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(54) **Baby and/or infant crib/bed**

(57) This invention refers to a baby and/or infant crib or bed, dismountable and modular that meets the daily needs, concerning safety, hygiene and health.

It is composed by a modular structure with a drop side, lifting platform structure for mattress, removable pads in every rigid part of structure and wheels on the 4 supports.

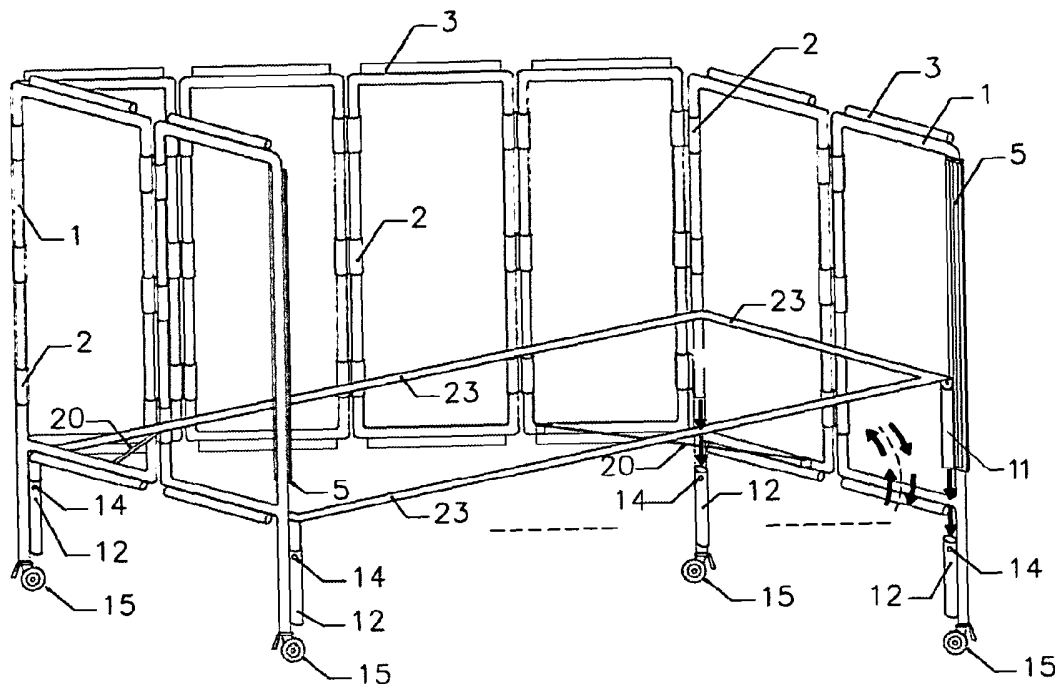


Figure 14

Description

Field of the invention

[0001] This invention refers to a baby and/or infant crib or bed, dismountable and modular.

[0002] Nowadays, parents purchase several cribs/beds during the children growth depending on purpose, for crib/bed, for play yard, or travel bed. Sometimes the products purchased by parents are not well adapted to use by their different children, lacking robustness and/or suitable hygiene.

[0003] This invention allows parents to purchase only one product with all the functionality and appropriate during the growth of all their children.

[0004] Note that the existing beds on market don't avoid babies accidents, even while complies with safety norms, so the major target of this invention is to eliminate the principal accidents.

Background of the invention

[0005] In the background art exist several patents referring dismountable beds/cribs and presenting many characteristics mentioned in this patent request. However, those characteristics are generically the ones concerning assembly/disassembly, and not concerning baby/child comfort and safety that must be the major purposes of this kind of equipment.

[0006] It should be noted the document US2005/0005352 A1 that concern a dismountable crib that is convertible into a child's bed. As the present patent request, have some characteristics referred in this document, it presents different technical solutions solving some of the problems, as well as solutions for other problems not referred in that document.

Invention Advantages

[0007] Comparing to other identical equipment, this invention has the advantage of solving some problems that faced daily users of this type of equipment. By being modular, the assembly/disassembly is really easy to carry out. One of the bed sides is a drop side one, allowing a superior height of the lateral protection comparing to existing beds/cribs in the market, thus avoiding standing up children to lean over the bed side and fall. Since it doesn't have bars it prevents children members from being squeezed. Since all the rigid structure is lined with protective pads, it prevents children from getting hurt if they collide with the structure. The protective pads have great areas of net, that guarantee children free breed as the face is turned into the bed structure and allow a complete child visibility inside the bed. As the protective pads are fully constituted by washable material, they guarantee an appropriate hygiene because they can be regularly washed.

[0008] In the case of respiratory diseases, or gastric

ones, the platform structure for the mattress can be lifted from only one side, thus creating an inclined plane so that the baby's head rests in an upward position without the need of recurring to objects inserted beneath the mattress distorting it. By having bed slats or hive mattress support in the platform structure for mattress, allow proper mattress ventilation and a perfect rigid support. By being modular also allows that the crib/bed adapts to children size.

Brief Description of the Drawings

[0009] This and other characteristics can be easily understood by the attached drawings, which must be considered as mere examples and no invention scope restrictive in any way.

[0010] The figure 1 presents a general view of crib/bed three sides. It can be seen the modular quadrilateral panels (1), the hinges (2), the interior sliding tube connectors (3) for attach the modular quadrilateral panels (1), the drop-side rails (5) that allow sliding of the drop side, the tubes (12) to fit the snap-on feet of the platform structure for mattress (23), the panel diagonal stiffness bar (20) and the wheels (15) with blocking system.

[0011] The figure 2 presents a view of beds drop side, where it can be seen the modular quadrilateral panels (1), the hinges (2), the interior sliding tube connectors (3) for attach the modular quadrilateral panels (1), the mobile connecting tube (6) to connect the drop-side rail, the fixed connecting tube (7) to connect the drop-side rail.

[0012] The figure 3 presents a view of the beds platform structure for mattress (23) composed by four parts. The head and the feet of the bed are fixed, and the laterals are extensible by spring (24) with interior sliding tube connectors (10) and snap-on feet (11).

[0013] The figure 4 presents a view of platform structure for mattress (23) in the elevated position, with the snap-on feet (11) position of the platform structure for mattress (23) and the ball joints (13) that allow the snap-on feet (11) verticality when the structure for mattress hasn't an 90° angle with the snap-on feet (11).

[0014] The figure 5 presents a detail of the snap-on feet (11) of the platform structure for mattress (23), connected to this structure by ball joints (13).

[0015] The figure 6 presents a detail of the fixation of the snap-on feet (11) of the platform structure for mattress on the tubes (12) made by locking elements (14).

[0016] The figure 7 presents a view of the bed assembled with the removable protective pads that include padded protectors (16) and net (17) that fill the quadrilateral modular panels (1), the tubes (12) to fit the snap-on feet of the platform structure for mattress, and wheels (15) with blocking system.

[0017] The figure 8 presents a detail of interior sliding tube connectors (3) for attaching between quadrilateral modular panels (1).

[0018] The figure 9 presents a detail of the hinges (2) that connect the quadrilateral modular panels (1) to each

other.

[0019] The figure 10 presents a detail of the removable protective pad for the drop side, that includes padded protectors (16) and net (17) that fills the quadrilateral modular panels (1), being observable the pressure springs (18) and Velcro straps (19) to attach.

[0020] The figure 11 presents a detail of mobile connection tube (6), to fit in the drop-side rail, located inside of the interior sliding tube connector (3).

[0021] The figure 12 presents a detail of the drop-side rail (5) to slide the bed drop side, with a locking element (8) that prevents the bed drop side to come out of the drop-side rail (5) during moving, and the openings (22) to fit the mobile connecting tube (6).

[0022] The figure 13 presents a detail of the placing method of the mobile connection tube (6) and the fixed connecting tube (7) in the drop-side rail (5), that it is fixed to the modular quadrilateral panels (1), and the interior sliding tube connectors (3).

[0023] The figure 14 presents a crib/bed general view, focusing the lifting movement of the platform structure for mattress (23). It can be seen modular quadrilateral panels (1), the hinges (2), the interior sliding tube connectors (3) for attach the modular quadrilateral panels (1), the drop-side rails (5) that allow sliding of the drop side, the tubes (12) to fit the snap-on feet of the platform structure to mattress (23), the locking elements (14), the panel diagonal stiffness bar (20) and the wheels (15) with blocking system.

Detailed description of the invention

[0024] This invention is a baby and/or infant crib or bed, dismountable and modular.

[0025] The crib/bed is based in a modular structure of diverse section fabricated with appropriate materials, in particular in aluminum, wood or PVC, but no restricted to these materials, and it is composed by modular quadrilateral panels (1). The modular quadrilateral panels (1) allow a rapid and easy assembly and disassembly, as well the possibility to adapt to children size, adding modular quadrilateral panels (1). The modular quadrilateral panels (1) are connected to witch other by hinges (2) and interior sliding tube connectors (3) for attaching between them. In the disassembly position of the bed, the modular quadrilateral panels (1) overlap folding over each other, just like a harmonium. At the platform structure for mattress (23) level there are diagonal stiffening bars (20), that guarantee bed structure final position, forming 90° angles between bed sides.

[0026] After assembly, the drop side is engaged both sides in sliding locks, composed by drop-side rails (5), by a mobile connecting tube (6), that retracts among a spring, and by a fixed connecting tube (7). This crib/bed side can slide on the drop-side rails (5) fixed to the crib/bed structure and made of aluminum or other appropriate material. The connection to the drop-side rail (5) is done by the mobile connecting tube (6) with spring (21)

and by the fixed connecting tube (7). Locking elements (8) prevents this bed drop side to slip out from the drop-side rails (5), during his moving.

[0027] The sliding locks have at least two levels of lowering the drop side, achieved by openings (22) in the drop-side rail (5), where fits the mobile connecting tube (6). The mobile connecting tubes (6) can be positioned in the interior sliding tube connectors (3), or otherwise, in the modular quadrilateral panels (1).

[0028] The drop side can be removed for elderly children, remaining just three sides of the bed and allowing the mattress an easy access to the child.

[0029] Removable protective pads composed by padded protectors (16) that line the bed rigid structure, manufactured in polyethylene foam or other appropriate materials, coated with fabric or other appropriate materials, and by net (17) areas, manufactured in glass fiber or other appropriate materials. The placing of removable protective pads is done by pressure springs (18) and Velcro straps (19), resulting the child to be in contact with a inner flat surface, due to the net (17).

[0030] A lifting platform structure for mattress (23), whose mattress support is done by bed slats or hive structure, with snap-on feet (11) linked to the mattress structure by ball joints (13). These snap-on feet (11) fits on the bed structure by tubes (12), allowing that platform structure for mattress (23) get inclined keeping always the vertical position for snap-on feet (11), regardless the inclination grade.

[0031] The placing of platform structure for mattress (23) is done by locking elements (14) that allow several levels of placing.

[0032] The platform structure for mattress (23) is constituted by four pieces connected by four interior sliding tube connectors (10) with spring (24). These connectors allow elevating one side of the platform structure for mattress (23) forming an inclined plane, rising the structure length, so that there is no gaps between the platform structure for mattress (23) and the modular quadrilateral panels (1) of the bed.

[0033] The transportation in the disassembly position of the bed is easy because, the modular quadrilateral panels (1) overlap folding over each other just like a harmonium and because the platform structure for mattress (23) is composed by four pieces.

[0034] The bed structure hold in each corner in wheels (15) that allow a free movement of the bed and for total bed locking all the wheels must have a locking system.

Claims

1. Baby and/or infant crib/bed with wheels (15) with blocking system **characterized by** comprising:

a) modular quadrilateral panels (1) are connected to witch other by hinges (2) and by interior sliding tube connectors (3);

- b) diagonal stiffening bars (20) to place the final position for modular quadrilateral panels (1);
- c) drop-side rails (5) fixed to the crib/bed structure with openings (22) to fit the mobile connecting tube (6) and locking elements (8) to place the fixed position; 5
- d) drop side by drop-side rail (5) with mobile connecting tubes (6) that retracts through a spring (21) and fit the drop-side rail (5) openings (22), and with fixed connecting tubes (7); 10
- e) Removable protective pads composed by padded protectors (16) and net (17) placed by pressure springs (18) and Velcro straps (19);
- f) platform structure for mattress (23) composed by four parts extensible by spring (24) with interior sliding tube connectors (10) and snap-on feet to fit the bed structure; 15
- g) Lifting and inclinable platform structure for mattress (23) with snap-on feet (11) linked to the mattress structure by ball joints (13) that fits on the bed structure by tubes (12), and locking elements (14) for placing the final position. 20
2. Baby and/or infant crib/bed according to claim 1 **characterized by** a bed slat or hive structure supporting the mattress in the platform structure for mattress (23). 25
 3. Baby and/or infant crib/bed according to claim 1 **characterized by** having sliding locks that have at least two levels of lowering the bed drop side. 30
 4. Baby and/or infant crib/bed according to claim 1 **characterized by** having at least two levels of locking the snap-on feet (11) of the platform structure for mattress (23). 35
 5. Baby and/or infant crib/bed according to claim 1 **characterized by** having snap-on feet (11) of the platform structure for mattress (23) always in the vertical position. 40
 6. Baby and/or infant crib/bed according to claim 1 **characterized by** the mobile connecting tubes (6) can be positioned in the structure of interior sliding tube connectors (3), or in the modular quadrilateral panels (1). 45
 7. Baby and/or infant crib/bed according to claim 1 **characterized by** removable protective pads lined the bed rigid structure. 50
 8. Baby and/or infant crib/bed according to claim 1 **characterized by** the bed drop side can be removed. 55
 9. Baby and/or infant crib/bed according to claim 1 **characterized by** being modular.

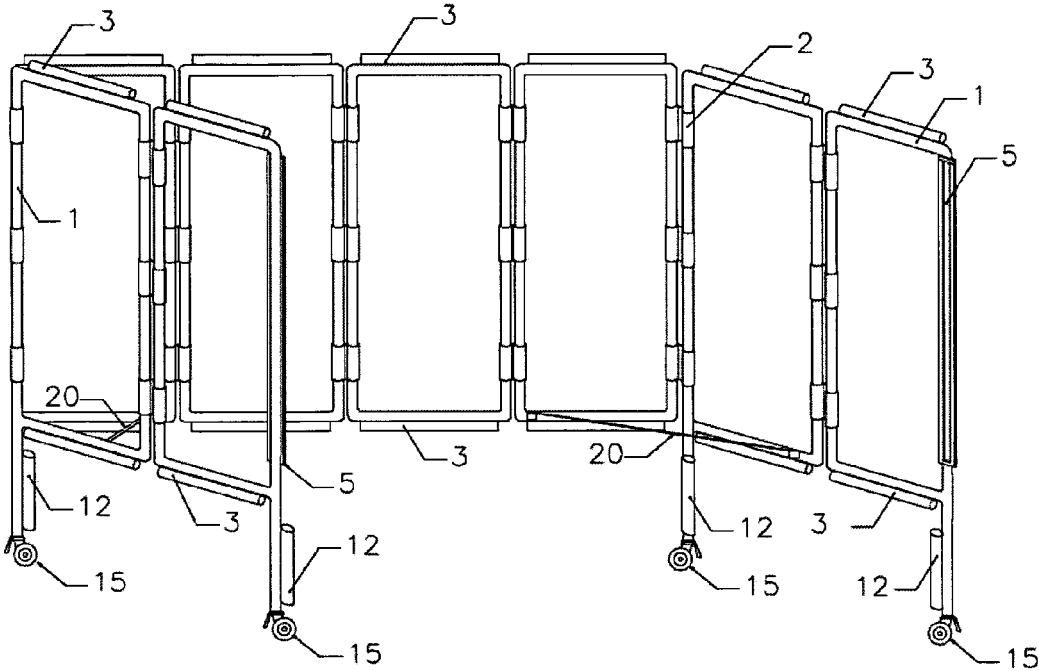


Figure 1

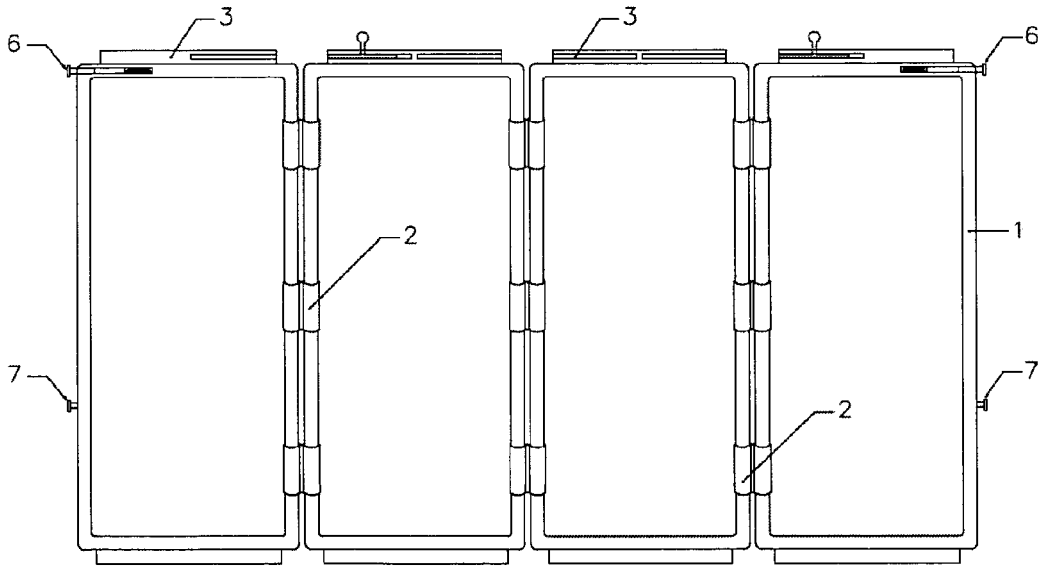


Figure 2

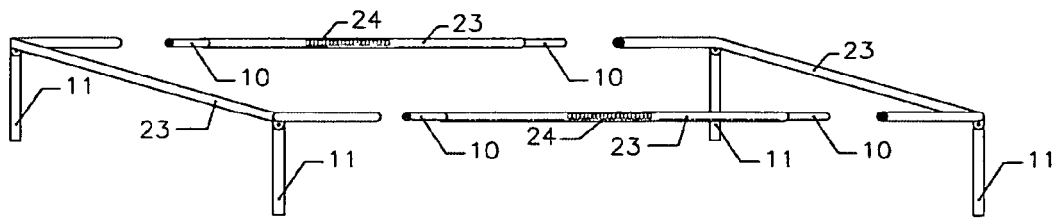


Figure 3

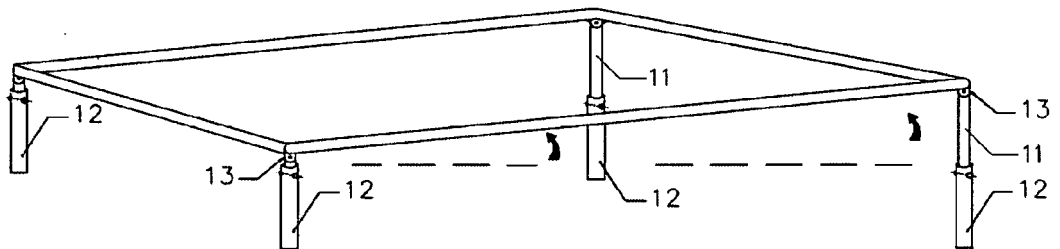


Figure 4

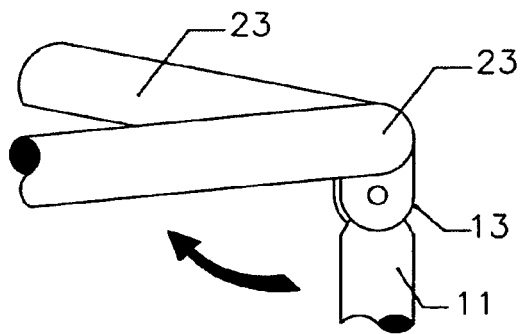


Figure 5

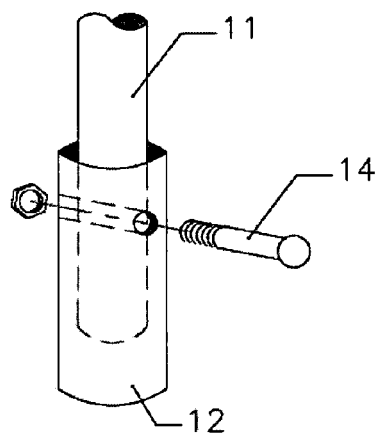


Figure 6

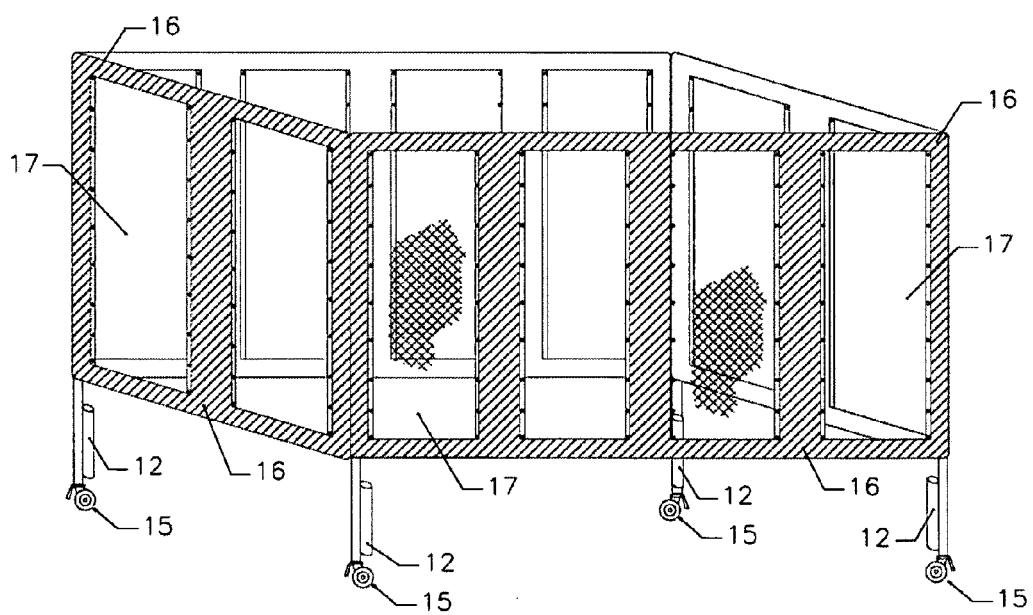


Figure 7

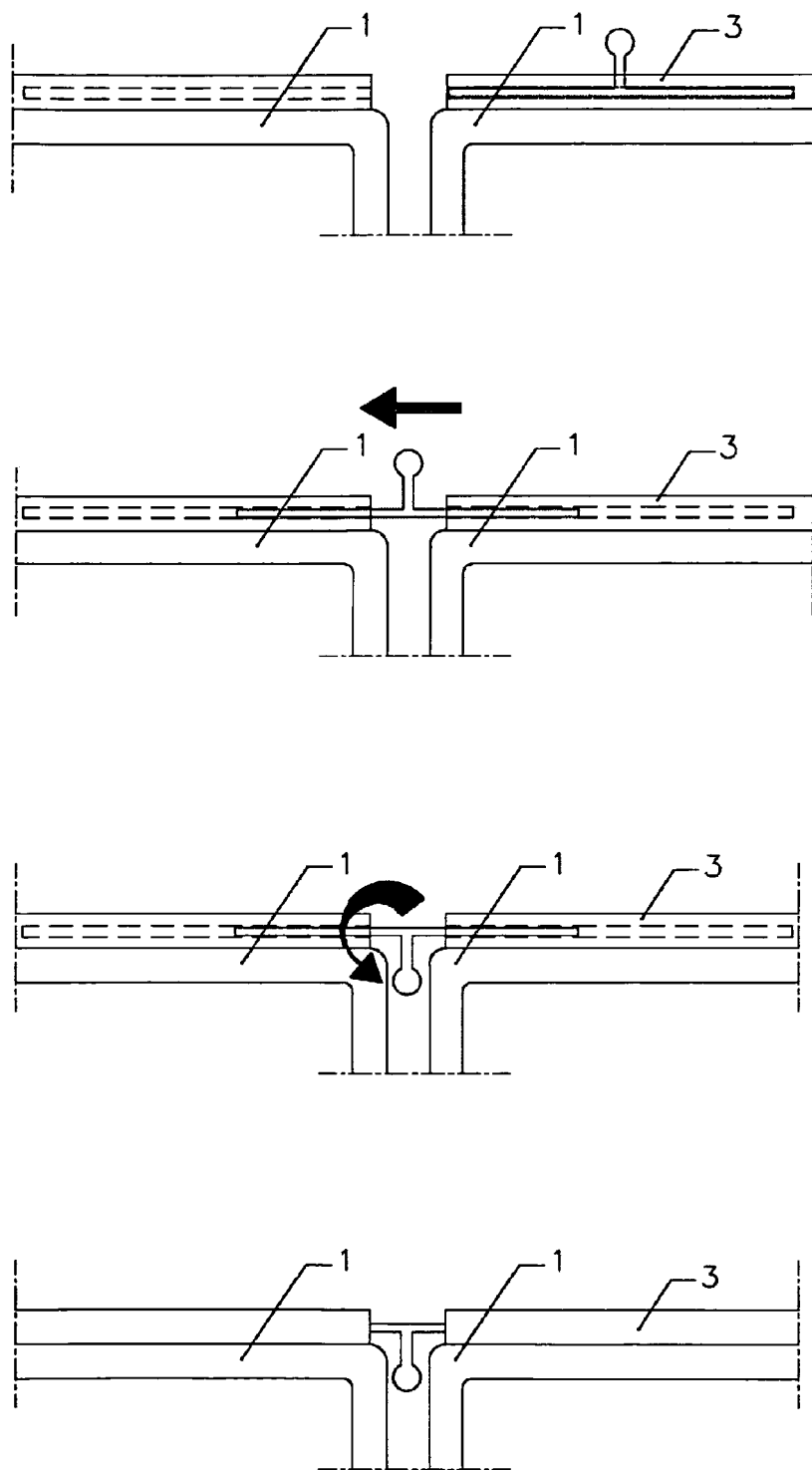


Figure 8

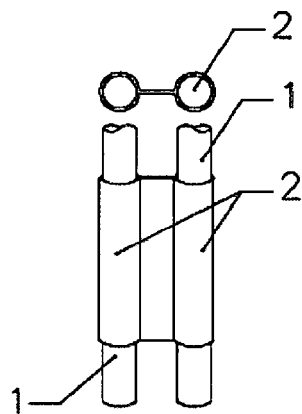


Figure 9

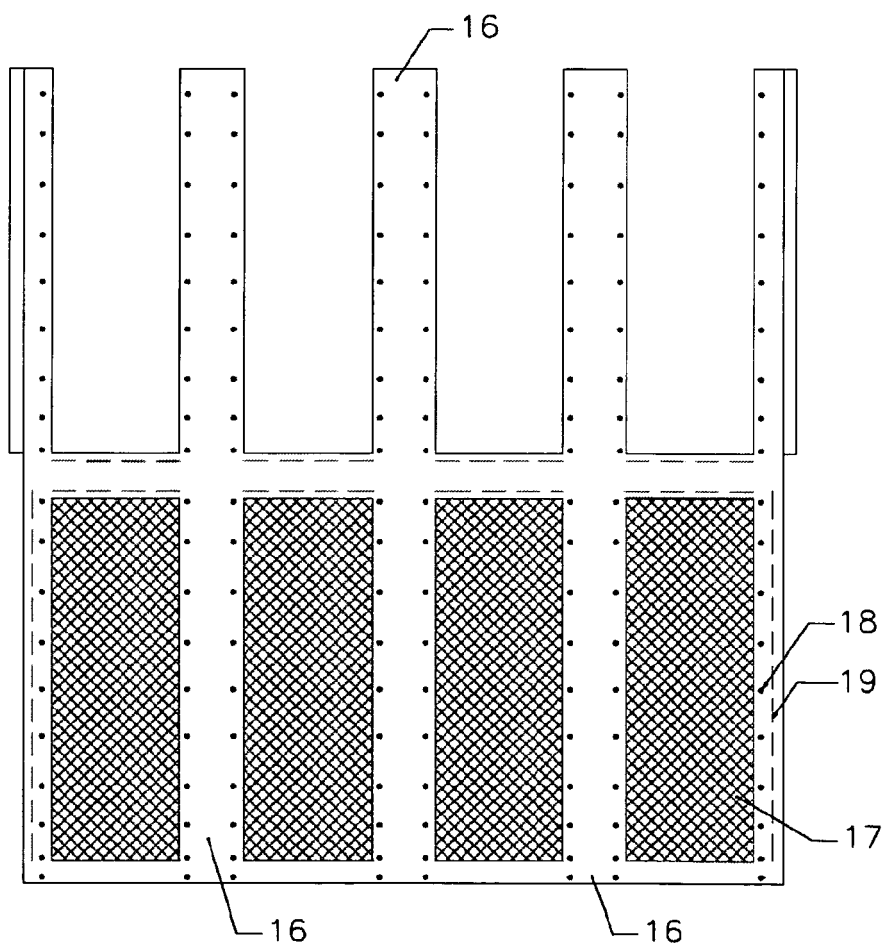


Figure 10

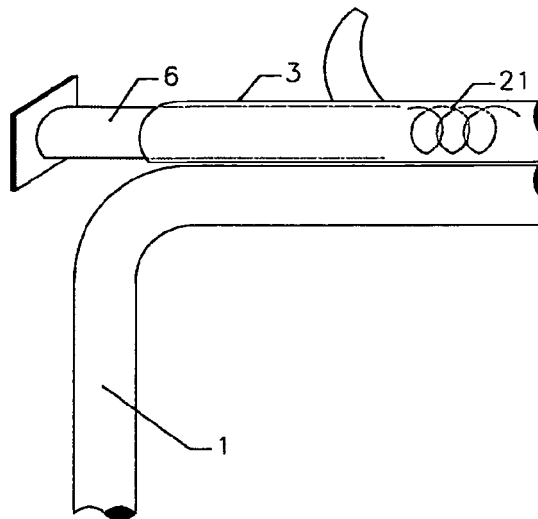


Figure 11

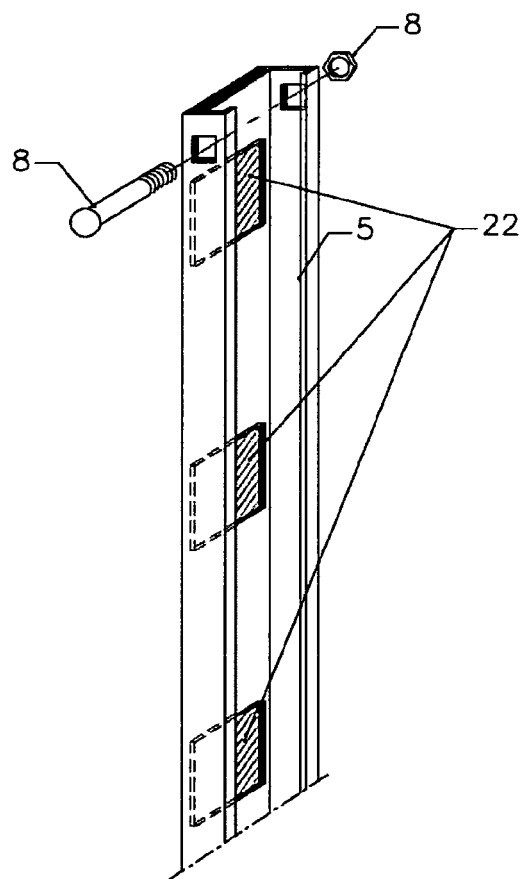


Figure 12

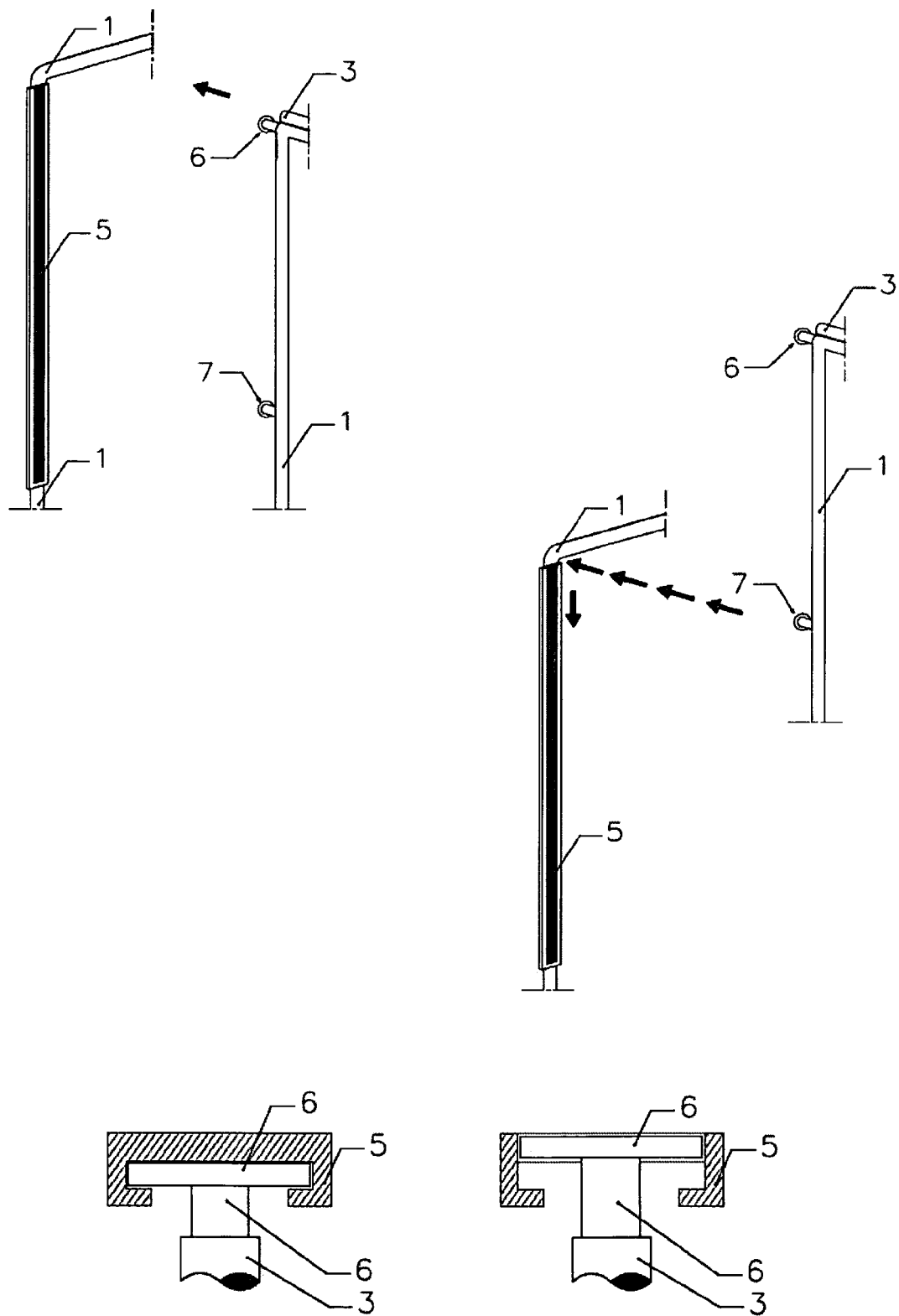


Figure 13

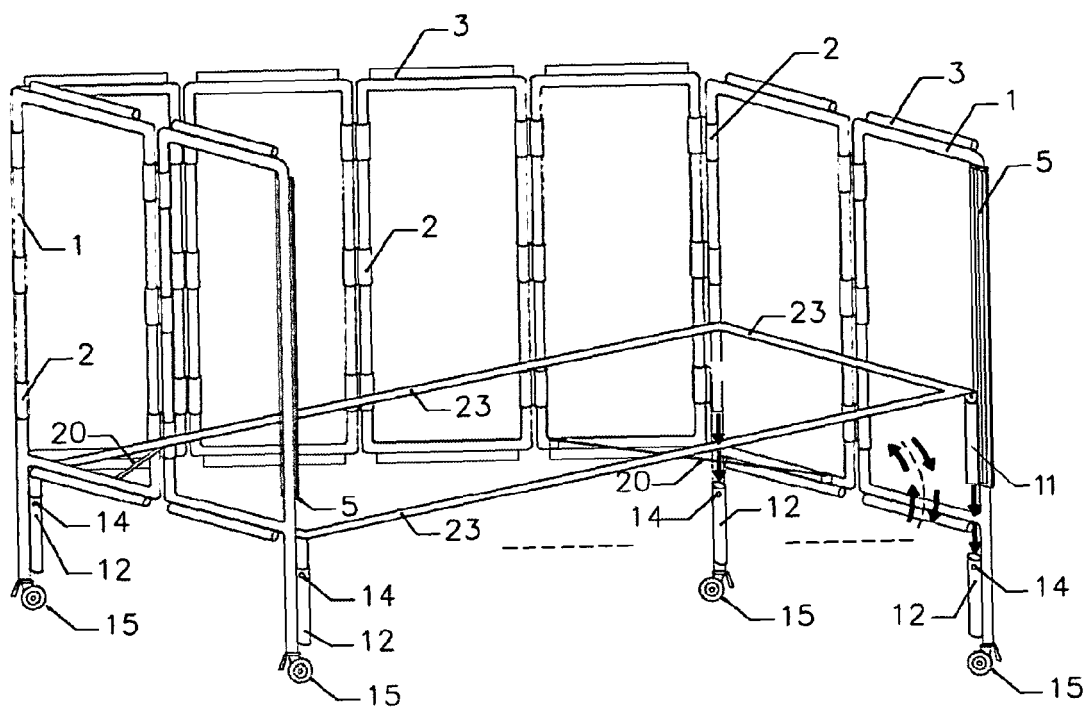


Figure 14

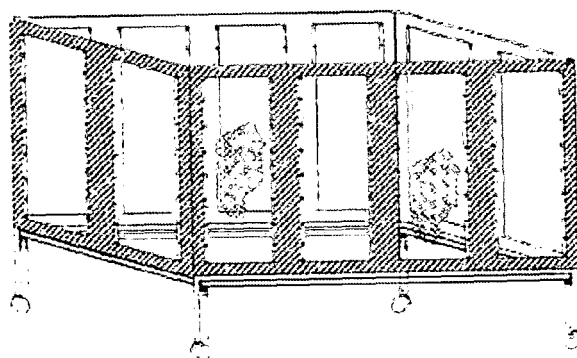


Figure 15



EUROPEAN SEARCH REPORT

Application Number
EP 12 00 4333

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	DE 28 22 981 B1 (L. & C. ARNOLD GMBH) 22 November 1979 (1979-11-22) * figure 1 *	1-3	INV. A47D7/00 A47D7/03
A	US 3 590 403 A (MIXON CLYDE E) 6 July 1971 (1971-07-06) * figure 1 *	1-3	
A	GB 540 987 A (NEALE VIOLET ANNIE) 7 November 1941 (1941-11-07) * figure 1 *	1	
			TECHNICAL FIELDS SEARCHED (IPC)
			A47D
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 31 August 2012	Examiner Reichhardt, Otto
CATEGORY OF CITED DOCUMENTS 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 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			

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EPO FORM 1503 03.82 (P04/C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 12 00 4333

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The members are as contained in the European Patent Office EDP file on
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31-08-2012

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 2822981	B1	22-11-1979	NONE
US 3590403	A	06-07-1971	NONE
GB 540987	A	07-11-1941	NONE

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- US 20050005352 A1 [0006]