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(54) **OFFICE SOUNDPROOF COMPARTMENT AND MOUNTING METHOD THEREOF**  
SCHALLDICHTES FACH FÜR BÜRO UND MONTAGEVERFAHREN DAFÜR  
COMPARTIMENT DE BUREAU INSONORISÉ ET SON PROCÉDÉ DE MONTAGE

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## Description

### TECHNICAL FIELD

**[0001]** The present disclosure relates to the field of equipment technologies providing a relatively private and soundproof space in a public place, and in particular to an office soundproof compartment and a mounting method thereof.

### BACKGROUND

**[0002]** A soundproof compartment, which is also called office soundproof compartment, independent hut, private compartment, or miniature meeting compartment or the like, is placed in an office area or a public place. Due to good soundproof performance, it can be used for two or three persons to meet, talk, express emotions, perform video call or perform video live streaming or the like without suffering external environmental interferences. In an office soundproof compartment in the related arts, its structure comprises a cubic closed compartment body, where a door board for entering the compartment body is disposed on a sidewall of the compartment body. The office soundproof compartments in the related arts usually have the following defects: firstly, the office soundproof compartment in the related arts is an integral office soundproof compartment with its height usually being about two meters and therefore can occupy a large space during factory-leaving packaging or transportation, so as to increase transportation and packaging costs; further, it is very inconvenient for users to handle it due to large volume. Secondly, for an office soundproof compartment with a spliced compartment body, it is required to disassemble each part for packaging so as to save packaging space and transportation space, but users need to assemble each part according to the positions indicated in the installation manual during a mounting or assembling process, and especially in the mounting process, the users need to take more time to determine a correct mounting position of the parts, each of which is to be mounted by bolts or screws, leading to time-consuming and strenuous mounting and assembling operations.

**[0003]** CN213509738U discloses an office soundproof compartment having

- a lower compartment body comprising a seat and a plurality of lower compartment plates;
- an upper compartment body comprising top plates and a plurality of upper compartment plates; the top plates being maintained in extended or retracted state relative to the lower compartment body; and
- a compartment door, disposed on a sidewall of a same side of the upper compartment body and the lower compartment body for people to enter the compartment body.

## SUMMARY

**[0004]** The technical problem to be solved by the present disclosure is to provide an office soundproof compartment which can save packaging costs, occupy less transportation space, help handling and can be mounted simply, conveniently and quickly, so as to overcome the defects in the prior arts.

**[0005]** The technical solution of the present disclosure is to provide an office soundproof compartment with the following structure, comprising:

a lower compartment body, comprising a seat, telescoping columns and a plurality of lower compartment plates, where the seat, the telescoping columns and the plurality of lower compartment plates are enclosed to form the lower compartment body with top opened and surrounding closed;

an upper compartment body, comprising top plates and a plurality of upper compartment plates, where the top plates are connected to the telescoping columns and can move in synchronization with the telescoping columns and thus the top plates are maintained in extended or retracted state relative to the lower compartment body; one end of at least one of the upper compartment plates is connected to the lower compartment body, and the other end is detachably connected with the top plate when the top plate is in extended state; when the top plates are in extended state, the top plates, the telescoping columns and all the upper compartment plates are enclosed to form the upper compartment body with lower end opened and surrounding closed; the bottom of the upper compartment body is connected to the top of the lower compartment body; and after the upper compartment plates are separated from the upper compartment body, the top plates can move to the retracted state along with the telescoping columns;

a compartment door, disposed on a sidewall of a same side of the upper compartment body and the lower compartment body for people to enter the compartment body.

**[0006]** In some embodiments, the office soundproof compartment further comprises a lifting mechanism. The lifting mechanism comprises a first component and a second component movable relative to the first component. The first component is connected to the lower compartment body and the second component is connected to the top plate to enable the top plate to move up and down along with the second component and thus the top plate is maintained in extended or retracted state relative to the lower compartment body. The lifting mechanism is disposed inside the telescoping columns. Furthermore, the lifting mechanism may be movably disposed inside the upper compartment body and the lower compartment body.

**[0007]** In some embodiments, the office soundproof compartment may further comprise a drive mechanism which is connected to the top plate and is in transmission connection with the lifting mechanism so as to drive the lifting mechanism to move up and down.

**[0008]** In some embodiments, there are a plurality of lifting mechanisms which are respectively disposed inside corresponding telescoping columns. The first component is connected to the outer tube of the telescoping column and the second component is connected to the inner tube of the telescoping column to drive the inner tube of the telescoping column to move relative to the outer tube and hence make the telescoping column extend or retract.

**[0009]** In some embodiments, there are four lifting mechanisms and four telescoping columns, and the four telescoping columns are respectively connected to four corners of the lower compartment body while connected to the top plates respectively; the drive mechanism comprises two drive motors, each of which is in transmission connection with two lifting mechanisms; or the drive mechanism comprises one drive motor which is in transmission connection with the four lifting mechanisms.

**[0010]** In some embodiments, a lower end of at least one upper compartment plate of the upper compartment body is hinged to the top of the lower compartment body, and when the top plates are in extended state, the upper compartment plates are rotated upward to connect bottoms of the top plates.

**[0011]** In some embodiments, the lower ends of two upper compartment plates are hinged respectively to both sides of the top of the lower compartment body, where the two upper compartment plates are disposed at two opposed sides of the upper compartment body.

**[0012]** In some embodiments, at least one movable lock plate capable of extending out of or retracting into the upper compartment plates hinged to the top of the lower compartment body is connected inside the upper compartment plates. When the upper compartment plate is rotated upward to connect with the bottom of the top plate, the lock plate may extend upward out of the upper compartment plate to fit with the top plate so as to fix the upper compartment plate.

**[0013]** In some embodiments, the upper compartment body may further comprise support plates in one-to-one correspondence with the telescoping columns. When the telescoping columns are in extended state, the support plates are correspondingly wrapped on the telescoping columns, with the upper ends of the support plates abutted against the bottoms of the top plates and the lower ends of the support plates abutted against the top of the lower compartment body. The support plates are used to compensate a thickness difference between the movable part and the fixing part of the telescoping columns and support the top plates.

**[0014]** In some embodiments, one lower compartment plate of the lower compartment body is movably connected to one telescoping column to form a lower half part

of the compartment door, where a handle is disposed on the compartment door; one upper compartment plate vertically opposed to the lower half part of the compartment door in the upper compartment body is movably connected to one telescoping column to form an upper half part of the compartment door; the upper compartment plate and the lower compartment plate of the compartment door are both disposed as transparent.

**[0015]** In some embodiments, slide wheels are connected at the bottom of the seat and/or a plurality of height-adjustable support feet are connected at the bottom of the seat.

**[0016]** In conclusion, compared with the related arts, the office soundproof compartment of the present disclosure has the following advantages: when the office soundproof compartment is mounted by a user after purchase, the telescoping columns are firstly extended and at this time, the telescoping columns can enable the top plates of the upper compartment body to extend. After the top plates are extended out, the basic frame of the upper compartment body is formed, and then the upper compartment plates are mounted in sequence. When the upper compartment plates are mounted, at least one of the upper compartment plates may be only connected to the top plate, which reduces the mounting process of at least some upper compartment plates and top plates. Thus, the office soundproof compartment can be simply, conveniently and quickly assembled. Similarly, during factory-leaving packaging and transportation of the office soundproof compartment, the upper compartment plates may be firstly dismounted, where at least some upper compartment plates are simply separated from the top plates; then the telescoping columns are retracted while the top plates are moved close to the lower compartment body so as to reduce the volume, save the packaging costs, occupy less transportation space, and help the handling.

**[0017]** Another technical solution of the present disclosure provides an office soundproof compartment with the following structure, comprising:

a lower compartment body, comprising a seat, telescoping columns and a plurality of lower compartment plates, where the seat, the telescoping columns and the plurality of lower compartment plates are enclosed to form the lower compartment body with top opened and surrounding closed;

an upper compartment body, comprising top plates, a fixed side plate and a plurality of upper compartment plates, where the top plates are connected to the telescoping columns and move in synchronization with the telescoping columns and thus the top plates are maintained in extended or retracted state relative to the lower compartment body; the fixed side plate is vertically disposed and connected to the top plate and is capable of extending out or retracting along with the top plate; one end of at least one of the upper compartment plates is connected to the lower

compartment body and the other end is detachably connected to the top plate when the top plate is in extended state; when the top plates are in extended state, the top plates, the fixed side plate, the telescoping columns and all the upper compartment plates are enclosed to form the upper compartment body with lower end opened and surrounding closed; the bottom of the upper compartment body is connected to the top of the lower compartment body; and after the upper compartment plates are separated from the upper compartment body, the top plates and the fixed side plate move to the retracted state along with the telescoping columns; a compartment door, disposed on a sidewall of a same side of the upper compartment body and the lower compartment body for people to enter the compartment body.

**[0018]** In some embodiments, two slide grooves with opposed openings are connected on two inner sidewalls of the lower compartment body and disposed at a side of the lower compartment body away from the compartment door. Further, the fixed side plate is cooperated slidably in the two slide grooves.

**[0019]** In some embodiments, a soft sealing strip extending along a length direction of the slide grooves and capable of being attached to the surface of the fixed side plate is connected to an inner wall of the slide grooves.

**[0020]** In some embodiments, the office soundproof compartment further comprises a lifting mechanism. The lifting mechanism comprises a first component and a second component movable relative to the first component. The first component is connected to the lower compartment body and the second component is connected to the top plate to enable the top plate to move up and down along with the second component and thus the top plate is maintained in extended or retracted state relative to the lower compartment body. The lifting mechanism is disposed inside the telescoping columns. Alternatively, the lifting mechanism may be movably disposed inside the upper compartment body and the lower compartment body.

**[0021]** In some embodiments, the office soundproof compartment may further comprise a drive mechanism which is connected to the top plate and is in transmission connection with the lifting mechanism so as to drive the lifting mechanism to move up and down.

**[0022]** In some embodiments, there are four lifting mechanisms and four telescoping columns. The four telescoping columns are respectively connected to four corners of the lower compartment body, and also respectively connected to the top plates; the drive mechanism comprises two drive motors, each of which is in transmission connection with two lifting mechanisms respectively; or the drive mechanism comprises one drive motor which is in transmission connection with the four lifting mechanisms respectively.

**[0023]** In some embodiments, the lower end of at least

one upper compartment plate of the upper compartment body is hinged to the top of the lower compartment body, and when the top plate is in extended state, the upper compartment plate is enabled to rotate upward to connect with the bottom of the top plate.

**[0024]** In some embodiments, the lower ends of two upper compartment plates are hinged to both sides of the top of the lower compartment body respectively and the two upper compartment plates are also disposed at both sides of the fixed side plate respectively.

**[0025]** In conclusion, compared with the related arts, the office soundproof compartment provided by another embodiment of the present disclosure has the following advantages: when the office soundproof compartment is mounted by a user after purchase, the telescoping columns are firstly extended and at this time, the telescoping columns can enable the top plates of the upper compartment body to extend together with the fixed side plate, where the fixed side plate serves as a partial sidewall of the upper compartment body. After the top plates and the fixed side plate are extended out, the basic frame of the upper compartment body is formed, and then the upper compartment plates are mounted in sequence. When the upper compartment plates are mounted, at least one of the upper compartment plates may be only connected to the top plate, which reduces the mounting process of at least some upper compartment plates and top plates. Thus, the office soundproof compartment can be simply, conveniently and quickly assembled. Similarly, during factory-leaving packaging and transportation of the office soundproof compartment, the upper compartment plates may be firstly dismounted, where at least some upper compartment plates are simply separated from the top plates; then the telescoping columns are retracted while the top plates are moved close to the lower compartment body so as to reduce the volume, save the packaging costs, occupy less transportation space, and help the handling.

**[0026]** Another technical solution of the present disclosure provides a mounting method of an office soundproof compartment, where, the office soundproof compartment comprises:

a lower compartment body, comprising a seat and four telescoping columns connected to four corners of the seat, where a lower compartment plate is connected between two adjacent telescoping columns, and the lower compartment plates, the telescoping columns and the seat are enclosed to form the lower compartment body with top opened and surrounding closed;

an upper compartment body, comprising top plates and a fixed side plate, where the top plates are connected to the four telescoping columns to enable the top plates to move up and down along with the telescoping columns and thus the top plates are maintained in extended or retracted state relative to the lower compartment body; the fixed side plate is

vertically disposed and connected to the top plate and is capable of extending out or retracting along with the top plates; the upper compartment body further comprises three upper compartment plates: a first upper compartment plate, a second upper compartment plate and a third upper compartment plate, where the first upper compartment plate and the second upper compartment plate are disposed at both sides of the fixed side plate, with their lower ends hinged to the lower compartment body; the upper compartment body further comprises four support plates in one-to-one correspondence with the four telescoping columns;

a lifting mechanism, comprising a first component and a second component movable relative to the first component, where the first component is connected to the lower compartment body and the second component is connected to the top plate to enable the top plate to move up and down along with the second component, and thus the top plate is maintained in extended or retracted state relative to the lower compartment body;

a drive mechanism, connected to the top plates and being in transmission connection with the lifting mechanisms to drive the lifting mechanisms.

**[0027]** The mounting method may comprise the following steps:

S1: the drive mechanism is started to drive four telescoping columns to extend out and hence the top plates and the fixed side plate are in extended state relative to the lower compartment body 1;

S2: the four support plates are respectively connected to the four telescoping columns with the upper ends of the support plates abutted against the bottoms of the top plates and the lower ends of the support plates abutted against the top of the lower compartment body;

S3: the first upper compartment plate and the second upper compartment plate are rotated upward to enable the upper ends of the first upper compartment plate and the second upper compartment plate to be connected with the bottoms of the top plates respectively;

S4: the third upper compartment plate is mounted such that the top plates, the fixed side plate, the three upper compartment plates and the four telescoping columns to are enclosed to form the upper compartment body with lower end opened and surrounding closed.

**[0028]** In conclusion, compared with the related arts, the mounting method of the office soundproof compartment provided by the present disclosure has the following advantages: in the mounting method of the office soundproof compartment, after the office soundproof compartment is purchased by a user, the office soundproof com-

partment can be assembled by the following method without aligning each component: the drive mechanism is firstly started to bring the lifting mechanisms to move and thus the telescoping columns are extended out while the top plates and the fixed side plate are extended out synchronously; at this time, the basic frame of the upper compartment body is formed, and the fixed side plate can serve as one sidewall of the upper compartment body; then, four support plates are respectively wrapped on the four telescoping columns, and the four support plates compensate a thickness difference between the movable part and the fixing part of the telescoping columns, and further, a mounting space for mounting the upper compartment plates is formed between adjacent telescoping columns; the user then rotates up the first upper compartment plate and the second upper compartment plate to enable the tops of the first upper compartment plate and the second upper compartment plate to be connected with the bottoms of the top plates; finally, the third upper compartment plate is mounted. Since the first upper compartment plate and the second upper compartment plate are pre-hinged to the lower compartment body, that is, since their mounting positions are already determined, it is not required to take time to determine the correct mounting positions of the first upper compartment plate and the second upper compartment plate, saving time. After the first upper compartment plate and the second upper compartment plate are respectively connected, there is only one side left un-mounted for the entire upper compartment body. At this time, the remaining third upper compartment plate is connected at this side. Therefore, the three upper compartment plates can be quickly and easily mounted without taking time to determine their mounting positions. The mounting method of the office soundproof compartment helps the user to perform the mounting process more simply, more conveniently and move quickly after purchase, bringing good experiences to the users.

## **BRIEF DESCRIPTIONS OF THE DRAWINGS**

**[0029]**

FIG. 1 is a structural schematic diagram illustrating an office soundproof compartment according to some embodiments of the present disclosure.

FIG. 2 is a schematic diagram of another angle illustrating an office soundproof compartment according to some embodiments of the present disclosure.

FIG. 3 is a structural schematic diagram illustrating a mounted state of an office soundproof compartment according to some embodiments of the present disclosure.

FIG. 4 is a schematic diagram of another angle illustrating a mounted state of an office soundproof compartment according to some embodiments of the present disclosure.

FIG. 5 is a sectional structural schematic diagram illustrating an office soundproof compartment according to some embodiments of the present disclosure.

FIG. 6 is an enlarged structural schematic diagram of the part A in FIG. 5.

FIG. 7 is an enlarged structural schematic diagram of the part B in FIG. 5.

FIG. 8 is a schematic diagram illustrating an assembling structure of a top plate of an office soundproof compartment according to some embodiments of the present disclosure.

FIG. 9 is a sectional structural schematic diagram illustrating a fixed side plate of an office soundproof compartment according to some embodiments of the present disclosure.

FIG. 10 is a structural schematic diagram illustrating a first upper compartment plate of an office soundproof compartment according to some embodiments of the present disclosure.

FIG. 11 is a sectional structural schematic diagram illustrating a movable lock plate of an office soundproof compartment according to some embodiments of the present disclosure.

FIG. 12 is a structural schematic diagram illustrating an office soundproof compartment according to some other embodiments of the present disclosure.

FIG. 13 is a schematic diagram illustrating the mounting of an upper compartment plate of an office soundproof compartment according to some other embodiments of the present disclosure.

FIG. 14 is a schematic diagram illustrating the mounting of a support plate of an office soundproof compartment according to some other embodiments of the present disclosure.

**[0030]** Numerals of the drawings are described below: 1. lower compartment body, 100. seat, 101. telescoping column, 102. lower compartment plate, 103. slide groove, 104. sealing strip, 1010. outer tube, 1011. inner tube, 1012. gear box, 1013. second component, 1014. first component, 1015. driving nut, 2. upper compartment body, 200. top plate, 201. first upper compartment plate, 202. second upper compartment plate, 203. third upper compartment plate, 204. support plate, 205. fixed side plate, 206. fourth upper compartment plate, 3. compartment door, 300. handle, 4. drive motor, 400. transmission rod, 5. slide wheel, 6. support foot, 7. lock plate, 700. drive mouth, 701. base, 702. rack, 703. drive gear.

## DETAILED DESCRIPTIONS OF EMBODIMENTS

**[0031]** Firstly, those skilled in the arts should understand that these embodiments are used only to interpret the technical principle of the embodiments of the present disclosure rather than limit the scope of protection of the embodiments of the present disclosure. Those skilled in the arts can make adjustment thereto to adapt to the

specific application scenarios.

**[0032]** In the descriptions of the embodiments of the present disclosure, it should be noted that, unless otherwise clearly stated or defined, the terms "connect" and "couple", and the like shall be understood in a broad sense, for example, may be fixed connection, or detachable connection, or formed into one piece; or may be mechanical connection, or electrical connection; or direct connection or indirect connection through an intermediate medium. Those skilled in the art may understand the specific meanings of the above terms in the present disclosure according to actual situations.

**[0033]** In the embodiments of the present disclosure, unless otherwise clearly stated or defined, the first feature being "on" or "below" the second feature refers to that the first feature and the second feature are in direct contact, or the first feature and the second feature are in indirect contact through an intermediate medium. Furthermore, the first feature being "above" or "on" the second feature refers to that the first feature is exactly above or obliquely above the second feature, or only refers to that the first feature has a higher horizontal height than the second feature. The first feature being "under" or "below" the second feature refers to that the first feature is exactly under or obliquely below the second feature, or only refers to that the first feature has a smaller horizontal height than the second feature.

**[0034]** The present disclosure will be further detailed below in combination with drawings and specific embodiments.

**[0035]** As shown in FIGS. 1 to 11, an embodiment of the present disclosure provides an office soundproof compartment, which structurally comprises a lower compartment body 1 and an upper compartment body 2. The lower compartment body 1 comprises a seat 100 and a plurality of lower compartment plates 102. Four vertically-disposed telescoping columns 101 are connected at four corners of the seat 100. The lower compartment plates 102 are connected between two adjacent telescoping columns 101. In this embodiment, there are four lower compartment plates 102, and the seat 100, the four lower compartment plates 102 and the four telescoping columns 101 are jointly enclosed to form the lower compartment body 1 with bottom and surrounding closed and top opened.

**[0036]** The telescoping columns 101 in this embodiment may be electrically-lifted telescoping columns or manually-lifted telescoping columns. The basic structure of the telescoping columns 101 comprises an outer tube and an inner tube, where the inner tube is slidably cooperated in an inner hole of the outer tube and can extend or retract axially relative to the outer tube. It can be easily understood that when the inner tube slidably extends or retracts relative to the outer tube, the telescoping can be driven manually or by another lifting mechanism which at least comprises a lifter and a hydraulic jack and the like. Specifically, the another lifting mechanism may be disposed inside the telescoping columns; or, the another

lifting mechanism may be disposed outside the telescoping columns, for example, disposed in the upper compartment body or the lower compartment body, and when the lifting action is completed, the another lifting mechanism may be moved out. This use can be repeated to reduce the costs.

**[0037]** As shown in FIGS. 1, 2, 3, and 4, in this embodiment, the upper compartment body 2 of the office soundproof compartment comprises top plates 200 and a fixed side plate 205. The top plates 200 are connected with the telescoping columns 101 such that the top plates 200 can move up and down along with the telescoping columns 101 and thus the top plates 200 are in an extended or retracted state relative to the lower compartment body 1. The fixed side plate 205 is vertically disposed and connected to the top plate 200 and can extend or retract along with the top plate 200. The upper compartment body 2 further comprises a plurality of upper compartment plates, one end of which is connected to the lower compartment body 1 and the other end is detachably connected with the top plates 200 when the top plates 200 are in extended state. The top plates 200, the fixed side plate 205, the telescoping columns 101 and the upper compartment plates are enclosed to form the upper compartment body 2 with bottom opened and surrounding closed.

**[0038]** In this embodiment, the office soundproof compartment further comprises a compartment door 3 which is disposed on a sidewall of a same side of the upper compartment body 2 and the lower compartment body 1 for people to enter the compartment body. In order to help open the compartment door 3, a handle 300 is disposed on the compartment door 3 and one side of the compartment door 3 is rotatably connected to the telescoping column 101 to enable the compartment door 3 to be rotatably opened or closed. Specifically, one lower compartment plate 102 of the lower compartment body 1 is movably connected to one telescoping column 101 to form a lower half part of the compartment door 3, and an upper compartment plate horizontally opposed to the fixed side plate 205 in the upper compartment body 2 is movably connected to one telescoping column 101 to form an upper half part of the compartment door 3. It can be easily understood that the bottom of the upper half part of the compartment door 3 is connected to the top of the lower half part of the compartment door 3 to enable the compartment door 3 to be entirely rotatably opened or closed.

**[0039]** In this embodiment, the upper compartment plate of the upper half part of the compartment door 3 and the lower compartment plate 102 of the lower half part of the compartment door 3 are both disposed as transparent such that there will be better light inside the office soundproof compartment.

**[0040]** By referring to FIGS. 3 and 4 again, when the office soundproof compartment is mounted by a user after purchase, the telescoping columns 101 are firstly extended by using the lifting mechanism and at this time,

the telescoping columns 101 can enable the top plates 200 of the upper compartment body 2 to synchronously extend together with the fixed side plate 205. The fixed side plate 205 extends out to serve as a partial sidewall of the upper compartment body 2, namely, there is no need to mount one upper compartment plate on a sidewall of the upper compartment body 2 where the fixed side plate 205 is located. Moreover, after the top plates 200 and the fixed side plate 205 extend out, the basic frame of the upper compartment body 2 is formed, and then the upper compartment plates are mounted in sequence. In this way, the number of the upper compartment plates is reduced and the mounting procedure of the top plates 200 is saved, and thus, the office soundproof compartment can be quickly and easily mounted. Similarly, during factory-leaving packaging and transportation of the office soundproof compartment, the upper compartment plates may be firstly dismounted and the telescoping columns 101 are retracted while the top plates 200 and the fixed side plate 205 are also retracted; hence, the top plates 200 are moved close to the lower compartment body 1 so as to reduce the volume, save the packaging costs, occupy less transportation space, and help the handling.

**[0041]** With reference to FIGS. 5 to 8, in this embodiment, the telescoping columns 101 comprise an outer tube 1010 and an inner tube 1011. The inner tube 1011 is slidably cooperated in an inner hole of the outer tube 1010 and can extend or retract axially relative to the outer tube. The outer tube 1010 is connected to the seat 100 to form a fixing part of the telescoping columns 101. A length of the outer tube 1010 matches a height of the lower compartment body 1. The inner tube 1011 forms a movable part of the telescoping columns 101 with its extending height matching a height of the upper compartment body 2. In this embodiment, the outer tube 1010 and the inner tube 1011 each are integrally formed with profile material and can be axially slid but circumferentially rotatably limited.

**[0042]** In this embodiment, the office soundproof compartment further comprises a lifting mechanism. The lifting mechanism comprises a first component 1014 and a second component 1013 movable relative to the first component 1014. The first component 1014 is connected to the lower compartment body 1 and the second component 1013 is connected to the top plate 200 to enable the top plate 200 to move up and down along with the second component 1013 and thus the top plate 200 is maintained in extended or retracted state relative to the lower compartment body 1. The lifting mechanism is disposed inside the telescoping columns 101. Furthermore, the lifting mechanism may further comprise a gear box 1012 mounted at the top end of the inner tube 1011. A power input end of the gear box 1012 is in transmission connection with a drive mechanism and a power output end of the gear box 1012 is connected to the vertically-disposed second component 1013. The vertically-disposed first component 1014 is connected in the inner hole of the outer tube 1010. The second component 1013

is in clearance fit with the first component 1014. Further, a driving nut 1015 thread-connected with the second component 1013 is connected on an inner wall of the first component 1014. When the second component 1013 rotates, the inner tube 1011 can extend or retract relative to the outer tube 1010.

**[0043]** With reference to FIGS. 5 to 8, in some embodiments, the office soundproof compartment may further comprise a drive mechanism which is connected to the top plate 200 and is in transmission connection with the lifting mechanism so as to drive the lifting mechanism to move up and down. The drive mechanism is a drive motor 4. When the office soundproof compartment is mounted, the drive motor 4 may be started such that the drive motor 4 drives the lifting mechanism to bring the telescoping column 101 to automatically move up and down, resulting in simple and convenient operations. Specifically, in this embodiment, there are four telescoping columns 101 which are respectively connected to four corners of the seat 100, and the four telescoping columns 101 are respectively connected to the top plates 200. In this embodiment, there are also four lifting mechanisms which are disposed inside four telescoping columns 101 respectively. In this embodiment, the drive mechanism comprises two drive motors 4, each of which is in transmission connection with two lifting mechanisms, namely, two drive motors 4 are mounted at both sides of the top of the top plates 200 such that one drive motor 4 drives two lifting mechanisms to move up and down by a transmission rod 400.

**[0044]** In other embodiments, the drive mechanism may also comprise one drive motor 4 which drives four lifting mechanisms and hence moves the four telescoping columns 101 up and down by a transmission component; or, the drive mechanism may also comprise four drive motors 4 which are respectively connected inside four telescoping columns 101 and in transmission connection with the lifting mechanisms in the telescoping columns 101.

**[0045]** In other embodiments, there may be one or two or three lifting mechanisms which are disposed in some telescoping columns 101 and driven to move up and down by one or more drive motors 4; or the lifting mechanisms may also be disposed outside the telescoping columns 101.

**[0046]** In other embodiments, the lifting mechanism may also be an electric push rod. In other words, a mutually-sleeved screw-nut assembly is disposed inside the telescoping columns. The outer tube may be fixedly connected with a screw and the inner tube is fixedly connected with a nut. Further, a built-in motor is disposed in the telescoping columns to drive the screw to spin and hence generate a relative position change between the screw and the nut, and therefore achieve relative position change between the inner tube and the outer tube. Moreover, a control button and a control box are disposed on a surface of the seat and/or the telescoping columns to achieve synchronous movement of the four telescoping

columns by one button. In this way, the office soundproof compartment can be more easily and quickly assembled. Of course, the lifting mechanism may also be another common lifting structure such as gas spring or hydraulic push rod or the like.

**[0047]** By referring to FIGS. 3 and 4 again, in some embodiments, the lower end of at least one upper compartment plate of the upper compartment body 2 is hinged to the top of the lower compartment body 1, and when the top plate 200 is in extended state, the upper compartment plate is enabled to rotate upward to connect with the bottom of the top plate 200. Furthermore, the lower ends of two upper compartment plates are hinged to both sides of the top of the lower compartment body 1 respectively and the two upper compartment plates are also disposed at both sides of the fixed side plate 205 respectively. In this embodiment, there are three upper compartment plates disposed: a first upper compartment plate 201, a second upper compartment plate 202 and a third upper compartment plate 203. The first upper compartment plate 201 and the second upper compartment plate 202 are respectively disposed at both sides of the fixed side plate 205 while the first upper compartment plate 201 and the second upper compartment plate 202 are opposed to each other. The bottoms of the first upper compartment plate 201 and the second upper compartment plate 202 are respectively hinged to the top of the lower compartment body 1 by hinging pins. When the office soundproof compartment leaves factory, the first upper compartment plate 201 and the second upper compartment plate 202 are pre-mounted, that is, the lower ends of the first upper compartment plate 201 and the second upper compartment plate 202 are connected to the lower compartment body 1 by hinging pins. When the telescoping columns 101 extend out and the upper compartment body 2 is to be assembled, it is only required to rotate up the first upper compartment plate 201 and the second upper compartment plate 202 to enable the tops of the first upper compartment plate 201 and the second upper compartment plate 202 to be connected with the bottoms of the top plates 200. It is not necessary to take time to determine the correct mounting positions of the first upper compartment plate 201 and the second upper compartment plate 202, thus saving time. Furthermore, after the first upper compartment plate 201 and the second upper compartment plate 202 are connected, there is only one side left un-mounted for the entire upper compartment body 2. At this time, the remaining third upper compartment plate 203 may be connected at this side. Therefore, the three upper compartment plates can be easily mounted without taking time to determine their mounting positions.

**[0048]** With reference to FIGS. 10 and 11, in some embodiments, at least one movable lock plate 7 capable of extending out of or retracting into the upper compartment plates hinged to the top of the lower compartment body 1 is connected inside the upper compartment plates. When the upper compartment plate is rotated

upward to connect with the bottom of the top plate 200, the lock plate 7 may extend upward out of the upper compartment plate to fit with the top plate 200 so as to fix the upper compartment plate. In this embodiment, the movable lock plate 7 comprises a base 701 mounted inside the upper compartment plate. The lock plate 7 capable of extending out of or retracting into the upper compartment plate is cooperated slidably in the base 701. A rack 702 is disposed on the lock plate 7, a drive gear 703 meshed with the rack 702 is rotatably connected in the base 701 and a drive mouth 700 rotating the drive gear 703 is exposed out of the upper compartment plate. In this case, when the drive mouth 700 of the drive gear 703 is rotated by a tool, the drive gear 703 can be rotated, so as to drive the lock plate 7 to move up and down, that is, extend out of or retract into the upper compartment plate. The lock plate 7 may extend out of the upper compartment plate to fit with the top plate 200 so as to enable the upper end of the upper compartment plate to connect the top plate 200.

**[0049]** In other embodiments, the movable lock plate 7 may also be an elastic buckle or elastic barb connected to the top of the upper compartment plates. Further, the upper ends of the upper compartment plates may be connected to the top plates 200 by screws such that the upper compartment plates can be more simply and quickly connected to the top plates 200.

**[0050]** By referring to FIG. 3 again, in some embodiments, the upper compartment body 2 may further comprise support plates 204 in one-to-one correspondence with the telescoping columns 101. When the telescoping columns 101 are in extended state, the support plates 204 are wrapped on the telescoping columns 101, with the upper ends of the support plates 204 abutted against the bottoms of the top plates 200 and the lower ends of the support plates 204 abutted against the top of the lower compartment body 1. The support plates 204 are used to compensate a thickness difference between the movable part and the fixing part of the telescoping columns 101. The support plates 204 can prevent the top plates 200 from automatically sliding down and achieve supporting effect on the top plates 200 and the telescoping columns 101 in extended state. Furthermore, after the office soundproof compartment is mounted, the surface of the outer sidewall of the upper compartment body 2 and the lower compartment body 1 can be entirely flat due to the disposal of the support plates 204. Moreover, after the support plates 204 are mounted, a mounting space for mounting the upper compartment plates is formed between two adjacent support plates 204. After the upper compartment plates are mounted, there is a small gap or no gap between the upper compartment plates and the support plates 204, so as to achieve good soundproofing effect for the office soundproof compartment.

**[0051]** Furthermore, in order to improve the soundproofing effect of the office soundproof compartment, a sealing gasket is used at the connection of the lower compartment body 1 and the upper compartment body 2

and the connection of the lower compartment plates 102 and the upper compartment plates; in addition, a soundproof cotton may be disposed inside the lower compartment plates 102 and the upper compartment plates to improve the soundproofing effect.

**[0052]** By referring to FIGS. 3 and 9, in some embodiments, two slide grooves 103 with opposed openings are connected on two inner sidewalls of the lower compartment body 1 and disposed at a side of the lower compartment body 1 away from the compartment door 3. Further, the fixed side plate 205 is cooperated slidably in the two slide grooves 103. When the telescoping columns 101 drive the top plates 200 and the fixed side plate 205 to move up and down, the disposal of the two slide grooves 103 can achieve guiding effect on the movement of the fixed side plate 205 and prevent the fixed side plate 205 from swinging during slide process. In this way, it is ensured that the fixed side plate 205 can move up and down stably. In this embodiment, the two slide grooves 103 are integrally formed by the outer tubes 1010 of two telescoping columns 101, that is, the slide grooves 103 are integrally formed on the profile material of the outer tubes 1010 of the telescoping columns 101. Therefore, it is not required to mount independent slide grooves 103, making its structure more compact.

**[0053]** Furthermore, in some embodiments, a soft sealing strip 104 extending along a length direction of the slide grooves 103 and capable of being attached to the surface of the fixed side plate 205 is connected to an inner wall of the slide grooves 103. The soft sealing strips 104 are of a rubber material. The disposal of the soft sealing strips 104 can not only reduce the swing of the fixed side plate 205 during slide process but also achieve sealing effect on the edges of both sides of the fixed side plate 205, achieving good soundproofing effect of the office soundproof compartment.

**[0054]** By referring to FIG. 4 again, in order to help to change the position of the office soundproof compartment, slide wheels 5 are connected at the bottom of the seat 100. Further, in order to help adjust the standing stability of the office soundproof compartment, a plurality of height-adjustable support feet 6 are connected at the bottom of the seat 100. The support feet 6 are connected to the bottom of the seat 100 by screws, and can be adjusted in height by rotating the support feet 6.

**[0055]** By referring to FIGS. 12, 13 and 14, in some other embodiments, the structure of the office soundproof compartment may comprise a lower compartment body 1 and an upper compartment body 2, where the lower compartment body 1 comprises a seat 100 and a plurality of lower compartment plates 102. Four vertically-disposed telescoping columns 101 are connected at four corners of the seat 100, and the lower compartment plates 102 are connected between two adjacent telescoping columns 101. In this embodiment, there are four lower compartment plates 102, and the seat 100, the four lower compartment plates 102 and the four telescoping columns 101 are jointly enclosed to form the lower com-

partment body 1 with bottom and surrounding closed and top opened. Furthermore, in this embodiment, there are four upper compartment plates: a first upper compartment plate 201, a second upper compartment plate 202, a third upper compartment plate 203 and a fourth upper compartment plate 206. The first upper compartment plate 201 and the second upper compartment plate 202 are disposed at both sides of the upper compartment body 2 respectively such that the first upper compartment plate 201 is opposed to the second upper compartment plate 202, and the bottoms of the first upper compartment plate 201 and the second upper compartment plate 202 are hinged to the top of the lower compartment body 1 by hinging pins respectively. The third upper compartment plate 203 and the fourth upper compartment plate 206 are respectively disposed at another two sides such that the third upper compartment plate 203 is opposed to the fourth upper compartment plate 206, where the third upper compartment plate 203 is an upper half part of the compartment door 3. When the office soundproof compartment leaves factory, the first upper compartment plate 201 and the second upper compartment plate 202 are pre-mounted, namely, the lower ends of the first upper compartment plate 201 and the second upper compartment plate 202 are connected to the lower compartment body 1 by hinging pins. When the telescoping columns 101 extend out and the upper compartment body 2 is to be assembled, it is only required to rotate up the first upper compartment plate 201 and the second upper compartment plate 202 to enable the tops of the first upper compartment plate 201 and the second upper compartment plate 202 to be connected with the bottoms of the top plates 200. It is not necessary to take time to determine the correct mounting positions of the first upper compartment plate 201 and the second upper compartment plate 202, thus saving time. Furthermore, after the first upper compartment plate 201 and the second upper compartment plate 202 are connected, there are only two sides left un-mounted for the entire upper compartment body 2. At this time, the third upper compartment plate 203 and the fourth upper compartment plate 206 can be connected at the two sides. Therefore, the four upper compartment plates can be easily mounted for the upper compartment body 2 without taking time to determine their mounting positions.

**[0056]** Another embodiment of the present disclosure provides a mounting method of an office soundproof compartment. The office soundproof compartment comprises a lower compartment body 1 and an upper compartment body 2, where the lower compartment body 1 comprises a seat 100 and four telescoping columns connected at four corners of the seat 100. A lower compartment plate 102 is connected between two adjacent telescoping columns 101. The lower compartment plates 102, the telescoping columns 101 and the seat 100 are enclosed to form the lower compartment body 1 with top opened and surrounding closed. The upper compartment body 2 comprises a top plate 200 and a fixed side

plate 205. The top plates are connected to the four telescoping columns 101 to enable the top plates 200 to synchronously move up and down along with the telescoping columns 101, and thus the top plates 200 are maintained in an extended or retracted state relative to the lower compartment body 1. The fixed side plate 205 is vertically disposed and connected to the top plate 200 and can extend or retract in synchronization with the top plate 200. The upper compartment body 2 further comprises three upper compartment plates: a first upper compartment plate 201, a second upper compartment plate 202 and a third upper compartment plate 203. The first upper compartment plate 201 and the second upper compartment plate 202 are disposed at both sides of the fixed side plate 205, with their lower ends hinged to the lower compartment body 1 respectively. The upper compartment body 2 further comprises four support plates 204 in one-to-one correspondence with the four telescoping columns 101. The office soundproof compartment further comprises a lifting mechanism and a drive mechanism. The lifting mechanism is disposed inside each telescoping column 101 and comprises a first component 1014 and a second component 1013 movable relative to the first component 1014. The first component 1014 is connected to the lower compartment body 1 and the second component 1013 is connected to the top plate 200 to enable the top plate 200 to move up and down along with the second component 1013. Thus, the top plate 200 is maintained in extended or retracted state relative to the lower compartment body 1. The drive mechanism is connected to the top plates 200 and is in respective transmission connection with the lifting mechanisms to drive the lifting mechanisms and hence move the telescoping columns 104 up and down.

**[0057]** The office soundproof compartment in this embodiment may be mounted after purchase by the following method: S1: the drive motor 4 is started to drive the lifting mechanisms to extend out four telescoping columns 101 and hence the top plates 200 and the fixed side plate 205 are in extended state relative to the lower compartment body 1; S2: the four support plates 204 are respectively connected to the four telescoping columns 101 with the upper ends of the support plates 204 abutted against the bottoms of the top plates 200 and the lower ends of the support plates 204 abutted against the top of the lower compartment body 1; S3: the first upper compartment plate 201 and the second upper compartment plate 202 are rotated upward to enable the upper ends of the first upper compartment plate 201 and the second upper compartment plate 202 to be connected with the bottoms of the top plates 200 respectively; S4: the third upper compartment plate 203 is mounted to enable the top plates 200, the fixed side plate 205, the three upper compartment plates and the four telescoping columns 101 to be enclosed to form the upper compartment body 2 with lower end opened and surrounding closed.

**[0058]** In the mounting method of the office soundproof

compartment, after the office soundproof compartment is purchased by a user, the office soundproof compartment can be assembled by the following method without aligning each component: the drive mechanism is firstly started to extend out the telescoping columns 101, while the top plates 200 and the fixed side plate 205 are extended out; at this time, the basic frame of the upper compartment body 2 is formed, and the fixed side plate 205 can serve as one sidewall of the upper compartment body 2; then, four support plates 204 are respectively wrapped on the four telescoping columns 101, and the four support plates 204 compensate a thickness difference between the movable part and the fixing part of the telescoping columns 101, and further, a mounting space for mounting the upper compartment plates is formed between adjacent telescoping columns 101; the user then rotates up the first upper compartment plate 201 and the second upper compartment plate 202 to enable the tops of the first upper compartment plate 201 and the second upper compartment plate 202 to be connected with the bottoms of the top plates 200; finally, the third upper compartment plate 203 is mounted. Since the first upper compartment plate 201 and the second upper compartment plate 202 are pre-hinged to the lower compartment body 1, that is, since their mounting positions are already determined, it is not required to take time to determine the correct mounting positions of the first upper compartment plate 201 and the second upper compartment plate 202, saving time. After the first upper compartment plate 201 and the second upper compartment plate 202 are respectively connected, there is only one side left un-mounted for the entire upper compartment body 2. At this time, the remaining third upper compartment plate 203 is connected at this side. Therefore, the three upper compartment plates can be quickly and easily mounted without taking time to determine their mounting positions. The mounting method of the office soundproof compartment helps the user to perform the mounting process more simply, more conveniently and move quickly after purchase, bringing good experiences to the users.

**[0059]** In the descriptions of the embodiments of the present disclosure, it is noted that, in the descriptions of the present disclosure, the terms "inner", "outer" and the like indicating direction or positional relationship are based on the direction or positional relationship shown in drawings and are used for the purpose of ease of descriptions rather than indicating or implying the device or member must have a specific orientation or be constructed or operated in a specific orientation and thus these terms shall not be understood as limiting of the present disclosure.

**[0060]** In the descriptions of the present disclosure, the descriptions by referring to the terms "one embodiment", "some embodiments" "in this embodiment", "specific example" or "some examples" or the like mean that the specific features, mechanisms, materials or characteristics described in combination with this embodiment or

example are incorporated in at least one embodiment or example of the present disclosure. In this specification, the illustrative expressions of the above terms are not necessarily directed to same embodiment or example. Furthermore, the described specific features, mechanisms, materials or characteristics may be combined in an appropriate way in one or more embodiments or examples. Moreover, in a case of no conflicts, those skilled in the arts may perform combination for different embodiments or examples and the features of different embodiments or examples in the specification.

**[0061]** The above descriptions are only the specific embodiments of the present disclosure but the scope of protection of the present disclosure is not limited hereto. All changes or substitutions those skilled in the arts can easily conceive of within the technical scope of the present disclosure shall fall within the scope of protection of the present disclosure. Therefore, the scope of protection of the present disclosure shall be indicated by the claims.

## Claims

1. An office soundproof compartment, wherein the compartment comprises

a lower compartment body (1), comprising a seat (100), telescoping columns (101) and a plurality of lower compartment plates (102); the seat, the telescoping columns and the plurality of lower compartment plates are enclosed to form the lower compartment body with top opened and surrounding closed;

an upper compartment body (2), comprising top plates (200) and a plurality of upper compartment plates (201, 202, 203) the top plates are connected to the telescoping columns and can move in synchronization with the telescoping columns and the top plates are maintained in extended or retracted state relative to the lower compartment body; one end of at least one of the upper compartment plates is connected to the lower compartment body, and the other end is detachably connected with the top plate when the top plate is in extended state; when the top plates are in extended state, the top plates, the telescoping columns and all the upper compartment plates are enclosed to form the upper compartment body with lower end opened and surrounding closed; the bottom of the upper compartment body is connected to the top of the lower compartment body; and after the upper compartment plates are separated from the upper compartment body, the top plates can move to the retracted state along with the telescoping columns;

a compartment door (3), disposed on a sidewall

of a same side of the upper compartment body and the lower compartment body for people to enter the compartment body.

2. The office soundproof compartment of claim 1, wherein the upper compartment body further comprises a fixed side plate; the fixed side plate is vertically disposed and connected to the top plate and is capable of extending out or retracting along with the top plate; when the top plates are in extended state, the top plates, the fixed side plate, the telescoping columns and all the upper compartment plates are enclosed to form the upper compartment body with lower end opened and surrounding closed;; and after the upper compartment plates are separated from the upper compartment body, the top plates and the fixed side plate move to the retracted state along with the telescoping columns. 5 10 15
3. The office soundproof compartment of claim 1 or claim 2, wherein the office soundproof compartment further comprises a lifting mechanism; the lifting mechanism comprises a first component and a second component movable relative to the first component; the first component is connected to the lower compartment body and the second component is connected to the top plate to enable the top plate to move up and down along with the second component and thus the top plate is maintained in extended or retracted state relative to the lower compartment body; the lifting mechanism is disposed inside the telescoping columns, and/or the lifting mechanism can be movably disposed inside the upper compartment body and the lower compartment body. 20 25 30
4. The office soundproof compartment of claim 3, wherein the office soundproof compartment further comprises a drive mechanism which is connected to the top plate and is in transmission connection with the lifting mechanism to drive the lifting mechanism to move up and down. 35 40
5. The office soundproof compartment of claim 4, wherein there are a plurality of lifting mechanisms which are respectively disposed inside corresponding telescoping columns; the first component is connected to the outer tube of the telescoping column and the second component is connected to the inner tube of the telescoping column to drive the inner tube of the telescoping column to move relative to the outer tube and make the telescoping column extend or retract. 45 50
6. The office soundproof compartment of claim 4 or claim 5, wherein there are four lifting mechanisms and four telescoping columns; the four telescoping columns are respectively connected to four corners of the lower compartment body, and respectively 55

connected to the top plates; the drive mechanism comprises two drive motors, each of which is in transmission connection with two lifting mechanisms respectively; or the drive mechanism comprises one drive motor which is in transmission connection with the four lifting mechanisms respectively.

7. The office soundproof compartment of claim 1 or claim 2, wherein the lower end of at least one upper compartment plate of the upper compartment body is hinged to the top of the lower compartment body, and when the top plate is in extended state, the upper compartment plate is enabled to rotate upward to connect with the bottom of the top plate.
8. The office soundproof compartment of claim 7, wherein the lower ends of two upper compartment plates are hinged respectively to both sides of the top of the lower compartment body, and the two upper compartment plates are disposed at two opposed sides of the upper compartment body.
9. The office soundproof compartment of claim 8, wherein at least one movable lock plate capable of extending out of or retracting into the upper compartment plates hinged to the top of the lower compartment body is connected inside the upper compartment plates; when the upper compartment plate is rotated upward to connect with the bottom of the top plate, the lock plate may extend upward out of the upper compartment plate to fit with the top plate to fix the upper compartment plate.
10. The office soundproof compartment of claim 6, wherein the upper compartment body further comprises support plates in one-to-one correspondence with the telescoping columns; when the telescoping columns are in extended state, the support plates are correspondingly wrapped on the telescoping columns, with the upper ends of the support plates abutted against the bottoms of the top plates and the lower ends of the support plates abutted against the top of the lower compartment body; the support plates are used to compensate a thickness difference between the movable part and the fixing part of the telescoping columns and support the top plates.
11. The office soundproof compartment of claim 1, wherein one lower compartment plate of the lower compartment body is movably connected to one telescoping column to form a lower half part of the compartment door, and a handle is disposed on the compartment door; one upper compartment plate vertically opposed to the lower half part of the compartment door in the upper compartment body is movably connected to one telescoping column to form an upper half part of the compartment door; the upper compartment plate and the lower compart-

ment plate of the compartment door are both disposed as transparent.

12. The office soundproof compartment of claim 2, wherein two slide grooves with opposed openings are connected on two inner sidewalls of the lower compartment body and disposed at a side of the lower compartment body away from the compartment door; the fixed side plate is cooperated slidably in the two slide grooves. 5 10
13. The office soundproof compartment of claim 12, wherein a soft sealing strip extending along a length direction of the slide grooves and capable of being attached to the surface of the fixed side plate is connected to an inner wall of the slide grooves. 15
14. The office soundproof compartment of claim 7, wherein the lower ends of two upper compartment plates are hinged to both sides of the top of the lower compartment body respectively and the two upper compartment plates are disposed at both sides of the fixed side plate respectively. 20
15. A mounting method of an office soundproof compartment, wherein the office soundproof compartment comprises: 25  
a lower compartment body (1), comprising a seat (100) and four telescoping columns (101) connected to four corners of the seat; a lower compartment plate is connected between two adjacent telescoping columns, and the lower compartment plates, the telescoping columns and the seat are enclosed to form the lower compartment body with top opened and surrounding closed; 30  
an upper compartment body (2), comprising top plates (200) and a fixed side plate (205); the top plates are connected to the four telescoping columns to enable the top plates to move up and down along with the telescoping columns and thus the top plates are maintained in extended or retracted state relative to the lower compartment body; the fixed side plate is vertically disposed and connected to the top plate and is capable of extending out or retracting along with the top plates; the upper compartment body further comprises three upper compartment plates (201, 202, 203): 35  
a first upper compartment plate, a second upper compartment plate and a third upper compartment plate, and the first upper compartment plate and the second upper compartment plate are disposed at both sides of the fixed side plate, with their lower ends hinged to the lower compartment body; the upper compartment body further comprises four support plates in one- 40 45 50 55

to-one correspondence with the four telescoping columns;

a lifting mechanism, comprising a first component and a second component movable relative to the first component; the first component is connected to the lower compartment body and the second component is connected to the top plate to enable the top plate to move up and down along with the second component, and the top plate is maintained in extended or retracted state relative to the lower compartment body; a drive mechanism, connected to the top plates and being in transmission connection with the lifting mechanisms to drive the lifting mechanisms; the mounting method comprises the following steps:

S1: the drive mechanism is started to drive four telescoping columns to extend out and hence the top plates and the fixed side plate are in extended state relative to the lower compartment body 1;

S2: the four support plates are respectively connected to the four telescoping columns with the upper ends of the support plates abutted against the bottoms of the top plates and the lower ends of the support plates abutted against the top of the lower compartment body;

S3: the first upper compartment plate and the second upper compartment plate are rotated upward to enable the upper ends of the first upper compartment plate and the second upper compartment plate to be connected with the bottoms of the top plates respectively;

S4: the third upper compartment plate is mounted such that the top plates, the fixed side plate, the three upper compartment plates and the four telescoping columns to are enclosed to form the upper compartment body with lower end opened and surrounding closed.

## Patentansprüche

1. - Schalldichte Bürokabine, wobei die Kabine einen unteren Kabinenkörper (1) umfasst, umfassend einen Sitz (100), Teleskopsäulen (101) und eine Vielzahl von unteren Kabinenplatten (102); 50

der Sitz, die Teleskopsäulen und die Vielzahl von unteren Kabinenplatten eingeschlossen sind, um den unteren Kabinenkörper zu bilden, wobei die Oberseite offen und die Umgebung geschlossen ist;

- einen oberen Kabinenkörper (2), umfassend Deckplatten (200) und eine Vielzahl von oberen Kabinenplatten (201, 202, 203); wobei die Deckplatten mit den Teleskopsäulen verbunden sind und sich synchron mit den Teleskopsäulen bewegen können, und die Deckplatten in einem ausgefahrenen oder eingezogenen Zustand in Bezug auf den unteren Kabinenkörper gehalten werden; ein Ende von mindestens einer der oberen Kabinenplatten mit dem unteren Kabinenkörper verbunden ist und das andere Ende lösbar mit der Deckplatte verbunden ist, wenn die Deckplatte in dem ausgefahrenen Zustand ist; wenn die Deckplatten in dem ausgefahrenen Zustand sind, die Deckplatten, die Teleskopsäulen und alle oberen Kabinenplatten eingeschlossen sind, um den oberen Kabinenkörper zu bilden, wobei das untere Ende offen und die Umgebung geschlossen ist; der Boden des oberen Kabinenkörpers mit der Oberseite des unteren Kabinenkörpers verbunden ist; und nachdem die oberen Kabinenplatten von dem oberen Kabinenkörper getrennt sind, sich die Deckplatten zusammen mit den Teleskopsäulen in den eingefahrenen Zustand bewegen können;
- eine Kabinentür (3), die an einer Seitenwand einer gleichen Seite des oberen Kabinenkörpers und des unteren Kabinenkörpers angeordnet ist, damit Personen in den Kabinenkörper eintreten können.
2. - Schalldichte Bürokabine nach Anspruch 1, wobei der obere Kabinenkörper ferner eine feststehende Seitenplatte umfasst; die feststehende Seitenplatte vertikal angeordnet und mit der Deckplatte verbunden ist und in der Lage ist, zusammen mit der Deckplatte ausgefahren oder eingezogen zu werden; wenn die Deckplatten in dem ausgefahrenen Zustand sind, die Deckplatten, die feststehende Seitenplatte, die Teleskopsäulen und alle oberen Kabinenplatten eingeschlossen sind, um den oberen Kabinenkörper zu bilden, wobei das untere Ende offen und die Umgebung geschlossen ist; und nachdem die oberen Kabinenplatten von dem oberen Kabinenkörper getrennt sind, sich die Deckplatten und die feststehende Seitenplatte zusammen mit den Teleskopsäulen in den eingefahrenen Zustand bewegen.
  3. - Schalldichte Bürokabine nach Anspruch 1 oder Anspruch 2, wobei die schalldichte Bürokabine ferner einen Hebemechanismus umfasst; der Hebemechanismus umfasst eine erste Komponente und eine zweite Komponente, die in Bezug auf die erste Komponente bewegbar ist, umfasst; die erste Komponente mit dem unteren Kabinenkörper verbunden ist und die zweite Komponente mit der Deckplatte verbunden ist, um es der oberen Platte zu ermöglichen, sich zusammen mit der zweiten Komponente auf und ab zu bewegen und somit die obere Platte in einem ausgefahrenen oder eingezogenen Zustand in Bezug auf den unteren Kabinenkörper zu halten; der Hebemechanismus innerhalb der Teleskopsäulen angeordnet ist, und/oder der Hebemechanismus bewegbar innerhalb des oberen Kabinenkörpers und des unteren Kabinenkörpers angeordnet sein kann.
  4. - Schalldichte Bürokabine nach Anspruch 3, wobei die schalldichte Bürokabine ferner einen Antriebsmechanismus umfasst, der mit der Deckplatte verbunden ist und in Übertragungsverbindung mit dem Hebemechanismus ist, um den Hebemechanismus anzutreiben, um sich auf und ab zu bewegen.
  5. - Schalldichte Bürokabine nach Anspruch 4, wobei es eine Vielzahl von Hebemechanismen gibt, die jeweils innerhalb entsprechender Teleskopsäulen angeordnet sind; die erste Komponente mit dem äußeren Rohr der Teleskopsäule verbunden ist und die zweite Komponente mit dem inneren Rohr der Teleskopsäule verbunden ist, um das innere Rohr der Teleskopsäule anzutreiben, um sich in Bezug auf das äußere Rohr zu bewegen und zu bewirken, dass die Teleskopsäule ausgefahren oder eingezogen wird.
  6. - Schalldichte Bürokabine nach Anspruch 4 oder Anspruch 5, wobei es vier Hebemechanismen und vier Teleskopsäulen gibt; die vier Teleskopsäulen jeweils mit vier Ecken des unteren Kabinenkörpers verbunden sind und jeweils mit den Deckplatten verbunden sind; der Antriebsmechanismus zwei Antriebsmotoren umfasst, wovon jeder mit jeweils zwei Hebemechanismen in Übertragungsverbindung ist; oder der Antriebsmechanismus einen Antriebsmotor umfasst, der jeweils mit den vier Hebemechanismen in Übertragungsverbindung ist.
  7. - Schalldichte Bürokabine nach Anspruch 1 oder 2, wobei das untere Ende mindestens einer oberen Kabinenplatte des oberen Kabinenkörpers an der Oberseite des unteren Kabinenkörpers angelenkt ist, und wenn die Deckplatte in dem ausgefahrenen Zustand ist, es der oberen Kabinenplatte ermöglicht ist, nach oben zu drehen, um mit dem Boden der oberen Platte verbunden zu werden.
  8. - Schalldichte Bürokabine nach Anspruch 7, wobei die unteren Enden von zwei oberen Kabinenplatten jeweils an zwei Seiten der Oberseite des unteren Kabinenkörpers angelenkt sind, und die zwei oberen Kabinenplatten an zwei gegenüberliegenden Seiten des oberen Kabinenkörpers angeordnet sind.

9. - Schalldichte Bürokabine nach Anspruch 8, wobei mindestens eine bewegbare Verriegelungsplatte, die in der Lage ist, aus den oberen Kabinenplatten, die an der Oberseite des unteren Kabinenkörpers angelenkt sind, ausgefahren oder darin eingezogen zu werden, innerhalb der oberen Kabinenplatten verbunden ist; wenn die obere Kabinenplatte nach oben gedreht wird, um mit dem Boden der Deckplatte verbunden zu werden, die Verriegelungsplatte nach oben aus der oberen Kabinenplatte ausgefahren werden kann, um mit der Deckplatte zusammenzupassen, um die obere Kabinenplatte zu fixieren. 5
10. - Schalldichte Bürokabine nach Anspruch 6, wobei der obere Kabinenkörper ferner Trägerplatten in Einszu-Eins-Entsprechung mit den Teleskopsäulen umfasst; wenn die Teleskopsäulen in dem ausgefahrenen Zustand sind, die Trägerplatten entsprechend auf die Teleskopsäulen gewickelt sind, wobei die oberen Enden der Trägerplatten an den Unterseiten der oberen Platten anliegen und die unteren Enden der Trägerplatten an der Oberseite des unteren Kabinenkörpers anliegen; die Trägerplatten verwendet werden, um einen Stärkeunterschied zwischen dem bewegbaren Teil und dem Befestigungsteil der Teleskopsäulen auszugleichen und die Deckplatten zu tragen. 10
11. - Schalldichte Bürokabine nach Anspruch 1, wobei eine untere Kabinenplatte des unteren Kabinenkörpers bewegbar mit einer Teleskopsäule verbunden ist, um einen unteren Halbtteil der Kabinentür zu bilden, und ein Griff an der Kabinentür angeordnet ist; eine obere Kabinenplatte vertikal gegenüber dem unteren Halbtteil der Kabinentür in dem oberen Kabinenkörper bewegbar mit einer Teleskopsäule verbunden ist, um einen oberen Halbtteil der Kabinentür zu bilden; die obere Kabinenplatte und die untere Kabinenplatte der Kabinentür beide als transparent angeordnet sind. 15
12. - Schalldichte Bürokabine nach Anspruch 2, wobei zwei Gleitnuten mit gegenüberliegenden Öffnungen an zwei inneren Seitenwänden des unteren Kabinenkörpers verbunden und an einer von der Kabinentür abgewandten Seite des unteren Kabinenkörpers angeordnet sind; die feststehende Seitenplatte gleitend in die beiden Gleitnuten eingearbeitet ist. 20
13. - Schalldichte Bürokabine nach Anspruch 12, wobei ein weicher Dichtungstreifen, der sich entlang einer Längsrichtung der Gleitnuten erstreckt und an der Oberfläche der festen Seitenplatte befestigt werden kann, mit einer Innenwand der Gleitnuten verbunden ist. 25
14. - Schalldichte Bürokabine nach Anspruch 7, wobei die unteren Enden der zwei oberen Kabinenplatten 30

jeweils an beiden Seiten der Oberseite des unteren Kabinenkörpers angelenkt sind und die zwei oberen Kabinenplatten jeweils an beiden Seiten der feststehenden Seitenplatte angeordnet sind.

15. - Montageverfahren einer schalldichten Bürokabine, wobei die schalldichte Bürokabine Folgendes umfasst:

einen unteren Kabinenkörper (1), umfassend einen Sitz (100) und vier Teleskopsäulen (101), die mit vier Ecken des Sitzes verbunden sind; wobei eine untere Kabinenplatte zwischen zwei benachbarten Teleskopsäulen verbunden ist, und die unteren Kabinenplatten, die Teleskopsäulen und der Sitz eingeschlossen sind, um den unteren Kabinenkörper zu bilden, wobei die Oberseite offen und die Umgebung geschlossen ist;

einen oberen Kabinenkörper (2), umfassend Deckplatten (200) und eine feststehende Seitenplatte (205);

wobei die oberen Platten mit den vier Teleskopsäulen verbunden sind, um zu ermöglichen, dass sich die Deckplatten zusammen mit den Teleskopsäulen nach oben und unten bewegen, und somit die Deckplatten in einem ausgefahrenen oder eingefahrenen Zustand in Bezug auf den unteren Kabinenkörper gehalten werden; die feststehende Seitenplatte vertikal angeordnet und mit der Deckplatte verbunden ist und in der Lage ist, zusammen mit den Deckplatten ausgefahren oder eingezogen zu werden; der obere Kabinenkörper ferner drei obere Kabinenplatten (201, 202, 203) umfasst;

eine erste obere Kabinenplatte, eine zweite obere Kabinenplatte und eine dritte obere Kabinenplatte, und die erste obere Kabinenplatte und die zweite obere Kabinenplatte an beiden Seiten der feststehenden Seitenplatte angeordnet sind, wobei ihre unteren Enden an dem unteren Kabinenkörper angelenkt sind; der obere Kabinenkörper ferner vier Trägerplatten in eins-zu-eins-Entsprechung mit den vier Teleskopsäulen umfasst;

einen Hebemechanismus, umfassend eine erste Komponente und eine zweite Komponente, die in Bezug auf die erste Komponente bewegbar ist; die erste Komponente mit dem unteren Kabinenkörper verbunden ist und die zweite Komponente mit der Deckplatte verbunden ist, um es der oberen Platte zu ermöglichen, sich zusammen mit der zweiten Komponente auf und ab zu bewegen, und die Deckplatte in einem ausgefahrenen oder eingezogenen Zustand in Bezug auf den unteren Kabinenkörper gehalten wird;

einen Antriebsmechanismus, der mit den Deck-

platten verbunden ist und mit den Hebemechanismen in Übertragungsverbindung ist, um die Hebemechanismen anzutreiben;  
wobei das Montageverfahren die folgenden Schritte umfasst:

S1: der Antriebsmechanismus wird gestartet, um die vier Teleskopsäulen auszufahren, sodass sich die Deckplatten und die feststehende Seitenplatte in ausgefahrenem Zustand in Bezug auf den unteren Kabinenkörper 1 sind;

S2: die vier Trägerplatten werden jeweils mit den vier Teleskopsäulen verbunden, wobei die oberen Enden der Trägerplatten an den Böden der Deckplatten anliegen und die unteren Enden der Trägerplatten an der Oberseite des unteren Kabinenkörpers anliegen;

S3: die erste obere Kabinenplatte und die zweite obere Kabinenplatte werden nach oben gedreht, um zu ermöglichen, dass die oberen Enden der ersten oberen Kabinenplatte und der zweiten oberen Kabinenplatte jeweils mit den Böden der Deckplatten verbunden werden;

S4: die dritte obere Kabinenplatte wird montiert, sodass die Deckplatten, die feststehende Seitenplatte, die drei oberen Kabinenplatten und die vier Teleskopsäulen eingeschlossen werden, um den oberen Kabinenkörper zu bilden, wobei das untere Ende offen und die Umgebung geschlossen ist.

## Revendications

1. - Compartiment de bureau insonorisé, le compartiment comprenant :

un corps de compartiment inférieur (1), comprenant un siège (100), des colonnes télescopiques (101) et une pluralité de plaques de compartiment inférieures (102) ; le siège, les colonnes télescopiques et la pluralité de plaques de compartiment inférieures sont enfermés pour former le corps de compartiment inférieur avec la partie supérieure ouverte et le pourtour fermé ;

un corps de compartiment supérieur (2), comprenant des plaques supérieures (200) et une pluralité de plaques de compartiment supérieures (201, 202, 203) ; les plaques supérieures sont reliées aux colonnes télescopiques et peuvent se déplacer en synchronisation avec les colonnes télescopiques et les plaques supérieures sont maintenues dans un état étendu ou

rétracté par rapport au corps de compartiment inférieur ; une extrémité d'au moins une des plaques de compartiment supérieures est reliée au corps de compartiment inférieur, et l'autre extrémité est reliée de manière amovible à la plaque supérieure lorsque la plaque supérieure est en état étendu ; lorsque les plaques supérieures sont en état étendu, les plaques supérieures, les colonnes télescopiques et toutes les plaques de compartiment supérieures sont enfermées pour former le corps de compartiment supérieur avec l'extrémité inférieure ouverte et le pourtour fermé ; la partie inférieure du corps de compartiment supérieur est reliée à la partie supérieure du corps de compartiment inférieur ; et, après que les plaques de compartiment supérieures sont séparées du corps de compartiment supérieur, les plaques supérieures peuvent se déplacer vers l'état rétracté conjointement avec les colonnes télescopiques ; une porte de compartiment (3), disposée sur une paroi latérale d'un même côté du corps de compartiment supérieur et du corps de compartiment inférieur pour permettre à des personnes d'entrer dans le corps de compartiment.

2. - Compartiment de bureau insonorisé selon la revendication 1, dans lequel le corps de compartiment supérieur comprend en outre une plaque latérale fixe ; la plaque latérale fixe est disposée verticalement et reliée à la plaque supérieure et est apte à s'étendre hors de la plaque supérieure ou à se rétracter avec celle-ci ; lorsque les plaques supérieures sont en état étendu, les plaques supérieures, la plaque latérale fixe, les colonnes télescopiques et toutes les plaques de compartiment supérieures sont enfermées pour former le corps de compartiment supérieur avec l'extrémité inférieure ouverte et le pourtour fermé ; et, après que les plaques de compartiment supérieures sont séparées du corps de compartiment supérieur, les plaques supérieures et la plaque latérale fixe se déplacent vers l'état rétracté conjointement avec les colonnes télescopiques.

3. - Compartiment de bureau insonorisé selon la revendication 1 ou la revendication 2, le compartiment de bureau insonorisé comprenant en outre un mécanisme de levage ; le mécanisme de levage comprend un premier composant et un second composant mobile par rapport au premier composant ; le premier composant est relié au corps de compartiment inférieur et le second composant est relié à la plaque supérieure pour permettre à la plaque supérieure de se déplacer vers le haut et vers le bas avec le second composant, et ainsi la plaque supérieure est maintenue en état étendu ou

rétracté par rapport au corps de compartiment inférieur ; le mécanisme de levage est disposé à l'intérieur des colonnes télescopiques et/ou le mécanisme de levage peut être disposé de manière mobile à l'intérieur du corps de compartiment supérieur et du corps de compartiment inférieur.

4. - Compartiment de bureau insonorisé selon la revendication 3, le compartiment de bureau insonorisé comprenant en outre un mécanisme d'entraînement qui est relié à la plaque supérieure et est en liaison de transmission avec le mécanisme de levage pour entraîner le mécanisme de levage en déplacement vers le haut et vers le bas. 10
5. - Compartiment de bureau insonorisé selon la revendication 4, dans lequel il y a une pluralité de mécanismes de levage qui sont respectivement disposés à l'intérieur de colonnes télescopiques correspondantes ; le premier composant est relié au tube extérieur de la colonne télescopique et le second composant est relié au tube intérieur de la colonne télescopique pour entraîner le tube intérieur de la colonne télescopique en déplacement par rapport au tube extérieur et amener la colonne télescopique à s'étendre ou se rétracter. 20 25
6. - Compartiment de bureau insonorisé selon la revendication 4 ou la revendication 5, dans lequel il y a quatre mécanismes de levage et quatre colonnes télescopiques ; les quatre colonnes télescopiques sont respectivement reliées à quatre coins du corps de compartiment inférieur, et respectivement reliées aux plaques supérieures ; le mécanisme d'entraînement comprend deux moteurs d'entraînement, dont chacun est en liaison de transmission avec deux mécanismes de levage, respectivement ; ou le mécanisme d'entraînement comprend un moteur d'entraînement qui est en liaison de transmission avec les quatre mécanismes de levage, respectivement. 30 35 40
7. - Compartiment de bureau insonorisé selon la revendication 1 ou la revendication 2, dans lequel l'extrémité inférieure d'au moins une plaque de compartiment supérieure du corps de compartiment supérieur est articulée à la partie supérieure du corps de compartiment inférieur et, lorsque la plaque supérieure est en état étendu, la plaque de compartiment supérieure est apte à tourner vers le haut pour être reliée à la partie inférieure de la plaque supérieure. 45 50
8. - Compartiment de bureau insonorisé selon la revendication 7, dans lequel les extrémités inférieures de deux plaques de compartiment supérieures sont articulées respectivement aux deux côtés de la partie supérieure du corps de compartiment inférieur, et les deux plaques de compartiment supérieures sont 55

disposées sur deux côtés opposés du corps de compartiment supérieur.

9. - Compartiment de bureau insonorisé selon la revendication 8, dans lequel au moins une plaque de verrouillage mobile apte à s'étendre hors des plaques de compartiment supérieures ou à se rétracter dans celles-ci articulées à la partie supérieure du corps de compartiment inférieur est reliée à l'intérieur des plaques de compartiment supérieures ; lorsque la plaque de compartiment supérieure est tournée vers le haut pour être reliée à la partie inférieure de la plaque supérieure, la plaque de verrouillage peut s'étendre vers le haut hors de la plaque de compartiment supérieure pour s'adapter à la plaque supérieure afin de fixer la plaque de compartiment supérieure.
10. - Compartiment de bureau insonorisé selon la revendication 6, dans lequel le corps de compartiment supérieur comprend en outre des plaques de support en correspondance biunivoque avec les colonnes télescopiques ; lorsque les colonnes télescopiques sont en état étendu, les plaques de support entourent de manière correspondante les colonnes télescopiques, avec les extrémités supérieures des plaques de support en butée contre les parties inférieures des plaques supérieures et les extrémités inférieures des plaques de support en butée contre la partie supérieure du corps de compartiment inférieur ; les plaques de support sont utilisées pour compenser une différence d'épaisseur entre la partie mobile et la partie de fixation des colonnes télescopiques et supporter les plaques supérieures.
11. - Compartiment de bureau insonorisé selon la revendication 1, dans lequel une plaque de compartiment inférieure du corps de compartiment inférieur est reliée de manière mobile à une colonne télescopique pour former une moitié inférieure de la porte de compartiment, et une poignée est disposée sur la porte de compartiment ; une plaque de compartiment supérieure verticalement opposée à la moitié inférieure de la porte de compartiment dans le corps de compartiment supérieur est reliée de manière mobile à une colonne télescopique pour former une moitié supérieure de la porte de compartiment ; la plaque de compartiment supérieure et la plaque de compartiment inférieure de la porte de compartiment sont toutes deux disposées de façon à être transparentes.
12. - Compartiment de bureau insonorisé selon la revendication 2, dans lequel deux rainures de coulissement avec des ouvertures opposées sont reliées sur deux parois latérales intérieures du corps de compartiment inférieur et disposées sur un côté du corps de compartiment inférieur à l'opposé de la

porte de compartiment ; la plaque latérale fixe coopère de manière coulissante dans les deux rainures de coulissement.

13. - Compartiment de bureau insonorisé selon la revendication 12, dans lequel une bande d'étanchéité souple s'étendant selon une direction de longueur des rainures de coulissement et apte à être fixée à la surface de la plaque latérale fixe est reliée à une paroi intérieure des rainures de coulissement. 5  
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14. - Compartiment de bureau insonorisé selon la revendication 7, dans lequel les extrémités inférieures de deux plaques de compartiment supérieures sont articulées aux deux côtés de la partie supérieure du corps de compartiment inférieur, respectivement, et les deux plaques de compartiment supérieures sont disposées sur les deux côtés de la plaque latérale fixe, respectivement. 15  
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15. - Procédé de montage d'un compartiment de bureau insonorisé, dans lequel :  
le compartiment du bureau insonorisé comprend :  
un corps de compartiment inférieur (1), comprenant un siège (100) et quatre colonnes télescopiques (101) reliées à quatre coins du siège ; une plaque de compartiment inférieure est reliée entre deux colonnes télescopiques adjacentes, et les plaques de compartiment inférieures, les colonnes télescopiques et le siège sont enfermés pour former le corps de compartiment inférieur avec la partie supérieure ouverte et le pourtour fermé ; 25  
30  
un corps de compartiment supérieur (2), comprenant des plaques supérieures (200) et une plaque latérale fixe (205) ; les plaques supérieures sont reliées aux quatre colonnes télescopiques pour permettre aux plaques supérieures de se déplacer vers le haut et vers le bas conjointement avec les colonnes télescopiques, et ainsi les plaques supérieures sont maintenues en état étendu ou rétracté par rapport au corps de compartiment inférieur ; la plaque latérale fixe est disposée verticalement et reliée à la plaque supérieure et est apte à s'étendre hors des plaques supérieures ou à se rétracter conjointement avec celles-ci ; le corps de compartiment supérieur comprend en outre trois plaques de compartiment supérieures (201, 202, 203) : une première plaque de compartiment supérieure, une deuxième plaque de compartiment supérieure et une troisième plaque de compartiment supérieure, et la première plaque de compartiment supérieure et la deuxième plaque de compartiment supérieure sont disposées sur les deux côtés de la plaque latérale fixe, avec leurs extrémités inférieures 35  
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articulées au corps de compartiment inférieur ; le corps de compartiment supérieur comprend en outre quatre plaques de support en correspondance biunivoque avec les quatre colonnes télescopiques ;

un mécanisme de levage, comprenant un premier composant et un second composant mobile par rapport au premier composant ; le premier composant est relié au corps de compartiment inférieur et le second composant est relié à la plaque supérieure pour permettre à la plaque supérieure de se déplacer vers le haut et vers le bas conjointement avec le second composant, et la plaque supérieure est maintenue en état étendu ou rétracté par rapport au corps de compartiment inférieur ;

un mécanisme d'entraînement, relié aux plaques supérieures et en liaison de transmission avec les mécanismes de levage pour entraîner les mécanismes de levage ;

le procédé de montage comprend les étapes suivantes :

S1 : le mécanisme d'entraînement est mis en marche pour amener quatre colonnes télescopiques à s'étendre et, par conséquent, les plaques supérieures et la plaque latérale fixe sont en état étendu par rapport au corps de compartiment inférieur 1 ;

S2 : les quatre plaques de support sont respectivement reliées aux quatre colonnes télescopiques, avec les extrémités supérieures des plaques de support en butée contre les parties inférieures des plaques supérieures et les extrémités inférieures des plaques de support en butée contre la partie supérieure du corps de compartiment inférieur ;

S3 : la première plaque de compartiment supérieur et la deuxième plaque de compartiment supérieur sont tournées vers le haut pour permettre aux extrémités supérieures de la première plaque de compartiment supérieure et de la deuxième plaque de compartiment supérieure d'être reliées aux parties inférieures des plaques supérieures, respectivement ;

S4 : la troisième plaque de compartiment supérieure est montée de telle sorte que les plaques supérieures, la plaque latérale fixe, les trois plaques de compartiment supérieures et les quatre colonnes télescopiques sont enfermées pour former le corps de compartiment supérieur avec l'extrémité inférieure ouverte et le pourtour fermé.

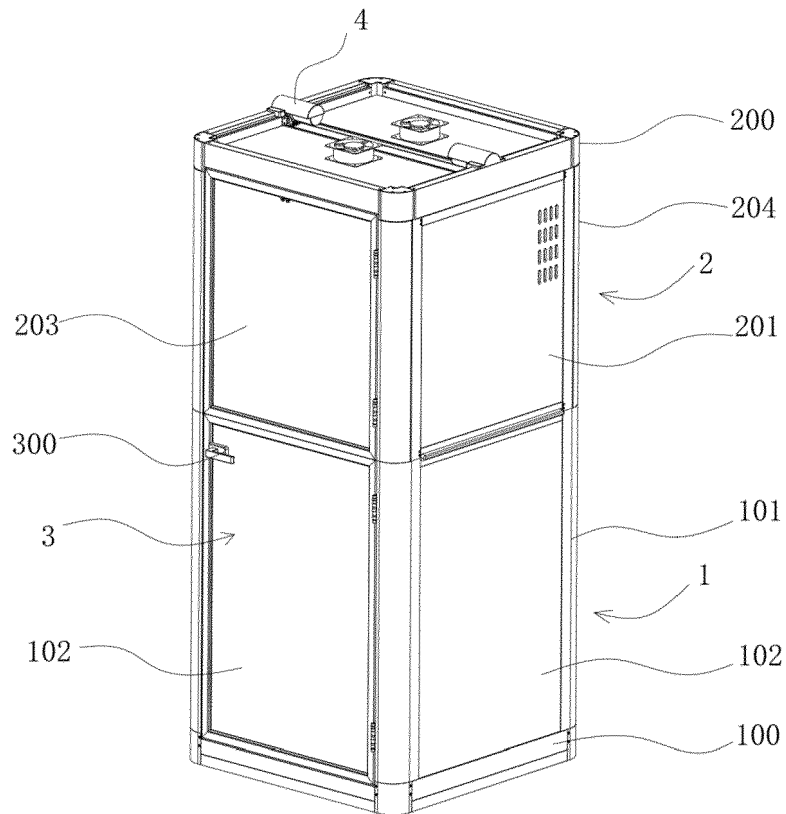


Fig. 1

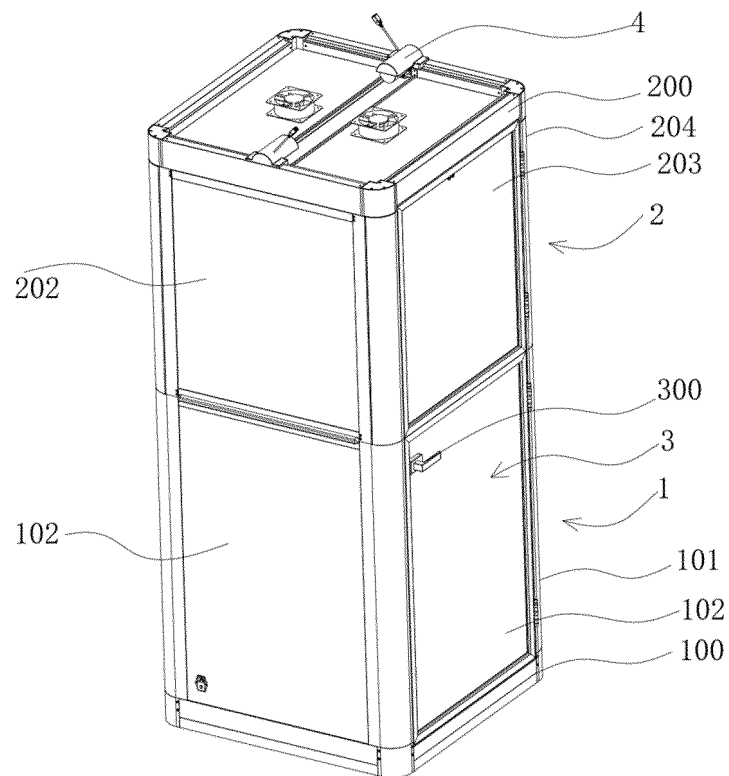


Fig. 2

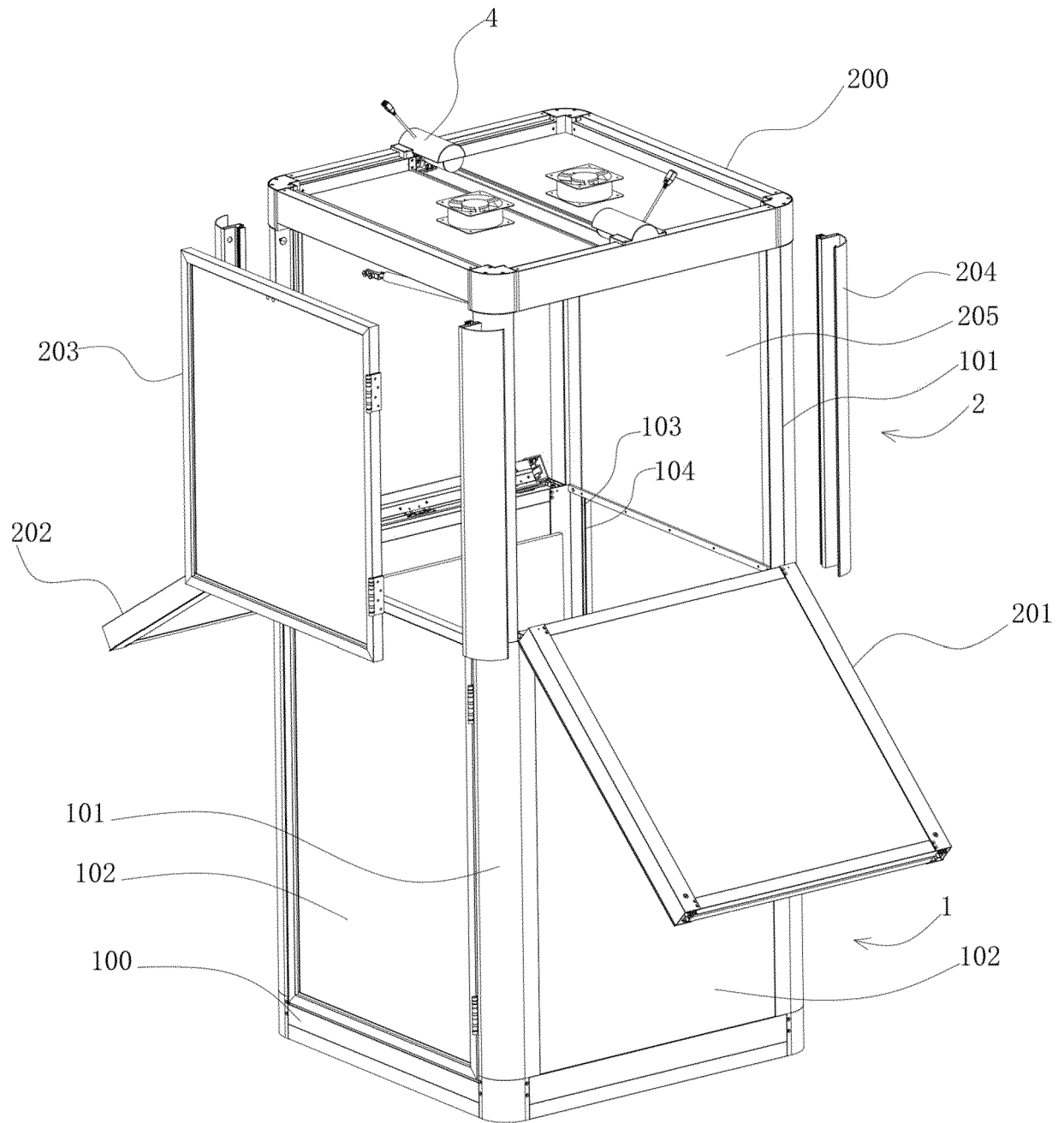


Fig. 3

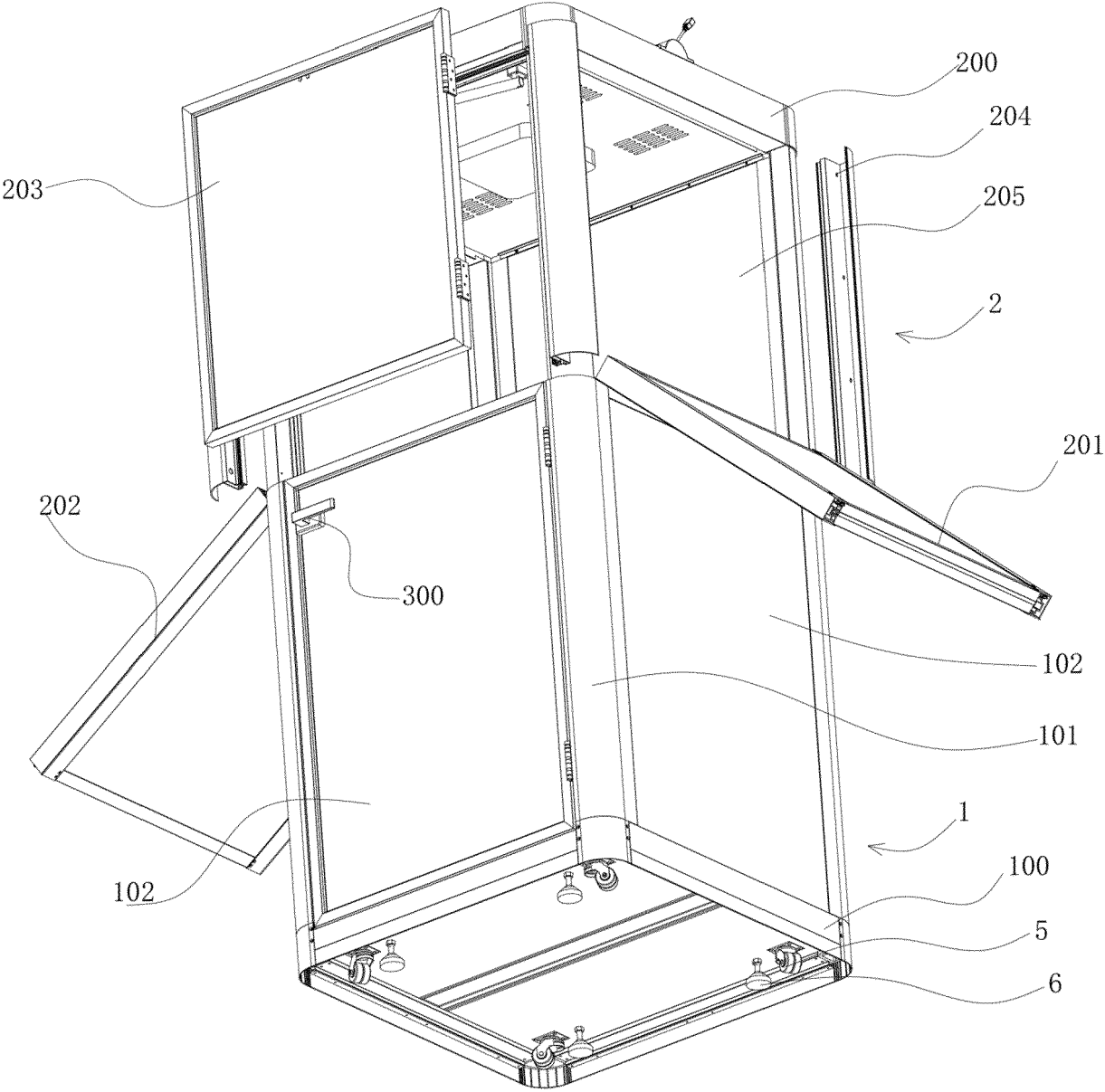


Fig. 4

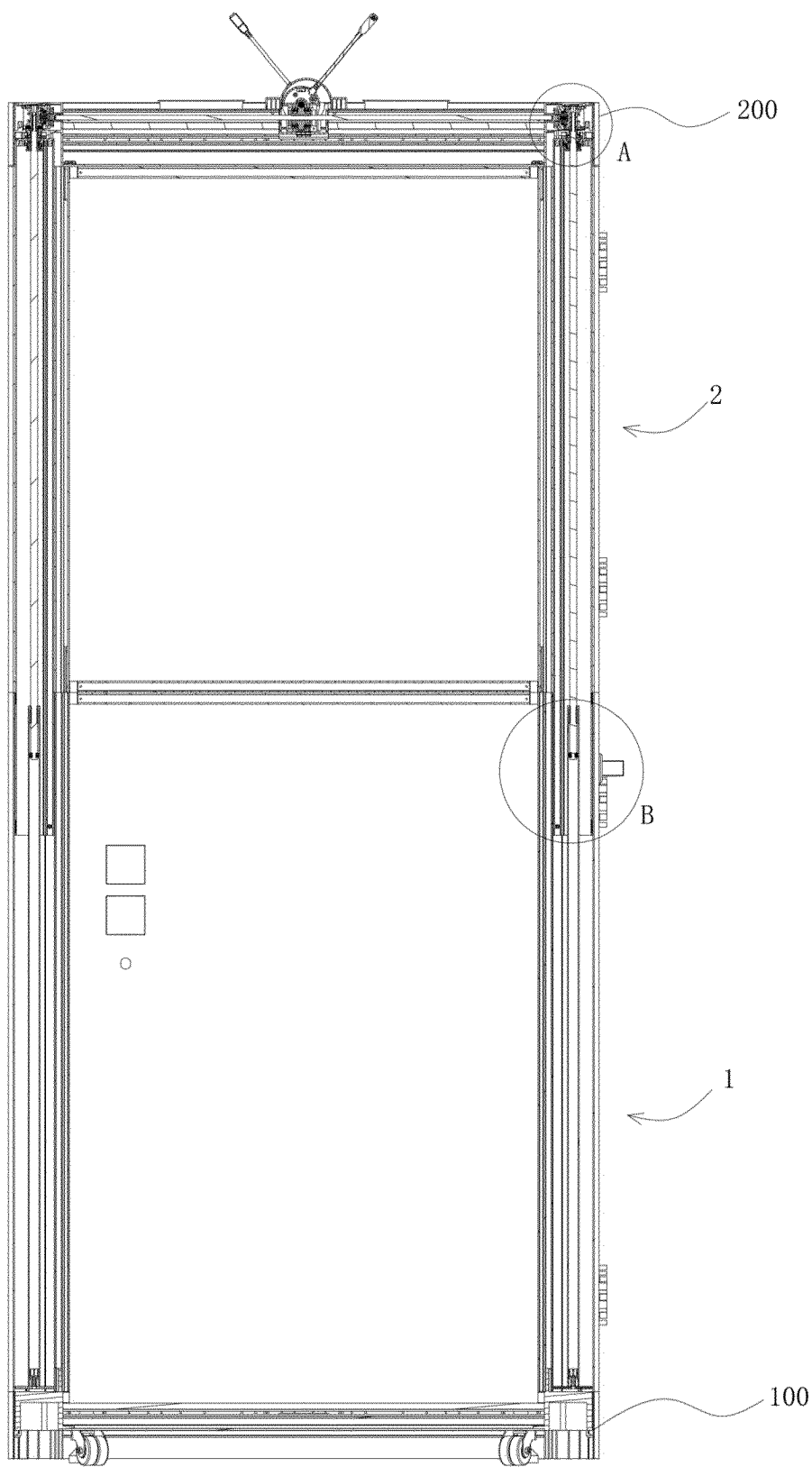


Fig. 5

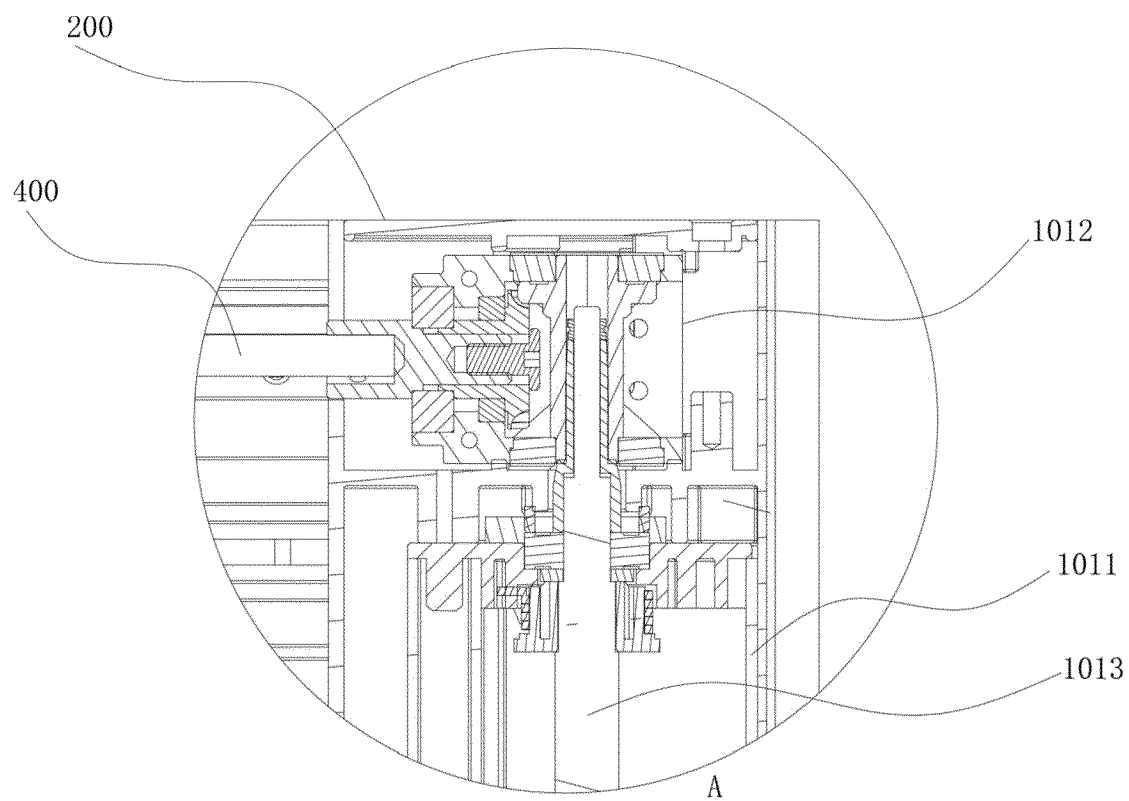


Fig. 6

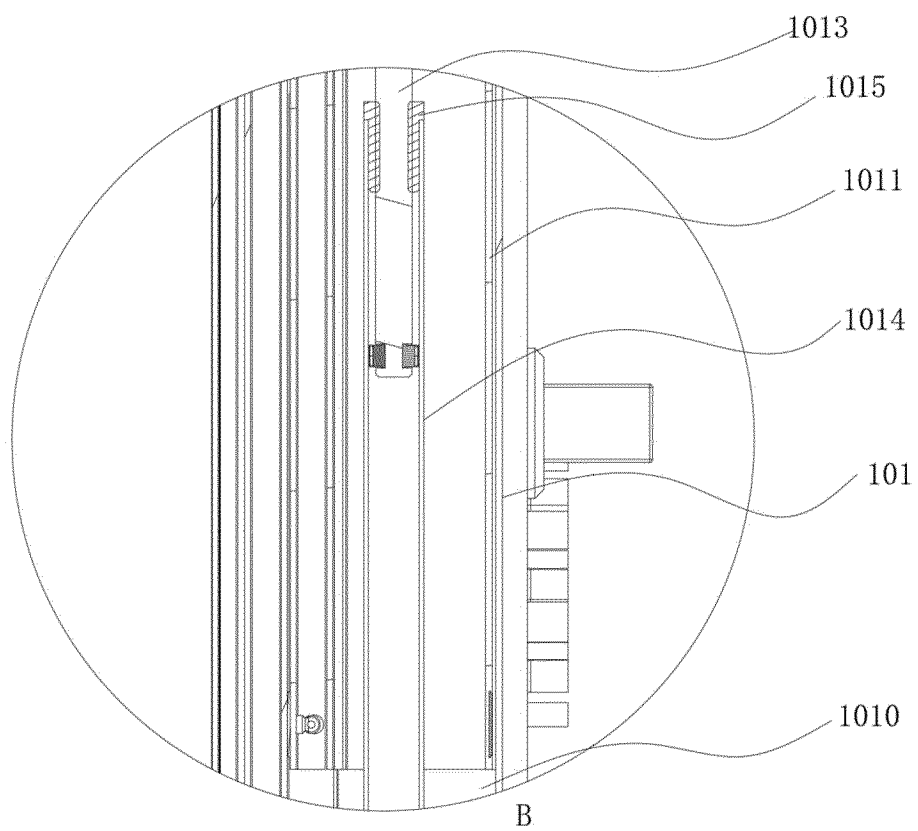


Fig. 7

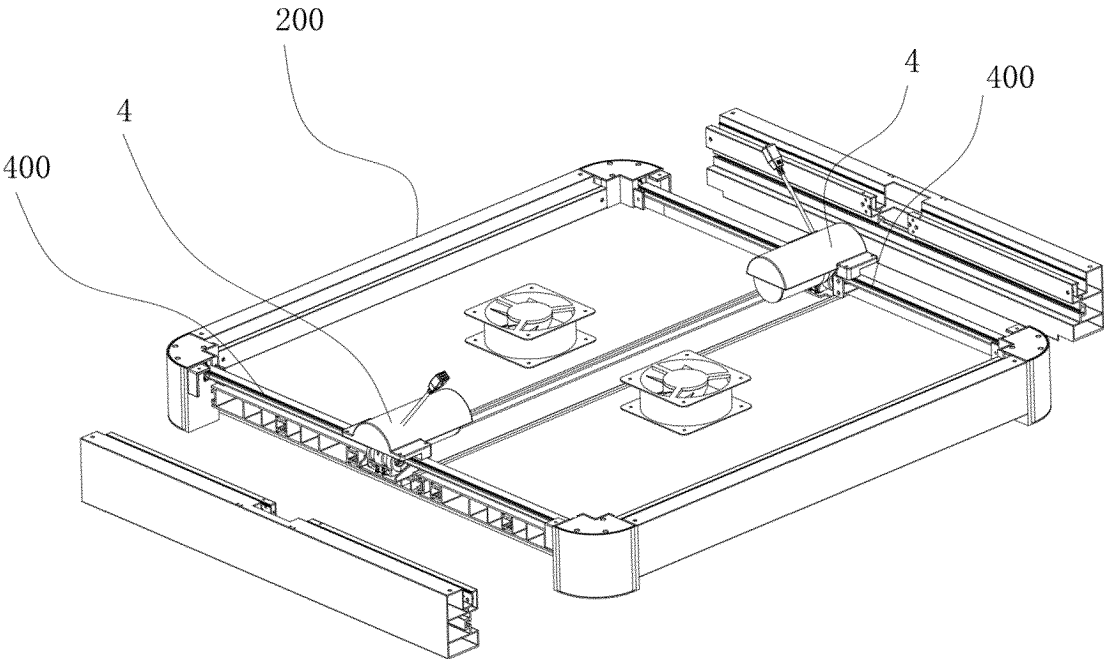


Fig. 8

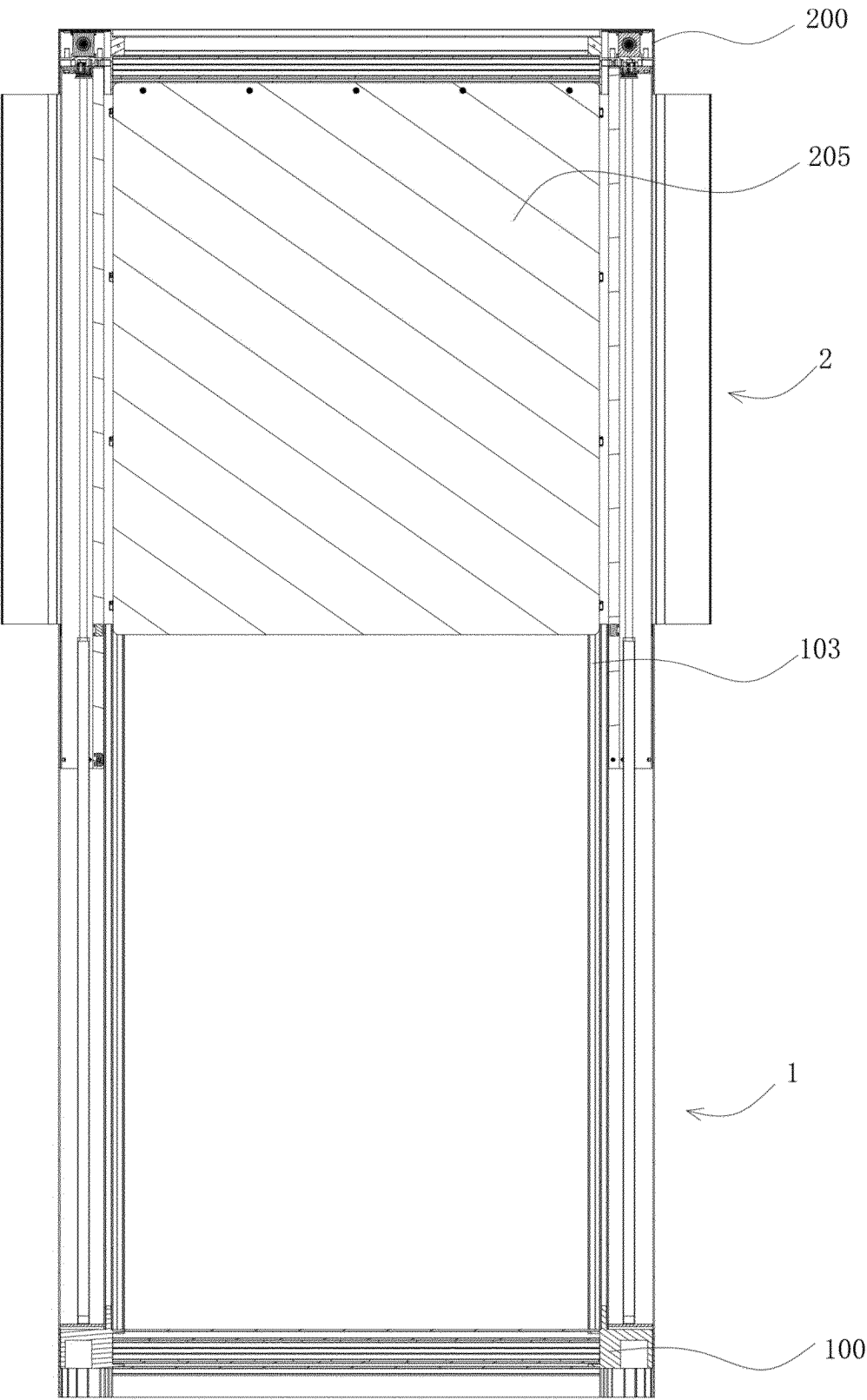


Fig. 9

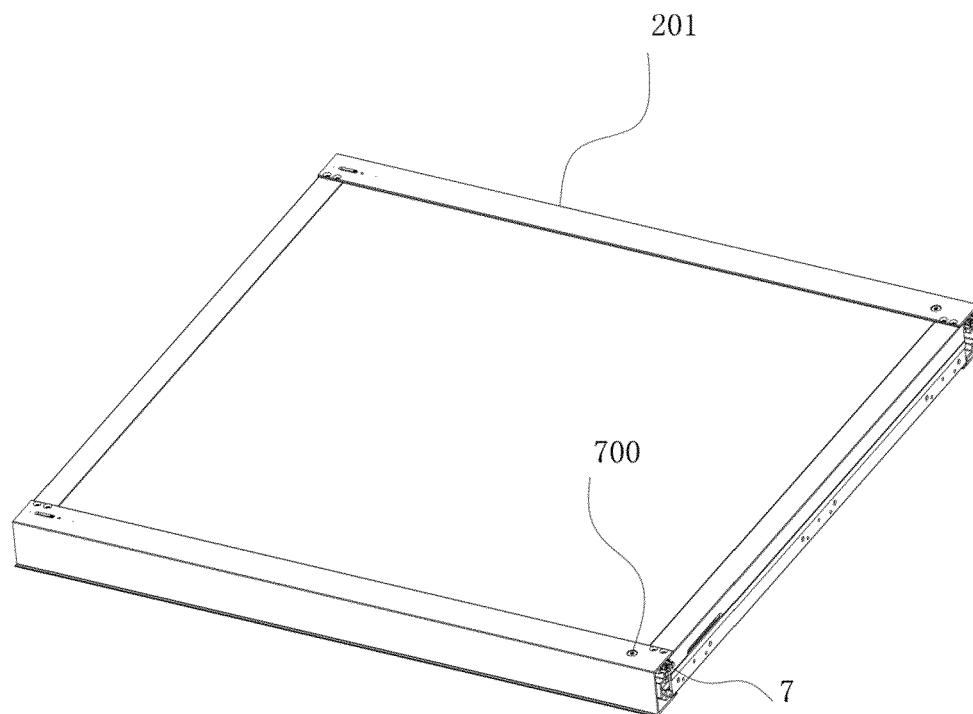


Fig. 10

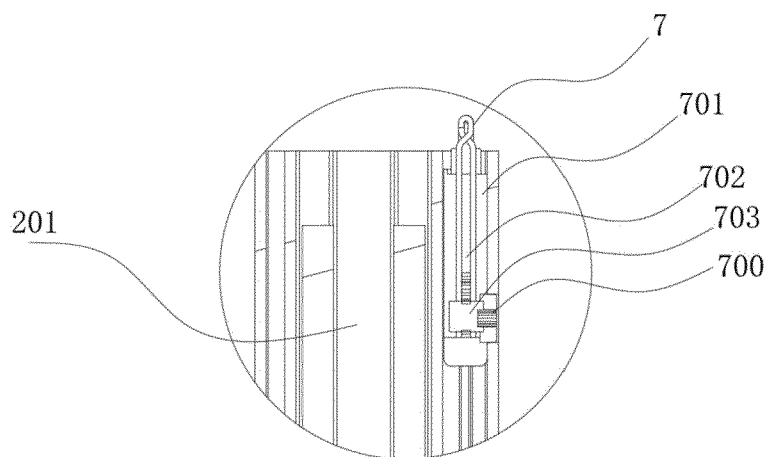


Fig. 11

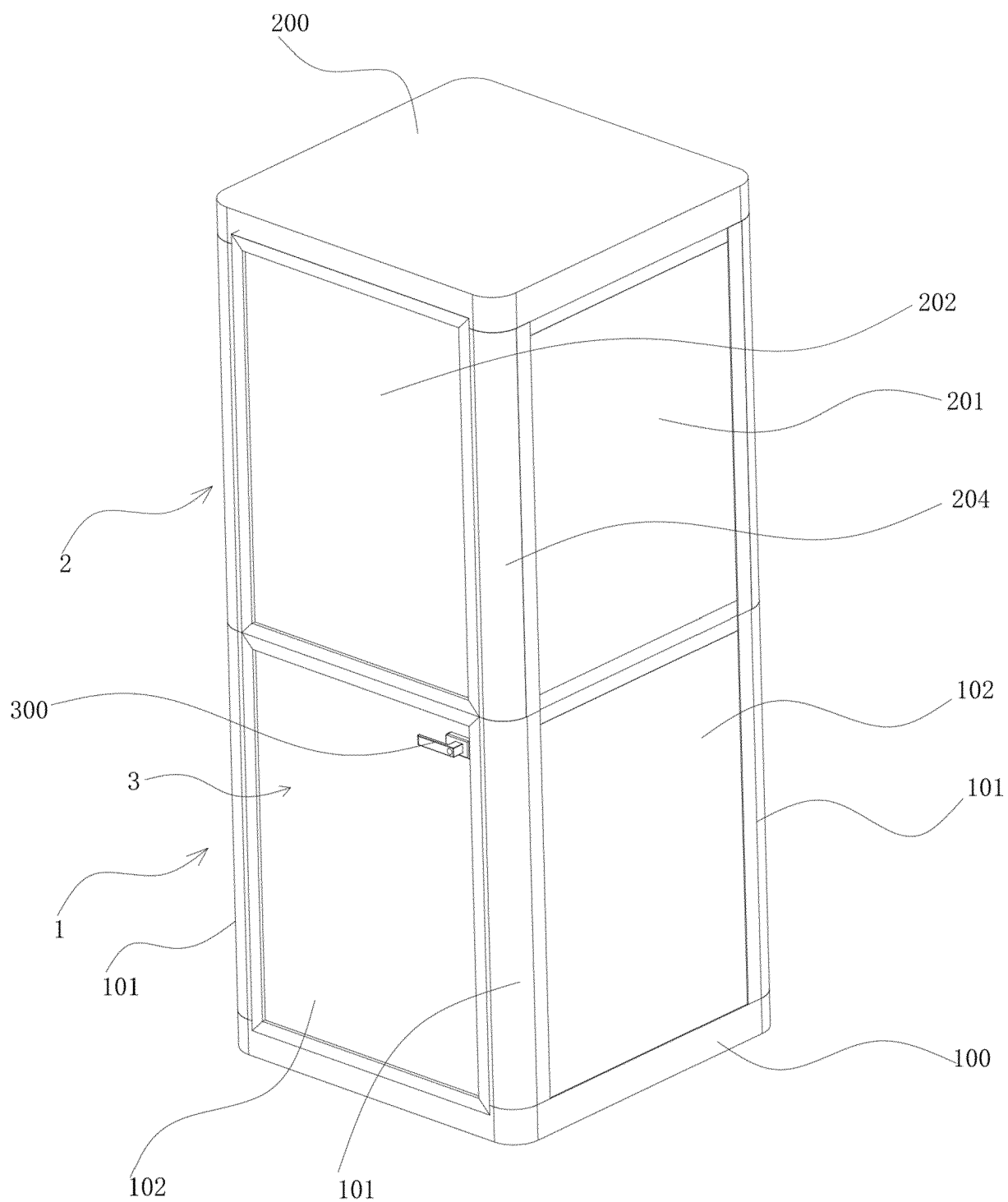


Fig. 12

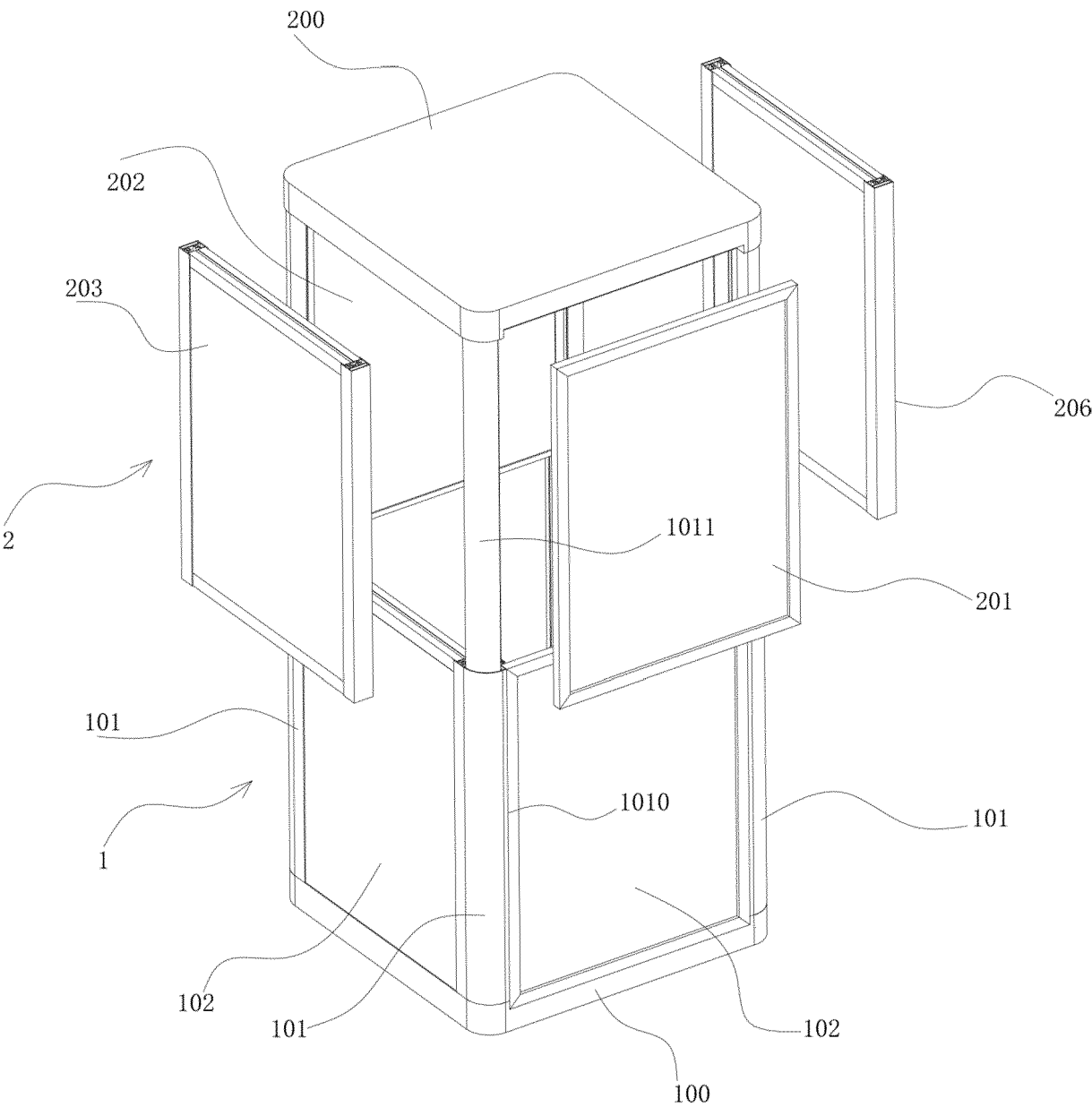


Fig. 13

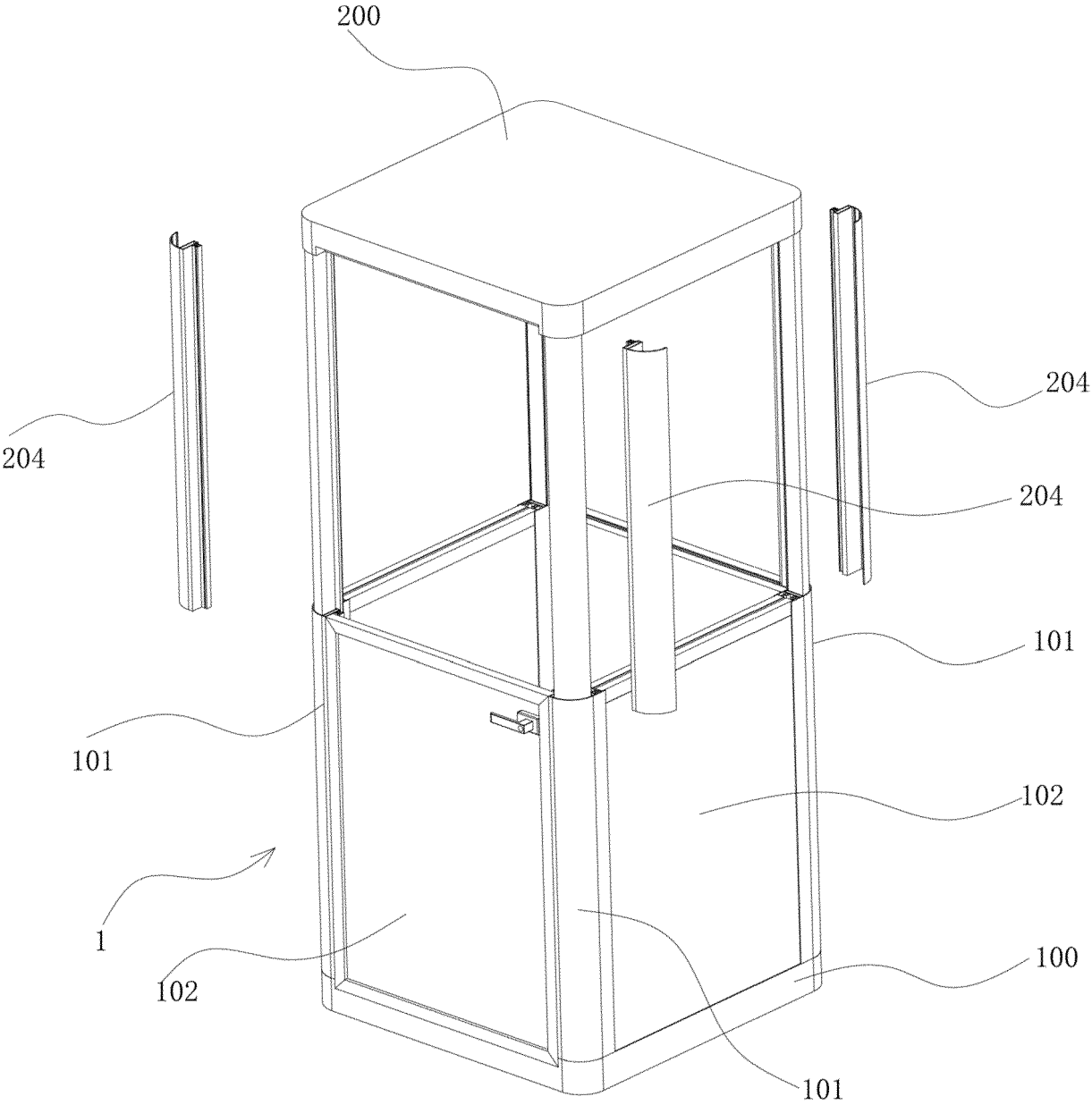


Fig. 14

**REFERENCES CITED IN THE DESCRIPTION**

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**Patent documents cited in the description**

- CN 213509738 U [0003]