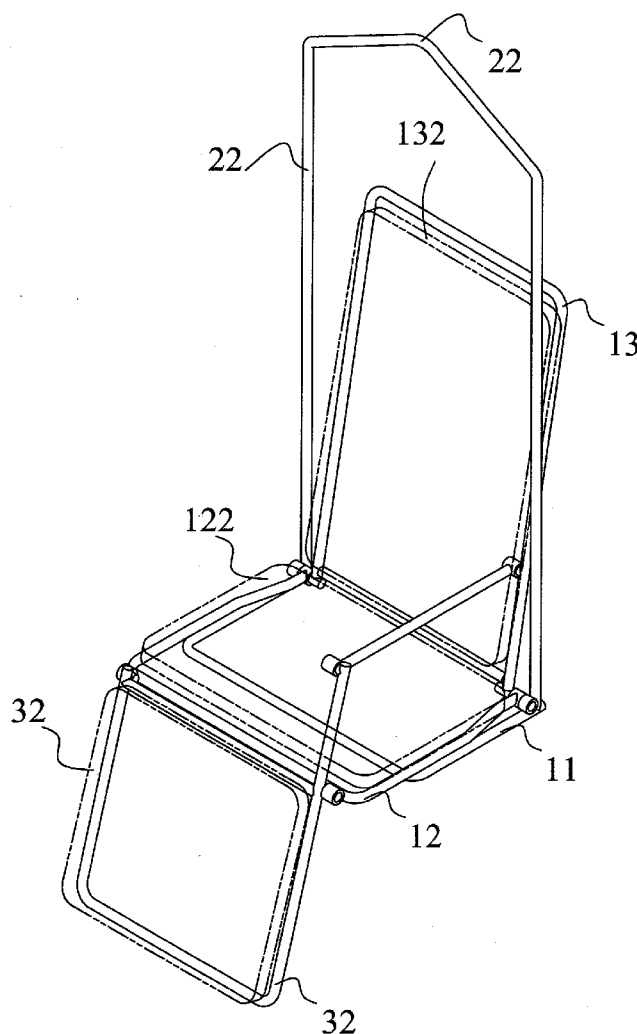




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(19) **United States**(12) **Patent Application Publication**
Chen(10) **Pub. No.: US 2013/0175836 A1**(43) **Pub. Date: Jul. 11, 2013**(54) **ADJUSTABLE HANGING CHAIR**(57) **ABSTRACT**(76) Inventor: **Cheng-Ming Chen**, Taichung City (TW)(21) Appl. No.: **13/816,177**(22) PCT Filed: **Sep. 10, 2010**(86) PCT No.: **PCT/CN10/01390**§ 371 (c)(1),
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USPC **297/273; 297/354.1**

This invention discloses an adjustable hanging chair, which comprises a seat, comprising a cushion frame and a backrest frame; a suspension bracket, which is correspondingly disposed and fixed to the cushion frame; a front rest frame, one of the upper ends of the front rest frame being correspondingly and pivotally coupled to a front end of the cushion frame, and at least a connection rod, a first end of the connection rod being correspondingly and pivotally connected to the front rest frame, and a second end of the connection rod being correspondingly and pivotally connected to the backrest frame, so that the pivoting action of the front rest frame corresponding to the cushion frame has an interacting relationship with the pivoting action of the backrest frame corresponding to the cushion frame. The present invention can increase the comfortability of sitting and reduce the volume for easy storage.



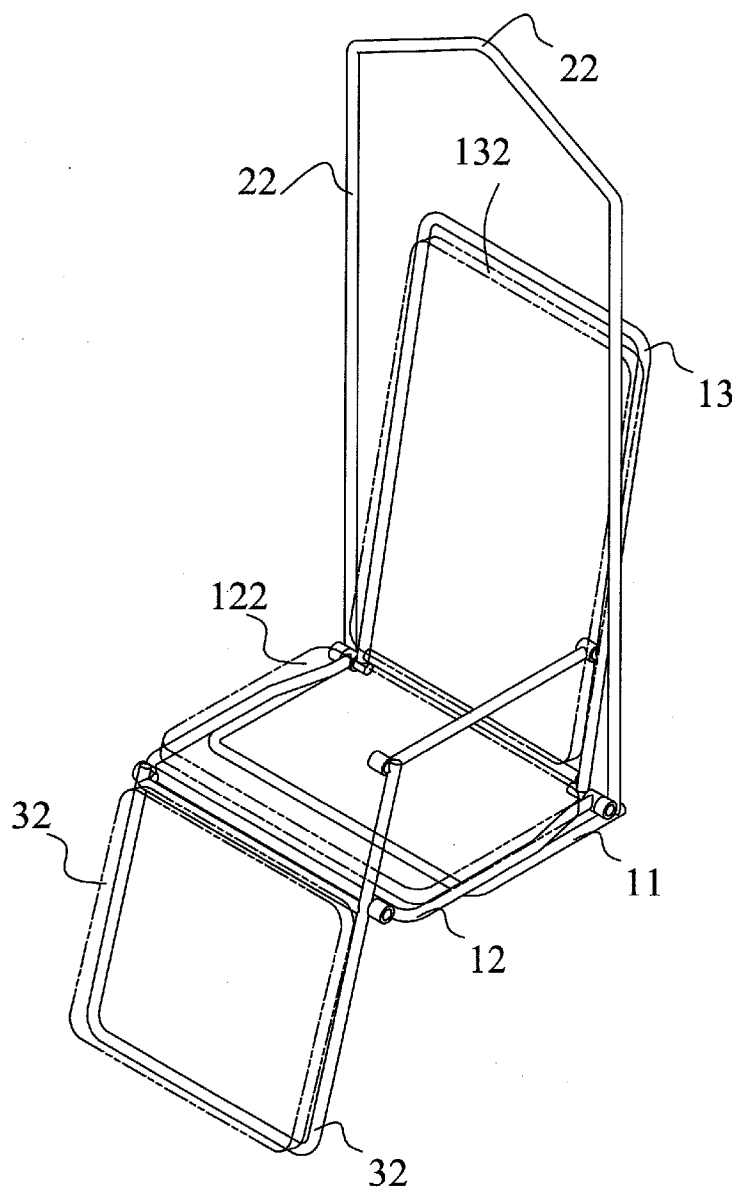


FIG. 1

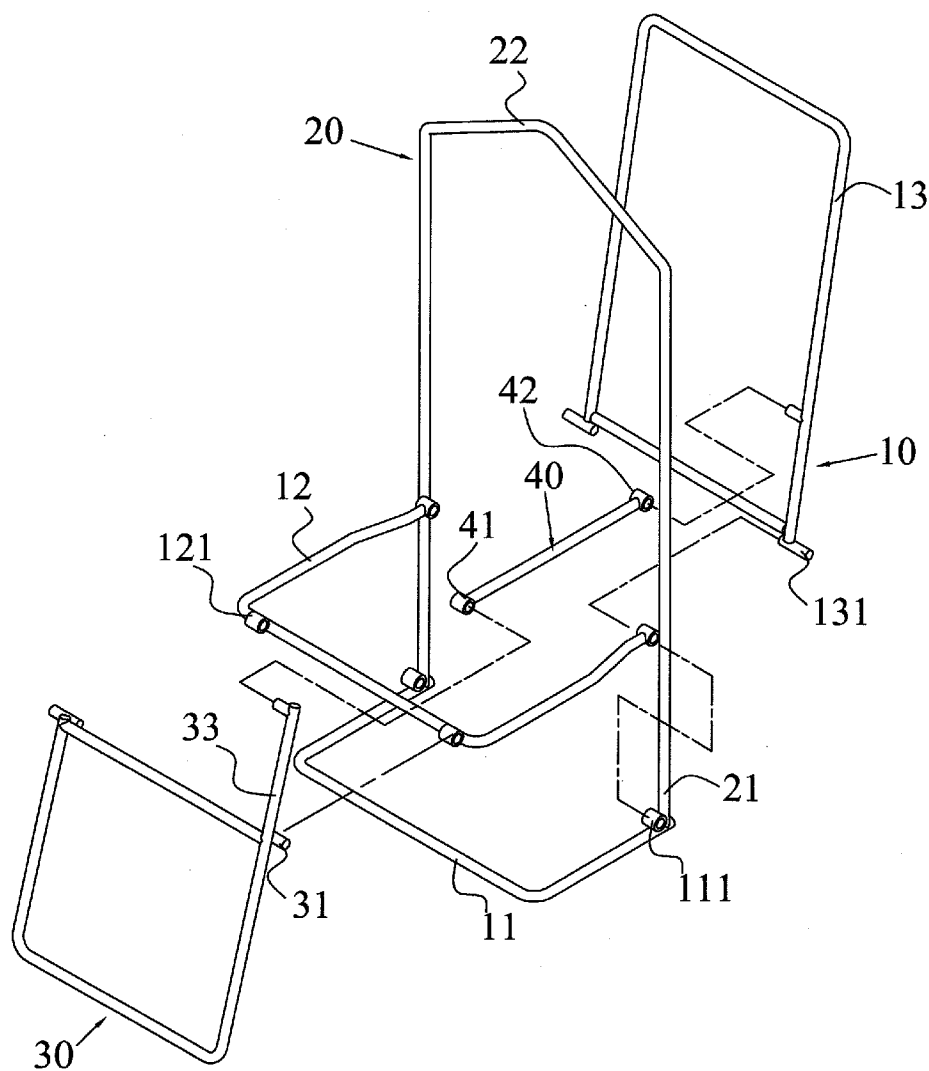


FIG. 2

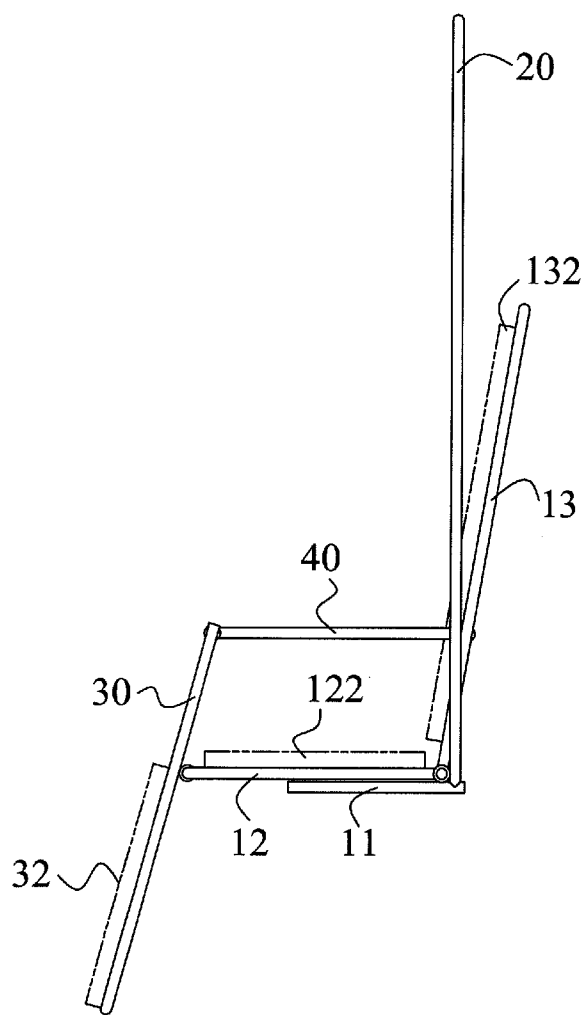


FIG. 3

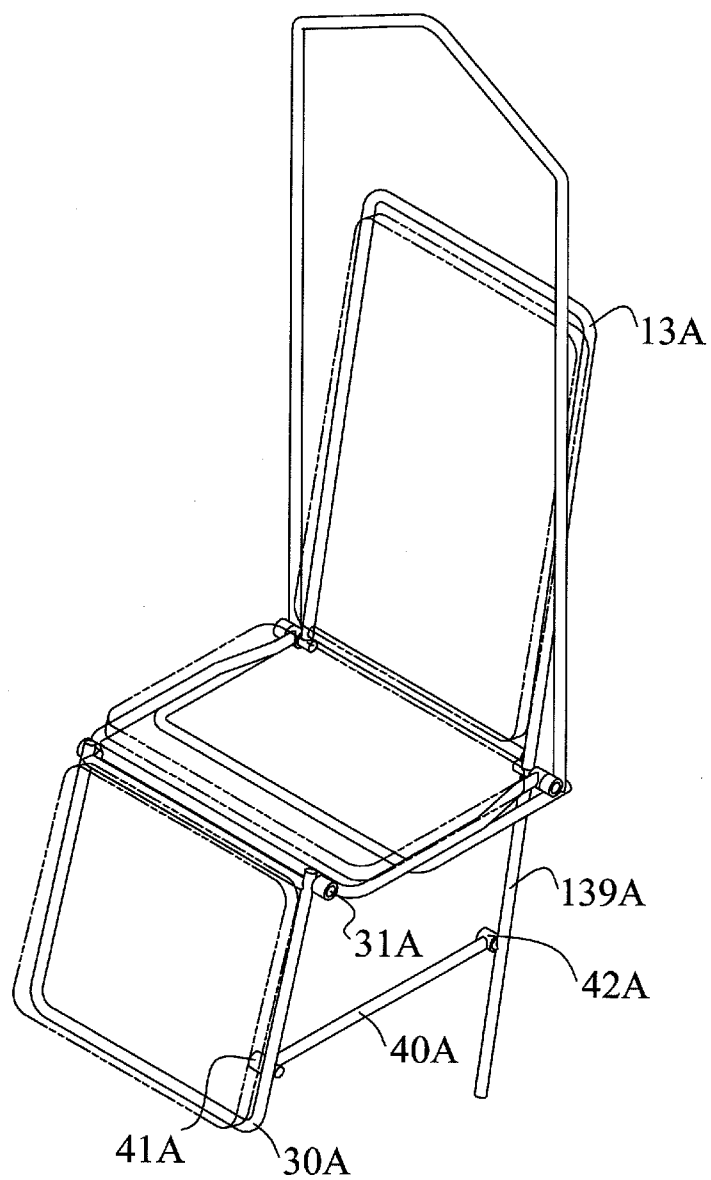


FIG. 4

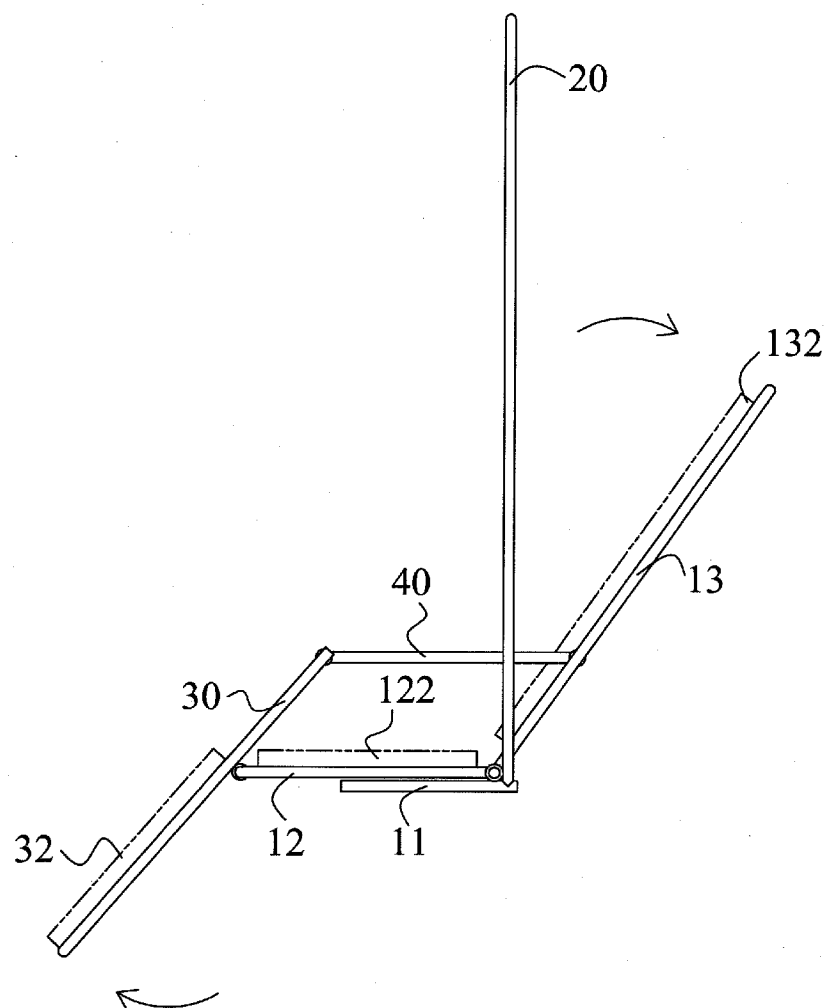
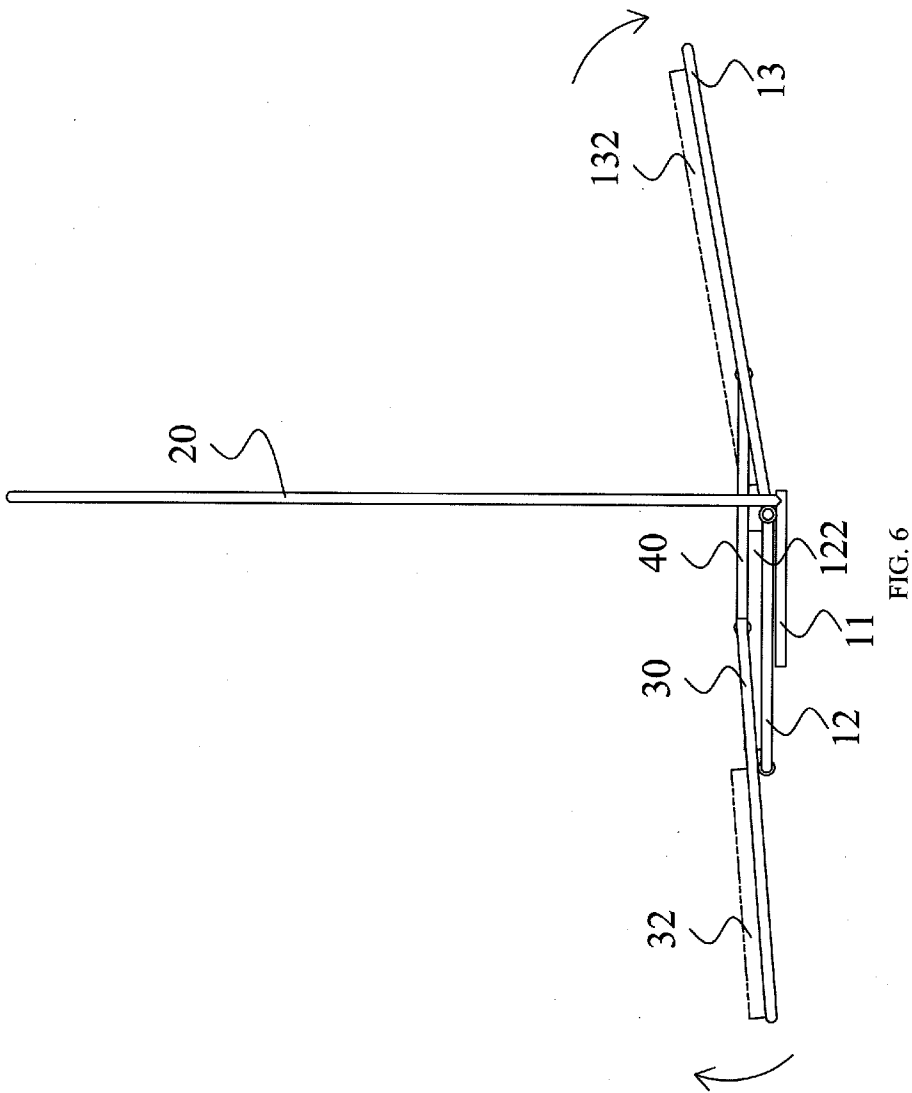


FIG. 5



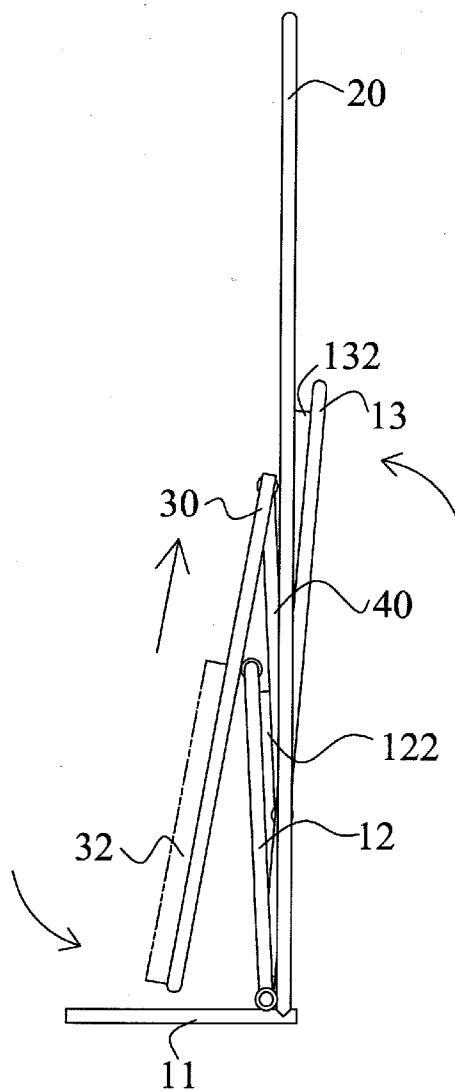


FIG. 7

ADJUSTABLE HANGING CHAIR

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] The present invention generally relates to an adjustable hanging chair, and more particularly to a hanging chair of which the angle can be adjusted and thus which can be easily folded.

[0003] 2. Description of the Related Art

[0004] A hanging chair is a kind of chair which can help the user to release the pressure on the user and make the user feel very comfortable. In the conception, it provides a function of hang through a hanging component such as a hanging string, a hanging chain or a hanging pole and so on, thereby hanging on the holder so that a chair providing the user to sit is hung in the air. Such design makes the chair supply a feeling of suspension to the user, and further supply a moving feeling of swinging in the air to the user sitting on the chair through cooperating with the swing mechanism or with the relative swing action. The hanging chair provides a feeling of fun other than comfort, so it is commonly applied in various types of indoor and outdoor occasions.

[0005] However, the structure of the hanging chair in present technique generally provides a function of sitting only because of its design, without the function of adjusting the back of the chair and the angle of the pedal. Thus, the conventional type of chairs could not be adjusted based on different body shapes and the back lying angle of the users. If the user sits on the chair which is not suitable for his body shape, the comfortability supplied by the chair is extremely limited. In addition, the structure of this type of chair is fixed by the framework and can not be folded. Therefore, if the chair is not in use, it occupies huge space for the user and thus further generating the troubles like uneasy storage and large space occupation. So its insufficiencies are obvious. Based on the aforementioned drawbacks, the inventor of the present invention considers and designs an adjustable hanging chair to reform the shortcomings in prior art thus increasing the implemental utilization in the manufacturing.

SUMMARY OF THE INVENTION

[0006] Based on the aforementioned problems in prior arts, the objective of the present invention is to provide an adjustable hanging chair to overcome the difficulties in the present technique.

[0007] To achieve the above goal, the technique means used by the present invention is designing an adjustable hanging chair and which comprises: a seat, comprising a cushion frame and a backrest frame; wherein on each of the two sides at the back end of the cushion frame is respectively disposed a connection frame, with a cushion being disposed on the cushion frame; wherein at each of the two sides of the inner end of the backrest frame is respectively hinged with the cushion frame, a backrest cushion is disposed on the backrest frame; a suspension bracket, which is correspondingly disposed and fixed to the cushion frame, and the suspension bracket extends upward for hooking an object; a front rest frame, one of the upper ends of the front rest frame being correspondingly and pivotally coupled to a front end of the cushion frame. In addition, a pillow is disposed on the front rest frame; and at least a connection rod, a first end of the connection rod being correspondingly and pivotally connected to the front rest frame, and a second end of the con-

nection rod being correspondingly and pivotally connected to the backrest frame to make the front rest frame correspond to the pivoting action of the cushion frame interact with the pivoting action of the backrest frame correspondingly to the cushion frame.

[0008] The upper end of the front rest frame is further extended as an extension rod, and the first end of the connection rod is correspondingly and pivotally coupled to a side of the extension rod of the front rest frame, and the second end of the connection rod is correspondingly coupled to a corresponding side of the cushion frame.

[0009] An extension frame is disposed from the inner end of the backrest frame to extend downwards, and wherein the first end of the connection rod is pivotally disposed corresponding to the middle section of a side of the front rest frame, and the second end of the connection rod is correspondingly and pivotally coupled to the corresponding side of the extension frame.

[0010] The present invention further comprises a multi-sectional adjustable hinge, which is correspondingly and pivotally coupled to the pivotal connection of the cushion frame and the backrest frame to provide the backrest frame to perform multi-angle pivoting turns and a multi-angle positioning corresponding to the cushion frame.

[0011] The multi-sectional adjustable hinge can be correspondingly and pivotally coupled to the pivotal connection of the cushion frame and the front rest frame to provide the backrest frame to perform multi-angle pivoting turns and a multi-angle positioning corresponding to the cushion frame.

[0012] The multi-sectional adjustable hinge can be correspondingly and pivotally coupled to the pivotal connection of the connection rod and the backrest frame to provide the backrest frame to perform multi-angle pivoting turns and a multi-angle positioning corresponding to the cushion frame.

[0013] The multi-sectional adjustable hinge can be correspondingly and pivotally coupled to the pivotal connection of the connection rod and the front rest frame.

[0014] The multi-sectional adjustable hinge can be replaced by a pneumatic rod assembly. The pneumatic rod assembly is a dynamic component by using a pneumatic pump to extend and to contract. The pneumatic rod assembly includes a fixed end and a telescopic end. The fixed end is correspondingly and firmly disposed on the cushion frame, and the telescopic end connects to the backrest frame or the front rest frame.

[0015] The suspension bracket can be a long rod which can be twisted as forming. The suspension bracket has two fixing ends, and the two ends are respectively correspondingly fixed and disposed to the connection frame, and the suspension bracket has a hook hanging portion at an extension end. The pivotal angle of the cushion frame corresponding to the backrest frame is within a range of 0 to 90 degrees. And the cushion frame is a frame shaped as a rectangle; and the backrest frame is a frame shaped as a rectangle; and the front rest frame is a frame shaped as a rectangle.

[0016] In design, the adjustable hanging chair of the present invention not only provides a function the hanging chair has for the user, but also lets the user directly adjust the inclined angle of the back rest frame according to the body shape or desired sitting suitability. And when adjusting the inclined angle of the backrest frame, the front rest frame is simultaneously acting as well. Thus, while the back of the user moves backwards, his legs can lie on the front rest frame. The user can further perform a pivoting action of folding toward the

connection rod corresponding to the backrest frame, further interactively folding the front rest frame and the cushion frame corresponding to the back rest frame to reduce the occupied space of the present invention and be easier to store.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] FIG. 1 is a schematic diagram of the adjustable hanging chair of the present invention.

[0018] FIG. 2 is a cross-sectional diagram of the adjustable hanging chair of the present invention.

[0019] FIG. 3 is a lateral view of the adjustable hanging chair of the present invention.

[0020] FIG. 4 is a schematic diagram of the preferred embodiment as deforming of the adjustable hanging chair of the present invention.

[0021] FIG. 5 is a diagram of the preferred embodiment as acting of the adjustable hanging chair of the present invention.

[0022] FIG. 6 is a diagram of the preferred embodiment as acting of the adjustable hanging chair of the present invention.

[0023] FIG. 7 is a diagram of the preferred embodiment as acting of the adjustable hanging chair of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0024] The technical contents and characteristics of the present invention will be apparent with the detailed description of a preferred embodiment accompanied with related drawings as follows. For simplicity, the same numerals are used for the same respective elements in the description of the following preferred embodiments and the illustration of the drawings. In order for the examiner to understand the characteristics, contents and advantages of the present invention and the effectiveness which can be achieved by this invention, the figures of the present invention and the explanation of preferred embodiments are described in details as follows. The objective of the figures used is merely to show and assist the specification. And the figures are not necessary to be under the actual proportion and the exact arrangement of the preferred embodiments for the present invention. Therefore, the claims in practical implements are not limited by the proportion and arrangement of the attached figures. These details should be first mentioned here.

[0025] With reference to FIGS. 1-3, the present invention is an adjustable hanging chair. A preferred embodiment of the present invention includes a seat 10, a suspension bracket 20, a front rest frame 30, at least a connection rod 40 and a multi-sectional adjustable hinge (not shown in figures).

[0026] The previously described seat 10 further comprises a cushion frame 11 and a backrest frame 12; wherein the cushion frame 11 may be a frame shaped as a rectangle, and a connection frame 111 is disposed on each of the two sides at the back end of the cushion frame 11, and a cushion 112 is disposed on the cushion frame 11 for the user to sit; The 15. backrest frame 12 may be a frame shaped as a rectangle, and at each of the two sides of the inner end of the backrest frame 12 is respectively coupled to the cushion frame 11, so that the backrest frame 12 can perform a pivoting action corresponding to the cushion frame 11. In addition, a backrest cushion 121 is disposed on the backrest frame 12 for the back of the user to lean on.

[0027] The suspension bracket 20 is correspondingly disposed and fixed to the cushion frame 11, and the suspension bracket 20 extends upward for hooking an object. The suspension bracket 20 can be a long rod which can be twisted as forming. The suspension bracket has two fixing ends 21, and the two ends 21 are respectively correspondingly fixed and disposed to the connection frame 111, and the suspension bracket 20 has a hook hanging portion 22 at an extension end.

[0028] The front rest frame 30 can be a frame shaped as a rectangle, one of the upper ends of the front rest frame being correspondingly and pivotally coupled to a front end of the cushion frame 11, so that the front rest frame 30 can perform a pivoting action in the vertical direction corresponding to the cushion frame 11. In addition, a rest cushion 31 can be disposed on the front rest frame 30 for the leg of the user to lean on, and the upper end of the front rest frame 30 can further extend to be disposed an extension rod 32.

[0029] The first end 41 of the connection rod 40 is correspondingly and pivotally connected to the front rest frame 30, and the second end 42 of the connection rod 40 is correspondingly and pivotally connected to the backrest frame 12 corresponding to the connection pivot to make the front rest frame 30 corresponding to the pivoting action of the cushion frame 11 interact with the pivoting action of the backrest frame 12 corresponding to the cushion frame 11. And wherein, the first end 41 of the connection rod 40 can be correspondingly coupled to a side of the extension rod 32 of the front rest frame 30, and the second end 42 of the connection rod 40 can be correspondingly coupled to a corresponding side of the cushion frame 11. By this design, when the user pivotally adjusts the corresponding angle of the backrest frame 12 corresponding to the cushion frame 11, the front rest frame 30 is pivotally acted through the interaction. With reference to FIG. 4, in an deformed embodiment, wherein the extension frame 129A is disposed from the inner end of the backrest frame 12A to extend downwards, and wherein the first end 41A of the connection rod 40A is pivotally disposed corresponding to the middle section of a side of the front rest frame 30A, and the second end 42A of the connection rod 40A is pivotally disposed corresponding to the corresponding side of the extension frame 129A.

[0030] The multi-sectional adjustable hinge in the first embodiment may be correspondingly coupled to the pivotal connection of the cushion frame 11 and the backrest frame 12 to provide the backrest frame 12 to perform multi-angle pivoting turns and a multi-angle positioning corresponding to the cushion frame 11. And the pivotal angle of the backrest frame 12 corresponding to the cushion frame 11 is within a range of 0 to 90 degrees. And wherein the multi-sectional adjustable hinge in the second embodiment may be correspondingly coupled to the pivotal connection of the cushion frame 11 and the front rest frame 30; and wherein the multi-sectional adjustable hinge in the third embodiment may be correspondingly coupled to the pivotal connection of the connection rod 40, 40A and the backrest frame 12, 12A; and wherein the multi-sectional adjustable hinge in the fourth embodiment may be correspondingly coupled to the pivotal connection of the connection rod 40, 40A and the front rest frame 30, 30A.

[0031] Wherein, the multi-sectional adjustable hinge in another deformed embodiment may be replaced by a pneumatic rod assembly (not shown in figures). The pneumatic rod assembly is a dynamic component by using a pneumatic pump to extend and to contract, including a fixed end and a telescopic end. The fixed end is correspondingly and firmly

disposed on the cushion frame **11**, and the telescopic end connects to the backrest frame **12** or the front rest frame **30**, further acting through the pneumatic extension and shrink by controlling the pneumatic rod assembly, and then further adjusting the angle of the back rest frame **12** and the front rest frame **30** corresponding to the cushion frame **11**.

[0032] With reference to FIGS. 5-7, via this design, the user can further perform a pivoting action of folding toward the connection rod **40** corresponding to the backrest frame **12** when the invention is not used, further interactively folding the front rest frame **30** and the cushion frame **11** corresponding to the back rest frame **12** to reduce the occupied space of the present invention and be easier to store.

[0033] And through the ingenuity for designing the adjustable hanging chair of the present invention, it not only provides a function the hanging chair has for the user, but also lets the user directly adjust the inclined angle of the back rest frame **12**, **12A** according to the shape of the body or desired sitting suitability. And when adjusting the inclined angle of the back rest frame **12**, **12A**, the front rest frame **30**, **30A** is simultaneously acting as well. Thus, while the back of the user moves backwards, his legs can lie on the front rest frame **30**, **30A**, further improving the sitting comfortability for him. And cooperating with the design on the structure, the adjustable hanging chair can further perform a pivoting action of folding toward the connection rod **40**, **40A** corresponding to the backrest frame **12**, **12A**, further interactively folding the front rest frame **30**, **30A** and the cushion frame **11** corresponding to the back rest frame **12**, **12A** to achieve the goal of reducing the volume, further having the comfortability of storage. Thus, its benefit is obvious.

[0034] The preferred embodiments aforementioned are merely used to explain the thoughts and characteristics of technique for the present invention. The goal is for the people familiar with the technique can understand the contents in the present invention and implement the present invention according to the contents. Thus, the claims of the present invention are not limited. Numerous modifications and variations could be made thereto by those skilled in the art without departing from the scope and spirit of the invention set forth in the claims.

[0035] In sum, the present invention has broken through the prior art and achieved the effectiveness of desiring improvement and could not be easily understood by those skilled in the art. The improvement and practicability included in the present invention are obviously corresponding to the applying requirement of the patent. Therefore, the inventor provides the present invention for applying to a patent based on the laws. Wish the authority can license the present invention as a patent thus to encourage the inventor. Deeply appreciate your kindly act.

What is claimed is:

1. An adjustable hanging chair, comprising:

a seat, comprising a cushion frame and a backrest frame, two sides at a back end of the cushion frame being respectively disposed with a connection frame, with a cushion being disposed on the cushion frame, two sides of an inner end of the backrest frame being respectively hinged to the cushion frame and a backrest cushion being disposed on the backrest frame;

a suspension bracket, being correspondingly disposed and fixed to the cushion frame, and the suspension bracket extending upward for hooking an object;

a front rest frame, one upper end of the front rest frame being correspondingly and pivotally coupled to a front end of the cushion frame, with a pillow being disposed on the front rest frame; and

at least one connection rod, a first end of the connection rod being correspondingly and pivotally connected to the front rest frame, and a second end of the connection rod being correspondingly and pivotally connected to the backrest frame such that a pivoting action of the front rest frame corresponding to the cushion frame is in an interacting relationship with a pivoting action of the backrest frame corresponding to the cushion frame.

2. The adjustable hanging chair of claim 1, wherein the upper end of the front rest frame is further extended an extension rod, and the first end of the connection rod is correspondingly and pivotally coupled to a side of the extension rod of the front rest frame, and the second end of the connection rod is correspondingly and pivotally coupled to a corresponding side of the cushion frame.

3. The adjustable hanging chair of claim 1, wherein an extension frame is disposed from the inner end of the backrest frame to extend downwards, and the first end of the connection rod is pivotally disposed corresponding to the middle section of a side of the front rest frame, and the second end of the connection rod is pivotally disposed corresponding to the corresponding side of the extension frame

4. The adjustable hanging chair of claim 1, wherein a multi-sectional adjustable hinge is correspondingly and pivotally coupled to the pivotal connection of the cushion frame and the backrest frame to provide the backrest frame to perform multi-angle pivoting turns and a multi-angle positioning corresponding to the cushion frame.

5. The adjustable hanging chair of claim 1, wherein a multi-sectional adjustable hinge is correspondingly and pivotally coupled to the pivotal connection of the cushion frame and the front rest frame to provide the backrest frame to perform multi-angle pivoting turns and a multi-angle positioning corresponding to the cushion frame.

6. The adjustable hanging chair of claim 1, wherein a multi-sectional adjustable hinge is correspondingly and pivotally coupled to the pivotal connection of the connection rod and the backrest frame to provide the backrest frame to perform multi-angle pivoting turns and a multi-angle positioning corresponding to the cushion frame.

7. The adjustable hanging chair of claim 1, wherein a multi-sectional adjustable hinge is correspondingly and pivotally coupled to the pivotal connection of the connection rod and the front rest frame to provide the backrest frame to perform multi-angle pivoting turns and a multi-angle positioning corresponding to the cushion frame.

8. The adjustable hanging chair of claim 1, wherein a pneumatic rod assembly is a dynamic component by using a pneumatic pump to extend and to contract and includes a fixed end and a telescopic end, wherein the fixed end is correspondingly and firmly disposed on the cushion frame, and the telescopic end connects to the backrest frame or the front rest frame.

9. The adjustable hanging chair of claim 1, wherein the pivotal angle of the cushion frame corresponding to the backrest frame is within a range of 0 to 90 degrees.

10. The adjustable hanging chair of claim 1, wherein the cushion frame is a frame shaped as a rectangle; and the backrest frame is a frame shaped as a rectangle; and the front rest frame is a frame shaped as a rectangle.

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