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(71) Applicant: **Anji Qianyuan Funiture Co., Ltd**
Huzhou, Zhejiang 313300 (CN)

(72) Inventor: **CHEN, Feng**
Huzhou, Zhejiang 313300 (CN)

(74) Representative: **Petraz, Gilberto Luigi et al**
GLP S.r.l.
Viale Europa Unita, 171
33100 Udine (IT)

(54) **SOFA ARMREST ASSEMBLY CAPABLE OF BEING ADJUSTED IN COLLAPSIBLE MANNER**

(57) The present invention provides a telescopically adjustable sofa armrest assembly, including: a fixed inner side plate configured to be connected to a side of a sofa body; a movable outer side plate parallel to the fixed inner side plate and spaced apart from the fixed inner side plate in a left-right mode; a telescopic assembly connected between the fixed inner side plate and the movable outer side plate, wherein the telescopic assembly includes two rotating rods which are crossed and hinged together, and the movable outer side plate has a closed state in which the movable outer side plate gets close to the fixed inner side plate and an opened state in which the movable outer side plate moves away from the fixed inner side plate; and an armrest cover covering the inner side plate and the outer side plate simultaneously, wherein a part of the armrest cover located between the inner side plate and the outer side plate forms an armrest flexible supporting portion; in a use state, the movable outer side plate is in the opened state, and the armrest flexible supporting portion is correspondingly tensioned; in a packaged state, the movable outer side plate and the fixed inner side plate are closed to compress a thickness of the armrest assembly, and the armrest flexible supporting portion is loosened correspondingly, such that the thickness of the armrest assembly in a left-right direction can be adjusted.

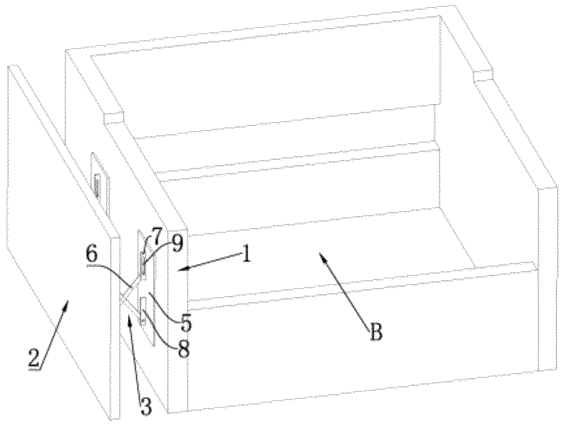

Figure 2

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Description

FILED OF THE INVENTION

[0001] The present invention relates to the field of seats, in particular to a telescopically adjustable sofa armrest assembly.

BACKGROUND OF THE INVENTION

[0002] A sofa is a multi-seat chair with cushions or a backrest chair with springs, thick foam plastic, or the like, has two sides provided with armrests, and is a kind of soft decoration furniture. A traditional sofa generally has a fixed structure which cannot be adjusted, a sofa body is generally made of metal or wood, and such a sofa is quite bulky. Currently, in order to adapt to a development trend of electronic commercialization and reduce costs of product packaging and transportation, most manufacturers modularize the sofa, such that a seat, a back, the armrest, and other assemblies of the sofa can be disassembled and stacked together, thereby reducing an overall packaging volume of the sofa and increasing a container loading quantity.

[0003] However, volumes of the seat, the back, the armrest and the other assemblies in the modular sofa cannot be changed, and a packaging volume can be saved only by reasonably stacking the assemblies, which clearly saves a limited space.

SUMMARY OF THE INVENTION

[0004] In order to overcome the defects in the prior art, an object of the present invention is to provide a telescopically adjustable sofa armrest assembly; a telescopic assembly is arranged between a fixed inner side plate and a movable outer side plate, and the fixed inner side plate and the movable outer side plate are covered with an armrest cover to form the armrest assembly in a three-dimensional shape; then, the movable outer side plate can be closed or opened relative to the fixed inner side plate through the telescopic assembly, such that a thickness of the armrest assembly in a left-right direction can be adjusted correspondingly.

[0005] The technical solution of the present invention is implemented as follows:

a telescopically adjustable sofa armrest assembly includes: a fixed inner side plate configured to be connected to a side of a sofa body; a movable outer side plate parallel to the fixed inner side plate and spaced apart from the fixed inner side plate in a left-right mode; a telescopic assembly connected between the fixed inner side plate and the movable outer side plate, wherein the telescopic assembly includes two rotating rods which are crossed and hinged together, and the two rotating rods can rotate relatively to allow the movable outer side plate to have a closed state in which the movable outer side plate gets close to the fixed inner side plate and an opened state in which the movable outer side plate moves away from the fixed inner side plate; and an armrest cover covering the inner side plate and the outer side plate simultaneously, wherein a part of the armrest cover located between the inner side plate and the outer side plate forms an armrest flexible supporting portion; in a use state, the movable outer side plate is in the opened state, and the armrest flexible supporting portion is correspondingly tensioned; in a packaged state, the movable outer side plate and the fixed inner side plate are closed to compress a thickness of the armrest assembly, and the armrest flexible supporting portion is loosened correspondingly.

[0006] Preferably, at least two telescopic assemblies are arranged between the fixed inner side plate and the movable outer side plate. The telescopic assembly is configured to realize the movable outer side plate and also has a connecting function, such that a connection between the movable outer side plate and the fixed inner side plate is stable.

[0007] Preferably, the armrest cover is a cloth cover or a leather cover, and is malleable to be able to be tensioned or loosened correspondingly.

[0008] Preferably, the telescopic assembly is of a bilaterally symmetrical structure, and the telescopic assembly further includes two connecting plates which are spaced apart left and right and connected with an outer side wall of the fixed inner side plate and an inner side wall of the movable outer side wall respectively; the two rotating rods are arranged between the two connecting plates in a left-right direction; centers of the two rotating rods are hinged together; one end of any rotating rod is hinged to one connecting plate, and the other end of the rotating rod is in longitudinal sliding fit with the other connecting plate. Then, it is only required to directly assemble the telescopic assembly between the fixed inner side plate and the movable outer side plate.

[0009] Preferably, each connecting plate is provided with an upper supporting seat and a lower supporting seat which are vertically spaced apart; the upper supporting seat is provided with a longitudinal guide groove, and an upper end of each rotating rod is correspondingly provided with a guide pin in slidable fit in the guide groove. The upper end of the rotating rod can slide up and down along the guide groove, such that the two connecting plates can be closed and opened.

[0010] Preferably, a bottom end of the guide groove is provided with a limiting notch to which the guide pin can be clamped; in the use state, the guide pin moves downwards along the guide groove to be clamped to the limiting notch. Thus, the guide pin can be limited to prevent the movable outer side plate from moving inwards easily in the use state.

[0011] Preferably, the armrest cover is further provided with an inner connecting portion connected with the fixed inner side plate in an attached mode and an outer connecting portion connected with the movable outer side plate in an attached mode, and the inner connecting

portion and the outer connecting portion are located on two sides of the armrest flexible supporting portion respectively. Therefore, left and right sides of the armrest cover are attached to the fixed inner side plate and the movable outer side plate respectively, such that the structure is attractive; the armrest flexible supporting portion can also better respond to movement of the movable outer side plate to be correspondingly tensioned or closed.

[0012] Preferably, a control handle is further arranged on an outer side of the armrest assembly, and the control handle is sewn on the armrest cover at a corresponding position. Therefore, an adjustment operation is easier and more labor-saving.

[0013] Preferably, in the use state, the armrest cover, the movable outer side plate and the fixed inner side plate form a three-dimensional rectangular structure.

[0014] Preferably, in the use state, an armrest cushion is placed at an upper end of the armrest flexible supporting portion, and the armrest cushion spans the fixed inner side plate and the movable outer side plate in the left-right direction. Then, a user can place the arm on the armrest cushion, such that use is comfortable; and the fixed inner side plate and the movable outer side plate can effectively support the armrest cushion.

[0015] The present invention further provides another telescopically adjustable sofa armrest assembly, including:

a fixed inner side plate configured to be connected to a side of a sofa body;

a movable outer side plate parallel to the fixed inner side plate and spaced apart from the fixed inner side plate in a left-right mode;

a telescopic assembly connected between the fixed inner side plate and the movable outer side plate, wherein the telescopic assembly includes two rotating rods which are crossed and hinged together, and the two rotating rods can rotate relatively to allow the movable outer side plate to have a closed state in which the movable outer side plate gets close to the fixed inner side plate and an opened state in which the movable outer side plate moves away from the fixed inner side plate; each of an inner wall of the fixed inner side plate and an inner wall of the movable outer side plate is provided with an upper supporting seat and a lower supporting seat which are vertically spaced apart; the upper supporting seat is provided with a longitudinal guide groove; a guide pin in sliding fit with the guide groove is arranged at an end portion of the rotating rod; one end of any rotating rod is in sliding fit with the upper supporting seat, and the other end of the rotating rod is hinged to the lower supporting seat which is obliquely opposite to the upper or lower supporting seat; a horizontal limiting notch is formed in an end portion of the guide groove of one upper or lower supporting seat;

an assisting spring arranged between the fixed inner side plate and the movable outer side plate, wherein when the movable outer side plate moves away from the fixed inner side plate, the assisting spring deforms to generate an elastic force; and

an armrest cover covering the fixed inner side plate and the movable outer side plate simultaneously, wherein a part of the armrest cover located between the fixed inner side plate and the movable outer side plate forms an armrest flexible supporting portion;

in a use state, the movable outer side plate is in the opened state, and the armrest flexible supporting portion is tensioned correspondingly; the movable outer side plate moves from a closed position to an opened position relative to the fixed inner side plate, such that the guide pin slides to the end portion of the guide groove; the assisting spring is correspondingly stretched and deformed and provides a pulling force for horizontally restoring the movable outer side plate, such that the guide pin horizontally moves and is clamped into the limiting notch.

[0016] Preferably, the guide groove is longitudinally and obliquely arranged; and from top to bottom, any guide groove extends and is inclined towards a center of the rotating rod. Therefore, the guide pin moves more smoothly; and the guide pin can be preferentially horizontally clamped into the limiting notch through the assisting elastic force.

[0017] Preferably, the assisting spring is obliquely arranged between the fixed inner side plate and the movable outer side plate.

[0018] Preferably, the assisting spring is horizontally arranged between the fixed inner side plate and the movable outer side plate.

[0019] Preferably, a hook seat is arranged at each of an upper end of the fixed inner side plate and a lower end of the movable outer side plate; the hook seats are horizontally spaced apart from the upper supporting seat and the lower supporting seat; two ends of the assisting spring are connected to the hook seats respectively; interference between the assisting spring and the telescopic assembly is avoided. Beneficial effects of the invention

[0020] The present invention with the above technical solution has the following design starting point, concept and beneficial effects:

[0021] in the telescopically adjustable sofa armrest assembly according to the present invention, the telescopic assembly is connected between the fixed inner side plate and the movable outer side plate, such that the movable outer side plate has the closed state in which the movable outer side plate gets close to the fixed inner side plate and the opened state in which the movable outer side plate moves away from the fixed inner side plate; and the movable outer side plate and the fixed inner side plate are covered with the armrest cover, and the movable outer side plate, the fixed inner side plate and the telescopic assembly are all hidden in the armrest cover, such that the armrest assembly is simple and attractive and

has no difference from a traditional armrest. The armrest cover is provided with the armrest flexible supporting portion located between the movable outer side plate and the fixed inner side plate; when the armrest assembly is in the use state, the movable outer side plate is in the opened state, and the flexible supporting portion is in a tensioned state; at this point, the armrest assembly has a largest thickness and can be supported and used as a conventional armrest. When the armrest assembly is required to be packaged and transported, the movable outer side plate moves towards the fixed inner side plate to be in the closed state only through the telescopic assembly, and the armrest flexible supporting portion is correspondingly in the loosened state; at this point, the armrest assembly has a smallest thickness, thereby achieving the effects of compressing the thickness of an armrest and reducing a volume of the armrest assembly; therefore, a packaging volume of components can be reduced to the maximum extent during packaging and transportation.

[0022] Furthermore, the assisting spring is arranged between the fixed inner side plate and the movable outer side plate, and the arrangement of the assisting spring has the significance that if the assisting spring is not arranged, the guide pin can enter the limiting notch to be limited by slapping the movable outer side plate back with the hand after the movable outer side plate is pulled out; the arrangement of the assisting spring omits the action of slapping the movable outer side plate back with the hand to assist restoration after the movable outer side plate is pulled out.

[0023] Secondly, only the fixed inner side plate and the movable outer side plate on the two sides of the armrest assembly according to the present invention are plate structures, no other plate structures are arranged between the fixed inner side plate and the movable outer side plate, and the armrest assembly is different from a traditional wood frame armrest which is overall defined by fixing wood plates in front, rear, left, right, upper and lower directions, thereby saving plates and a cost; therefore, the overall armrest assembly is more lightweight.

BRIEF DESCRIPTION OF THE DRAWINGS

[0024]

Figure 1 is a schematic perspective structural diagram of an armrest assembly in a use state according to an embodiment of the present invention;

Figure 2 is a schematic perspective structural diagram of a movable outer side plate and a fixed inner side plate in an opened state in the embodiment of the present invention;

Figure 3 is a schematic perspective structural diagram of the armrest assembly in a packaged state according to the embodiment of the present invention;

Figure 4 is a schematic perspective structural diagram of the movable outer side plate and the fixed inner side plate in a closed state in the embodiment of the present invention;

Figure 5 is a schematic perspective structural diagram of a telescopic assembly in the embodiment of the present invention;

Figure 6 is a front view when the telescopic assembly is opened in the embodiment of the present invention;

Figure 7 is a schematic perspective structural diagram when the telescopic assembly is closed in the embodiment of the present invention;

Figure 8 is a front view when the telescopic assembly is closed in the embodiment of the present invention;

Figure 9 is a schematic perspective structural diagram when an armrest cushion is arranged on the armrest assembly in the use state in the embodiment of the present invention;

Figure 10 is a schematic diagram when an assisting spring is hung between the fixed inner side plate and the movable outer side plate and a guide pin is clamped into a limiting notch in the embodiment; and

Figure 11 is a schematic diagram in which the assisting spring is horizontally hung in the embodiment.

[0025] Reference numerals: armrest assembly A; sofa body B; fixed inner side plate 1; movable outer side plate 2; telescopic assembly 3; armrest cover 4; armrest flexible supporting portion 4a; connecting plate 5; rotating rod 6; upper supporting seat 7; lower supporting seat 8; guide groove 9; guide pin 10; control handle 11; armrest cushion 12; limiting notch 13.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0026] As shown in Figures 1 to 9, the present invention provides a telescopically adjustable sofa armrest assembly A, including a fixed inner side plate 1 connected to a side of a sofa body B, a movable outer side plate 2 parallel to the fixed inner side plate 1 and spaced apart from the fixed inner side plate 1 in a left-right mode, a telescopic assembly 3 and an armrest cover 4, wherein the telescopic assembly 3 is connected between the fixed inner side plate 1 and the movable outer side plate 2, and the telescopic assembly 3 is configured to allow the movable outer side plate 2 to have a closed state in which the movable outer side plate 2 gets close to the fixed inner side plate 1 and an opened state in which the movable outer side plate 2 moves away from the fixed inner side plate 1; the movable outer side plate 2 and the fixed inner side plate 1 are covered with the armrest cover 4, and the movable outer side plate 2, the fixed inner side plate 1 and the telescopic assembly 3 are all hidden in the armrest cover 4, such that the armrest assembly A is simple and attractive. The armrest cover 4 is provided with an armrest flexible supporting portion 4a located between the movable outer side plate 2 and the fixed inner side plate 1; when the armrest assembly A is in a use state, the

movable outer side plate 2 is in the opened state, and the armrest flexible supporting portion 4a is in a tensioned state; at this point, the armrest assembly A has a largest thickness and can be supported and used as a conventional armrest. When the armrest assembly A is required to be packaged and transported, the movable outer side plate 2 moves towards the fixed inner side plate 1 to be in the closed state only through the telescopic assembly 3, and the armrest flexible supporting portion 4a is correspondingly in a loosened state; at this point, the armrest assembly A has a smallest thickness, thereby achieving the effects of compressing the thickness of an armrest and reducing a volume of the armrest assembly A; therefore, a packaging volume of components can be reduced to the maximum extent during packaging and transportation.

[0027] As shown in Figures 2 to 8, the telescopic assembly 3 is of a bilaterally symmetrical structure, and the telescopic assembly 3 includes two connecting plates 5 which are spaced apart left and right and two rotating rods 6 which are arranged between the two connecting plates 5 and crossed and hinged together; specifically, each connecting plate 5 is provided with an upper supporting seat 7 and a lower supporting seat 8 which are vertically spaced apart; as shown in Figures 5 and 6, a longitudinal guide groove 9 is formed in the upper supporting seat 7 of each connecting plate 5, and a guide pin 10 capable of being inserted and in sliding fit in the guide groove 9 is correspondingly arranged at an upper end of each rotating rod 6; centers of the two rotating rods 6 are hinged together, the upper end of any rotating rod 6 is in sliding fit with the guide groove 9 on one connecting plate 5, and a lower end of the rotating rod 6 is hinged to the lower supporting seat 8 of the other connecting plate 5. Thus, as shown in Figures 5 to 8, by controlling the two rotating rods 6 to rotate relatively, the upper end of any rotating rod 6 can slide up and down along the guide groove 9, such that the two connecting plates 5 can be closed and opened; as shown in Figure 6, a limiting notch 13 to which the guide pin 10 can be clamped is further formed in a bottom end of the guide groove 9; in the use state, the guide pin 10 moves downwards along the guide groove 9 to be clamped to the limiting notch 13. Therefore, the guide pin 10 can be limited to prevent the movable outer side plate 2 from easily moving inwards in the use state, and a retracting stopping effect is achieved; when the use state is converted to the packaged state, the movable outer side plate 2 can be impacted inwards by a force, such that the guide pin 10 is separated from the limiting notch 13, and the guide pin 10 can be reversely restored along the guide groove 9. As shown in Figure 2, when the telescopic assembly 3 is specifically applied in the armrest assembly A, one connecting plate 5 is connected to an outer side wall of the fixed inner side plate 1, and the other connecting plate 5 is fixedly connected to an inner side wall of the movable outer side plate 2, such that the movable outer side plate 2 can be closed or opened outwards relative to the fixed inner side plate 1, the force can be directly applied to the movable outer side plate 2, and an adjustment operation is quite convenient. Moreover, at least two telescopic assemblies 3 are arranged between the movable outer side plate 2 and the fixed inner side plate 1, and the telescopic assembly 3 further has the effect of connecting the movable outer side plate 2 and the fixed inner side plate 1, such that a structural connection is more stable.

[0028] Moreover, as shown in Figures 1 to 4, after assembled, the movable outer side plate 2 and the fixed inner side plate 1 are covered with the armrest cover 4, and the armrest cover 4 is a leather cover, such that the movable outer side plate 2, the fixed inner side plate 1 and the armrest cover 4 form the armrest assembly A with a three-dimensional shape; the movable outer side plate 2, the fixed inner side plate 1 and the telescopic assembly 3 are all covered in the armrest cover 4, such that an appearance of the armrest assembly A has no difference from an appearance of a conventional armrest, and the structure is simple and attractive. Furthermore, the armrest cover 4 is further provided with an inner connecting portion connected with the fixed inner side plate 1 in an attached mode and an outer connecting portion connected with the movable outer side plate 2 in an attached mode, and the inner connecting portion and the outer connecting portion are located on two sides of the armrest flexible supporting portion 4a respectively. Therefore, left and right sides of the armrest cover 4 are attached to the fixed inner side plate 1 and the movable outer side plate 2 respectively, such that the structure is attractive; the armrest flexible supporting portion 4a can also better respond to movement of the movable outer side plate 2 to be correspondingly tensioned or closed. A control handle 11 is further arranged on an outer side wall of the armrest assembly A, and the control handle 11 is sewn on the armrest cover 4 at a corresponding position; then, a user can conveniently control the movable outer side plate 2 to move by pulling the control handle 11, such that the adjustment operation is easier and more labor-saving.

[0029] As shown in Figure 9, when the armrest assembly A is in the use state, an armrest cushion 12 is further placed at an upper end of the armrest flexible supporting portion 4a, and the armrest cushion 12 spans the fixed inner side plate 1 and the movable outer side plate 2 in the left-right direction. Then, in the use state, the user can place the arm on the armrest cushion 12, such that use is comfortable; and the fixed inner side plate 1 and the movable outer side plate 2 can effectively support the armrest cushion 12 to guarantee supporting strength.

[0030] Furthermore, as shown in Figure 10, an assisting spring 20 is arranged between the fixed inner side plate 1 and the movable outer side plate 2, and when the movable outer side plate 2 moves away from the fixed inner side plate 1, the assisting spring 20 is deformed to generate an elastic force; specifically, the assisting spring 20 is obliquely arranged between the fixed inner side plate 1 and the movable outer side plate 2, and hook seats 21 are arranged at an upper end of the fixed inner

side plate 1 and a lower end of the movable outer side plate 2 respectively; the hook seats 21 are horizontally spaced apart from the upper supporting seat 7 and the lower supporting seat 8; two ends of the assisting spring 20 are connected to the hook seats 21 respectively; thus, the assisting spring 20 is arranged obliquely, and when the movable outer side plate 2 moves away from the fixed inner side plate 1, the assisting spring 20 is deformed to generate a horizontal component force, such that the movable outer side plate 2 retracts, and the guide pin 10 is automatically clamped into the limiting notch 13.

[0031] In still another embodiment, as shown in Figure 11, the assisting spring 20 is horizontally arranged between the fixed inner side plate 1 and the movable outer side plate 2, and the above effect can also be achieved.

[0032] Then, when a seat is packaged and transported by a manufacturer, the armrest is kept in the closed state, which can reduce the thickness of the armrest and a packaging volume. After the user receives the seat, the armrest can be automatically limited in the opened state by directly pulling the movable outer side plate; the user does not consider to retract the movable outer side plate again after opening the armrest, and keeps the armrest in the opened state to use the seat after pulling out the movable outer side plate.

Claims

1. A telescopically adjustable sofa armrest assembly, comprising:

a fixed inner side plate configured to be connected to a side of a sofa body;
a movable outer side plate parallel to the fixed inner side plate and spaced apart from the fixed inner side plate in a left-right mode;
a telescopic assembly connected between the fixed inner side plate and the movable outer side plate, wherein the telescopic assembly comprises two rotating rods which are crossed and hinged together, and the two rotating rods can rotate relatively to allow the movable outer side plate to have a closed state in which the movable outer side plate gets close to the fixed inner side plate and an opened state in which the movable outer side plate moves away from the fixed inner side plate; and
an armrest cover covering the inner side plate and the outer side plate simultaneously, wherein a part of the armrest cover located between the inner side plate and the outer side plate forms an armrest flexible supporting portion;
in a use state, the movable outer side plate is in the opened state, and the armrest flexible supporting portion is correspondingly tensioned; in a packaged state, the movable outer side plate and the fixed inner side plate are closed to compress a thickness of the armrest assembly, and the armrest flexible supporting portion is loosened correspondingly.

2. The telescopically adjustable sofa armrest assembly according to claim 1, wherein at least two telescopic assemblies are arranged between the fixed inner side plate and the movable outer side plate.

3. The telescopically adjustable sofa armrest assembly according to claim 1, wherein the armrest cover is a cloth cover or a leather cover.

4. The telescopically adjustable sofa armrest assembly according to claim 1, wherein the telescopic assembly is of a bilaterally symmetrical structure, and the telescopic assembly further comprises two connecting plates which are spaced apart left and right and connected with an outer side wall of the fixed inner side plate and an inner side wall of the movable outer side wall respectively; the two rotating rods are arranged between the two connecting plates in a left-right direction; centers of the two rotating rods are hinged together; one end of any rotating rod is hinged to one connecting plate, and the other end of the rotating rod is in longitudinal sliding fit with the other connecting plate.

5. The telescopically adjustable sofa armrest assembly according to claim 4, wherein each connecting plate is provided with an upper supporting seat and a lower supporting seat which are vertically spaced apart; the upper supporting seat is provided with a longitudinal guide groove, and an upper end of each rotating rod is correspondingly provided with a guide pin in slidable fit in the guide groove.

6. The telescopically adjustable sofa armrest assembly according to claim 5, wherein a bottom end of the guide groove is provided with a limiting notch to which the guide pin can be clamped; in the use state, the guide pin moves downwards along the guide groove to be clamped to the limiting notch.

7. The telescopically adjustable sofa armrest assembly according to claim 1, wherein the armrest cover is further provided with an inner connecting portion connected with the fixed inner side plate in an attached mode and an outer connecting portion connected with the movable outer side plate in an attached mode, and the inner connecting portion and the outer connecting portion are located on two sides of the armrest flexible supporting portion respectively.

8. The telescopically adjustable sofa armrest assembly according to claim 7, wherein a control handle is further arranged on an outer side of the armrest

assembly, and the control handle is sewn on the armrest cover at a corresponding position.

9. The telescopically adjustable sofa armrest assembly according to claim 1, wherein in the use state, the armrest cover, the movable outer side plate and the fixed inner side plate form a three-dimensional rectangular structure.

10. The telescopically adjustable sofa armrest assembly according to claim 1, wherein in the use state, an armrest cushion is placed at an upper end of the armrest flexible supporting portion, and the armrest cushion spans the fixed inner side plate and the movable outer side plate in the left-right direction.

11. A telescopically adjustable sofa armrest assembly, comprising:

a fixed inner side plate configured to be connected to a side of a sofa body;
a movable outer side plate parallel to the fixed inner side plate and spaced apart from the fixed inner side plate in a left-right mode;
a telescopic assembly connected between the fixed inner side plate and the movable outer side plate, wherein the telescopic assembly comprises two rotating rods which are crossed and hinged together, and the two rotating rods can rotate relatively to allow the movable outer side plate to have a closed state in which the movable outer side plate gets close to the fixed inner side plate and an opened state in which the movable outer side plate moves away from the fixed inner side plate; each of an inner wall of the fixed inner side plate and an inner wall of the movable outer side plate is provided with an upper supporting seat and a lower supporting seat which are vertically spaced apart; the upper supporting seat is provided with a longitudinal guide groove; a guide pin in sliding fit with the guide groove is arranged at an end portion of the rotating rod; one end of any rotating rod is in sliding fit with the upper supporting seat, and the other end of the rotating rod is hinged to the lower supporting seat which is obliquely opposite to the upper or lower supporting seat; a horizontal limiting notch is formed in an end portion of the guide groove of one upper or lower supporting seat;
an assisting spring arranged between the fixed inner side plate and the movable outer side plate, wherein when the movable outer side plate moves away from the fixed inner side plate, the assisting spring deforms to generate an elastic force; and
an armrest cover covering the fixed inner side plate and the movable outer side plate simultaneously, wherein a part of the armrest cover located between the fixed inner side plate and the movable outer side plate forms an armrest flexible supporting portion;
in a use state, the movable outer side plate is in the opened state, and the armrest flexible supporting portion is tensioned correspondingly; the movable outer side plate moves from a closed position to an opened position relative to the fixed inner side plate, such that the guide pin slides to the end portion of the guide groove; the assisting spring is correspondingly stretched and deformed and provides a pulling force for horizontally restoring the movable outer side plate, such that the guide pin horizontally moves and is clamped into the limiting notch.

12. The telescopically adjustable sofa armrest assembly according to claim 11, wherein the guide groove is longitudinally and obliquely arranged; and from top to bottom, any guide groove extends and is inclined towards a center of the rotating rod.

13. The telescopically adjustable sofa armrest assembly according to claim 11, wherein the assisting spring is obliquely arranged between the fixed inner side plate and the movable outer side plate.

14. The telescopically adjustable sofa armrest assembly according to claim 11, wherein the assisting spring is horizontally arranged between the fixed inner side plate and the movable outer side plate.

15. The telescopically adjustable sofa armrest assembly according to claim 13 or 14, wherein a hook seat is arranged at each of an upper end of the fixed inner side plate and a lower end of the movable outer side plate; the hook seats are horizontally spaced apart from the upper supporting seat and the lower supporting seat; two ends of the assisting spring are connected to the hook seats respectively.

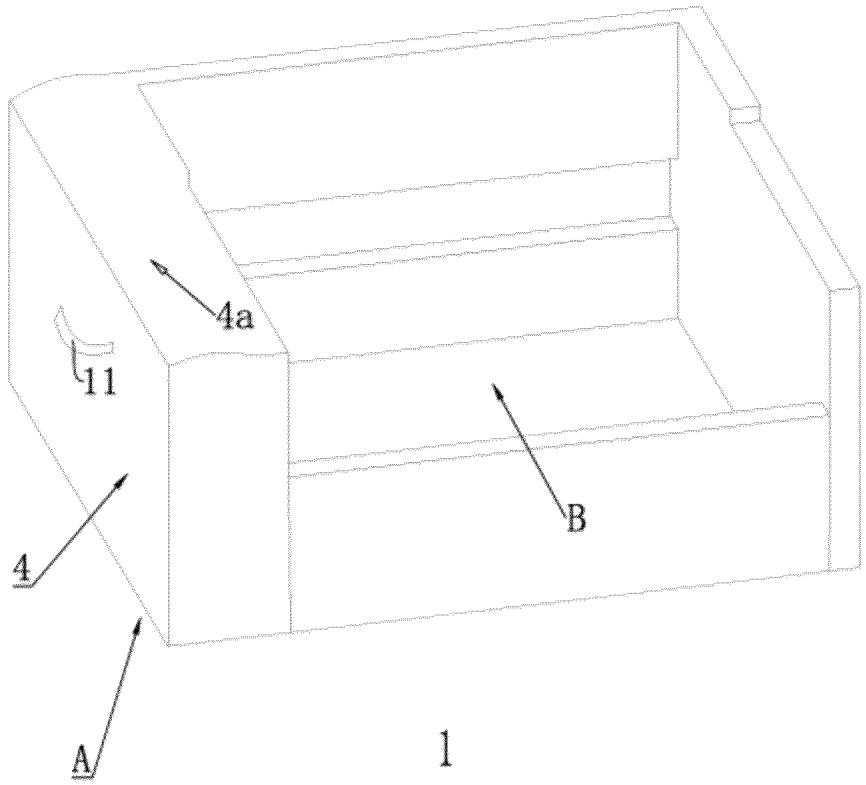

Figure 1

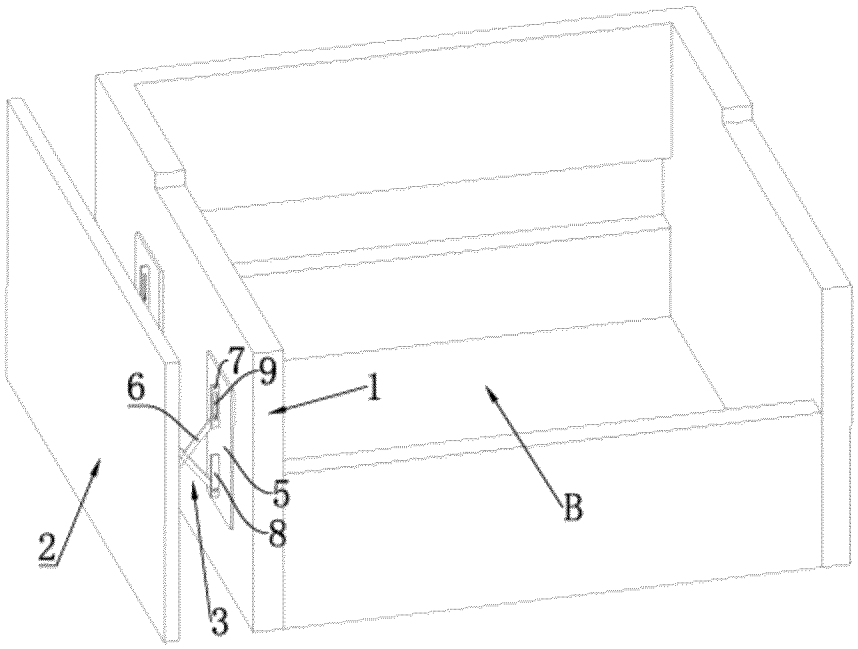

Figure 2

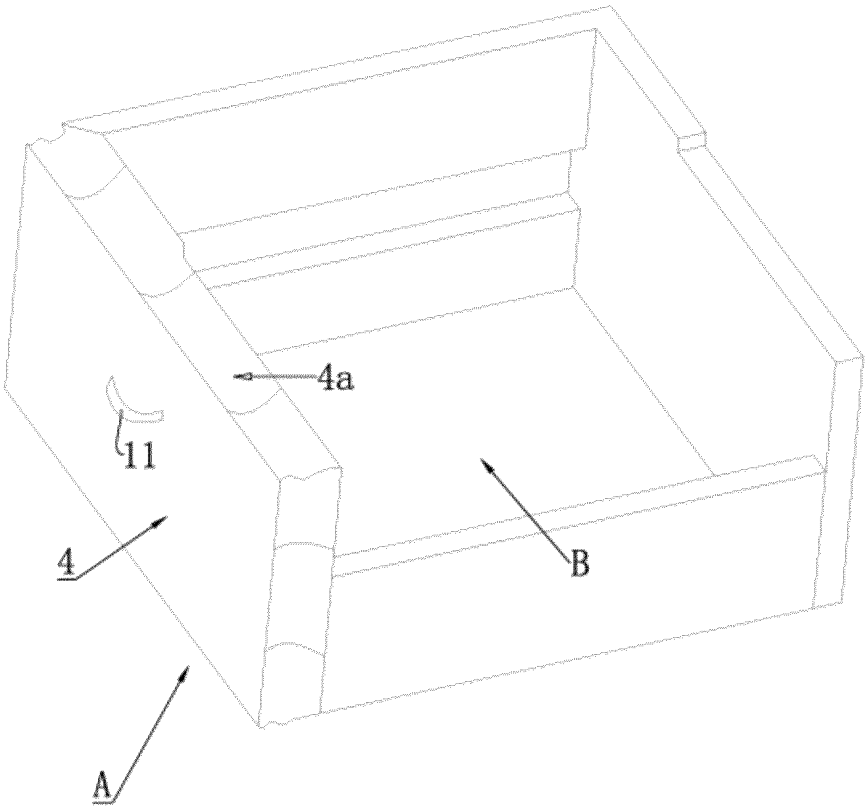

Figure 3

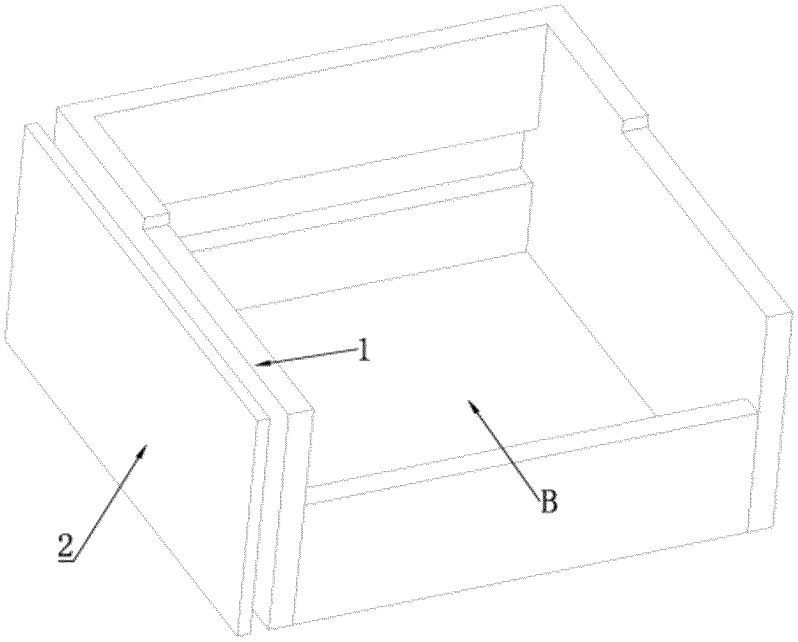

Figure 4

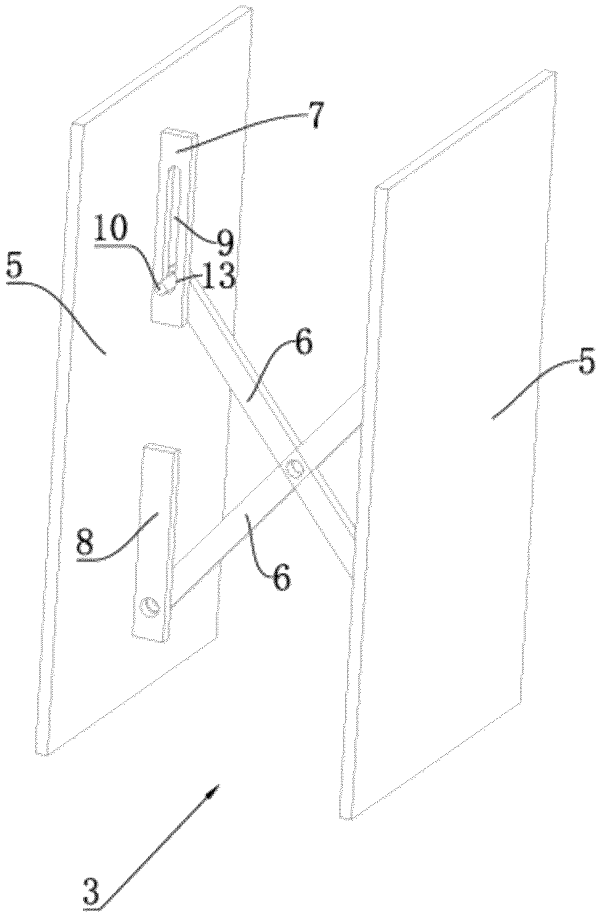

Figure 5

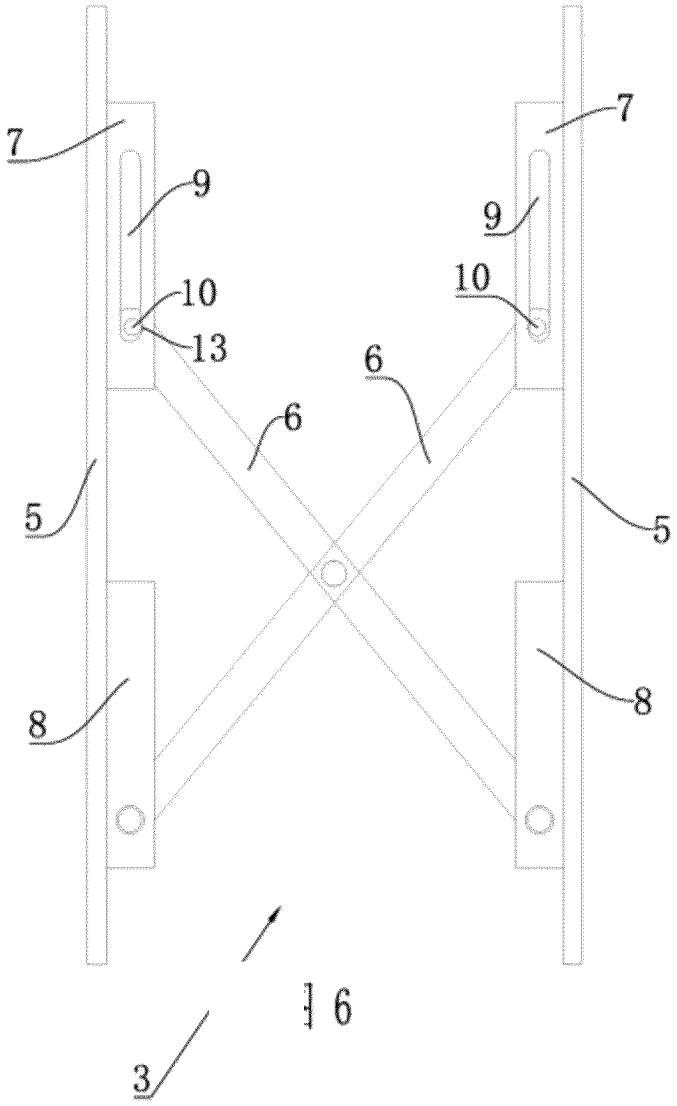

Figure 6

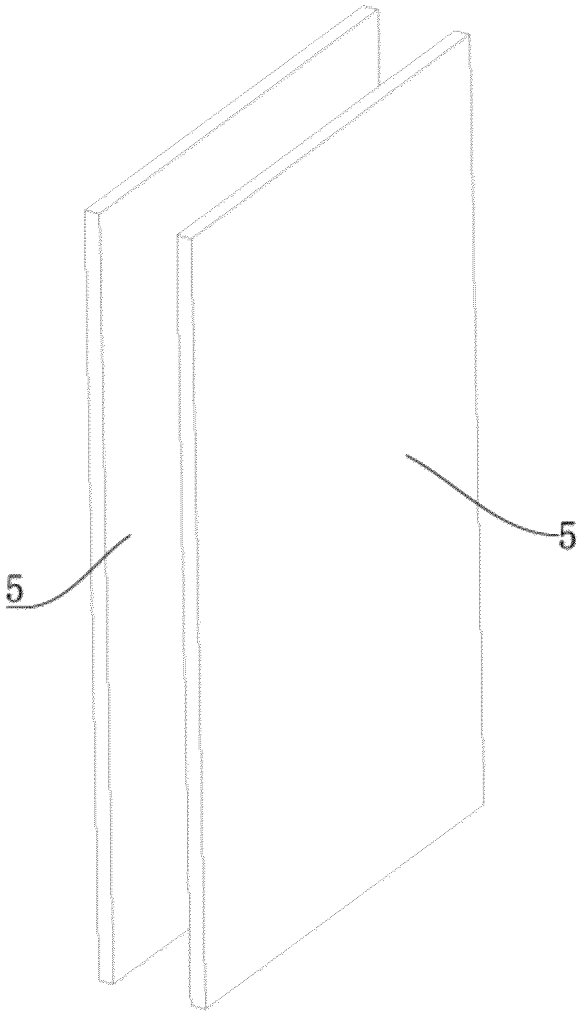

Figure 7

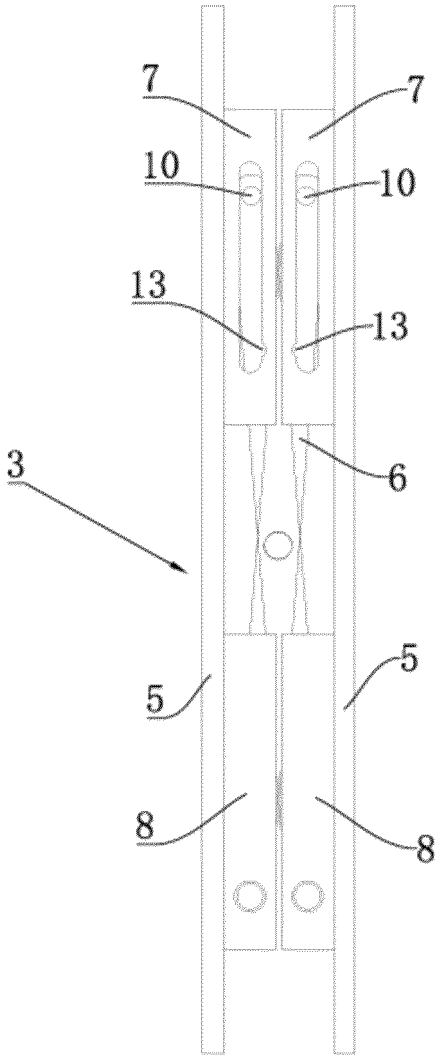

Figure 8

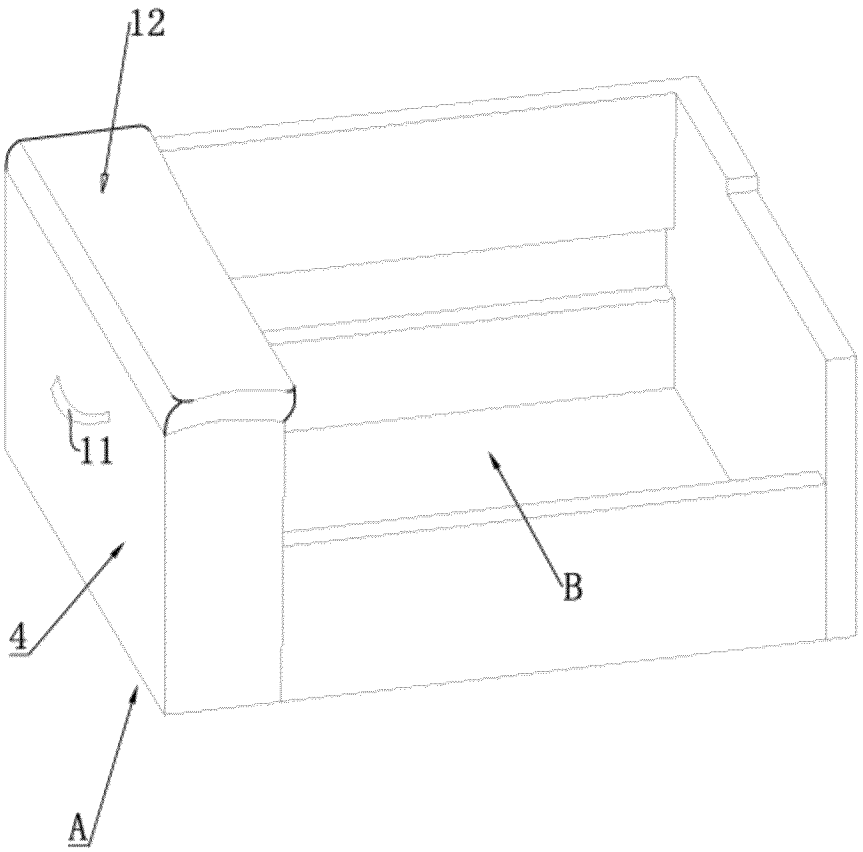

Figure 9

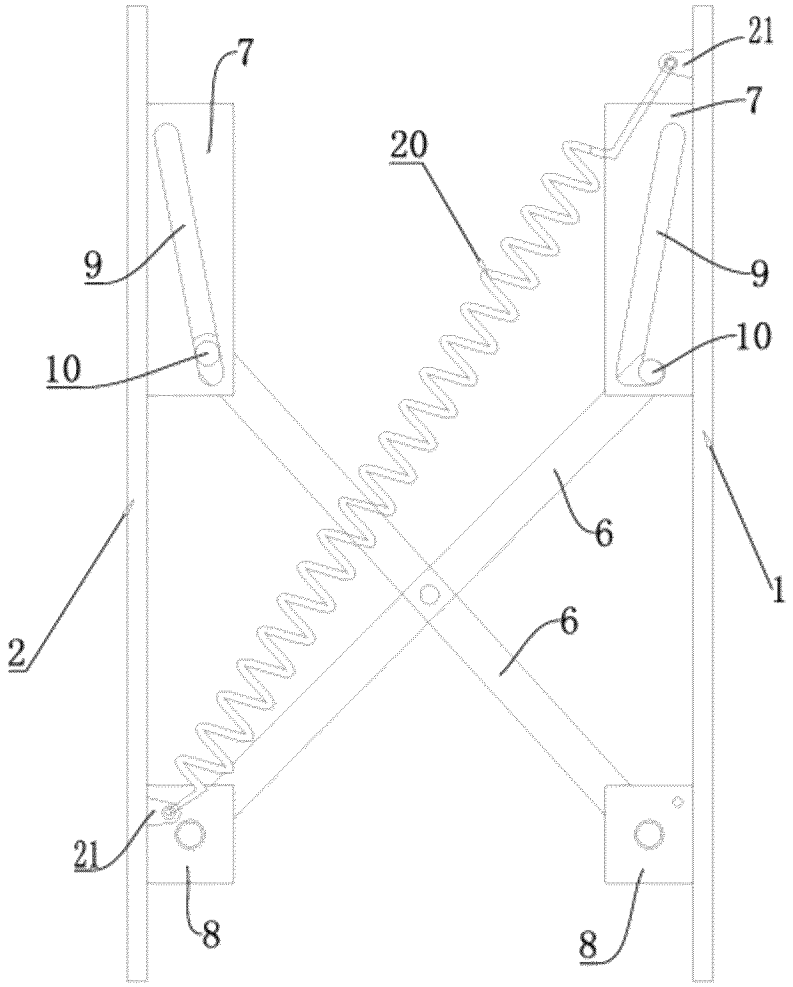

Figure 10

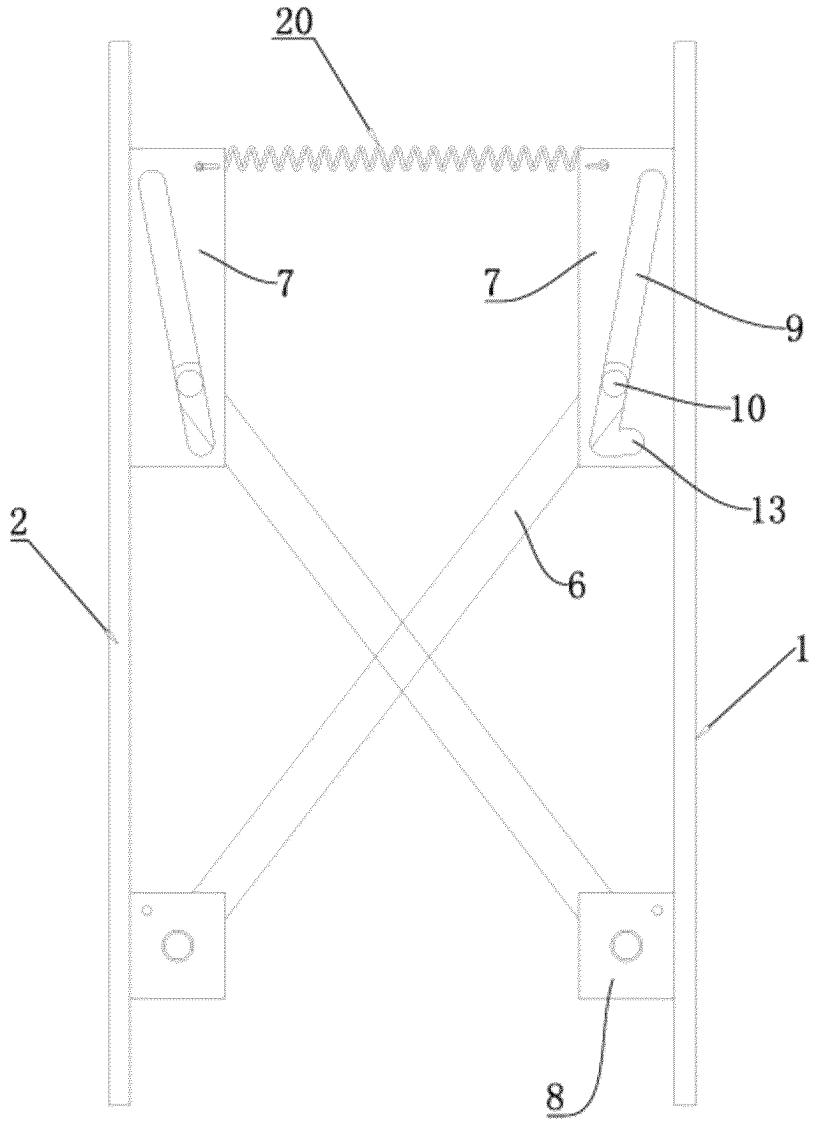

Figure 11

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2022/134963

A. CLASSIFICATION OF SUBJECT MATTER

A47C17/86(2006.01)i;A47C17/04(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A47C17/-

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CNTXT, ENTXTC, VEN, DWPI, CNKI: 沙发, 扶手, 槽, 侧板, 打开, 叠, 伸缩, 收缩, 展开, 运输, 打包, 包装, 转动, 杆, 铰接, 交叉, sofa, telescop+, adjust+, fold+, open, transport+, packag+, side plate, rotat+, bar, rod, pole, hinge+

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CN 215456761 U (ANJI WANBAO SMART HOME TECHNOLOGY CO., LTD.) 11 January 2022 (2022-01-11) description, paragraphs [0032]-[0037], and figures 1-6	1-15
A	CN 212591222 U (LIN FENG) 26 February 2021 (2021-02-26) entire document	1-15
A	CN 108523512 A (GUANGDONG JUCHEN INTELLECTUAL PROPERTY AGENCY CO., LTD.) 14 September 2018 (2018-09-14) entire document	1-15
A	CN 215304405 U (HAIYAN QUANYING FURNITURE TECHNOLOGY CO., LTD.) 28 December 2021 (2021-12-28) entire document	1-15
A	CN 209031606 U (JIANGXI WINER HOME FURNISHING CO., LTD.) 28 June 2019 (2019-06-28) entire document	1-15

☑ Further documents are listed in the continuation of Box C. ☑ See patent family annex.

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"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
17 March 2023	**30 March 2023**

Name and mailing address of the ISA/CN	Authorized officer
China National Intellectual Property Administration (ISA/CN) **China No. 6, Xitucheng Road, Jimenqiao, Haidian District, Beijing 100088**	
Facsimile No. **(86-10)62019451**	Telephone No.

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INTERNATIONAL SEARCH REPORT

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PCT/CN2022/134963

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CN 114916789 A (YICHUN YIMING SMART HOME TECHNOLOGY CO., LTD.) 19 August 2022 (2022-08-19) entire document	1-15
A	US 2021235879 A1 (ELEPHANT IN A BOX, INC.) 05 August 2021 (2021-08-05) entire document	1-15

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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CN2022/134963

Patent document cited in search report	Publication date (day/month/year)	Patent family member(s)	Publication date (day/month/year)
CN 215456761 U	11 January 2022	None	
CN 212591222 U	26 February 2021	None	
CN 108523512 A	14 September 2018	None	
CN 215304405 U	28 December 2021	None	
CN 209031606 U	28 June 2019	None	
CN 114916789 A	19 August 2022	None	
US 2021235879 A1	05 August 2021	US 11246424 B2	15 February 2022
		WO 2019206390 A2	31 October 2019

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