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(54) **Cot or playpen**

(57) A cot comprising a support frame (20), a wall (30), and at least one attaching means (11) for connecting the wall (30) to the support frame (20), the attaching means comprising an elongate member (13,14) and a corresponding groove (23) in the support frame (20), the elongate member (13,14) being fixed to the wall (30) and located in the groove (23). Preferably the wall (30) com-

prises a plurality of sides (30), the sides meeting at a corresponding number of corners, each of the corners having at least one elongate member (13,14) attached along it. Preferably the elongate member (13,14) includes a planar part (14) and an enlarged part (13), the enlarged part (13) being located in the corresponding groove (23) in the frame (20). Preferably the enlarged part (13) is rod shaped.

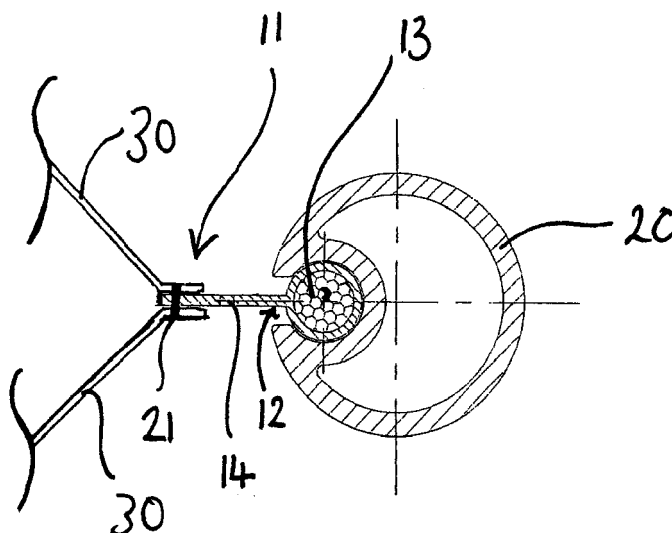


Fig. 2

Description

[0001] The present invention relates to cots and playpens for children, and in particular travel cots or playpens.

[0002] Conventional travel cots are foldable, so that the cot can be collapsed when not in use. Generally they are rectangular in shape, comprising four corner legs and collapsible top and bottom frame assemblies, whereby the cot can be folded to a compact configuration for storage and portability. Travel cots are often used also as playpens.

[0003] The cot walls are usually made of fabric. To attach the cot walls to the cot frame, the walls usually have an elongate tube of fabric attached along each corner. Each fabric tube can receive a corner leg of the frame, to secure the cot walls to the frame.

[0004] According to the invention, there is provided a cot comprising a support frame, a wall, and at least one attaching means for connecting the wall to the support frame, the attaching means comprising an elongate member and a corresponding groove in the support frame, the elongate member being fixed to the wall and located in the groove.

[0005] According to another aspect of the invention, there is provided an intermediate connection means for connecting a cot wall to a cot frame, the intermediate connection means comprising an elongate member, the elongate member being attachable to the cot wall and insertable in a corresponding groove in the cot frame.

[0006] According to another aspect of the invention, there is provided a method of attaching a cot wall to a cot frame, the method comprising the steps of attaching an elongate member to the cot wall and inserting the elongate member in a corresponding groove in the cot frame.

[0007] An advantage of the present invention is the improved attachment of the cot walls to the cot frame, allowing the cot to withstand strong loads without the walls becoming detached from the support frame.

[0008] A cot or playpen embodying the invention will now be described, by way of example, with reference to the drawings, in which:

Figure 1 is a diagrammatic perspective view of a cot of the present invention;

Figure 2 is a cross-sectional view of an embodiment of the cot showing one corner of the cot;

Figure 3 is a cross-sectional view of the vertical support bar of figure 2;

Figure 4 is a diagrammatic perspective view of the one of the vertical support members, showing the attachment to the intermediate connection.

[0009] Referring to figure 1, the cot 10 of the present invention has four vertical support members 20 and a cot wall comprising four fabric side walls 30. Each of the vertical support members 20 is connected to the side walls via intermediate connection members 11, which act as

attaching means for attaching the walls to the cot frame.

[0010] Referring to figure 2, one of the vertical support members 20 is shown, connected to two of the side walls 30, using an intermediate connection member 11. Each of the side walls 30 of the cot comprises a separate rectangular piece of fabric. The intermediate connection member 11 consists of a cord 13 wrapped in a cover 12, forming a long cylindrical portion (the cord 13) with an extending planar portion 14. The cover 12 is an elongate rectangular piece of flexible PVC or strong fabric.

[0011] Preferably the cover is extruded around the cord so that the cord is disposed in the cover, with its axis parallel to the long axis of the cover. Alternatively the cover is wrapped around the cord and glued to the cord. The overlapping edges of the cover are glued to each other. The cord is a flexible, fibrous cord or rope. A rod of plastic (such as extruded plastic) or metal could of course be used in place of the cord and preferably the rod would be made of a flexible material. The rod would preferably have a uniform cross-section, and is preferably cylindrical, but a rod of non-circular cross-sectional shape could be used.

[0012] The edge of each of the side walls 30 is stitched onto the planar part 14 of the intermediate connection member 11, one on each side of the cover 12, such that the edge of the side walls 30 and the planar part 14. The side walls 30 are secured to the intermediate connection member 11 by a seam of stitching 21. The fabric of the side walls 30 could alternatively be glued onto the planar part of the intermediate connection member 11. The cot walls 30 can be attached to the intermediate connection members 11 in a different manner from that shown in figure 2. For example, the four cot walls 30 may be formed from a continuous piece of fabric, the four intermediate connection members being glued or stitched to the outside surface of the fabric at the required locations.

[0013] Referring to figure 3, the vertical support bar 20 is a hollow, cylindrical, extruded tube. The bar 20 has a groove 23 along its axis, on one side of the bar, such that the bar 20 has a lune-shaped cross-section. The groove 23 has a circular cross-section. The cross-section of the groove 23 is just larger than the cross-section of the cord part 13 of the intermediate connection member 11. The width W of the opening of the groove is narrower than the cord's cross-sectional diameter. The cord part 13 of the intermediate connection member 11 can therefore be inserted in the end of the vertical support bar 20, and is retained in the groove 23 by the opening. The diameter of the cord 13 is larger than the width W of the opening, so that the cord 13 is retained in the groove 23.

[0014] To attach the intermediate connection member 11 to the vertical support bar 20, one end of the cord part 13 can be inserted into the groove 23, at the end of the bar 20. The cord part 13 of the intermediate connection member 11 can then be fed along the groove 23.

[0015] The cord 13 is flexible, therefore it can easily be inserted in the groove 23 of the vertical support bar 20. The cord 13 has a high tensile strength along its

length, therefore it can withstand the loads exerted on it due to a child standing or jumping up and down inside the cot. When a child is in the cot, forces are also exerted on the cord 13 perpendicular to its length, tending to pull the cord against the sides of the opening. The cord 13 is able to withstand these forces due to its compressive strength perpendicular to its length, and therefore the cot can withstand reasonable loads without risk of the cot walls becoming detached from the frame. The opening in the bar 20 must also be sufficiently strong and rigid, so that it does not deform and allow the cord 13 to come out of the opening, when forces are exerted on it.

[0016] Preferably the diameter of the cord part 13 of the intermediate connection member and the diameter of the corresponding groove 23 in the bar 20 are such that the cord 13 fits firmly in the groove 23, and there is friction control during fitting of the connection member in the groove.

[0017] Referring to figure 4, one vertical support bar 20 is shown, with two side walls 30 attached, via the intermediate connection member. The planar part 14 of the intermediate connection member is visible, as is the line of stitching 21. A corner cover 50 can be secured to the top end of each vertical support bars 20. This can be used to ensure that the cord 13 cannot slide out of the top of the groove 23. Similarly, at the bottom of each vertical support member there is a foot 24 (shown in figure 1), which supports the cot and also prevents the cord 13 from sliding out of the bottom end of groove 23. Means (not shown) may be provided for securing the top of the intermediate connection member 11 to the top of the bar 20, so that the cord 13 does not slide down the groove 23 when a child is placed in the cot.

[0018] Referring to figures 1 and 4, through using an intermediate connection member 11, having an extending planar part 14, to attach the cot walls to the vertical support bars 20, the bars 20 are located a distance d away from the inner vertical edges of the cot 31. In this way, a baby placed in the cot is protected from banging against the bars 20, and injuring itself. When a baby is in the cot, if the baby touches or bangs against the inner walls or inner edges of the cot, the baby will not come into contact with the vertical support bars 20.

[0019] Intermediate connection members may be used to attach the cot walls 30 to the upper and lower horizontal bars in the cot support frame, as well as to the vertical support bars. Each of the horizontal bars in the frame will have a groove into which intermediate connection means are inserted, to secure the fabric of the cot to the frame. Use of intermediate connection members provides a strong connection between the fabric cot walls and the support frame. This allows the cot fabric to withstand greater loads without becoming detached from the frame.

[0020] The intermediate connection means described could be used to attach the cot walls to any type of cot frame. Grooves could be included in the support members of any type of cot frame, for insertion of the inter-

mediate connection means, to attach the cot walls to the frame.

5 Claims

1. A cot comprising a support frame, a wall, and at least one attaching means for connecting the wall to the support frame, the attaching means comprising an elongate member and a corresponding groove in the support frame, the elongate member being fixed to the wall and located in the groove.
2. A cot according to claim 1 wherein the wall comprises a plurality of sides, the sides meeting at a corresponding number of corners, each of the corners having at least one elongate member attached along it.
3. A cot according to any preceding claim wherein the elongate member includes a planar part and an enlarged part, the enlarged part being located in the corresponding groove in the frame.
4. A cot according to claim 3 wherein the enlarged part is rod shaped.
5. A cot according to either of claims 3 or 4 wherein the planar part is attached to the wall by stitching.
6. A cot according to any preceding claim wherein the cot wall is fabric.
7. A cot according to any preceding claim wherein at least part of the elongate member is rod-shaped.
8. A cot according to any preceding claim wherein the groove has an opening, the width of the opening being narrower than the cross-section of at least part of the elongate member such that at least part of the elongate member is retained in the groove.
9. An intermediate connection means for connecting a cot wall to a cot frame, the intermediate connection means comprising an elongate member, the elongate member being attachable to the cot wall and insertable in a corresponding groove in the cot frame.
10. A method of attaching a cot wall to a cot frame, the method comprising the steps of attaching an elongate member to the cot wall and inserting the elongate member in a corresponding groove in the cot frame.

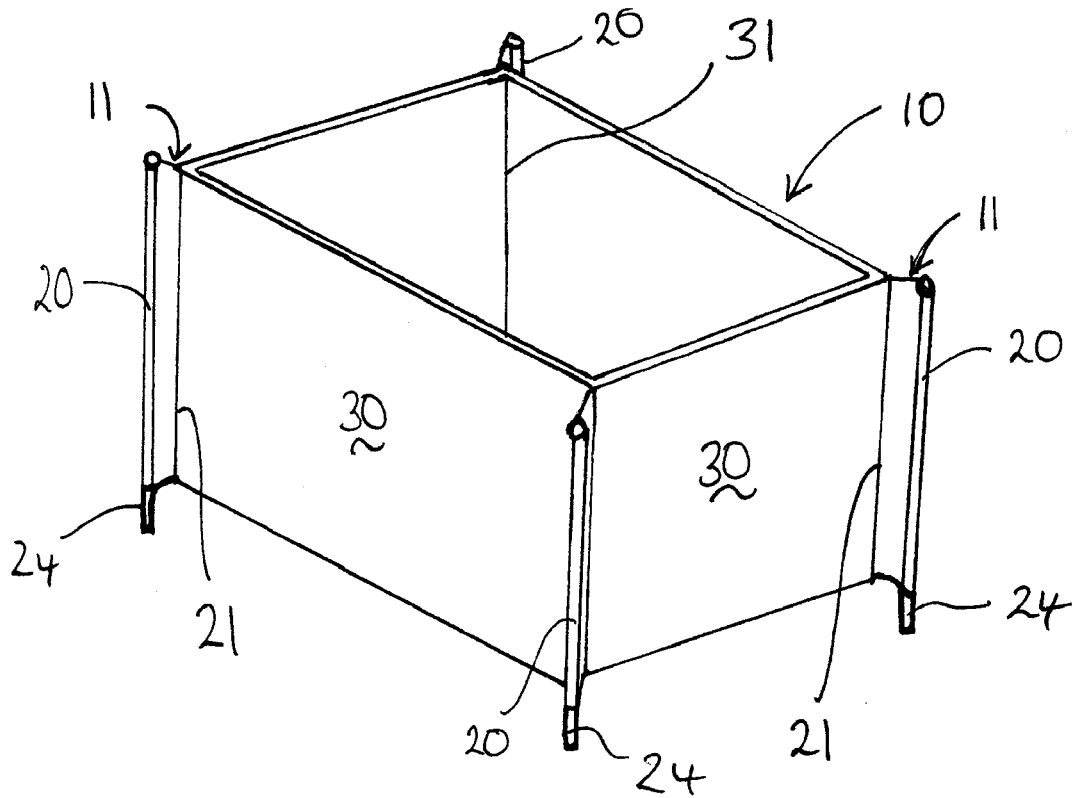


Fig 1.

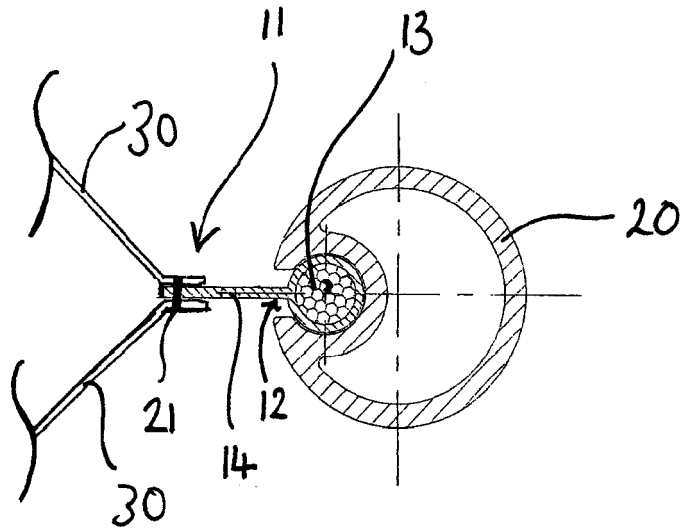


Fig. 2

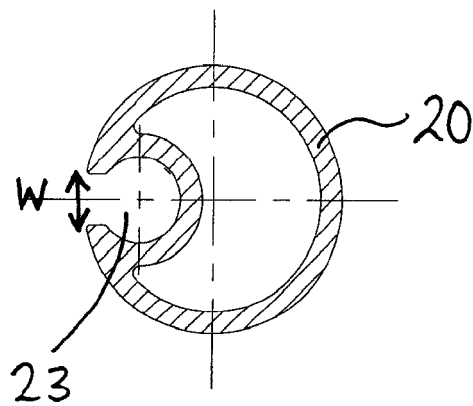


Fig. 3

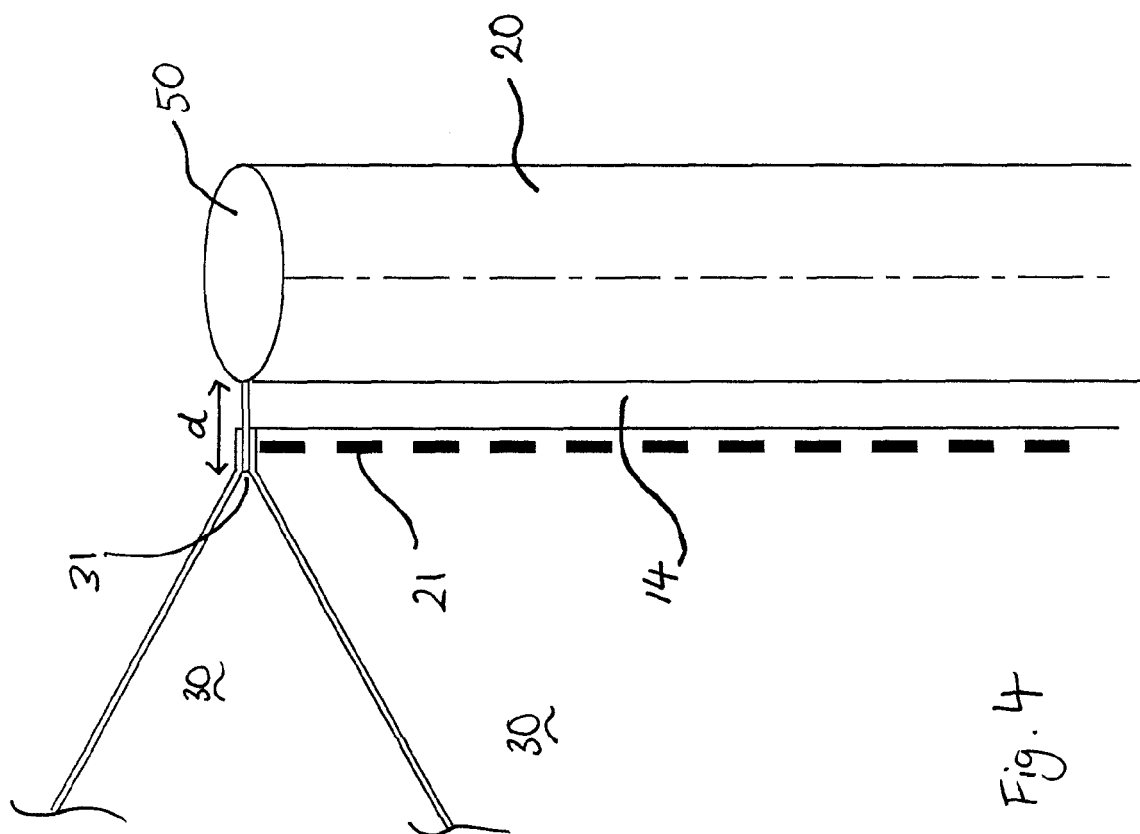


Fig. 4



European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 06 11 2546

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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 13 July 2006	Examiner Kis, P
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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</p>			

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EPO FORM 1503 03/82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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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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