

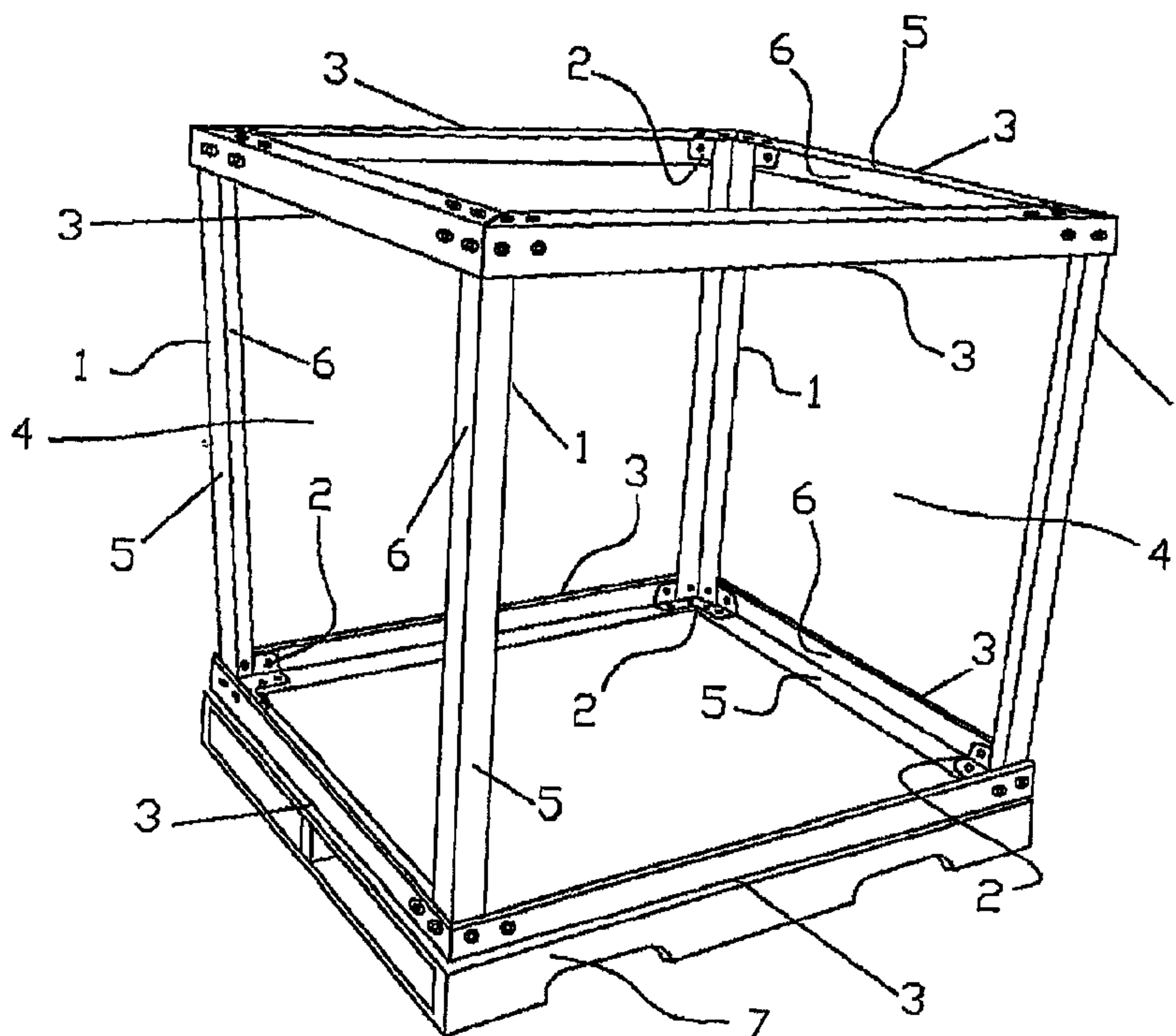


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(54) **Titre : STRUCTURE D'EMBALLAGE DE STOKAGE, DE TRANSPORT, DE PRESENTATION ET DE DISTRIBUTION DE PRODUITS**

(54) **Title: PACKAGING STRUCTURE FOR HOUSING, TRANSPORTING, DISPLAYING AND RETAILING PRODUCTS**



(57) **Abrégé/Abstract:**

The invention relates to a packaging structure for housing, transporting, displaying and retailing products at outlets. The inventive structure is of the type that consists of a three-dimensional cubic frame comprising four corner posts which are disposed in a rectangular or quadrangular arrangement and which are joined by means of corner cross members at the top and bottom thereof,



(57) Abrégé(suite)/Abstract(continued):

such as to form empty windows on all of the faces of the structure, the aforementioned corner posts and cross members are made from rigid pressboard and comprise two identical L-forming arms which are disposed with the vertices thereof facing into the structure. In addition, the structure is disposed on a base or pallet. The invention is characterized in that the corner posts and cross members are joined using structural angles comprising a section with a flat surface, which takes the form of an orthogonal bracket having a rounded vertex. A fixing flange having an essentially trapezoidal cross section projects upwards perpendicularly from each side of the bracket. According to the invention, the flanges and the bracket-forming flat section are equipped with holes for housing fixing means which are used to fix the arms of the posts and cross members. Furthermore, a rectangular recess is provided precisely at the outer corner of the orthogonal bracket.

ABSTRACT

The invention relates to a packaging structure for housing, transporting, displaying and retailing products at outlets. The inventive structure is of the type that consists of a three-dimensional cubic frame comprising four corner posts which are disposed in a rectangular or quadrangular arrangement and which are joined by means of corner cross members at the top and bottom thereof, such as to form empty windows on all of the faces of the structure, the aforementioned corner posts and cross members are made from rigid pressboard and comprise two identical L-forming arms which are disposed with the vertices thereof facing into the structure. In addition, the structure is disposed on a base or pallet. The invention is characterized in that the corner posts and cross members are joined using structural angles comprising a section with a flat surface, which takes the form of an orthogonal bracket having a rounded vertex. A fixing flange having an essentially trapezoidal cross section projects upwards perpendicularly from each side of the bracket. According to the invention, the flanges and the bracket-forming flat section are equipped with holes for housing fixing means which are used to fix the arms of the posts and cross members. Furthermore, a rectangular recess is provided precisely at the outer corner of the orthogonal bracket.

**PACKAGING STRUCTURE FOR HOUSING, TRANSPORTING, DISPLAYING AND
RETAILING PRODUCTS**

Field of the Invention

The present invention relates to the field of packaging and packing for diverse products, and particularly to a packaging structure for housing, transporting, displaying and retailing large volumes of product at outlets, intended for the final consumer; which has the particularity of housing and displaying the product at the outlets from where the final consumer may take it in the purchasing moment.

BACKGROUND OF THE INVENTION

At the present time, most industrialized products produced in large volumes, for commercialization and sale at great commercial centers and self-services centers, generally comprise a packing, container or primary packaging, which contains the product with predetermined weight and volume, and generally these variables account for consumer necessities as result of the commercial experience or as result of intense market research.

Accordingly, the product in said packages, containers or primary packages have to be stored in other secondary packages or containers which house a determinate amount of them, in order to facilitate their manipulation, transportation and commercialization, then they may be stacked and

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cubed on pallets in order to be loaded in transportation means and unloaded at outlets, where they have to be unpacked and drawn out from the secondary containers or packages in order to be placed on displaying stands of the commercial and self-services centers, from where the final consumer may take them for purchase.

Where structural characteristics of the product itself and of the secondary packages and containers do not allow stacking, which makes the transportation means carry loads of low capacity, increasing the transportation costs; in other cases due to the transportation type during the way, the forces generated as consequence of braking, curves and abrupt movements caused by stops or potholes, the packages tend to twist or collapse; therefore it is necessary to use a tertiary packaging with additional structural packaging and package material to protect the product during transportation, generating higher material consumption, higher packaging costs and higher transportation costs.

Furthermore, most of the secondary or tertiary container packages are closed packages and do not allow showing or exhibiting the product, which makes it necessary, once they arrive to the outlets, to draw out the contained product in order to place it on stands and exhibits specially designed to this purpose, which requires additional labor on intermediate steps.

In other cases, in the commercial centers and self-services stores, individually packaged products are usually set in islands, grouped in several levels and stacked over the floor, over a pallet, over a base, over a box or similar devices, which requires a large quantity of labor to order, stack and group the product.

The constant necessity to have safe reliable packages that allow the protection of the product transported and directed to the final consumer, as well as the increasing necessity for larger packages and packs that allow housing the product and at the same time exhibiting it at the outlets, from where the final consumer may dispose of it, eliminating the secondary packages and intermediate operations that exist from the packing on the plant to the outlets, has generated the development of new packages to fulfill these necessities and avoid the additional use and investment on stands and exhibits acquisition.

In the prior art are some patents that protect and disclose package structures, such as US Patent 5,251,753 to Pigott, et al, of October 12, 1993, which refers to a combined unit for product transporting and displaying, and which includes a number of trays vertically placed with vertically supported partitions which keep a gap between the product containers. When in

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these shipping conditions, the bottom tray is housed and received into a lap that rests over the conventional shipping pallet. However, every tray is provided with an individual corner cross member which extends between an adjoining pair of vertically separated trays, and a post in each corner extends the complete height of the unit in order to provide additional structural support during shipping only.

The posts of each corner are used only during shipping and once it arrives at the final destination at the outlets, they are removed, helping only structurally for the product protection during the shipping; although usually the structure collapses and twists as was described previously.

U.S. Patent 5,161,692 to Stanley E. Knierin of November 10, 1992, refers to a container apparatus with open sides, which includes a lid member having a partitioning inner wall forming recesses to receive corner posts having a lower end wall to press and hold on the corners of an electric appliance. The lid and corner posts may be used separately if desired. This type of structure may be used for product shipping only or rather, for apparatus of bigger sizes such as electric appliances and with appliance protection and stabilization purposes during their transfer, not for display at outlets of other products of

smaller sizes.

U.S. Patent 4,638,941 to Robert L. Watson of January 27, 1987 refers to a cardboard container for shipping and displaying comprising a plurality of product support trays which are vertically disposed one on top of the other, where the product from the lower tray supports the next upper product tray.

Said corner posts or corners as backing structural elements to protect the product in the described structures, are manufactured from press board; however, said posts from press board were always utilized as packages, not as exhibits.

However, the previously described packages show the same above described transportation problems and require a high quantity of raw material as packing material and backing structural material in order to protect the product, with the already described drawbacks.

In accordance with the above and the cited and described prior art patents, heretofore there is not a packaging structure that allows the housing, transporting, displaying and retailing of large volumes of varied products, as is herein described.

OBJECTS OF THE INVENTION

The main object of the present invention is to make available a packaging structure for housing,

transporting, displaying and retailing of large product volumes, which are structurally resistant to stacking during transportation and mainly avoid the use of secondary and tertiary packages.

Another object of the invention is to make available said packaging structure for housing, transporting, displaying and retailing of large product volumes, that imply a big saving of labor and reduce the intermediate operations from shipping to the outlets.

An additional object of the invention is to allow a packaging structure for housing, transporting, displaying and retailing of large product volumes, that also allows the complete product displaying on multiple levels from any angle.

Yet another object of the invention is to allow a packaging structure for housing, transporting, displaying and retailing of large product volumes, that furthermore makes highly attractive, to the final consumers, the product contained and displaying at the sales points of self services stores.

Another object of the present invention is to allow said packaging structure for housing, transporting, displaying and retailing of large product volumes, that furthermore have high loading capacity and also avoid the product downfall during the manipulation associated with loading and

unloading.

Yet another object of the invention is to make available said packaging structure for housing, transporting, displaying and retailing of large product volumes, that furthermore is inexpensive, ecologic and partially biodegradable.

Still another object of the invention is to make available said packaging structure for housing, transporting, displaying and retailing of large product volumes that furthermore may be armed and disarmed.

Yet another object of the invention is to make available said packaging structure for housing, transporting, displaying and retailing of large product volumes that furthermore comprises wide and visible areas of diverse publicity.

And all those qualities and objects that will make apparent on realizing a general and detailed description of the present invention, supported by the illustrated embodiments.

SUMMARY OF THE INVENTION

Generally, a packaging structure is for product housing, transporting, displaying and retailing, according to the present invention consists of a substantially cubic three-dimensional frame comprising four corner posts, being each one separated one from another in a rectangular or

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quadrangular arrangement, which are joined by their lower and upper ends through structural angles forming a corner across members, generating a quadrangular or rectangular perimeter in each face, therefore said structure comprises rectangular or quadrangular empty windows on all of the faces thereof, delimited by said corner posts and cross members; said posts and corner cross member being of rigid press board and comprising two identical L-forming arms disposed with the vertices thereof facing into the structure.

The substantially cubic three-dimensional frame is over a base or may comprise a bottom fixed to the lower corner cross members and also may be over a pallet which facilitates the manipulation thereof in the loading and unloading manipulation, during transportation.

The structural angle that joint the posts with the corner cross members preferably is metallic and comprises a flat surface section in orthogonal bracket shape with a rounded vertex, from each side of the structure being projected upward perpendicularly is a fixing flange of substantially trapezoid section; said flanges and said flat section in orthogonal bracket shape comprise holes by which are housed fixing means to fix the posts and cross members arms.

In each corner of the substantially cubic three dimensional frame is housed said joining structural angles

which remain internally entrapped between the arms of corner cross members and posts, such that the outer face of the bracket shape surface contacts with the inner face of the arms which are horizontally disposed from the adjoining corner cross members ends (having the arms a 45° end cut) fixed with fixing means to both arms of the cross members, and the outer faces of said projected upwardly perpendicular flanges from said structural angle are fixed in the inner face of the vertically disposed arms (the arms having a straight cut) from the ends of the adjoining corner cross members; while in the inner face of each projected upwardly perpendicular flange are disposed the arms at the posts end which likewise are fixed with fixing means that also traverse the cross members vertical arms, generating a rigid and resistant fixing that gives higher structural support and resistance to the three-dimensional frame.

In one of the invention embodiments, said substantially cubic three-dimensional frame, comprises in each face, at least two outer tensor and product retention ropes projected from one corner to the opposing corner of the same face, crossing the empty window central part at medium height, the ends of said ropes being fixed to the same fixing means which fix the posts and cross members to each corner of said three-dimensional frame.

In other embodiments of the invention, in each face

of the substantially cubic three-dimensional frame is comprised at least a third outer tensor and product retention rope, horizontally disposed and fixed to the opposing corner posts at middle height, crossing or not in the same intersecting point of the first two outer tensor ropes, and joined in the ends thereof to other holding means disposed in said corner posts.

In other embodiments of the invention, in each face of the substantially cubic three-dimensional frame, is comprised at least a fourth outer tensor and product retention rope, vertically disposed and fixed in the opposite cross members in the middle of the longitudinal section thereof, crossing or not in the same intersecting point of the rest outer tensor ropes, and joined in the ends thereof to other holding means disposed in said corner cross members.

The product is arranged in beds within the three-dimensional frame, a first bed over the base or bottom of the frame covering the total inner areas of said frame, disposing over said first product bed a partitioning panel over which is disposed a second product bed and so on until covering the total height of the substantially cubic three-dimensional frame.

In other embodiments of the invention, the substantially cubic three-dimensional frame comprises at

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least a pair of inner tensor ropes at the same height, each rope being fixed in the ends thereof at the required height in corner posts of opposing corners and crossing each other, which give structural stability to the posts.

In other embodiments of the invention, the substantially cubic three-dimensional frame comprises a pair of inner tensor ropes between each product bed, each rope being fixed in the ends thereof at the required height in corner posts of the opposing corners and crossing each other, over said ropes are overlapped the partitioning panels in order to reduce the weight and avoid that the lower intermediate product bed loads completely the product of the upper next bed, in such a way that the upper product bed is partially supported by said partitioning panel and said inner tensor ropes.

The ends of said inner tensor ropes are introduced in holes made on the corner posts comprising outer washers which avoid said holes becoming enlarged and at the end of said ropes is a knot.

In other embodiments of the invention, each post comprises a plurality of structural angles fixed through fixing means to the post arms through the perpendicularly projected upwardly flanges, remaining the bracket-forming flat surface section as support means of the partitioning panels corners of each bed of stacked products, to give them

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higher support in combination with the inner tensor ropes. Said plurality of structural angles is distributed at different levels, where the structural angles of each post coincide in height with the corresponding structural angles of the other posts.

In other embodiments of the invention, between beds of product and over the inner tensor ropes are disposed some additional corner cross members that generate a reinforcement perimeter frame to support the next upper product bed and give higher structural resistance; which may rest over the inner tensor ropes and/or over the structural angles of the corner posts, likewise fixing with fixing means in the corresponding posts and which may receive the partitioning panel of each bed.

In order to better understand the characteristics of the invention are accompanied to the present description, as integral part of the same, the drawings with illustrative but not limiting character that describe below the preferred embodiment.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a conventional perspective view of the basic embodiment of packaging structure for housing, transporting, displaying and retailing of products.

Figure 2 illustrates a conventional perspective of a structural angle as joining means of the corner posts

and cross members of the packaging structure in a substantially cubic three-dimensional frame configuration and as corner support means of the partitioning panels of the contained product beds.

Figure 3 shows in a conventional perspective view, the joining detail of the corner posts and cross members with the structural angle, in each corner of the substantially cubic three-dimensional frame of said packaging.

Figure 4 illustrates a conventional perspective of one of the embodiments of the packaging structure for housing, transporting, displaying and retailing of products, in which are incorporated outer tensor ropes diagonally disposed in each one of the faces thereof.

Figure 5 illustrates a conventional perspective of another of the packaging structure embodiments of the present invention, in which is incorporated diagonal outer tensor ropes, horizontal and vertical, in each of the faces thereof.

Figure 6 illustrates a conventional perspective of another of the packaging structure embodiments of the present invention, in which is incorporated diagonal inner tensor ropes.

Figure 7 illustrates a conventional perspective of the packaging with product disposed in several beds,

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showing the partitioning panels over the inner tensor ropes.

Figure 8 illustrates a conventional perspective of another of the packaging structure embodiments of the present invention, in which is incorporated a plurality of structural angles in the corner posts, for support of the partitioning panels corners of the product beds.

Figure 9 illustrates a conventional perspective view of the packaging, comprising in each window a cover lid with publicity.

For better understanding of the invention, the detailed description of some embodiments of the same, shown in the drawings that are annexed to the present description, will be made with illustrative but not limiting purposes.

DETAILED DESCRIPTION OF THE INVENTION

The characteristic details of the packaging structure for housing, transporting, displaying and retailing products, are clearly shown in the following description and annexed illustrative drawings, using the same reference signs for pointing out the same parts.

With reference to Figure 1, a conventional perspective view of the basic embodiment of the packaging structure for housing, transporting, displaying and retailing of products is shown. In said Figure, the packaging consists of a substantially cubic three-dimensional frame made up by four corner posts 1 separated one from another in a rectangular or

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quadrangular arrangement, which are joined at the top and bottom ends thereof through corner structural angles 2 with corner cross members 3, generating a quadrangular or rectangular perimeter in each face, therefore said structure comprises empty rectangular or quadrangular windows 4 in all the faces thereof, delimited by said posts 1 and corner cross members 2; said corner posts and cross members being preferably from rigid press board and comprising two identical "L"-forming arms 5 and 6 which are disposed with the vertices thereof facing into the structure.

The substantially cubic three-dimensional frame is over a base or pallet 7 and could comprise a bottom that may be fixed to the bottom corner cross members 3, in order to facilitate the manipulation on loading and unloading manipulation, during transportation.

With reference to Figure 2, each structural angle 2 joining the corner posts and cross members of the packaging structure in a substantially cubic three-dimensional frame configuration, comprises a section which takes the form of an orthogonal bracket 8 having a rounded vertex 9, projecting upwards from each outer side of the orthogonal bracket 8, a perpendicular fixing flange 10 having an essentially trapezoidal cross section; said perpendicular flanges 10 and said orthogonal bracket-forming flat section 8, comprise holes 11 for housing fixing means which are used to fix the

arms of the posts and cross members (not shown).

Between the two perpendicular flanges 10 projected upwards from the outer sides of said orthogonal bracket-forming section 8 is comprised a rectangular recess 12, made exactly in the outer corner of said orthogonal bracket, to receive and hold on the ends of inner tensor ropes (not shown) that will be described in Figures 6 and 7.

With reference to Figure 3, is shown in a conventional perspective view, a joining detail of the corner posts and cross members with the structural angle, in each substantially cubic three-dimensional frame corner of said packing. In said figure, the outer face of the orthogonal bracket-forming surface 8 of the structural angle 2 contacts the inner face of the arms 5 horizontally disposed from the ends of the adjoining corner cross members 3 (arms 5 having a 45° cut end) fixed with fixing means 13 to both arms of the adjoining cross members 3 and the outer faces of said upwardly projected perpendicular flanges 10 of said structural angle 2 are fixed with the fixing means 13 to the inner face of the arms 6 vertically disposed (arms having a straight cut) from the adjoining corner cross members ends 3; while in the inner face of each upwardly projected perpendicular flange 3 is disposed the arms 5 and 6 from the end of the corner posts 1 which are likewise fixed with fixing means 13 traversing also the vertical arms 6 of the

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cross members, generating a rigid and resistant fixing which gives higher support and resistance to the structure.

With reference to Figure 4, the substantially cubic three-dimensional frame comprises in each face (front and rear side faces) at least two outer tensor ropes 14 (in this case the tensor ropes are shown in the faces, from the front part in order to avoid confusion as to whether there are ropes shown in other faces) and product retention projected from one corner to the opposing corner of the same face, with the ends of said outer tensor ropes 14 crossing at middle height of the empty window central part 4, which are fixed in the same fixing means 13 that are fixed to the posts 1 and the corner cross members 3 in each corner of said three-dimensional frame.

With reference to Figure 5, a conventional perspective of other embodiment of the packing structure of the present invention is illustrated. Beside the diagonal outer tensor ropes 14, some horizontal outer tensor ropes 15 are fixed in its ends, in the corner posts 1 opposed at the middle of the height thereof, crossing in the same intersecting point of the two first outer tensor ropes, and attached in its ends to other holding means 13 disposed in said corner posts 1; additionally, in each front and rear side face may be incorporated, a vertical outer tensor rope 16, the ends of

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which are fixed to the corner cross members 3 opposed at the middle of the longitudinal section thereof, crossing in the same intersecting point of the rest of diagonal outer tensor ropes 14 and the horizontals 15, being attached in its ends to other holding means 13 disposed in said corner cross members 3.

With reference to Figures 6 and 7, the packaging object of the present invention comprises at least a pair of inner tensor ropes 17, each rope being fixed in its ends at the required height in corner posts 1 of opposing corners and crossing each other, which give structural stability to the posts; said inner tensor ropes 17 may be more than a pair and may be disposed in each product bed, each rope being fixed in its ends at the required height in corners posts 1 of opposing corners and crossing each other, over said ropes are overlapped the partitioning panels 18 to reduce the product weight 19 of the beds and avoid the lower next product bed from load the upper next product bed, in such a way that the upper product bed is supported by said partitioning panel 18 and said inner tensor ropes 17.

The ends of said inner tensor ropes 17 are introduced in holes 20 made in the corner posts 1 comprising outer washers 21 to prevent said holes from becoming enlarged and in the ends of said ropes is made a knot.

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With reference to Figure 8, a conventional perspective of other embodiment of the packing structure of the present invention is illustrated. In said Figure, each corner post 1 comprises a plurality of structural angles 2 fixed through fixing means 13 to the arms 5 and 6 of the corner posts 1 through of part of the upwards projected perpendicular flanges 10, remaining disposed the flat surface section in orthogonal bracket shape 8 as support means of the corners of the partitioning panels 18 (not shown) of each stacked product bed, in order to give them higher support in combination with the inner tensor ropes, which are in this case, its knot ends, remain caught in the rectangular recess 12 made exactly in the outer corner of said orthogonal bracket 8.

Said plurality of structural angles 2 are distributed at different levels, where the structural angles 2 of each corner post 1 coincide in height with the corresponding structural angles 2 of the other angular posts 3, to receive the partitioning panel corners 18 (not shown).

With reference to Figure 9, at least in one face of the three-dimensional frame, is incorporated a cover lid 22 where may be placed diverse publicity and also serves as product retention barrier 19, remaining said lid catch between the arms of corner posts 1 and cross members 3, also externally supported by the diagonal outer tensor ropes 14, likewise it may comprise the horizontal and diagonal outer

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tensor ropes (not shown).

The packing structure, according to the present invention, may adopt multiple combinations of the described embodiments, and inclusive may be a structure where there is mixed all the embodiments.

The invention has been sufficiently described in order for a person with ordinary knowledge in the art to reproduce and obtain the results mentioned in the present invention. However, any skilled person in the art or field of the present invention may be able to make modifications not described in the present application, however, if for the application of this modifications in a determined structure or in the manufacture process of the same, it is required that the subject matter claimed in the following claims, said structures will be within the invention scope.

CLAIMS:

1. A packaging structure for containing, transportation, exhibition and dispensing of products comprising:

four angular beams arranged in a square or rectangular arrangement;

a plurality of angular crossbeams attaching to the four angular beams at each one of its upper and lower ends to form a three-dimensional frame;

a plurality of structural corner joints, through which each one of the angular crossbeams are attached to two of the four angular beams, wherein each one of said structural corner joints, is comprised of:

an orthogonal square-shaped section with rounded vertex;

a pair of fixing tabs of substantially trapezoidal section which are projected perpendicularly from each external side of the orthogonal square-shaped section;

a plurality of holes in which are housed fixing means to fix said structural corners to the four angular beams and the plurality of angular crossbeams attached thereto; and

a rectangular cavity is provided at the external corner of the orthogonal square-shaped section with rounded vertex between the two fixing tabs of the substantially trapezoidal section; and

a plurality of tensing strings comprised in each face of the three-dimensional frame formed by the attachment of the plurality of angular crossbeams and the four angular beams, which are projected defining:

external diagonal arrangements, wherein said tensing strings are projected from each one of the corners defined by

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the attachment of the plurality of angular crossbeams and the four angular beams to the opposite corner on the same face, fixing each one of the ends of said tensing and retaining strings to the rectangular cavity provided in each structural corner joint; and

external vertical arrangements wherein said tensing strings are projected from opposite angular crossbeams on one same face, fixing each one of the ends of said tensing strings to each one of said opposite angular crossbeams with fasteners, external horizontal arrangements, wherein said tensing strings are projected from a pair of opposite angular beams in a same face, fixing each one of the ends of said tensing strings to each one of said opposite angular beams; and

a plurality of inner tensing strings arrangements at different level, a pair of said tensing strings on each one of its ends attached to a pair of opposite angular beams at the rectangular cavity at same height, so that the strings are crossed each other, providing greater structural stability to the beams and being adapted to provide support for products located directly above the inner tensing strings.

2. A packaging structure for containing, transportation, exhibition and dispensing of products comprising:

four angular beams arranged in a square or rectangular arrangement;

a plurality of angular crossbeams attached to the four angular beams at each one of its upper and lower ends to form a three-dimensional frame;

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a plurality of structural corner joints, through which it is attached each one of the angular crossbeams to two of the four angular beams, wherein each one of said structural corner joints is comprised of:

an orthogonal square-shaped section with rounded vertex;

a pair of fixing tabs of section substantially trapezoidal, which are projected perpendicularly from each external side of the orthogonal square-shaped section;

a plurality of holes in which are housed fixing means to fix said structural corners to the four angular beams and the plurality of angular crossbeams attached thereto, and a rectangular cavity provided the external corner of said orthogonal square-shaped section with rounded vertex between the two fixing tabs of the substantially trapezoidal section, and a plurality of structural corner joints, which are fixed with fasteners at different levels to each one of the four angular beams, defining each one of said structural corner joints, supporting means attached at rectangular cavity for a plurality of divisional panels on which are defined beds of stacked products, wherein each one of said structural corner joints, is comprised of: an orthogonal square-shaped section with rounded vertex;

a pair of fixing tabs of section substantially trapezoidal, which are perpendicularly projected from each external face of the orthogonal square-shaped section;

a plurality of holes in which are housed fixing means to fix said structural corners to each one of the four angular beams, and said rectangular cavity provided at the external corner at said orthogonal square-shaped section with

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rounded vertex between the two fixing tabs of section substantially trapezoidal.

3. The structure of claim 2, wherein the angular beams and the angular crossbars made of compressed hard cardboard.

4. The structure of claim 2, wherein at least one face of the three-dimensional frame formed by the attachment of the plurality of angular crossbeams and the four angular beams, it is incorporated a covering lid that is used as a product containing barrier, the lid being captured between the arms of the angular beams and angular crossbeams, further externally supported by the external tensing strings.

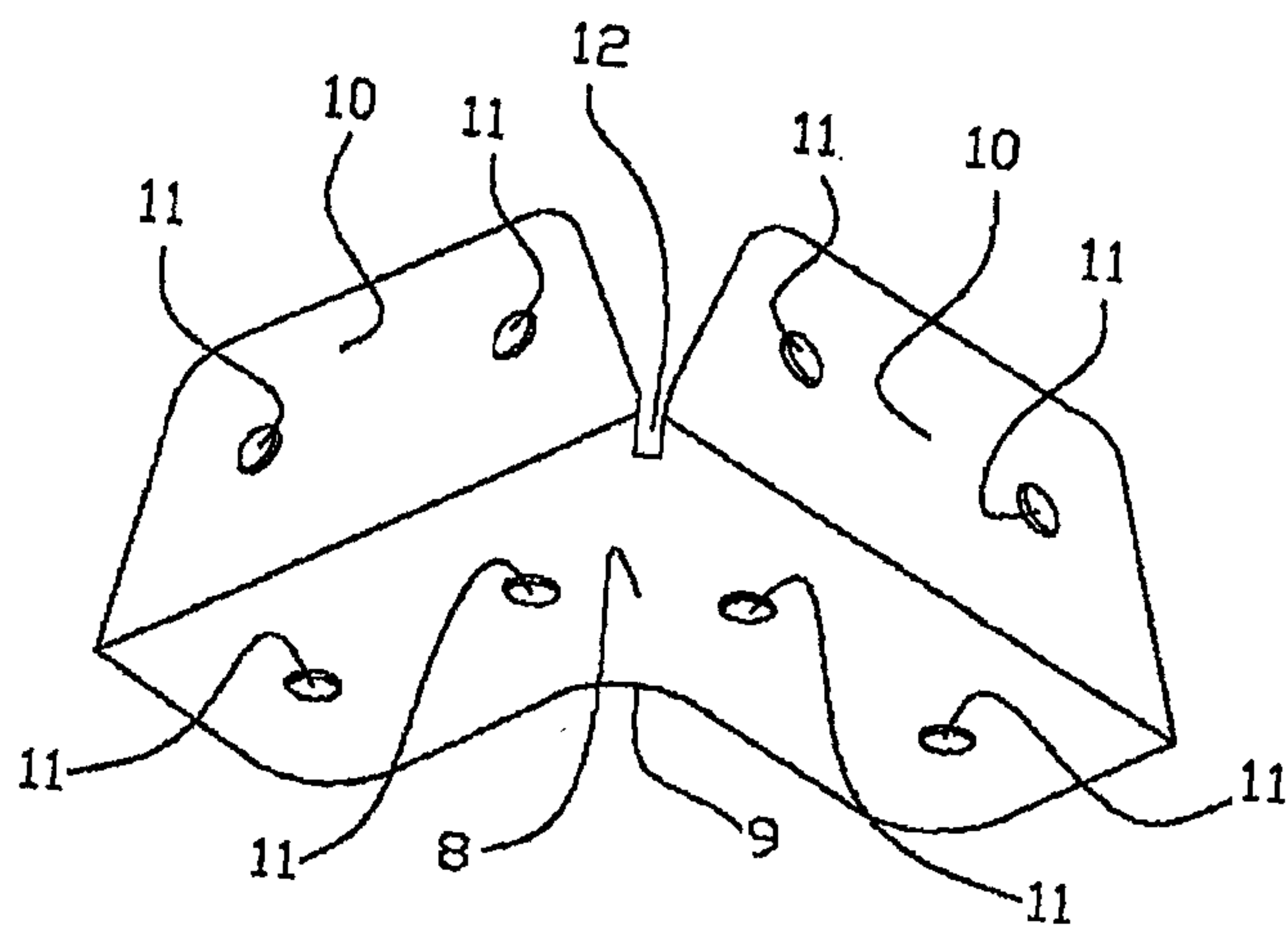


FIG. 2

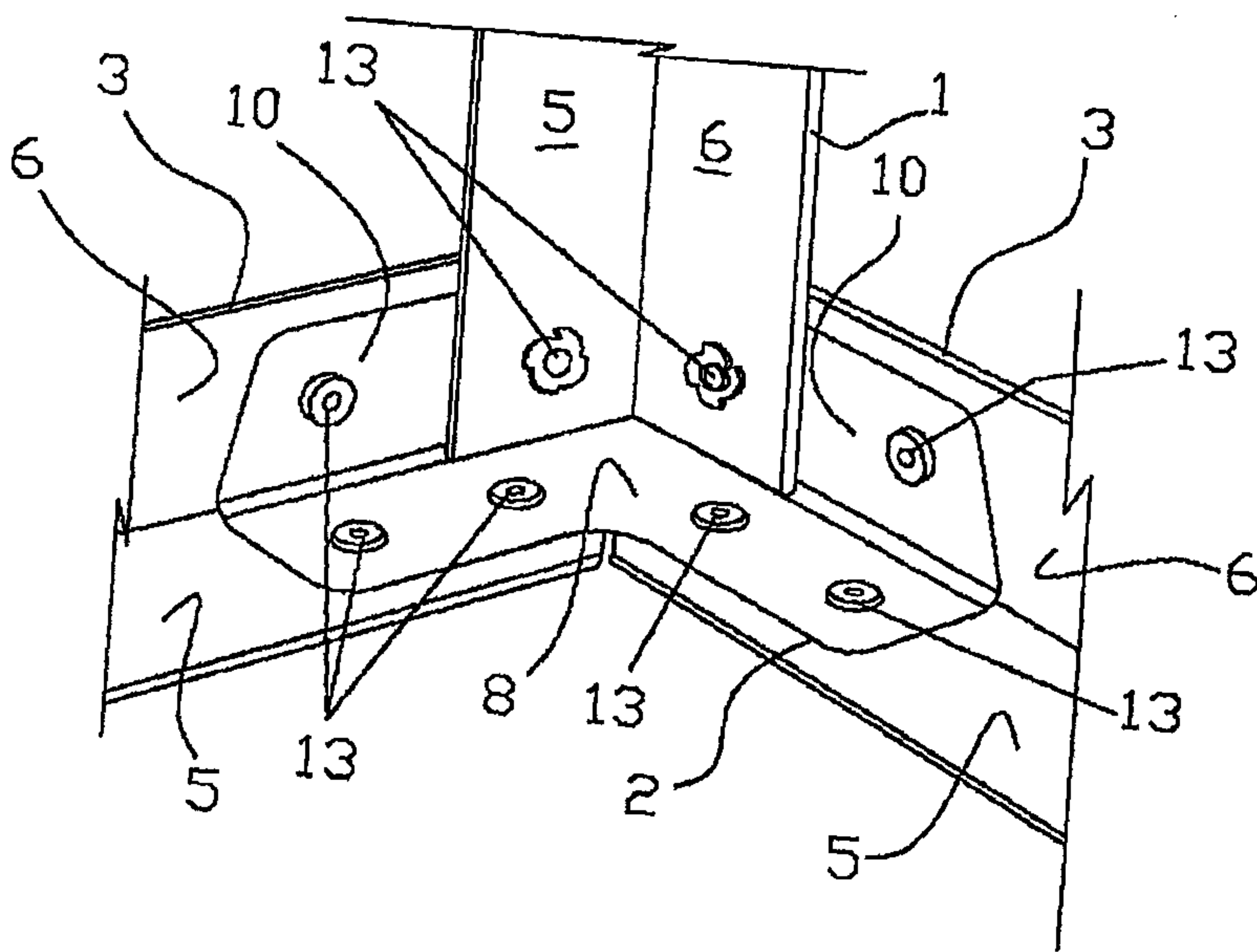


FIG. 3

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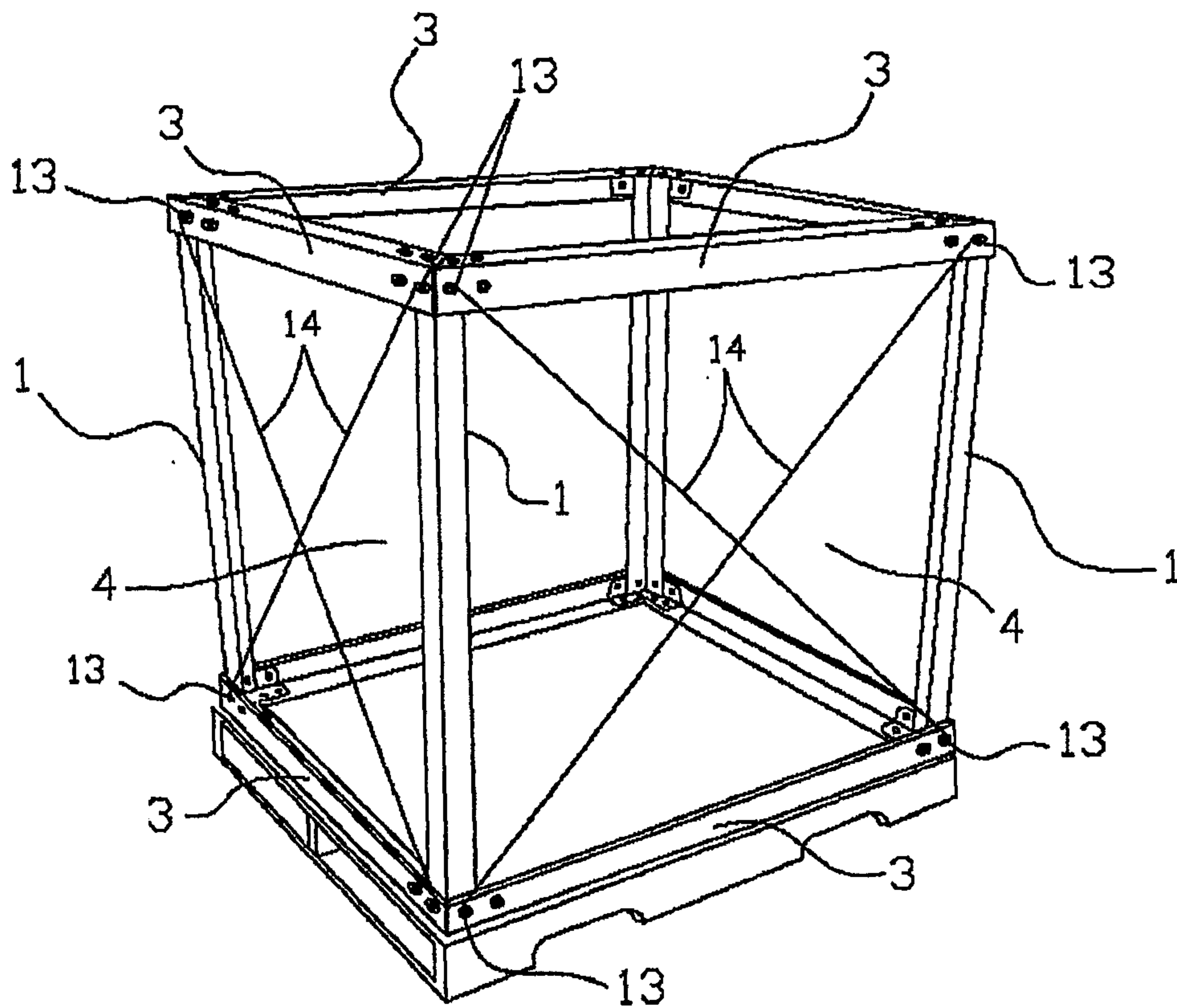


FIG. 4

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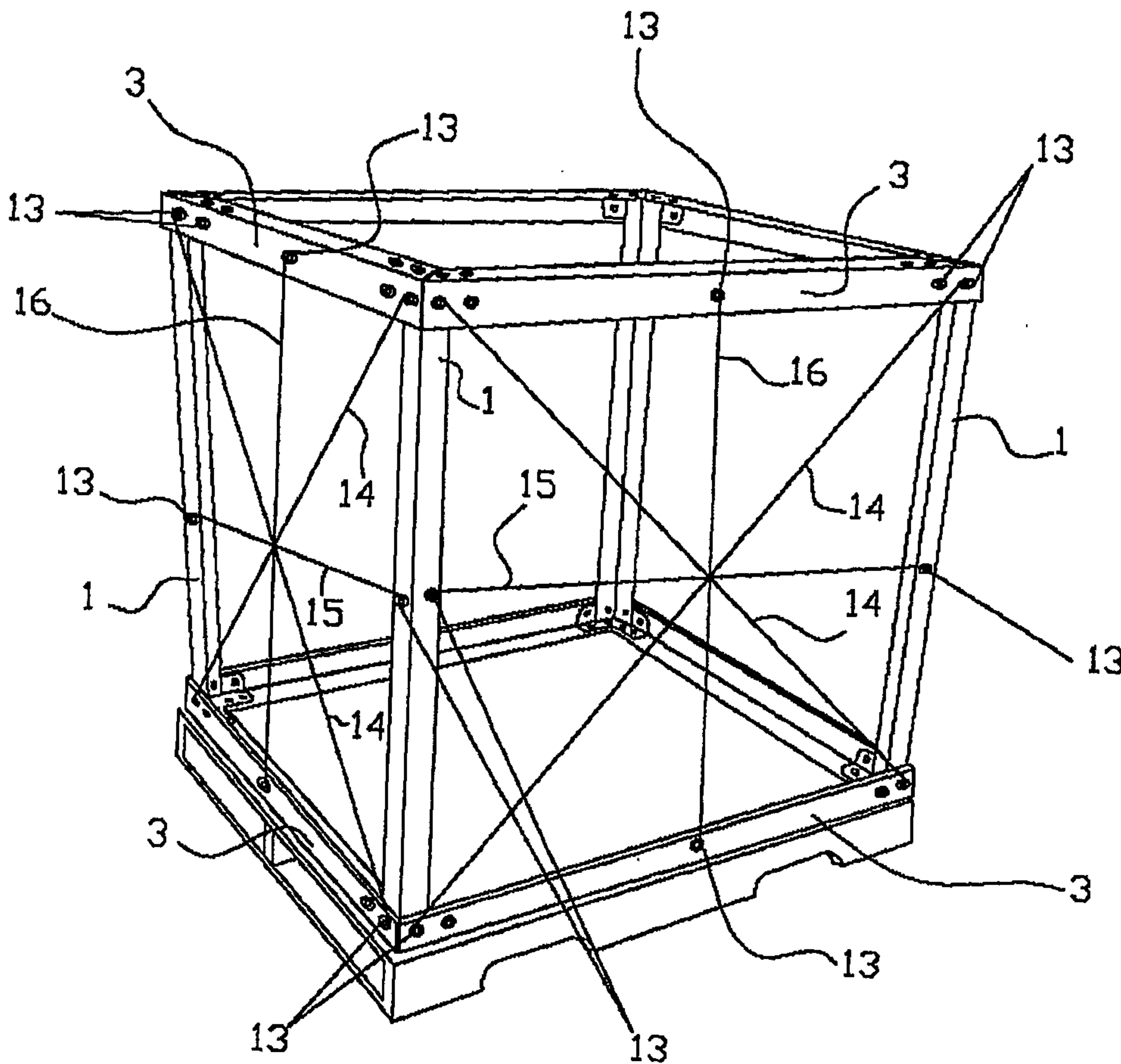


FIG. 5

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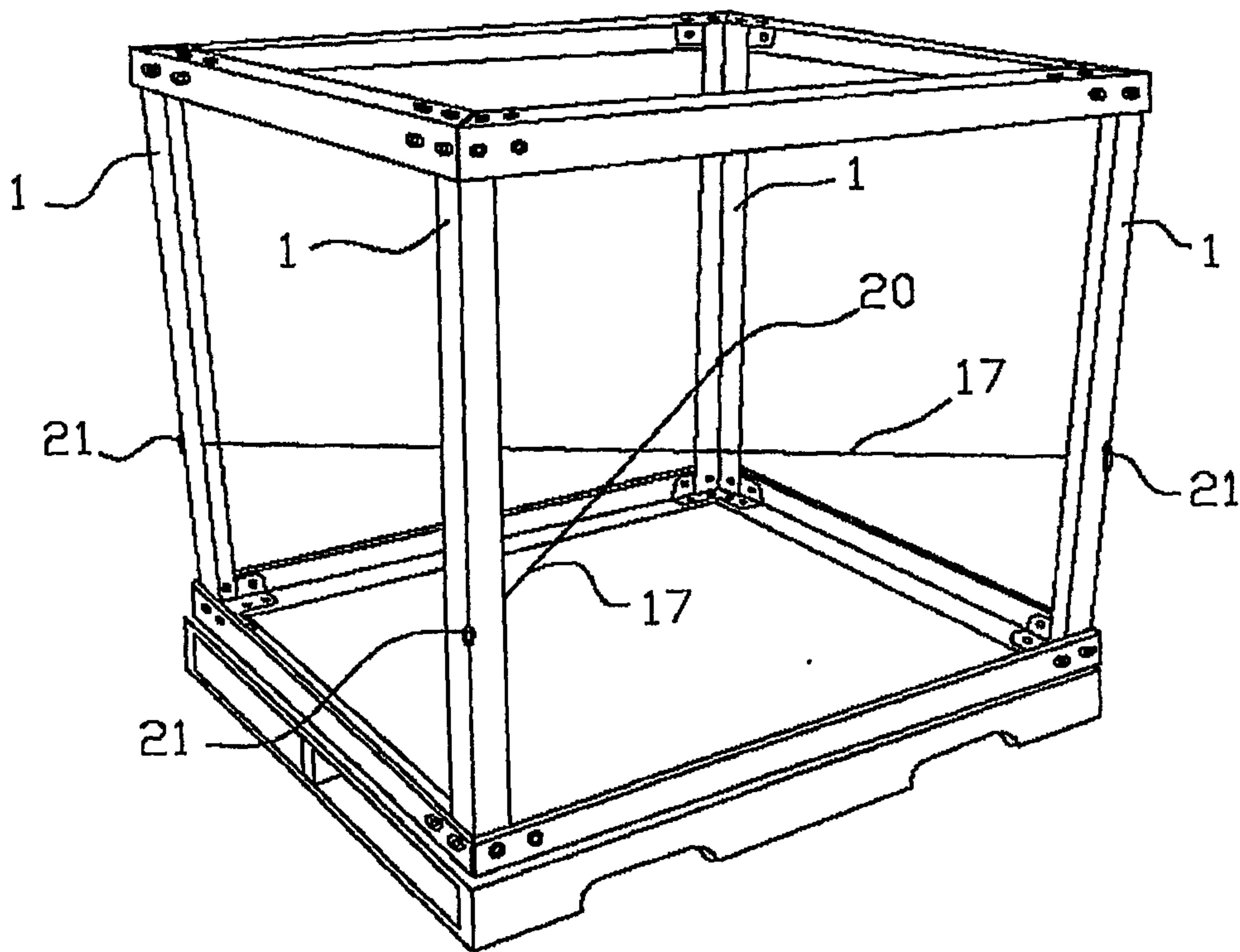


FIG. 6

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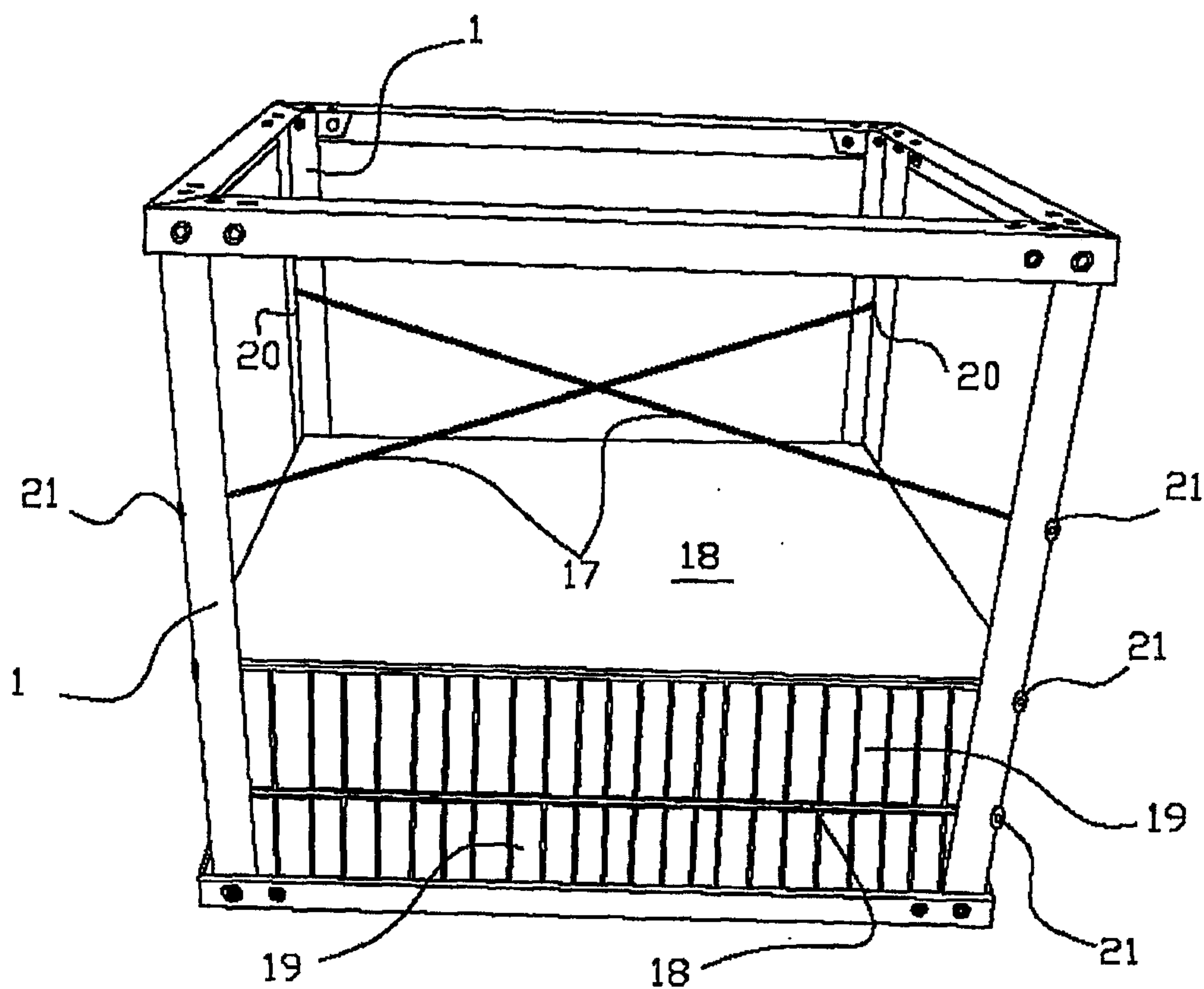


FIG. 7

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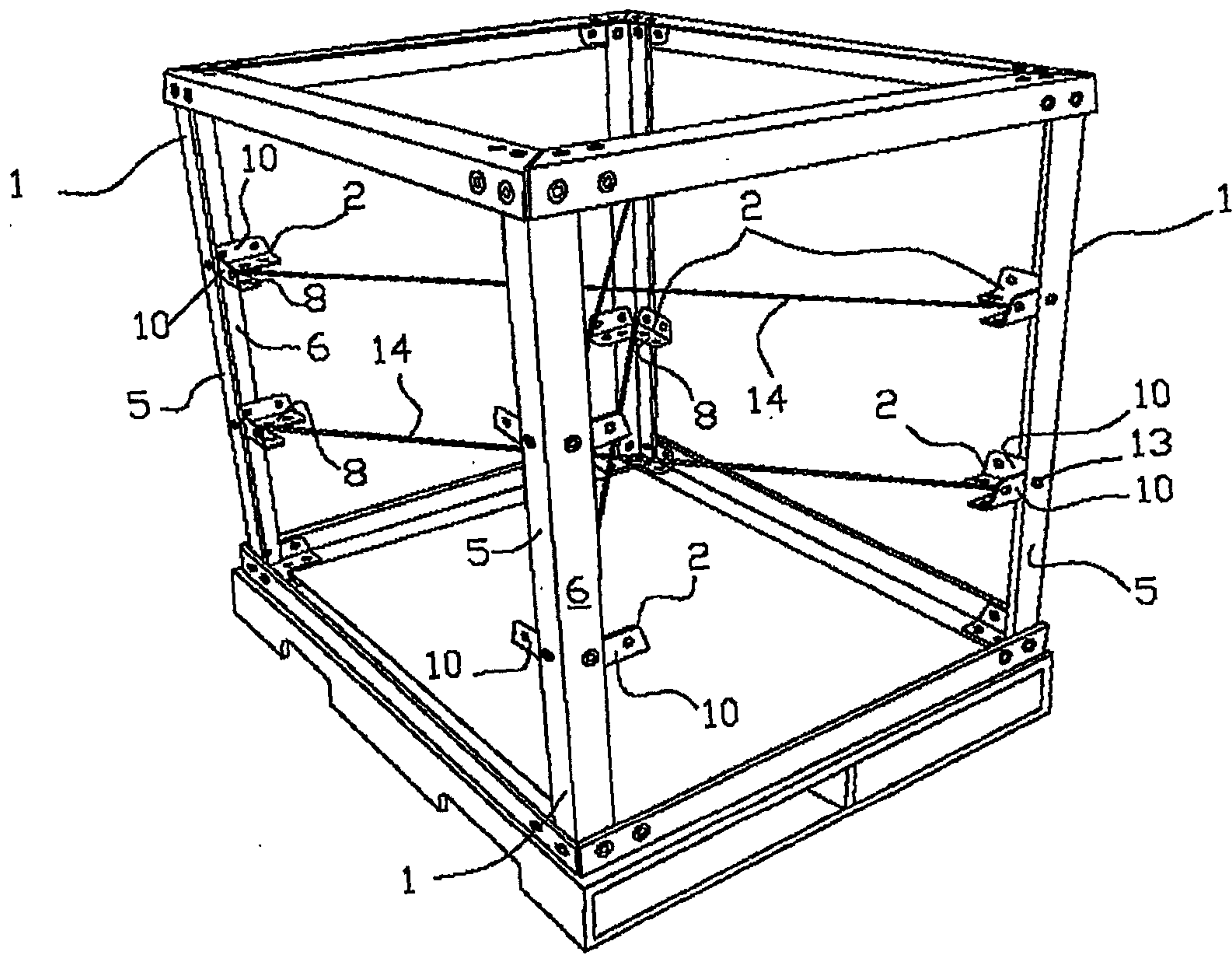


FIG. 8

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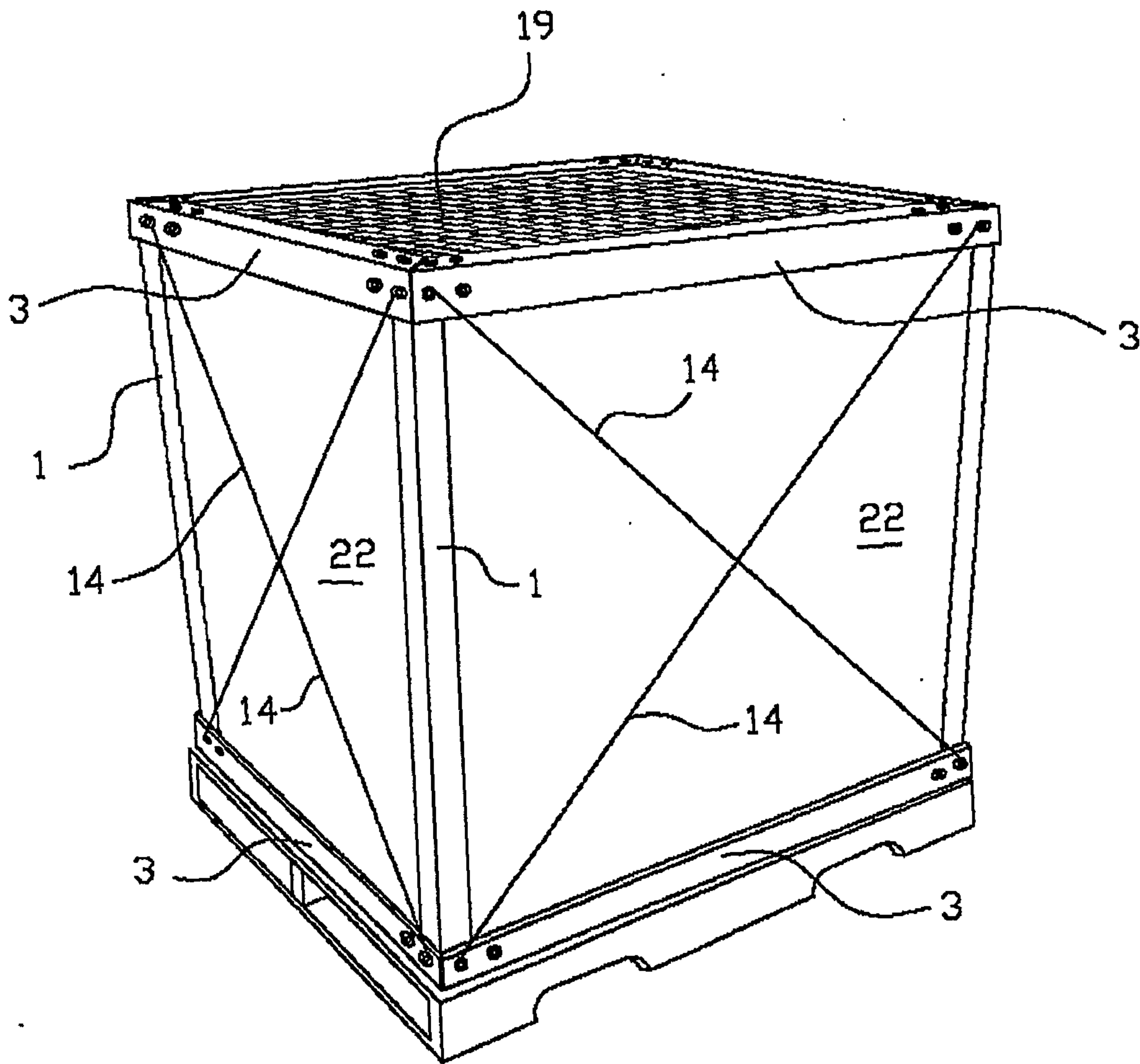


FIG. 9

