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(54) **A COLLAPSIBLE COT**

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Description

Field of the Invention

[0001] The invention relates to the field of collapsible or foldable cots (or cribs) and particularly to collapsible cots for use in the hospitality industry with multi-person usage.

Background to the Invention

[0002] Within the hospitality industry, it is important that furniture is not only durable and resilient to damage from multiple users, but also that it provides a straightforward operation for staff, easy and simple transportation means and has uncomplicated repair options.

[0003] Collapsible or foldable cots were created as a useful cot option for the hotel industry in particular where not every room will need a permanent cot and so the cots can be stowed away easily when not in use and reassembled when necessary. The current market place includes a number of collapsible cots, however many of these are subject to issues including damage to large parts as well as to smaller components from hotel guests, incorrect usage causing breakages and injuries, complex assembling means and difficult transportation.

[0004] Examples of damage to current collapsible and folding cots include complicated folding and unfolding mechanisms and complex assembly causing incorrect folding and hence breakage by users, an excessive number of parts accessible for tampering with requiring repair and numerous replacement parts.

[0005] Other issues of current collapsible cots include bulky storage, and breakage and injuries caused by too high a number of moveable parts.

[0006] Examples of attempts to overcome these issues in the prior art include a collapsible cot with one hinge a third of the way along and another two thirds of the way along the side panels, with multiple moving parts from which the side panels fold together.

[0007] Another example of the prior art includes a collapsible cot with the side walls being solid, inwardly bendable walls and a separate base to be screwed into the cot.

[0008] Another example of the prior art is a collapsible cot with all the longer walls containing hinges causing the folding of the longer walls to form a square in the collapsed position.

[0009] It is an object of the invention to overcome these issues and to provide a practical and durable collapsible cot.

[0010] The following prior art documents are acknowledged: JP2007105187A, GB1578715, US2004/244110, US2561637, US2487636, JP2001190366, JP H0998853, US2007/101493, GB167357, GB191000072.

Summary of the Invention

[0011] In a first broad independent aspect, the invention provides a collapsible cot as defined in claim 1.

[0012] This configuration is particularly advantageous because it provides a cot which can be folded and unfolded in one simple movement with no requirement of tools, screws or additional parts. The ledge on the lower frame provides a simple, secure way to ensure the base platform is secure. The folding of the hinges being central and only on the side walls ensures that the cot remains symmetrical when folded with the weight evenly distributed which allows easier transportation both by staff preparing rooms with the cot and storing when not in use as well as for shipping.

[0013] Preferably, the opposed hinge portions are located centrally on each side wall.

[0014] This configuration is particularly advantageous because it allows for symmetrical inward folding of the side walls and so ensures that the weight is evenly distributed when the cot is in the collapsed position which makes transporting easier.

[0015] Preferably the base platform comprises a latch mechanism for securement and release of the base platform to the lower frame of either the front wall or the back wall.

[0016] This configuration is particularly advantageous because it allows the base platform to be easily moved out the way to allow for the inwards folding. The latch mechanism prevents the need for any screws and therefore tools so the process of folding and unfolding the cot is simplified. The latch mechanism also provides a secure means to maintain the latch in place and prevent a child from lifting the base upwards from below whilst the cot is in use.

[0017] Preferably, the pivotable connections of the legs to the side walls are located in cut-out inner portions at upper and lower ends of the legs.

[0018] This configuration is particularly advantageous because it allows the side walls to move inwardly whilst the legs remain facing their initial direction.

[0019] Preferably, each of the walls comprises vertically extending slats extending from the lower frames to the upper frames.

[0020] This configuration is particularly advantageous because it allows the baby or infant using the cot to be seen easily by the parent or guardian as well as ensure that the baby cannot fall off the base platform. The slats also provide handles by allowing access to the upper frame to improve grip when the cot is folded and being transported.

[0021] The cot incorporates a covering portion incorporating an upper wall for extending along the upper surface of the upper beams on both sides of said hinge, and two side portions for covering side portions of said upper beams; wherein said covering portion is secured via a pivot to one of said upper beams and extends over said hinge to said further upper beam; said further upper beam

incorporating a pin which releasably secures said covering portion to said further upper beam.

[0022] This configuration is particularly advantageous because it provides a cot which can be folded and unfolded in one simple movement with no requirement of tools, screws or additional parts.

[0023] In a subsidiary aspect, the cot may incorporate a ledge on the lower frame or lower beam in order to provide a simple, secure way to ensure the base platform is secure. The folding of the hinges may optionally be central and only on the side walls to ensure that the cot remains symmetrical when folded with the weight evenly distributed which allows easier transportation both by staff preparing rooms with the cot and stowing away when not in use as well as for shipping.

[0024] In a subsidiary aspect, a spring mechanism is provided for releasable attachment of the covering portion relative to the pin.

[0025] In a subsidiary aspect, the hinge is provided on the external side surfaces of the upper beams between adjacent upper beams.

[0026] In a subsidiary aspect, the covering portion incorporates an external cut-out portion which is sized and shaped to at least partially bound the hinge.

[0027] In a subsidiary aspect, the hinges are centrally located on each side wall.

[0028] In a subsidiary aspect, the base frame comprises a mechanism for securement and release of the base frame to a lower beam of either the front wall or the back wall.

[0029] This configuration is particularly advantageous because it allows the base frame to be easily moved out of the way to allow for the inward folding process. In preferred embodiments, the mechanism avoids the need for any screws and therefore tools so the process of folding and unfolding the cot is simplified. The mechanism also provides a secure means to maintain it in place and prevent a child from lifting the base upwards from below whilst the cot is in use.

[0030] In a subsidiary aspect, the mechanism incorporates a gripping portion which is provided inside the perimeter of the base frame.

[0031] In a subsidiary aspect, the gripping portion is operatively connected to a spring-loaded pin for securing the base frame to the lower beam.

[0032] Preferably, the opposed hinge portions are provided and are located centrally on each side wall. This configuration is particularly advantageous because it allows for symmetrical inward folding of the side walls and so ensures that the weight is evenly distributed when the cot is in the collapsed position which makes transporting easier.

[0033] Preferably, the cot comprises pivotable covering portions on the upper frame of each side wall for prevention of movement about the centrally opposed hinges.

[0034] This configuration is particularly advantageous because it provides a simple means to prevent any slight inward movement about the central hinges when the cot is fully folded which could result in injury due to fingers getting caught in the gap. The pivotable connection to the frame means the cover remains attached to the cot and cannot be entirely removed or lost.

[0035] Preferably, the pivotable covering portion contains a means for securing to the upper frame. This configuration is particularly advantageous because it provides child and infant-proof mechanism to prevent inadvertent removal of the covering portion leading to injury.

[0036] Preferably, the ledge extends across the length of said base platform as a single beam. This provides improved durability and resistance to impact as the base platform is lower onto the ledge and when the cot is in its fully deployed position.

[0037] Optionally, the base platform incorporates an upper surface on which a mattress may rest, in use, and a lower surface which incorporates a protruding beam or other appropriate resting surface against which the edge of a mattress may rest when the cot is collapsed; whereby the mattress may be retained within the cot and spaced from the ground.

[0038] Optionally, the base platform incorporates two distal corners, at least one of which incorporates a protective pad. This pad may be of relatively soft material, or low friction material, or low abrasive properties relative to ordinary surfaces of the cot in order to protect the rest of the cot when inadvertent impact of the corners arise when in use.

Brief Description of the Figures

[0039] Embodiments of the invention will now be described, by way of example only, and with reference to the accompanying drawings, in which:

- Figure 1 is an upper perspective view of the cot unfolded;
- Figure 2 is a perspective view of the cot fully folded;
- Figure 3 is an upper perspective view of the cot with the base partly folded;
- Figure 4 is a perspective view of part of the cot with the base fully folded vertically;
- Figure 5 is a perspective view of the cot mid-way though the folding;
- Figure 6 is a close-up perspective view of the hinge and the covering portion; and
- Figure 7 is a close-up perspective view of the base securing mechanism.

Detailed Description of the Figures

[0040] Figure 1 shows a collapsible cot 1 in the fully unfolded position ready for use as a crib or cot to be made up with a suitable mattress. In this position, the cot 1 consists of a cuboidal frame assembly 2, with four sides, a base and an open top. The four sides of the frame 2 comprising two parallel shorter sides hereinafter referred to as the side walls 3, 4 provided respectively at the head

and foot of the cot and two parallel longer sides hereinafter, for ease of reference, we have referred to as the back wall 6 and front wall 8, although these walls can be interchangeable. For instance, we refer to the back wall 6 being the wall which the base platform 12 rests against when the cot 1 is in the folded position (Figure 2) although it should be appreciated that this may also be a "front wall".

[0041] The frame 2 comprises four legs 10, one leg 10 located at each corner of the cot 1, each leg 10 being joined to at least one of the side walls 3, 4 and either the front wall 6 or back wall 8 to provide structural support.

[0042] The front wall 6 and back wall 8 of the cot 1, each comprises an upper beam 16 and lower beam 14 extending between two adjacent legs 10 along a longer side of the frame 2. The upper beams 16 and lower beams 14 are substantially parallel and extend perpendicularly from a first leg 10 to a second leg 10. The distance between the upper beams 16 and the lower beams 14 is consistent at all locations. By upper beam and lower beam, we mean that, in use, the lower beam is proximal to the ground and the upper beam is distal from the ground.

[0043] The side walls 3 and 4 comprise two upper beams 31a and 31b which cooperate to extend between adjacent legs 10 along a shorter side of the frame 2. The upper beams 31a and 31b are each attached to a leg 10 at opposite ends of a shorter side of frame 2, such that the free ends of the upper beams 31a and 31b extend inwardly, converging at the medial point of the side wall 3 or 4 where they are hingedly attached. Similarly, two lower beams 32a and 32b cooperate to extend between adjacent legs 10 along a shorter side of the frame 2. The lower beams 32a and 32b are each attached to a leg 10 at opposite ends of a shorter side of frame 2, such that the free ends of the upper beams 31a and 31b extend inwardly, converging at the medial point of the side wall 3 or 4 where they are hingedly attached. In an embodiment, the upper beams 31a, 31b and the lower beams 32a, 32b are of substantially identical length.

[0044] In an embodiment, the beams are substantially rectangular parallelepiped in shape with flat planar faces. This allows the beams to closely associate when folded up for storage, allowing the cot 1 to occupy less space. In an embodiment, the upwardly oriented face of the upper beams can be concave and the edges between this face and the adjacent faces smoothed to reduce any sharp edges and improve the comfort of the user. In a further alternative embodiment, the beams could have a horizontal cross section that is any of the following; circular, ovoid, teardrop shaped, toroidal, square, rectangular, hexagonal or octagonal.

[0045] The side walls 3 and 4 are connected to the legs 10 via hinges 11 on both upper 31 and lower beams 32. The front wall 6 and back wall 8 are rigidly connected to the legs 10. In a preferred embodiment, the connection is by a screw 40 but any suitable connecting means may be used including welding, attachments means or chemical adhesion. The side walls 3 and 4 have uniform height, are planar and parallel to one another when the cot is deployed for use. The front wall 6 and back wall 8 are also planar and have a uniform height and are parallel to one another whether deployed for use or collapsed for stowing away.

[0046] A pivotable base platform or base frame 12 rests on an inner protrusion ledge 15 integrated to the lower beam 14 of the front wall 8. The base platform is hinged at the lower beam 14 of the back wall 6. The base platform is raised from the ground, with the legs 10 extending below. This protruding ledge 15 (shown more clearly in Figure 3) on the lower frame 14 provides a rigid and secure support on which the base 12 can rest. When resting upon the ledge 15, the base 12 can be secured in place via a spring-loaded pin 28 housed within the base 12. The pin 28 enters a corresponding aperture in the lower beam 14 of the front wall 8 locking the base platform 12 into place. The pin 28 is controlled by a gripping portion 29 housed within the recess 13 in the base 12. The gripping portion 29 enables the user to easily pull the pin 28 from its corresponding recess in the lower beam 14 of the front wall 8, allowing the base to be raised from its deployed position and further enabling the cot 1 to be folded for storage or transport. In the current embodiment, the gripping portion 29 is conical in shape, with its diameter increasing distal from the pin 28. In an alternative embodiment, the gripping portion 29 could be ribbed or grooved to increase the users grip during use. In a preferred embodiment, the gripping portion 29 is made from a polymeric material.

[0047] The recess 13 in the base 12 enables the user to access the gripping portion 29 from either side of the base 12. The location of the gripping portion 29 within the recess 13 in the base 12 also helps to prevent it snagging clothes and delicate skin which could be damaged.

[0048] The pin 28 also prevents the need for screws or any tools for movement of the base platform 12 improving the speed and ease in deploying and folding up the cot 1. Figure 3 shows the base platform or frame 12 half extended. Here, the central aperture 13 with the base panel 12 is also clearly shown, as is the ledge 15 which is in certain embodiments secured to the lower beam 14 of the front wall 8. The lower beam incorporates a recess for receiving pin 28. In alternative embodiments, the recess may be provided in the base frame and the pin as part of the lower beam 14.

[0049] In a preferred embodiment, the side walls 3 and 4, front wall 6 and back wall 8 comprise inner bars or slats 9 extending vertically from the upper beams 16, 31a and 31b to the lower beams 14, 32a and 32b of the cot 1. In a preferred embodiment, the side walls 3, 4 contain four slats 9, the front wall 8 and back wall 6 contain ten slats 9, spaced equally apart from one another. This embodiment provides a simple and symmetrical number for folding although it is appreciated that any number of these slats 9 can be present. The slats 9 serve the purpose of preventing a baby or infant from falling out the cot 1 whilst

still allowing them to be seen easily by a parent or guardian. The upper beams 31a, 31b and the lower beams 32a, 32b of the side walls 3, 4 each contain a single centrally opposed hinge 18, 19 respectively. The two upper central hinges 18 are covered by moveable rigid covers 20. Both the covering portion 20 and the hinge 18 is shown more clearly in Figure 6 and are described in detail below. The covering portion 20 extends from the upper beam 31a to upper beam 31b covering the hinge 18 and keeping the upper beams 31a and 31b substantially parallel. In a preferred embodiment, the covering portion 20 is pivotably attached to the upper beam 31a and releasably attached to the upper beam 31b.

[0050] Alternatively, the covering portion 20 can be pivotably attached to the upper beam 31b and releasably attached to the upper beam 31b. In a preferred embodiment, the covering portion 20 is a metal lockable three-sided cover surrounding the hinges 18 and the medial portions of the upper beams 31a and 31b. The covering portion 20 is three - sided with an upper cover covering the top of the frame and two sides which extend downwards surrounding the upper surface of the beams 31a and 31b above the hinge 18 and the sides surrounding the shape of the hinge. One end of the covering portion 20 is connected at both sides to the upper beam 31a by a pivot point 21 which may be formed by a screw 22. The side that surrounds the other side of the hinge 18 contains an aperture 25 though which a protruding button 24 extends. The button or pin may be displaced inwardly by applying pressure on it against a spring mechanism.

[0051] In use, the function of the covering portion 20 is to maintain the sections of the side walls 3, 4 together in place, either side of the upper hinge points 18, to prevent unintentional movement about the upper hinges 18 and lower hinges 19. The covering portion 20 also serves the purpose of preventing injury due to trapped fingers in the gap which could occur with a slight movement about the hinges 18, 19. At the opposite end of the pivot point 21 of the hinge 18 (in the preferred embodiment, on the left hand side of the hinge) is a latch locking system. This locking system comprises a pushable button 24 connected to the upper beam 31b which is pushed inwardly when the covering portion 20 is being inserted downwards into the locking position. An aperture 25 within the lower section of the covering portion 20 is provided through which the button 24 extends when the covering portion 20 is in place due to the spring mechanism provided with the button. The relative sizes of the button 24 and the aperture 25 are exactly suitably sized to ensure that when the button 24 extends through the aperture 25 due to the spring mechanism, and due to its protrusion through the aperture, the covering portion 20 is prevented from further movement. To release the covering portion 20, the button 24 is pushed inwardly against a spring mechanism to allow the covering portion 20 to be lifted upward, uncovering the hinge 18 consequently allowing movement. In a preferred embodiment, the covering portion 20 is metal, although any suitable material can be used. In further alternative embodiments, any suitable means may be used to maintain the hinges 18 in the open position. The lower edge 26 of the covering portion 20 progressively flares outwardly at an incline away from the upper frame 16 in order to allow the covering portion 20 to latch on to the upper frame 31a, 31b. This incline of the edge 26 ensures that the covering portion 20 slides over the protruding button 24 when the covering portion 20 is moved downwards and prevents the edge from getting caught on the button 24.

[0052] The base platform 12 is shown comprising a central aperture 13 to the side of the front wall 8. The central aperture 13 contains a spring-loaded pin mechanism 28 including a gripping portion 29 to lock the base platform 12 into position when the cot 1 is deployed and when the front edge of the base platform 12 is resting on the inner ledge 15. This spring-loaded pin 28 prevents upwards movement of the base 12 when the cot is in use. The aperture 13 and spring-loaded pin system 28 is shown more clearly in Figure 7. In preferred embodiments, the aperture and at least part of the mechanism such as the gripping portion is provided within the boundaries defined by the perimeter of the base frame.

[0053] Looking at Figures 5, it can be seen that the leg panels 10 are connected rigidly to the front and back panels by screws 40 at the ends of the upper frame 16 and lower frame 14 but contain two pivots 11 against which the side panels 3, 4 fold inwardly. The pivots 11 are located in upper and lower cut-out sections 41 within the legs 10. The remainder of the upper surfaces of the legs 10 comprise an outer curved upper edge 42 with a flat outer vertical side and flat inner edge in which the pivot 11 connecting the upper frame 16 and lower frame 14 to the legs 10 sits.

[0054] Figure 2 shows the collapsible cot 1 in its fully folded up (or collapsed) position. Here, the four upwardly extending legs 10 are shown more clearly. The rigid connection of the legs 10 to the front wall 6 and back wall 8 can be seen, with screws 40 indicating the location of the connection. In this fully folded position, the base platform 12 is vertically positioned and the two inner parts of the upper frame 16 and lower frame 14 are fully folded about the hinge 18 so that the inner sides are parallel both to one another and to the front wall 6 and back wall 8. The pivot connection 11 to the legs 10 is also moved by the full amount possible so that the frame is at a right angle to the legs 10.

[0055] It can be seen that the cot 1 is in this fully folded position, the entire cot 1 forms a substantially flat planar surface along the length of the cot. When in this position, the cot 1 can be easily transported and stored as it occupies far less space than the open cot. In this embodiment, the legs 10 of the cot 1 are brought towards each other. The entire width of the cot in the fully folded position extends from the outer edges of the legs 10 from each side wall 3. The slats 9 provide a space for the cot to be lifted via the upper frames 16.

[0056] Figure 4 shows the base platform or frame 12

fully upright resting against the back wall 6 which is the first step of the folding mechanism (described in more detail below). With the base platform 12 fully upright and out of the way, this allows for the inward movement of the side walls about the centrally disposed hinge 18. Figure 4 also provides a clear view of the underside of the base platform 12 which comprises a raised extended wall portion 50 surrounding the entire perimeter of the underneath of the base platform 12 as well as four lateral beams 51, splitting the underneath in to five rectangular areas. The middle, narrowest rectangular area 53 contains the aperture 13 containing the gripping portion 29 of the locking member 28.

[0057] In the preferred embodiment, the collapsible cot 1 is comprised of wood, however in alternative embodiments, the cot may be comprised of any suitable material including, but not limited to metal, rubber or any suitable plastic such as acrylic.

With the base platform 12 raised vertically and out of the way, the side panels 3, 4 are able to be folded inwardly about hinge 18 as shown in Figure 5. First the gripping portions 20 are raised by pushing button 24 and sliding the gripping portion 20 upwards.

[0058] In a preferred embodiment (shown in Figure 5), the base 12 incorporates corner protectors 34 at the corners distal from the pivot 11. These help to reduce damage associated with repeated deployment and folding and also reduce the sharp edges which could cause harm to the user. In a preferred embodiment, the corner protectors 34 are made from a plastics material. In a preferred embodiment, the base 12 further incorporates a protruding ledge 35 in attachment with the wall portion 50 proximal to the hinge 11. The ledge 35 extends away from the wall portion 50 substantially perpendicular from the base 12. When in a folded orientation, the ledge 35 provides a surface parallel with the ground, upon which the mattress can be rested.

[0059] Figure 6 shows a close up view of the upper central hinge 18 and pivotable covering portion 20. In a preferred embodiment, the hinge 18 is a hinge situated on the outside of the upper beams 31a and 31b of the side wall 3, 4. An identical central hinge 19 is located on each of the lower frames 32a and 32b. The pivotable covering portion 20 is preferably designed to fit entirely around the upper hinges 18.

[0060] In use, the cot is opened / unfolded and secured in the open position with the spring-loaded pin system 28 in the base and the covering portion 20 and a suitable sized mattress fitting the diameter of the base platform is placed securely on the base platform 12. Additional sheets, blankets and pillows are then added as required and the cot is suitable for use by an infant. When the cot 1 is no longer required in the room, the mattress and items are removed, the cot is simply folded up into the fully collapsed position (mechanism described below) and stowed away either in a suitable storage room or within the same room.

[0061] The first step is the raising of the base platform 12 to a vertical position leaning against the front wall 6 as shown more clearly in Figure 4. Figure 3 shows the base platform 12 mid-way through being raised. It can be seen that the base platform 12 is hingedly attached at the lower end of the back wall 6. The base platform is released from its position by pulling on the gripping portion 29 within the aperture 13. This mechanism allows an easy, quick and simple movement to raise the base platform 12 out of the way to allow the inward movement of the side panels 3, 4. Figure 3 also shows the ledge 15 on the lower frame 14.

[0062] The second step is the two covers 20 are raised which allows for the inward bending or collapsing of either side wall at the central hinge point 18. The pushable button part 24 is pushed inwards to allow the gripping portion 20 to be raised clear of the upper frame 31a and 31b.

[0063] The side walls 3, 4 are folded inwardly and the upper and lower frames 14, 16 rotate about the upper and lower pivot points 11 on legs 10 fully until the two sides of the side walls 3, 4 either side of the hinge 18 are parallel and the legs 10 are brought as close together as possible as in Figure 2 where they remain stable and upright.

[0064] When in the collapsed position, the covering portion 20 can be lowered again onto the upper frame 31a to prevent injury during transportation. This entire method of collapsing and unfolding can be done without the use of a single tool.

[0065] Transportation is simplified. When the cot is in the fully collapsed position, there are only two main outermost parts, the front wall 8 and back wall 6 and the weight is equally distributed. The design of the frames and slats 9 allows for various gripping portions. When the cot is not in use or not required, it can be quickly and easily arranged into the fully collapsed position and stacked alongside a wall.

[0066] In an alternative embodiment, the ledge 15 may extend the full circumference of the cot 1 rather than just being along the front wall 8.

[0067] In a further alternative embodiment, the legs may include wheels on the feet to assist transportation.

[0068] In a further alternative embodiment, the metal covering portion 20 may be of any suitable material in particular of plastics material.

Claims

1. A collapsible cot (1) moveable between an open position and a folded position, the collapsible cot comprising:

   a side wall (3) at the foot of the cot and a side wall (4) at the head of the cot, each side wall having at least two upper beams (31a,31b) and at least two lower beams (32a,32b) which are pivotally attached to one another;
   a front wall (8) and a back wall (6) connecting

the opposite ends of the two side walls, the front wall and back wall each having an upper beam and a lower beam and being rigid structures;
four upwardly extending legs (10) joining the ends of the side walls to the ends of the front wall and to the ends of the back wall, each leg being pivotably connected to the side walls; and a base platform;
wherein said base platform is pivotable about one longer edge of the lower frame of either the back wall or the front wall and wherein said base platform rests horizontally on a ledge (15) of either the front wall or the back wall, when the cot is in the open position; and
wherein each side wall has hinge portions (18); said side walls being inwardly foldable about said hinge portions when said base platform is pivoted on its side; said cot being **characterised in that** it further comprises a covering portion (20) incorporating an upper wall for extending along the upper surface of the upper beams on both sides of said hinge, and two side portions for covering side portions of said upper beams; wherein said covering portion is secured via a pivot (21) to one of said upper beams and extends over said hinge to said further upper beam; said further upper beam incorporating a pin (24) which releasably secures said covering portion to said further upper beam.

2. A collapsible cot according to claim 1, wherein said base platform incorporates a locking mechanism for securement and release of the base platform to the lower beam of either the front wall or the back wall; said locking mechanism comprising a pin movable from said base platform to one of said lower beams, and a gripping portion for operating said pin.

3. A collapsible cot according to claim 2, wherein said locking mechanism is substantially enclosed within said base platform.

4. A collapsible cot according to either claim 2 or claim 3, wherein said gripping portion is operable via an aperture in said base platform.

5. A collapsible cot according to any one of claims 2 to 4, wherein said pin locking mechanism is spring loaded.

6. A collapsible cot according to any of the preceding claims, further comprising hinged connections located in cut - out inner portions at upper and lower ends of the legs.

7. A collapsible cot according to claim any of the preceding claims, wherein a spring mechanism is provided for releasable attachment of said covering portion relative to said pin.

8. A collapsible cot according to any of the preceding claims, wherein said hinge is provided on the external side surfaces of said upper beams between adjacent upper beams.

9. A collapsible cot according to claim 8, wherein said covering portion incorporates an external cut-out portion which is sized and shaped to at least partially bound said hinge.

10. A collapsible cot according to any of the preceding claims, wherein said hinges are centrally located on each side wall.

11. A collapsible cot according to any of the preceding claims , wherein the covering portions are entirely detachable.

12. A collapsible cot according to any of the preceding claims, wherein said ledge extends across the length of said base platform as a single beam.

13. A collapsible cot according to any of the preceding claims, wherein said base platform incorporates an upper surface on which a mattress may rest, in use, and a lower surface which incorporates a protruding beam against which the edge of a mattress may rest when the cot is collapsed; whereby the mattress may be retained within the cot and spaced from the ground.

14. A collapsible cot according to any of the preceding claims, wherein said base platform incorporates two distal corners, at least one of which incorporates a protective pad.

Patentansprüche

1. Ein zusammenklappbares Kinderbett (1), das zwischen einer offenen und einer zusammengeklappten Position beweglich ist, das zusammenklappbares Kinderbett bestehend aus: eine Seitenwand (3) am Fuß des Kinderbetts und eine Seitenwand (4) am Kopf des Kinderbetts, wobei jede Seitenwand mindestens zwei obere Balken (31a, 31b) und mindestens zwei untere Balken (32a, 32b) aufweist, die schwenkbar aneinander befestigt sind; eine Vorderwand (8) und eine Rückwand (6), die die gegenüberliegenden Enden der beiden Seitenwände verbinden, wobei die Vorderwand und die Rückwand jeweils einen oberen Balken und einen unteren Balken aufweisen und starre Strukturen sind; vier sich nach oben erstreckende Beine (10), die die Enden der Seitenwände mit den Enden der Vorderwand und mit den Enden der Rückwand verbinden, wobei

jedes Bein schwenkbar mit den Seitenwänden verbunden ist; und eine Basisplattform; wobei die Basisplattform um eine längere Kante des unteren Rahmens entweder der Rückwand oder der Vorderwand schwenkbar ist und wobei die Basisplattform horizontal auf einer Leiste (15) entweder der Vorderwand oder der Rückwand ruht, wenn sich das Kinderbett in der geöffneten Position befindet; und wobei jede Seitenwand Scharnierabschnitte (18) aufweist; wobei die Seitenwände nach innen um die Scharnierabschnitte, wenn die Basisplattform auf ihrer Seite geschwenkt wird; wobei das Kinderbett ist **gekennzeichnet durch** dass es ferner einen Abdeckabschnitt (20) mit einer oberen Wand zum Erstrecken entlang der oberen Oberfläche der oberen Balken auf beiden Seiten des Scharniers und zwei Seitenabschnitte zum Abdecken von Seitenabschnitten der oberen Balken umfasst; wobei der Abdeckabschnitt über eine Zapfen (21) an einem der oberen Balken befestigt ist und sich über das Scharnier zu dem weiteren oberen Balken erstreckt; wobei der weitere obere Balken einen Stift (24) aufweist, der den Abdeckabschnitt lösbar an dem weiteren oberen Balken befestigt.

2. Zusammenklappbares Kinderbett nach Anspruch 1, wobei die Basisplattform einen Verriegelungsmechanismus zum Sichern und Freigeben der Basisplattform an dem unteren Balken entweder der Vorderwand oder der Rückwand enthält; wobei der Verriegelungsmechanismus einen Stift, der von der Basisplattform zu einem der unteren Balken bewegbar ist, und einen Greifabschnitt zum Betätigen des Stiftes aufweist.

3. Zusammenklappbares Kinderbett nach Anspruch 2, wobei der Verriegelungsmechanismus im wesentlichen innerhalb der Basisplattform eingeschlossen ist.

4. Zusammenklappbares Kinderbett nach Anspruch 2 oder 3, wobei der Greifteil über eine Öffnung in der Basisplattform betätigt werden kann.

5. Zusammenklappbares Kinderbett nach einem der Ansprüche 2 bis 4, wobei der Stiftverriegelungsmechanismus federbelastet ist.

6. Zusammenklappbares Kinderbett nach einem der vorstehenden Ansprüche, ferner mit Scharnierverbindungen, die in ausgeschnittenen Innenteilen am oberen und unteren Ende der Beine angeordnet sind.

7. Zusammenklappbares Kinderbett nach einem der vorstehenden Ansprüche, wobei ein Federmechanismus zur lösbaren Befestigung des Abdeckabschnitts relativ zu dem Stift vorgesehen ist.

8. Zusammenklappbares Kinderbett nach einem der vorstehenden Ansprüche, wobei das Scharnier an den äußeren Seitenflächen der oberen Balken zwischen benachbarten oberen Balken vorgesehen ist.

9. Zusammenklappbares Kinderbett nach Anspruch 8, wobei der Abdeckabschnitt einen äußeren Ausschnittabschnitt enthält, der so bemessen und geformt ist, dass er das Scharnier zumindest teilweise begrenzt.

10. Zusammenklappbares Kinderbett nach einem der vorstehenden Ansprüche, wobei die Scharniere zentral an jeder Seitenwand angeordnet sind.

11. Zusammenklappbares Kinderbett nach einem der vorstehenden Ansprüche, bei dem die Abdeckabschnitte vollständig abnehmbar sind.

12. Zusammenklappbares Kinderbett nach einem der vorstehenden Ansprüche, wobei sich die genannte Leiste als ein einziger Balken über die Länge der genannten Basisplattform erstreckt.

13. Zusammenklappbares Kinderbett nach einem der vorstehenden Ansprüche, wobei die Basisplattform eine obere Fläche, auf der eine Matratze im Gebrauch ruhen kann, und eine untere Fläche aufweist, die einen vorstehenden Balken aufweist, gegen den der Rand einer Matratze ruhen kann, wenn das Kinderbett zusammengeklappt ist, wodurch die Matratze innerhalb des Kinderbetts gehalten und vom Boden beabstandet werden kann.

14. Zusammenklappbares Kinderbett nach einem der vorstehenden Ansprüche, wobei die Basisplattform zwei distale Ecken aufweist, von denen mindestens eine ein Schutzpolster enthält.

Revendications

1. Un lit d'enfant pliant (1) mobile entre une position ouverte et une position repliée, le lit d'enfant pliant comprenant : une paroi latérale (3) au pied du lit d'enfant et une paroi latérale (4) à la tête du lit d'enfant, chaque paroi latérale ayant au moins deux poutres supérieures (31a, 31b) et au moins deux poutres inférieures (32a, 32b) qui sont fixées de manière pivotante l'une à l'autre ; une paroi avant (8) et une paroi arrière (6) reliant les extrémités opposées des deux parois latérales, la paroi avant et la paroi arrière ayant chacune une poutre supérieure et une poutre inférieure et étant des structures rigides ; quatre pieds s'étendant vers le haut (10) reliant les extrémités des parois latérales aux extrémités de la paroi avant et aux extrémités de la paroi arrière, chaque pied étant relié de manière pivotante aux parois

latérales ; et une plate-forme de base ; dans laquelle ladite plate-forme de base peut pivoter autour d'un bord plus long du cadre inférieur de l'une ou l'autre des paroi arrière ou la paroi avant et dans lequel ladite plate-forme de base repose horizontalement sur un rebord (15) de la paroi avant ou de la paroi arrière, lorsque le lit est en position ouverte ; et dans lequel chaque paroi latérale a des parties de charnière (18) ; lesdites parois latérales étant pliants vers l'intérieur autour dudit parties articulées lorsque ladite plate-forme de base est pivotée sur son côté ; ledit lit d'enfant étant **caractérisé en ce qu'**elle comprend en outre une partie de couverture (20) comprenant une paroi supérieure destinée à s'étendre le long de la surface supérieure des poutres supérieures des deux côtés de ladite charnière, et deux parties latérales destinées à couvrir des parties latérales desdites poutres supérieures ; dans laquelle ladite partie de couverture est fixée par l'intermédiaire d'une pivot (21) à l'une desdites poutres supérieures et s'étend sur ladite charnière à ladite autre poutre supérieure ; ladite autre poutre supérieure incorporant une broche (24) qui fixe de manière amovible ladite partie de couverture à ladite autre poutre supérieure.

2. Lit d'enfant pliant selon la revendication 1, dans lequel ladite plate-forme de base incorpore un mécanisme de verrouillage pour la fixation et la libération de la plate-forme de base à la poutre inférieure de la paroi avant ou de la paroi arrière ; ledit mécanisme de verrouillage comprenant une broche mobile de ladite plate-forme de base à l'une desdites poutres inférieures, et une partie de préhension pour actionner ladite broche.

3. Lit d'enfant pliant selon la revendication 2, dans lequel ledit mécanisme de verrouillage est sensiblement enfermé dans ladite plate-forme de base.

4. Lit d'enfant pliant selon la revendication 2 ou la revendication 3, dans lequel ladite partie de préhension est actionnable via une ouverture dans ladite plate-forme de base.

5. Lit d'enfant pliant selon l'une des revendications 2 à 4, dans lequel ledit mécanisme de verrouillage à goupille est chargé par un ressort.

6. Lit d'enfant pliant selon l'une des revendications précédentes, comprenant en outre des connexions articulées situées dans des parties intérieures découpées aux extrémités supérieure et inférieure des pieds.

7. Lit d'enfant pliant selon l'une des revendications précédentes, dans lequel un mécanisme à ressort est prévu pour la fixation amovible de ladite partie de couverture par rapport à ladite broche.

8. Lit d'enfant pliant selon l'une des revendications précédentes, dans lequel ladite charnière est prévue sur les surfaces latérales externes desdites poutres supérieures entre des poutres supérieures adjacentes.

9. Lit d'enfant pliant selon la revendication 8, dans lequel ladite partie de couverture comprend une partie extérieure découpée qui est dimensionnée et formée de manière à délimiter au moins partiellement ladite charnière.

10. Lit d'enfant pliant selon l'une des revendications précédentes, dans lequel lesdites charnières sont situées au centre de chaque paroi latérale.

11. Lit d'enfant pliant selon l'une des revendications précédentes, dans lequel les parties de couverture sont entièrement détachables.

12. Lit d'enfant pliant selon l'une des revendications précédentes, dans lequel ledit rebord s'étend sur la longueur de ladite plate-forme de base comme une seule poutre.

13. Lit d'enfant pliant selon l'une des revendications précédentes, dans lequel ladite plate-forme de base comprend une surface supérieure sur laquelle un matelas peut reposer en cours d'utilisation, et une surface inférieure qui comprend une poutre en saillie contre laquelle le bord d'un matelas peut reposer lorsque le lit d'enfant est plié ; de sorte que le matelas peut être retenu dans le lit d'enfant et espacé du sol.

14. Lit d'enfant pliant selon l'une des revendications précédentes, dans lequel ladite plate-forme de base comprend deux coins distaux, dont au moins un comprend un coussin de protection.

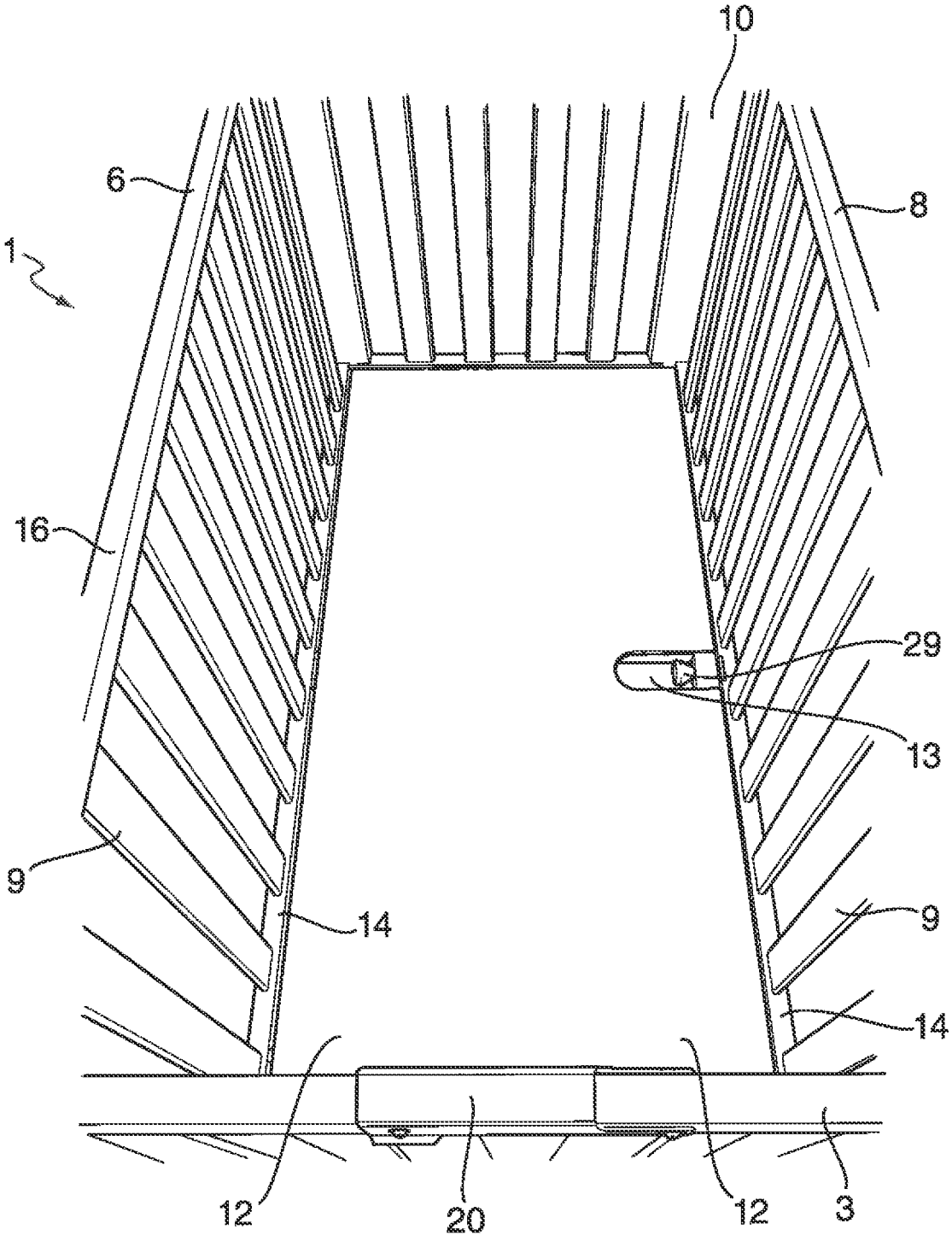

Fig.1

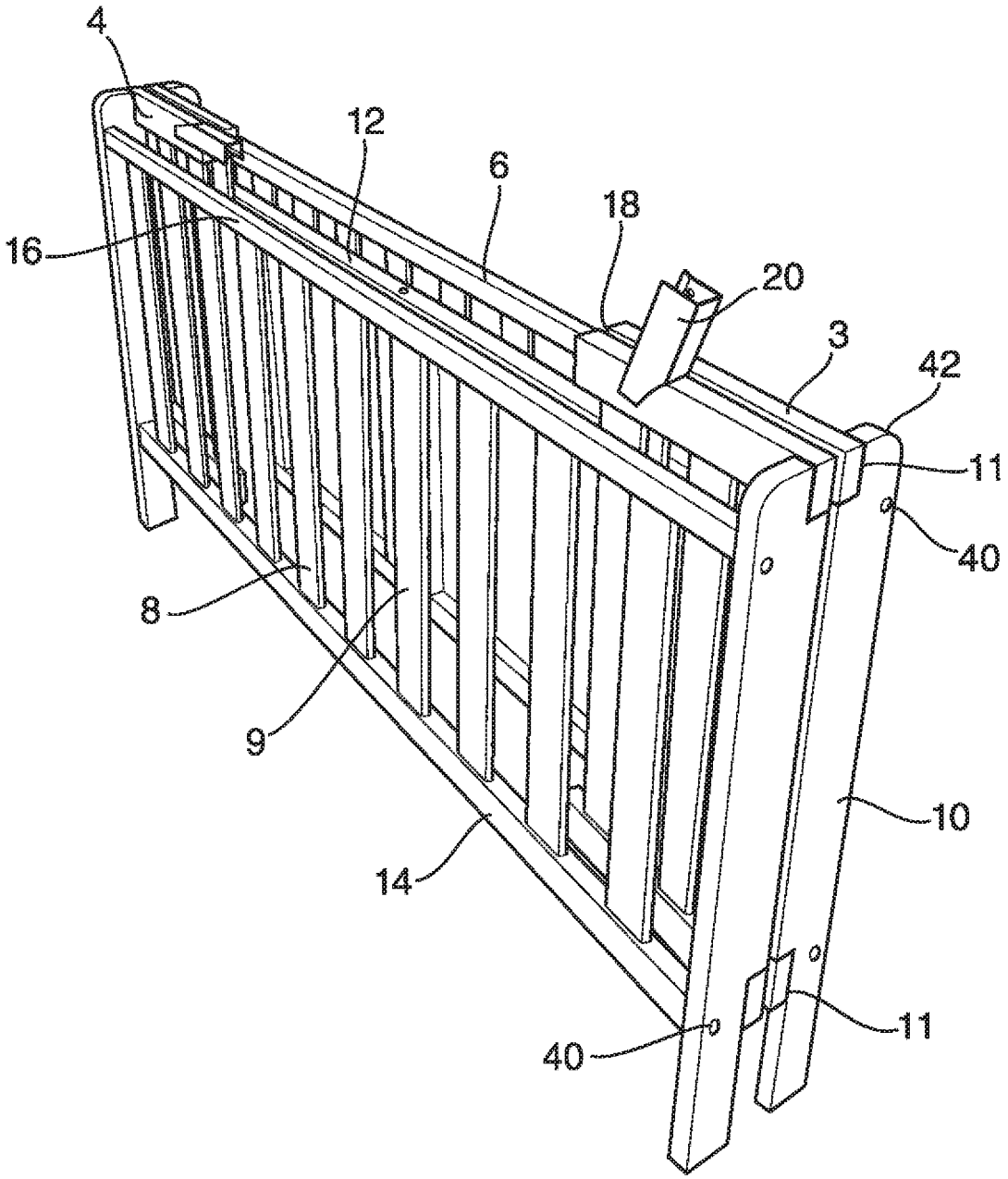

Fig.2

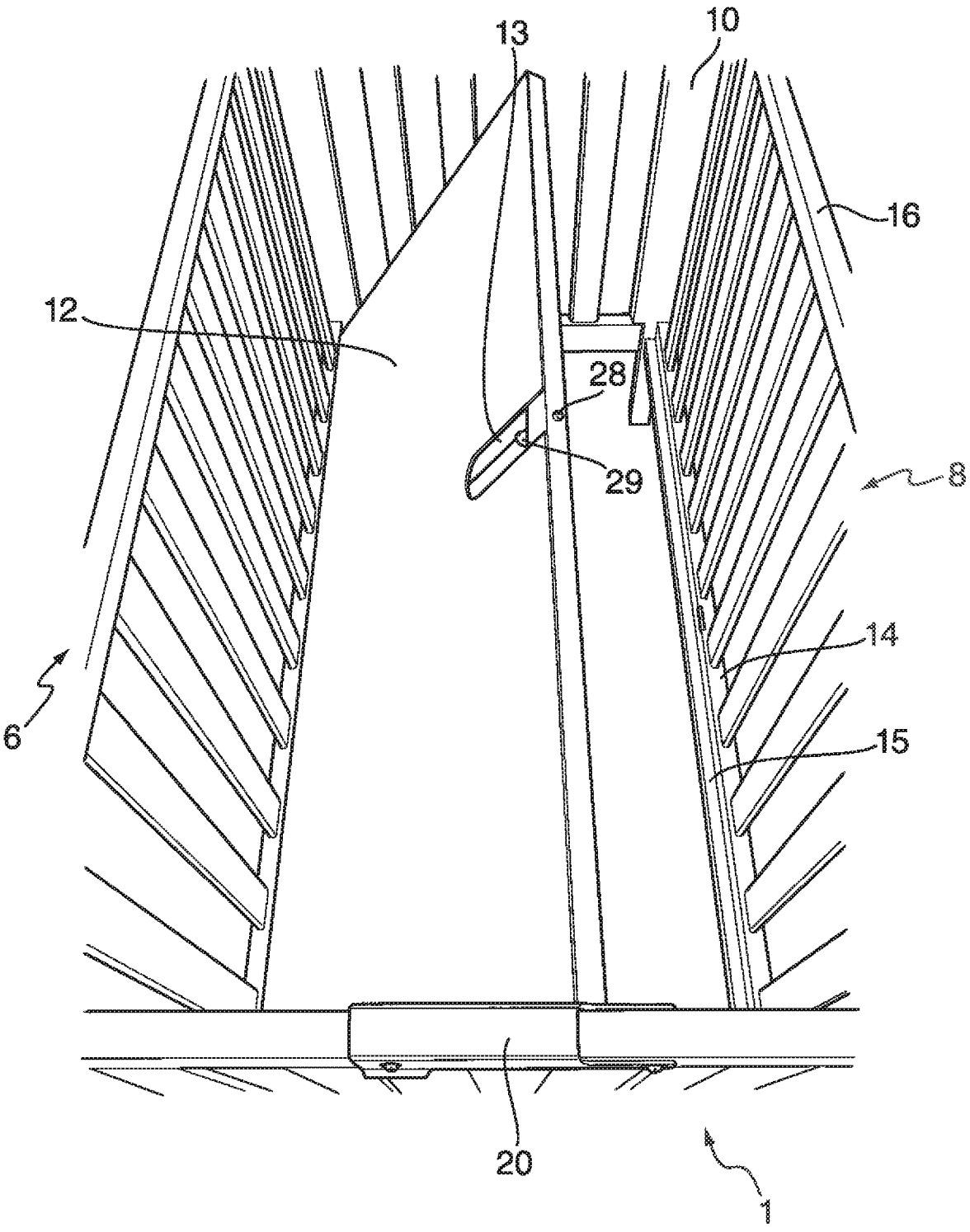

Fig.3

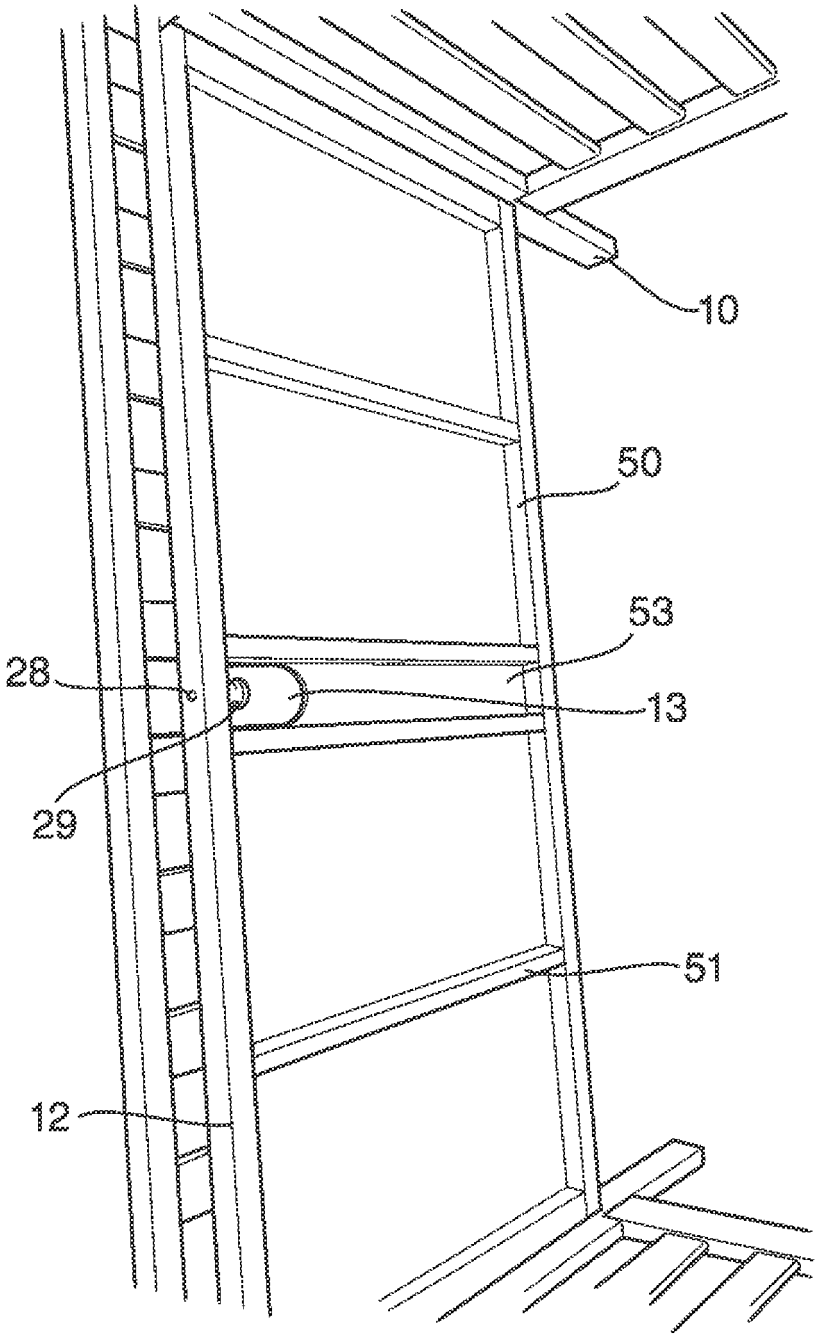

Fig.4

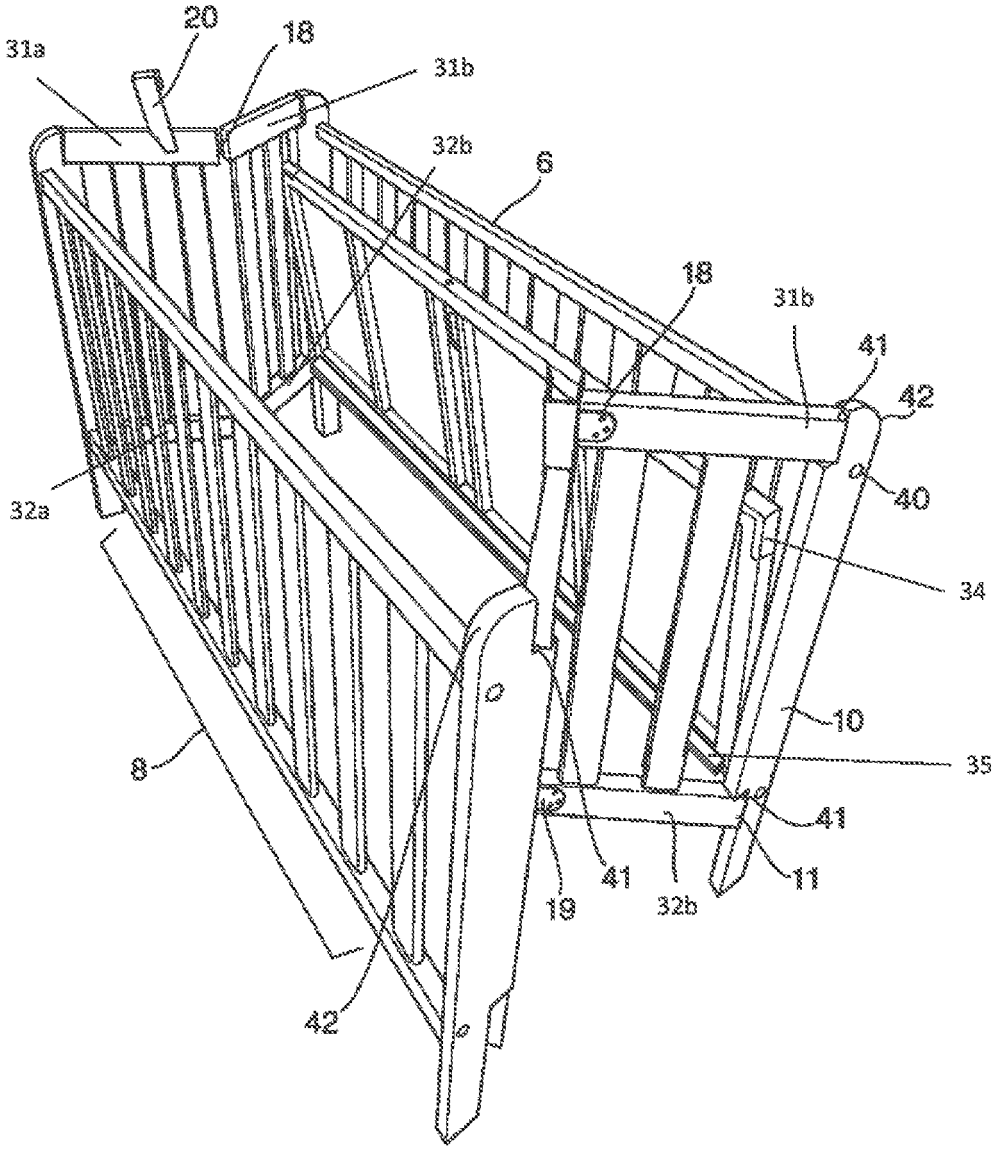

Fig. 5

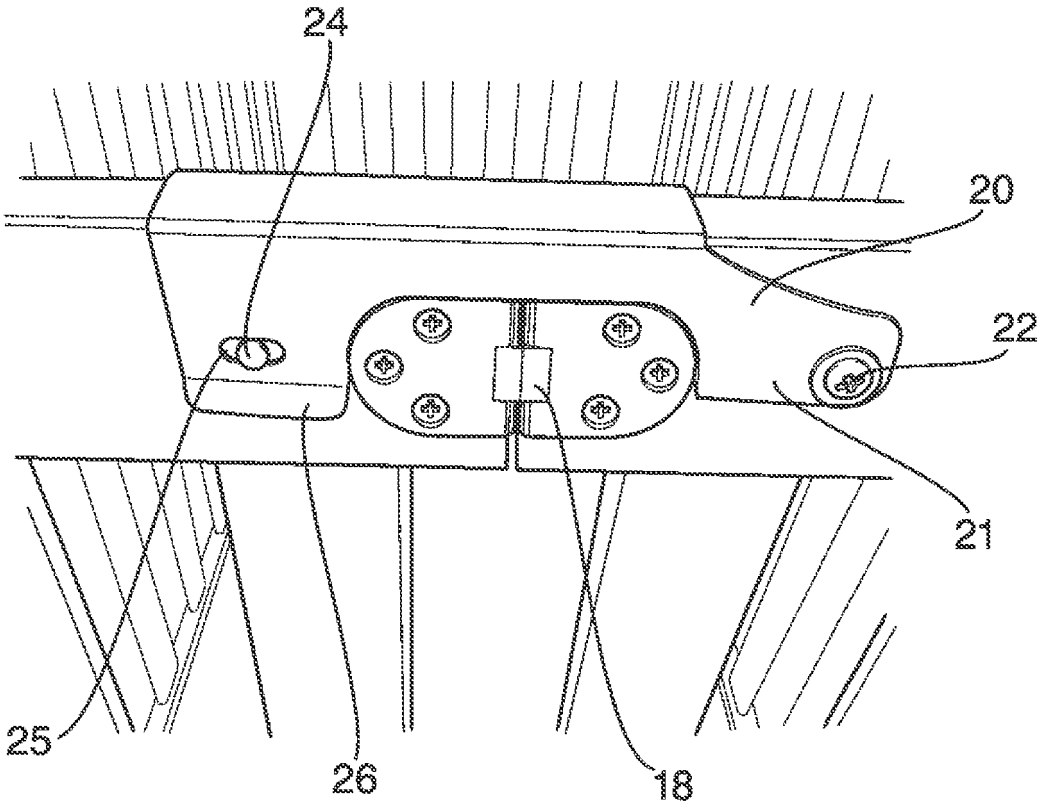

Fig.6

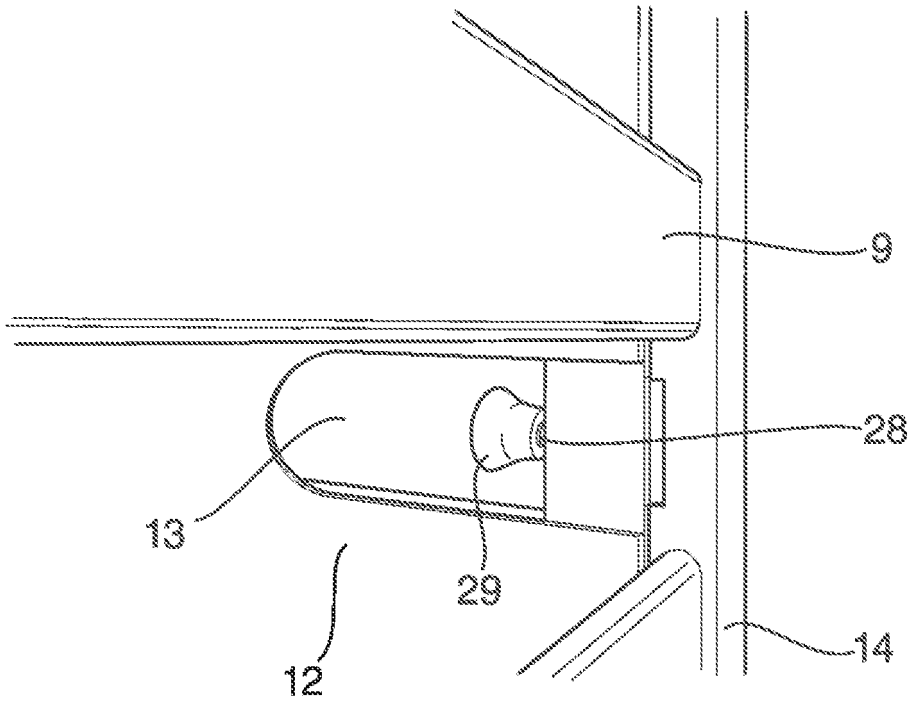

Fig.7

REFERENCES CITED IN THE DESCRIPTION

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