



(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
30.03.2022 Bulletin 2022/13

(51) International Patent Classification (IPC):
A47D 13/06 ^(2006.01) **A47D 7/00** ^(2006.01)

(21) Application number: **20306100.7**

(52) Cooperative Patent Classification (CPC):
A47D 13/063; A47D 7/002

(22) Date of filing: **25.09.2020**

(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 MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
KH MA MD TN

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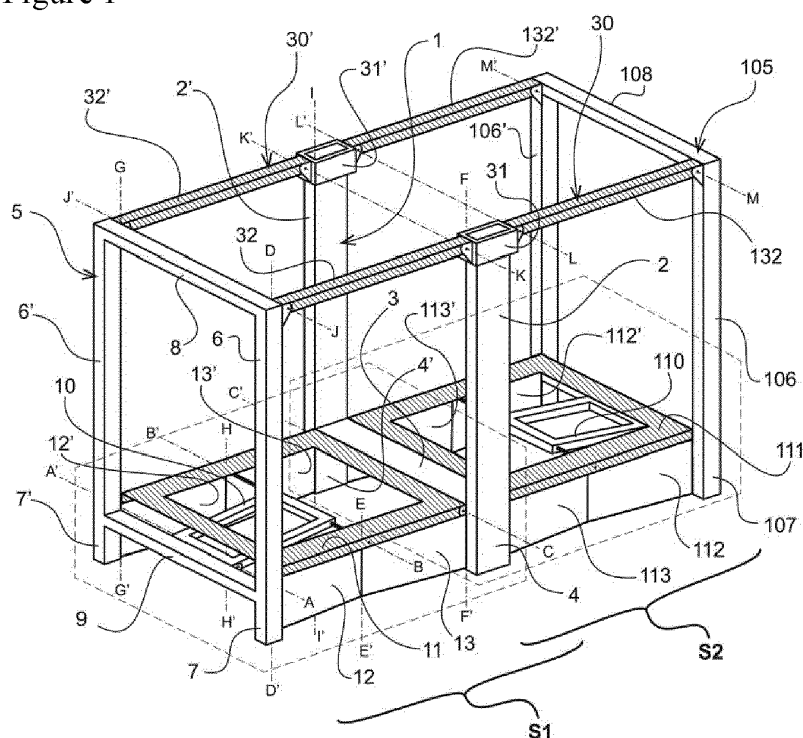
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(54) **FOLDING COT**

(57) A folding cot comprising : a cot base that is oriented horizontally in the unfolded position of the cot; two end frames (5, 105) such that, in the unfolded position, the cot base extends horizontally between the end frames and the end frames (5, 105) extend vertically above and below the cot base; a middle frame (1) located between the end frames (5, 105) that extends vertically above and below the cot base in the unfolded position and; two Sarrus mechanisms (S1, S2) provided on each

side of the middle frame (1). The cot base is formed, at least in part, by the horizontally articulated members of the Sarrus mechanisms (S1, S2). The horizontally articulated member of each Sarrus mechanism has horizontal articulation axes (AA', BB', CC') and folds upward when folding the cot. The vertically articulated member of each Sarrus mechanism has vertical articulation axes (DD', EE', FF', GG', HH', II') and folds under the cot base when folding the cot.

Figure 1



Description

TECHNICAL FIELD

[0001] The present description relates to a folding cot. In particular, such a cot can be used for a child to sleep in and can also be used as a playpen.

BACKGROUND

[0002] Numerous types of folding cots or playpens for young children already exist. One example of a folding cot is illustrated in the drawings of patent document EP3328247B1. This cot is highly suitable for parents who wish to accommodate a young child to sleep or play in, since its folding mechanism is based on a combination of Sarrus mechanisms which make the folding and unfolding operations very simple and reliable. Moreover, unlike most folding cots, it does not require to take out the mattress before the frame structure of the cot is folded, which requires one less handling step and keeps the mattress protected inside the folded frame structure during transport. Finally, it folds into a flat package which is convenient for transport and stocking.

[0003] However, such a cot is not entirely satisfactory for the following reasons. The cot comprises articulated side barriers made of eight vertical flaps or panels, which are part of the Sarrus mechanisms. These eight panels are pivotally mounted at the upper end of the corner and central uprights and are pivotally mounted with each other, around twelve different vertical hinges. These numerous hinges may create finger entrapment hazards for the child playing inside the cot. Moreover, such a structure may be difficult to lock safely in its unfolded position.

[0004] While the foregoing cot has proven effective, further improvements would be beneficial.

GENERAL DESCRIPTION

[0005] The invention relates to a folding cot configured to move between an unfolded position and a folded position. The cot comprises a cot base that is oriented horizontally in the unfolded position and two end frames. In the unfolded position, the cot base extends horizontally between the two end frames and the two end frames extend vertically above and below the cot base. The cot further comprises a middle frame located between the two end frames, which extends vertically above and below the cot base in the unfolded position. The cot comprises two Sarrus mechanisms provided on each side of the middle frame, each Sarrus mechanism comprising the middle frame, one of the end frames and at least two articulated members, namely a horizontally articulated member and a vertically articulated member. Each articulated member connects the middle frame and the end frame together and guide the movement of the middle and end frames toward/away from each other during the folding/unfolding of the cot. The cot base is formed, at

least in part, by the horizontally articulated members of the Sarrus mechanisms. The horizontally articulated member of each Sarrus mechanism has horizontal articulation axes and folds upward when folding the cot. The vertically articulated member of each Sarrus mechanism has vertical articulation axes, is located below the cot base in the unfolded position and folds under the cot base when folding the cot. In other words, when folding the cot, while the horizontally articulated member forming the cot base folds upward, the vertically articulated member folds under the horizontally articulated member. Accordingly, interactions between the horizontally articulated member and the vertically articulated member are avoided when folding the cot, which makes the folding easier and the folded cot compact.

[0006] Such a folding cot can be used, notably, for the sleeping of a young child, in particular an infant or a toddler. Like the cot illustrated in the drawings of EP3328247B1, this cot is very easy to fold or unfold thanks to its folding mechanism made of two Sarrus mechanisms. This folding mechanism makes it easier to fold/unfold the cot by guiding the movement of the end frames with respect to the middle frame. Also, the cot folds into a flat package which is convenient for transport and stocking.

[0007] Now, by contrast with the cot illustrated in the drawings of EP3328247B1, the improved cot has the advantage of creating less finger entrapment hazards for the child playing inside the cot. This is because the vertically articulated members and their numerous articulation axes (forming hinges) are located below the cot base and, therefore, are out of sight and out of reach for the child.

[0008] A Sarrus mechanism is generally defined as being a spatial mechanism comprising two plates (in this case, the middle frame and one of the end frames) that are interconnected by at least two articulated members and can move toward/away from each other by way of a rectilinear movement. Each articulated member comprises segments that are connected together and to the plates by pivot connections. The articulation axes of these pivot connections are parallel to each other and perpendicular to the direction of the abovementioned rectilinear movement. Moreover, the groups of axes of at least two of the members have respective directions which are not parallel. In general, the directions of the groups of axes are perpendicular to each other. Such a mechanism provides the advantage of having a single degree of mobility: the two plates can move with respect to each other only by way of the abovementioned rectilinear movement, i.e. by way of a translational movement. The invention is not limited to Sarrus mechanisms in the strict sense and encompasses similar mechanisms able to convert the limited circular movement of a segment of one of the articulated members of the mechanism into a substantially rectilinear movement of the plates (in this case the frames) toward or away from each other, or vice versa.

[0009] The two Sarrus mechanisms have the middle frame in common, and the cot base is formed by the horizontally articulated members of the two Sarrus mechanisms. In some embodiments, the cot base is also formed by a cross member of the middle frame located adjacent to and between the horizontally articulated members. The presence of the middle frame between the end frames makes it possible to create a storage space for storing, notably, a mattress and/or bedding, such as a sheet, a blanket and/or a duvet.

[0010] In some embodiments, each Sarrus mechanism comprises two vertically articulated members and one horizontally articulated member.

[0011] The horizontally articulated members are so called because of their horizontal articulation axes, and the vertically articulated members are so called because of their vertical articulation axes. Unless otherwise specified, the horizontal and vertical directions are considered with reference to the position of the unfolded cot when it rests, under normal conditions of use, on a horizontal surface. The top and bottom and other related notions such as up and down, upper and lower, above and below, over and under, etc. are defined with reference to the vertical direction. Within the meaning of the present disclosure, horizontal and vertical orientations include, respectively, substantially horizontal and substantially vertical orientations.

[0012] In some embodiments, each Sarrus mechanism allows and guides the translational movement of one of the end frames with respect to the middle frame along a longitudinal direction of the cot. In other words, the two Sarrus mechanisms are "aligned" and unfold in the lengthwise direction of the cot. The resulting unfolded cot is an elongated structure with the required stiffness. The proportions of such an elongated structure are well adapted to ergonomic and functional constraints of a cot, in particular a folding cot for young children. The Sarrus mechanisms may be disposed symmetrically with respect to the middle frame. In particular, the folding cot may exhibit symmetry with respect to a median plane oriented vertically in the unfolded position.

[0013] In some embodiments, the horizontally articulated member comprises a base frame forming part of the cot base, and at least one leg articulated with the base frame and the end frame, the leg extending below the base frame in the unfolded position. The horizontally articulated member thus comprises a first segment formed by the leg and extending from the end frame to the base frame, and a second segment formed by a portion of the base frame, extending from the leg to the middle frame. Because the leg extends below the base frame in the unfolded position, it does not form part of the cot base and does not support the mattress. Accordingly, the shape of the leg is not limited by the cot base constraints. Conversely, the base frame which forms part of the cot base may be designed for supporting the mattress. In particular, the base frame may be a wide and flat frame, possibly with cross member(s) forming slat(s)

of the cot base.

[0014] In some embodiments, the base frame is provided with an axis extending within the frame and wherein the leg rotates about the axis when folding/unfolding the cot. The axis may be formed by a rod or pins extending within the frame. This kind of articulation is robust and avoids or limits finger entrapment hazards.

[0015] In some embodiments, in the unfolded position, the leg is below the base frame and oriented in a direction forming a non-zero angle with the horizontal direction. This angle is small and may be less than 20°, in particular between 2° and 10°. Accordingly, when the cot is folded, the horizontally articulated member, which includes the base frame and the leg, naturally folds upward.

[0016] In some embodiments, the cot comprises at least one side barrier extending between the end frames in the unfolded position. The side barrier comprises two arms, each arm extending between the middle frame and one of the end frames. Usually, there are two side barriers extending respectively along the two longitudinal sides of the cot. Such side barriers are useful for preventing a child from leaving the cot on its own. The side barrier may comprise a textile panel carried by the arms. The textile panel may have a mesh structure and be more or less stretchable in order to facilitate the folding of the cot. Moreover, the arms provide additional stiffness to the cot in its unfolded position and limit the amount of play in the unfolded position.

[0017] In some embodiments, the cot comprises a slider which is slidably mounted on the middle frame and vertically movable along the middle frame. One end of each arm is articulated with the slider and another end of the arm is articulated with one of the end frames. In particular, the other end may be articulated at the upper corner of the end frame. Accordingly, the two arms move in unison when moving the slider, which makes the folding/unfolding of the cot easier.

[0018] Usually, there are two side barriers, each side barrier comprising two arms and one slider between the two arms. In a variant, one slider is provided for each arm, the slider being slidably mounted on the middle frame and vertically movable along the middle frame, one end of the arm being articulated with the slider and another end of the arm being articulated with one of the end frames.

[0019] In some embodiments, the cot comprises a locking mechanism for locking and/or unlocking the slider at the upper end of the middle frame. Thus, the cot can be locked easily in its unfolded position.

[0020] In some embodiments, the cot further comprises a mattress and the mattress is accommodated inside one of the frames in the folded position, in particular inside the middle frame. The thickness of the frame may be close to or greater than the thickness of the mattress. This makes it possible to protect the mattress while the cot is being transported.

[0021] In some embodiments, the mattress is mounted in a pivoting manner on the middle frame. The mattress

can thus be guided towards the inside of the middle frame when folding the cot.

[0022] In some embodiments, each articulated member is formed by two segments that are hinged together and hinged to the adjacent frames by hinges, a first hinge allowing one of the segments to rotate with respect to one of the frames about a first rotation axis, a second hinge allowing the segments to rotate with respect to each other about a second rotation axis, and a third hinge allowing the other segment to rotate with respect to the other frame about a third rotation axis, the first, second and third rotation axes being parallel to each other. The rotation axes correspond to the foregoing vertical and horizontal articulation axes.

[0023] In some embodiments, the second rotation axis is equidistant from the first and third rotation axes. In other words, the two segments of the articulated member have the same length.

[0024] In some embodiments, the segments of the vertically articulated members are panels. The height of the panels may substantially correspond to the height between the floor and the cot base in the unfolded position.

[0025] In some embodiments, at least one of the vertically articulated members is such that, in the unfolded position of the cot, segments 12, 13 form between them an angle lower than 180°, pointing inwards. Accordingly, the vertically articulated member naturally folds toward the inside of the cot, i.e. under the cot base, when folding the cot.

[0026] In some embodiments, in the folded position, the vertices of the vertically articulated members are situated opposite each other and at a distance from each other. This distance makes it possible to avoid interactions between the vertically articulated members during the folding of the cot and, thus, to make the latter easier. This also makes it possible to obtain compact folding. As an alternative, the vertically articulated members can be situated at different heights such that, in the folded position, the articulated members are situated one above the other.

[0027] The abovementioned features and advantages, along with other features and advantages, will become apparent from the following detailed description of exemplary embodiments of the proposed folding cot. This detailed description refers to the appended drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0028] The appended drawings are schematic and are not necessarily to scale; they are intended primarily to illustrate the principles of the invention.

[0029] In these drawings, from one figure (FIG) to the next, identical elements (or element parts) are provided with the same reference signs.

Figures 1 to 3 are schematic perspective views of an example of a frame structure of a folding cot, in the unfolded, semi-folded and folded position, re-

spectively.

Figures 4 to 6 are schematic perspective views of an example of a folding cot equipped with textile cladding.

DETAILED DESCRIPTION OF EXAMPLES

[0030] Examples of folding cot are described in detail in the following description with reference to the appended drawings. These examples illustrate the features and advantages of the invention. However, the invention is not limited to these examples.

[0031] Figure 1 shows the frame structure of an example of a folding cot in the unfolded position. The frame structure comprises a cot base on which a mattress or the like (not shown in figure 1) can be arranged for a child to sleep thereon. The cot base is oriented horizontally in the unfolded position.

[0032] The frame structure of the cot comprises a rigid middle frame 1 that is generally U-shaped. The middle frame 1 comprises two uprights 2, 2', which are connected in their lower part by a cross member 3. The uprights 2, 2' are referred to as the "central uprights" in the following. The central uprights 2, 2' extend below the cross member 3 so as to form central cot legs 4, 4'. The central uprights 2, 2' are oriented vertically, whereas the cross member 3 is oriented horizontally.

[0033] The frame structure of the cot comprises two Sarrus mechanisms S1 and S2 which have the middle frame 1 in common. In the example, these two mechanisms are symmetrical with respect to the middle frame 1, i.e. with respect to the median plane of the middle frame 1.

[0034] The first Sarrus mechanism S1 comprises, in addition to the middle frame 1:

- an end frame 5 comprising two uprights 6, 6' (referred to as "corner uprights" in the following) that are connected by an upper cross member 8 and a lower cross member 9. The lower cross member is substantially at the same level as the cot base. The corner uprights 6, 6' extend below the lower cross member 9 to form cot legs 7, 7'. The end frame 5 is parallel to the middle frame 1;
- a horizontally articulated member comprising (i) a base frame 11, pivotally mounted with respect to the middle frame 1 about a horizontal axis CC' and (ii) a leg 10, pivotally mounted with respect to the end frame 5 about a horizontal axis AA'. The base frame 11 and the leg 10 are mounted so as to pivot with respect to each other about a third horizontal axis BB';
- a vertically articulated member comprising two segments 12, 13 that are mounted so as to pivot with respect to each other about a vertical axis EE'. These two segments 12, 13 are located below the cot base in the unfolded position. In this example, the segments 12, 13 are formed by vertical flaps or panels.

One of the segments 12 is pivotably mounted on the lower portion of the end frame 5, in particular on the cot leg 7, about a vertical axis DD'. The other segment 13 is pivotably mounted on the lower portion of the middle frame 1, in particular on the central cot leg 4, about a vertical axis FF'; and

- another vertically articulated member comprising two segments 12', 13' that are mounted so as to pivot with respect to each other about a vertical axis HH'. These two segments 12', 13' are located below the cot base in the unfolded position. In this example, the segments 12', 13' are formed by vertical flaps or panels. One of the segments 12' is pivotably mounted on the lower portion of the end frame 5, in particular on the end leg 7', about a vertical axis GG'. The other segment 13' is pivotably mounted on the lower portion of the middle frame 1, in particular on the central cot leg 4', about a vertical axis II'.

[0035] In the illustrated example, the end frame 5 is rigid and its overall dimensions are similar to those of the middle frame 1. In particular, the height of the corner uprights 6, 6' corresponds to the height of the central uprights 2, 2', and the height of the cot legs 7, 7' corresponds to that of the central cot legs 4, 4'.

[0036] In the illustrated example, the base frame 11 is positioned so as to form, in the unfolded position, a horizontal flat surface that is continuous with the upper surface of the cross member 3, and on which it is possible to arrange a mattress or the like. In other words, the base frame 11 and the cross member 3 form part of the cot base. The base frame 11 may be solid or, by contrast, provided with one or more cutouts, or openings, so as to limit its weight. The base frame 11 may have a central cutout surrounded by a flat peripheral edge. In this example, the base frame 11 and the cutout are both rectangular.

[0037] The hinge of axis BB' which connects the base frame 11 to the leg 10 and the hinges of axis AA' and CC', allows the horizontally articulated member to fold upward when the axis AA' and CC' move toward each other. Advantageously, the horizontally articulated member is equipped with a stop system (not shown) for blocking the base frame 11 and the leg 10 with respect to each other, such that the base frame 11 cannot go down beyond the horizontal position when unfolding the cot. As an example, the stop system may be a stop provided on the end frame 5, or a stop provided within the hinge connecting the base frame 11 to the leg 10, or a combination of both.

[0038] In the illustrated example, the leg 10 is a rigid rectangular frame, but it could have a different structure or shape. For instance, the leg 10 could be formed by one or more independent rods, each rod being pivotally mounted on the end frame 5 about the same horizontal axis AA', and on the base frame 11 about the same horizontal axis BB'. As shown in figure 1, in the unfolded position of the cot, the leg 10 extends under the base

frame 11.

[0039] In the illustrated example, the segments 12, 13, 12', 13' are formed by vertical rigid panels having substantially the same size. The hinges of axis EE' which connect the segments 12, 13 and the hinges of axis DD' and FF' are designed so as to allow the segments to fold inward (i.e. towards the segments 12', 13') when the middle frame 1 and the end frame 5 move toward each other. The same applies to the hinges HH', GG', II', for the segments 12', 13'.

[0040] As depicted in Figure 1, in order to make it easier to fold the segments 12, 13, the axis DD', EE' and FF' are equidistant. Advantageously, the longitudinal dimensions of the segments 12, 13, and, therefore, the relative positions of the axis DD', EE' and FF' are such that, when the cot is in the unfolded or open position, the segments 12, 13 form between them an angle lower than 180°, pointing inwards. In other words, in the unfolded position, the axis EE' is located inward with respect to the common plane of axes DD' and FF'. Therefore, when the middle frame 1 and the end frame 5 move toward each other, the segments 12, 13 easily move inward. The same applies to segments 12', 13' and axes GG', HH' and II'.

[0041] The second Sarrus mechanism S2 is identical to the mechanism S1, and these mechanisms S1, S2 are symmetrical with respect to the median plane of the middle frame 1. Therefore, for the sake of brevity, the mechanism S2 will not be described in more detail. The elements of the mechanism S2 that are similar to the elements of the mechanism S1 are provided with the same reference numbers increased by 100.

[0042] In addition to the Sarrus mechanisms S1 and S2, the cot is provided with two side barriers 30, 30', each extending between the end frames 5 and 105.

[0043] Each side barrier 30 (30') comprises:

- a slider 31 (31'), slidably mounted on the central uprights 2 (2');
- a first arm 32 (32'), pivotably mounted on the end frame 5 about a horizontal axis JJ', and on the slider 31 (31') about a horizontal axis KK'; and
- a second arm 132 (132') pivotably mounted on the end frame 105 about a horizontal axis MM', and on the slider 31 (31') about a horizontal axis LL'.

[0044] The arms 32, 32', 132, 132' improve the rigidity of the frame structure in the unfolded position, and act as a support for the textile lining and as a barrier for the child. In addition, these arms interconnect the Sarrus mechanisms S1, S2, so as to force these mechanisms to fold and unfold in a mirroring movement with respect to the middle frame 1, thus making the folding and unfolding operations easier.

[0045] At least one of the side barriers 30, 30' may be provided with a locking mechanism (not shown) for keeping it in the extended or unfolded position depicted in figure 1. The locking mechanism may lock and/or unlock the sliders 31, 31' at the upper end of the middle frame

1, i.e. at the upper ends of the central uprights 2, 2', respectively. The locking mechanism may be, for example, latches or the like for preventing the sliders 31, 31' to slide down on the central uprights 2, 2'.

[0046] The side barriers 30, 30', when unfolded and locked in the horizontal rectilinear position depicted in figure 1, prevent the end frames 5, 105 from moving toward the middle frame 1. Thus, the side barriers 30, 30' provide a simple and safe solution for locking the cot in the unfolded position, and it is not necessary to provide additional locking systems inside the Sarrus mechanisms S1, S2, e.g. inside the vertically or horizontally articulated members thereof.

[0047] When the sliders 31, 31' are locked in their upper position, the arms 32, 32', 132, 132' cannot rotate around the axis JJ', KK', LL' or MM'. Therefore, the hinges of the side barriers 30, 30' are secured and prevent the risks of finger entrapment for a child installed inside the cot.

[0048] In order to fold the cot (figure 2), the side barriers 30, 30' are first unlocked, for example by releasing or retracting the latches blocking the sliders 31, 31'. The cot can then be folded by simultaneously lifting the ends of the base frames 11 and 111, as depicted by arrows Z in figure 2. Thanks to the interconnection of all the rigid components of the Sarrus mechanisms S1 and S2, this has the effect of causing the horizontally articulated members to fold upward and of causing the vertically articulated members to fold inward.

[0049] As a result, the end frames 5, 105 symmetrically move toward the middle frame 1. Throughout folding, the end frames 5, 105 and the middle frame 1 remain parallel to each other. In particular, in the example, the corner uprights 6, 6', 106, 106' remain parallel to the central uprights 2, 2' while the upper cross members 8, 108 and the lower cross members 9, 109 of the end frames 5, 105 remain parallel to the cross member 3 of the middle frame 1.

[0050] Simultaneously, during the folding, the sliders 31, 31' slide down on the central uprights 2, 2', and the arms 32, 32', 132, 132' pivot down and folds against the corner uprights 6, 6', 106, 106' respectively.

[0051] When the cot is entirely folded (figure 3), the end frames 5 and 105 rest against each side of the middle frame 1. The horizontally articulated members and the vertically articulated members, as well as the side barriers 30, 30', are all folded inside the volume delimited by the end frames 5 and 105. Thus, the compact flat package illustrated in figure 3 is obtained. The folding cot may be provided with a locking or holding system (not shown) for holding the cot in the folded position. The cot may also be provided with a handle (not shown) for easily transporting it in its folded position.

[0052] In order to unfold the cot from the folded position of figure 3, the user only has to move the end frames 5 and 105 away from each other in order for the entire frame structure of the cot to completely unfold, i.e. for the base frames 11, 111 to be in a same horizontal plane

and for the side barriers 30, 30' to extend in a horizontal rectilinear direction, as depicted in figure 1.

[0053] For the safety and the comfort of the child, all the openings in the cot may be covered. To this end, figure 4 shows an example of a cot frame, in the unfolded position, provided with a cladding. The cladding comprises:

- an inner lining 42 which covers the volume delimited by the base frames 11, 111 on the lower side, and the side barriers 30, 30' and upper cross members 8, 108 on the upper side; and
- end panels 43, 143 covering the spaces inside the end frames 5, 105 respectively.

[0054] The inner lining 42 is sufficiently flexible to allow the frame structure of the cot to be folded as described above and as shown in figures 1 to 3. All or some parts of the inner lining 42 may be made of translucent fabric or mesh, so as to allow the child to see out of the cot, and to allow the parent to monitor their child.

[0055] The end panels 43, 143 may be made of textile, or translucent fabric or mesh. As an alternative, as they cover the end frames 5, 105 which remain rigid during the folding, they may be made of a solid material, thus giving the folded cot the appearance of a flat rigid case.

[0056] The cot may also comprise a mattress 14 that rests, in the unfolded position, on the horizontal surface defined by the cross member 3 and the base frames 11, 111 of the Sarrus mechanisms S1, S2.

[0057] The mattress 14 can be more or less rigid; it can incorporate an articulated base plate (not shown) for increasing its rigidity while permitting its folding.

[0058] When the cot is being folded (figure 5), as the sliders 30, 30' slide down on the central uprights 2, 2', the arms 32, 32' move down closer to the base frame 11, and the arms 132, 132' move down closer to the base frame 111. As a consequence, the inner lining 42 slackens and starts tucking itself inside the frame structure of the cot.

[0059] At the same time, the mattress 14 starts folding in half while the base frames 11 and 111 pivot towards each other.

[0060] In the folded position (figure 6), the mattress 14 is fully folded inside the volume delimited by the central uprights 2, 2', the cross member 3 and the base frames 11, 111 in upright position.

[0061] This configuration provides the following advantages:

- the mattress 14 remains protected inside the frame structure while the cot is being transported, and
- the frame structure of the cot and the mattress 14, and possibly the bedding, can be transported together, even without an additional storage bag.

[0062] The embodiments or examples described herein are given by way of illustration and not limitation. In

light of this description, one skilled in the art could easily modify these embodiments or examples, or consider others, while remaining within the scope of the invention. In particular, one skilled in the art could easily consider variants including only some features of these embodiments or examples, if these features alone are sufficient to provide one of the advantages of the invention. Further, the features of the embodiments or examples disclosed herein can be used in varying combinations with each other, and are not intended to be limited to the specific combinations described herein. In particular, unless specified otherwise or technically incompatible, a feature described in relation with one embodiment or example can be applied analogously to another embodiment or example.

Claims

1. A folding cot configured to move between an unfolded position and a folded position, comprising:

a cot base that is oriented horizontally in the unfolded position;

two end frames (5, 105) such that, in the unfolded position, the cot base extends horizontally between the end frames and the end frames (5, 105) extend vertically above and below the cot base;

a middle frame (1) located between the end frames (5, 105) that extends vertically above and below the cot base in the unfolded position and; two Sarrus mechanisms (S1, S2) provided on each side of the middle frame (1), each Sarrus mechanism comprising the middle frame (1), one of the end frames (5, 105) and at least two articulated members, namely a horizontally articulated member and a vertically articulated member, each of the articulated members connecting the middle frame (1) and the end frame (5, 105) together and guiding the movement of the middle and end frames toward/away from each other during the folding/unfolding of the cot;

wherein the cot base is formed, at least in part, by the horizontally articulated members of the Sarrus mechanisms (S1, S2);

wherein the horizontally articulated member of each Sarrus mechanism has horizontal articulation axes (AA', BB', CC') and folds upward when folding the cot; and

wherein the vertically articulated member of each Sarrus mechanism has vertical articulation axes (DD', EE', FF', GG', HH', II'), is located below the cot base in the unfolded position and folds under the cot base when folding the cot.

2. The folding cot of claim 1, wherein each Sarrus

mechanism allows the translational movement of the end frame (5, 105) with respect to the middle frame (1) along a longitudinal direction of the cot.

3. The folding cot of claim 1 or 2, wherein the horizontally articulated member comprises a base frame (11, 111) forming part of the cot base, and at least one leg (10, 110) articulated with the base frame and the end frame, the leg (10, 110) extending below the base frame (11, 111) in the unfolded position.

4. The folding cot of claim 3, wherein the base frame (11, 111) is provided with an axis extending within the frame and wherein the leg (10, 110) rotates about the axis when folding/unfolding the cot.

5. The folding cot of claim 3 or 4, wherein, in the unfolded position, the leg (10, 110) is oriented in a direction forming a non-zero angle with the horizontal direction.

6. The folding cot of any one of claims 1 to 5, comprising at least one side barrier (30, 30') extending between the end frames (5, 105), wherein the side barrier (30, 30') comprises two arms (32, 132, 32', 132'), each arm extending between the middle frame (1) and one of the end frames (5, 105).

7. The folding cot of claim 6, further comprising a slider (31, 31') which is slidably mounted on the middle frame (1) and vertically movable along the middle frame, wherein one end of each arm (32, 132, 32', 132') is articulated with the slider (31, 31') and another end of the arm is articulated with one of the end frames (5, 105).

8. The folding of claim 7, further comprising a locking mechanism for locking and/or unlocking the slider (31, 31') at the upper end of the middle frame.

9. The folding cot of any one of claims 1 to 8, further comprising a mattress (14), wherein the mattress is accommodated inside one of the frames in the folded position, in particular inside the middle frame (1).

10. The folding cot of claim 9, wherein the mattress (14) is mounted in a pivoting manner on the middle frame (1).

11. The folding cot of any one of claims 1 to 10, wherein each articulated member is formed by two segments that are hinged together and hinged to the adjacent frames (1, 5, 105) by hinges, a first hinge allowing one of the segments to rotate with respect to one of the frames about a first rotation axis, a second hinge allowing the segments to rotate with respect to each other about a second rotation axis, and a third hinge allowing the other segment to rotate with respect to

the other frame about a third rotation axis, the first, second and third rotation axes being parallel to one another.

12. The folding cot of claim 11, wherein, in the unfolded position, the two segments (12, 13, 112, 113, 12', 13', 112', 113') of the vertically articulated member form between them an angle lower than 180°, pointing inwards.
13. The folding cot as claimed in any one of claims 1 to 12, wherein each Sarrus mechanism (S1, S2) comprises two vertically articulated members and one horizontally articulated member.
14. The folding cot as claimed in claim 13, wherein, in the folded position, the vertices of the two vertically articulated members are situated opposite each other and at a distance from each other.

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Figure 1

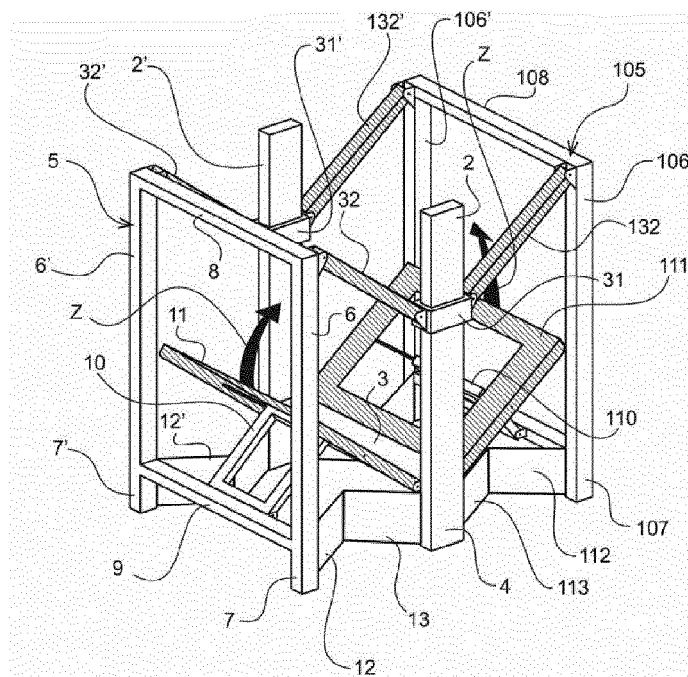
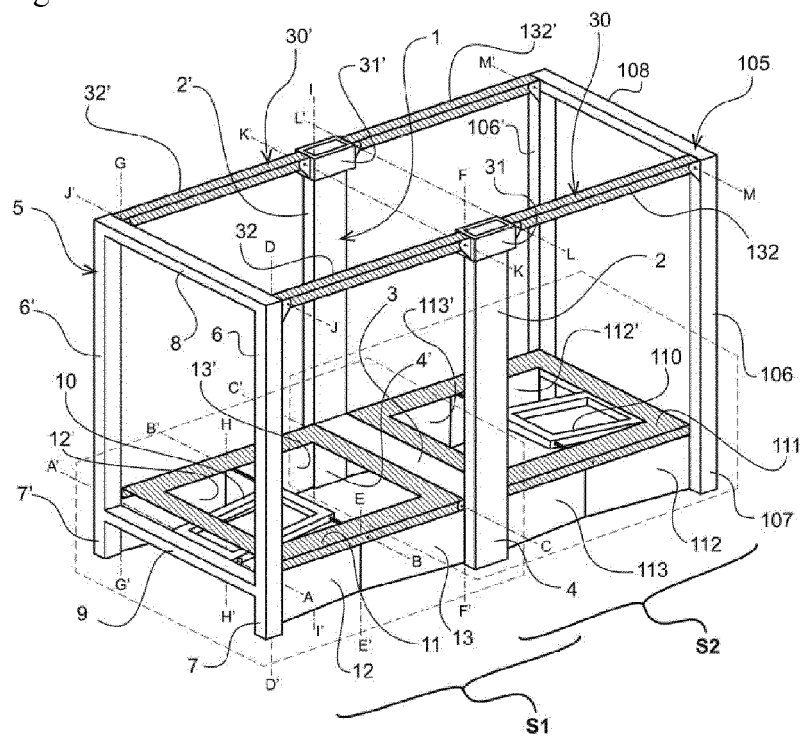


Figure 2

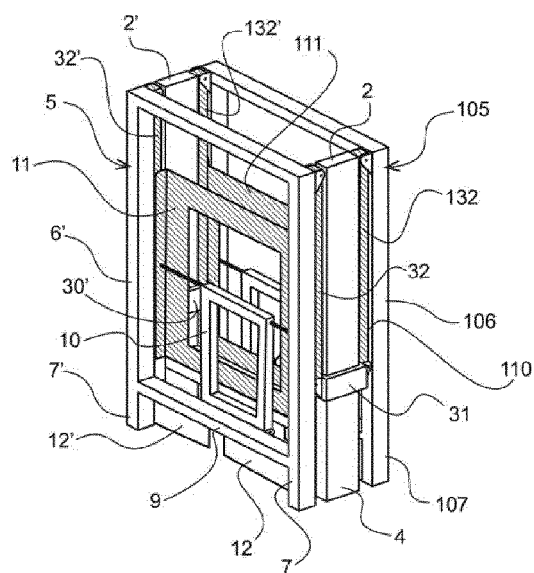


Figure 3

Figure 4

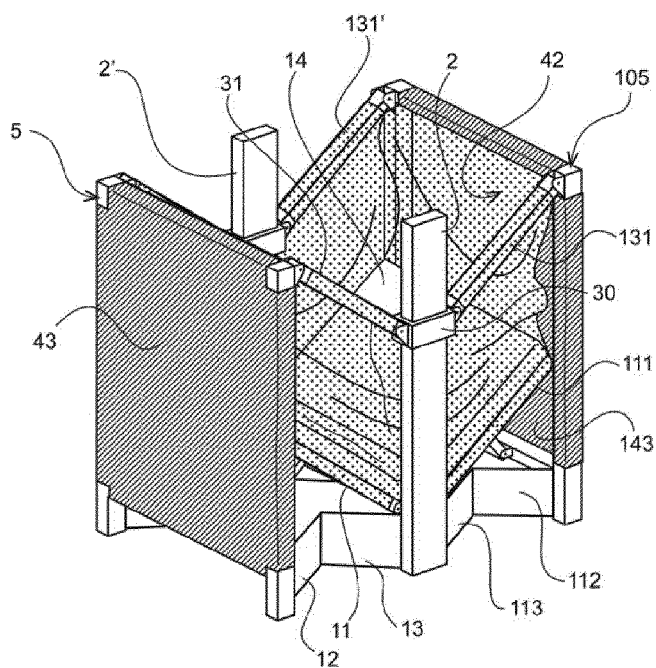
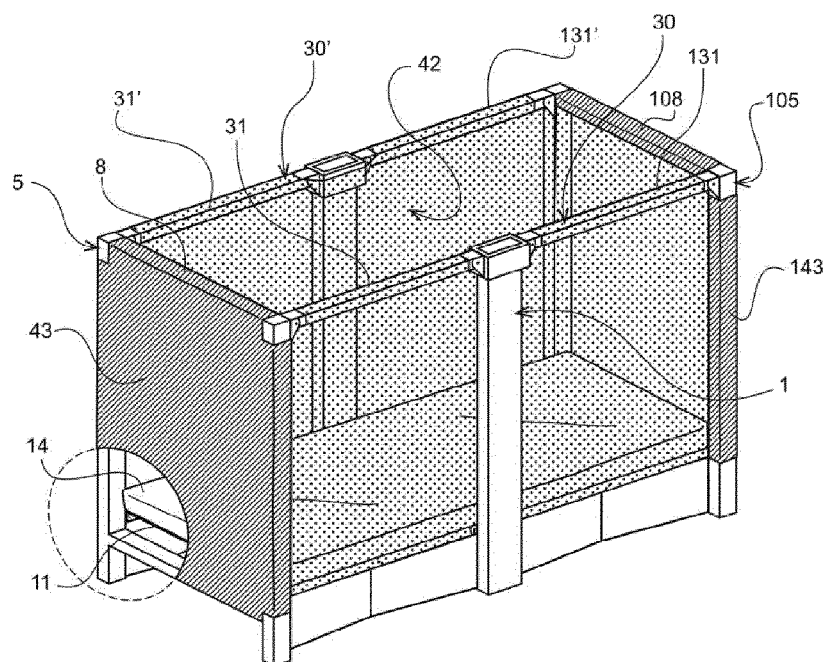


Figure 5

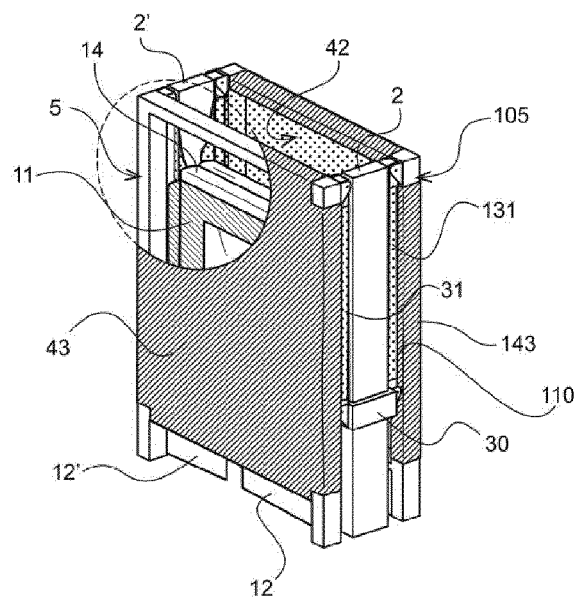


Figure 6



EUROPEAN SEARCH REPORT

Application Number
EP 20 30 6100

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			A47D A47C
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 4 February 2021	Examiner Pössinger, Tobias
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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REFERENCES CITED IN THE DESCRIPTION

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