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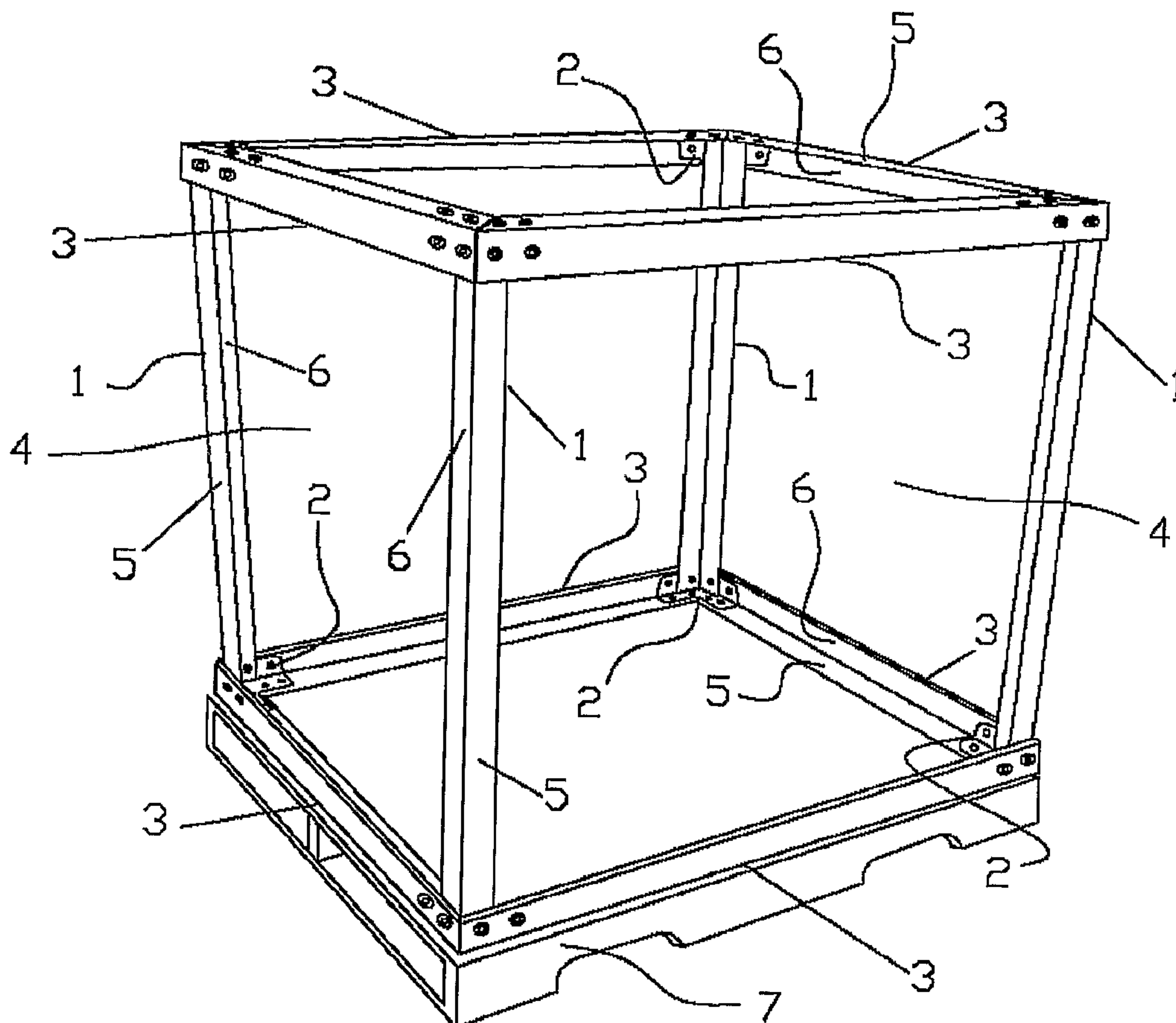
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(54) Titre : STRUCTURE D'EMBALLAGE DE STOKAGE, DE TRANSPORT, DE PRESENTATION ET DE
DISTRIBUTION DE PRODUITS

(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

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

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 characterised 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
5 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
10 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
15 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
20 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
25 bracket.

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

Field of the Invention

The present invention relates to field of
5 packaging and packing industry for diverse products,
particularly is referred to a packaging structure for
housing, transporting, displaying and retailing of large
volume of product at outlets, intended to the final consumer;
which has the particularity of may housing and displaying the
10 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 of the industrialized
products produced in large volumes, for commercialization and
15 sale at great commercial centers and self-services centers,
generally comprise a packing, container or primary packaging,
which contain the product with predetermined weight an volume
and generally these variables account for the consumer
necessities as result of the commercial experience or as
20 result of intense market research.

Then, the product in said packages, containers or
primary packages has to be stored in other secondary packages
or contains which housing a determinate amount of them, in
order to facilitate their manipulation, transportation and
25 commercialization, same that then have to be stacked and

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

The own structural characteristics of the product and the secondary packages and containers not allow the stacking, which makes that the transportation means carried
10 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 twisted or collapsed; therefore is necessary use a
15 tertiary packaging with additional structural packaging and package material to protect the product during transportation; generating higher material consume, higher packaging costs and higher transportation costs.

By the other hand, most of the secondary or
20 tertiary container packages are closed packages and do not allow to show or exhibit the product, which makes forcibly necessary, once they arrive to the outlets, to draw out the contained product in order to place it on stands an exhibits specially designed to this purpose, which require generates
25 additional labor on intermediate steps.

In other cases, in the commercial centers and self-services stores is tend to generate islets of individually packaged products, grouped in several levels and staked over the floor, over a pallet, over a base, over a box
5 or the similar, which require large quantity of labor to order, stack and group the product.

The constant necessity to dispose of safer reliable packages that allow the protection of the product transported and directed to the final consumer, as well as
10 the increasing necessity of account with packages and packs of bigger sizes that allow by one hand to housing the product and at the same time exhibit it at the outlets, from where the final consumer may dispose of it, eliminating the secondary packages and intermediate operations that exist
15 from the packing on the plant to the outlets, have generated the new packages development that try to fulfill these necessities and avoid the additional use and investment on stands and exhibits acquisition.

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

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

The posts of each corner are used only during the
10 shipping and once it arrives to the final destine at the outlets, they are removed, helping only structurally for the product protection during the shipping; although usually the structure collapse and twist as was described in the previous.

15 The U.S. Patent 5,161,692 of Stanley E. Knierin of November 10, 1992, is referred to a container apparatus of 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
20 electric appliance. The lid and corner posts may be used separately if it is desired. This type of structures has the finality to use it for product shipping only or rather, for apparatus of bigger sizes as electric appliances and with appliance protection and stabilization purposes during their
25 transfer, not for display at outlets of other products of

lower sizes and basics.

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

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

However, the previously described packages show the same above described transportation problems and require
15 of 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 previous and the cited and described prior art patents, heretofore there is not a
20 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
25 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.

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

10 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.

15 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
20 stores.

 Other object of the present invention is to allow said packaging structure for housing, transporting, displaying and retailing of large product volumes, that furthermore has high loading capacity and also avoids the
25 product downfall during the manipulation on 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
5 furthermore is inexpensive, ecologic and partially biodegradable.

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

Yet, other 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
15 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.

20 SUMMARY OF THE INVENTION

Generally, the packaging structure 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
25 each one separated one from another in a rectangular or

quadrangular arrangement, which are joined by its lower and upper ends through of structural angles forming a corner with a corner cross members, generating a quadrangular o rectangular perimeter in each face, therefore said structure
5 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.

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

15 The structural angle that joints the posts with the corner cross members preferably is metallic and comprises a flat surface section in orthogonal bracket shape with rounded vertex, from each side of the structure being projected upward perpendicularly a fixing flange of
20 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.

25 In each corner of the substantial cubic three-dimensional frame is housed said joining structural angle

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 arms vertically disposed (having the arms 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 contention ropes projected from one corner to the opposing corner of the same face, crossing at medium height of the empty window central part, 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 embodiment of the invention, in each face

of the substantially cubic three-dimensional frame is comprised at least a third outer tensor and product contention rope, horizontally disposed and fixed to the opposing corner posts at middle height, crossing or not in
5 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
10 comprised at least a fourth outer tensor and product contention 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
15 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
20 over said first product bed a partitioning panel over the which is disposed a second product bed and so as until cover the total height of the substantially cubic three-dimensional frame.

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

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.

5 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,
10 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
15 tensor ropes.

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

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

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
5 of the other posts.

In other embodiments of the invention, between bed and bed of product and over the inner tensor ropes are disposed some additional corner cross members that generate a reinforcement perimeter framing to support the upper next
10 product bed and give higher structural resistance; which may to 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 to receive the partitioning panel of each bed.

15 In order to better understand the characteristics of the invention is accompanied to the present description, as integrant part of the same, the drawings with illustrative but not limitative character that describe bellow the preferred embodiment.

20 **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
25 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.

5 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.

10 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.

15 Figure 5, illustrates a conventional perspective of other 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.

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

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

showing the partitioning panels over the inner tensor ropes.

Figure 8, illustrates a conventional perspective of other 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 limitative purposes.

DETAILED DESCRIPTION OF THE INVENTION

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

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

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
5 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
10 the vertices thereof facing into the structure.

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

With reference 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
20 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
25 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
5 exactly in the outer corner of said orthogonal bracket, for receive and hold on the ends of inner tensor ropes (not shown) that will be described in Figures 6 and 7.

With reference Figure 3, is shows in a conventional perspective view, a joining detail of the corner
10 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
15 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
20 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 upwards projected perpendicular flange 3 is disposed the arms 5 and 6 from the end of the corner posts 1 which are likewise fixed with
25 fixing means 13 traversing also the vertical arms 6 of the

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

With reference 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 appreciation confusion if there are shown ropes in other faces) and product contention projected from one corner to the opposing corner of the same face, with the ends of said outer tensor ropes 14 being 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 Figure 5 illustrating a conventional perspective of other embodiment of the packing structure of the present invention. In each figure, is incorporated besides of the diagonal outer tensor ropes 14, some horizontal outer tensor ropes 15 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

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
5 to other holding means 13 disposed in said corner cross members 3.

With reference 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
10 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
15 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
20 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 which avoid said holes from become enlarged and in the ends of said ropes is made a knot, remaining the
25 same stressed.

With reference Figure 8 illustrating a conventional perspective of other embodiment of the packing structure of the present invention. In said Figure, each corner post 1 comprises a plurality of structural angles 2
5 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
10 stacked product bed, in order to give them higher support in combination with the inner tensor ropes, which in this case, its knot ends, remain catch in the rectangular recess 12 made exactly in the outer corner of said orthogonal bracket 8.

Said plurality of structural angles 2 are
15 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 Figure 9, at least in one face of
20 the three-dimensional frame, is incorporated a cover lid 22 where may be placed diverse publicity and also serves as product contention 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,
25 likewise it may comprises the horizontal and diagonal outer

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
5 mixed all the embodiments.

The invention has been sufficiently described in order to a person with ordinary acknowledge in the art may reproduce and obtain the results mentioned in the present invention. However, any skill person in the art field of the
10 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, is required the subject matter claimed in the following claims, said
15 structures will be comprised within the invention scope.

What is claimed is:

1. A packaging structure for housing, transporting displaying and retailing of products, of the type shaped by a three-dimensional cubic frame comprising four corner posts
5 separated each other in a rectangular or quadrangular arrangement, 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; said corner posts and cross members are made from rigid pressboard and comprise two
10 identical L-forming arms disposed with the vertices thereof facing into the structure; said structure being disposed on a base or pallet, **characterized** in that the joining between the corner posts and cross members is carry out through structural angles comprising a section with a flat surface,
15 which takes the form of an orthogonal bracket having a rounded vertex, projecting upwards from each structure vertex outer side a perpendicular fixing flange of substantially trapezoidal section; comprising said flanges and said bracket-forming flat section, holes for housing fixing means
20 to fix the arms of the posts and cross members; a rectangular recess is provided precisely at the outer corner of said orthogonal bracket.

2. The packaging structure for housing, transporting displaying and retailing of products, in
25 accordance with Claim 1, further **characterized** in that in the

corner posts and cross members fixing, the outer face of the bracket-forming surface of the structural angles, contacts with the inner face of the arms horizontally disposed of the ends of the adjoining corner cross members (having the arms a
5 45°end cut) being fixed with fixing means to both arms of the cross members and the outer faces of said projected upwards perpendicular flanges from said structural angle are fixed in the inner face of the arms vertically disposed (having the arms a straight cut) from the ends of the adjoining corner
10 cross members; while in the inner face of each perpendicular flange projected upwardly are disposed the arms, the posts end that are likewise fixed with fixing means that also traverse the cross members vertical arms, generating a rigid and resistant fixing that gives higher structural support and
15 resistance to the three-dimensional frame.

3. The packaging structure for housing, transporting displaying and retailing of products, in accordance with Claims 1 and 2, further **characterized** in that each face of the three-dimensional frame comprises outer
20 tensor ropes diagonally, horizontally or vertically disposed or a combination of outer tensor ropes in said arrangements; the ends of said ropes being fixed in the same fixing means that are fixed the posts and cross members in each corner or in other fixing means disposed in different required sites to
25 the corners of said corner posts and cross members.

4. The packaging structure for housing, transporting displaying and retailing of products, in accordance with Claims 1 and 2 or 3, further **characterized** in that comprises at least a pair of inner tensor ropes at the
5 same height, each rope being fixed by its ends to the required height in the corner posts of the opposing corners and crossing each other, which give structural stability to the posts.

5. The packaging structure for housing,
10 transporting displaying and retailing of products, in accordance with Claims 1 and 2, further **characterized** in that the product is stacked as beds covering the whole inner area of said frame, being comprised between bed and bed of product, a substantially rigid partitioning panel.

15 6. The packaging structure for housing, transporting displaying and retailing of products, in accordance with Claims 4 and 5, further **characterized** in that between bed and bed of product, underneath of each partitioning panel, is comprised a pair of inner tensor ropes
20 at the same height, each rope being fixed by its ends to the required height in the corner posts of the opposing corners and crossing each other, over said ropes are overlapped said partitioning panels in order to reduce the weight and avoid the lower next product bed, from load completely the product
25 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.

7. The packaging structure for housing, transporting displaying and retailing of products, in accordance with Claims 4 and 6, further **characterized** in that the ends of said inner tensor ropes are introduced in holes made in the corner posts, comprising outer washers which avoid that said holes become enlarger and making at the end of said ropes a knot, remaining the same stressed.

10 8. The packaging structure for housing, transporting displaying and retailing of products, in accordance with any of the previous Claims, further **characterized** in that a plurality of structural angles are fixed through the fixing means to the posts arms through the
15 perpendicular flanges, remaining the bracket-forming flat section disposed as support means to the partitioning panels corners of each stacked product bed, to give them higher support in combination with the inner tensor ropes.

9. The packaging structure for housing, transporting displaying and retailing of products, in accordance with Claims 4 to 5 and 8, further **characterized** in that the ends with knots of the inner tensor ropes remain catch in the rectangular recess made exactly in the outer corner of said orthogonal bracket of the structural angles
25 fixed to the corner posts.

10. The packaging structure for housing, transporting displaying and retailing of products, in accordance with any of the previous Claims, further **characterized** in that at least in one face of the three-dimensional frame is incorporated a cover lid, where may be placed diverse publicity and also serves as product contention barrier, remaining said lid catch between the arms of corner posts and cross members, also externally supported by the outer tensor ropes.

10 11. The packaging structure for housing, transporting displaying and retailing of products, in accordance with any of the previous Claims, further **characterized** in that between the products beds and/or on the inner tensor ropes are disposed some additional corner cross members that makes a reinforcement perimeter framing to support the upper next product bed and gives higher structural resistance; which may rest over the inner tensor ropes and/or over the structural angles fixed to the corner posts, likewise fixed with fixing means in the corresponding posts and which may receive the partitioning panel of each bed.

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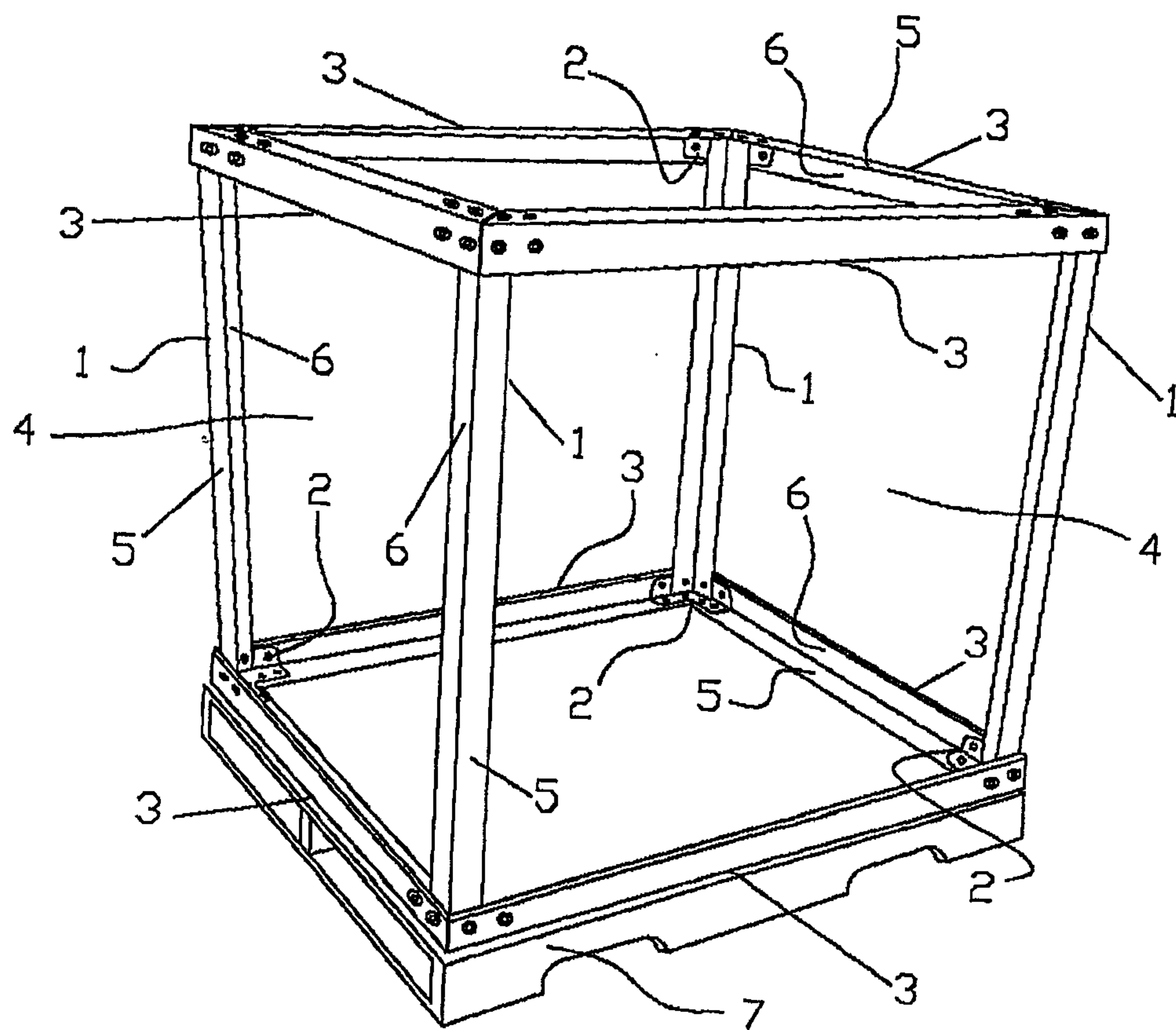


FIG. 1

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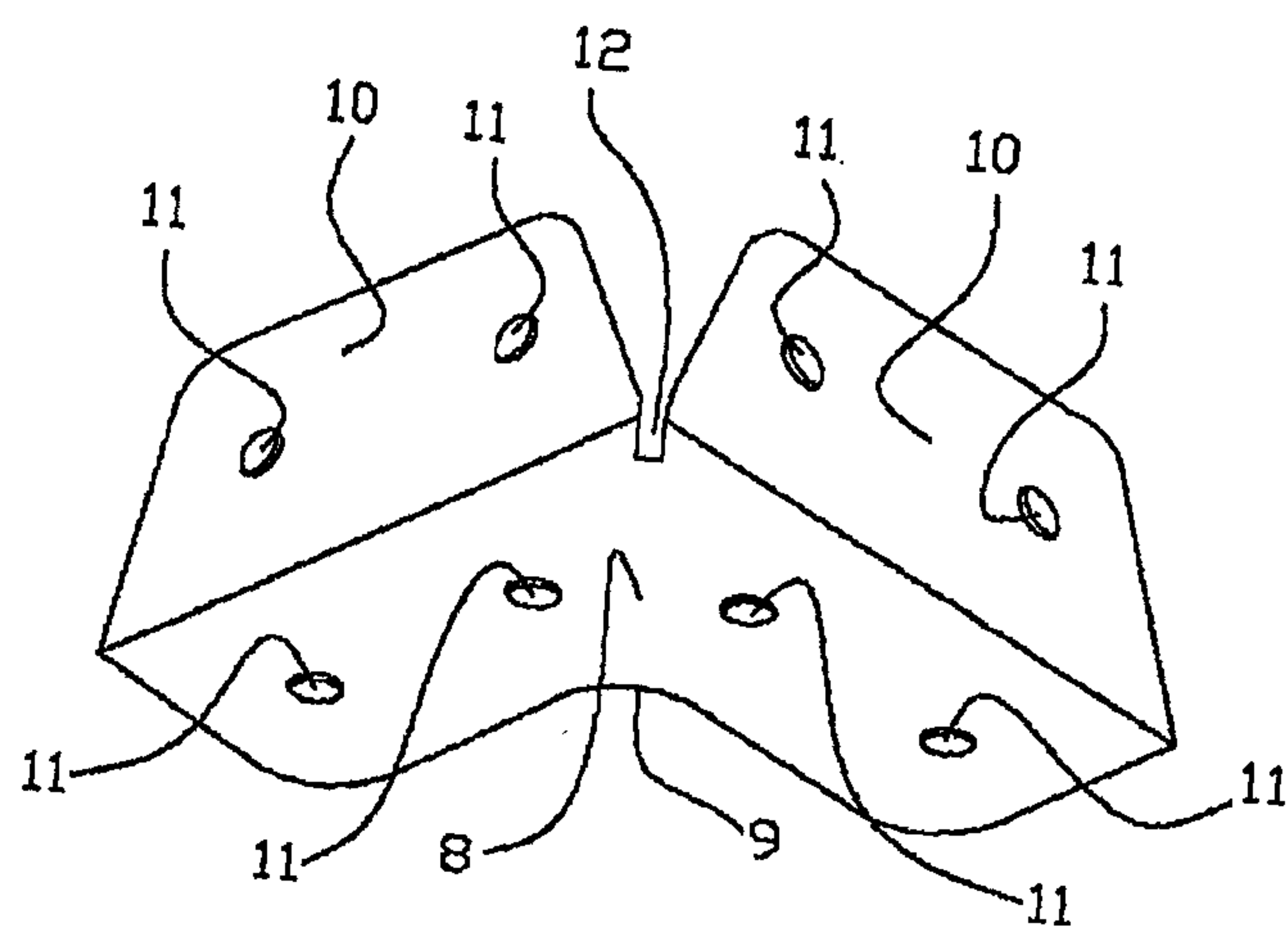


FIG. 2

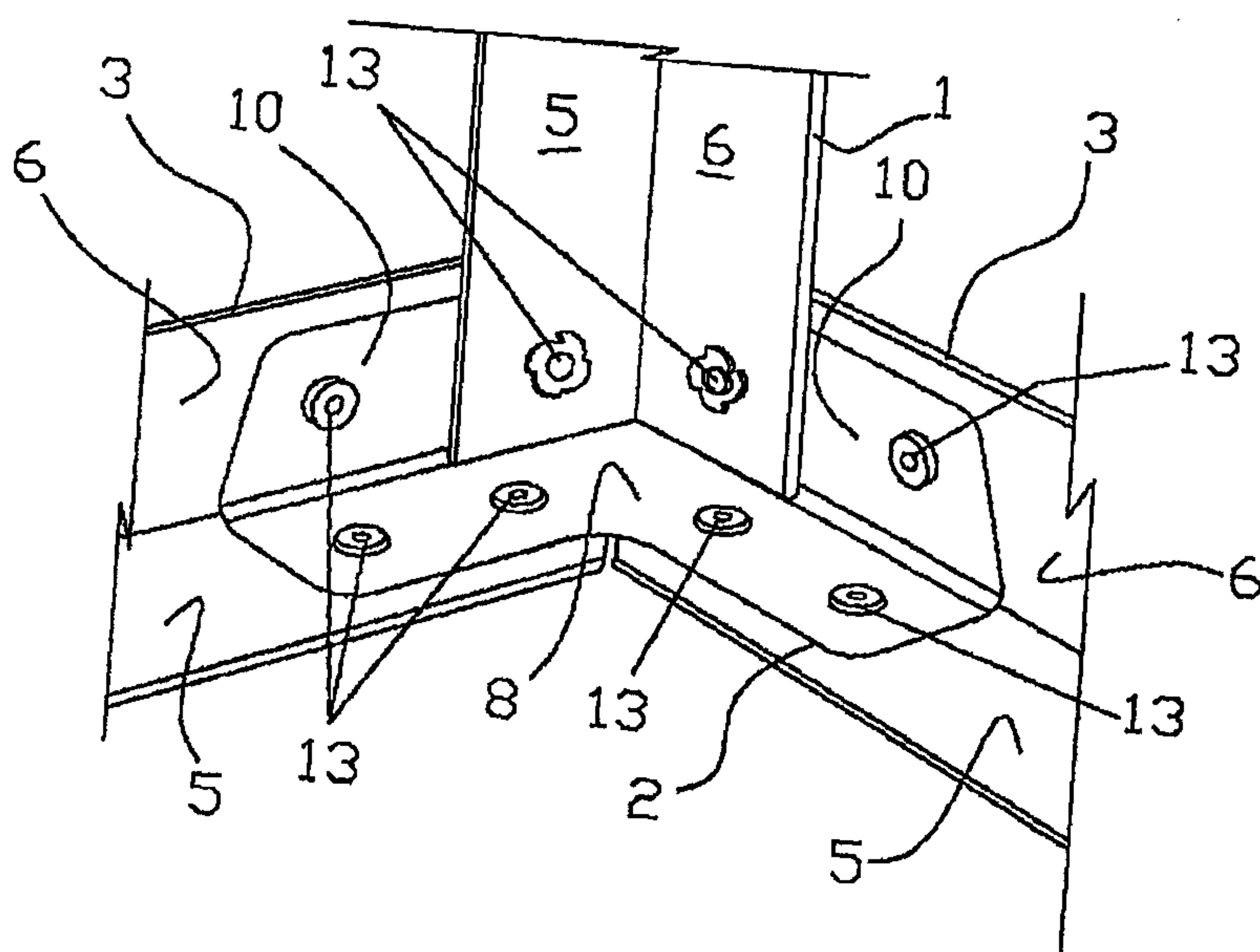


FIG. 3

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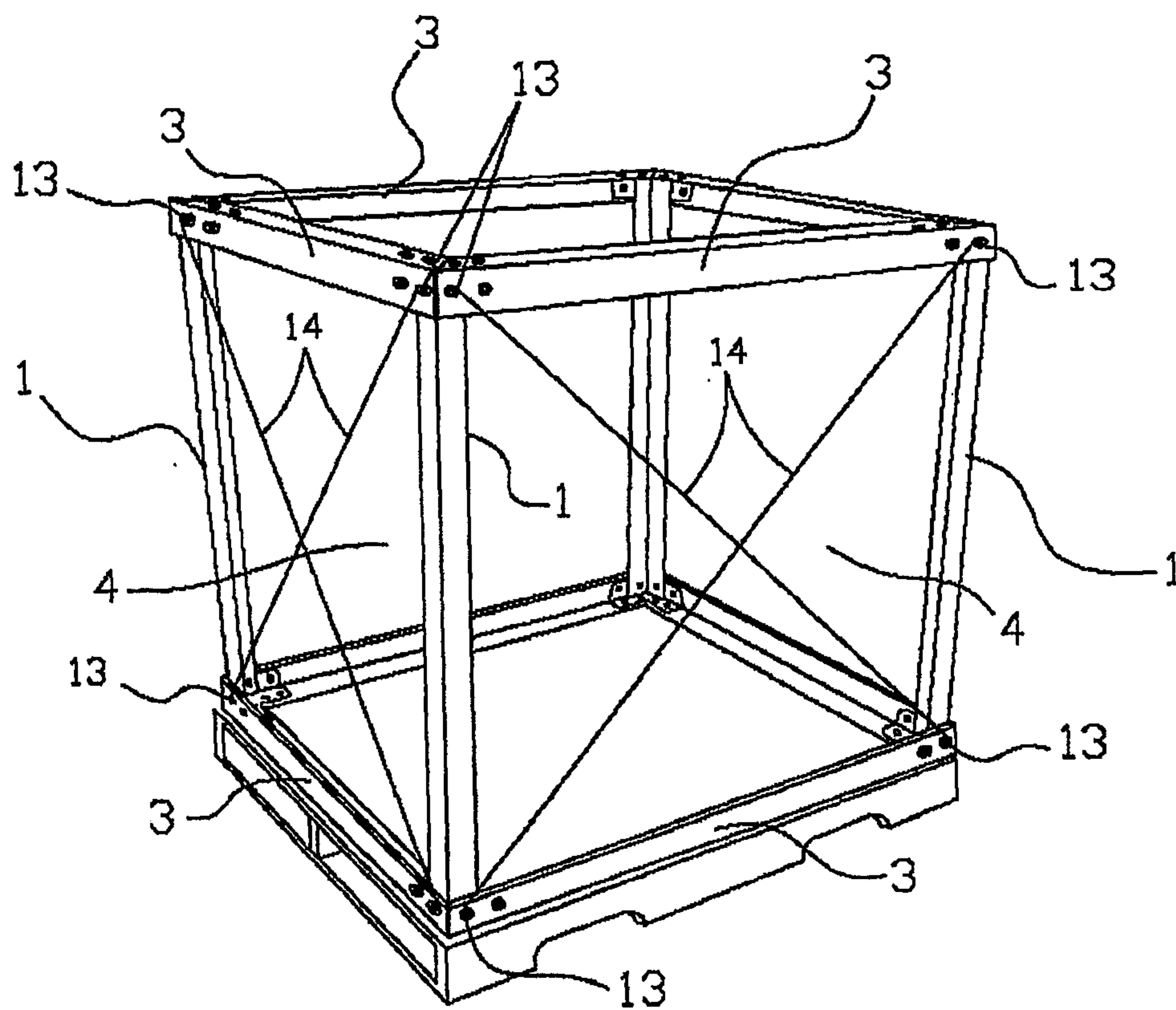


FIG. 4

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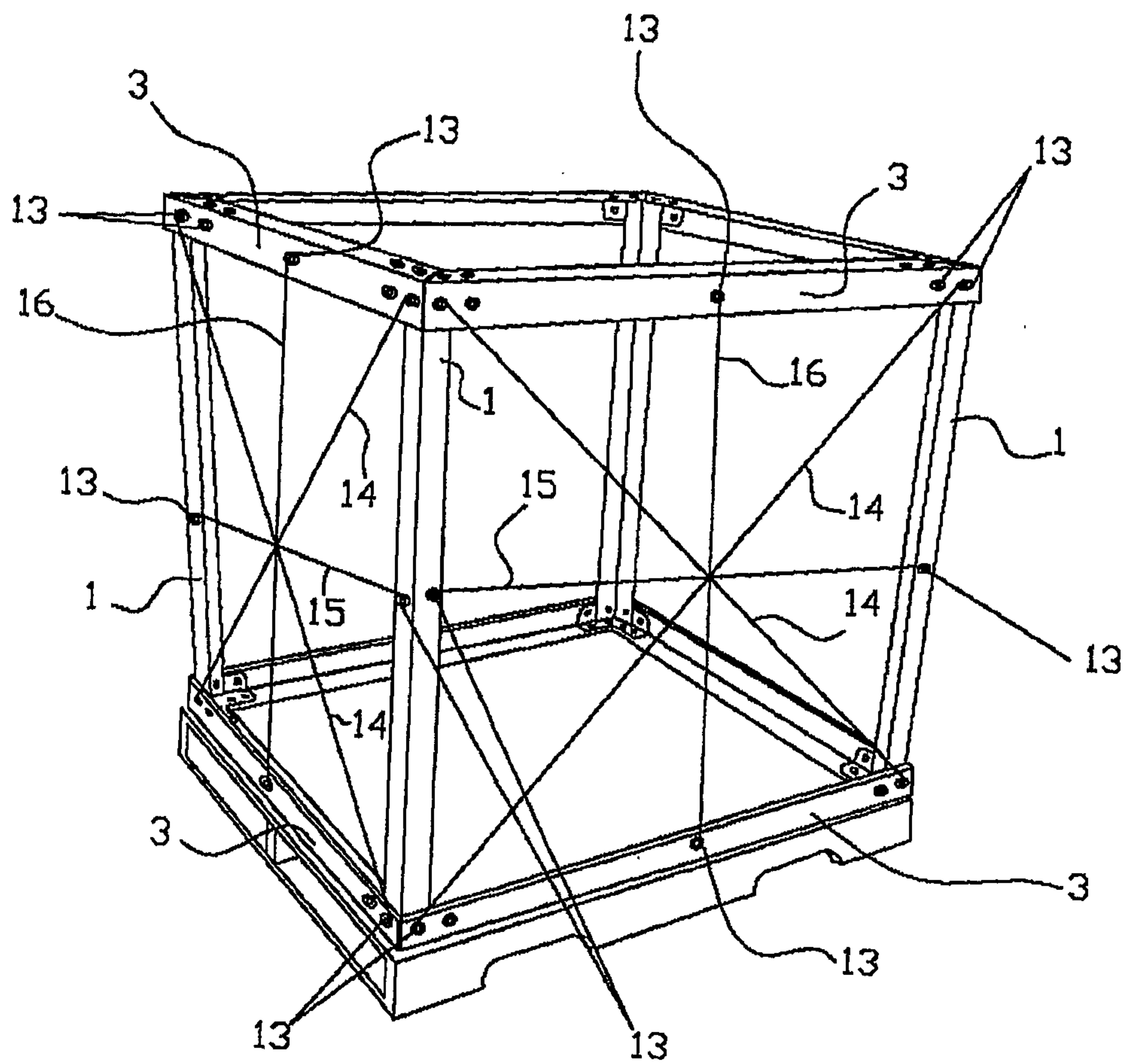


FIG. 5

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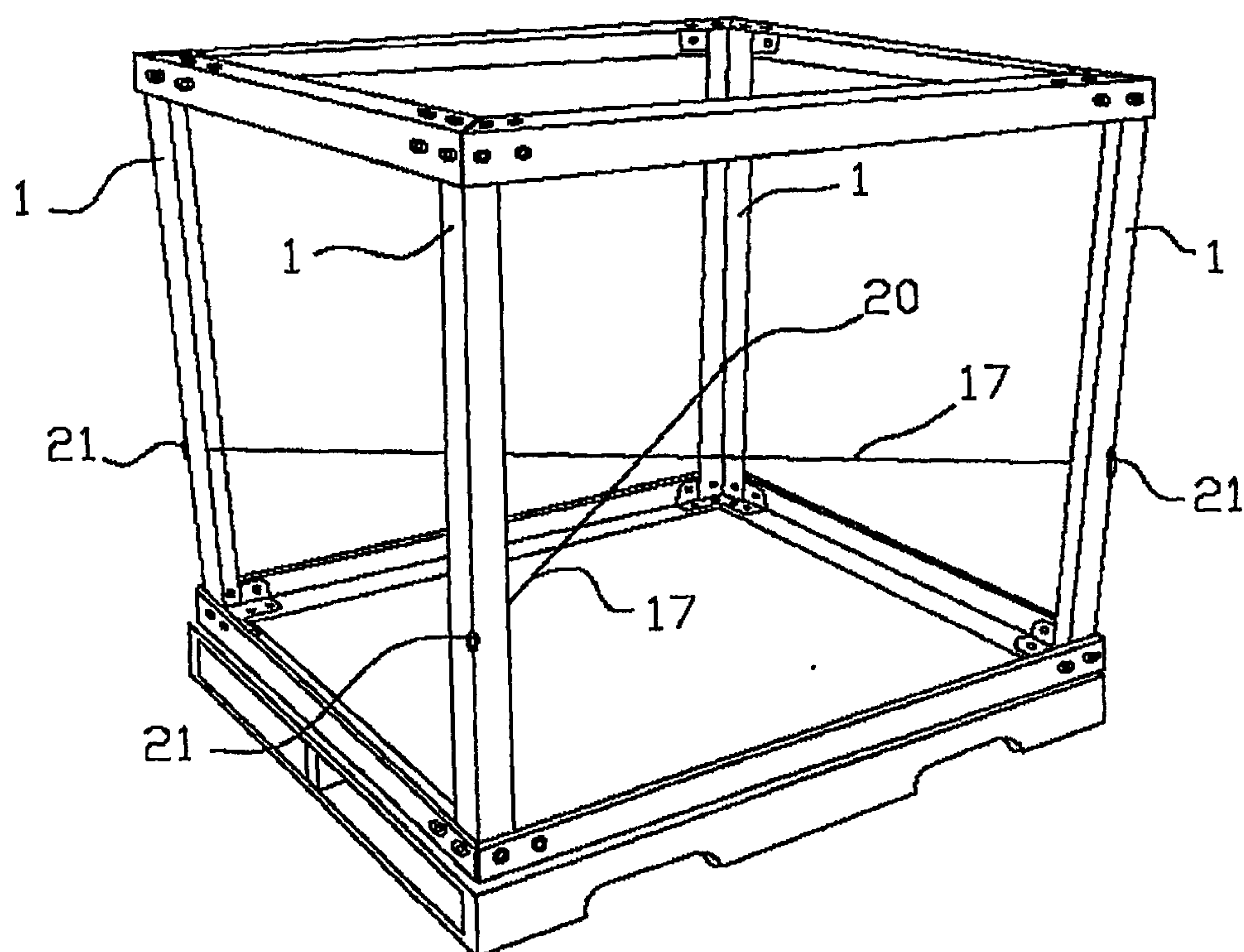


FIG. 6

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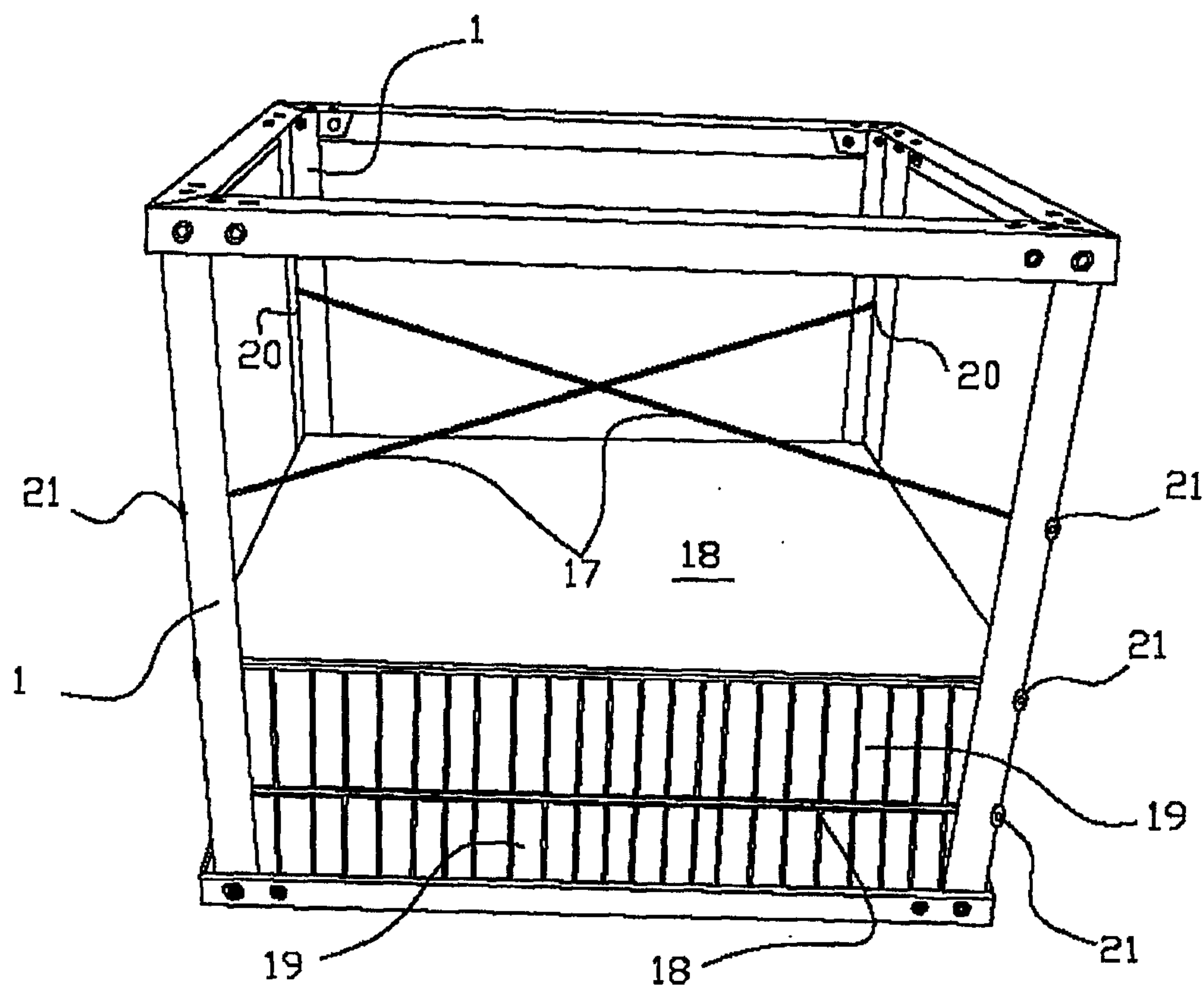


FIG. 7

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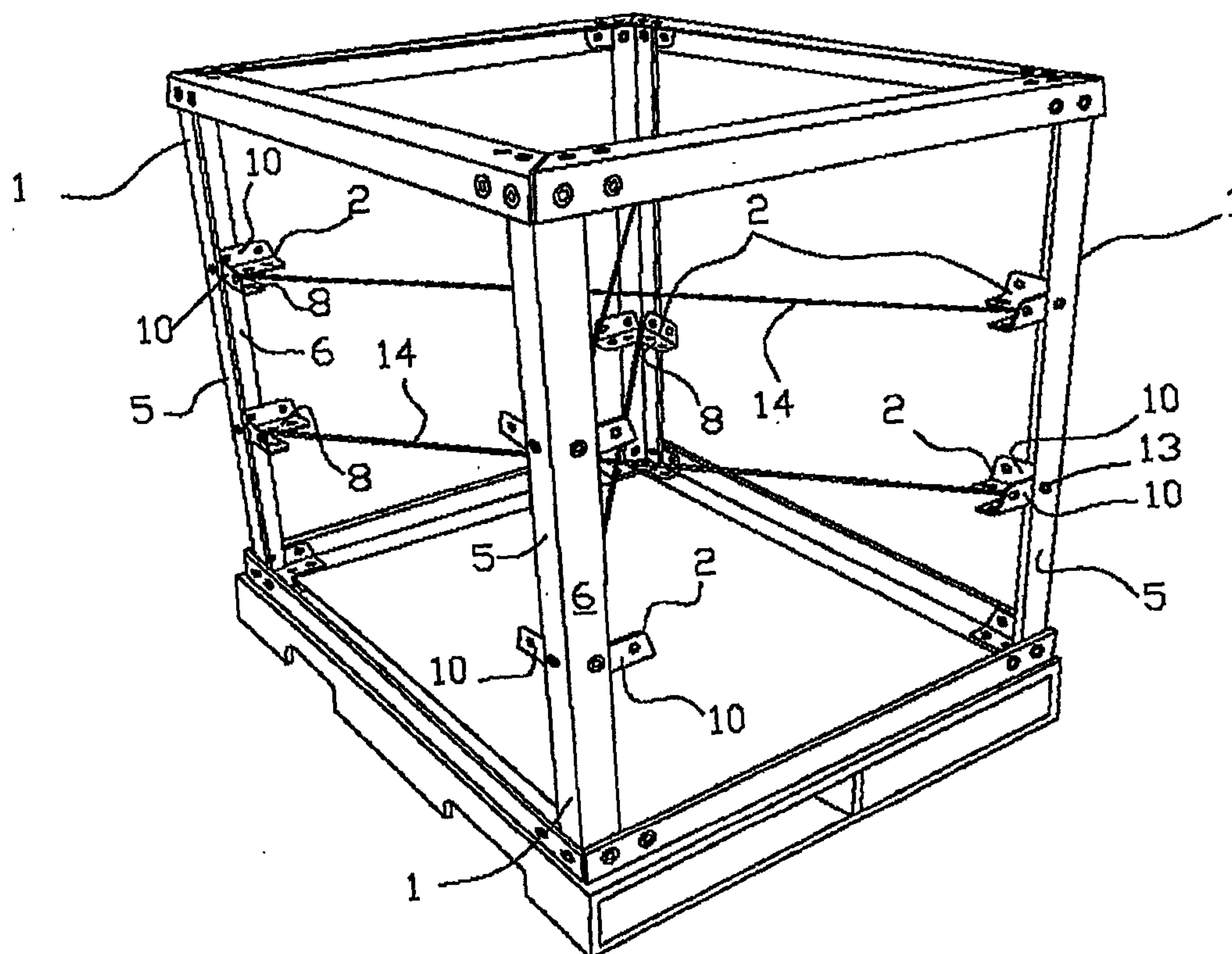


FIG. 8

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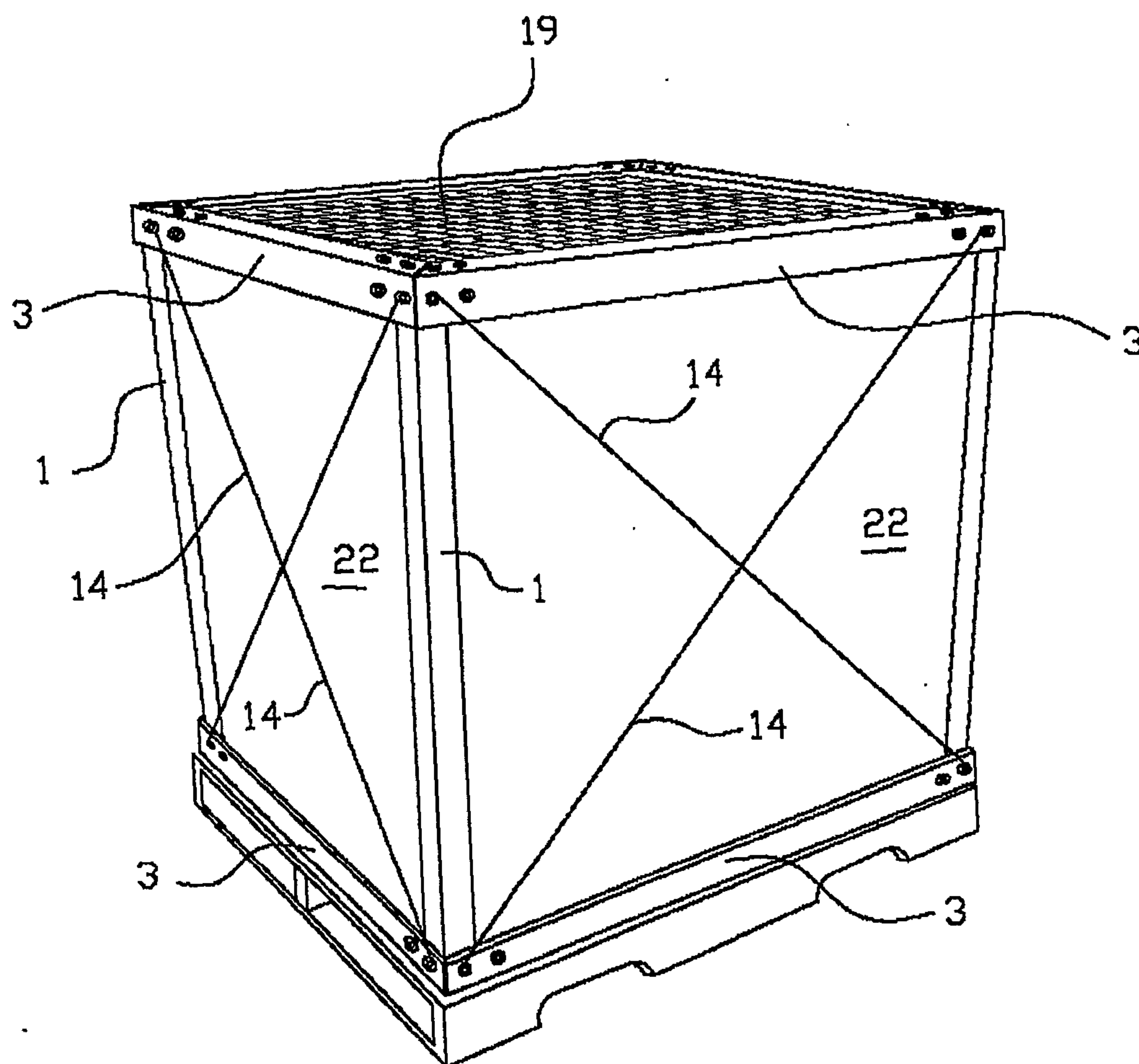


FIG. 9

