

Description

[0001] The invention relates to a bottle carrier, in particular a top-gripping bottle carrier, for carrying multiple bottles, in particular plastic bottles.

[0002] Different bottle carriers are known, which for instance are made of cardboard sheet material, and which are usually used to form multipacks, such as for instance four-packs or six-packs.

[0003] Although top-gripping bottle carriers of cardboard material are known, they often have different disadvantages. For example, the carriers or the multipacks may often have a relatively complex design and/or may be difficult to erect and/or assemble. Additionally or alternatively, top-gripping bottle carriers made of cardboard material and/or multipacks formed therewith, wherein bottles extend at the lower end side of the top-gripping bottle carrier, may often be relatively weak and/or bottles held therein may often be not held relatively well, in particular when the content of the bottle is relatively large and/or heavy, for instance more than about 0.5 liter of liquid, such as for example about 1 liter or about 1.5 liter, per bottle.

[0004] For instance therefore, there can be felt a need to provide an alternative cardboard bottle carrier.

[0005] It is an object of the invention to provide an alternative bottle carrier, in particular an alternative cardboard top-gripping bottle carrier, especially one for drink bottles or beverage bottles, such as water bottles or soft drink bottles. In particular, it can be an object of the invention to provide a bottle carrier, wherein at least one of the disadvantages of a prior art bottle carrier is counteracted. More in particular, the invention may aim to provide a bottle carrier, wherein at least one of the disadvantages mentioned above is counteracted. In embodiments, the invention aims at providing an alternative cardboard top-gripping bottle carrier, especially an alternative cardboard top-gripping beverage bottle carrier which may facilitate that bottles can be retained in the carrier relatively well.

[0006] Thereto, the invention provides for a top-gripping bottle carrier for carrying multiple bottles, in particular plastic bottles, comprising a top panel of cardboard sheet material, in particular corrugated fiberboard, having at least two bottle receiving apertures, wherein each one of the bottle receiving apertures is provided with a respective series of locking tabs hingedly connected to the top panel by means of a respective first fold line, and disposed around the respective bottle receiving aperture, wherein each locking tab is arranged for pivoting about the respective first fold line from an initial position of the respective locking tab, in which said respective locking tab lies substantially in line with the top panel, towards a folded up position in which said locking tab is under an angle with the top panel, i.e. an angle greater than 0°, wherein each locking tab of said respective series extends from the respective first fold line towards a retaining edge for engaging an underside of a radially protruding

portion of a bottle to be received in the bottle receiving aperture, wherein the bottle carrier further comprises a skirt extending down from the top panel, wherein said skirt comprises at least three, and preferably at least four, main skirt panels connected to the top panel by means of a respective second fold line, and wherein the at least three main skirt panels are interconnected with each other, directly or indirectly, such as to enable enclosing at least respective parts of the bottles to be held by the bottle carrier during use.

[0007] By providing the top-gripping bottle carrier with the skirt which during use can enclose at least parts of the bottles held by said carrier, in particular at least at one of one or more height levels at which the bottles are at their widest, the carrier, in particular its skirt, can enable that the bottles can be held together relatively well, in particular in a manner in which the bottles abut each other and in which the bottles abut the enclosing skirt. By holding the enclosed bottles together relatively well and by enclosing the bottles by means of the skirt, it can be counteracted relatively well that a bottle may move sideward and/or that a respective bottle may swing more or less relatively to the bottle receiving aperture in which it is held by means of at least the locking tabs.

[0008] It has been surprisingly found that the skirt, in particular when it is made out of relatively rigid cardboard material, especially corrugated fiberboard material, can counteract that relatively large loads may unintentionally be applied on the locking tabs when a person carrying a multipack in which the bottles protrude from the carrier at its bottom side is swinging or shaking the carrier, as said skirt can counteract that the bottles swing relative to the carrier.

[0009] By having the top panel to include a series of neck support sections, which are integral parts of the top panel and which define neck support edges being located more inwardly with respect to the bottle receiving aperture than the fold lines of the locking tabs, swinging and/or lateral movement of the bottles may be counteracted even more, in particular when the carrier and/or the multipack are designed such that the neck support sections of a respective bottle receiving aperture are abutting against an outer wall portion of the respective bottle, for instance an outer wall portion of a neck of said respective bottle, thereby enabling that the bottles may be laterally restricted at at least two height levels below the height level at which they are held by the locking tabs. It is noted that the neck support sections are integrally formed with the rest of the top panel, and can together with the rest of the top panel form one integral and uninterrupted panel, wherein the neck support sections are thus not arranged to pivot with respect to an adjacent section of the top panel via a fold line.

[0010] Advantageously, the neck support edge may have a shape corresponding with the outer wall portion of the bottle against which they may rest during use, such as for example a concave shape, preferably an arc-shape, more preferably a concave shape which is sub-

stantially circular arc-shaped.

[0011] By giving the carrier a substantially tray-shaped or box-shaped design, which preferably may be completely open at its bottom side and include the top panel at its upper side, the carrier may be erected and/or assembled in a relatively simple and/or relatively economical manner, for example due to that, at least in embodiments, a more or less standard box folding machine or a so-called carton, case or tray erector may be used and, at least in preferred embodiments, no dedicated equipment is needed for erecting or folding up and/or for assembling the bottle carrier.

[0012] The invention also relates to a blank or so-called cutout for a top-gripping bottle carrier.

[0013] Further, the invention relates to a multipack comprising a carrier and bottles held by said carrier.

[0014] Further advantageous embodiments according to the invention are described in the appended claims.

[0015] By way of non-limiting examples only, embodiments of the present invention will now be described with reference to the accompanying figures in which:

Fig. 1 shows a schematic perspective view of an embodiment of a multipack comprising multiple bottles held by a top-gripping bottle carrier according to an aspect of the current invention;

Fig. 2 shows a schematic perspective view of a second embodiment of a top-gripping bottle carrier according to an aspect of the invention;

Fig. 3 shows a schematic perspective view of a third embodiment of a top-gripping bottle carrier according to an aspect of the invention; and

Fig. 4 shows a schematic top view of a blank for the top-gripping carrier of Fig. 3.

[0016] It is noted that the figures show merely preferred embodiments according to aspects of the invention. In the figures, the same or similar reference signs or numbers refer to equal or corresponding parts.

[0017] Figure 1 shows an embodiment of a multipack 1 comprising a top-gripping bottle carrier 2 according to an aspect of the invention. Said bottle carrier 2, which may also be considered to form a so-called neck-through carrier 2 for bottles 6, is arranged and intended to hold multiple bottles 6, in particular a multiple number of the same or similar bottles 6. In the here shown embodiment, the carrier 2 is arranged for forming a six-pack 1. However, in alternative embodiments, the carrier 2 may be arranged to hold another number of bottles 6, such as for example, two bottles, three bottles or four bottles, an example of which can be observed in the embodiment of Figure 2.

[0018] It is noted that the bottles 6 may be beverage bottles or drink bottles, and that the bottles 6 may contain a drink or beverage. For example, the bottle 6 may contain a soft drink, in a particular carbonated soft drink. Alternatively, the bottle may contain an alcoholic drink, such as beer, wine or a mixed drink, such as for instance

an alcopop, etc. In other embodiments, the bottle 6 may contain fruit juice, water, tea, herbal tea, energy drink, milk, a milk-based beverage or any other drink or beverage.

[0019] Although the bottles 6 may preferably be plastic bottles, for instance made of PET, PC, HDPE or any other suitable plastic material, the bottles 6 may in alternative embodiments be made of any other suitable material or composite, and may for example be made from glass or metal, for instance aluminum or steel.

[0020] The top-gripping bottle carrier 2 of the multipack 1 comprises a top panel 21 made out of cardboard sheet material, which can be arranged to lockingly hold the bottles 6 therein. The bottle carrier 2 further comprises a skirt 22. Said skirt 22 extends at least in a downward direction from the top panel 21, and said skirt 22 may be arranged for surrounding at least portions, in particular central portions 64, of the bottles 6, as can be observed in Figure 1.

[0021] The top panel 21 has multiple bottle receiving apertures 211, each for receiving a portion of a respective one of a multiple number of bottles 6, in particular bottles of the same design. Advantageously, said bottle receiving apertures 211 can be arranged in a regular grid pattern. For example, the bottle receiving apertures 211 may all be disposed on a single straight line, for instance in order to provide an elongate multipack having all of its two or more bottles arranged next to each other. In the embodiments of Figures 1 to 4, the bottle receiving apertures 211 are distributed in a rectangular grid pattern, for instance comprising at least two parallel rows of two or more receiving apertures, as is the case in the embodiments of Figures 1 to 4. However, the bottle receiving apertures may be distributed differently, for example in a triangular grid pattern, which may also be considered a hexagonal grid pattern, which may enable that the bottles can be positioned with respect to each other in a relatively dense manner.

[0022] As can be observed in Figures 1 to 4, each one of the bottle receiving apertures 211 is provided with a respective series of locking tabs 212 which are disposed around the respective bottle receiving aperture, and which are hingedly connected to the top panel 21 by means of a respective first fold line 213, in particular a preformed fold line or prefabricated fold lines, for instance formed by means of one or more scores, slits, and/or embossments, which may facilitate that the locking tabs 212 can pivot at the intended location.

[0023] Each locking tab 212 is arranged for pivoting about the respective first fold line 213 from an initial position of the respective locking tab 212, in which said respective locking tab 212 lies substantially in line with the top panel 21, as is the case with the blank 20 shown in Figure 4, towards a folded up position in which said locking tab 212 is under an angle with the top panel 21, as can be observed in Figure 1. Preferably, in the use position of the locking tab 212, in which it is engaging and locking the bottle, the locking tab 212 may be in-

clined, in particular under an angle of less than 80°, preferably an angle of between 20° and 70°, more preferably between 30° and 60°, with respect to the plane in which the top panel 21 extends.

[0024] Each locking tab 212 of said respective series extends from the respective first fold line 213 towards a retaining edge 214 which is for engaging an underside of a radially protruding portion 67 of a bottle 6 to be received in the bottle receiving aperture 211. In particular, said radially protruding portion may be formed by a rim of the bottle 6, such as a rim formed by a support flange 67, which is often provided below a threaded upper end of a plastic bottle 6. Alternatively, or additionally, the radially protruding portion may be formed by a cap 66 of the bottle 6, a break-away tamper-evident band of a cap 66 of the bottle 6, and/or any other suitable element of the bottle 6 or provided on the bottle 6.

[0025] It is noted that, at least in advantageous embodiments, the top panel 21, at the location of a respective one of the bottle receiving apertures 211, can include a series of neck support sections 210 being integral parts of the top panel 21 and defining neck support edges 219 being located more inwardly with respect to the respective bottle receiving aperture 211 than the fold lines 213 of the locking tabs 212. Preferably, the neck support edges 219 can have a concave shape, more preferably arch-shaped, yet more preferably substantially circular arch-shaped, in particular to enable to abut against a convex, preferably substantially circular, outer surface portion 68 of the bottle 6, as may be understood from Figure 1.

[0026] In embodiments, at least in the initial position of the locking tabs 212, as can be observed relatively well in Figure 4, the retaining edges 214 of the locking tabs 212 can extend more inwardly with respect to the bottle receiving aperture 211 than the neck support edges 219. The retaining edge 214 of a respective locking tab 212 can then be located more inwardly with respect to the bottle receiving aperture 211 than the first fold line 213 of said respective locking tab 212.

[0027] Additionally, or alternatively, when the locking tabs 212 are folded away towards their folded up positions, as can be observed in Figures 1 to 3, the bottle receiving aperture 211 can leave open, in the top panel 21, i.e. at the height level of the top panel 21, a passage having a passage diameter D211 being at least substantially equal to, and preferably even wider than, the widest diameter D6 of a cap 66 or a flange 67 of the bottle which has to pass through said aperture 211 in order to install the bottle 6 in its position in which it is locked by the locking tabs 212. As such, a top portion of the bottle 6, which may thus include the cap 66 and preferably also such flange 67, can be passed through said passage, in a direction parallel to the longitudinal direction of the bottle 6, without having to push away or substantially deform any of the neck support sections 210. Preferably, said widest diameter D6 of the cap 66 or the flange 67 may also form the widest diameter of an upper portion of the bottle 6 which has to pass through the passage formed

by the bottle receiving aperture 211.

[0028] Alternatively, or additionally, the locking tabs 212, which may preferably be spread evenly over the perimeter of the bottle receiving aperture 211, can be spread over the perimeter of the bottle receiving aperture 211 such that the largest angle between two adjacent locking tabs 212 of the respective series of locking tabs is less than 120°. As a result, it may be counteracted that a bottle 6, once held by the locking tabs 212, may move sidewardly without encountering a locking tab 212.

[0029] Additionally, or alternatively, the neck support sections 210, which may preferably be spread evenly over the perimeter of the bottle receiving aperture 211, may be spread over the perimeter of the bottle receiving aperture 211 such that the largest angle between two adjacent neck support sections 210 of the respective series of neck support sections is less than 120°. As a result thereof, it can be counteracted that the bottle 6 may move in radial or sideward direction at the height level of the top panel 21, thereby facilitating that the bottle 6 may be secured relatively well.

[0030] It is noted that each series of locking tabs 212 may be formed of at least two, and preferably at least three, locking tabs 212 and that each series of neck support sections 210 may be formed of at least two, and preferably at least three, neck support sections 210.

[0031] Advantageously, as is the case in the here shown exemplary embodiments, each series of locking tabs 212 may consist of three locking tabs and each series of neck support sections 210 may consist of three neck support sections 210. However, in other embodiments, a series of locking tabs 212 may consist of another number of locking tabs 212, for example two locking tabs 212, but preferably four, five, six or even more locking tabs 212, and/or a series of neck support sections 210 may consist of another number of neck support sections 210, for example two neck support sections 210, but preferably four, five, six or even more neck support sections 210.

[0032] Preferably, at least the top panel 21, in particular including its integrally formed neck support sections 210, if any, and the locking tabs 212 can be formed out of cardboard sheet material, in particular out of a single sheet of cardboard sheet material. Although different kinds of cardboard sheet material may be used, such as for instance paperboard, especially compressed paperboard material, it has been found that it may be relatively advantageous to form at least the top panel 21 and the locking tabs 212 out of corrugated fiberboard material or so-called corrugated cardboard material, preferably a single sheet of corrugated fiberboard. In particular, the corrugated fiberboard, which preferably may be single wall corrugated fiberboard or so-called double face corrugated fiberboard, may for example have a thickness of between 0.7 mm and 2.0 mm, for instance about 0.8 mm or about 1.5 mm, and/or may for example be formed from so-called F-flute corrugated fiberboard or for example from E-Flute corrugated fiberboard. As a result of using

corrugated fiberboard instead of relatively thin paperboard, the neck support sections 210 may be relatively rigid and it can be counteracted that one or more of the neck support sections 210 may unintentionally bend or fold, for instance when a bottle 6 held in the carrier, and confined partly by means of said neck support sections 210, applies sideward or radial forces onto a respective one of said neck support sections 210, thereby facilitating that the bottle 6 may be secured relatively well.

[0033] Additionally or alternatively, the corrugated fiberboard, which may thus be relatively thick and/or relatively sturdy with respect to paperboard material, may facilitate that the locking tabs 212 may be relatively rigid or sturdy, and can hold relatively heavy bottles, for example plastic bottles containing half a liter of liquid, or one liter, or even more, such as for instance one and half liter.

[0034] According to an aspect of the invention, as mentioned above, the top-gripping bottle carrier 2, which comprises the top panel 21, does also comprise a skirt 22. Said skirt 22 extends down from the top panel 21, and may be arranged for surrounding at least portions, in particular central portions 64, of the bottles 6, as can be observed in Figure 1.

[0035] The skirt 22 comprises at least three main skirt panels 221, 222, 223, 224, and preferably four of them, each connected to the top panel by means of a respective second fold line 202.

[0036] For example, as is the case in each of the exemplary embodiments shown in the figures, in embodiments in which the bottle receiving apertures 211 are distributed in a rectangular grid pattern, the top panel 21, when seen from above, may preferably have a substantially rectangular shape, for example a substantially square shape. In particular in such embodiments, the skirt 2 may comprise four main skirt panels 221, 222, 223, 224, each of which may be connected with the top panel 21 by means of a respective second fold line 202. In such embodiments, each of the bottles located at a respective corner of the carrier 1 may abut against two main skirt panels 221, 222 and against two bottles 6, whereas each bottle located at lateral side of the carrier 1 and between but not in a corner may for example abut against three bottles 6 and one main skirt panel. In case of a relatively large carrier having at least three rows of at least three bottle receiving openings, centrally disposed bottles can be abutting four other bottles and no main skirt panel. It will be appreciated that in case of an elongate carrier consisting a single row of bottle receiving apertures, the bottles at the ends may each abut against three main skirt panels and one other bottle, whereas any intermediate bottle may abut against two opposite bottles as well as two opposite main skirt panels.

[0037] However, instead of a substantially rectangular top view, the top panel 21 may be shaped differently in alternative embodiments. For example, it may have a substantially triangular shape, in particular when its, for instance three or six, bottle receiving apertures 211 are

distributed in a triangular grid pattern. For example then, the carrier 2 may comprise only three main skirt panels, each of which may then be connected with the top panel 21 by means of a respective fold line 202. The bottles at a corner may then each abut against two main skirt panels and two other bottles, whereas intermediate bottles, if any, provided at the lateral side of the carrier but not in a corner may be abutting against four other bottles and against one main skirt panel.

[0038] Also other shapes are possible. For example, the top panel 21 of the carrier may for example have a substantially L-shape, in particular when the bottle receiving apertures 211 are distributed in a rectangular grid pattern. Alternatively, as other examples, it is noted that the top panel 21 may for example have a substantially hexagonal shape or may be substantially in the shape of a rhombus or diamond, in particular when the bottle receiving apertures 211 are distributed in a triangular grid pattern, which may also be considered a hexagonal grid pattern.

[0039] As can be observed in Figure 1, corners of a substantially rectangular carrier 2 may be chamfered to a certain extent, and a respective intermediate skirt panel 225, 226, 228 may be provided at each one of the chamfered corners, which may result in that a substantially rectangular carrier 2 or top panel 21 may actually have an octagonal shape. It will be appreciated that also carriers with a substantially other main shape, such as a substantially triangular shape, may have chamfered corners, for instance resulting in that a substantially triangular shaped carrier 2 or top panel 21 may actually have a hexagonal shape, or in that a substantially hexagonal shaped carrier or panel may actually have a dodecagonal shape.

[0040] In embodiments, the chamfer may be chosen such that the respective intermediate skirt panel 225, 226, 228 also abuts against the respective bottle 6.

[0041] It is noted that each main skirt panel 221, 222, 223, 224 may preferably be formed from the same sheet as the top panel 21, and that, in particular, the skirt 22 and the top panel 21, more in particular even the entire carrier 2, may be formed from a single sheet of cardboard sheet material, especially corrugated fiberboard sheet material, an preferably from a single blank. However, in alternative embodiments, one or more main skirt panels and/or other skirt portions may be formed from a different part and/or different blank, and may for instance be attached to the top panel 21 and/or to another portion or part of the skirt 22, for example by means of an attachment flap hingedly connected to the respective main skirt panel, other skirt portion or top panel 21 by means of a respective fold line.

[0042] For example due to that the at least three main skirt panels 221, 222, 223, 224 are connected to the top panel 21 by means of a respective second fold line 202, the skirt 22 and the top panel 21 may form more or less a box-shaped or tray-shaped structure which is turned upside down, in particular as the at least three, and pref-

erably four, main skirt panels are interconnected with each other. In particular, the carrier 2 may be substantially open at its lower end, as can be observed in the exemplary embodiments of Figures 1, 2 and 3, and the bottles 6 may protrude from the lower end of the carrier 2 and/or extend below the lower end of the skirt 22, as can be observed in Figure 1.

[0043] Advantageously, the carrier 2 may be substantially open at its lower end, and may additionally be free of any tabs or flaps or other elements protruding from the lower end of the skirt in an inward direction.

[0044] It is noted that, as for example is the case in the exemplary embodiments shown in Figures 2, 3 and 4, the respective main skirt panels of each set of two adjacent main skirt panels can be interconnected to each other in a direct manner, in particular by means of a third fold line 203. As can be observed in these Figures 2, 3 and 4, and in particular relatively well in Figure 4, a respective first main skirt panel 222 may be provided with an attachment flap 229 provided at a side edge of said main skirt panel 222 and connected thereto by means of the third fold line 203. By attaching, preferably adhering, more preferably gluing, for instance with hot melt glue, said attachment flap 229 to a second one 223 of the main skirt panels, in particular onto an inwardly facing rear surface thereof, said first main skirt panel 222 may become directly interconnected to said second main skirt panel 223 by means of said third fold line 203.

[0045] Advantageously, the third fold lines 203 extend all substantially parallel to each other and/or extend substantially transverse to the top panel 21. The two side edges of the of each main skirt panel, which may be formed by two third fold lines 203, can extent substantially parallel to each other, and preferably the main skirt panel can have a substantially rectangular shape, which, in embodiments, may be provided with a recess 27 at its lower end.

[0046] In alternative embodiments, the main skirt panels 221, 222, 223, 224 of one or more sets of two adjacent main skirt panels may be interconnected to each other in an indirect manner, for instance via at least one intermediate skirt panel 225, 226, 228, as for example is the case in the exemplary embodiment shown in Figure 1. Preferably, at most only a single intermediate skirt panel 225, 226, 228 is provided between two adjacent main skirt panels, which, especially together with the feature that the main skirt panels are connected to the top panel by means of fold lines 202, may counteract that the skirt 22 can unintentionally work as a linkage and that said skirt 22, or portions thereof, can unintentionally pivot with respect to the top panel 21 and/or that skirt portions, in particular skirt panels 221, 222, 223, 224, 226, 228, can unintentionally pivot with respect to each other. Hence, the carrier 2, which comprises the top panel 21 and the skirt 22, may actually be a relatively firm or relatively sturdy carrier 2, in particular when made of corrugated fiberboard material, wherein it can be counteracted that during use the main skirt panels 221, 222, 223, 224, and/or

other skirt panels 225, 226, 228, can pivot with respect to each other and in which it can be counteracted that during use one or more of the main skirt panels can pivot with respect to the top panel 21.

[0047] The skirt 22, which encloses at least respective parts of respective bottles 6 to be held by the bottle carrier 2 during use, in particular when a multipack 1 is formed, may for instance in such embodiments, but also in other embodiments, thus counteract relatively well that the bottles 6 may unintentionally pivot in the respective receiving aperture 211 or swing more or less like a pendulum. It is noted that it has been surprisingly found that the skirt 22, in particular when being relatively rigid and/or made of corrugated fiberboard material, can counteract relatively large loads on the locking tabs 212 as said skirt 22 can counteract swinging of the bottles 6. For example in such embodiments, the multipack 1 and/or the carrier 2 may thus be arranged for holding the bottles 6 such that the skirt 22 can restrain or substantially prevent lateral movement and/or swinging movement of one or more of the bottles 6.

[0048] Advantageously, in the circumferential direction of the skirt 22, each panel 221, 222, 223, 224, 225, 226, 228 of the skirt is directly interconnected to the next panel of the skirt, such that the skirt forms a closed loop free of openings extending all the way from the lower end of the skirt up to the upper end of the skirt 22.

[0049] With regard to the intermediate skirt panels 225, 226, 228, it is noted that neither one of them needs to be directly connected to the top panel 21 by means of a fold line or any other means, but that a respective intermediate skirt panel 225 may for example be interconnected indirectly to the top panel 21, in particular via one or more other skirt portions 221, 222, such as for example via a first main skirt panel 222 to which said respective intermediate skirt panel 225 is directly interconnected via a respective fold line 204 and/or via a second main skirt panel 221 to which said respective intermediate skirt panel 225 is directly interconnected via a further fold line 205.

[0050] Advantageously, all fold lines 204, 205 interconnecting a main skirt panel with an adjacent intermediate skirt panel may extend substantially parallel to each other and/or extend substantially transverse to the top panel 21. The two side edges of the of each main skirt panel, which may be formed by two of said fold lines, may extent substantially parallel to each other, and preferably the main skirt panel can have a substantially rectangular shape, which, in embodiments, may be provided with a recess 27 at its lower end. The two side edges of the of each intermediate skirt panel, which may be formed by two of said fold lines, may extent substantially parallel to each other, and preferably the intermediate skirt panel can have a substantially rectangular shape, which, in embodiments, may for instance be provided with a protrusion 235 at its upper end.

[0051] As for example may be understood from Figure 1, in embodiments, one or more, and preferably each one, of the intermediate skirt panels 225, 226, 228 may

at its upper end be provided with a protrusion 235 which during use extends at least partly along a side edge portion 215 of the top panel 21, and preferably abuts against said side edge portion 215, such that it may form a stop, in particular such as to enable counteracting hinging movements of the carrier 2, thereby facilitating in providing a relatively sturdy and rigid skirt 22 and/or a relatively sturdy and rigid carrier 2.

[0052] Advantageously, more than half of the periphery of the top panel 21, preferably at least 60% of the periphery, more preferably at least 75% of the periphery, may be directly connected to the skirt 22 by means of the first fold lines 202. The combined length of the first lines 202 may be longer than the combined length of the side edge portions 215 of the top panel 21 which are not directly connected to the skirt 22 by means of a fold line.

[0053] In this context, please note that portions of the fold line 202 formed by a slit 29 provided between two non-cut portions 28 of said fold line 202 can be considered to form part of said fold line 202 and contribute to its length.

[0054] Preferably, at least two of, and preferably each of, the first fold lines 202 has a length at least equal to, but preferably longer than, the respective length of each of the side edge portions 215 of the top panel 21 which are not directly connected to the skirt 22 by means of a fold line.

[0055] In embodiments, at least two of, and preferably each of, the main skirt panels 221, 222, 223, 224 may have a width being at least equal to, but preferably wider than, the width of each of the intermediate skirt panels 225, 226, 228.

[0056] Advantageously, all panels of the skirt may extend substantially transverse to the top panel 21. In particular, when the top panel is placed substantially horizontally, the panels of the skirt may extend substantially vertically.

[0057] Preferably also in order to facilitate in providing a relatively sturdy and rigid carrier 2, the top panel 21 of said carrier 2 may preferably be free of any fold line arranged for folding a first portion of the top panel 21 provided with at least a first one of the at least two bottle receiving apertures 211 with respect to a second portion of said top panel 21 provided with at least a second one of the at least two bottle receiving apertures 211. It will be appreciated that this does not mean that the top panel 21 may not include any fold line, and that the top panel 21 may for example comprise multiple first fold lines 213 for hinging respective locking tabs 212, as such locking tab 212 cannot be considered to be a top panel portion provided with at least one bottle receiving aperture 211.

[0058] In embodiments, also other fold lines may be provided in the top panel 21, such as for example can be observed in Figures 3 and 4, in which an exemplary embodiment of a carrier 2 and a blank 20 therefore are shown which comprises one or more, preferably two, finger grip openings 26, each of which may be formed by pivoting a flap 216, which can be cut-out of the top panel

21, about a respective fold line 206.

[0059] It is noted that the top-gripping bottle carrier 2 may thus be provided with one or more finger grips, for example formed by one or more finger grip openings 26. Alternatively or additionally, one or more other gripping elements may be provided. For example, as is the case in the exemplary embodiment shown in Figure 2, one or more main skirt panels, preferably at least two oppositely disposed main skirt panels 222, 224, may be provided with a recess 27 for facilitating a user to engage the respective main skirt panel(s) with his/her hand(s).

[0060] Optionally, as for example is the case in the exemplary embodiment of Figure 2, a respective main skirt panel 222, in particular one provided with such recess 27, may be provided with one or more, preferably two, fold lines 207 which may be arranged and/or intended to enable bending of said respective main skirt panel 222 to a certain extent such as to enable slightly folding in said respective main skirt panel 222 in an inward direction during use of the carrier 2. As a result thereof, it may for example be enabled that said respective main skirt panel 222 can be pressed more firmly against one or more bottles 6 provided adjacent to said main skirt panel 222, thereby facilitating clamping the bottles 6 enclosed by the skirt 22 relatively tightly, and counteracting relatively well that the bottles 6 may swing to a certain extent. Additionally or alternatively, it may for example enable that, as a result of the respective main skirt panel 222 slightly folding in, the two adjacent main skirt panels 221, 223 can be pulled towards each to a certain extent, thereby for instance further facilitating that the bottles 6 can be clamped relatively well between the main skirt panels.

[0061] Advantageously, said fold lines 207, for enabling that the respective main skirt panel 222 may be bend and folded in to a certain extent during use, may be provided at least partly by means of a crease or score formed at the outwardly facing surface of said panel 222, as can be observed for example in Figure 2.

[0062] Further, it will be appreciated that said fold lines 207, for enabling that the respective main skirt panel 222 may be bend and folded in to a certain extent during use, may preferably substantially intersect with the first fold line 202 that interconnects said main skirt panel 222 with the top panel 21, and as well substantially intersect with the third fold line 203 that interconnects said main skirt panel 222 with its respective adjacent main skirt panel 221, 223, as can be observed relatively well in Figures 2 and 3. Additionally or alternatively, said fold lines 207, which are for enabling that the respective main skirt panel 222 may during use be bend and may be folded in to a certain extent, may preferably extend substantially oblique or diagonal over the respective main skirt panel 222, as can be observed in Figures 2, 3 and 4.

[0063] Although a main skirt panel 222 provided with one or more, preferably two, of said fold lines 207 for enabling that said respective main skirt panel 222 may to a certain extent be bend and folded in during use, may

additionally be provided with a grip element, in particular a hand grip recess 27, said main skirt panel 222 provided with one or more of said fold lines 207 does not necessarily need to be provided with such hand grip recess 27, as can be observed in Figure 3, or with or any other grip element.

[0064] As mentioned above with regard to the fold lines 207 for enabling the respective main skirt panel 222 to bend and folded in to a certain extent during use, one or more of such or other fold lines 202, 203, 206, 207, 213 may be provided at least partly by means of a crease or so-called score or score line. Such a crease or score may for example be formed at a sheet surface which during use may form an outwardly facing surface of a respective panel 21, 221, 222, 223, 224. This can for example be advantageous for one or more optional fold lines 207 for enabling a main skirt panel to fold in slightly, and/or for the first fold lines 213 about which the locking tabs 212 can pivot. Alternatively, a score or crease may be formed at an opposite side of the sheet and/or at a sheet surface which during use of the carrier 2 faces inwardly, such as for example may be the case with the second fold line 202 by means of which the main skirt panel 221, 222, 223, 224 is connected to the top panel 21 and/or for example may be the case with the fold line 206 of the flap that can be pivoted inwardly to open the finger grip opening 26 in the top panel 21.

[0065] Additionally, or alternatively, one or more of to the fold lines, which preferably are formed as preformed fold lines or prefabricated fold lines, may be formed by other means, for example by means of one or more slits 29 or cuts 29, as is shown in Figures 2, 3 and 4, which for instance may form an interrupted cutting line.

[0066] It is noted that the carrier 2 may preferably be formed from a single blank 20, an exemplary embodiment of which is shown in Figure 4. In particular, the blank 20 or so-called carrier cutout 20 may be formed from corrugated fiberboard sheet material. For example, the blank 20 may be produced and stored in a flat state and may for instance be fold into a substantially box-shaped state at or near the location at which the bottles are to be packed by means of said carrier 2. For instance, the blank 20 may be folded into the carrier 2 by means of more or less standard cartoning equipment such as a box folding machine or a so-called carton, case or tray erector, which preferably may also apply hot melt glue or another glue or another adhesive or another fixing means in order to fix the carrier in its erected, preferably substantially box-shaped or substantially tray-shaped, state.

[0067] It is noted that the carrier 2 can preferably be erected before the bottles 6 are provided in their respective bottle receiving apertures 211 or so-called bottle receiving openings 211.

[0068] The top-gripping bottle carrier 2 may be used to form a multipack, which can comprise two bottles 6, or more bottles 6, such as for example three, four, six, eight or nine bottles 6. Each one of said bottles 6 can then be held within a respective bottle receiving aperture

211 of the carrier 2.

[0069] Advantageously, when the bottle 6, a support flange 67 or other radially protruding portion of which is to be locked by the locking tabs 212, is held in a respective bottle receiving aperture 211 of the carrier 2 and locked by means of said locking tabs 212, the neck support sections 210 of said respective bottle receiving aperture 211, in particular their support edges 219, can be substantially abutting against an outer wall portion 68 of the respective bottle 6. In particular, said outer wall portion 68 of the bottle 6 can be formed by an outer wall portion 68 of a neck 69 of said respective bottle 6.

[0070] Further, it is noted that the multipack 1 and/or the carrier 2 may preferably be arranged such that during use, when the bottles 6 are held by the carrier 2, the bottles 6 abut against one or more adjacent bottles 6, thereby counteracting lateral or swinging motion of the bottles 6. Preferably, the skirt 22 extends down from the top panel 21 to at least such an extent that said skirt 22 encloses the bottles 6 at least at a height level 61 at which the bottles 6 is at its widest, as can be understood from Figure 1, in which each of the bottles 6 actually has two height levels 61, 62 at which the bottle 6 is at its widest.

[0071] Additionally or alternatively, the skirt 22 may cover at least a part of labels 63 and/or prints which may be provided on the bottles 6, which often is provided on central portions 64 of bottles 6.

[0072] Preferably, the skirt 22 may be high enough to substantially cover a barcode or other machine-readable information, in particular visual machine-readable information. As a result, the skirt 22 may for example counteract that, for instance at a register, accidentally the price and/or other data concerning a single bottle 6 is read or scanned instead of reading or scanning that of the multipack 2.

[0073] Additionally or alternatively, the skirt 22 and/or the top panel 21 may provide space for branding and/or information concerning the bottles 6 held in the carrier 2 and/or concerning the product, in particular the drink, held in said bottles 6. It will be appreciated that the carrier 2, and/or a blank 20 or so-called cutout 20 for forming said carrier 2, may be provided with one or more prints, in particular at one or more surfaces or surface areas facing outwards when the carrier 2 is in its erected state.

[0074] It is noted that for the purpose of clarity and a concise description features are described herein as part of the same or separate embodiments, however, it will be appreciated that the scope of the invention may include embodiments having combinations of all or some of the features described.

[0075] Further, it is noted that the invention is not restricted to the embodiments described herein. It will be understood that many variants are possible.

[0076] For example, the skirt, in particular one or more main skirt panels thereof, may be provided with one or more other grip elements, such as for example slits that may enable a user to put at least one finger, and preferably multiple fingers, at least partly through the skirt.

[0077] Such and other variants will be apparent for the person skilled in the art and are considered to lie within the scope of the invention as formulated in the following claims.

Claims

1. Top-gripping bottle carrier (2) for carrying multiple bottles (6), in particular plastic bottles, comprising a top panel (21) of cardboard sheet material having at least two bottle receiving apertures (211), wherein each one of the bottle receiving apertures (211) is provided with a respective series of locking tabs (212) hingedly connected to the top panel (21) by means of a respective first fold line (213), and disposed around the respective bottle receiving aperture (212), wherein each locking tab (212) is arranged for pivoting about the respective first fold line (213) from an initial position of the respective locking tab (212), in which said respective locking tab (212) lies substantially in line with the top panel (21), towards a folded up position in which said locking tab (212) is under an angle with the top panel (21), wherein each locking tab (212) of said respective series extends from the respective first fold line (213) towards a retaining edge (214) for engaging an underside of a radially protruding portion (67) of a bottle (6) to be received in the bottle receiving aperture (211), wherein the bottle carrier (2) further comprises a skirt (22) extending down from the top panel (21), wherein said skirt (22) comprises at least three main skirt panels (221, 222, 223, 224) connected to the top panel (21) by means of a respective second fold line (202), and wherein the at least three main skirt panels (221, 222, 223, 224) are interconnected with each other, directly or indirectly, such as to enable enclosing at least respective parts (64) of the bottles (6) to be held by the bottle carrier (2) during use.
2. Carrier (2) according to claim 1, wherein at least the top panel (21) and the series of locking tabs (21) are formed out of a sheet of cardboard sheet material, preferably wherein the main skirt panels (221, 222, 223, 224) are also formed of said sheet of cardboard sheet material.
3. Carrier (2) according to one of the preceding claims, wherein the cardboard sheet material is corrugated fiberboard sheet material.
4. Carrier (2) according to one of the preceding claims, wherein the top panel (21) includes a series of neck support sections (210) being integral parts of the top panel (21) and defining neck support edges (219) being located more inwardly with respect to the bottle receiving aperture (211) than the fold lines (213) of the locking tabs (212), preferably wherein the neck support edges (219) have a concave shape, more preferably arc-shaped, yet more preferably substantially circular arc-shaped.
5. Carrier (2) according to any one of the previous claims, at least in the initial position of the locking tabs (212), the retaining edges (214) of the locking tabs (212) extend more inwardly with respect to the bottle receiving aperture (211) than the neck support edges (219), preferably wherein the retaining edge (214) of a respective locking tab (212) is located more inwardly with respect to the bottle receiving aperture (211) than the first fold line (213) of said respective locking tab (212).
6. Carrier (2) according to one of the preceding claims, in particular according to claim 4 or 5, wherein the bottle receiving aperture (211), when the locking tabs (212) are folded away towards their folded up positions, leaves open a passage in the top panel (21), which passage has a passage diameter (D21) being at least substantially equal to, and preferably wider than, the diameter (D6) of a cap (66) of the bottle (6) to be held within said bottle receiving aperture (211).
7. Carrier (2) according to one of the preceding claims, wherein the top panel (21) is free of any fold line arranged for folding a first portion of the top panel (21) provided with at least a first one of the at least two bottle receiving apertures (211) with respect to a second portion of the top panel provided with at least a second one of the at least two bottle receiving apertures (211).
8. Carrier (2) according to one of the preceding claims, wherein two respective ones (222, 223) of the main skirt panels (221, 222, 223, 224) are interconnected to each other in a direct manner, in particular by means of third fold line (203).
9. Carrier (2) according to one of the preceding claims, wherein two respective ones (221, 222) of the main skirt panels (221, 222, 223, 224) are interconnected to each other in an indirect manner, for instance via at least one intermediate skirt panel (225), and preferably via just one respective intermediate skirt panel (225).
10. Blank (20) for a carrier (2) according to one of the preceding claims.
11. Blank (20) according to claim 10, wherein the blank (20) is formed from corrugated fiberboard sheet material.

12. Multipack (1), comprising a carrier (2) according to one of claims 1 to 9, further comprising at least two bottles (6), wherein each one of said bottles (6) is being held within a respective bottle receiving aperture (221) of the carrier (2). 5
13. Multipack (1) according to claim 12, wherein the neck support sections (210) of a respective bottle receiving aperture (211) are abutting against an outer wall portion (68) of the respective bottle (6), in particular an outer wall portion of a neck of said respective bottle. 10
14. Multipack (1) according to claim 12 or 13, wherein the multipack (1) is arranged for holding the bottles (6) such that the skirt (22) can restrain or substantially prevent lateral movement and/or swinging movement of one more of the bottles (6). 15

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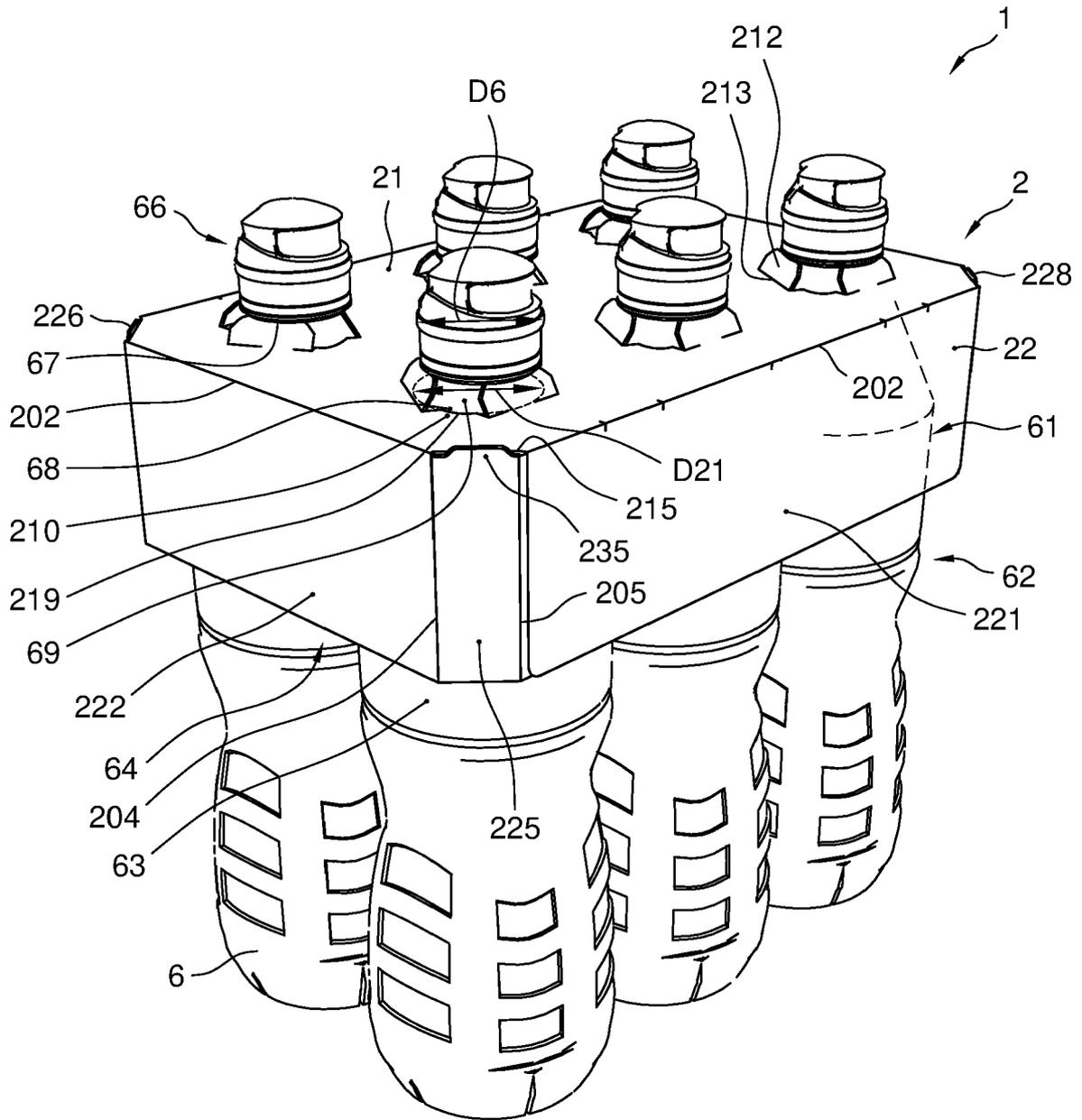


Fig. 1

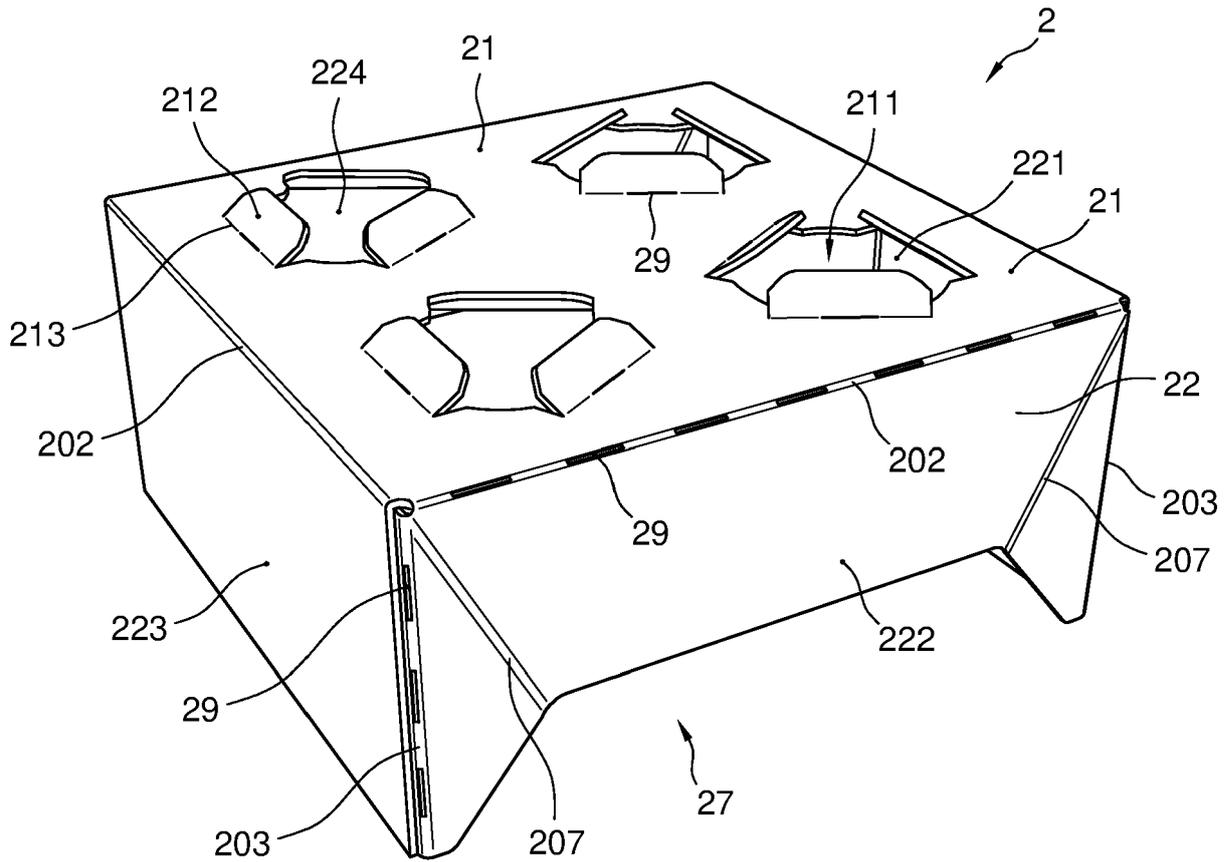


Fig. 2

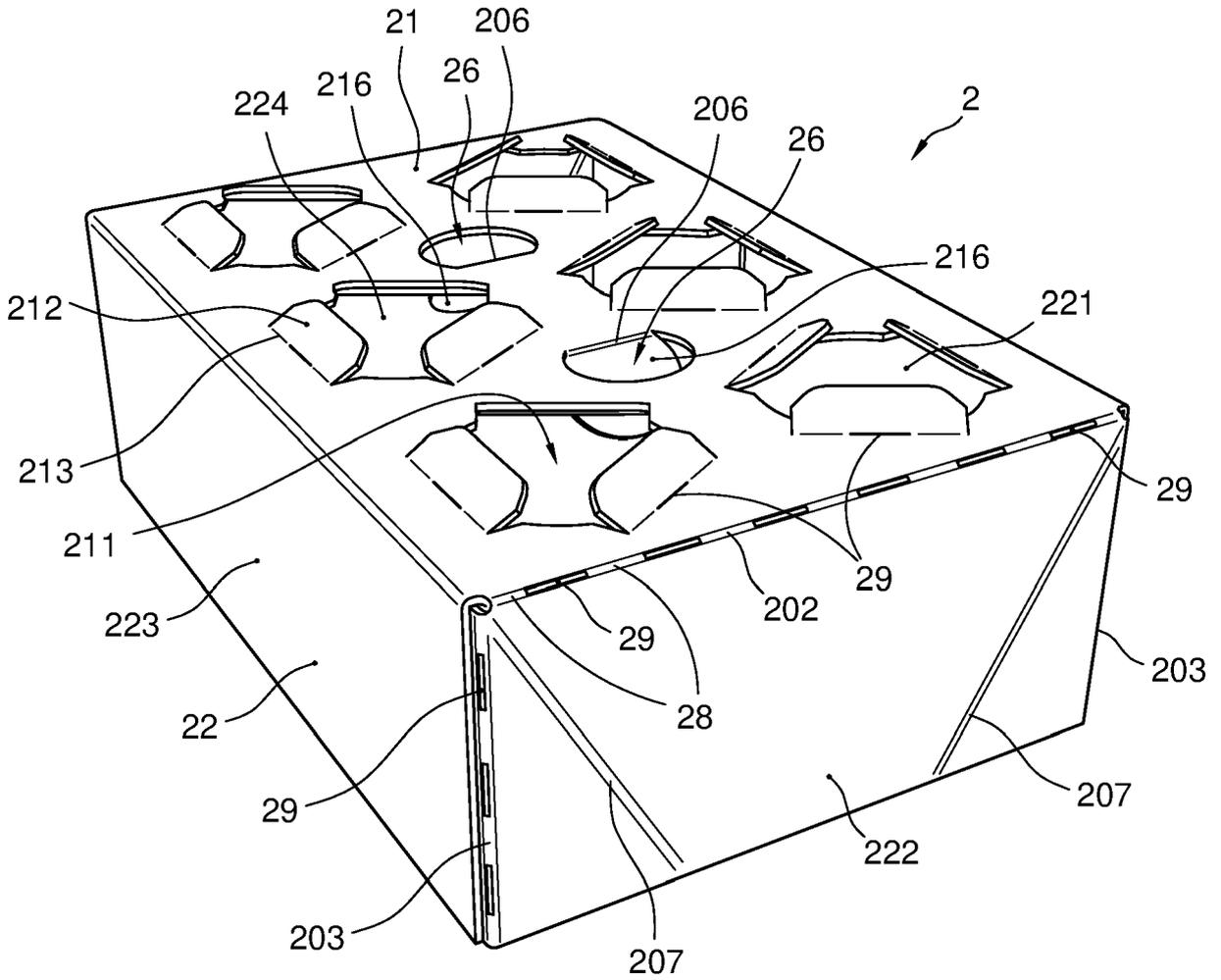


Fig. 3

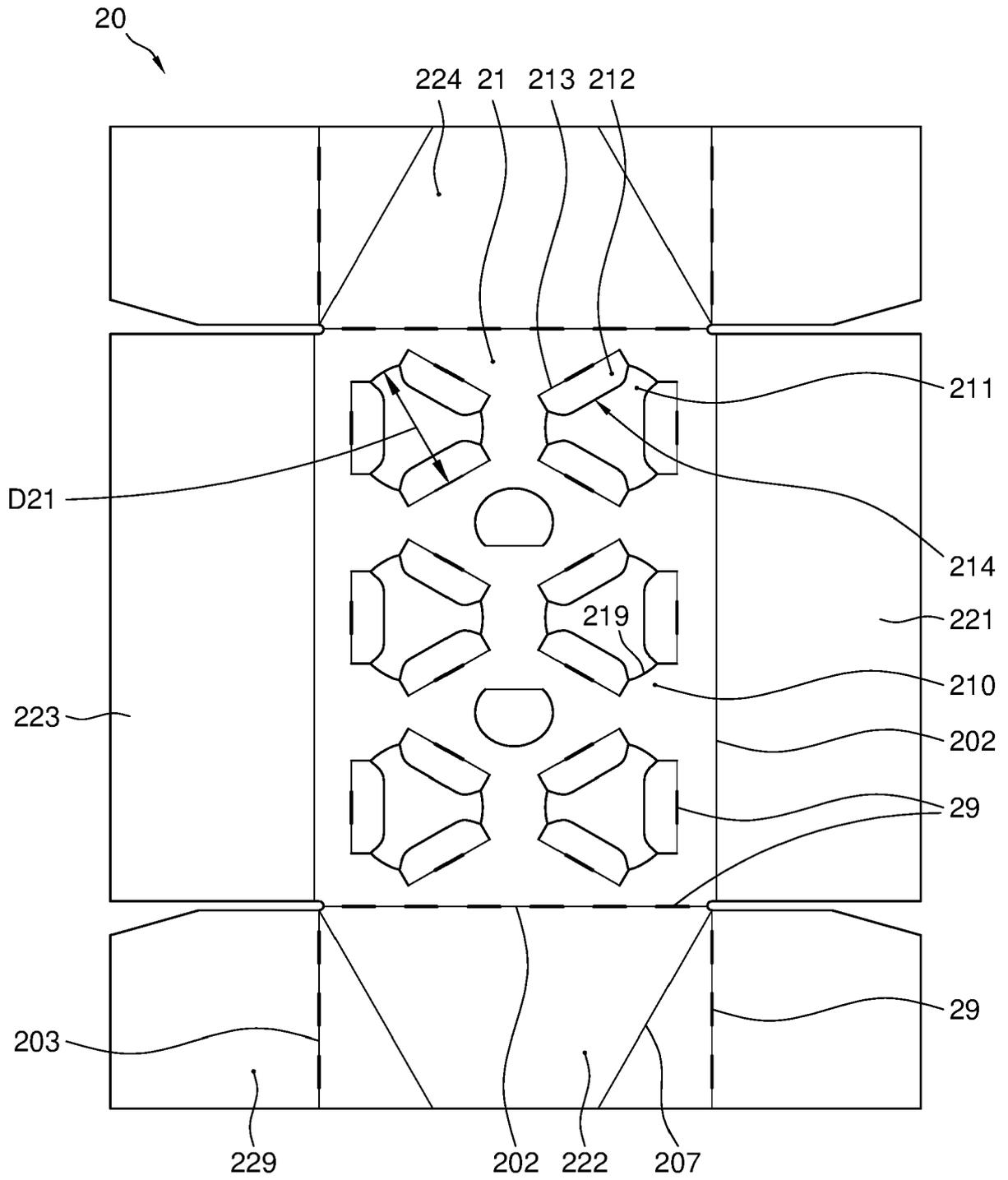


Fig. 4



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