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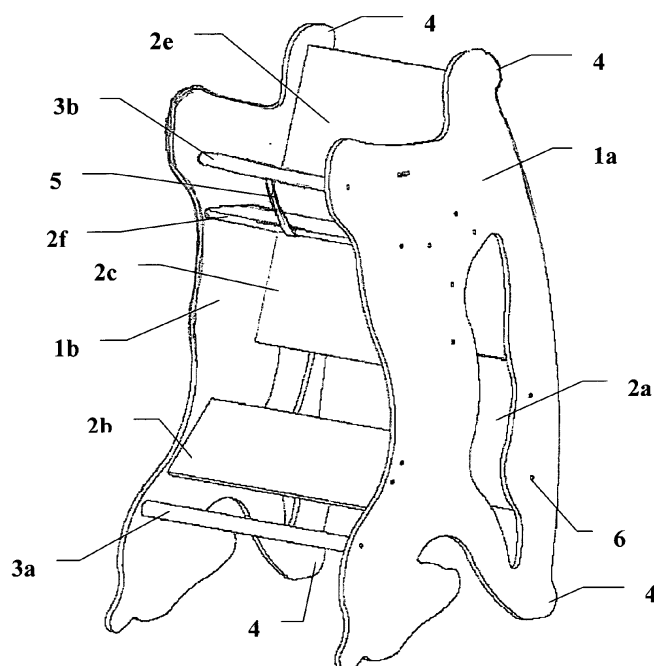
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(54) **Multifunctional children's furniture**

(57) Multifunctional children's furniture to be used depending on its rotation, either as a high chair, small table with a seat or as a swing, and in any decorative design of the product profile, preferably in the shape of rocking horse, and it comprises sideboards (1a,1b) that are provided with processes (4) to prevent the furniture from forward and/or backward bend in the "swing" position, the rectangular boards (2a,2b,2c,2d,2e,2f) and rods (3a,3b) are vertically mounted in between the sideboards (1a,1b), in the "high chair" position the rear rod (3b) has

a function of a holder and the board (2d) serves as a seat and the board (2e) serves as a backrest, in the "table with seat" position the board (2a) has a function of table and the board (2c) serves as a seat and the board (2d) serves as a backrest and the board (2b) serves as a leg support, in the "swing" position the board (2c) has a function of seat and the board (2f) serves as a backrest and the board (2b) serves as a arm support and the rod (3a) serves as a holder and the board (2a) serves as a leg support.

Fig. 3



Description

Technical Field

[0001] The technical solution relates to a piece of furniture for children, which can be used depending on its rotation, either as a high chair, small table with a seat or as a swing, and in any decorative design of the product profile, preferably in the shape of rocking horse.

Background Art

[0002] Currently there are only partial solutions available which are represented by various products, namely: high chair at the dining table, small chair with a table, highchair combined with modifications to the little table with a seat, single swing "roosters" (rocker type). It is clear that the disadvantage of the current situation is the need to purchase each piece separately, both in terms of storage options, the total costs, but also to the limited time of use given by rapid growth of the child.

Disclosure of the Invention

[0003] The technical solution lies in a combination of three independent functions into one product. In the proposed design the invention can be used as a high chair at the dining table, especially for infant feeding. Furthermore, the product serves as a small table with a seat where a child can play, draw, eat, etc. Another function is the rocker type swing. The product is primarily designed to shape and motif reminiscent of the horse, but the sideboard profile can have different shapes. The product function can be changed simply by turning it in its transversal axis, which provides the user with easy manipulation and it saves storage space. The product safety is increased with safety straps. The product is primarily made of plywood, connection accessories and in a preferred embodiment it includes a belt and, where appropriate, it contains straps made of PVC materials.

[0004] The product comprises two sideboards, preferably in the shape of rocking horse, which are mutually connected by six rectangular boards and two rods, the boards and rods being attached to the sideboard with screwed joints (dot marked in the figures) or alternatively by the further proposed method of attachment. The boards and rods have following functions.

[0005] In the "high chair" position the product is situated in a vertical position. The rectangular boards serve here as a seat and back support and the rod serves as a handle. Their relative position offers the child to sit in the level reaching the height of the current dining room table. In preferred embodiment, to help improve the security, a belt is attached to the center part of both the seat and rod, which ensures that a child cannot slip-off the seat. To prevent falling off due to forward / backward bend it is possible to attach straps to the sideboards, which are further fastened on the child's chest. The side

stability of the product in this position is provided with the enlargement of the distance of the sideboards in their bottom part, thus ensuring the stability of the product against lateral deflection from the vertical axis and the subsequent roll-over to the side. In a preferred embodiment, the sideboards form an angle of 8 degrees. Another convenient feature is the use of suction cups which can be attached to the sideboards at the point where these touch the ground, which provides better stability on smooth surfaces, particularly on polished floating floors and tiles. In the following, the angular displacement of each rectangular board to the horizontal plane and to each other is described, where the angles are counted with respect to the actual product main function. Tilt angle of the board with seat function against horizontal plane is ranging between +4 to +12 degrees, preferably +8 degrees. Tilt angle of the board with backrest function against horizontal plane is ranging between +100 to +108 degrees, preferably +104 degrees. The tilt angle between these two boards is ranging between +92 to +100 degrees, preferably +96 degrees.

[0006] In the "swing" position, the product is oriented with its longer part of the sideboard horizontally with the floor. The child moves the swing by its own effort (cradle movement). The child is seated in rectangular board with seat function and in the back part there is a rectangular board with backrest function. In the front part the rod serves here as a holder, the rectangular board supports child's arms and another rectangular board serves as a foot pedestal. In this position, the sideboards have outer radius at their bottom edges which allows the lurch. The maximum tilt of the product is given by board process at the ends of the functional radii of the sideboards. In the following text, the angular displacement of each board to the horizontal plane and to each other is described, where the angles are counted with respect to the actual product main function. Tilt angle of the rectangular board which in this position has the seat function against horizontal plane is ranging from +1 to +9 degrees, preferably +5 degrees. The tilt angle of the rectangular board which in this position has the arm support function against horizontal plane is ranging from +32 to +40 degrees, preferably +36 degrees. The tilt angle of the rectangular board which in this position has the leg support function against horizontal plane is ranging from +1 to +9 degrees, preferably +5 degrees. The tilt angle of the rectangular board which in this position has the backrest function against horizontal plane is ranging from +102 to +110 degrees, preferably +106 degrees. The board with seat function with the board with arm support function contains the angle ranging between +27 to +35 degrees, preferably +31 degrees. The board with seat function with the board with backrest function contains the angle ranging between +97 to +105 degrees, preferably +101 degrees.

[0007] In the "seat with table" position, the product is rotated longitudinally along its axis with respect to the "swing" position by 180 degrees. The rectangular boards

serve here as a seat, backrest, table and leg support. In the following text, the angular displacement of each board to the horizontal plane and to each other is described, where the angles are counted with respect to the actual product main function. The tilt angle of the rectangular board with seat function against horizontal plane is ranging from -4 to +4 degrees, preferably 0 degrees. The tilt angle of the rectangular board with backrest function against horizontal plane is ranging from +101 to +109 degrees, preferably +105 degrees. The tilt angle of the rectangular board with table function against horizontal plane is ranging from -4 to +4 degrees, preferably 0 degrees. The tilt angle of the rectangular board with leg support function against horizontal plane is ranging from -35 to -27 degrees, preferably -31 degrees. The tilt angle of the rectangular board with seat function against horizontal plane is ranging from -4 to +4 degrees, preferably 0 degrees. The board with seat function with the board with backrest function contains the angle ranging between +101 to +109 degrees, preferably +105 degrees.

[0008] In the preferred embodiment, the angle of rotation of any of the rectangular boards can be adjusted against horizontal plane, with respect to the user's point of view, by providing the rectangular board at one end with pins and at the other end with quick screws or the like, so that the boards are placed between the sideboards and are allowed rotation and, in the part where the ending tips of the board form an imaginary circle and where the connection shall be fitted, the sideboard is provided with opening in the length corresponding to the rotation of the end of the board. The rectangular board can be fixed by the screw either in steps or in the whole length of the opening. This provides the user with the option to adjust the board angle according to the child's needs, i.e. the board with backrest function and/or seat function including the angle between these two boards. The opening and the fixation can be provided anywhere on the more distant half of the board, counted from the rotation axis, so that the board does not have to be fixed only at its end. Optionally, the borders of the opening can be strengthened, i.e. by metal covering, and its surface can be coarsened so as to prevent the boards from unwanted movement after the screws are tightened or other method of fixation is engaged.

[0009] This particular embodiment using the quick screws further provides the user with fast dismantle of the product, which can be then quickly stored when not in use or when there is a need to transport it. Contrary to present art, the product is advantageous in minimum demands on storage space.

Disclosure of the Figures

[0010]

Fig 1 - axonometric view of the product in the "swing" position;

Fig 2 - axonometric view of the product in the "small table with a seat" position;

Fig 3 - axonometric view of the product in the "high chair" position;

Fig 4 - side view of the product in the "small table with a seat" position, indicating tilt between the boards and tilt towards the horizontal plane;

Fig 5 - side view of the product in the "swing", indicating tilt between the boards and tilt towards the horizontal plane;

Fig 6 - side view of the product in the "high chair" position, indicating tilt between the boards and tilt towards the horizontal plane;

Fig 7 - side view of the product in the "high chair" position with variable positioning of the functional boards.

Examples of Embodiment of the Invention

Example 1

[0011] The product according to figures 1 to 6 comprises a pair of sideboards 1a,1b in a shape of rocking-horse, where these are connected together with six rectangular boards 2a,2b,2c,2d,2e,2f and two rods 3a,3b, all these the boards 2a,2b,2c,2d,2e,2f and rods 3a, 3b being vertically mounted to the sideboards 1a,1b with joints 6. The sideboards 1a,1b are at their bottom part provided with outer radiuses allowing the lurch. The maximum tilt of the product is given by board processes 4 at the ends of the functional radiuses of the sideboards 1a, 1b.

[0012] In the "high chair" position the product is situated in a vertical position. The distance of the sideboards 1a,1b at their bottom is extended so that they form an angle of +8 degrees. Tilt angle of the board 2d with seat function against horizontal plane is +8 degrees. Tilt angle of the board 2e with backrest function against horizontal plane is 104 degrees. The tilt angle between these two boards 2d,2e is +96 degrees.

[0013] In the "swing" position, the product is oriented with its longer part of the sideboard horizontally with the floor. Tilt angle of the board 2c against horizontal plane is +5 degrees. Tilt angle of the board 2b against horizontal plane is +36 degrees. Tilt angle of the board 2a against horizontal plane is +5 degrees. Tilt angle of the board 2f against horizontal plane is +106 degrees. The boards 2c, 2b contain the angle of +31 degrees and boards 2c,2f contain the angle of +101 degrees.

[0014] In the "seat with table" position, the product is rotated longitudinally along its axis with respect to the "swing" position by 180 degrees. Tilt angle of the board 2c against horizontal plane is 0 degrees. Tilt angle of the board 2d against horizontal plane is +105 degrees. Tilt angle of the board 2a against horizontal plane is 0 degrees. Tilt angle of the board 2b against horizontal plane is -31 degrees. The boards 2c,2d contain the angle of +105 degrees.

Example 2

[0015] The product according to example 1 further comprises a belt 5 to protect the child against slip-off, which is at one end mounted to the center of front rod 3a and with the second end to the center part of board 2d.

Example 3

[0016] The product according to Fig. 7 contains an opening 8 provided on both sideboards 1a, 1b in the line of imaginary circle that copies the end tip of the corresponding board and in which such board 2c, 2d, 2e, 2f is fixed to the sideboards 1a, 1b with quick screws 9. At the other end the board 2c, 2d, 2e, 2f is pivoted between the sideboards 1a, 1b with the pins 7.

Industrial Utilization

[0017] This technical solution is industrially utilizable as a part of household equipment of the families with children or in nurseries, kindergartens and other facilities.

List of reference marks

[0018]

- 1a - left sideboard
- 1b - right sideboard
- 2a to 2f - rectangular boards
- 3a - front rod
- 3b - rear rod
- 4 - board process
- 5 - belt
- 6 - joint
- 7 - pin
- 8 - opening
- 9 - quick screw

Claims

1. Multifunctional children's furniture to be used depending on its position as a high chair, table with seat or as a swing wherein it comprises sideboards (1a, 1b) that are provided with processes (4) to prevent the furniture from forward and/or backward bend in the "swing" position, the rectangular boards (2a, 2b, 2c, 2d, 2e, 2f) and rods (3a, 3b) are vertically mounted in between the sideboards (1a, 1b), in the "high chair" position the rear rod (3b) has a function of a holder and the board (2d) serves as a seat and the board (2e) serves as a backrest, in the "table with seat" position the board (2a) has a function of table and the board (2c) serves as a seat and the board (2d) serves as a backrest and the board (2b) serves as a leg support, in the "swing" position the board (2c)

has a function of seat and the board (2f) serves as a backrest and the board (2b) serves as a arm support and the rod (3a) serves as a holder and the board (2a) serves as a leg support.

2. Multifunctional children's furniture according to claim 1, characterized by that in the "high chair" position the tilt angle of the board (2d) against horizontal plane is ranging between +4 to +12 degrees and the tilt angle of the board (2e) against horizontal plane is ranging between +100 to +108 degrees and the tilt angle between these two boards (2e, 2d) is ranging between +92 to +100 degrees, in the "table with seat" position the tilt angle of the board (2c) against horizontal plane is ranging from -4 to +4 degrees and the tilt angle of the board (2d) against horizontal plane is ranging from +101 to +109 degrees and the tilt angle of the board (2b) against horizontal plane is ranging from -35 to -27 degrees and the tilt angle of the board (2a) against horizontal plane is ranging from -4 to +4 degrees and the boards (2c, 2d) contain the angle ranging between +101 to +109 degrees, in the "swing" position the tilt angle of the board (2c) against horizontal plane is ranging from +1 to +9 degrees and the tilt angle of the board (2f) against horizontal plane is ranging from +102 to +110 degrees and the tilt angle of the board (2b) against horizontal plane is ranging from +32 to +40 degrees and the tilt angle of the board (2a) against horizontal plane is ranging from +1 to +9 degrees and the boards (2c, 2f) contain the angle ranging between +97 to +105 degrees.
3. Multifunctional children's furniture according to claim 2, characterized by that in the "high chair" position the tilt angle of the board (2d) against horizontal plane is +8 degrees and the tilt angle of the board (2e) against horizontal plane is +104 degrees and the tilt angle between these two boards (2e, 2d) is +96 degrees, in the "table with seat" position the tilt angle of the board (2c) against horizontal plane is 0 degrees and the tilt angle of the board (2d) against horizontal plane is +105 degrees and the tilt angle of the board (2b) against horizontal plane is -31 degrees and the tilt angle of the board (2a) against horizontal plane is 0 degrees and the boards (2c, 2d) contain the angle of +105 degrees, in the "swing" position the tilt angle of the board (2c) against horizontal plane is +5 degrees and the tilt angle of the board (2f) against horizontal plane is +106 degrees and the tilt angle of the board (2b) against horizontal plane is +36 degrees and the tilt angle of the board (2a) against horizontal plane is +5 degrees and the boards (2c, 2f) contain the angle of +101 degrees.
4. Multifunctional children's furniture according to any

of

claims 1 to 3, **characterized by** that it comprises the belt (5) to protect the child against slip-off, which is at one end mounted to the center of front rod (3a) and with the second end to the center part of board (2d). 5

5. Multifunctional children's furniture according to claims 1 to 4, **characterized by** that in the "high chair" position it comprises front rod (3a) and it is provided with the enlargement of the distance of the sideboards (1a, 1b) in their bottom part to prevent lateral deflection from the vertical axis and the subsequent roll-over to the side, so that the sideboards (1a, 1b) contain the angle of 8 degrees. 10 15
6. Multifunctional children's furniture according to claims 1 to 5, **characterized by** that the rectangular boards (2a,2b,2c,2d,2e,2f) and rods (3a,3b) are fixed to the sideboards (1a, 1b) with joints (6). 20
7. Multifunctional children's furniture according to claims 1 to 5, **characterized by** that both sideboards (1a, 1b) contain at least one opening (8) that is provided on imaginary circle that copies the ending tip of the corresponding rectangular board and in which this board (2a) and/or board (2b) and/or board (2c) and/or board (2d) and/or board (2e) and/or board (2f) is fixed with quick screw (9) to the sideboards (1a,1b) and at its second end the board (2a) and/or board (2b) and/or board (2c) and/or board (2d) and/or board (2e) and/or board (2f) is pivoted between the sideboards (1a,1b) with the pins (7). 25 30 35
8. Multifunctional children's furniture according to any of claims 1 to 7, **characterized by** that in the "high chair" position it contains suction cups attached to the sideboards (1a, 1b) at the point where these touch the ground. 40

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Fig. 1

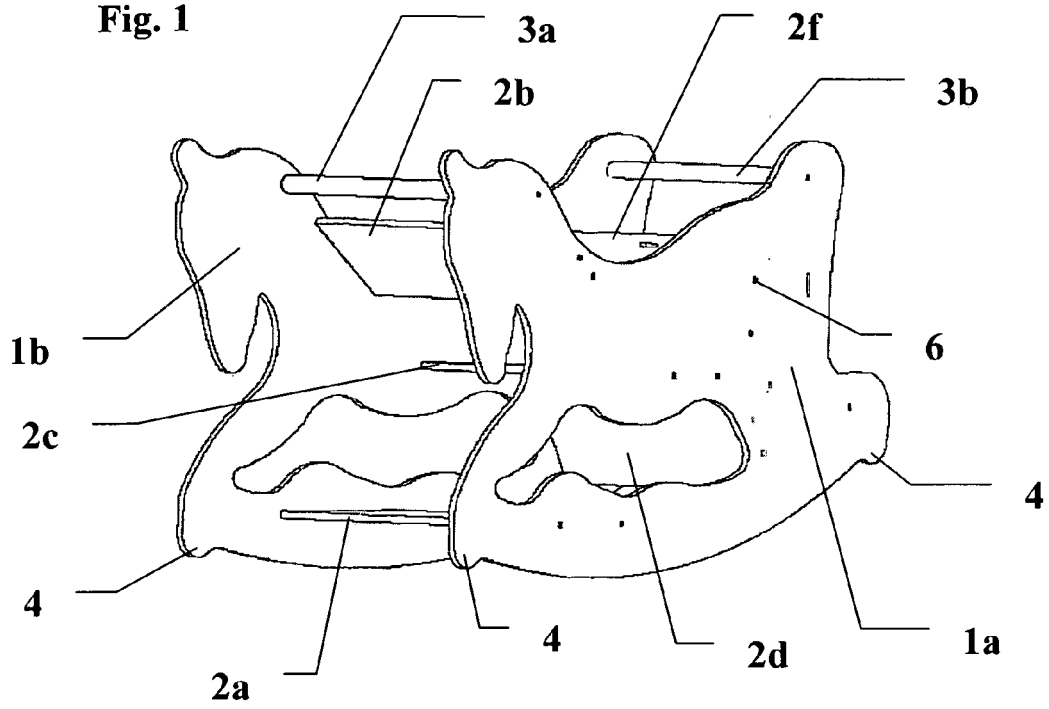


Fig. 2

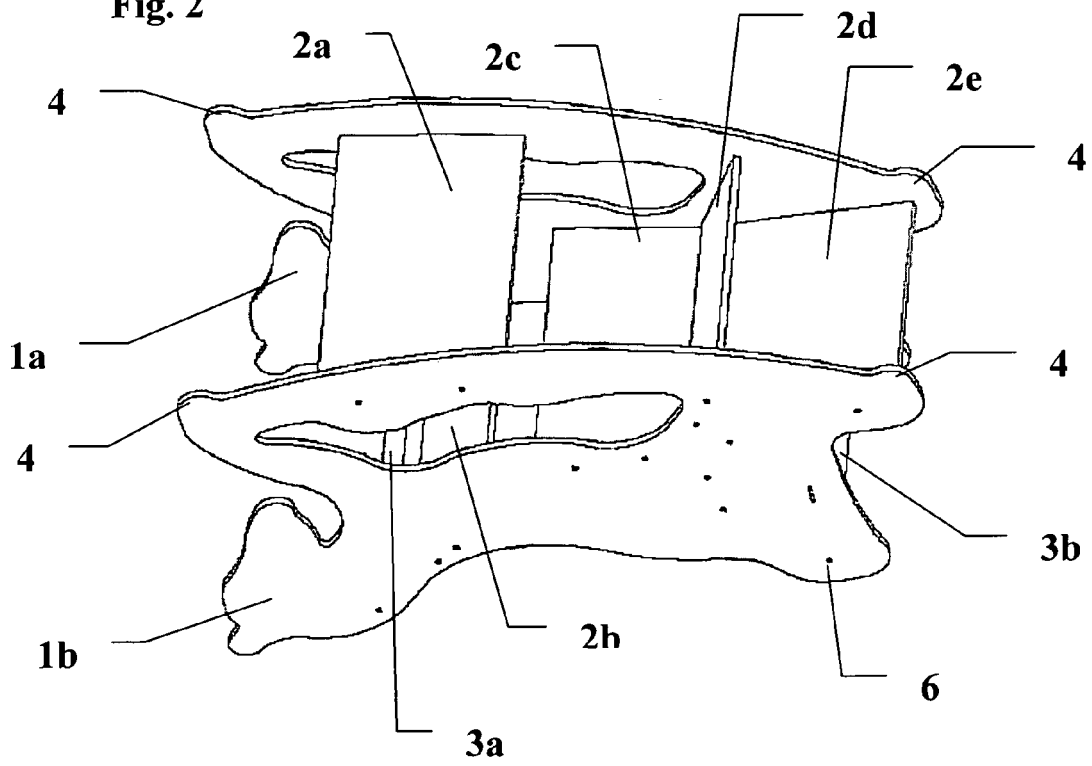


Fig. 3

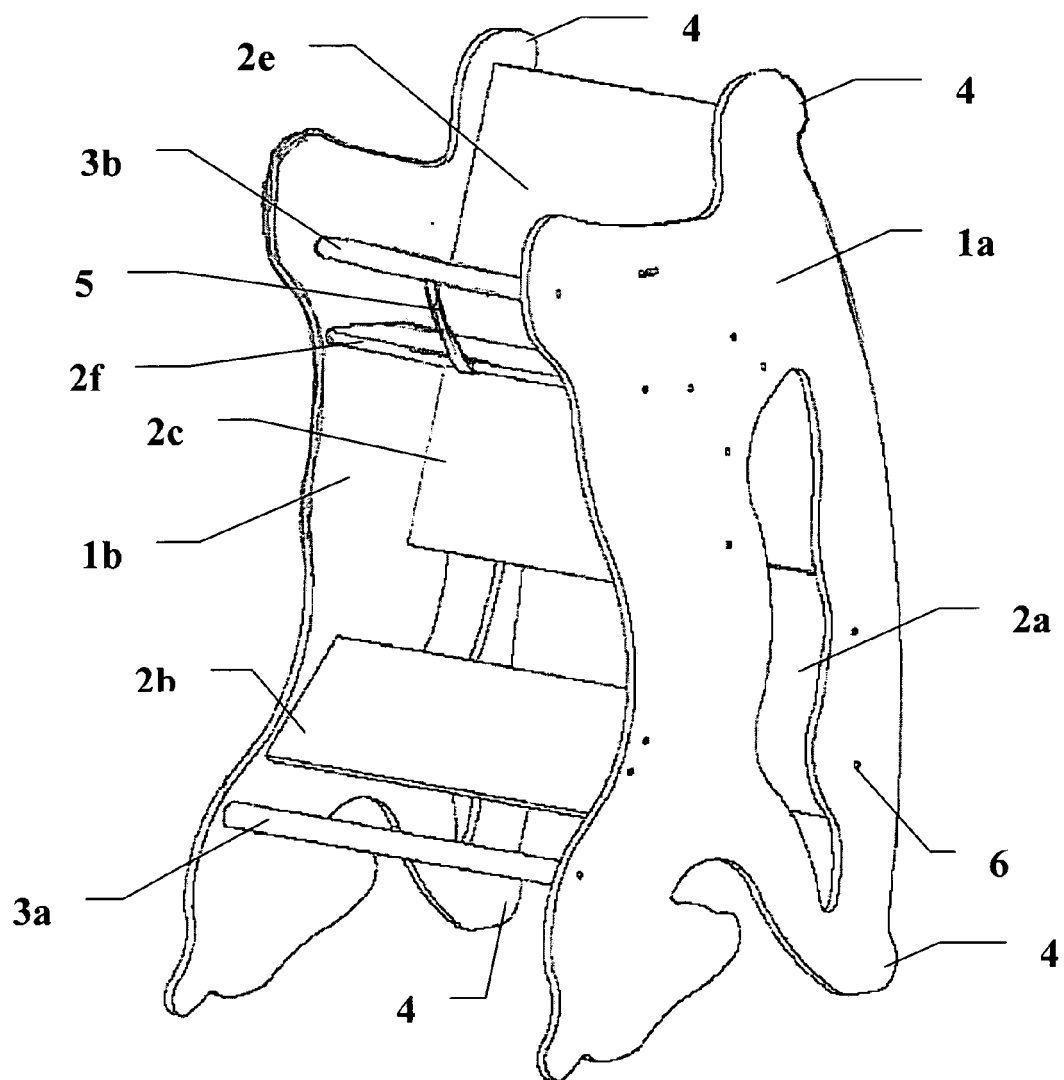


Fig. 4

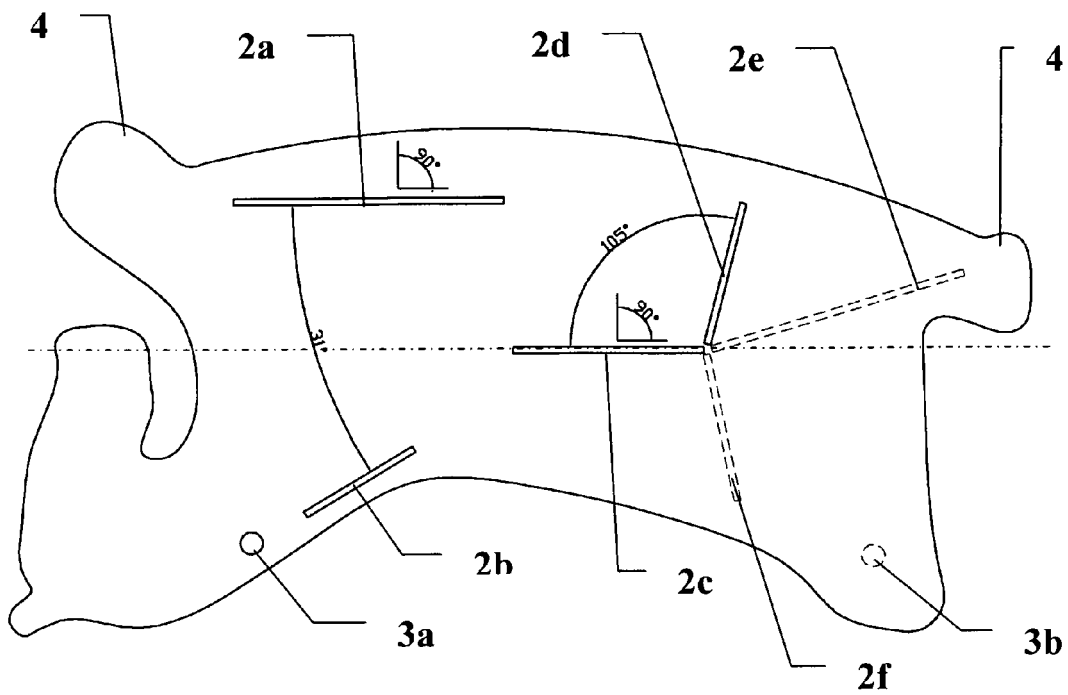


Fig. 5

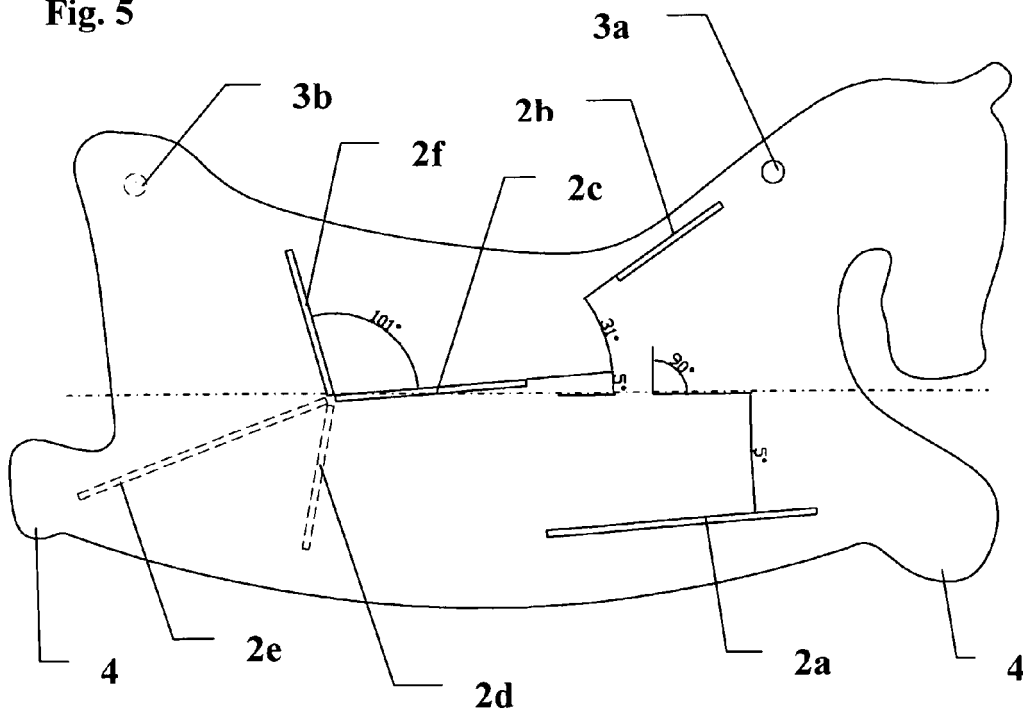


Fig. 6

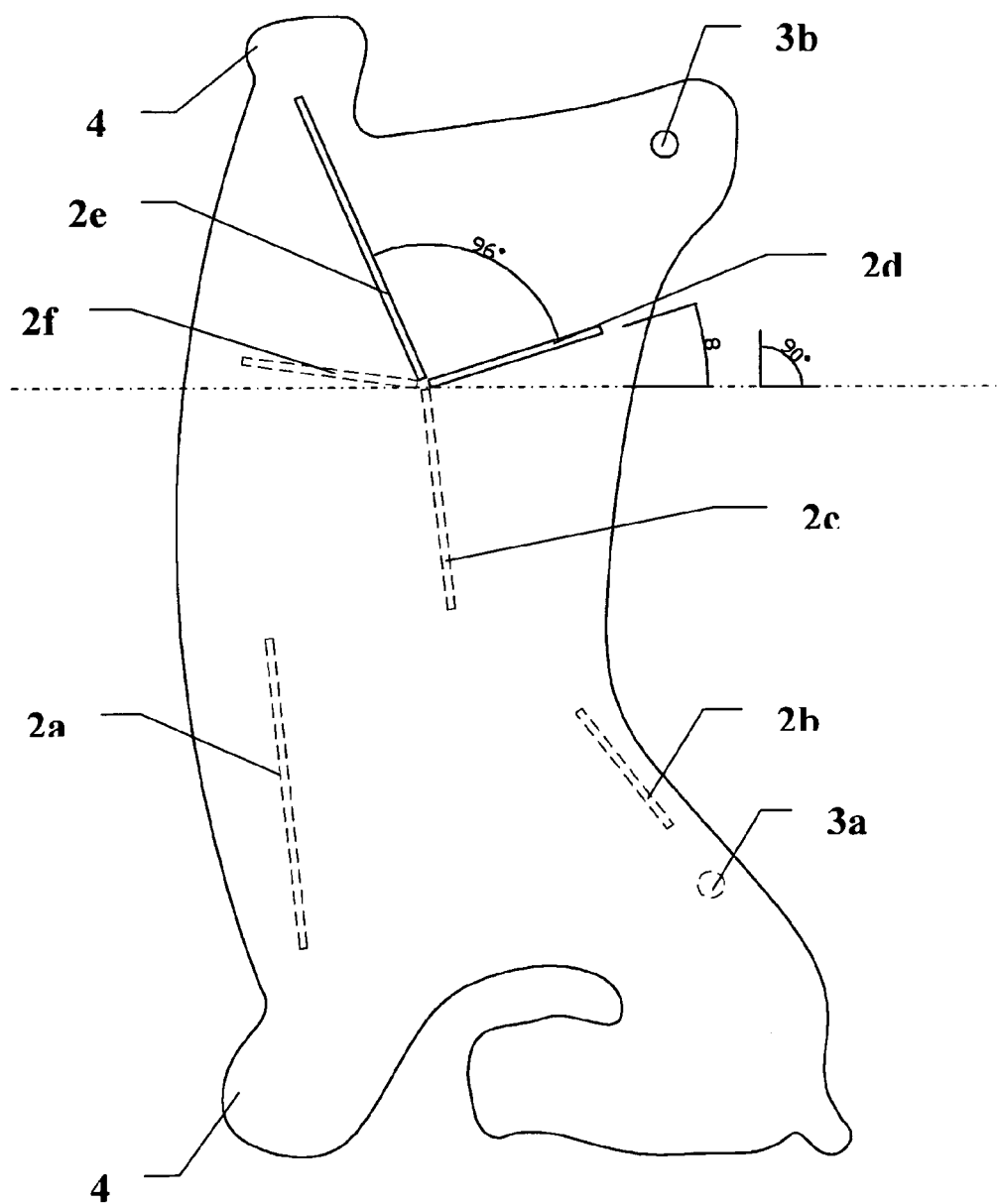
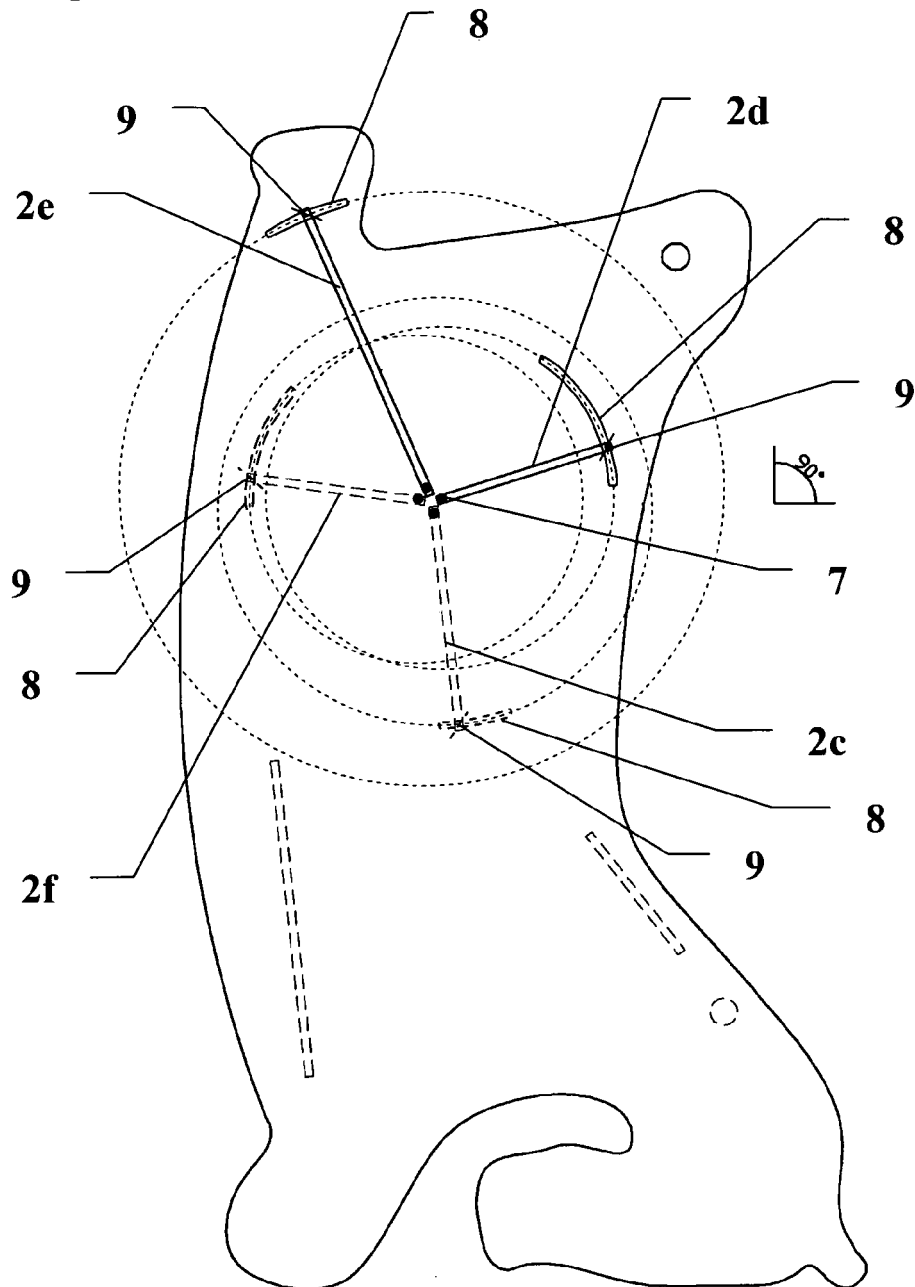


Fig. 7





EUROPEAN SEARCH REPORT

Application Number
EP 11 00 4522

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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 12 October 2011	Examiner Kus, Slawomir
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 (P04C01)



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**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.
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