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CA 2830567 A1 2014/04/30

(21) 2 830 567

(12) DEMANDE DE BREVET CANADIEN
CANADIAN PATENT APPLICATION

(13) A1

(22) Date de dépôt/Filing Date: 2013/10/21

(41) Mise à la disp. pub./Open to Public Insp.: 2014/04/30

(30) Priorité/Priority: 2012/10/31 (TW101140392)

(51) Cl.Int./Int.Cl. *B65D 6/08* (2006.01),
B65D 25/00 (2006.01)

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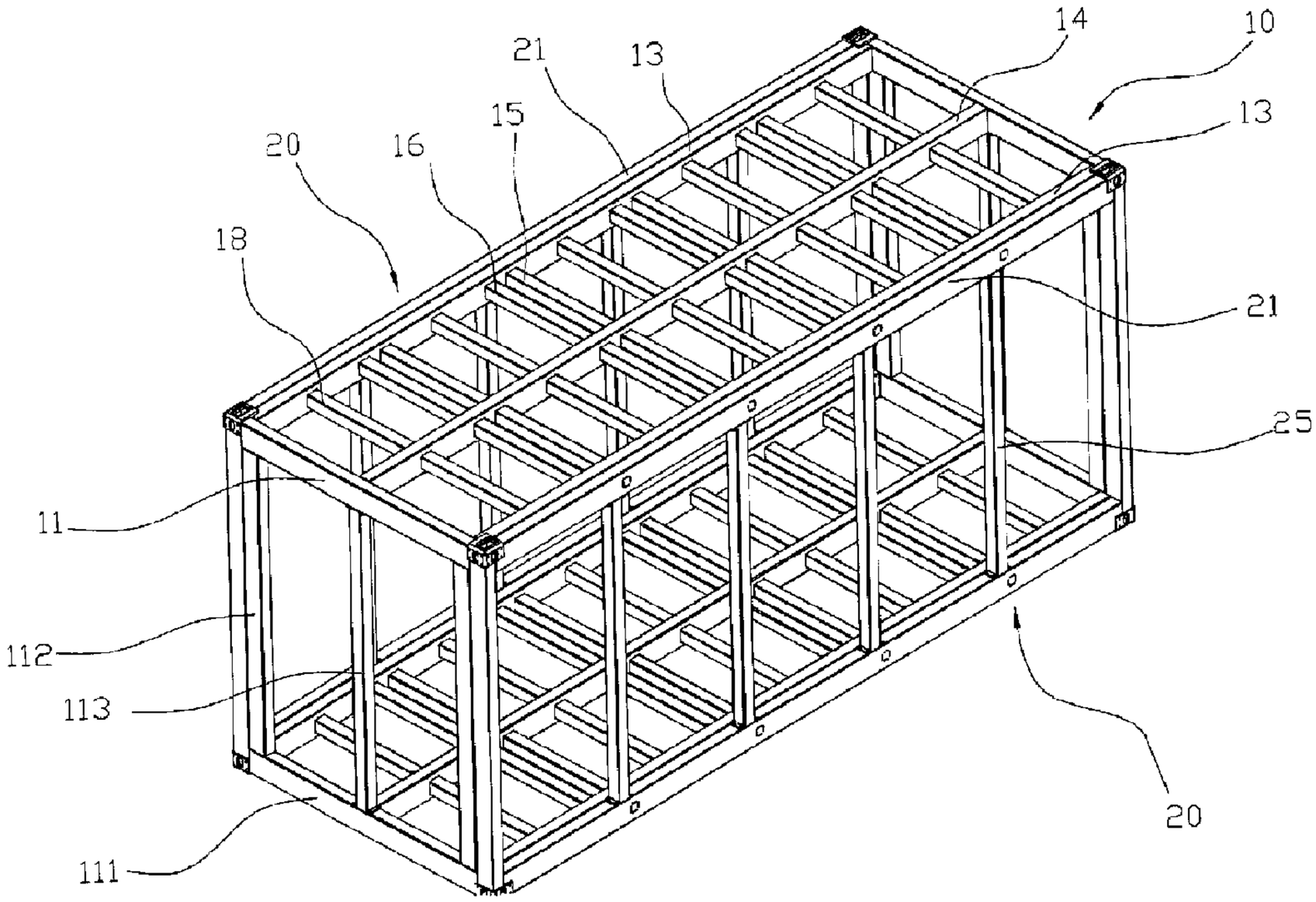
(54) Titre : STRUCTURE DE CONTENANT
(54) Title: CONTAINER STRUCTURE



(57) Abrégé/Abstract:
A container structure includes a container body (10), and two movable racks (20) mounted on two opposite sides of the container body. Thus, when the movable racks are retracted to abut the container body, the first extension bars (22), the second extension bars (23) and the third extension bars (24) of each of the movable racks construct a reinforcing structure to enhance the structural strength of the container body. In addition, when the movable racks are fully expanded from the container body, the container body is combined with and extended by the movable racks to increase the space of placement and storage so as to transport more items.

CONTAINER STRUCTURE

ABSTRACT

A container structure includes a container body (10), and two movable racks (20) mounted on two opposite sides of the container body. Thus, when the movable racks are retracted to abut the container body, the first extension bars (22), the second extension bars (23) and the third extension bars (24) of each of the movable racks construct a reinforcing structure to enhance the structural strength of the container body. In addition, when the movable racks are fully expanded from the container body, the container body is combined with and extended by the movable racks to increase the space of placement and storage so as to transport more items.

(FIG. 2)

CONTAINER STRUCTURE

This application claims priority on Taiwanese Patent Application No. 101140392 filed October 31, 2012, incorporated herein by reference.

The present invention relates to a container structure and, more particularly, to a container structure for a cargo and the like.

A container is used to place and store a cargo to facilitate a user storing and transporting the cargo. A conventional container includes a container body and a door pivotally mounted on an open end of the container body to allow entrance of the cargo. However, the conventional container has a fixed structure with a limited receiving space that cannot be expanded and increased according the practical requirement.

The primary objective of the present invention is to provide a container structure with an expandable and stretchable structure.

In accordance with the present invention, there is provided a container structure comprising a container body, and two movable racks mounted on two opposite sides of the container body. The container body includes two upright outer frames each having four corners, four first lengthwise connecting bars connected between the four corners of the outer frames, two second lengthwise connecting bars each connected between the outer frames and each located between two of the first lengthwise connecting bars, a plurality of first crosswise

connecting bars each connected between two of the first lengthwise connecting bars and each extended through the respective second lengthwise connecting bar, and a plurality of second crosswise connecting bars each connected between two of the first lengthwise connecting bars and each extended through the respective second lengthwise connecting bar. Each of the outer frames of the container body includes two upright supports, and two transverse supports each connected between the upright supports. Each of the transverse supports of each of the outer frames has a hollow shape and has two opposite ends each formed with an open mounting channel for mounting a protective sleeve. The protective sleeve of each of the outer frames is provided with a first mounting hole and a second mounting hole located under the first mounting hole. Each of the first lengthwise connecting bars of the container body is provided with multiple pairs of passages to allow entrance of the first crosswise connecting bars and the second crosswise connecting bars. The container body further includes a plurality of mounting sleeves each mounted in the respective passage of each of the first lengthwise connecting bars. The mounting sleeves of the container body respectively align with the first crosswise connecting bars and the second crosswise connecting bars. Each of the first crosswise connecting bars of the container body has a hollow shape. Each of the second crosswise connecting bars of the container body has a hollow shape. Each of the movable racks includes a side frame having a first end

and a second end, two first extension bars each connected with the first end of the side frame and each extended through the first mounting hole of the respective protective sleeve into the respective transverse support of one of the outer frames, two second extension bars each connected with the second end of the side frame and each extended through the second mounting hole of the respective protective sleeve into the respective transverse support of the other one of the outer frames, and a plurality of third extension bars each connected with the side frame. Each of the third extension bars of one of the movable racks is extended into the respective first crosswise connecting bar of the container body, and each of the third extension bars of the other one of the movable racks is extended into the respective second crosswise connecting bar of the container body.

According to the primary advantage of the present invention, when the movable racks are retracted to abut the container body, the first extension bars, the second extension bars and the third extension bars of each of the movable racks construct a reinforcing structure to enhance the structural strength of the container body, so that the container body can withstand a heavier load.

According to another advantage of the present invention, when the movable racks are fully expanded from the container body, the container body is combined with and extended by the movable racks to increase the space of

placement and storage so as to transport more items and to decrease the cost of transportation.

According to a further advantage of the present invention, the container body co-operates with the movable racks to increase the space of usage so that the container assembly is available for other purposes, such as functioning as a combination house, a temporary apartment or the like, thereby enhancing the versatility of the container assembly.

Further benefits and advantages of the present invention will become apparent after a careful reading of the detailed description with appropriate reference to the accompanying drawings.

In the drawings:

FIG. 1 is a perspective view of a container structure in accordance with the preferred embodiment of the present invention.

FIG. 2 is a partially exploded perspective view of the container structure as shown in FIG. 1.

FIG. 3 is a locally enlarged view of the container structure as shown in FIG. 2.

FIG. 4 is a side cross-sectional view of the container structure as shown in FIG. 1.

FIG. 5 is a perspective view showing usage of the container structure as shown in FIG. 1.

FIG. 6 is a perspective operational view of the container structure as shown in FIG. 1 in use.

FIG. 7 is a locally enlarged view of the container structure as shown in FIG. 6.

FIG. 8 is a side cross-sectional view of the container structure as shown in FIG. 6.

Referring to the drawings and initially to FIGS. 1-4, a container structure in accordance with the preferred embodiment of the present invention comprises a container body 10, and two movable racks 20 mounted on two opposite sides of the container body 10.

The container body 10 includes two upright outer frames 11 each having four corners, four first lengthwise connecting bars 13 connected between the four corners of the outer frames 11, two second lengthwise connecting bars 14 each connected between the outer frames 11 and each located between two of the first lengthwise connecting bars 13, a plurality of first crosswise connecting bars 15 each connected between two of the first lengthwise connecting bars 13 and each extended through the respective second lengthwise connecting bar 14, a plurality of second crosswise connecting bars 16 each connected between two of the first

lengthwise connecting bars 13 and each extended through the respective second lengthwise connecting bar 14, and a plurality of crosswise reinforcing bars 18 each connected between two of the first lengthwise connecting bars 13.

Each of the outer frames 11 of the container body 10 includes two upright supports 112, two transverse supports 111 each connected between the upright supports 112, and an upright reinforcing post 113 connected between the transverse supports 111 and located between the upright supports 112. The upright reinforcing post 113 of each of the outer frames 11 is located at a central position of each of the outer frames 11. Each of the transverse supports 111 of each of the outer frames 11 has a hollow shape and has two opposite ends each formed with an open mounting channel 1110 for mounting a protective sleeve 12. The protective sleeve 12 of each of the outer frames 11 is provided with a first mounting hole 121 and a second mounting hole 122 located under the first mounting hole 121.

Each of the first lengthwise connecting bars 13 of the container body 10 is provided with multiple pairs of passages 131 to allow entrance of the first crosswise connecting bars 15 and the second crosswise connecting bars 16. The container body 10 further includes a plurality of mounting sleeves 17 each mounted in the respective passage 131 of each of the first lengthwise connecting bars 13. The mounting sleeves 17 of the container body 10 respectively align with

the first crosswise connecting bars 15 and the second crosswise connecting bars 16. Each of the second lengthwise connecting bars 14 of the container body 10 is parallel with each of the first lengthwise connecting bars 13. Each of the first crosswise connecting bars 15 of the container body 10 has a hollow shape. Each of the second crosswise connecting bars 16 of the container body 10 has a hollow shape. Each of the crosswise reinforcing bars 18 of the container body 10 is parallel with each of the first crosswise connecting bars 15 and each of the second crosswise connecting bars 16.

Each of the movable racks 20 includes a side frame 21 having a first end and a second end, two first extension bars 22 each connected with the first end of the side frame 21 and each extended through the first mounting hole 121 of the respective protective sleeve 12 into the respective transverse support 111 of one of the outer frames 11, two second extension bars 23 each connected with the second end of the side frame 21 and each extended through the second mounting hole 122 of the respective protective sleeve 12 into the respective transverse support 111 of the other one of the outer frames 11, a plurality of third extension bars 24 each connected with the side frame 21, and a plurality of upright reinforcing ribs 25 each mounted on the side frame 21.

The side frame 21 of each of the movable racks 20 has a rectangular shape. The third extension bars 24 of each of the movable racks 20 are located

between the first extension bars 22 and the second extension bars 23. Each of the third extension bars 24 of one of the movable racks 20 is extended into the respective first crosswise connecting bar 15 of the container body 10, and each of the third extension bars 24 of the other one of the movable racks 20 is extended into the respective second crosswise connecting bar 16 of the container body 10. Each of the third extension bars 24 of each of the movable racks 20 is extended through the respective mounting sleeve 17. Thus, each of the third extension bars 24 of each of the movable racks 20 is separated from the respective first crosswise connecting bar 15 or the respective second crosswise connecting bar 16 of the container body 10 via the respective mounting sleeve 17 so that each of the third extension bars 24 of each of the movable racks 20 will not directly contact, rub and wear the respective first crosswise connecting bar 15 or the respective second crosswise connecting bar 16 of the container body 10. Each of the upright reinforcing ribs 25 of the container body 10 is perpendicular to each of the third extension bars 24.

Before assembly, the first extension bars 22 of one of the movable racks 20 align with the second extension bars 23 of the other one of the movable racks 20, and the second extension bars 23 of one of the movable racks 20 align with the first extension bars 22 of the other one of the movable racks 20. In addition, the third extension bars 24 of one of the movable racks 20 align with the first

crosswise connecting bars 15 of the container body 10, and the third extension bars 24 of the other one of the movable racks 20 align with the second crosswise connecting bars 16 of the container body 10.

In assembly, one of the movable racks 20 is initially mounted on one side of the container body 10. At this time, each of the first extension bars 22 is extended through the first mounting hole 121 of the respective protective sleeve 12 into the respective transverse support 111, each of the second extension bars 23 is extended through the second mounting hole 122 of the respective protective sleeve 12 into the respective transverse support 111, and each of the third extension bars 24 is extended into the respective first crosswise connecting bar 15 of the container body 10. Then, the other one of the movable racks 20 is mounted on the other side of the container body 10. At this time, each of the first extension bars 22 is extended through the first mounting hole 121 of the respective protective sleeve 12 into the respective transverse support 111, each of the second extension bars 23 is extended through the second mounting hole 122 of the respective protective sleeve 12 into the respective transverse support 111, and each of the third extension bars 24 is extended into the respective second crosswise connecting bar 16 of the container body 10.

As shown in FIG. 5, each of the movable racks 20 is retracted to abut the container body 10. At this time, the first extension bars 22, the second extension

bars 23 and the third extension bars 24 of each of the movable racks 20 construct a reinforcing structure to enhance the structural strength of the container body 10.

Referring to FIGS. 6-8, each of the movable racks 20 is fully expanded from the container body 10. At this time, the first extension bars 22 and the second extension bars 23 of each of the movable racks 20 are fully extended outward from the transverse supports 111 of the container body 10, and the third extension bars 24 of each of the movable racks 20 are fully extended outward from the first crosswise connecting bars 15 and the second crosswise connecting bars 16 of the container body 10. In such a manner, each of the movable racks 20 is unfolded from the container body 10 as shown in FIG. 6 so that the container body 10 is combined with and extended by the movable racks 20 so as to increase the space for placement and storage of cargo.

Accordingly, when the movable racks 20 are retracted to abut the container body 10, the first extension bars 22, the second extension bars 23 and the third extension bars 24 of each of the movable racks 20 construct a reinforcing structure to enhance the structural strength of the container body 10, so that the container body 10 can withstand a heavier load. In addition, when the movable racks 20 are fully expanded from the container body 10, the container body 10 is combined with and extended by the movable racks 20 to increase the space of placement and storage so as to transport more items and to decrease the cost of

transportation. Further, the container body 10 co-operates with the movable racks 20 to increase the space of usage so that the container assembly is available for other purposes, such as functioning as a combination house, a temporary apartment or the like, thereby enhancing the versatility of the container assembly.

Although the invention has been explained in relation to its preferred embodiment(s) as mentioned above, it is to be understood that many other possible modifications and variations can be made without departing from the scope of the present invention. It is, therefore, contemplated that the appended claim or claims will cover such modifications and variations that fall within the true scope of the invention.

The embodiment(s) of the invention in which an exclusive property or privilege is claimed is/are defined as follows:

1. A container structure comprising:

a container body; and

two movable racks mounted on two opposite sides of the container body;

wherein:

the container body includes:

two upright outer frames each having four corners;

four first lengthwise connecting bars connected between the four corners of the outer frames;

two second lengthwise connecting bars each connected between the outer frames and each located between two of the first lengthwise connecting bars;

a plurality of first crosswise connecting bars each connected between two of the first lengthwise connecting bars and each extended through the respective second lengthwise connecting bar; and

a plurality of second crosswise connecting bars each connected between two of the first lengthwise connecting bars and each extended through the respective second lengthwise connecting bar;

each of the outer frames of the container body includes:

two upright supports; and

two transverse supports each connected between the upright supports;

each of the transverse supports of each of the outer frames has a hollow shape and has two opposite ends each formed with an open mounting channel for mounting a protective sleeve;

the protective sleeve of each of the outer frames is provided with a first mounting hole and a second mounting hole located under the first mounting hole;

each of the first lengthwise connecting bars of the container body is provided with multiple pairs of passages to allow entrance of the first crosswise connecting bars and the second crosswise connecting bars;

the container body further includes a plurality of mounting sleeves each mounted in the respective passage of each of the first lengthwise connecting bars;

the mounting sleeves of the container body respectively align with the first crosswise connecting bars and the second crosswise connecting bars;

each of the first crosswise connecting bars of the container body has a hollow shape;

each of the second crosswise connecting bars of the container body has a hollow shape;

each of the movable racks includes:

a side frame having a first end and a second end;

two first extension bars each connected with the first end of the side frame and each extended through the first mounting hole of the respective protective sleeve into the respective transverse support of one of the outer frames;

two second extension bars each connected with the second end of the side frame and each extended through the second mounting hole of the respective protective sleeve into the respective transverse support of the other one of the outer frames; and

a plurality of third extension bars each connected with the side frame;

each of the third extension bars of one of the movable racks is extended into the respective first crosswise connecting bar of the container body; and

each of the third extension bars of the other one of the movable racks is extended into the respective second crosswise connecting bar of the container body.

2. The container structure of claim 1, wherein each of the second lengthwise connecting bars of the container body is parallel with each of the first lengthwise connecting bars, and each of the outer frames of the container body includes an upright reinforcing post connected between the transverse supports and located between the upright supports.

3. The container structure of claim 1, wherein the container body further includes a plurality of crosswise reinforcing bars each connected between two of

the first lengthwise connecting bars, and each of the crosswise reinforcing bars of the container body is parallel with each of the first crosswise connecting bars and each of the second crosswise connecting bars.

4. The container structure of claim 1, wherein the side frame of each of the movable racks has a rectangular shape, the third extension bars of each of the movable racks are located between the first extension bars and the second extension bars, each of the movable racks includes a plurality of upright reinforcing ribs each mounted on the side frame, and each of the upright reinforcing ribs of the container body is perpendicular to each of the third extension bars.

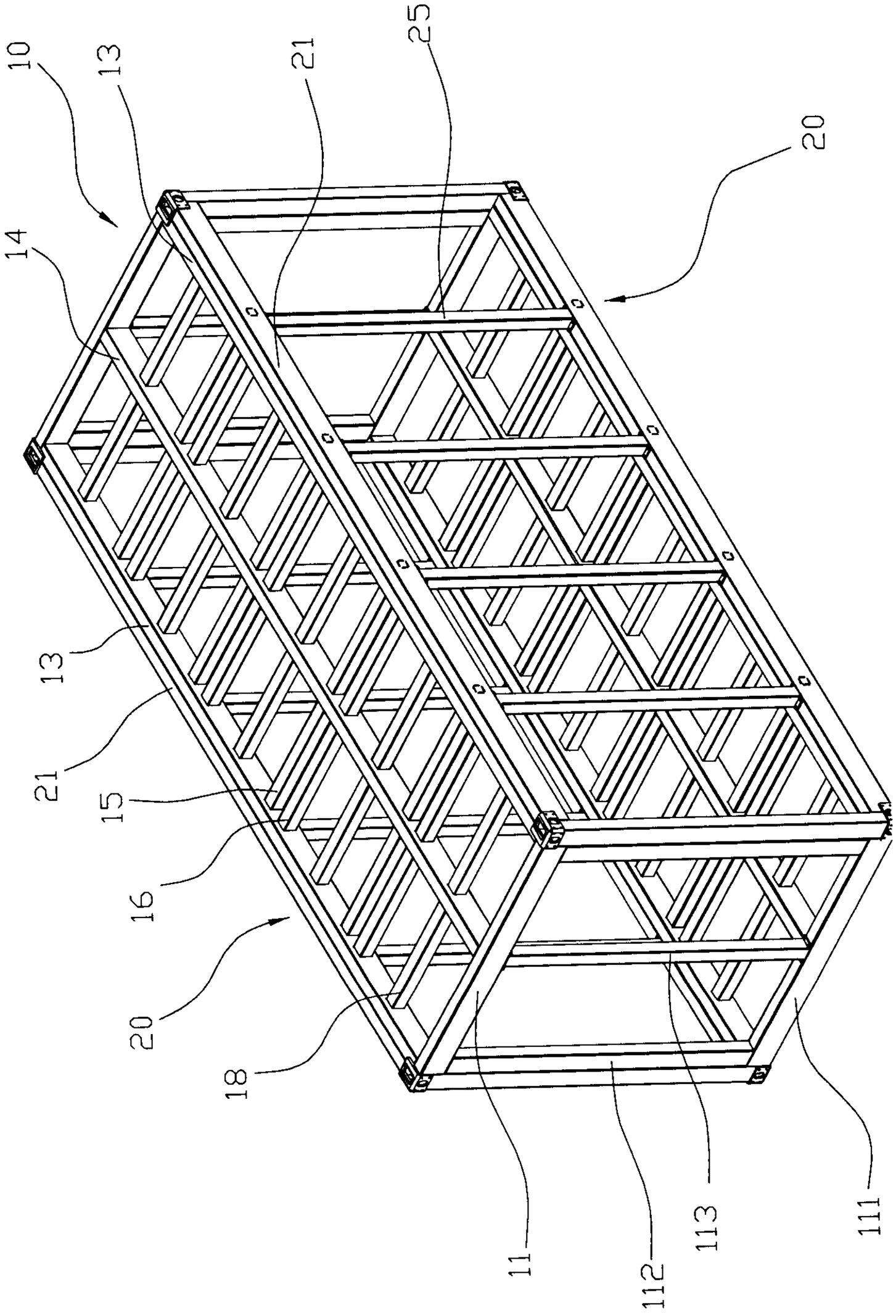


FIG. 1

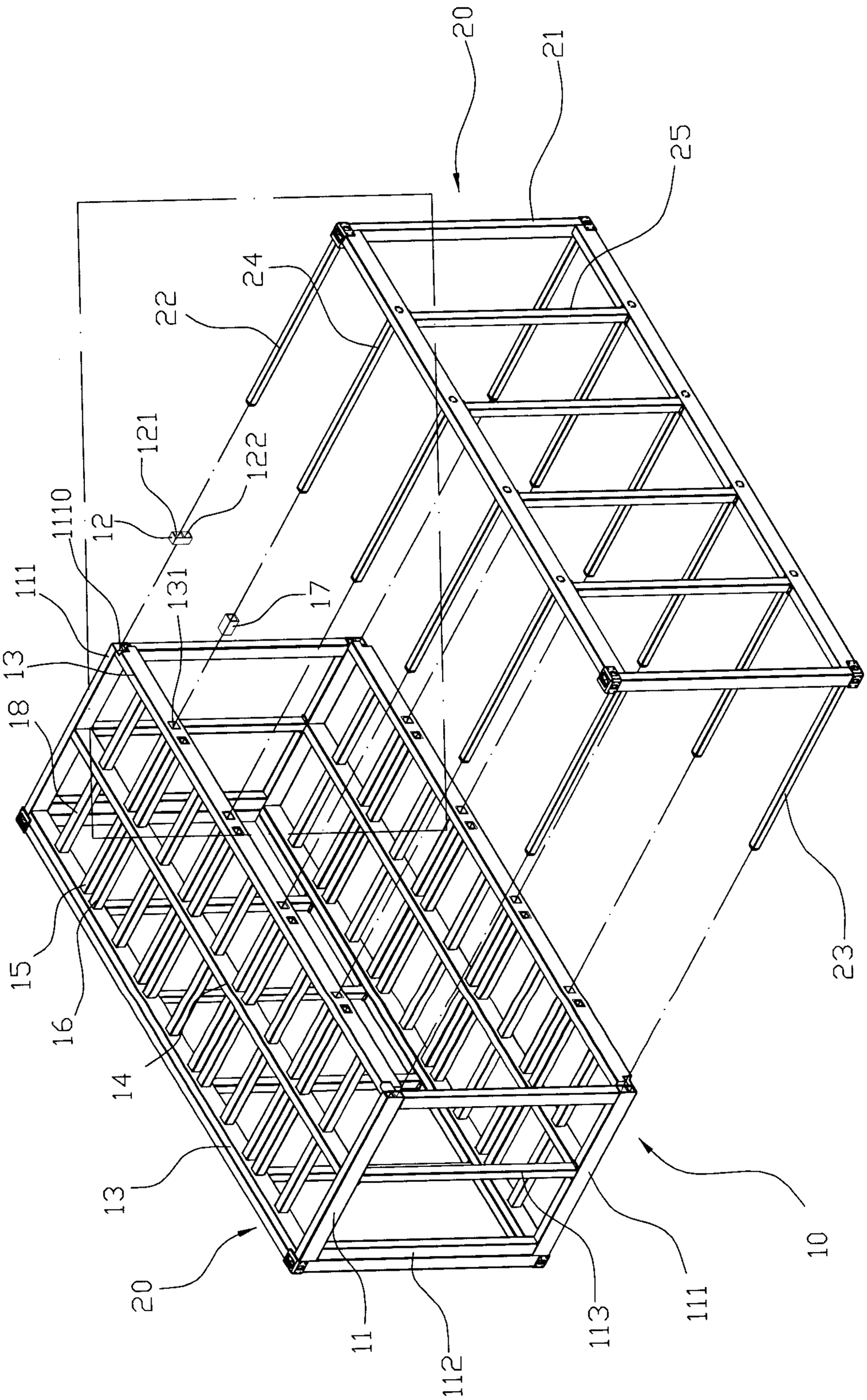

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FIG. 2

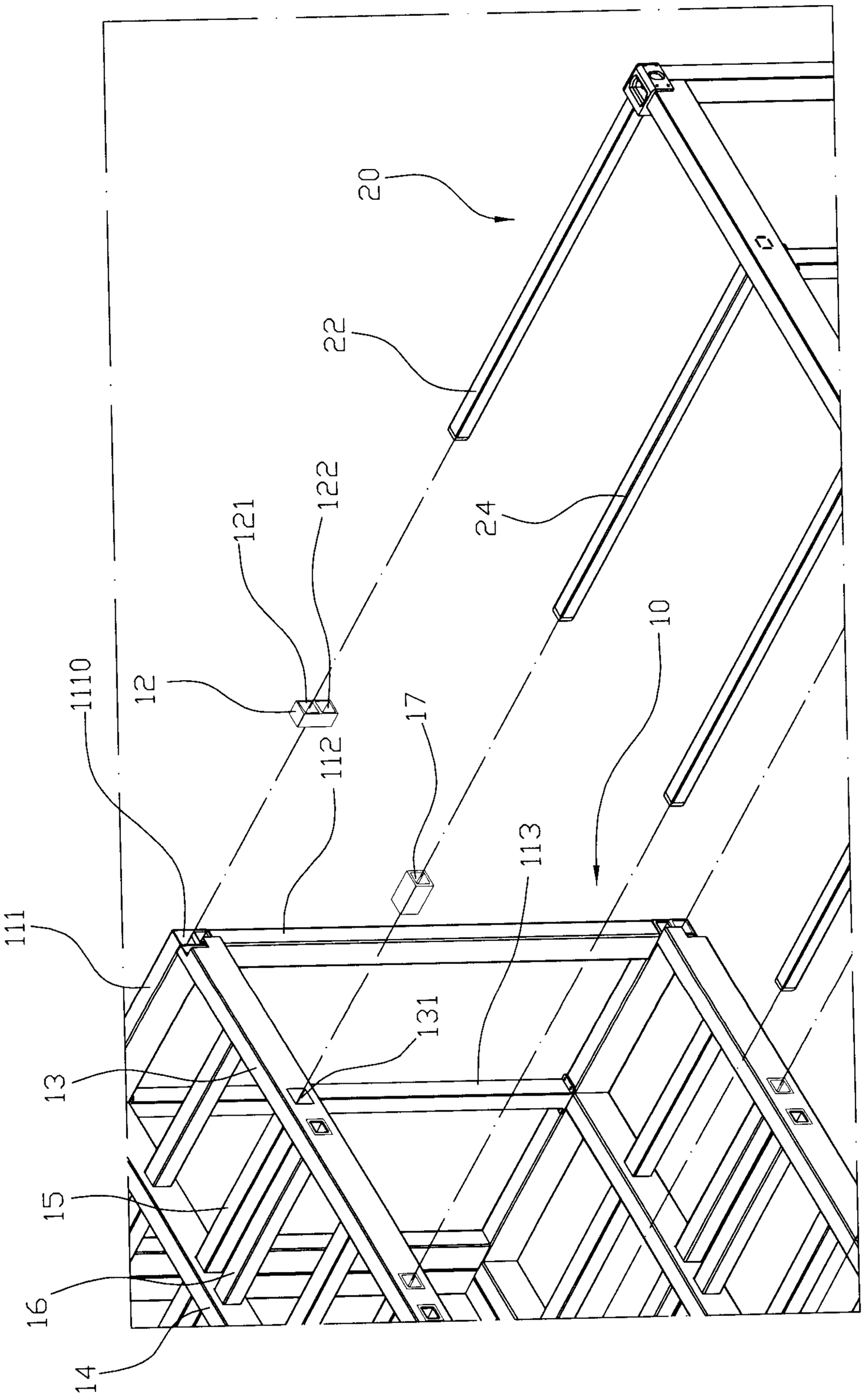


FIG. 3

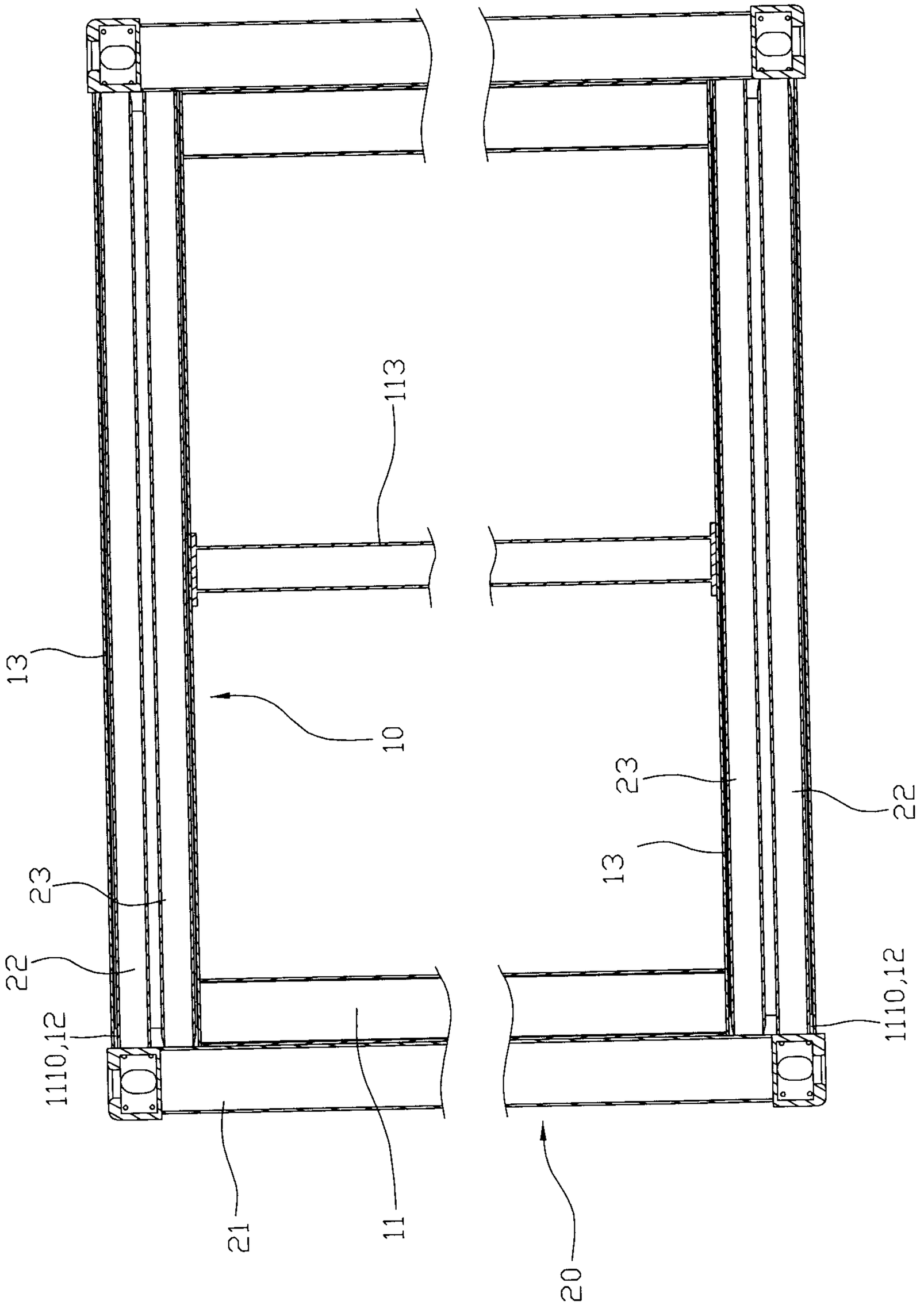


FIG. 4

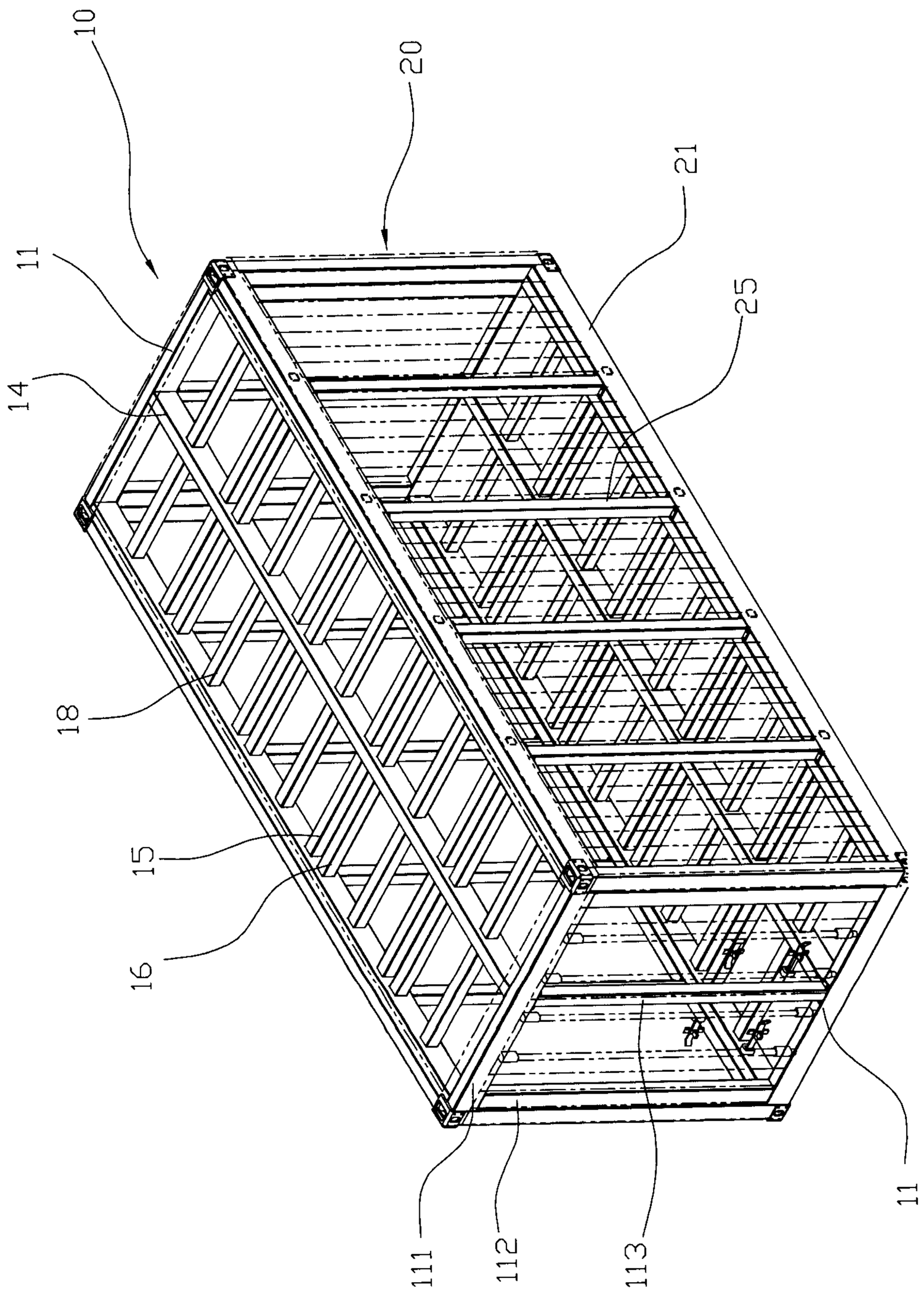


FIG. 5

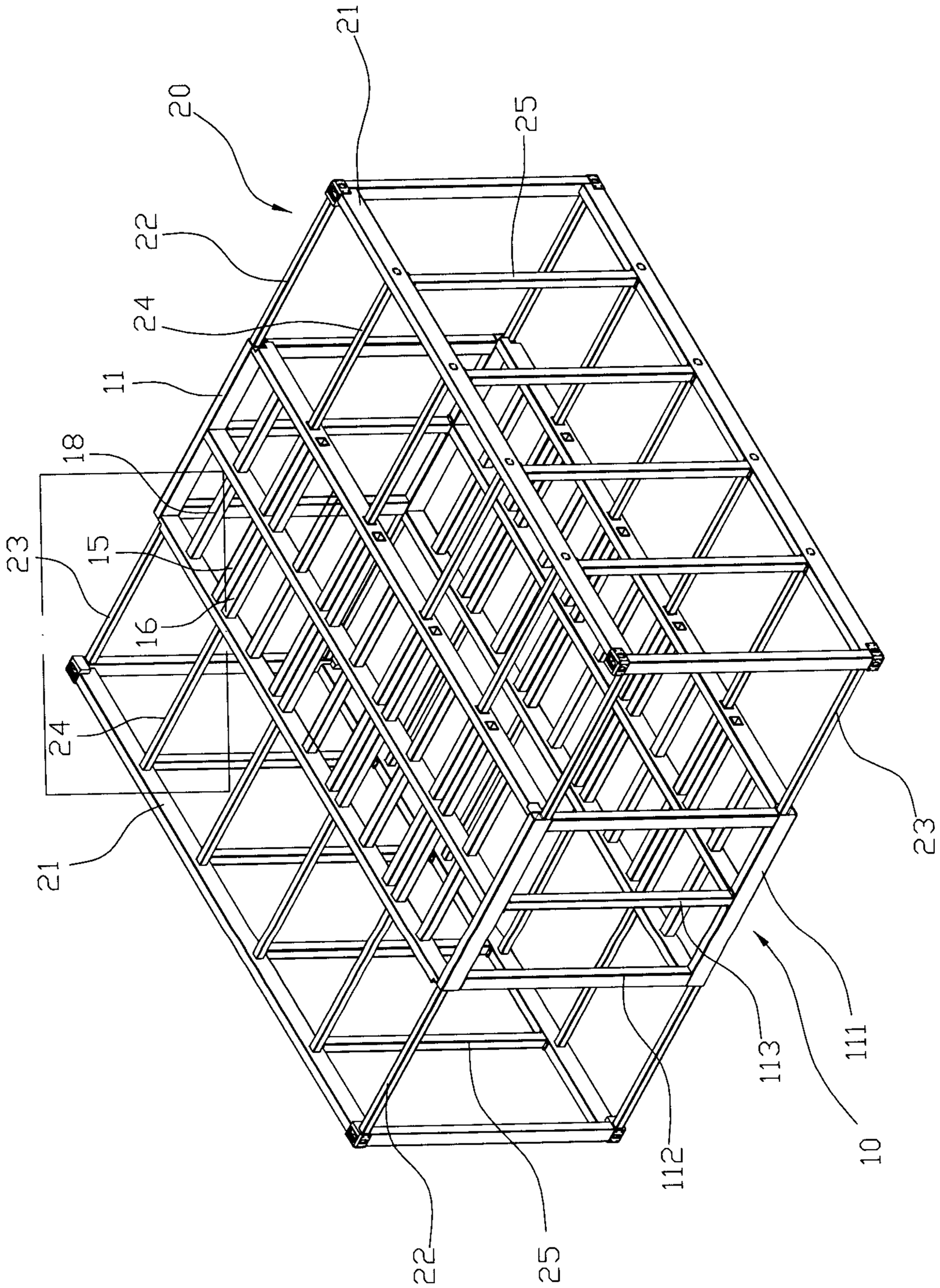


FIG. 6

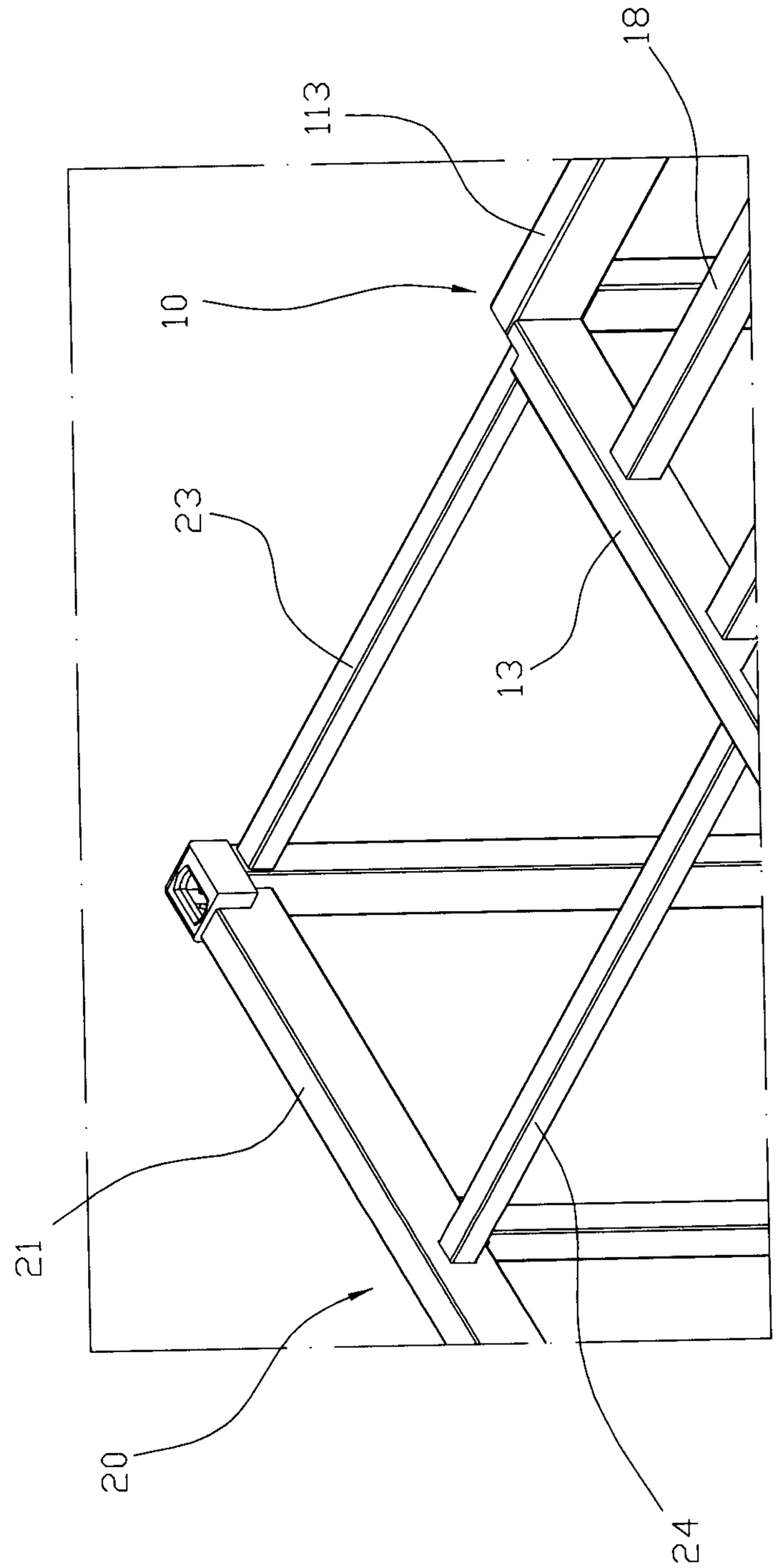


FIG. 7

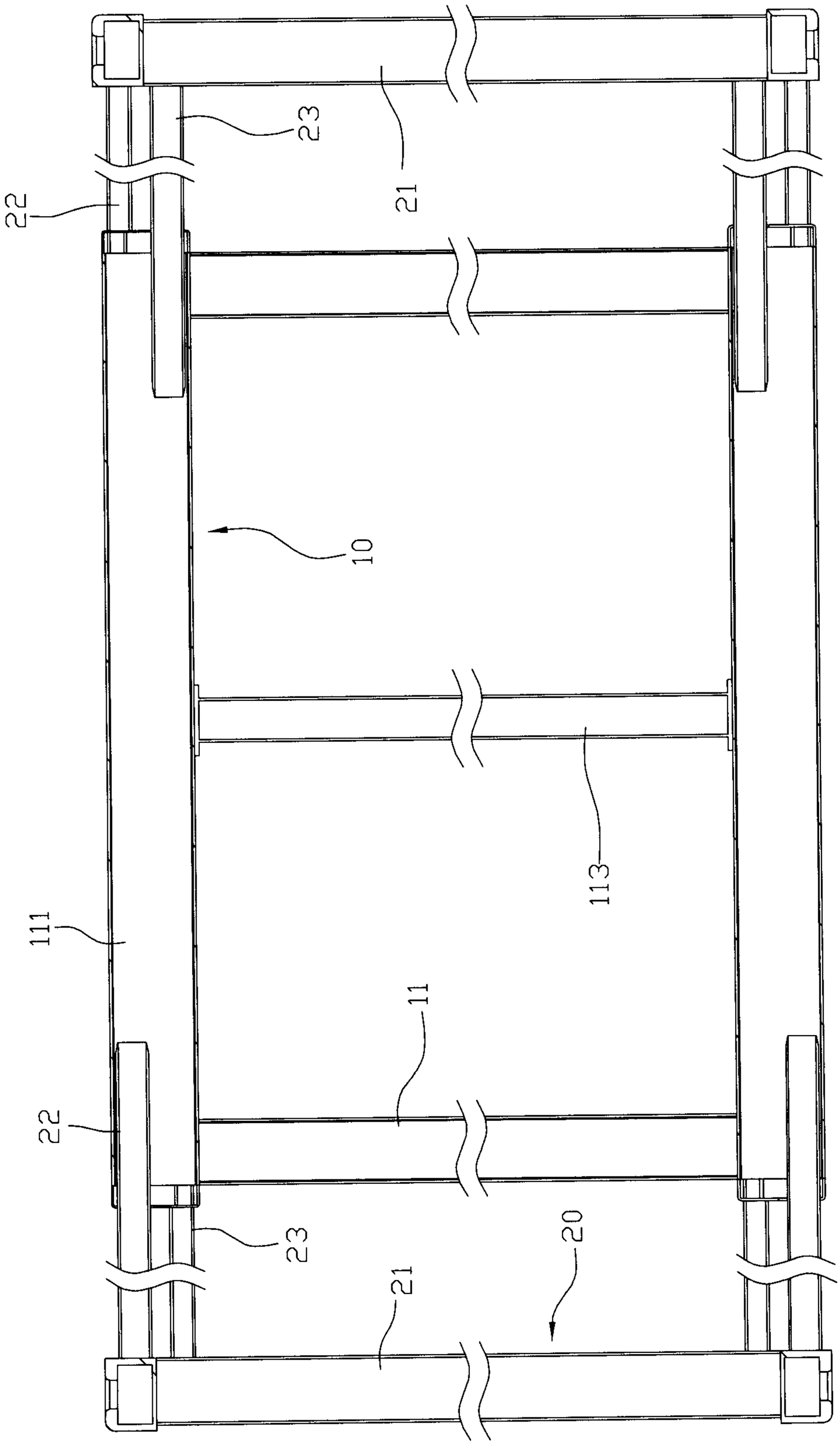
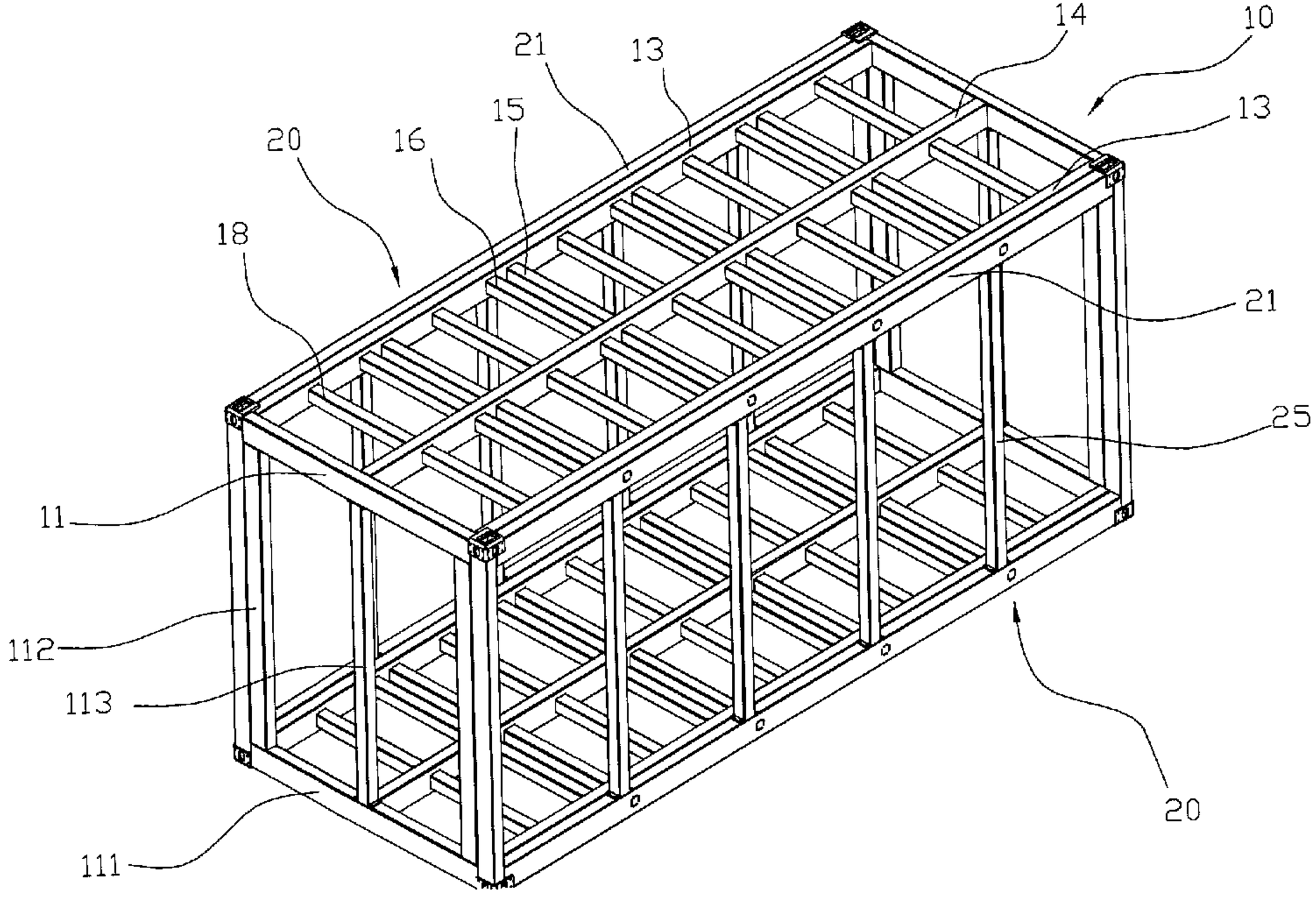


FIG. 8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