge of the further second wall panel member.

**[0025]** The blank may further comprise a first reinforcing panel connected to an upper edge of the pivotal lower front wall panel and a second reinforcing panel connected to an upper edge of the pivotal lower rear wall panel. A locking tab may be defined in a portion of each of the reinforcing panels adjacent their respective fold lines by means of a slot.

**[0026]** A handle tab may be connected by a fold line to an edge of each of the minor end closure tabs. In an embodiment, each of the minor end closure tabs is generally L shaped, a respective handle tab being connected by means of a fold line to an edge of the upstand portion of the L.

**[0027]** In accordance with a third aspect of the invention, there is provided a method of erecting and filling a carton in accordance with the first aspect using a blank in accordance with the second aspect of the invention, the method comprising partially erecting the blank to define the main body of the carton with an open top end closure, introducing product into the carton through the open top end closure and closing the carton by forming the top end closure.

**[0028]** The carton may be held in any suitable orientation whilst being filled through the top end closure.

#### Detailed Description of the Invention

**[0029]** In order that the invention may be more clearly understood an embodiment thereof will now be described, by way of example only, with reference to the accompanying drawings, of which:

Figure 1 is a perspective view of an embodiment of a carton in accordance with the invention in a closed configuration;

Figure 2 is a perspective view similar to that of Figure 1 but showing the carton fully open;

Figure 3 is a view of a blank for forming the carton

of Figures 1 and 2; and

Figures 4 to 10 are a series of perspective views illustrating various stages in erecting the blank of Figure 3 into the carton of Figures 1 and 2.

**[0030]** A carton 10 in accordance with an embodiment of the invention is formed from a single, unitary blank 12 of foldable material such as cardboard, carton board or the like. The material of the blank may be a laminate and at least the outside may be printed on. Whilst cardboard and cartonboard or the like are particularly suitable materials, it should be appreciated that other suitable, generally rigid but foldable materials could be used. By generally rigid is meant materials which after folding and creasing are capable of holding their shape.

**[0031]** The carton 10 has a main body 14 comprising a base 16 and peripheral walls 18, 20, 22, 24 extending upwardly from the base 16 to define a generally cuboid box defining an interior void in which items can be held. The carton has an upper or top end closure, designated generally at 26 at the opposite end from the base. The top end closure 26 closes the top end of the main body 14 so as to retain product items in the interior void. As will be described in more detail later, the top end closure 26 is formed from a number of flaps and tabs connected with panels that make up the peripheral walls of the main body 14 and the arrangement is such that the blank can be partially erected to define the main body 14, product introduced into the main body 14 through the open top of the carton and the carton closed by forming the top end closure 26. This is advantageous as it allows top filling of the partially erected carton using conventional filling apparatus.

**[0032]** For convenience, the peripheral walls will be designated as a front wall 18, a rear wall 20, a first side wall 22, and a second side wall 24. It should be understood however that use of the terms "front", "rear", and "side" in the description and claims in relation to the walls or other parts of the carton is not intended to have any limiting effect on the claimed invention and that any of the peripheral walls could be designated as a front, rear or side wall. In the present embodiment, the front and rear walls 18, 20 are wider than the side walls 22, 24 but this need not be the case and the side walls 22, 24 could be the same width as the front and rear walls 18, 20 or they could be wider. Furthermore, relative directional terms such as "top", "upper" and "lower" as used in the description and the claims in relation to the carton refer to the carton 10 when positioned generally upright on its base as shown in Figure 1 of the drawings. It will be appreciated, however, that the carton 10 can be used or held in other orientations, particularly during manufacture and filling, and such relative directional terms should be construed accordingly. Similarly, such relative directional terms when used in relation to parts of the carton or to parts of the blank from which the carton is formed refer to the orientation of the parts in the completed carton

when the carton is positioned generally upright on its base and should be construed accordingly,

**[0033]** Each of the front and rear walls 18, 20 has a bin type dispensing arrangement, designated generally 28a and 28b respectively. Each dispensing arrangement 28a, 28b includes a dispensing flap 30a, 30b pivotally attached along a lower edge to an edge of the base 16 and is movable between a closed position as shown in Figure 1 and an open position as shown in Figure 2. When open, the dispensing arrangements 28a, 28b allow access to a lower region of the interior of the carton 10 for dispensing of items in the carton. The two dispensing arrangements 28a, 28b are independently movable between open and closed positions so that any one of them can be opened on its own or both can be opened at the same time. The provision of two dispensing arrangements 28a, 28b in opposing walls is advantageous as it allows items to be dispensed simultaneously or sequentially from either side. This is particularly advantageous when the contents are being shared as it makes it easier for more than one person to dispense items. For example, the carton 10 can be placed on a table between two people who can each independently remove items from the carton without the need to move the carton or pass it from person to person.

**[0034]** The detailed construction of the carton will now be described with reference in particular to Figure 3 which illustrates a blank 12 from which the carton is erected and Figures 4 to 10 which illustrate various stages in erecting the blank 12 into the carton 10.

**[0035]** The base 16 of the carton is a generally rectangular panel section 32. The term rectangular should be understood as including a square. The first side wall 22 comprises a single continuous side wall panel 42 which is connected to a first side edge of the base by a fold line 44 and extends to the top of the main body 14. The front wall 18 comprises a fixed upper front wall panel 46 which is connected by a fold line 48 to an upper end region of the front edge of the first side wall panel 42. The rear wall 20 comprises a corresponding fixed upper rear wall panel 50 which is connected to an upper end region of the rear edge of the first side wall panel 42 by a fold line 52. The second side wall 24 comprises a fixed upper side wall panel 54 which is connected by a fold line 56 to a side edge of the fixed upper front wall panel 46 on the side opposite from the first side wall panel 42. A glue tab 58 is connected by a fold line 60 to a side edge of the fixed upper rear wall panel 50 on the side opposite the first side wall panel 22.

**[0036]** The fixed upper front 46, rear 50 and side 54 wall panels and the upper end region of the first side wall panel 22 to which they are attached collectively define an upper housing portion 62 of the main body 14 in the erected carton. The upper housing portion 62 is formed by folding the fixed upper front 46, rear 50 and side 54 wall panels and the glue tab 58 in a constant direction about the fold lines 48, 52, 56, 60 so that the panels define generally rectangular box shape and bonding the

glue tab 58 to the inner surface of the fixed upper side wall panel 54 of the second side wall. This stage is illustrated in Figure 4.

**[0037]** It will be appreciated that the glue tab 58 could alternatively be located on the side edge of the fixed upper side wall panel 54 for attachment to the fixed upper rear wall panel 50 and/or that the positions of the fixed upper side wall panel 54 and the glue tab 58 could be reversed.

**[0038]** The second side wall 24 also comprises a further second side wall panel member 64 which is substantially identical in size and shape to the first side wall panel 42. The further second side wall panel member 64 is connected by a fold line 66 to a second side edge of the base panel 32. As illustrated in Figure 5, the upper end of the further second side wall panel member 64 is inserted inside the fixed upper side wall panel 54 and in the fully erected carton 10 an upper end region of the inserted further second side wall panel member 64 lies substantially parallel to and adjacent the inner surface of the fixed upper side wall panel 54. A lower end region 64a of the further second side wall panel member 64 forms a lower part of the second side wall 24 closing the area defined between the base 16, a lower edge 65 of the fixed upper side wall panel 54 and the front and rear walls 18, 20 as shown in Figure 6.

**[0039]** The dispensing arrangements 28a and 28b in the front and rear walls are substantially identical and so only the front dispensing arrangement 28a will be described in detail. The parts of the two dispensing arrangements 28a, 28b will be designated using the same reference numbers but assigned the identifiers "a" for the front wall dispensing arrangement 28a and "b" for the rear wall dispensing arrangement 28b.

**[0040]** The dispensing arrangement 28a in the front wall 18 includes a dispensing flap 30a having a pivotal lower front wall panel 31a which is connected along a lower edge by a fold line 68a to the front edge 34 of the base panel 16. The fold line 68a acts as a live hinge to allow the lower front wall panel 31a to pivot about the axis of the fold line 68a between open and closed positions. In the closed position, the pivotal lower front wall panel 31a substantially co-planar with the fixed upper front wall panel 46 and is shaped and dimensioned to completely cover an aperture defined between a lower edge 70 of the fixed upper front wall panel 46, the base 16 and the side walls 22, 24. To this end, the pivotal lower front wall panel 31a extends substantially over the full width of the front wall and its upper end 72 overlaps a lower end region of fixed upper front wall panel 46 by a distance such that when the lower wall panel 31a is in the closed position, the front wall 18 is a fully closed structure.

**[0041]** In the present embodiment, a reinforcing panel 74a is connected by a fold line 76a to the upper edge of the pivotal lower front wall panel 31a. During erection of the blank, the reinforcing flap 74a is folded over about the fold line 76a and is bonded to the inner surface of the

lower front wall panel 31a. A locking tab 78a is defined in a central lower end portion of the reinforcing panel 74a adjacent the fold line 76a by a generally U shaped slot 80a. When the reinforcing panel 74a is folded over, the locking tab 78a is left unfolded so that it projects from the upper edge of the lower front wall panel 31a. A corresponding locking slot 82a is defined in a lower edge region of the fixed upper front wall panel 46. When the dispensing flap 30a is in the closed position, the locking tab 78a is insertable in the locking slot 82a to hold the dispensing flap 30a in the closed position.

**[0042]** The dispensing flap 30a also comprises a pair of side tabs 84a 88a which project from opposite side edges of the pivotal lower front wall panel 31a into the carton. A first side tab 84a is connected to a first side edge of the lower front wall panel 31a by a fold line 86a and a corresponding second side tab 88a is connected to the other side edge by a further fold line 89a. The two side tabs 84a, 88a are substantially identical mirror images of each other. The side tabs 84a, 88a project perpendicularly to the plane of the lower front wall panel 31a into the interior of the carton adjacent the inner surface of a respective side wall 22, 24, so that the lower front wall panel 31a and the side tabs 84a, 88a together define a chute-like structure through which product items in the carton can be dispensed and which prevents the contents of the carton from unintentionally spilling when the dispensing arrangement is open.

**[0043]** The side tabs 84a, 88a do not extend over the full height of the lower front wall panel 31a and their upper edges 90 are curved, the curve being centred about the axis of rotation of the lower wall panel 31a. The lower edge 70 of the fixed upper front wall panel has projections 92 on either side which project below the upper edges of the side tabs 84a, 88a when the carton is erected. A slot 94 is defined between each projection 96 and the adjacent side wall 22, 24 in which the upper edge region 90 of the respective side tab 84a, 88a is received. This retains the side tabs 84a, 88a in position adjacent the side walls 22, 24. Towards their inner ends, each side tab 84a, 88a is profiled to define a stop 96 which projects upwardly and is dimensioned so as to contact the inner surface of the fixed upper front wall panel 46 to limit opening movement of the dispensing flap 30a.

**[0044]** The top end closure 26 comprises first and second major end closure flaps and first, second and third minor end closure tabs.

**[0045]** The first major end closure flap 100 is connected by a fold line 102 to an upper edge of the fixed upper rear wall panel 50. The first major flap forms the innermost part of the top end closure and is folded over to lie just within the upper ends of the peripheral walls 18, 20, 22, 24 as illustrated in Figure 9. The first major flap 100 is dimensioned to substantially fill the entire area defined between the upper edges of the peripheral walls 18, 20, 22, 24 and prevents the upper end of the inserted second wall panel 64 from falling inwardly away from the inner surface of the fixed upper side wall panel 54. The first

major flap 100 is profiled on the side adjacent the first side wall to define a notch 104 which allows a user to insert a finger to open the first major flap 100 should they wish to open the upper end closure 26.

**[0046]** A first minor end closure tab 106 is connected by a fold line 108 to an upper edge of the first side wall panel 42. The first minor tab is generally L shaped with a base region 112 lying adjacent the fold line 108 and an "upstand" portion 114 of the L shape projecting across the width of the carton towards the second side wall but offset towards the front wall 18 of the carton. A first handle tab 116 is connected to a rear facing edge of the upstand portion of the L shaped minor tab 106 by a fold line 118.

**[0047]** A second minor end closure tab 120 is connected by a fold line 122 to an upper edge of the insertable second wall panel 64. The second minor tab 120 is substantially a mirror image of the first 106 also being L shaped with a base 124 and having an upstand 126 which projects across the width of the carton towards the first side wall 22 but this time is offset towards the rear wall 20. A second handle tab 128 is connected by a fold line 130 to a front facing edge of the upstand portion 128 and aligns with the first handle tab 116 in the erected carton to form a handle 131 located substantially centrally in the top end closure 26 of the carton.

**[0048]** The first and second minor tabs 106, 120 are each folded about their respective fold lines 108, 122 to overlie the first major flap 100 with the upstand portion 114 on the first minor tab 106 extending across the upper end of the carton adjacent the front wall 18 and the upstand portion 126 on the second minor tab 120 extending across the upper end of the carton adjacent the rear wall 18 as shown in Figure 10. The first and second handle tabs 116, 128 are each folded about their respective fold lines 118, 130 so as to project upwardly, substantially perpendicularly to the plane of the first and second minor tabs 106, 120 in abutting relation so as to collectively define the handle 131. The handle tabs 106, 120 in this embodiment have an upturned "U" shape but this is not essential.

**[0049]** A third minor end closure tab 132 is connected by a fold line 134 to an upper edge of the fixed upper side wall panel 54. The third minor tab 132 is folded about fold line 134 to overlie at least part of the base region 124 of the second minor tab 120 and serves to cover any gap present between the inserted second wall panel 64 and fixed upper second wall panel 54.

**[0050]** The top end closure 26 is completed by a second major end closure flap 136 which is connected by a fold line 138 to an upper edge of the fixed upper front wall panel 46. The second major flap 136 is dimensioned and shaped so as to substantially cover the entire area of the top of the carton as can be seen in Figures 1 and 2. An upper end closure locking tab 140 is connected with the free, rear edge of the second major flap by a fold line 142. The tab 140 is insertable in a corresponding slot 144 formed at the junction between the first major end closure flap 100 and the fixed upper rear wall panel 50

to secure the second major flap 136 in the closed position. A handle slot 146 is defined in a central region of the second major flap 136 through which the handle tabs 116, 128 project to form the handle 131 in the completed carton. Once the first, second and third minor tabs 106, 120, 132 have been folded into position and the handle tabs 116, 128 folded upwardly, the second major flap 136 is folded down about the fold line 138, the handle tabs 116, 128 inserted through the handle slot 146 and the locking tab 140 inserted in the locking slot 144 to releasably secure the second major flap 136 in the closed position.

**[0051]** A method of erecting and filling the carton 10 will now be described briefly.

**[0052]** Starting with the blank 12, as a preliminary stage, the reinforcing flaps 74a, 74b are folded over and bonded to the inner surfaces of their respective dispensing lower wall panels 31a, 31b. The upper housing portion 62 of the main body is formed as previously described by folding the fixed upper front 46, rear 50 and side 54 wall panels and the glue tab 58 in a constant direction about the fold lines 48, 52, 56, 60 so that the panels define generally rectangular box shape and bonding the glue tab 58 to the inner surface of the fixed upper side wall panel 54 of the second side wall. This is the stage illustrated in Figure 4.

**[0053]** The upper end of the second further side wall panel 64 is then inserted into the erected upper housing portion and positioned adjacent the inner surface of the fixed upper side wall panel 54. At this stage the side walls 22, 24 are completed as is the upper housing portion 62 as shown in Figure 6. To complete the front and rear walls 18, 22, the two dispensing arrangements 28a, 28b are formed and closed as illustrated in Figures 7 and 8. This is achieved by folding the respective side tabs 84a, 84b, 88a, 88b upwardly and inwardly and inserting them into the interior of the main body adjacent respective side walls 22, 24. The upper edges 90 of the side tabs 90 are engaged in their respective slots 94 with the stops 96 on the inside.

**[0054]** When positioning the side tabs 84a, 84b, 88a, 88b, the side tabs on a first lower wall panel 31a, 31b may both be located outwardly adjacent the respective side wall panels and the side tabs on the other lower wall panel 31a, 31b located inside the side tabs of the first dispensing flap. Alternatively, the side tabs on the two lower wall panels 31a, 31b may be interleaved with one tab on each panel 31a, 31b being outermost on one side of the carton and the other being innermost on the other side of the carton.

**[0055]** Once the side tabs have been inserted 84a, 84b, 88a, 88b, the dispensing flaps 30a, 30b are moved to the closed position and the locking tabs 78a, 78b inserted in their respective locking slots 82a, 82b to hold the flaps in the closed position.

**[0056]** The carton is now partially erected with the main body 14 formed so as to define an interior volume between the base 16 and the peripheral walls 18, 20, 22,

24 which is open at the top as shown in Figure 8. The carton can now be filled by introducing products items into the interior volume through the open upper or top end. It will be appreciated that whilst reference is made to the carton being filled through the open top end, the term "top" as used herein serves to identify the location of the open end when the carton is oriented generally upright on its base 16 and that the carton need not necessarily be held in this orientation when being filled so that the open end need not necessarily be uppermost during filling.

**[0057]** Once the carton has been filled, the top end closure 26 is formed as described above and as illustrated in Figures 9 and 10 to close the carton 10 and retain the products. The filled carton 10 may be further sealed in a removable outer film.

**[0058]** It will be appreciated that not all the steps described above need be carried out in the precise sequence set out. For example the dispensing arrangements 28a, 28b could be erected at the same time as inserting the second wall panel 64. However, it is a key feature that the carton 10 can be closed after the main body 14 has been erected and filled.

**[0059]** In order to dispense product items from the filled carton 10, a user can open one or both of the dispensing arrangements 28a, 28b by pulling the respective dispensing flap 30a, 30b downwardly and outwardly causing the locking tab 78a, 78b to disengage from the locking slot 82a, 82b. To reclose the dispensing arrangements, the dispensing flaps 30a, 30b are pushed back up and in and the locking tab 78a, 78b re-inserted in the locking slot 82a, 82b.

**[0060]** The carton 10 in accordance with the invention provides a sophisticated dispensing arrangement allowing access to the contents from either or both of two sides and yet is relatively easy to manufacture and fill as it is constructed from a single unitary blank of material and can be top filled using convention filling apparatus.

**[0061]** The above embodiment is described by way of example only. Many variations are possible without departing from the scope of the invention as defined in the appended claims. For example, the carton 10 need not be provided with an integral handle 131 and the carton need not have a third minor end closure flap 132 or reinforcing flaps 74a, 74b. Furthermore, the shape of the carton can be varied in a number of ways.

## Claims

1. A carton (10) for holding and dispensing a plurality of items, the carton having a main body (14) comprising a base (16) at a lower end of the carton, peripheral walls (18, 20, 22, 24) extending from the base to define a volume within which a plurality of items can be held, and a top end closure (26) for the main body at an upper end of the carton opposite the base, the peripheral walls including opposed

- front and rear walls (18, 20) and opposed side walls (22, 24) extending between the front and rear walls, each of the front and rear walls having a fixed upper wall panel (46, 50) and a bin type dispensing flap (30a, 30b) in a lower region, the bin type dispensing flap being pivotally movable between an open position in which an upper end of the flap is spaced from the fixed upper wall panel allowing access to the interior volume for dispensing of items in the carton and a closed position in which the upper end of the flap is located adjacent the fixed upper wall panel, wherein the carton is erected from a single unitary blank (12) of material, and **characterised in that** the base consists of a single unitary panel, the bin type dispensing flap (30a, 30b) in each of the front and rear walls comprising a lower wall panel (31a, 31b) hingedly attached along a lower edge (68a, 68b) to an edge of the base panel for pivotal movement between said open and closed positions and a pair of opposed side tabs (84a, 88a, 84b, 88b) extending inwardly from opposite side edges of the lower wall panel, each side tab extending into the interior of the main body adjacent the inner surface of a respective one of the side walls.
2. A carton (10) as claimed in claim 1, wherein the carton is configured such that the top end closure (26) can be formed after the main body (14) has been erected to define an interior volume so as to allow for the carton to be filled through the open top end prior to forming the top end closure, the top end closure comprising a plurality of end closure flaps and tabs (100, 106, 120, 132, 136) hingedly attached to upper ends of panels defining the peripheral walls.
  3. A carton (10) as claimed in claim 1 or claim 2, wherein an upper edge region of the lower wall panel (31a, 31b) overlaps a lower edge region of the fixed upper wall panel (46, 50) by a distance when in the closed position and a locking mechanism (78a, 78b, 82a, 82b) is provided for each bin type dispensing flap (30a, 30b) to releasably hold the bin type dispensing flap in the closed position.
  4. A carton (10) as claimed in claim 3, wherein the locking mechanism comprises a locking tab (78a, 78b) on the lower wall panel and a corresponding slot (82a, 82b) in the fixed upper wall panel, the locking tab being insertable in the slot to retain the bin type dispensing flap in the closed position.
  5. A carton (10) as claimed in any one of the preceding claims, wherein a first one of the opposed side walls (22) is wholly defined by a single integral panel (42) and a second one of the side walls (24) comprises an upper side wall panel (54) extending between the fixed upper panels (46, 50) of the front and rear walls and a further second side wall panel member (64) extending from the base panel (16), an upper end region of the further side wall panel member extending parallel to and adjacent the inside surface of the upper side wall panel (54), a lower end region (64a) of the further second side wall panel member defining a lower portion of the second side wall (24) between the upper side wall panel and the base.
  6. A carton (10) as claimed in any one of the preceding claims, wherein the top end closure (26) comprises a first and second major end closure flaps (100, 136), each major end closure flap being pivotally connected to an upper end of a panel of a respective one of a first opposed pair of the peripheral walls (18, 20), and a pair of minor end closure tabs (106, 120), each minor end closure tab being pivotally connected to an upper end of a panel of a respective one of a second opposed pair of the peripheral walls (22, 24).
  7. A carton (10) as claimed in claim 6 when dependent on claim 5, wherein the first and second major end closure flaps (100, 136) are each pivotally connected to an upper edge of a fixed upper panel (46, 50) of a respective one of the front and rear walls (18, 20), a first of the minor end closure tabs (106) being pivotally connected to an upper edge of the panel (42) defining the first side wall (22) and the other of the minor end closure tabs (120) being pivotally connected to an upper end of the further second side wall panel member (64).
  8. A carton (10) as claimed in claim 6 or claim 7, wherein the first major end closure flap (100) is innermost in the top end closure (26) and substantially fills the area defined between the peripheral walls at the top of the main body, the minor end closure tabs (106, 120) overlie the first major end closure flap, and the second major top end closure flap (136) overlies the minor end closure tabs and substantially covers the entire area of the top of the main body.
  9. A carton (10) as claimed in claim 8, wherein a free edge of the second major end closure flap (136) has a locking tab (140) which is insertable in a locking slot (144) defined at the junction between the first major end closure flap (100) and the peripheral wall panel (50) to which it is attached to hold the second major end closure flap in a closed position.
  10. A carton (10) as claimed in claim 8 or claim 9, wherein an integral handle (131) projects upwardly from the top end closure (26), the handle comprising a first handle tab (116) hingedly connected to one of the minor end closure tabs (106) and a second handle tab (128) hingedly connected to the other one of the minor end closure tabs (120), the handle tabs extending substantially perpendicular to the minor end closure tabs in adjacent overlapping relation, the



second major end closure flap (136) having a slot (146) through which the handle tabs project.

11. A blank (12) of foldable material for forming a carton (10) as claimed in any one of the preceding claims, the blank comprising: a generally rectangular base panel (32), a first side wall panel (42) connected to a first side edge of the base by a fold line (44), a fixed upper front wall panel (46) connected by a fold line (48) to a front edge of an upper end region of the first side wall panel (42), a fixed upper rear wall panel (50) connected to a rear edge of the upper end region of the first side wall panel (42) by a fold line, a fixed upper second side wall panel (54) connected by a fold line (56) to a side edge of the fixed upper front wall panel (46) on the side opposite from the first side wall panel, a glue tab (58) connected by a fold line (60) to one of a side edge the fixed upper rear wall panel (50) on the side opposite the first side wall panel or a side edge of the fixed upper second side wall panel (54) on the side opposite the fixed upper front wall panel; a further second side wall panel member (64) connected by a fold line to a second side edge of the base panel section (32) opposite the first side edge, the further second side wall panel being substantially the same length as the first side wall panel (42); a pivotal lower front wall panel (31a) connected along a lower edge by a fold line (68a) to a front edge of the base panel section (32), a first front side tab (84a) connected to a first side edge of the pivotal lower front wall panel by a fold line (86a) and a corresponding second side tab (88a) connected to the other side edge of the pivotal lower front wall panel by a further fold line (89a); a pivotal lower rear wall panel (31b) connected along a lower edge by a fold line (68b) to a rear edge of the base panel (32), a first rear side tab (84b) connected to a first side edge of the pivotal lower rear wall panel by a fold line (86b) and a corresponding second rear side tab (88b) connected to the other side edge of the pivotal lower rear wall panel by a further fold line; a first major top end closure flap (100) connected by a fold line (102) to an upper edge of the fixed upper rear wall panel (50), a second major top end closure flap (136) connected by a fold line to an upper edge of the fixed upper front wall panel (46), a first minor top end closure tab (106) connected by a fold line (108) to an upper edge of the first side wall panel (42) and a second minor top end closure tab (120) connected by a fold line (122) to an upper edge of the further second wall panel member (64).
12. A blank (12) as claimed in claim 11, further comprising a first reinforcing panel (74a) connected to an upper edge of the pivotal lower front wall panel (31a) and a second reinforcing panel (74b) connected to an upper edge of the pivotal lower rear wall panel (31b).

13. A blank (12) as claimed in claim 12, wherein a locking tab (78a), 78b) is defined in a portion of each of the reinforcing panels adjacent their respective fold lines by means of a slot (80a, 80b).

14. A blank (12) as claimed in any one of claims 11 to 13, wherein a handle tab (116, 128) is connected by a fold line to an edge of each of the minor end closure tabs (106, 120), and wherein each of the minor end closure tabs is generally L shaped, a respective handle tab being connected by means of a fold line to an edge of the upstand portion of the L.

15. A method of erecting and filling a carton (10) as claimed in any one of claims 1 to 10 using the blank (12) of any one of claims 11 to 14, the method comprising partially erecting the blank to define the main body (14) of the carton with an open top end closure (26), introducing product into the carton through the open top end closure and closing the carton by forming the top end closure (26).

#### Patentansprüche

1. Karton (10) zum Enthalten und Abgeben mehrerer Gegenstände, wobei der Karton Folgendes aufweist: einen Hauptkörper (14), umfassend eine Basis (16) an einem unteren Ende des Kartons, Umfangswände (18, 20, 22, 24), die von der Basis ausgehen, um ein Volumen zu definieren, innerhalb dessen mehrere Gegenstände gehalten werden können, und einen oberen Endverschluss (26) für den Hauptkörper an einem oberen Ende des Kartons gegenüber der Basis, wobei die Umfangswände eine einander gegenüberliegende vordere und hintere Wand (18, 20) und einander gegenüberliegende Seitenwände (22, 24), die zwischen der vorderen und der hinteren Wand verlaufen, einschließen, wobei jede der vorderen und hinteren Wand ein fixiertes oberes Wandfeld (46, 50) und eine behälterartige Abgabeklappe (30a, 30b) in einem unteren Bereich aufweist, wobei die behälterartige Abgabeklappe zwischen einer offenen Position, in der ein oberes Ende der Klappe vom fixierten oberen Wandfeld beabstandet ist, was Zugang zum Innenvolumen zur Abgabe von Gegenständen in dem Karton ermöglicht, und einer geschlossenen Position, in der das obere Ende der Klappe angrenzend an das fixierte obere Wandfeld angeordnet ist, schwenkbar beweglich ist, wobei der Karton aus einem einzelnen einstückigen Rohling (12) von Material aufgerichtet wird, und **dadurch gekennzeichnet, dass** die Basis aus einem einzelnen einstückigen Feld besteht, die behälterartige Abgabeklappe (30a, 30b) in jeder der vorderen und der hinteren Wand ein unteres Wandfeld (31a, 31b), das klappbar entlang eines unteren Randes (68a, 68b) an einem Rand des Basisfelds

für Schwenkbewegung zwischen der offenen und der geschlossenen Position befestigt ist, und ein Paar einander gegenüberliegende Seitenlaschen (84a, 88a, 84b, 88b) umfasst, die von einander gegenüberliegenden Seitenrändern des unteren Wandfelds nach innen verlaufen, wobei jeder Seitenstreifen angrenzend an die Innenoberfläche einer jeweiligen der Seitenwände in den Innenraum des Hauptkörpers verläuft.

2. Karton (10) nach Anspruch 1, wobei der Karton so konfiguriert ist, dass der obere Endverschluss (26) gebildet werden kann, nachdem der Hauptkörper (14) aufgerichtet wurde, um ein Innenvolumen zu definieren, um zu ermöglichen, dass der Karton durch das offene obere Ende vor dem Bilden des oberen Endverschlusses befüllt wird, wobei der obere Endverschluss mehrere Endverschlussklappen und Laschen (100, 106, 120, 132, 136) umfasst, die klappbar an oberen Enden von Feldern befestigt sind, die die Umfangswände definieren.
3. Karton (10) nach Anspruch 1 oder Anspruch 2, wobei ein oberer Randbereich des unteren Wandfelds (31a, 31b) einen unteren Randbereich des fixierten oberen Wandfelds (46, 50) um einen Abstand überlappt, wenn er in der geschlossenen Position ist, und ein Verriegelungsmechanismus (78a, 78b, 82a, 82b) für jede behälterartige Abgabeklappe (30a, 30b) bereitgestellt ist, um die behälterartige Abgabeklappe lösbar in der geschlossenen Position zu halten.
4. Karton (10) nach Anspruch 3, wobei der Verriegelungsmechanismus eine Verriegelungslasche (78a, 78b) am unteren Wandfeld und einen entsprechenden Schlitz (82a, 82b) in dem fixierten oberen Wandfeld umfasst, wobei die Verriegelungslasche in den Schlitz einführbar ist, um die behälterartige Abgabeklappe in der geschlossenen Position zu halten.
5. Karton (10) nach einem der vorstehenden Ansprüche, wobei eine erste der einander gegenüberliegenden Seitenwände (22) ganz von einem einzelnen integralen Feld (42) definiert wird und eine zweite der Seitenwände (24) ein oberes Wandfeld (54) umfasst, das zwischen den fixierten oberen Feldern (46, 50) der vorderen und hinteren Wand verläuft, und ein weiteres zweites Seitenwandfелеlement (64) vom Basisfeld (16) ausgeht, ein oberer Endbereich des weiteren Seitenwandfелеlements parallel zu und angrenzend an die Innenoberfläche des oberen Seitenwandfelds (54) verläuft, ein unterer Endbereich (64a) des weiteren zweiten Seitenwandfелеlements einen unteren Abschnitt der zweiten Seitenwand (24) zwischen dem oberen Seitenwandfeld und der Basis definiert.
6. Karton (10) nach einem der vorstehenden Ansprü-

che, wobei der obere Endverschluss (26) eine erste und zweite große Endverschlussklappe (100, 136), wobei jede große Endverschlussklappe schwenkbar mit einem oberen Ende eines Felds einer jeweiligen eines ersten einander gegenüberliegenden Paares der Umfangswände (18, 20) verbunden ist, und ein Paar kleinere Endverschlusslaschen (106, 120), wobei jede kleinere Endverschlusslasche schwenkbar mit einem oberen Ende eines Felds von jeweils einer eines zweiten einander gegenüberliegenden Paares der Umfangswände (22, 24) verbunden ist.

7. Karton (10) nach Anspruch 6 in Abhängigkeit von Anspruch 5, wobei die erste und zweite große Endverschlussklappe (100, 136) jeweils schwenkbar mit einem oberen Rand eines fixierten oberen Felds (46, 50) der vorderen bzw. hinteren Wand (18, 20) verbunden sind, wobei eine erste der kleineren Endverschlusslaschen (106) schwenkbar mit einem oberen Rand des Felds (42), das die erste Seitenwand (22) definiert, verbunden ist und die andere der kleineren Endverschlusslaschen (120) schwenkbar mit einem oberen Ende des weiteren zweiten Seitenwandfелеlements (64) verbunden ist.
8. Karton (10) nach Anspruch 6 oder Anspruch 7, wobei die erste große Endverschlussklappe (100) am weitesten innen in dem oberen Endverschluss (26) ist und im Wesentlichen den Bereich ausfüllt, der zwischen den Umfangswänden an der Oberseite des Hauptkörpers definiert ist, die kleineren Endverschlusslaschen (106, 120) über der ersten großen Endverschlussklappe liegen und die zweite obere große Endverschlussklappe (136) über den kleineren Endverschlusslaschen liegt und im Wesentlichen den gesamten Bereich der Oberseite des Hauptkörpers abdeckt.
9. Karton (10) nach Anspruch 8, wobei ein freier Rand der zweiten großen Endverschlussklappe (136) eine Verriegelungslasche (140) aufweist, die in einen Verriegelungsschlitz (144) einführbar ist, der an der Verbindung zwischen der ersten großen Endverschlussklappe (100) und dem Umfangswandfeld (50), an dem sie befestigt ist, definiert ist, um die zweite große Endverschlussklappe in einer geschlossenen Position zu halten.
10. Karton (10) nach Anspruch 8 oder Anspruch 9, wobei ein integraler Griff (131) von dem oberen Endverschluss (26) nach oben emporsteht, wobei der Griff eine erste Griffflasche (116), die klappbar mit einer der kleineren Endverschlusslaschen (106) verbunden ist, und eine zweite Griffflasche (128), die klappbar mit der anderen der kleineren Endverschlusslaschen (120) verbunden ist, umfasst, wobei die Griffflaschen im Wesentlichen senkrecht zu den kleineren Endverschlusslaschen in angrenzend-überlap-

penden Beziehung verlaufen, wobei die zweite große Endverschlussklappe (136) einen Schlitz (146) aufweist, durch den die Griffflaschen hervorstehen.

11. Rohling (12) aus faltbarem Material zum Bilden eines Kartons (10) nach einem der vorstehenden Ansprüche, wobei der Rohling Folgendes umfasst: ein im Allgemeinen rechteckiges Basisfeld (32), ein erstes Seitenwandfeld (42), das mit einem ersten Seitenrand der Basis durch eine Faltlinie (44) verbunden ist, ein fixiertes oberes vorderes Wandfeld (46), das über eine Faltlinie (48) mit einem vorderen Rand eines oberen Endbereichs des ersten Seitenwandfelds (42) verbunden ist, ein fixiertes oberes hinteres Wandfeld (50), das mit einem hinteren Rand des oberen Endbereichs des ersten Seitenwandfelds (42) durch eine Faltlinie verbunden ist, ein fixiertes oberes zweites Seitenwandfeld (54), das durch eine Faltlinie (56) mit einem Seitenrand des fixierten oberen vorderen Wandfelds (46) auf der Seite gegenüber dem ersten Seitenwandfeld verbunden ist, eine Klebelasche (58), die über eine Faltlinie (60) mit entweder einem Seitenrand des fixierten oberen hinteren Wandfelds (50) auf der Seite gegenüber dem ersten Seitenwandfeld oder einem Seitenrand des fixierten oberen zweiten Seitenwandfelds (54) auf der Seite gegenüber dem fixierten oberen vorderen Wandfeld verbunden ist; ein weiteres zweites Seitenwandfeldelement (64), das durch eine Faltlinie mit einem zweiten Seitenrand des Basisfeldabschnitts (32) gegenüber dem ersten Seitenrand verbunden ist, wobei das weitere zweite Seitenwandfeld im Wesentlichen die gleiche Länge aufweist wie das erste Seitenwandfeld (42); ein schwenkbares unteres vorderes Wandfeld (31a), das entlang eines unteren Rands durch eine Faltlinie (68a) mit einem vorderen Rand des Basisfeldabschnitts (32) verbunden ist, eine erste Vorderseitenlasche (84a), die mit einem ersten Seitenrand des schwenkbaren unteren vorderen Wandfelds durch eine Faltlinie (86a) verbunden ist, und eine entsprechende zweite Seitenlasche (88a), die mit dem anderen Seitenrand des schwenkbaren unteren vorderen Wandfelds durch eine weitere Faltlinie (89a) verbunden ist; ein schwenkbares unteres hinteres Wandfeld (31b), das entlang eines unteren Rands durch eine Faltlinie (68b) mit einem hinteren Rand des Basisfelds (32) verbunden ist, eine erste Rückseitenlasche (84b), die mit einem ersten Seitenrand des schwenkbaren unteren hinteren Wandfelds durch eine Faltlinie (86b) verbunden ist, und eine entsprechende zweite Rückseitenlasche (88b), die mit dem anderen Seitenrand des schwenkbaren unteren hinteren Wandfelds durch eine weitere Faltlinie verbunden ist; eine erste obere große Endverschlussklappe (100), die durch eine Faltlinie (102) mit einem oberen Rand des fixierten oberen hinteren Wandfelds (50) verbunden ist, eine zweite obere gro-

ße Endverschlussklappe (136), die durch eine Faltlinie mit einem oberen Rand des fixierten oberen vorderen Wandfelds (46) verbunden ist, eine erste kleinere obere Endverschlusslasche (106), die durch eine Faltlinie (108) mit einem oberen Rand des ersten Seitenwandfelds (42) verbunden ist, und eine zweite kleinere obere Endverschlusslasche (120), die durch eine Faltlinie (122) mit einem oberen Rand des weiteren zweiten Wandfeldelements (64) verbunden ist.

12. Rohling (12) nach Anspruch 11, ferner umfassend ein erstes Verstärkungsfeld (74a), das mit einem oberen Rand des schwenkbaren unteren vorderen Wandfelds (31a) verbunden ist, und ein zweites Verstärkungsfeld (74b), das mit einem oberen Rand des schwenkbaren unteren hinteren Wandfelds (31b) verbunden ist.

13. Rohling (12) nach Anspruch 12, wobei eine Verriegelungsasche (78a), (78b) in einem Abschnitt von jedem der Verstärkungsfelder, die an ihre jeweiligen Faltlinien angrenzen, mittels eines Schlitzes (80a), (80b) definiert ist.

14. Rohling (12) nach einem der Ansprüche 11 bis 13, wobei eine Griffflasche (116, 128) durch eine Faltlinie mit einem Rand von jeder der kleineren Endverschlusslaschen (106, 120) verbunden ist und wobei jede der kleineren Endverschlusslaschen im Allgemeinen L-förmig ist, wobei eine jeweilige Griffflasche mittels einer Faltlinie mit einem Rand des aufrechten Abschnitts des L verbunden ist.

15. Verfahren zum Aufrichten und Befüllen eines Kartons (10) nach einem der Ansprüche 1 bis 10 unter Verwendung des Rohlings (12) nach einem der Ansprüche 11 bis 14, wobei das Verfahren das teilweise Aufrichten des Rohlings, um den Hauptkörper (14) des Kartons mit einem offenen oberen Endverschluss (26) zu definieren, das Einführen des Produkts in den Karton durch den offenen oberen Endverschluss und das Schließen des Kartons durch Bilden des oberen Endverschlusses (26) umfasst.

## Revendications

1. Boîte (10) pour contenir et distribuer une pluralité d'articles, la boîte ayant un corps principal (14) comprenant une base (16) à une extrémité inférieure de la boîte, des parois périphériques (18, 20, 22, 24) s'étendant à partir de la base pour définir un volume au sein duquel une pluralité d'articles peut être contenue, et une fermeture d'extrémité supérieure (26) pour le corps principal à une extrémité supérieure de la boîte opposée à la base, les parois périphériques incluant des parois avant et arrière opposées

- (18, 20) et des parois latérales opposées (22, 24) s'étendant entre les parois avant et arrière, chacune des parois avant et arrière ayant un panneau de paroi supérieur fixe (46, 50) et un rabat de distribution de type bac (30a, 30b) dans une région inférieure, le rabat de distribution de type bac étant mobile de façon pivotante entre une position ouverte dans laquelle l'extrémité supérieure du rabat est espacée du panneau de paroi supérieur fixe permettant un accès au volume intérieur pour la distribution d'articles dans la boîte et une position fermée dans laquelle l'extrémité supérieure du rabat se situe adjacente au panneau de paroi supérieur fixe, dans laquelle la boîte est montée à partir d'une ébauche unique d'un seul tenant (12) de matériau, et **caractérisée en ce que** la base est constituée d'un panneau unique d'un seul tenant, le rabat de distribution de type bac (30a, 30b) dans chacune des parois avant et arrière comprenant un panneau de paroi inférieur (31a, 31b) fixé de manière articulée le long d'un bord inférieur (68a, 68b) à un bord du panneau de base pour un mouvement pivotant entre lesdites positions ouverte et fermée et une paire de languettes latérales opposées (84a, 88a, 84b, 88b) s'étendant vers l'intérieur à partir de bords latéraux opposés du panneau de paroi inférieur, chaque languette latérale s'étendant dans l'intérieur du corps principal, adjacente à la surface interne d'une paroi respective parmi les parois latérales.
2. Boîte (10) selon la revendication 1, dans laquelle la boîte est configurée de telle sorte que la fermeture d'extrémité supérieure (26) peut être formée après que le corps principal (14) a été monté pour définir un volume intérieur de façon à permettre à la boîte d'être remplie par l'extrémité supérieure ouverte avant formation de la fermeture d'extrémité supérieure, la fermeture d'extrémité supérieure comprenant une pluralité de rabats et languettes de fermeture d'extrémité (100, 106, 120, 132, 136) fixés de manière articulée aux extrémités supérieures de panneaux définissant les parois périphériques.
  3. Boîte (10) selon la revendication 1 ou la revendication 2, dans laquelle une région de bord supérieur du panneau de paroi inférieur (31a, 31b) chevauche une région de bord inférieur du panneau de paroi supérieur fixe (46, 50) d'une certaine distance lorsqu'on se trouve dans la position fermée et un mécanisme de verrouillage (78a, 78b, 82a, 82b) est fourni pour chaque rabat de distribution de type bac (30a, 30b) pour maintenir de manière libérable le rabat de distribution de type bac dans la position fermée.
  4. Boîte (10) selon la revendication 3, dans laquelle le mécanisme de verrouillage comprend une languette de blocage (78a, 78b) sur le panneau de paroi inférieur et une fente correspondante (82a, 82b) dans le panneau de paroi supérieur fixe, la languette de blocage pouvant être insérée dans la fente pour retenir le rabat de distribution de type bac dans la position fermée.
  5. Boîte (10) selon l'une quelconque des revendications précédentes, dans laquelle une première paroi parmi les parois latérales opposées (22) est entièrement définie par un panneau unique d'un seul tenant (42) et une deuxième paroi parmi les parois latérales (24) comprend un panneau de paroi latéral supérieur (54) s'étendant entre les panneaux supérieurs fixes (46, 50) des parois avant et arrière et un autre deuxième élément de panneau de paroi latérale (64) s'étendant à partir du panneau de base (16), une région d'extrémité supérieure de l'autre élément de panneau de paroi latérale s'étendant parallèle et adjacent à la surface intérieure du panneau de paroi latéral supérieur (54), une région d'extrémité inférieure (64a) de l'autre deuxième élément de panneau de paroi latérale définissant une partie inférieure de la deuxième paroi latérale (24) entre le panneau de paroi latéral supérieur et la base.
  6. Boîte (10) selon l'une quelconque des revendications précédentes, dans laquelle la fermeture d'extrémité supérieure (26) comprend des premier et deuxième rabats de fermeture majeurs d'extrémité (100, 136), chaque rabat de fermeture majeur d'extrémité étant relié de manière pivotante à une extrémité supérieure d'un panneau d'une paroi respective d'une première paire opposée des parois périphériques (18, 20), et une paire de languettes de fermeture mineures d'extrémité (106, 120), chaque languette de fermeture mineure d'extrémité étant reliée de manière pivotante à une extrémité supérieure d'un panneau d'une paroi respective parmi une deuxième paire opposée des parois périphériques (22, 24).
  7. Boîte (10) selon la revendication 6 prise en dépendance de la revendication 5, dans laquelle les premier et deuxième rabats de fermeture majeurs d'extrémité (100, 136) sont chacun reliés de manière pivotante à un bord supérieur d'un panneau supérieur fixe (46, 50) d'une paroi respective parmi les parois avant et arrière (18, 20), une première des languettes de fermeture mineures d'extrémité (106) étant reliée de manière pivotante à un bord supérieur du panneau (42) définissant la première paroi latérale (22) et l'autre des languettes de fermeture mineures d'extrémité (120) étant reliée de manière pivotante à une extrémité supérieure de l'autre deuxième élément de panneau de paroi latérale (64).
  8. Boîte (10) selon la revendication 6 ou la revendication 7, dans laquelle le premier rabat de fermeture majeur d'extrémité (100) est le plus interne dans la

fermeture d'extrémité supérieure (26) et remplit essentiellement la zone définie entre les parois périphériques en haut du corps principal, les languettes de fermeture mineures d'extrémité (106, 120) recouvrent le premier rabat de fermeture majeur d'extrémité, et le deuxième rabat de fermeture majeur d'extrémité supérieur (136) recouvre les languettes de fermeture mineures d'extrémité et couvre essentiellement la zone entière du haut du corps principal.

9. Boîte (10) selon la revendication 8, dans laquelle un bord libre du deuxième rabat de fermeture majeur d'extrémité (136) a une languette de blocage (140) qui peut être insérée dans une fente de blocage (144) définie à la jonction entre le premier rabat de fermeture majeur d'extrémité (100) et le panneau de paroi périphérique (50) auquel il est fixé pour maintenir le deuxième rabat de fermeture majeur d'extrémité dans une position fermée.
10. Boîte (10) selon la revendication 8 ou la revendication 9, dans laquelle une poignée d'un seul tenant (131) fait saillie vers le haut à partir de la fermeture d'extrémité supérieure (26), la poignée comprenant une première languette de poignée (116) reliée de façon articulée à l'une des languettes de fermeture mineures d'extrémité (106) et une deuxième languette de poignée (128) reliée de façon articulée à l'autre des languettes de fermeture mineures d'extrémité (120), les languettes de poignée s'étendant essentiellement perpendiculaires aux languettes de fermeture mineures d'extrémité dans une relation adjacente en chevauchement, le deuxième rabat de fermeture majeur d'extrémité (136) ayant une fente (146) à travers laquelle les languettes de poignée font saillie.
11. Ébauche (12) de matériau pliable pour former une boîte (10) selon l'une quelconque des revendications précédentes, l'ébauche comprenant : un panneau de base généralement rectangulaire (32), un premier panneau de paroi latérale (42) relié à un premier bord latéral de la base par une ligne de pliage (44), un panneau de paroi avant supérieur fixe (46) relié par une ligne de pliage (48) à un bord avant d'une région d'extrémité supérieure du premier panneau de paroi latérale (42), un panneau de paroi arrière supérieur fixe (50) relié à un bord arrière de la région d'extrémité supérieure du premier panneau de paroi latérale (42) par une ligne de pliage, un deuxième panneau de paroi latérale supérieur fixe (54) relié par une ligne de pliage (56) à un bord latéral du panneau de paroi avant supérieur fixe (46) sur le côté opposé au premier panneau de paroi latérale, une languette de collage (58) reliée par une ligne de pliage (60) à l'un parmi un bord latéral du panneau de paroi arrière supérieur fixe (50) sur le côté opposé au premier panneau de paroi latérale ou un bord

latéral du deuxième panneau de paroi latérale supérieur fixe (54) sur le côté opposé au panneau de paroi avant supérieur fixe ; un autre deuxième élément de panneau de paroi latérale (64) relié par une ligne de pliage à un deuxième bord latéral de la section de panneau de base (32) opposé au premier bord latéral, l'autre deuxième panneau de paroi latérale ayant essentiellement la même longueur que le premier panneau de paroi latérale (42) ; un panneau de paroi avant inférieur pivotant (31a) relié le long d'un bord inférieur par une ligne de pliage (68a) à un bord avant de la section de panneau de base (32), une première languette latérale avant (84a) reliée à un premier bord latéral du panneau de paroi avant inférieur pivotant par une ligne de pliage (86a) et une deuxième languette latérale correspondante (88a) reliée à l'autre bord latéral du panneau de paroi avant inférieur pivotant par une autre ligne de pliage (89a) ; un panneau de paroi arrière inférieur pivotant (31b) relié le long d'un bord inférieur par une ligne de pliage (68b) à un bord arrière du panneau de base (32), une première languette latérale arrière (84b) reliée à un premier bord latéral du panneau de paroi arrière inférieur pivotant par une ligne de pliage (86b) et une deuxième languette latérale arrière correspondante (88b) reliée à l'autre bord latéral du panneau de paroi arrière inférieur pivotant par une autre ligne de pliage ; un premier rabat de fermeture majeur d'extrémité supérieur (100) relié par une ligne de pliage (102) à un bord supérieur du panneau de paroi arrière supérieur fixe (50), un deuxième rabat de fermeture majeur d'extrémité supérieur (136) relié par une ligne de pliage à un bord supérieur du panneau de paroi avant supérieur fixe (46), une première languette de fermeture mineure d'extrémité supérieure (106) reliée par une ligne de pliage (108) à un bord supérieur du premier panneau de paroi latérale (42) et une deuxième languette de fermeture mineure d'extrémité supérieure (120) reliée par une ligne de pliage (122) à un bord supérieur de l'autre deuxième élément de panneau de paroi (64).

12. Ébauche (12) selon la revendication 11, comprenant en outre un premier panneau de renfort (74a) relié à un bord supérieur du panneau de paroi avant inférieur pivotant (31a) et un deuxième panneau de renfort (74b) relié à un bord supérieur du panneau de paroi arrière inférieur pivotant (31b).
13. Ébauche (12) selon la revendication 12, dans laquelle une languette de blocage (78a, 78b) est définie dans une partie de chacun des panneaux de renfort, adjacente à leurs lignes de pliage respectives au moyen d'une fente (80a, 80b).
14. Ébauche (12) selon l'une quelconque des revendications 11 à 13, dans laquelle une languette de poignée (116, 128) est reliée par une ligne de pliage à

un bord de chacune des languettes de fermeture mineures d'extrémité (106, 120), et dans laquelle chacune des languettes de fermeture mineures d'extrémité est généralement en forme de « L », une languette de poignée respective étant reliée au moyen d'une ligne de pliage à un bord de la partie dressée du L.

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15. Procédé de montage et de remplissage d'une boîte (10) selon l'une quelconque des revendications 1 à 10 en utilisant l'ébauche (12) selon l'une quelconque des revendications 11 à 14, le procédé comprenant le montage partiel de l'ébauche pour définir le corps principal (14) de la boîte avec une fermeture d'extrémité supérieure ouverte (26), l'introduction de produit dans la boîte à travers la fermeture d'extrémité supérieure ouverte et la fermeture de la boîte en formant la fermeture d'extrémité supérieure (26).

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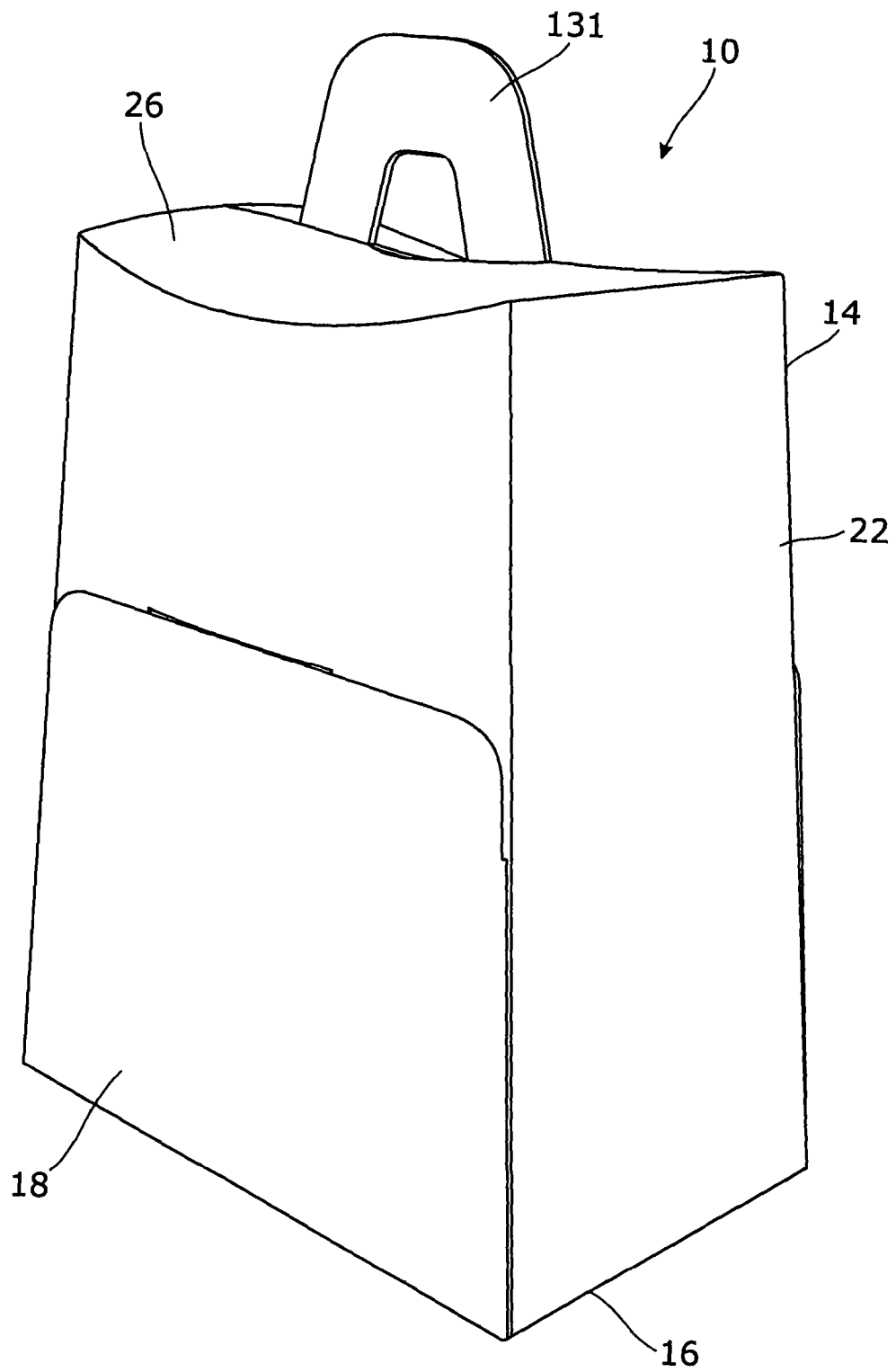


Fig. 1

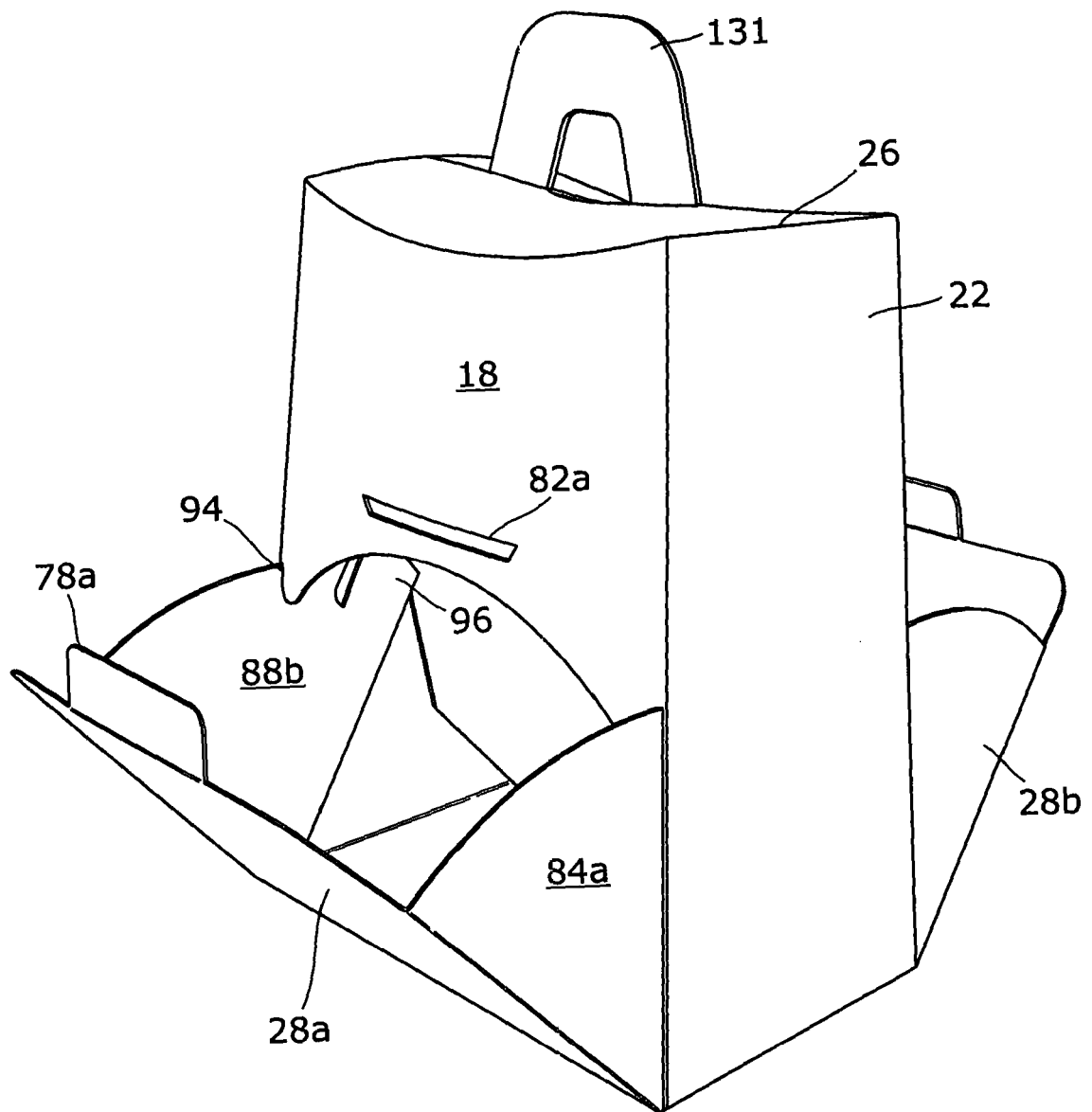


Fig. 2



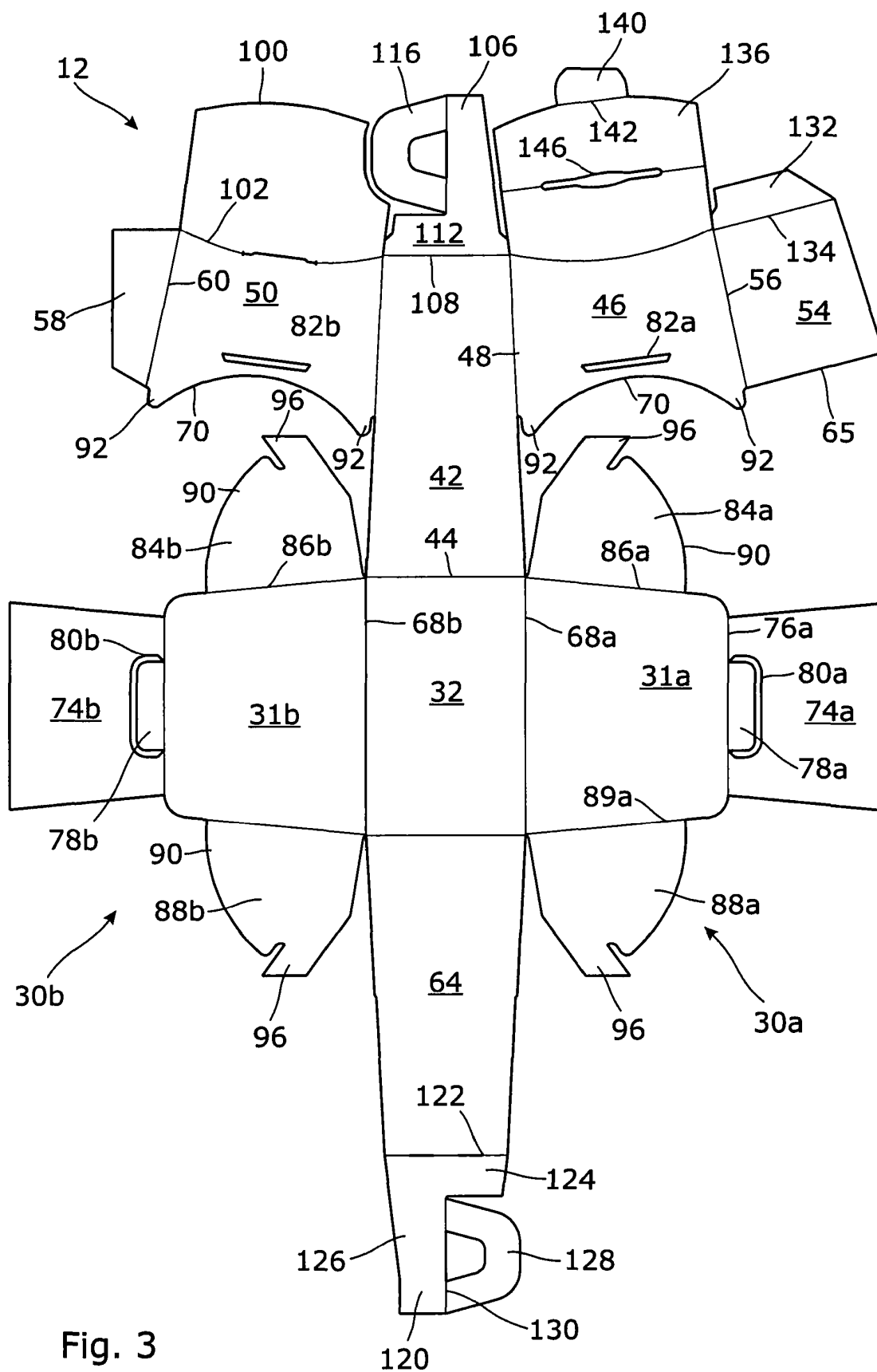


Fig. 3

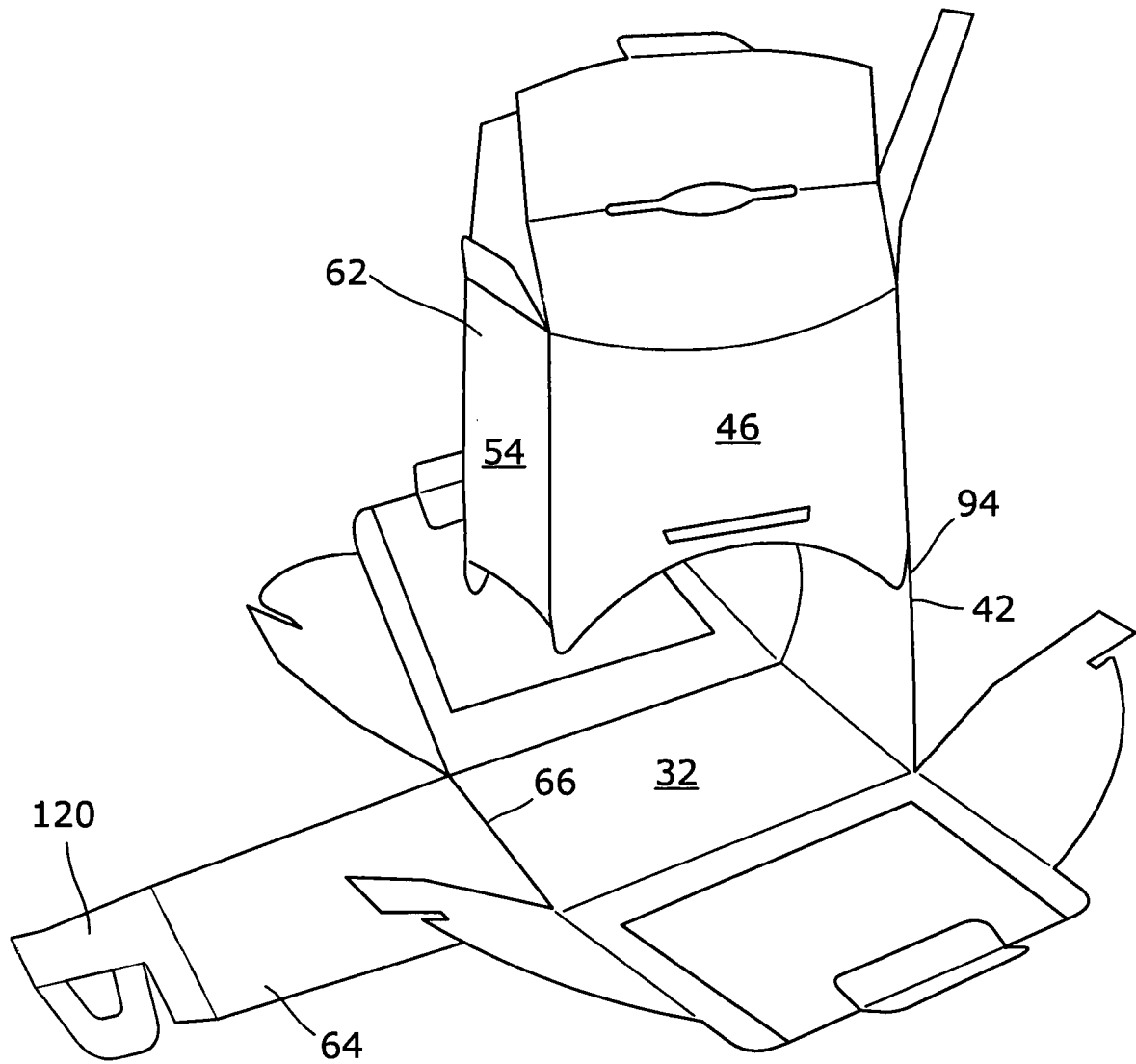


Fig. 4

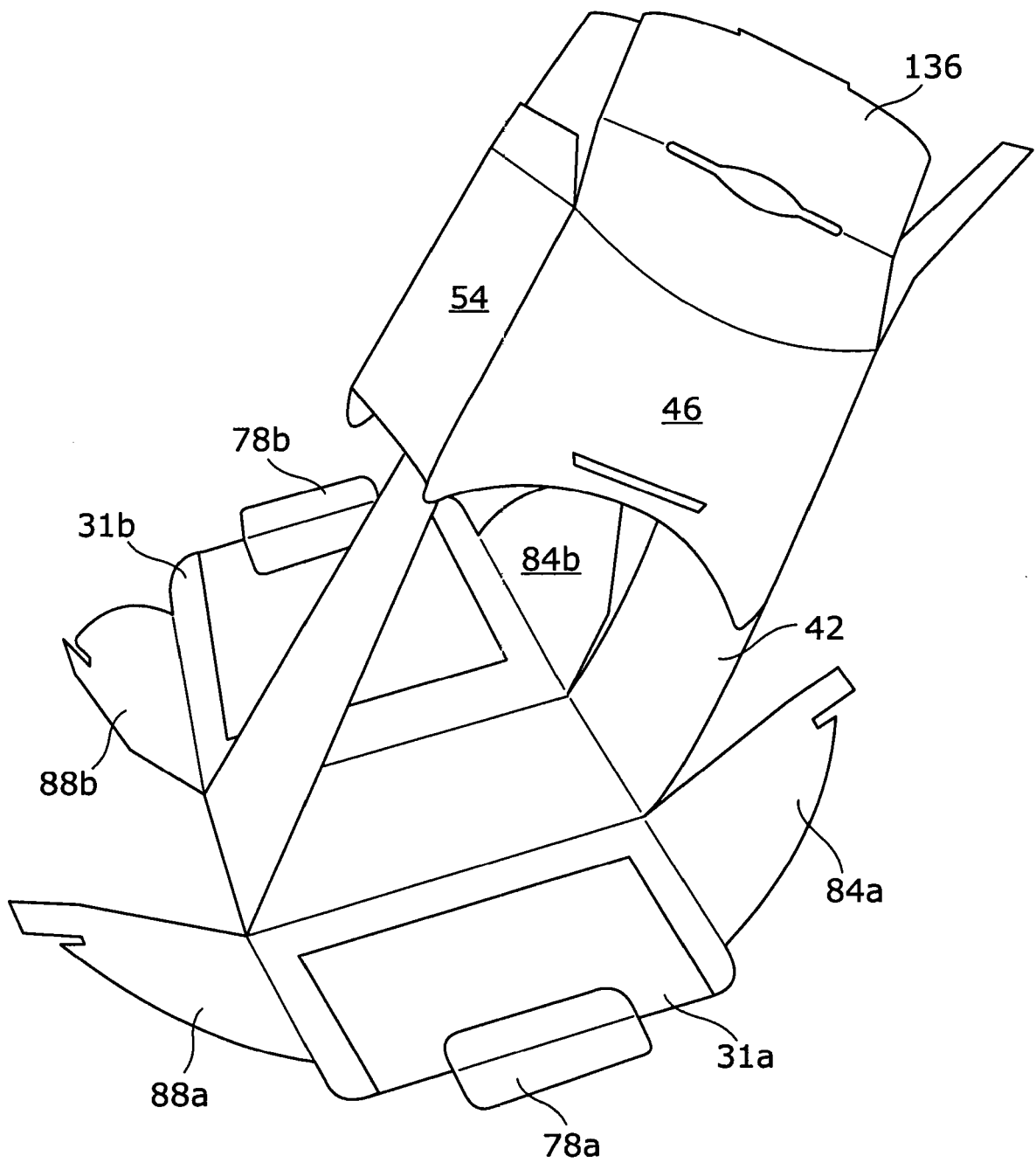


Fig. 5

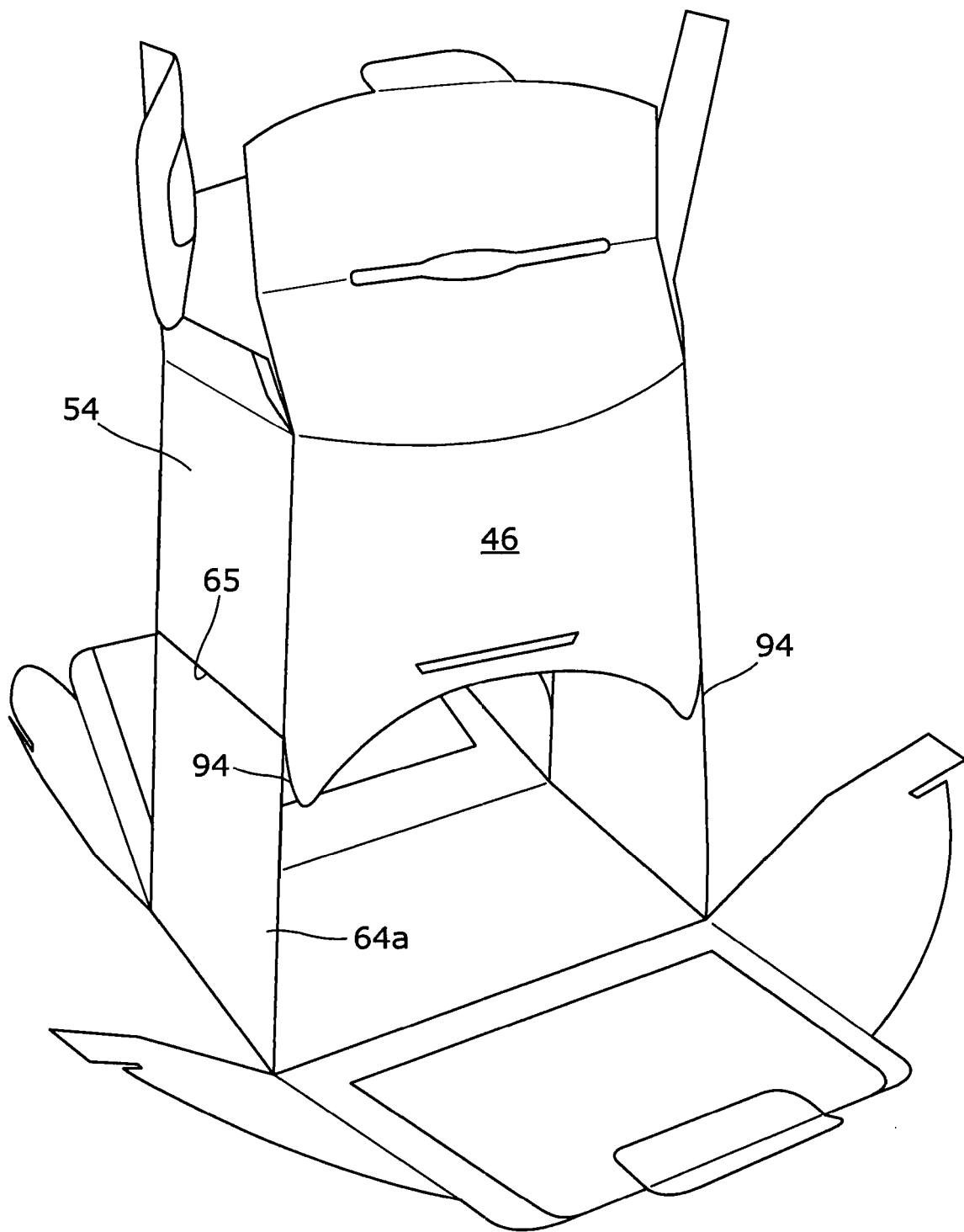


Fig. 6

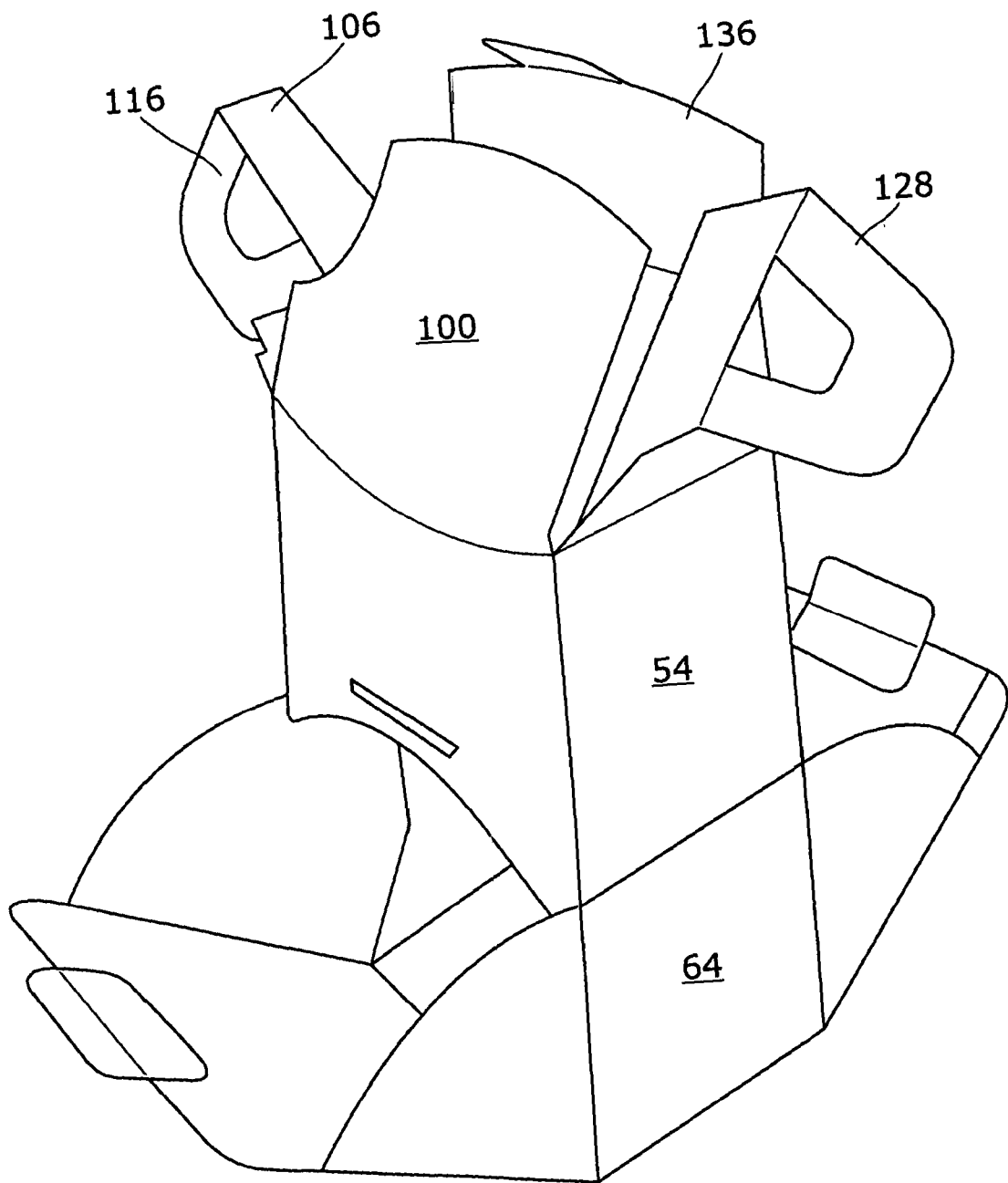


Fig. 7

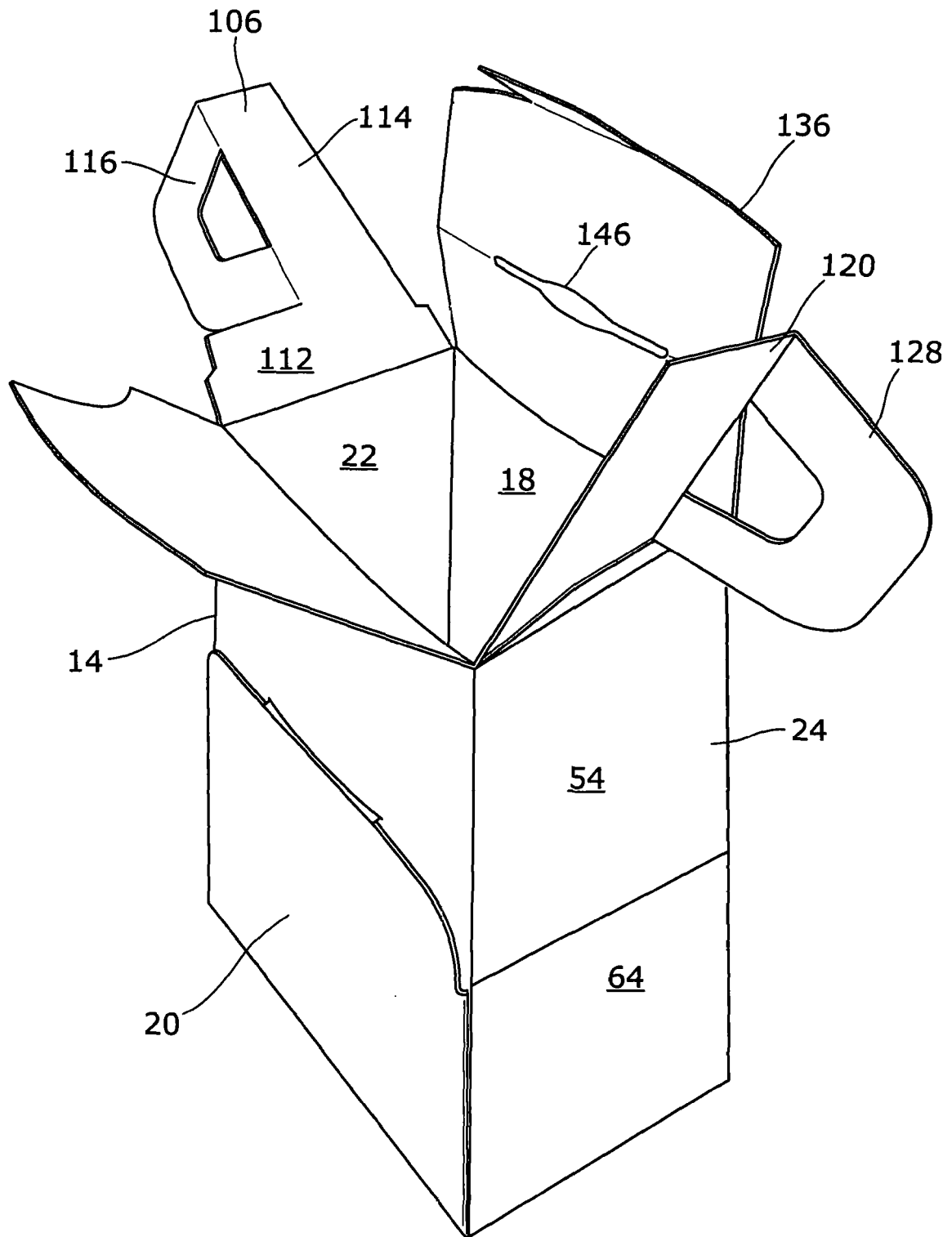
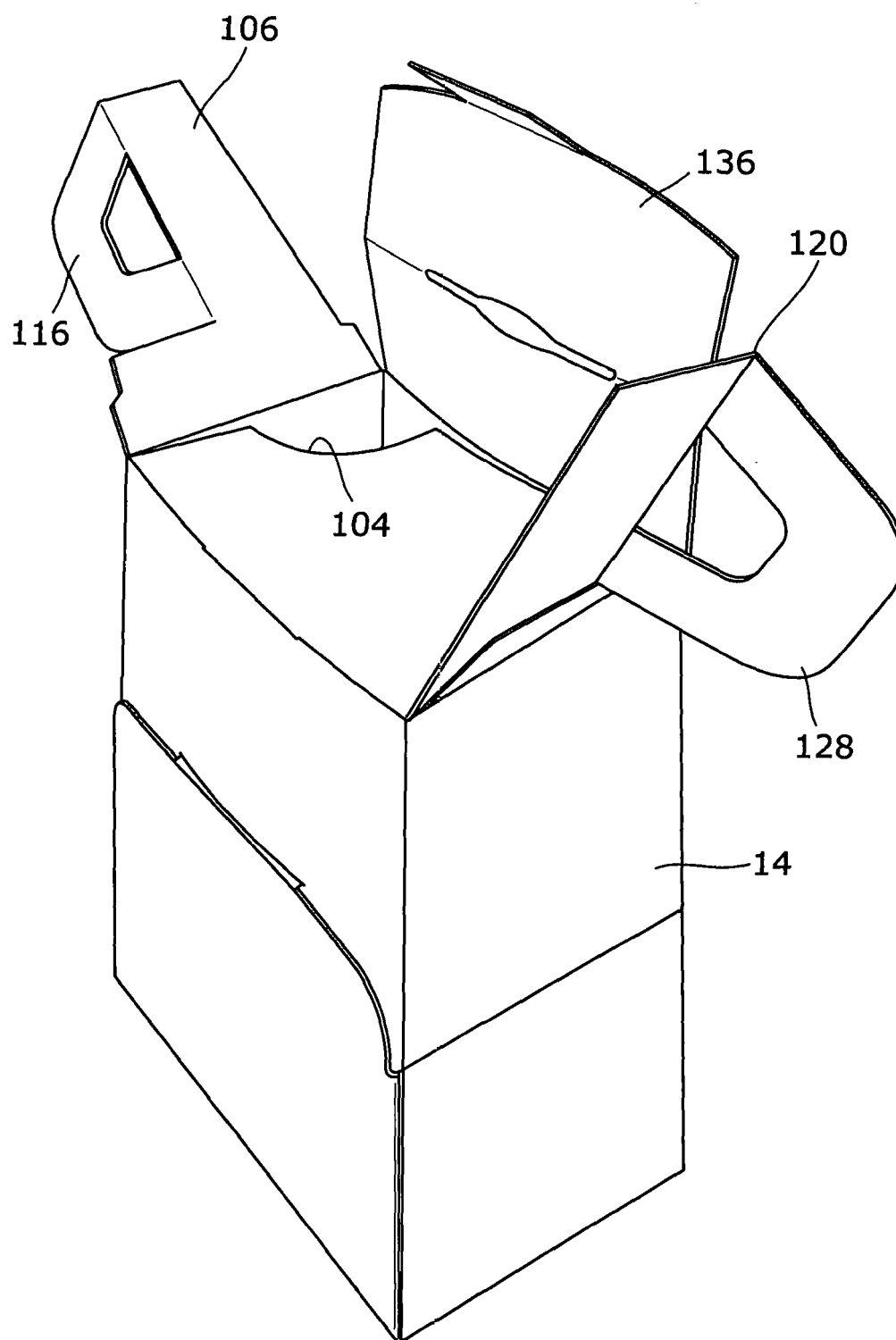


Fig. 8



**Fig. 9**

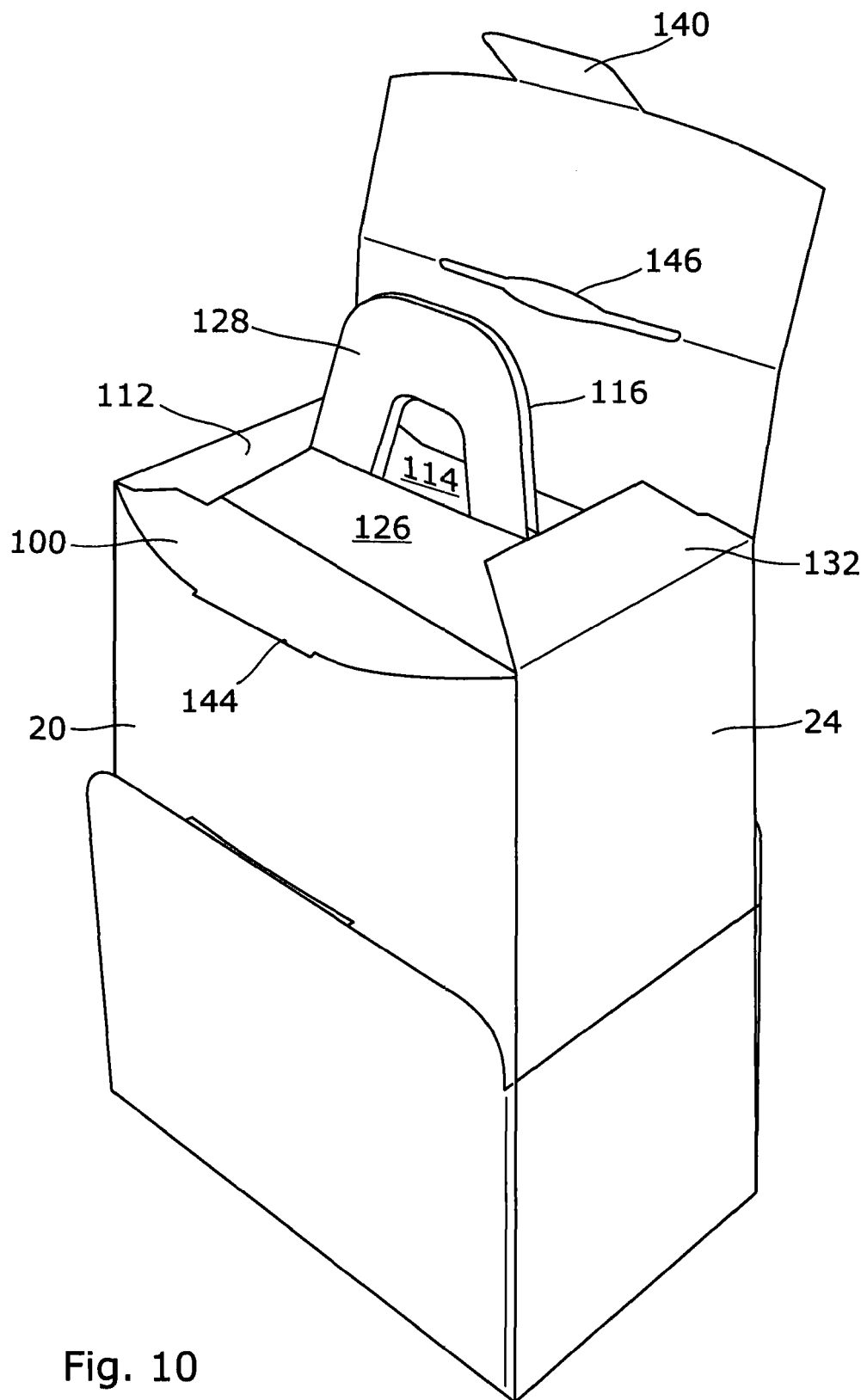


Fig. 10



**REFERENCES CITED IN THE DESCRIPTION**

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**Patent documents cited in the description**

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