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Inventeur(s):
XU Lingling - Chine

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Mandataire(s):
Patent42 SA - 4081 Esch-sur-Alzette (Luxembourg)

47

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Titulaire(s):
HEBEI UNIVERSITY OF ARCHITECTURE - 075000
Zhangjiakou City, Hebei, (Chine)

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ENCLOSURE DEVICE FOR CONSTRUCTION OF ASSEMBLED BUILDING CURTAIN WALL.

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The invention discloses an enclosure device for construction of an assembled building curtain wall, which comprises an enclosure board, wherein two side walls corresponding to the long sides of the enclosure board are provided with first accommodating grooves, two first accommodating grooves are internally provided with supporting mechanisms, the bottom of which is hinged with the bottom of the enclosure board, and the supporting mechanisms are used for supporting the enclosure board; a first connecting structure and a second connecting structure are respectively arranged on two side walls corresponding to the short sides of the enclosure boards, the first connecting structure and the second connecting structure of two adjacent enclosure boards are matched. The enclosure device for the construction of the assembled building curtain provided by the invention can realize the folding design of the supporting mechanisms at two sides by arranging the first accommodating groove on the enclosure board.

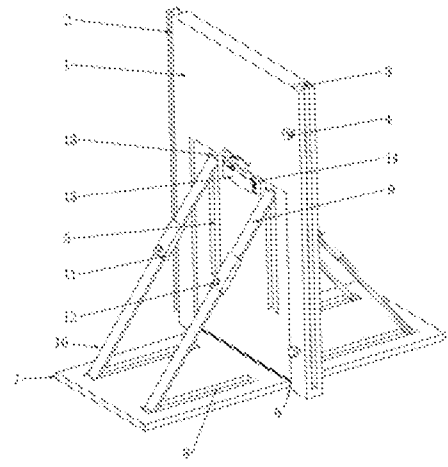


FIG. 1

DESCRIPTION

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**ENCLOSURE DEVICE FOR CONSTRUCTION OF ASSEMBLED BUILDING
CURTAIN WALL****TECHNICAL FIELD**

The invention relates to the technical field of building curtain wall construction, in particular to an enclosure device for construction of an assembled building curtain wall.

BACKGROUND

Building curtain wall refers to the non-load-bearing external wall enclosure of a building, which is usually composed of panels and supporting structures at the back, and the building curtain wall is assembled from various component materials. In the process of assembling building curtain wall construction, in order to improve the safety of the construction area, it is usually necessary to set up enclosure devices around the building. In the use process, the existing enclosure devices need to be disassembled and stored, which may take a long time to disassemble and occupy a large space during transportation, which is not convenient for storage and transportation. For this reason, we propose an enclosure device for construction of an assembled building curtain wall.

SUMMARY

The purpose of the present invention is to provide an enclosure device for construction of an assembled building curtain wall, so as to solve the problems existing in the prior art.

In order to achieve the above purpose, the present invention provides an enclosure device for construction of an assembled building curtain wall, which comprises an enclosure board, wherein first accommodating grooves are arranged on two side walls corresponding to the long sides of the enclosure board; supporting mechanisms are arranged in the two first accommodating grooves; the bottom of the supporting mechanisms is hinged with the bottom of the enclosure board; and the supporting mechanisms are used for supporting the enclosure board; two side walls corresponding to that short side of the enclosure board are respectively provided with a first connecting structure and a second connecting structure, and the first connecting structure and the second connecting structure of two adjacent enclosure boards are matched.

Preferably, the supporting mechanism comprises a bottom plate, the bottom of the first accommodating groove is fixedly connected with a connecting shaft, and the bottom plate is

hinged with the enclosure board through the connecting shaft; one side of the bottom plate close to the enclosure board is rotatably connected with a lower support plate, the top of the first accommodating groove is rotatably connected with an upper support plate, and the lower support plate is detachably connected with the upper support plate.

Preferably, one side of the upper support plate close to the enclosure board is provided with a connecting chute, and the lower support plate is matched with the connecting chute; a square sleeve is sleeved on that upper support plate in a sliding mode, a second bolt is screwed on the square sleeve, and the upper support plate and the low support plate are detachably connected through the square sleeve and the second bolt.

Preferably, the thickness of the bottom plate is not greater than the groove depth of the first accommodating groove.

Preferably, the bottom plate is provided with a second accommodating groove, one end of the lower support plate is rotatably connected with one end of the second accommodating groove far from the enclosure board, and the lower support plate is matched with the second accommodating groove; the enclosure board is provided with a third accommodating groove, the third accommodating groove is arranged in the first accommodating groove, one end of the upper support plate is rotatably connected at the top of the third accommodating groove, the upper support plate is matched with the third accommodating groove, and the width of the third accommodating groove is not less than the width of the square sleeve.

Preferably, the first connecting structure is a connecting clamp block, the second connecting structure is a connecting groove, and the connecting clamp block is matched with the connecting groove; a first bolt is screwed on the enclosure board, and the first bolt is correspondingly arranged with the connecting groove.

Preferably, the enclosure board is rotatably connected with a limiting rod, one end of the bottom plate far from the enclosure board is provided with a limiting groove, and the limiting rod is matched with the limiting groove.

Preferably, a spring is fixedly connected to the first accommodating groove, a pressing plate is fixedly connected to the end of the spring, and the pressing plate abuts on the bottom plate.

Preferably, the connecting groove consists of a movable groove body and a fixed groove body, wherein the movable groove body and the fixed groove body are both L-shaped in

structure, the movable groove body and the fixed groove body are symmetrically arranged, the movable groove body is hinged with the enclosure board, the fixed groove body is fixedly connected with the enclosure board, and the first bolt is screwed on the movable groove body.

Compared with the prior art, the invention has the following advantages and technical effects.

The enclosure device for the construction of the assembled building curtain provided by the invention can realize the folding design of the supporting mechanisms at two sides by arranging the first accommodating groove on the enclosure board, so as to achieve the folding and accommodating effect, save space during transportation, and solve the problem that the existing enclosure device occupies a large space during transportation.

BRIEF DESCRIPTION OF THE FIGURES

In order to explain the embodiments of the present invention or the technical scheme in the prior art more clearly, the drawings needed in the embodiments will be briefly introduced below. Obviously, the drawings described below are only some embodiments of the present invention, and other drawings can be obtained according to these drawings without creative work for ordinary people in the field.

Brief description of the drawings FIG. 1 is a structural schematic diagram of an enclosure device for construction of an assembled building curtain wall of the present invention;

FIG. 2 is a schematic diagram of the connection between the upper support plate and the lower support plate of the present invention;

FIG. 3 is another structural schematic diagram of the connecting groove of the present invention;

among them: 1. enclosure board; 2. connecting clamp block; 3. connecting groove; 3.1. movable groove body; 3.2. fixed groove body; 4. first bolt; 5. third accommodating groove; 6. connecting shaft; 7. bottom plate; 8. second accommodating groove; 9. upper support plate; 10. lower support plate; 11. square sleeve; 12. second bolt; 13. limiting rod; 14. spring; 15. pressing plate; 16. connecting chute.

DESCRIPTION OF THE INVENTION

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It should be noted that the embodiments of the present invention and the features in the embodiments may be combined with each other without conflict. The described embodiments are only a portion of embodiments of the invention and not all of the embodiments. All other embodiment obtained by a person of ordinary skill in that art without the creative effort involved are within the scope of the present invention. The invention will be described in detail below with reference to the drawings and in conjunction with embodiments.

The invention provide an enclosure device for construction of an assembled building curtain wall, which comprises an enclosure board 1, wherein first accommodating grooves are arranged on two side walls corresponding to the long sides of the enclosure board 1; supporting mechanisms are arranged in the two first accommodating grooves; the bottom of the supporting mechanisms is hinged with the bottom of the enclosure board 1; and the supporting mechanisms are used for supporting the enclosure board 1; two side walls corresponding to that short side of the enclosure board 1 are respectively provided with a first connecting structure and a second connecting structure, and the first connecting structure and the second connecting structure of two adjacent enclosure boards 1 are matched.

Further, the supporting mechanism comprises a bottom plate 7, the bottom of the first accommodating groove is fixedly connected with a connecting shaft 6, and the bottom plate 7 is hinged with the enclosure board 1 through the connecting shaft 6; one side of the bottom plate 7 close to the enclosure board 1 is rotatably connected with a lower support plate 10, the top of the first accommodating groove is rotatably connected with an upper support plate 9, and the lower support plate 10 is detachably connected with the upper support plate 9.

Further, in order to ensure that the support between the bottom plate 7 and the enclosure board 1 is not influenced when the ground is uneven, one side of the upper support plate 9 close to the enclosure board 1 is provided with a connecting chute 16, and the lower support plate 10 is matched with the connecting chute 16; a square sleeve 11 is sleeved on that upper support plate 9 in a sliding mode, a second bolt 12 is screwed on the square sleeve 11, and the upper support plate 9 and the low support plate 10 are detachably connected through the square sleeve 11 and the second bolt 12.

Further, in order to ensure that the bottom plate 7 can be accommodated in the first accommodating groove and reduce the space occupied by the enclosure board during transportation, the thickness of the bottom plate 7 is not more than the groove depth of the first accommodating groove.

Further, the bottom plate 7 is provided with a second accommodating groove 8, one end of the lower support plate 10 is rotatably connected with one end of the second accommodating groove 8 far from the enclosure board 1, and the lower support plate 10 is matched with the second accommodating groove 8; the enclosure board 1 is provided with a third accommodating groove 5, the third accommodating groove 5 is arranged in the first accommodating groove, one end of the upper support plate 9 is rotatably connected at the top of the third accommodating groove 5, the upper support plate 9 is matched with the third accommodating groove 5, and the width of the third accommodating groove 5 is not less than the width of the square sleeve 11.

Further, the first connecting structure is a connecting clamp block 2, the second connecting structure is a connecting groove 3, and the connecting clamp block 2 is matched with the connecting groove 3; a first bolt 4 is screwed on the enclosure board 1, and the first bolt 4 is correspondingly arranged with the connecting groove 3.

Further, the enclosure board 1 is rotatably connected with a limiting rod 13, one end of the bottom plate 7 far from the enclosure board 1 is provided with a limiting groove, and the limiting rod 13 is matched with the limiting groove.

Further, a spring 14 is fixedly connected to the first accommodating groove, a pressing plate 15 is fixedly connected to the end of the spring 14, and the pressing plate 15 abuts on the bottom plate 7.

Further, in order to facilitate the installation of the connecting clamp block 2 into the connecting groove 3, the connecting groove 3 consists of a movable groove body 3.1 and a fixed groove body 3.2, wherein the movable groove body 3.1 and the fixed groove body 3.2 are both L-shaped in structure, the movable groove body 3.1 and the fixed groove body 3.2 are symmetrically arranged, the movable groove body 3.1 is hinged with the enclosure board 1, the fixed groove body 3.2 is fixedly connected with the enclosure board 1, and the first bolt 4 is screwed on the movable groove body 3.1.

The working principle of the enclosure device for the construction of the assembled building curtain provided by the invention is as follows.

When the enclosure board 1 is required to be used for enclosure, the connecting clamp block 2 on the left side of the first enclosure board 1 is inserted into the connecting groove 3 on the right side of the second enclosure board 1 to achieve the effect of splicing and prolonging the enclosure board 1, and the enclosure board 1 is fixed through the first bolt 4 to achieve the effect of fixing the enclosure board 1 and realize the purpose of spliced enclosure. When that enclosure board 1 need to be supported and fixed, the bottom plate 7 is rotated so that the bottom plate 7 rotates around the connecting shaft 6 and come out from the first accommodating groove until the bottom plate 7 contacts the ground, then the upper support plate 9 and the lower support plate 10 come out from the third accommodating groove 5 and the second accommodating groove 8 respectively, and the lower support plate 10 is inserted into the connecting chute 16 of the upper support plate 9, so that the upper support plate 9 and the lower support plate 10 are in the same horizontal plane, and then the square sleeve 11 is moved downward. Then the square sleeve 11 is sleeved at the joint of the upper support plate 9 and the lower support plate 10, the second bolt 12 is twisted, the second bolt 12 penetrates through the through hole on the upper support plate 9 and abuts against the lower support plate 10, the relative positions between the upper support plate 9 and the lower support plate 10 are fixed, the purpose of limiting the movement between the upper support plate 9 and the lower support plate 10 is achieved. And under the support of the square sleeve 11, the joint part of that upper support plate 9 and the lower support plate 10 is not bent, so that the purpose of support and fixing the enclosure board 1 is achieved, thus achieving the purpose of supporting and fixing the enclosure board 1, and facilitating the folding and storage of the bottom plate 7. The installation is convenient, which can save space and solve the problem that the existing enclosures take up more space during transportation and are not easy to store and transport because they need to be disassembled for storage in the actual use process.

In order to prevent the housed bottom plate 7 from moving when carrying the enclosure board 1, the bottom plate 7 is pressed by hand, and then the bottom plate 7 is attached to the pressing plate 15, and the pressing plate 15 presses the spring 14 to make the bottom plate 7 slightly lower than the outer surface of the enclosure board 1 under the force, and then the

limiting rod 13 is rotated to make the limiting rod 13 rotate to a position corresponding to the limiting groove. And after releasing the hand, the spring 14 will apply pressure on the pressing plate 15 and the pressing plate 15 will drive the bottom plate 7 outward. At this time, the limiting rod 13 will enter the limiting groove to prevent the limiting rod 13 from rotating, so as to achieve the effect of limiting the movement of the bottom plate 7.

The above is only a preferred embodiment of the present application, but the scope of protection of the present application is not limited thereto. Any change or alternative that can be easily conceived by a person skilled in the art within the technical scope of the present application is intended to be covered by the scope of protection of the present application. Therefore, the scope of protection of this application should be subject to the scope of protection of the claims.

CLAIMS

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1. An enclosure device for construction of an assembled building curtain wall, characterized by comprising an enclosure board (1), wherein first accommodating grooves are arranged on two side walls corresponding to the long sides of the enclosure board (1); supporting mechanisms are arranged in the two first accommodating grooves; the bottom of the supporting mechanisms is hinged with the bottom of the enclosure board (1); and the supporting mechanisms are used for supporting the enclosure board (1); two side walls corresponding to the short side of the enclosure board (1) are respectively provided with a first connecting structure and a second connecting structure, and the first connecting structure and the second connecting structure of two adjacent enclosure boards (1) are matched.

2. The enclosure device for the construction of the assembled building curtain wall according to claim 1, characterized in that the supporting mechanism comprises a bottom plate (7), the bottom of the first accommodating groove is fixedly connected with a connecting shaft (6), and the bottom plate (7) is hinged with the enclosure board (1) through the connecting shaft (6); one side of the bottom plate (7) close to the enclosure board (1) is rotatably connected with a lower support plate (10), the top of the first accommodating groove is rotatably connected with an upper support plate (9), and the lower support plate (10) is detachably connected with the upper support plate (9).

3. The enclosure device for the construction of the assembled building curtain wall according to claim 2, characterized in that one side of the upper support plate (9) close to the enclosure board (1) is provided with a connecting chute (16), and the lower support plate (10) is matched with the connecting chute (16); a square sleeve (11) is sleeved on the upper support plate (9) in a sliding mode, a second bolt (12) is screwed on the square sleeve (11), and the upper support plate (9) and the low support plate (10) are detachably connected through the square sleeve (11) and the second bolt (12).

4. The enclosure device for the construction of the assembled building curtain wall according to claim 2, characterized in that the thickness of the bottom plate (7) is not greater than the groove depth of the first accommodating groove.

5. The enclosure device for the construction of the assembled building curtain wall according to claim 3, characterized in that the bottom plate (7) is provided with a second

accommodating groove (8), one end of the lower support plate (10) is rotatably connected with one end of the second accommodating groove (8) far away from the enclosure board (1), and the lower support plate (10) is matched with the second accommodating groove (8); the enclosure board (1) is provided with a third accommodating groove (5), the third accommodating groove (5) is arranged in the first accommodating groove, one end of the upper support plate (9) is rotatably connected at the top of the third accommodating groove (5), the upper support plate (9) is matched with the third accommodating groove (5), and the width of the third accommodating groove (5) is not less than the width of the square sleeve (11).

6. The enclosure device for the construction of the assembled building curtain wall according to claim 1, characterized in that the first connecting structure is a connecting clamp block (2), the second connecting structure is a connecting groove (3), and the connecting clamp block (2) is matched with the connecting groove (3); a first bolt (4) is screwed on the enclosure board (1), and the first bolt (4) is correspondingly arranged with the connecting groove (3).

7. The enclosure device for the construction of the assembled building curtain wall according to claim 2, characterized in that the enclosure board (1) is rotatably connected with a limiting rod (13), one end of the bottom plate (7) far from the enclosure board (1) is provided with a limiting groove, and the limiting rod (13) is matched with the limiting groove.

8. The enclosure device for the construction of the assembled building curtain wall according to claim 7, characterized in that a spring (14) is fixedly connected to the first accommodating groove, a pressing plate (15) is fixedly connected to the end of the spring (14), and the pressing plate (15) abuts on the bottom plate (7).

9. The enclosure device for the construction of the assembled building curtain wall according to claim 6, characterized in that the connecting groove (3) consists of a movable groove body (3.1) and a fixed groove body (3.2), wherein the movable groove body (3.1) and the fixed groove body (3.2) are both L-shaped in structure, the movable groove body (3.1) and the fixed groove body (3.2) are symmetrically arranged, the movable groove body (3.1) is hinged with the enclosure board (1), the fixed groove body (3.2) is fixedly connected with the enclosure board (1), and the first bolt (4) is screwed on the movable groove body (3.1).

PATENTANSPRÜCHE

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1. Eine Einhausungsvorrichtung für die Konstruktion einer montierten Gebäudevorhangwand, dadurch gekennzeichnet, dass die eine Umhüllungsplatte (1) umfasst, wobei erste Aufnahmenuten an zwei Seitenwänden angeordnet sind, entsprechend den langen Seiten der Umhüllungsplatte (1); Stützmechanismen sind in den zwei ersten Aufnahmenuten angeordnet; die Unterseite der Stützmechanismen ist mit der Unterseite der Umhüllungsplatte (1) gelenkig verbunden; und die Stützmechanismen werden zum Stützen der Umhüllungsplatte (1) verwendet; zwei Seitenwände, entsprechend der kurzen Seite der Umhüllungsplatte (1), sind jeweils mit einer ersten Verbindungsstruktur und einer zweiten Verbindungsstruktur versehen, und die erste Verbindungsstruktur und die zweite Verbindungsstruktur von zwei benachbarten Umhüllungsplatten (1) abgestimmt sind.
2. Die Einhausungsvorrichtung für die Konstruktion einer montierten Gebäudevorhangwand nach Anspruch 1, dadurch gekennzeichnet, dass der Stützmechanismus eine Bodenplatte (7) umfasst, der Boden der ersten Aufnahmenut fest mit einer Verbindungswelle (6) verbunden ist, und die Bodenplatte (7) über die Verbindungswelle (6) mit der Umhüllungsplatte (1) gelenkig verbunden ist; eine Seite der Bodenplatte (7) nahe der Umhüllungsplatte (1) drehbar mit einer unteren Stützplatte (10) verbunden ist, die Oberseite der ersten Aufnahmenut drehbar mit einer oberen Stützplatte (9) verbunden ist und die untere Stützplatte (10) lösbar mit der oberen Stützplatte (9) verbunden ist.
3. Die Einhausungsvorrichtung für die Konstruktion einer montierten Gebäudevorhangwand nach Anspruch 2, dadurch gekennzeichnet, dass eine Seite der oberen Stützplatte (9) nahe der Umhüllungsplatte (1) mit einer Verbindungsricksche (16) versehen ist und die untere Stützplatte (10) mit der Verbindungsricksche (16) abgestimmt ist; eine Vierkanthülse (11) gleitend auf die obere Stützplatte (9) aufgeschoben wird, ein zweiter Bolzen (12) auf die Vierkanthülse (11) aufgeschraubt wird und die obere Stützplatte (9) und die untere Stützplatte (10) durch die Vierkanthülse (11) und den zweiten Bolzen (12) lösbar verbunden sind.
4. Die Einhausungsvorrichtung für die Konstruktion einer montierten Gebäudevorhangwand nach Anspruch 2, dadurch gekennzeichnet, dass die Dicke der Bodenplatte (7) nicht größer als die Nuttiefe der ersten Aufnahmenut ist.

5. Die Einhausungsvorrichtung für die Konstruktion einer montierten Gebäudevorhangwand nach Anspruch 3, dadurch gekennzeichnet, dass die Bodenplatte (7) mit einer zweiten Aufnahmenut (8) versehen ist, ein Ende der unteren Stützplatte (10) drehbar mit einem Ende der zweiten Aufnahmenut (8) weit entfernt von der Umhüllungsplatte (1) verbunden ist und die untere Stützplatte (10) mit der zweiten Aufnahmenut (8) abgestimmt ist; die Umhüllungsplatte (1) mit einer dritten Aufnahmenut (5) versehen ist, die dritte Aufnahmenut (5) in der ersten Aufnahmenut angeordnet ist, ein Ende der oberen Stützplatte (9) drehbar mit der Oberseite der dritten Aufnahmenut (5) verbunden ist, die obere Stützplatte (9) an die dritte Aufnahmenut (5) angepasst ist, und die Breite der dritten Aufnahmenut (5) nicht geringer ist als die Breite der Vierkanthülse (11).
6. Die Einhausungsvorrichtung für die Konstruktion einer montierten Gebäudevorhangwand nach Anspruch 1, dadurch gekennzeichnet, dass die erste Verbindungsstruktur ein Verbindungsklemmblock (2) ist, die zweite Verbindungsstruktur eine Verbindungsnut (3) ist, und der Verbindungsklemmblock (2) ist mit der Verbindungsnut (3) abgestimmt; ein erster Bolzen (4) ist auf die Umhüllungsplatte (1) geschraubt, und der erste Bolzen (4) ist entsprechend mit der Verbindungsnut (3) angeordnet.
7. Die Einhausungsvorrichtung für die Konstruktion einer montierten Gebäudevorhangwand nach Anspruch 2, dadurch gekennzeichnet, dass die Umhüllungsplatte (1) mit einer Begrenzungsstange (13) drehbar verbunden ist, ein von der Umhüllungsplatte (1) entferntes Ende der Bodenplatte (7) mit einer Begrenzungsnut versehen ist und die Begrenzungsstange (13) an die Begrenzungsnut angepasst ist.
8. Die Einhausungsvorrichtung für die Konstruktion einer montierten Gebäudevorhangwand nach Anspruch 7, dadurch gekennzeichnet, dass eine Feder (14) fest mit der ersten Aufnahmenut verbunden ist, eine Druckplatte (15) fest mit dem Ende der Feder (14) verbunden ist und die Druckplatte (15) an der Bodenplatte (7) anliegt.
9. Die Einhausungsvorrichtung für die Konstruktion einer montierten Gebäudevorhangwand nach Anspruch 6, dadurch gekennzeichnet, dass die Verbindungsnut (3) aus einem beweglichen Nutkörper (3.1) und einem festen Nutkörper (3.2) besteht, wobei der bewegliche Nutkörper (3.1) und der feste Nutkörper (3.2) beide eine L-förmige Struktur aufweisen, der bewegliche Nutkörper (3.1) und der feste Nutkörper (3.2) symmetrisch angeordnet sind, der bewegliche

Nutkörper (3.1) mit der Umhüllungsplatte (1) gelenkig verbunden ist, der feste Nutkörper (3.2) mit der Umhüllungsplatte (1) fest verbunden ist und der erste Bolzen (4) auf den beweglichen Nutkörper (3.1) geschraubt ist. U504366

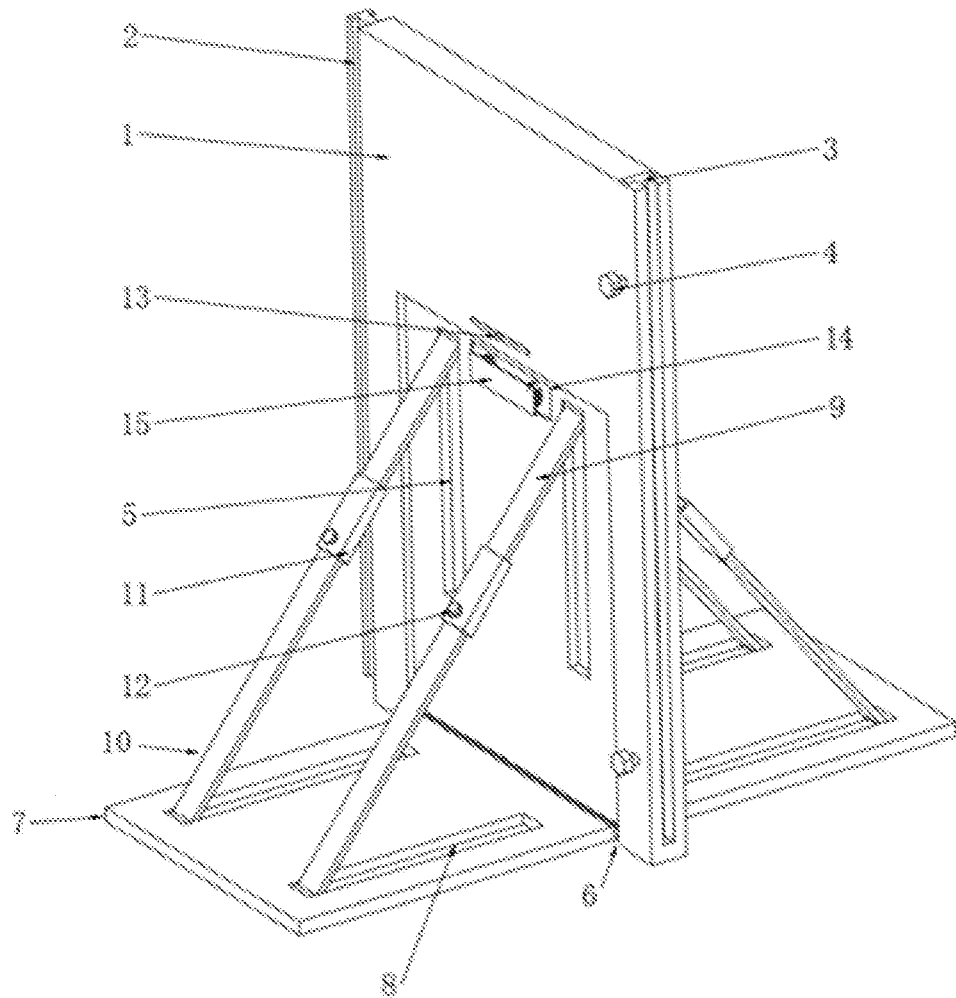


FIG. 1

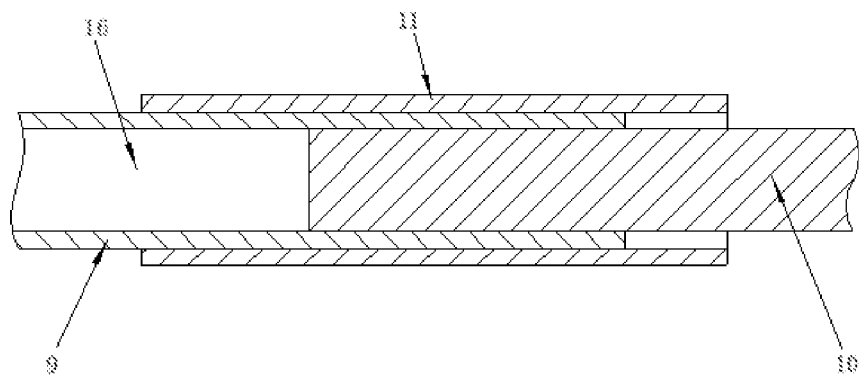


FIG. 2

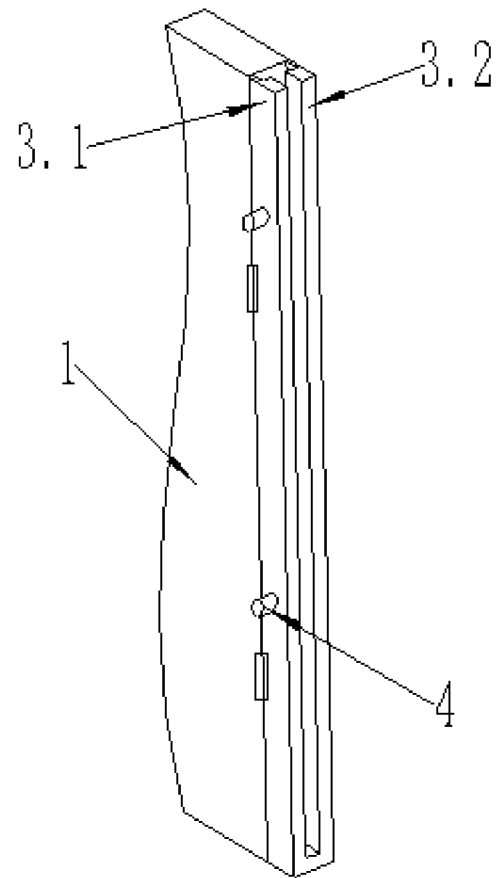


FIG. 3