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(54) **PARTY TENT**

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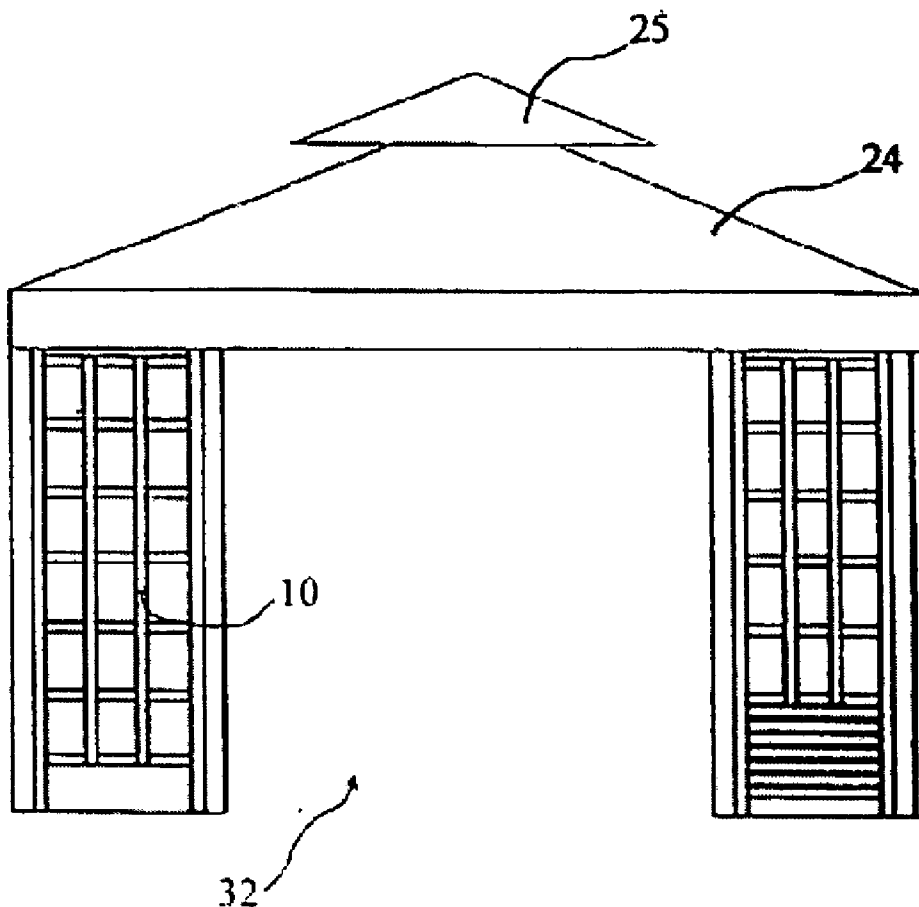
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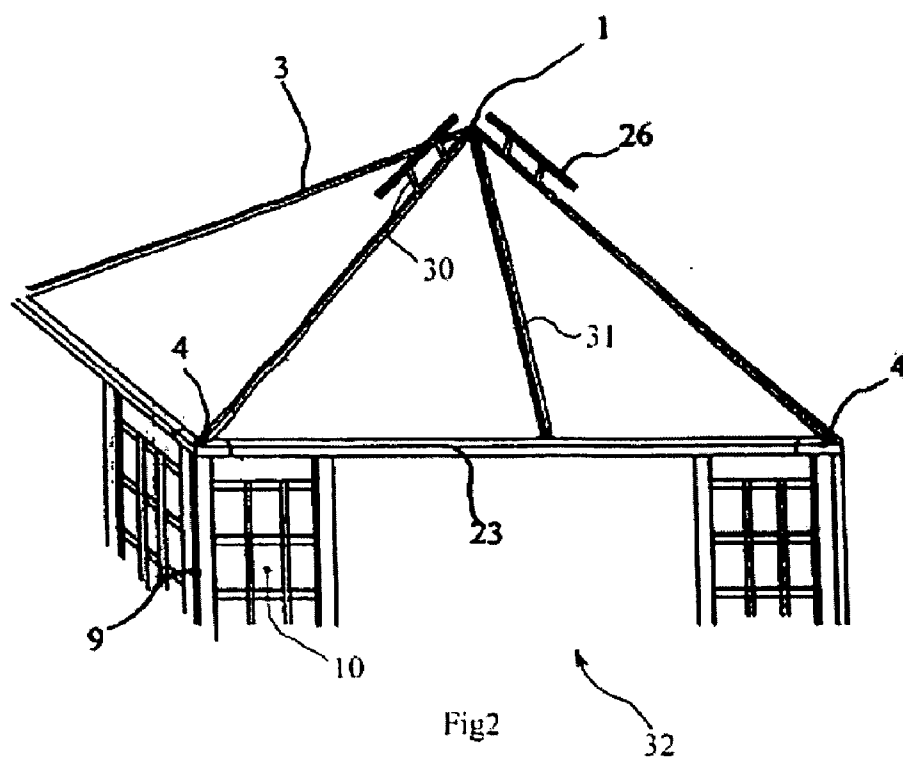
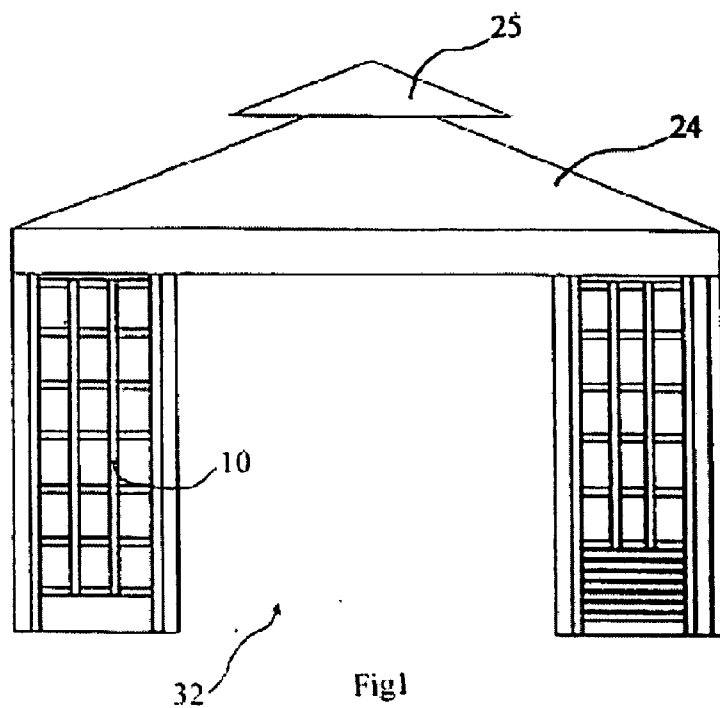
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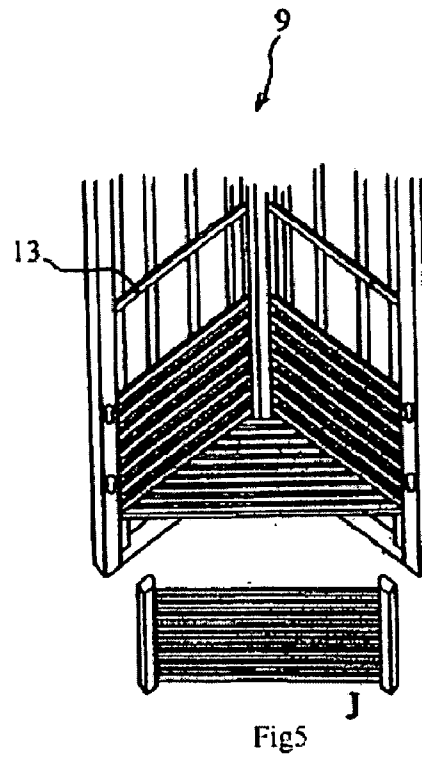
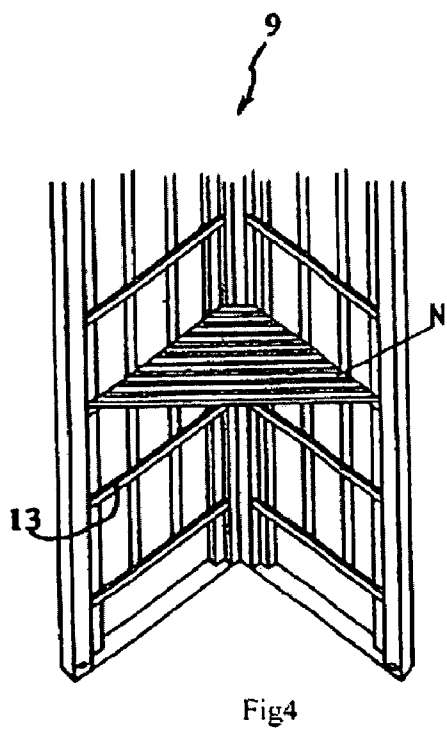
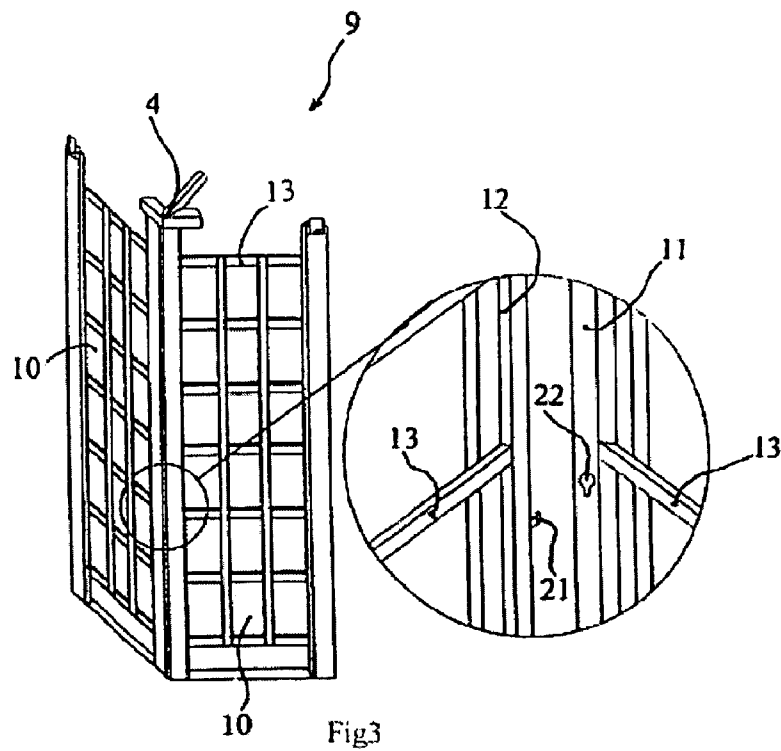
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(57) **ABSTRACT**

A party-tent has a frame that includes: a desirable number of erecting vertical corner-member which constructed by two coupled panels vertically erecting on the ground with a predetermined intersect angle, the equal number of cross-members being connected to/and between the two adjacent corner-members which have a multi-way connector at the up-most point of the intersect-line of two coupled panels, a roof member including a central multi-way connector from which there are plurality of ribs radially extending to and connected with the peripheral multi-direction connectors. All said connections are one-touch assembling without any screw-type engagement, so that the assembling and patching of the party-tent outdoor become more quickly and more conveniently.







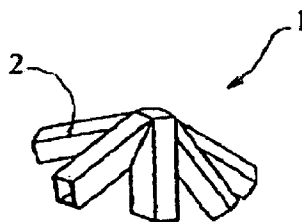


Fig6

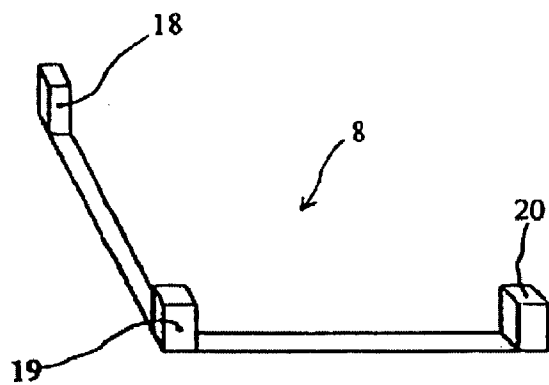


Fig7

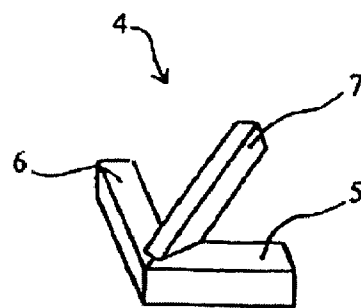


Fig8

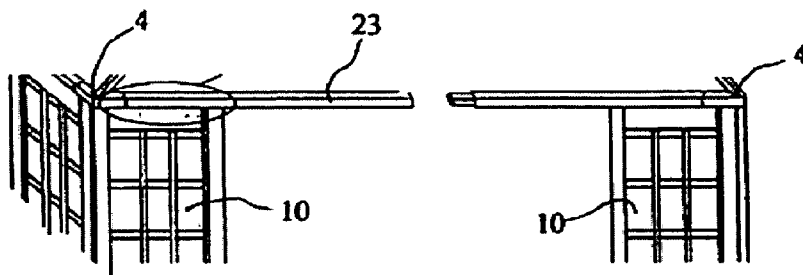


Fig9

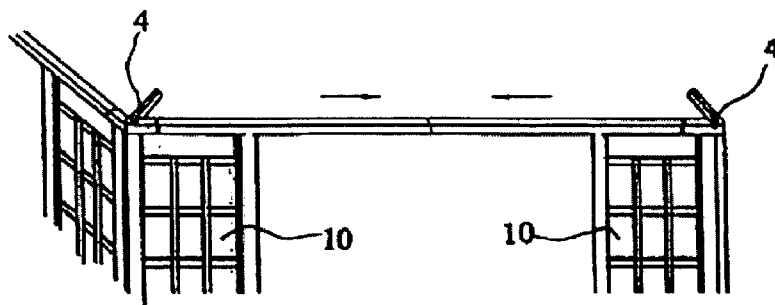


Fig10

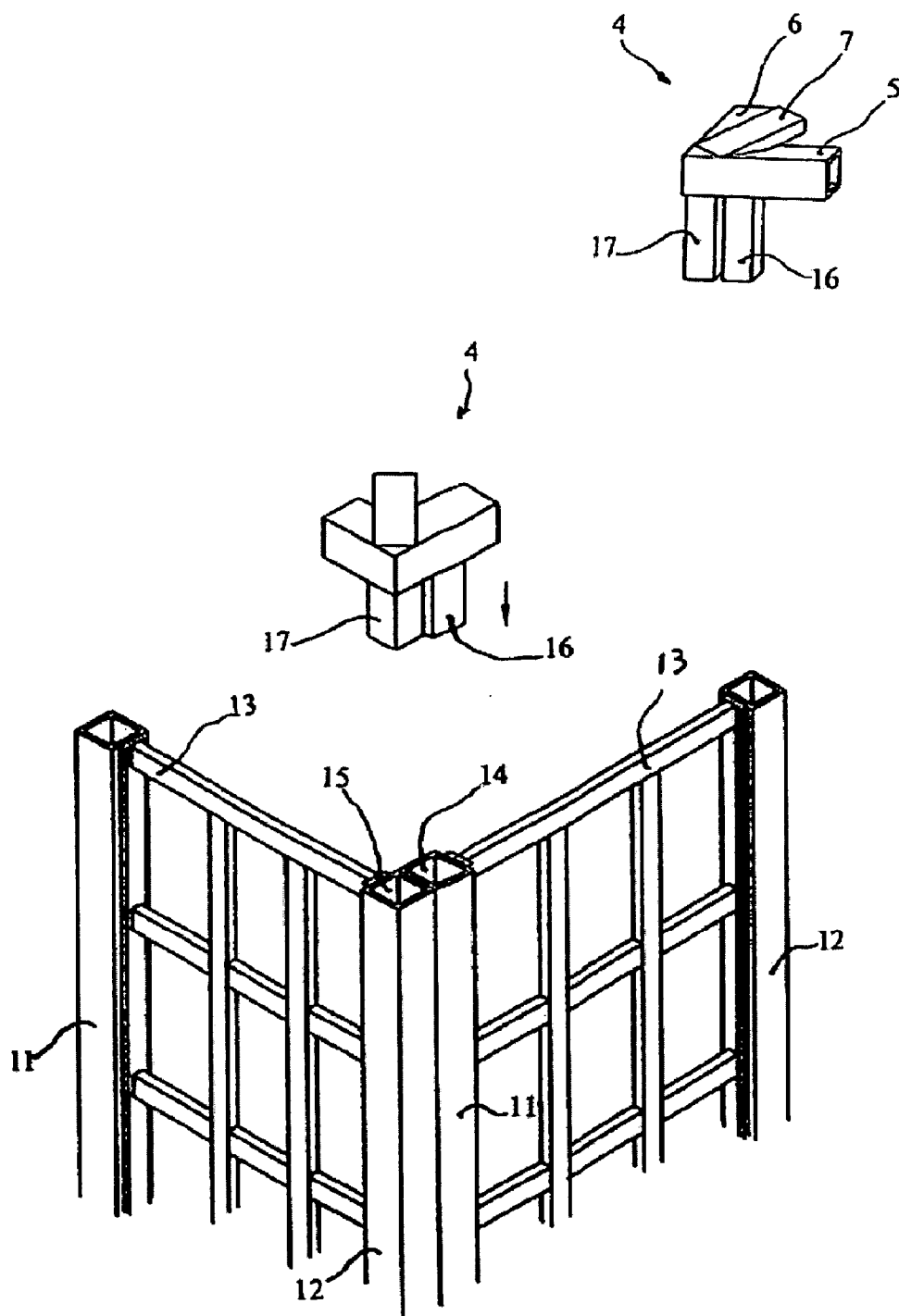


Fig11

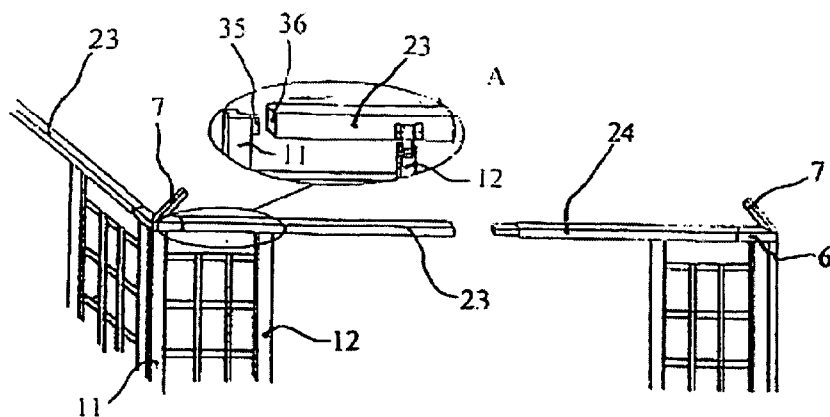


Fig12

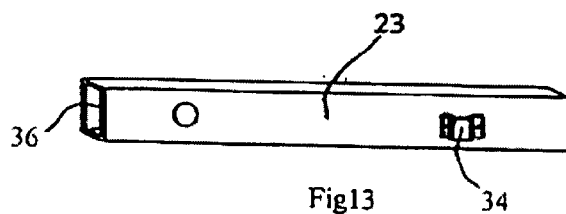


Fig13

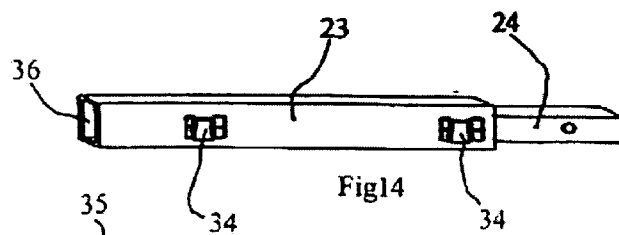


Fig14

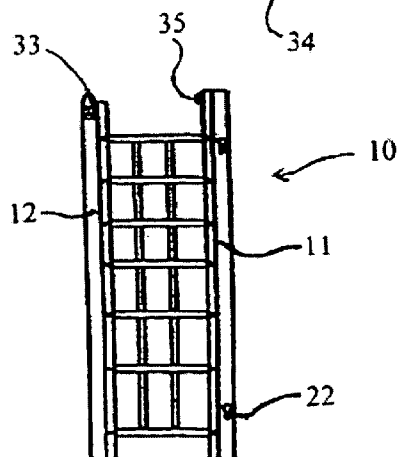


Fig17

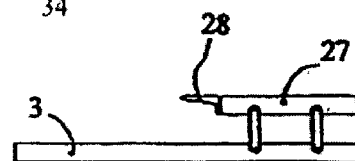


Fig15



Fig16

PARTY TENT

RELATED APPLICATIONS

[0001] This application claims priority under 35 U.S.C. § 119(a) for Chinese Patent Application No. 03256025.7, filed Jul. 28, 2003, titled "Party-Tent."

FIELD OF THE INVENTION

[0002] The present invention relates generally to a tent or canopy. In particular, the present invention relates to a large "party" tent for outdoor use. It can be called "one-touch" quickly assembling collapsible tent without utilize any screw-type or threaded connecting member.

BACKGROUND

[0003] The "party-tent" or other large tents are used for various events and occasions to provide a cover for people. When dealing with large tents, a large number of labor-hours are generally needed to set up the tent, therefore there is a need for a new party-tent frame design that can be easily and quickly assembled by a small number of people. In conventional installation of a party-tent, there are many kinds of screws or bolts being necessary which are different sized. The trouble is frequently aroused owing to some screw members being lost. So such design is well liked that there is no need utilize any tools such as screw driver in the installation of the tent.

SUMMARY

[0004] According to the present invention a large quickly assembling "party" tent for outdoor use comprises a desirable number of erecting vertical corner-member which constructed by two coupled panels vertically erecting on the ground with an predetermined intersect angle; and equal number of horizontal cross-members being connected to/and between the adjacent corner-members which have two coupled panels and a multi-way connector at the uppermost place of the intersect-line of said two coupled panels; a roof member including a central multi-way connector from which there are plurality of radially arranged ribs downwardly extending to and connected with the multi-direction connectors on upper plane of the erecting vertical corner-member, and the horizontal crossed bar member.

[0005] The horizontal crossed-bar member is extensible by releasable insert connection between two tubular members through one-touch assembling. Each corner member connect with the adjacent corner member through one or more crossed member.

[0006] The erecting vertical corner-member is the support member of the tent. The number of the corner-members preferably is four or more which corresponds with the number of the wall of the tent. The said wall is wind-through and rare-shut by making the panels of the corner member into the grille or with special pattern screen. It is especially suitable for summer use.

[0007] The erecting vertical corner-member has two rectangular panels adjoining each other along its vertically intersecting line by releasable coupling member, which defines and maintain a predetermined open-angle therebetween. When said angle intersected by two panels of the corner-member is 90°, the tent becomes rectangular tent. If

said angle is 60°, then the tent will become hexagonal. If the number of the corner member and cross member is 5 or 7, thus the shape of the tent becomes pentagon or heptagon.

[0008] Each rectangular panel has at least two vertical erecting tubes as a support member. Along with the intersect-line of two panels there are at least two places of the vertical erecting tubes, at which the releasable coupling means are disposed. This is a kind of one-touch releasable coupling member which being a paired fastener. It has a horizontal pin with an expanded head at its distal end which projecting outwardly from the erecting surface of the vertical the supporting tube of the panel, and it simultaneously has an opening with a longitudinal through groove having an expanded round through-opening at the uppermost end of thereof, which located on the erecting surface of the supporting tube of the other panel of same corner member for receiving the horizontal pin to form coupling relationship therebetween.

[0009] In the operation of pitching tent, first and second panel of one corner member are coupled joining together and erecting on the ground, while let the horizontal pin located on an erecting surface of a supporting tube of first panel insert into the through-groove having an expanded round through-opening on its top place, which located on an erecting surface of a supporting tube of second panel of the same corner member.

[0010] At the ground end of said corner member there is an angular-shaped fixing member which is a rigid bend bar with three or four upward projections which insert in the corresponding downward openings of the erecting tubes of two panels of the corner member for fixing and maintaining the open-angle intersected by two panels of the same corner member.

[0011] At the top end of the corner member there is a multi-direction connector provided for receiving two horizontal crossed members at two different directions and one inclined roof rib through one-touch assembling. The multi-direction connector is disposed on the top plane of the corner member and is constructed by a plurality of tubes, which are intersected /and connected into a joint point at its one ends while its opposite ends radially extending outward from the intersected point to forming a three-dimension rigid multi-direct connector.

[0012] As to the roof member, each roof rib forming a frame of first roof cover and a shot roof rib forming a frame of second roof-cover composed over the first roof-cover are joined together by two perpendicular spacer-bars therebetween through using mortise-tenon combination or hinged linkage connection. The covers preferably are made of flexible and resilience material.

[0013] The roof rib may have different lengths. The longer is used for connection between central multi-way connector located at the center of the roof and peripheral multi-direction connector over the corner members, while the short roof rib may be connecting means between central multi-way connector and central point of the crossed bar over the corner member.

[0014] Two intersected panels of a corner member may have a horizontal triangular reinforcement plate between the spaces defined by two panels at desirable height. The triangular reinforcement plate can has one fence joining

together to form a triangular three-dimension space with two panels for accommodating flower like ornamental items. The reinforcement plate can be a triangular grille plate. And the fence may also be grille plate.

[0015] All peripheral walls of the tent have broad entrance gate. The proportion of the width of panels to the width of the entrance gate may ranges from 1:2 to 1:4 or more. The panels are grille or with special pattern screen. Each of two panels of the same corner member consists of at least two erecting tubes as frame members, at least one of which has an upward opening on its top plane for accommodating a downward inserting leg of a multi-direction connector disposed on the top plane of the corner member. The other erecting tube forming the same panel frame as a supporting member has an insert-type fastener at the top place of thereupon. A crossed member is connected between two adjacent corner members on the top plane thereupon. One end of the crossed member connects to the corresponding horizontal tube of the multi-direction connector through a insert connection. The crossed member is directly disposed on top plane of the corner member and firmly connected joining together with the panel thereunder through the construction of "grooving and tonguing" connection. The connection between the crossed member and the erecting tube thereunder may be the insert-fastener coupling. The two covers may be constructed from pieces of material that are sized and configured to provide a smooth, taut cover in the expanded mode. When the framework is pitched the cover may be attached to the framework by cover connecting members, which may be the spurs or hooks positioned at the downward end of the roof ribs. The cover is flexible, which may be made of a polyester material or other suitable material that may resist water, fire, and ultraviolet. The tent covering is tensioned onto the frame proving a tight aesthetically pleasing appearance.

[0016] All frame members are preferably constructed from aluminum tubing. The tent is well in providing shade and shelter in a temporary situation. It easy to pitch and easily transported and stored, requiring minimal space.

BRIEF DESCRIPTION OF DRAWINGS

[0017] FIG. 1 is a front view of the first embodiment showing the tent with two covers.

[0018] FIG. 2 is a perspective view of the first embodiment of present invention

[0019] FIG. 3 is a perspective view of the first embodiment with an enlarged drawing showing the connection relationship of the two panels forming a corner member.

[0020] FIG. 4 is a perspective view of the corner member of the present invention showing the connection relationship of two panels forming the peripheral walls in which the corner member being reinforced by adding a triangular horizontal plate between two panels.

[0021] FIG. 5 is a perspective view of the corner member of the present invention showing a triangular horizontal reinforcement plate forming a space with two panels by adding an erecting plate.

[0022] FIG. 6 is a perspective view of central roof multi-connector using one-touch by tenon and mortise joint.

[0023] FIG. 7 is a perspective view of ground frame for fixing and maintaining the open angle between two panels.

[0024] FIG. 8 is a perspective view of a multi-direct connector which being placed on the upper plane of the corner member,

[0025] FIG. 9 is a perspective view of the peripheral wall reflecting the connection relationship of the crossed-bar member.

[0026] FIG. 10 is as same as FIG. 9 reflecting the finished the connection relationship of the crossed-bar member.

[0027] FIG. 11 is a perspective view of the corner member reflecting the connection relationship between panels, multi-direction connector,

[0028] FIG. 12 is a perspective view (with enlarged drawing showing the relationship between cross bar and erecting tubs of a panel) of the corner member.

[0029] FIG. 13 is a perspective view of a bar member.

[0030] FIG. 14 is a perspective view of a bar member with extensible sliding bar,

[0031] FIG. 15 is a front view of a rib member forming roof frame for two layers of the covers.

[0032] FIG. 16 is a front view of a rib member with a hook at the downward end thereof, being used for fixing top cover.

[0033] FIG. 17 is an elevation view of a panel of a corner member with one-touch connection means at the top place of two erecting tubes of a panel.

DESCRIPTION

[0034] FIG. 1 and FIG. 2 illustrate the elevation views of a preferred embodiment of the present invention. The construction of a quick erecting party-tent in accordance with the preferred embodiment includes: a large quickly assembling "party" tent for outdoor use (Refer to FIG. 3) comprises number of four erecting vertical corner-member 9 which constructed by two coupled panels 10 vertically erecting on the ground with an predetermined intersect angle 90°; and equal number of horizontal cross-members 23 being connected to/and between the adjacent corner-members 9 which have two coupled panels 10 and a multi-direction connector 4 at the uppermost place of the intersect-line of said two coupled panels 10; a roof member including a central multi-way connector 1 from which there are plurality of radially arranged ribs 3 downwardly extending to and connected with the multi-direction connectors 4 on upper plane of the erecting vertical corner-member 9, and the horizontal crossed bar member 23.

[0035] The horizontal crossed-bar member 23 is extensible by using releasable insert connection between two tubular members through one-touch assembling (see FIG. 9 and FIG. 10 and FIG. 12). Each corner member 9 connects with the adjacent corner member 9 through one or more crossed member 23. The crossed member is increased its length by combining two bar member 23 and 24 with its hole and tongue construction. FIG. 13 illustrates a bar of a cross member 23 which has a fastener 34 on the erecting surface thereof used for connecting to a tongue 33 disposed at the top place of the erecting tub 12, and which has a connecting hole 36 at one end of the bar 23 faced to the tongue 35 (a

projector block) forming an insert connection between the bar 23 and the erecting tub 11. FIG. 14 showing an optional cross bar 23, which has two connecting fastener 34 on an erecting surface thereof, and which has an elongated sliding bar 24 inserted within the elongating internal hole of the bar 23 for forming a connection with another cross bar. FIG. 17 illustrates a panel 10 of a corner member 8, which the erecting vertical corner-member 9 is the support member of the tent. The said wall 10 is wind-through by using grille panel 13.

[0036] FIG. 3 illustrated that the erecting vertical corner-member 9 has two rectangular panels 10 adjoining each other along its vertically intersecting line by releasable coupling member, which comprise an one-touch paired fastener, and within which there are a horizontal pin 21 projecting outwardly from an erecting surface of the vertical supporting tube 12 of the first panel and an opening 22 for accommodating the pin 21 on an erecting surface of the tube 11.

[0037] Each rectangular panel 10 of the corner member 9 has at least two vertical erecting tubes 11,12 as a support member. A tube 12 has an insert-type fastener 33 at the top place of along with the intersected-line of two panels there are two different heights at which the releasable coupling means 21,22 are disposed for coupling two grille panels joining together (see FIG. 3). The coupling means comprised a paired one-touch insert fasteners, of which there is a horizontal pin 21 having an expanded head at the distal end thereof, and a corresponding opening 22 for accommodating the pin 21. The opening 22 is located on the erecting surface of the supporting tube of adjacent panel at same height position corresponding to the position located by the pin 21 (refer to the enlarged drawing of FIG. 3). The opening 22 has a longitudinal through groove with an expanded round opening at the uppermost end of thereof. In the operation of pitching tent, set first and second panel 10 joining together through insertion of a paired one-touch insert fasteners, and erecting on the ground, while let the horizontal pin which is located on an erecting surface of a supporting tube 12 of first panel 10 insert in the opening (through-groove) 22 which is disposed on an erecting surface of a supporting tube 11 of second panel 10.

[0038] At the ground end of said corner member 9 there is an intersect-angle fixing member 8 of the corner member 9 between two panels 10 of one corner member 9, which is a rigid bend bar with three upward projections 18, 19, 20 (see FIG. 7) for inserting in the lowest downward openings of the erecting tubes 11,12 of two panels 10 of said corner member 9 for fixing and maintaining the intersect-angle therebetween.

[0039] At the top end of said corner member 9 there is a multi-direction connector 4 provided for receiving two horizontal crossed members at different directions and one inclined roof rib 3 through one-touch tenon-mortise connection (See FIG. 8 and FIG. 11). The multi-direction connector 4 is disposed on the top plane of the corner member 9 and is constructed by three tubes 5,6,7 which are intersected into a point at its one end and with its opposite ends radiate extending outwardly from the intersect-point to forming a three-dimension rigid multi-direction connector 4. The connector 4 is used for connection of the corner member 9 to a roof-frame member 3. And the connector 4 also is used for connecting the corner member 9 to the crossed-bar 23, which may have two downwardly extending member 16,17 for inserting into the upward hole 14,15 of the erecting tubes 11,12 (refer to FIG. 11).

[0040] The roof member comprising a multi-way connector 1 (refer to FIG. 2 and FIG. 6) disposed at the center point of the roof, from which there are plurality of roof ribs 3 extend downwardly. Each roof rib 3 which forming a frame of first roof cover 24, and a shot roof rib 26 to forming a frame of second roof-cover 25 disposed over the first roof-cover 24 are joined together by two spacer-bars 30. The cover 24, 25 preferably are made of flexible and resilience material. The roof rib may have different lengths. The longer 3 is used for connection between central multi-way connector 1 located at the center of the roof with peripheral multi-direction connector 4 over the corner members, while the short roof rib 31 may be the perpendicularly connecting means between central multi-way connector 1 and central point of crossed bar 23 over the corner member 9.

[0041] FIG. 4 and FIG. 5 illustrated that two intersected panels 10 of a corner member 9 may have a horizontal triangular reinforcement plate N between the space defined by two panels 10 at desirable height. The triangular reinforcement plate N can has one fence J to form a triangular three-dimension space with two panels 10 for accommodating flower pot like ornamental items (not shown). The reinforcement plate N is a triangular grille plate. And the fence J may also be grille plate.

[0042] All peripheral walls of the tent are wind-through, and have broad entrance gate 32 thereon. The proportion of the width of panels to the width of the entrance gate 32 may be 1:2. The panels 10 are grille or with special patterned screen. Each of two panels 10 consists of at least two erecting tubes 11,12 and many horizontal bars 13 which jointly form a grille panel 10 of a corner member 9. FIG. 12 is a perspective view of the corner member showing the connection relationship between two crossed-bar members 24,23 and panels. The length of the crossed member may be extended by combining two bar member 24, 23 with "hole and tonguing" construction.

[0043] When the framework is pitched the cover may be attached to the framework by cover connector mechanism which includes spur 28 or hook 29 positioned at the downward end of the roof ribs. The cover 24, 25 is flexible, which may be made of a kind of polyester material or other suitable material that may resist water, fire, and ultraviolet.

[0044] The party-tent of the present invention for outdoor use is capable of quick pitching without using any screw-type engagement and special tools such as screw-driver and pipe-wrench.

[0045] Although the preferred embodiment of the present invention has been disclosed for illustrative purposes, those skilled in the art will appreciate that various modifications, additions and substitutions are possible, without departing from the scope and spirit of the invention as disclosed in the accompanying claims.

We claim:

1. A party-tent for outdoor use capable of quick-pitching without using any screw-type engagement comprising:

a desirable number of erecting vertical corner-members which constructed by two coupled panels vertically erecting on the ground with an predetermined intersect angle;

equal number of horizontal cross-members being connected to/and between the two adjacent corner-members which have two coupled panels and a multi-

direction connector at the uppermost place of the intersect-line of said two coupled panels; and

a roof member including a central multi-way connector from which there are plurality of ribs radially downward extending to and connected with the multi-direction connectors on upper plane of the erecting vertical corner member.

2. A party-tent for outdoor use as defined in claim 1 in which the horizontal cross-member is extensible by insert connection between two tubular members aligned along a common axis thereof.

3. A party-tent for outdoor use as defined in claim 1 in which the erecting vertical corner-member has two rectangular panels adjoining each other along its vertically intersecting line by releasable coupling member, which define and maintain a predetermined open-angle therebetween.

4. A party-tent for outdoor use as defined in claim 1 or **3** in which the said intersected angle between two panels of one corner member is an angle of 90° degree.

5. A party-tent for outdoor use as defined in claim 1 or **3** in which the said intersected angle between two panels of one corner member is an angle of 60° degree.

6. A party-tent for outdoor use as defined in claim 1 or **3** in which each rectangular panel has at least two vertical erecting tubes as a support member.

7. A party-tent for outdoor use as defined in claim 1 or **3** in which said releasable coupling member is an one-touch assembling paired fastener which have a horizontal pin projecting outwardly from the erecting surface of the vertical erecting tubes of a panel of a corner member and an opening located on the erecting surface of the tube of another panel of the same corner member for receiving said horizontal pin.

8. A party-tent for outdoor use as defined in claim 1 or **7** in which said paired fastener for coupling two panels of said corner member includes a horizontal pin with an expanded head at the distal end thereof, and its corresponding opening

located on another panel's erecting surface of the tube for receiving said pin head having a vertical longitudinal through-groove with a expanded round through-opening at the uppermost end thereof.

9. A party-tent for outdoor use as defined in claim 1 in which of said corner members have an angular-shaped fixing member on the ground in combination therewith, having three or four upward projections inserting in the downward openings of the erecting tubes of two panels of said corner member for fixing and maintaining the open-angle between two panels of said corner member.

10. A party-tent for outdoor use as defined in claim 1 in which at the top end of said corner member there is a multi-direction connector provided for receiving two horizontal crossed member and one inclined roof rib through one-touch assembling.

11. A party-tent for outdoor use as defined in claim 1 in which the two roof ribs with different lengths are parallelly spaced apart from each other and combined joining together by adding at least two shot-bars orthogonally intersected therewith.

12. A party-tent for outdoor use as defined in claim 1 in which said two intersected panels of said corner member have at least one horizontal triangular reinforcement plate between the space defined by two panels of said corner member at a desirable height.

13. A party-tent for outdoor use as defined in claim 1 in which the proportion of the width of panels to the width of the entrance gate ranges from 1:2 to 1:4.

14. A party-tent for outdoor use as defined in claim 1 in which each roof rib forming a frame of first roof cover and a shot roof rib forming a frame of second roof-cover composed over the first roof-cover are joined together by two perpendicular spacer-bars therebetween through using hinged linkage connection.

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