(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 4 227 237 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
16.08.2023 Bulletin 2023/33

(21) Application number: **23151842.4**

(22) Date of filing: **16.01.2023**

(51) International Patent Classification (IPC):
B65D 19/12 *(2006.01)* *B65D 19/10* *(2006.01)*

(52) Cooperative Patent Classification (CPC):
B65D 19/12; B65D 19/10; B65D 25/005;
B65D 2519/00024; B65D 2519/00059;
B65D 2519/00164; B65D 2519/00233;
B65D 2519/00273; B65D 2519/00288;
B65D 2519/00323; B65D 2519/00333;
B65D 2519/00502; B65D 2519/00512;
B65D 2519/00611; B65D 2519/00641; (Cont.)

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA
Designated Validation States:
KH MA MD TN

(30) Priority: **01.02.2022 AU 2022200628**

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(54) **CONTAINER**

(57) A folding container (100) comprises a base (110), a first mount (120) on the base (110), a first side wall (130), and a translational hinge (140) connecting the first side wall (130) to the first mount (120). The translational hinge (140) facilitates rotational and translational movement of the first side wall (130) between an upright erected state and a folded state, in which the first side wall (130) extends in a generally parallel orientation to the base (110). The container (100) also has an upright lock (150) featuring a peg (151) on the first side wall (130) and a catch (152) on the mount (120). The catch (152) has a recess (153) for receiving the peg (151) of the first side wall (130) to lock the first side wall (130) into the erected state. The recess (153) is elongated, at least in part, in a direction (155) that is slanted in respect to the upright orientation.

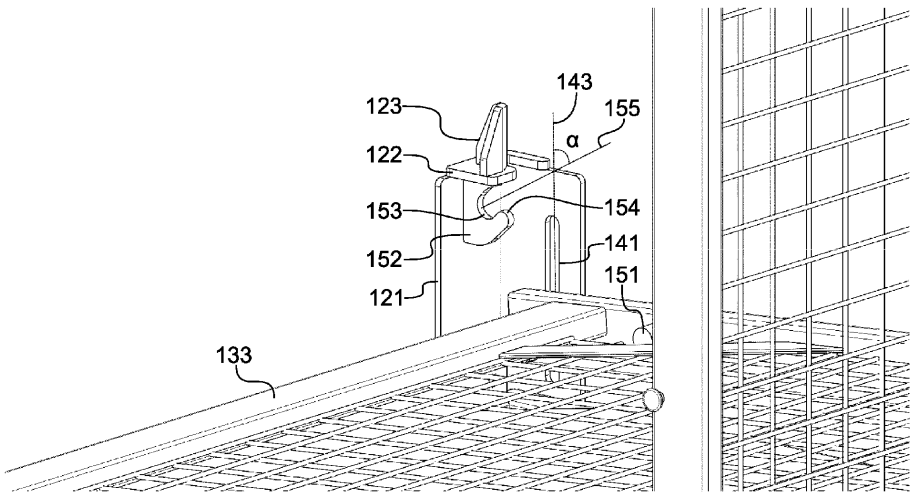

FIG. 4

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(52) Cooperative Patent Classification (CPC): (Cont.)
B65D 2519/00656; B65D 2519/00661;
B65D 2519/00805; B65D 2519/00925;
B65D 2519/0096; B65D 2519/00975

Description

FIELD

[0001] The present disclosure relates to cargo handling equipment. In particular, the disclosure relates to containers used for bundling up items during transport and for temporary storage. More precisely, the disclosure relates to a container according to the preamble portion of claim 1.

BACKGROUND

[0002] Parceled goods have been traditionally transported by stacking the goods on pallets, wrapping the unit with shrink wrap and loading the wrapped pallets onto trailers or trucks. The traditional way of handling parceled freight has been deemed uneconomical due to the labor intensity of packing pallets, extensive use of packing material, such as shrink wrap and cardboard. Traditional pallets have also provided little protection against brisk handling, which has resulted in damages and increased the cost of transport. To tackle these problems, collecting cages have been introduced.

[0003] Collecting containers, such as cages, are typically stackable and foldable cages made of high tensile steel that provide an attractive alternative to distribution and storage of high volume goods. Collecting cages, cages in short, are usually handled with a fork lift similarly to traditional pallets. Because the cages are stackable, high volumetric efficiency may be achieved when transporting full cages. On the other hand, because the cages are foldable, high volumetric efficiency is also achieved when transporting empty cages. Furthermore, the robust structure of the cage protects the cargo during handling. One such cage, or crate, is disclosed in US 1164502 A.

[0004] While the folding option provides for outstanding volumetric efficiency, conventional folding mechanisms may be cumbersome to use. While strong, steel is relatively heavy as a construction material, whereby the folding action requires a fair degree of force. It has been found particularly tricky to hold an already raised side wall up, while lifting an adjacent wall up before securing the upright walls together.

[0005] There is therefore a need for an improved container that is not only volumetrically efficient but also easy to use.

SUMMARY

[0006] The invention is defined by the features of the independent claims. Some specific embodiments are defined in the dependent claims.

[0007] According to a first aspect of the present disclosure, there is provided a folding container comprising a base, a first mount on the base, a first side wall, and a translational hinge connecting the first side wall to the first mount. The translational hinge facilitates rotational and translational movement of the first side wall between an upright erected state and a folded state, in which the first side wall extends in a generally parallel to the base. The container has an upright lock featuring a peg on the first side wall and a catch on the mount. The catch has a recess for receiving the peg of the first side wall to lock the first side wall into the erected state. The recess is elongated, at least in part, in a direction that is slanted in respect to the upright orientation.

[0008] Some embodiments may include one or more features from the following itemized list:

- the threshold is set to work against gravity;
- the bottom end of the catch is relieved substantially along the direction of elongation of the recess;
- the mount extends from the base along the upright orientation;
- the mount comprises a body, which has a proximal end attached to the base and a distal end opposing the proximal end;
- the mount comprises a support to the distal end of the body;
- the support is configured to receive another such container stacked onto the container;
- the base is quadrangular in shape with four such mounts, one provided to each one of the four corners, wherein the first side wall connects a first pair of adjacent mounts together;
- the container comprises a second side wall opposing the first side wall and being connected to the base similarly to the first side wall through a translational hinge between the second side wall and a respective second pair of adjacent mounts;
- the first side wall comprises a frame and a cover delimited by the frame;
- the cover comprises and opening for receiving the catch in the erected state of the first side wall;
- the first and second side wall are permanently attached side walls,
- the container comprises a first removable side wall that is connected between the first and second permanently attached side walls;
- the container comprises a second removable side wall that is connected between the first and second permanently

attached side walls and opposes the first removable side wall;

- the container comprises a quick attachment mechanism between the first and/or second removable side wall(s) and the first and second permanently attached side walls;
- the quick attachment mechanism is configured to allow the first and/or second removable side wall(s) to be removably attached to the first and second permanently attached side walls;
- the quick attachment mechanism comprises cooperating counterparts provided to the frames of the adjacent first and second permanently attached side walls and the first and/or second removable side wall(s);
- the first and/or second removable side wall(s) comprise a plurality of panels that are connected to each other through a horizontal hinge for opening said side walls in sequence;
- at least a top panel of the first and/or second removable side wall(s) comprise an attachment mechanism cooperating with the frame of the adjacent first and second permanently attached side walls for securing the panel into a closed state,
- the frames of the first and second permanently attached side walls comprise support plates for receiving to receive another such container stacked onto the container, when the side walls are in the erected state.

[0009] Considerable benefits may be achieved with the novel concept.

[0010] The slanted catch provides for a smooth the transition of the folding side wall between a folded and erected state. Accordingly, it is easy for the user of the container to secure the side wall into the erected state and to fold the side wall down. The slanted orientation will make the movement more fluent compared to traditional vertically extending slots for receiving respective pins of existing folding mechanisms. This is an ergonomic and occupational safety benefit becaise such side walls may be quite heavy.

[0011] Furthermore, the slanted catch may include further relieved shapes, such as bottom chamfer and/or a rounded lip to guide the peg into the recess for maximized convenience and occupational safety.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] In the following certain exemplary embodiments are described with reference to the accompanying drawings, in which:

FIGURE 1 illustrates a perspective view of a container in accordance with at least some embodiments of the present disclosure;

FIGURE 2 illustrates a detail perspective view of a folding mechanism of the container of FIGURE 1 keeping a side wall in an erected state;

FIGURE 3 illustrates a detail perspective view of the folding mechanism of FIGURE 2 keeping the side wall in a transitional state, and

FIGURE 4 illustrates a detail perspective view of the folding mechanism of FIGURE 2 keeping the side wall in a folded state.

EMBODIMENTS

[0013] FIGURE 1 illustrates a container 100 in accordance with at least some embodiments of the present invention in a fully assembled state, in which all side walls are erected and in a closed state. The container 100 is a transport unit used in logistics. The container 100 has a solid quadrilateral base 110 that is preferably elevated above ground by means of runners that enable transport of the container 100 by means of a forklift, for example. The base 110 may be fabricated from steel or aluminium alloy for the sake of rigidity. Alternatively, instead of integrated metal runners, a metal base may be attached to a wooden pallet by means of clamps or other affixers (not illustrated).

[0014] Each of the four corners of the base 110 feature a mount 120, which serves two purposes. Firstly, the mount 120 is used as a mounting point for a folding mechanism that enables the folding action of permanently attached side walls. The illustrated example features two such permanently attached side walls 130a, 130b and two removable side walls 160a, 160b. Secondly, the mount 120 acts as a pad for receiving another such container in a stacked configuration, when the side walls are folded down and/or removed (not shown). Accordingly, the mount 120 extends from the base 110 in a generally upright orientation, which is practically the vertical, when the base 110 lies parallel to the ground, which is assumed flat and horizontal. The tallness of the mount 120 is set to be equal to or greater than the at least two side walls, preferably four side walls in folded and/or removed state.

[0015] FIGURE 1 shows four such mounts 120 provided at the four corners of the container 100. In this context each similar element is denoted with a given reference numeral. If the device comprises more than one of such an element, the elements are distinguished between a suffix a, b, etc., where applicable. For example, the three mounts visible in FIGURE 1 are marked as a first mount 120a, a second mount 120b, a third mount 120c. The same logic applies throughout

this description.

[0016] FIGURE 1 also shows four side walls 130, 160 that may be folded or removed to bring the container from the deployed state shown in the FIGURES to a collapsed state, which is not shown in the FIGURES. Two of the four side walls are permanently attached to the base 110. These side walls are the first and second folding side walls 130a, 130b that are provided on opposing sides of the base 110. The other two of the four side walls may be removable side walls 160a, 160b that are provided on opposing sides of the base 110 and between the two permanently attached side walls 130a, 130b.

[0017] According to the illustrated example, the permanently attached side walls 130a, 130b feature a single panel and the removable side walls 160a, 160b feature a several panels that are horizontally hinged to each other to act as gates. The panels of the removable side walls 160a, 160b may be opened in sequence by first folding the upper panel down to gain access to the top part of the inner volume of the container 100 and then removing the side wall completely. The closing of the removable side wall works in reverse.

[0018] To facilitate multistage opening and closing, the container 100 has a quick attachment mechanism 170 provided between the bottom panel of the removable side wall 160 and the adjacent permanently attached side wall 130. For example, the frame of the permanently attached side wall 130 may include a male counterpart, such as a pin, which receives a female counterpart, such as a slot provided to a bracket, on the bottom panel of the removable side wall 160. Naturally, the male/female configuration could be reversed. Additionally, the top panel of the removable side wall 160 has a latch or comparable attachment mechanism for closing the top panel in respect to the adjacent permanently attached side walls 130a, 130b. In the illustrated example the attachment mechanism features a horizontally sliding handle, which is conventional in the art. It is, however, preferred that the attachment mechanism facilitating opening and closing of the top panel forms a sufficient locking action, whereby the frame of the permanently attached side walls 130a, 130b are preferably provided with a counterpart shape, such an opening for receiving the latch or bolt on the top panel.

[0019] Let us now consider the folding mechanism acting between the mount 120 and permanently attached side wall 130 in greater detail.

[0020] FIGURE 2 shows the side wall 130 in an erected state, in which it extends in a generally upright orientation in respect to the base 110. The side wall 130 features a sturdy quadrilateral frame 131, which delimits a cover 132. The cover 132 may, as is shown in the FIGURES, take the form a mesh but other alternatives, such as a tarpaulin or a plastic panel, are foreseen. The frame 131 has a bottom frame member 133, which rests on a sleeper beam 111 of the base 110.

[0021] FIGURES 2 to 4 reveal the construction of the mount 120 in greater detail. The mount 120 features a body 121, which may, as depicted, take the form an upright profile. The illustrated example features an L shaped profile aligned with the corner of the base 110. Other shapes, such as two separate upright members, which are not connected to form an L shape, are also foreseen but not illustrated in the FIGURES.

[0022] As best shown in FIGURE 4 the body 121 has on one flank a groove 141, which is elongated in the upright dimension. The groove 141 acts as one counterpart of a translational hinge 140, which enables not only rotation about the horizontal but also translation in the vertical. The other counterpart of the hinge 140 is provided on the side wall 130. As is best shown in FIGURE 2 the second counterpart is an axle 142, which may take the form of a simple bolt connecting the body 121 of the mount 120 and the frame 131 of the side wall 130. The axle 142 therefore provides a horizontal axis of rotation for the side wall 130. However, because the hinge slot 141 is elongated in the vertical, the hinge 140 also provides for translation of the axle 142 and, thus, the side wall 130 during transition of the side wall 130 between the folded state (FIGURE 4) and the erected state (FIGURE 2) through an intermediate state (FIGURE 3).

[0023] The top end of the body 121 is provide with a support 122. The support 122 may take the form of a simple plate, which is, for example, welded to the base 121. The support 122 has several functions. Firstly, the support 122 may receive thereon another such container 100, be it in a deployed or collapsed state, in a stacked configuration. Secondly, the support 122 provides a stacking bracket 123 for producing alignment and side support for the stacked container. Thirdly, the support 122 provides lateral support for the side wall 130 by featuring a cut-out, which may be seen behind the stacking bracket 123 in FIGURE 4. Indeed, the cut-out guides the profile 131 of the side wall 130 into the correct position when turning the side wall 130 into the erected state. When the side wall 130 is in the erected state (FIGURE 2), the profile 131 slots into the cut-out of the support 122. The stacking bracket 123 provides lateral support for the profile 131 of the side wall in the erected state.

[0024] FIGURES 2 to 4 also reveal the construction and cooperation between the counterparts of an upright lock 150, which is provided between the mount 120 and the side wall 130 for locking the side wall 130 in the erected state. The purpose of the upright lock 150 is to lock the side wall 130 into the erected state such that the side wall 130 will not fold down without provocation, whereby the user is free to manipulate other components of the container 100 without holding the side wall 130 up.

[0025] Let us first consider the counterpart provided on the side wall 130. The side wall 130 may include a simple peg 151, which extends inward from the frame 131. The peg 151 may, as is shown, take the form a cylindrical protrusion that extends from the frame 131 towards the center of the side wall 130. In other words, the peg 151 is aligned with the axle 142 of the hinge 140. The counterpart may alternatively be constructed as a different male counterpart, for example

by varying the cross-sectional shape and/or curvature of the protrusion.

[0026] Let us next consider the counterpart provided on the mount 120. The upright lock 150 features a catch 152, which may take the form a hook, C profile, or otherwise open piece. According to the advantageous example shown in the FIGURES, the catch 152 is a simple piece welded to one flank of the body 121 neighbouring the grooved flank. In other words the hinge 140 and the catch 152 are provided on different neighbouring sides of the container 100. The catch 152 has an open recess 153. The recess 153 is designed to receive and hold the peg 151 of the side wall 130. The recess is elongated along a direction 155, which forms an angle α in respect to the upright 143, which is the direction of elongation of the groove 141. The angle α is more than zero, i.e. the groove does not extend in the vertical, and less than 90 degrees, i.e. the groove does not extend in the horizontal. In other words, the recess is neither vertical nor horizontal. Accordingly, the recess 153 is slanted or skewed to provide for a fluent transition of the side wall 130 between the erected and folded state.

[0027] The catch 152 may be optimized further to facilitate such a fluent transition. For example, the bottom part of the catch 152 may be relieved, such as chamfered, to guide the peg 151 into alignment with the recess 153. Additionally or alternatively, the opening of the recess 153 is defined on one side by a bottom lip 154, which is rounded to provide for a fluent slotting action of the peg 151. The opening of the recess 153 is delimited, on the other side by the support 122. The lip 154 is preferably set to provide for a threshold, over which the peg 151 must be lifted to clear the catch 152. In particular, the lip 154 may feature an upright bulge, which exaggerates the hooked shape of the catch 152. The translational hinge 140 is designed to allow for vertical translation of the side wall 130 for the peg 151 to clear the lip 154 for popping the peg 151 out of the recess 153.

[0028] The deployed container 100 shown in FIGURE 1 may be collapsed as follows. First, the top panels of the removable side walls 160a, 160b are folded down and the bottom panels removed from between the permanently attached side walls 130a, 130b. The removed side walls 160a, 160b may be placed flat on the base 110. Next, one of the permanently attached side walls 130 is folded down by lifting and rotating the side wall 130 inward to lift the peg 151 out of the catch 152. Thanks to the cylindrical shape of the peg 151 and the slanted recess 153 of the catch 152, the user simply needs to pull the side wall 130 inwards toward the center of the container 100, whereby the slanted surface of the catch 152 produces an upward vector to the movement thus automatically lifting the side wall 130. By continuing the movement, the peg 152 will eventually follow the catch surface past the lip 154, where after the side wall 130 is no longer held by the catch 152. With the peg 151 cleared, the side wall 130 is rotated and lowered down flat on the removed side walls 160. The same is repeated on the second permanently attached side wall 130. With the second permanently attached side wall 130 folded down, the container 100 is collapsed.

[0029] Deployment of the container 100 is done in a reversed order. Again, the user need not consciously lift and turn the side wall 130 to perform the locking action. Instead, the slanted bottom surface and rounded lip 154 of the catch 152 force the peg 151 and, consequently, the side wall 130 upward enough for the peg 151 ride over the lip 154 and down into the recess 153. The translational hinge 141, 152 facilitates the translation and rotation required for the passage of the peg 151 into the recess 153. The manoeuvre occurs naturally for the user by simply turning the side wall 130 up with the shape of the catch 152 and peg 151 guiding the side wall 130 into the required path of movement.

[0030] It is to be noted that when the first permanently attached side wall 130 is folded up, it is held in the upright orientation by the lip 154 preventing the peg 151 from slipping out of the catch 152. Indeed, the lip 154 provides a threshold for keeping the first side wall 130 in the erected state, whereby the operator is free to concentrate on folding the other side wall 130 up. Finally, the removable side walls may be attached.

[0031] The container 100 as shown in the FIGURES could be varied in several ways.

[0032] For example, the container could include more than two, such as three or four permanently attached side walls, whereby a folding mechanism as herein described could hinge two of the side walls to the mount and a secondary folding mechanism (not illustrated) could hinge the frames of two adjacent side walls to each other. Such a secondary folding mechanism could take the form different to the folding mechanism as depicted in FIGURES 2 to 4. For example, the permanently attached side walls 130a, 130b could be provided with arc-like runners on the inner surface thereof for guiding the intermediate side walls 160a, 160b between erected and folded state. Such runners are known, per se. As the permanent side walls allow for vertical translation, the first and second side wall 130a, 130b could be folded on top of the intermediate side walls 160a, 160b, which may not include such a translating hinge but a traditional hinge with a single degree of freedom.

[0033] According to another variant either intermediate wall or both intermediate walls may be constructed as a gate or gates (not illustrated) that is/are vertically hinged to the translationally hinged side walls 130a, 130b. The hinge could allow for a rotation with a range of at least 270 degrees, whereby the gate(s) could be opened against the outer face of the translationally hinged side wall(s) 130, 130b. The gate(s) could there after be folded down or up together with the translationally hinged side wall(s) 130, 130b.

[0034] Any combination of the above-described variants is also foreseen.

[0035] It is to be understood that the embodiments of the invention disclosed are not limited to the particular structures, process steps, or materials disclosed herein, but are extended to equivalents thereof as would be recognized by those

ordinarily skilled in the relevant arts. It should also be understood that terminology employed herein is used for the purpose of describing particular embodiments only and is not intended to be limiting.

[0036] Reference throughout this specification to "one embodiment" or "an embodiment" means that a particular feature, structure, or characteristic described in connection with the embodiment is included in at least one embodiment of the present invention. Thus, appearances of the phrases "in one embodiment" or "in an embodiment" in various places throughout this specification are not necessarily all referring to the same embodiment.

[0037] As used herein, a plurality of items, structural elements, compositional elements, and/or materials may be presented in a common list for convenience. However, these lists should be construed as though each member of the list is individually identified as a separate and unique member. Thus, no individual member of such list should be construed as a de facto equivalent of any other member of the same list solely based on their presentation in a common group without indications to the contrary. In addition, various embodiments and example of the present invention may be referred to herein along with alternatives for the various components thereof. It is understood that such embodiments, examples, and alternatives are not to be construed as de facto equivalents of one another, but are to be considered as separate and autonomous representations of the present invention.

[0038] Furthermore, the described features, structures, or characteristics may be combined in any suitable manner in one or more embodiments. In the following description, numerous specific details are provided, such as examples of lengths, widths, shapes, etc., to provide a thorough understanding of embodiments of the invention. One skilled in the relevant art will recognize, however, that the invention can be practiced without one or more of the specific details, or with other methods, components, materials, etc. In other instances, well-known structures, materials, or operations are not shown or described in detail to avoid obscuring aspects of the invention.

[0039] While the forgoing examples are illustrative of the principles of the present invention in one or more particular applications, it will be apparent to those of ordinary skill in the art that numerous modifications in form, usage and details of implementation can be made without the exercise of inventive faculty, and without departing from the principles and concepts of the invention. Accordingly, it is not intended that the invention be limited, except as by the claims set forth below.

[0040] The verbs "to comprise" and "to include" are used in this document as open limitations that neither exclude nor require the existence of also un-recited features. The features recited in depending claims are mutually freely combinable unless otherwise explicitly stated. Furthermore, it is to be understood that the use of "a" or "an", i.e. a singular form, throughout this document does not exclude a plurality.

REFERENCE SIGNS LIST

NO.	FEATURE	NO.	FEATURE
100	container	141	groove
110	base	142	axle
111	sleeper beam	143	direction of elongation
120	mount	150	upright lock
121	body	151	peg
122	support	152	catch
123	stacking bracket	153	recess
130	(permanently attached) side wall	154	lip
131	frame	155	direction of elongation
132	mesh	160	(removable) intermediate side wall
133	bottom frame member	170	quick attachment mechanism
140	translational hinge	α	angle

Claims

1. A folding container (100) comprising:

- a base (110),
- a first mount (120) provided to the base (110),

- a first side wall (130), and
- a translational hinge (140), which connects the first side wall (130) to the first mount (120) and is configured to facilitate rotational and translational movement of the first side wall (130) in respect to the mount (120) during transition between:

    ◦ an erected state, in which the first side wall (130) extends from the mount (120) in a generally upright orientation in respect to the base (110), and
    ◦ a folded state, in which the first side wall (130) extends from the mount (120) in a generally parallel orientation in respect to the base (110),

- an upright lock (150), which comprises:

    ◦ a peg (151), which is provided to the first side wall (130), and
    ◦ a catch (152), which is provided to the mount (120) and comprises an elongated recess (153) configured to receive the peg (151) during transition between the erected and folded state of the first side wall (130) and to provide a threshold for keeping the first side wall (130) in the erected state,

characterized in that the recess (153) is elongated, at least in part, in a direction (155) that is slanted in respect to the upright orientation.

2. The container according to claim 1, wherein the threshold is set to work against gravity.

3. The container according to claim 1 or 2, wherein the bottom end of the catch (152) is relieved substantially along the direction of elongation of the recess (152).

4. The container according to any one of the preceding claims, wherein the mount (120) extends from the base (110) along the upright orientation

5. The container according to any one of the preceding claims, wherein the mount (120) comprises:

    - a body (121), which has a proximal end attached to the base (110) and a distal end opposing the proximal end, and
    - a support (122) provided to the distal end of the body (121), which support (122) is configured to receive another such container stacked onto the container (100).

6. The container according to any one of the preceding claims, wherein the base (110) is quadrangular in shape with four such mounts (120a, 120b, 120c), one provided to each one of the four corners, wherein the first side wall (130) connects a first pair of adjacent mounts together.

7. The container according to any one of the preceding claims, wherein the container (100) comprises a second side wall (130b) opposing the first side wall (130a) and being connected to the base (110) similarly to the first side wall (130a) through a translational hinge between the second side wall (130b) and a respective second pair of adjacent mounts (120b, 120c).

8. The container according to any one of the preceding claims, wherein the first side wall (130) comprises a frame (131) and a cover (132) delimited by the frame (131), which cover (132) comprises and opening for receiving the catch (152) in the erected state of the first side wall (130).

9. The container according to any one of the preceding claims, wherein the first and second side wall (130a, 130b) are permanently attached side walls, wherein the container (100) comprises a first removable side wall (160a) that is connected between the first and second permanently attached side walls (130a, 130b).

10. The container according to claim 9, wherein the container (100) comprises a second removable side wall (160b) that is connected between the first and second permanently attached side walls (130a, 130b) and opposes the first removable side wall (160a).

11. The container according to claim 10, wherein the container (100) comprises a quick attachment mechanism (170) between the first and/or second removable side wall(s) (160a, 160b) and the first and second permanently attached

side walls (130a, 130b) that is configured to allow the first and/or second removable side wall(s) (160a, 160b) to be removably attached to the first and second permanently attached side walls (130a, 130b).

12. The container according to claim 11, wherein the quick attachment mechanism (170) comprise cooperating counterparts provided to the frames of the adjacent first and second permanently attached side walls (130a, 130b) and the first and/or second removable side wall(s) (160a, 160b).

13. The container according to any one of the preceding claims 9 to 12, wherein the first and/or second removable side wall(s) (160a, 160b) comprise a plurality of panels that are connected to each other through a horizontal hinge for opening said side walls in sequence.

14. The container according to any one of the preceding claims 9 to 13, wherein at least a top panel of the first and/or second removable side wall(s) (160a, 160b) comprise an attachment mechanism cooperating with the frame of the adjacent first and second permanently attached side walls (130a, 130b) for securing the panel into a closed state.

15. The container according to any one of the preceding claims 9 to 14, wherein the frames of the first and second permanently attached side walls (130a, 130b) comprise support plates for receiving another such container stacked onto the container (100), when the side walls (130a, 130b) are in the erected state.

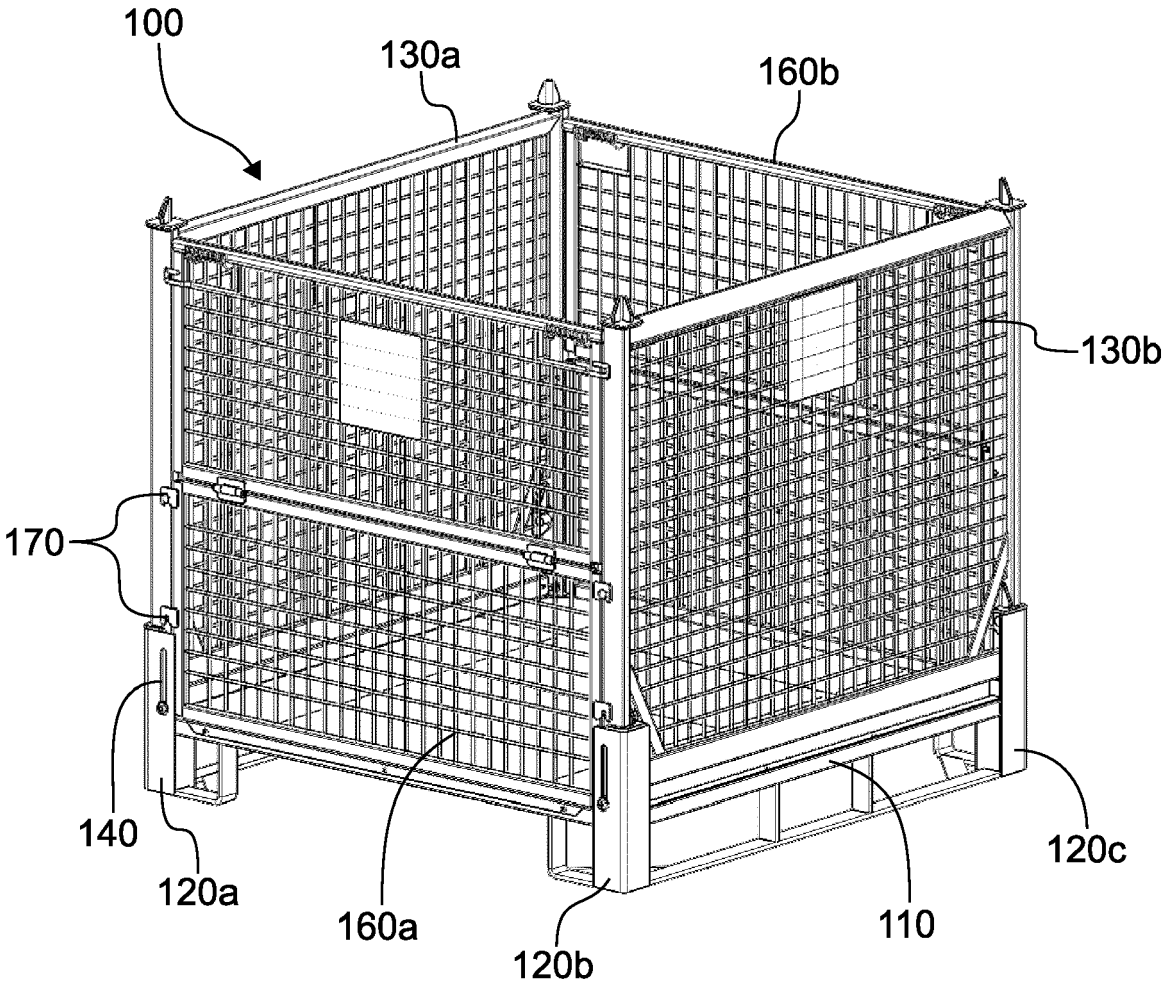

FIG. 1

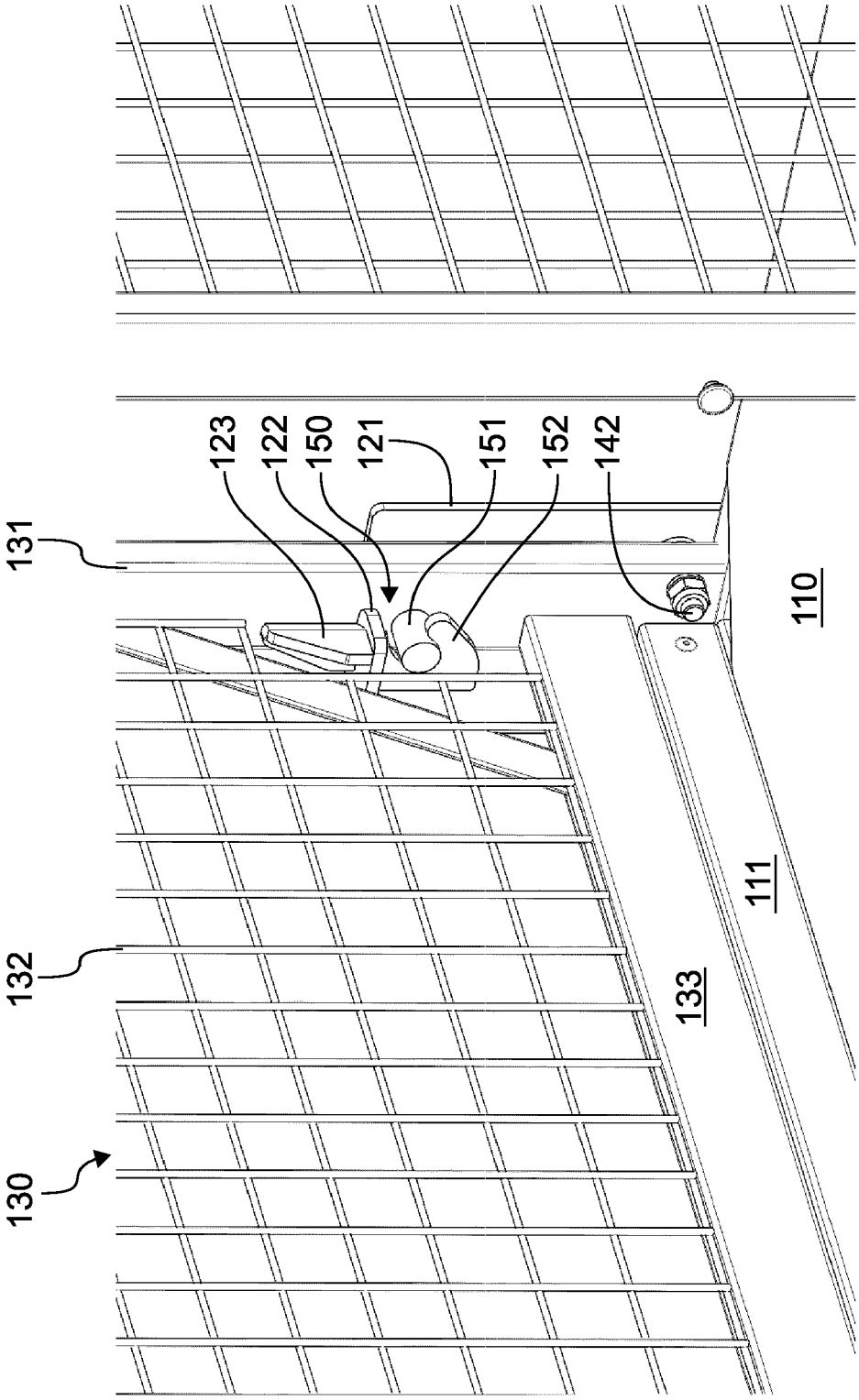

FIG. 2

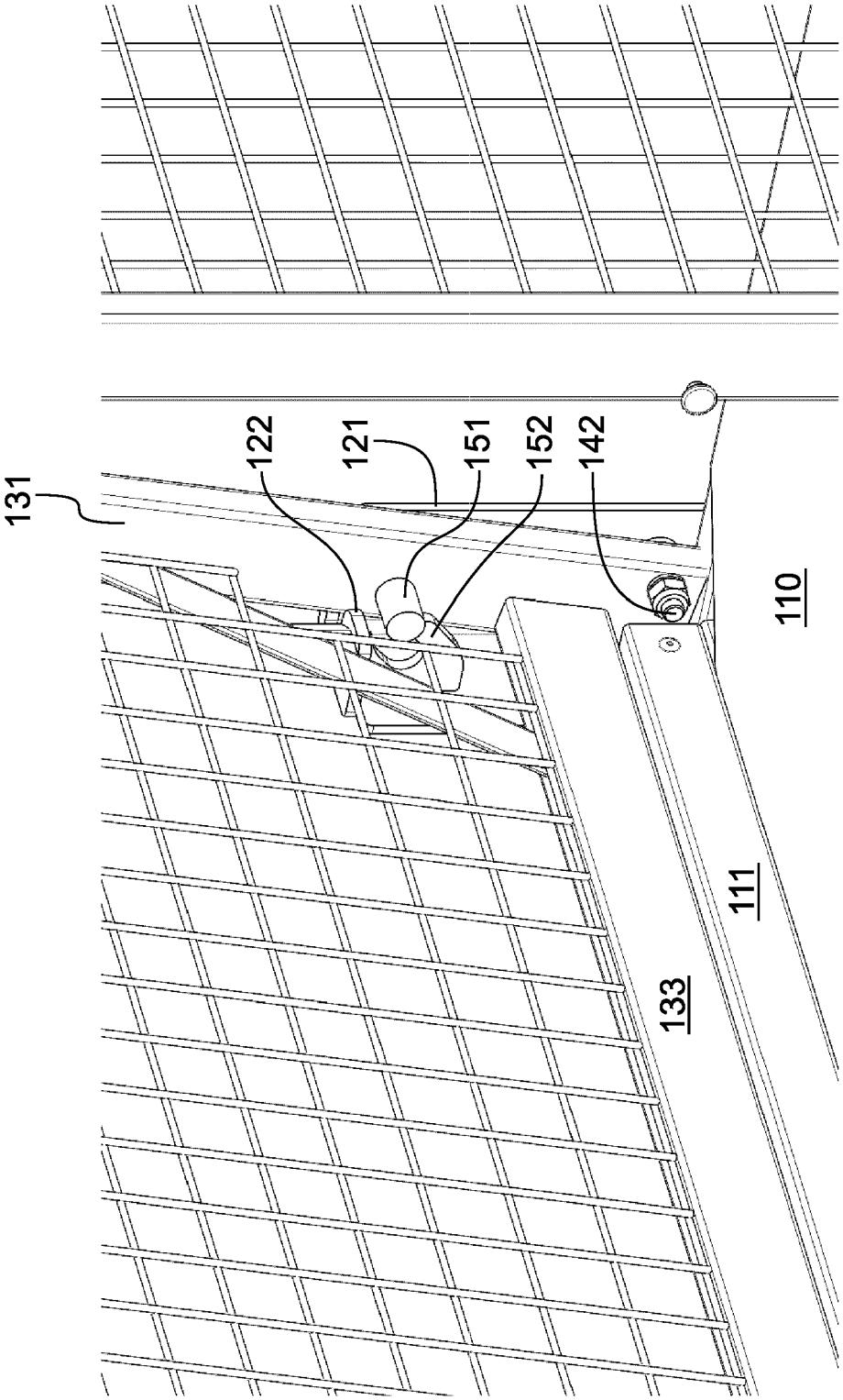

FIG. 3

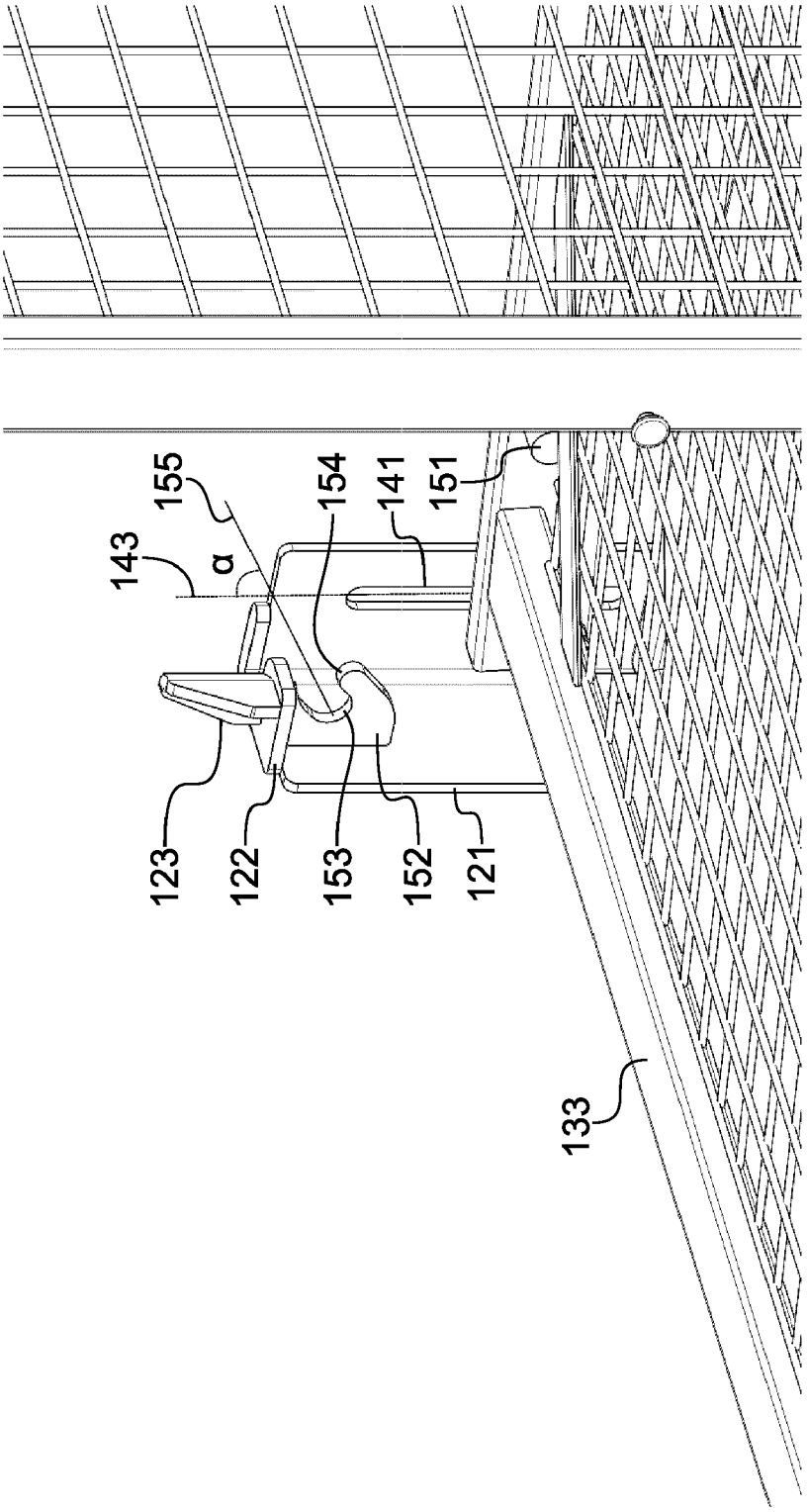

FIG. 4

Europäisches Patentamt
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EUROPEAN SEARCH REPORT

Application Number
EP 23 15 1842

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 2003/127456 A1 (BROWN EDMOND W [US]) 10 July 2003 (2003-07-10) * paragraph [0053] - paragraph [0090] * * figures 1-29 *	1-15	INV. B65D19/12 ADD. B65D19/10
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B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	28 June 2023	Fitterer, Johann

CATEGORY OF CITED DOCUMENTS

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