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(54) Quickly pitching method for a tent

(57) A quickly pitching method for a tent having acts of: pivoting a bottom section (43) of each pole (40) of the tent relative to a middle section (42) of the pole (40); securely aligning the bottom section (43) relative to the middle section (42); attaching the poles (40) securely to

the ground; pushing a center hub (30) of the tent upward to pivot a top section (41) of each pole (40) relative to the middle section (42) of the pole (40); securely fastening the top section (41) relative to the middle section (42) when the top and the middle sections (41, 42) include an obtuse angle.

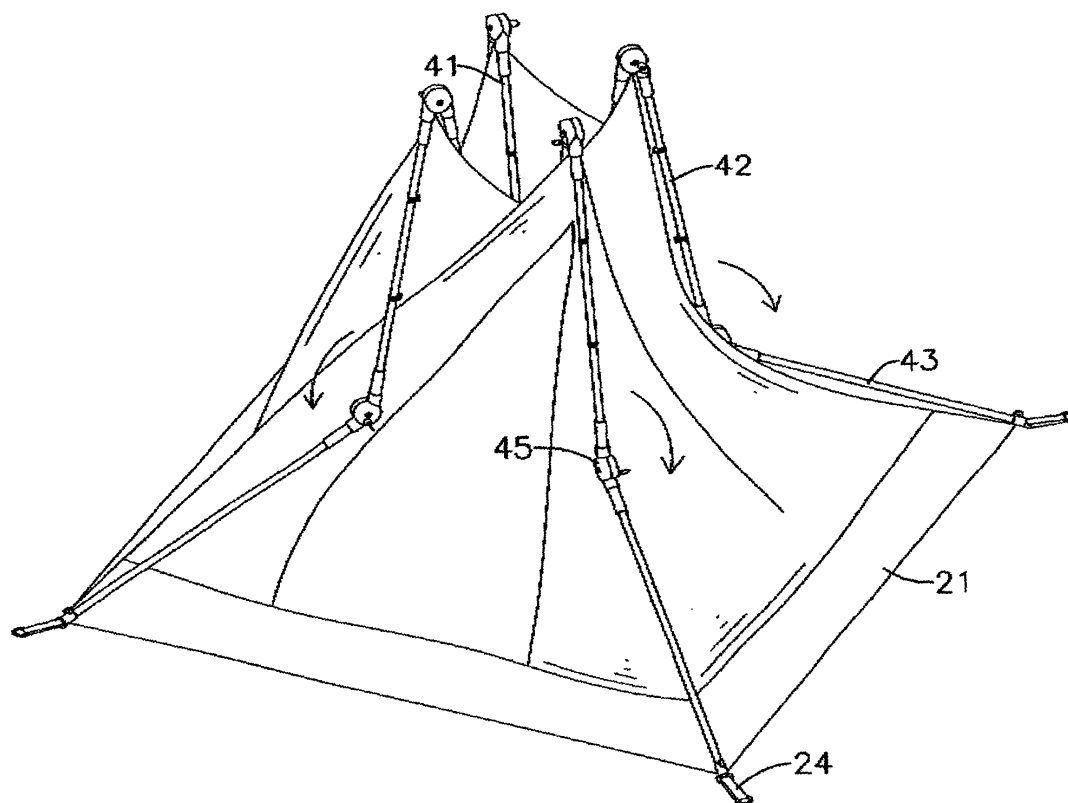


FIG. 10

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Description

1. Field of the Invention

[0001] The present invention relates to a method, especially to a method for quickly pitching a tent.

2. Description of the Prior Arts

[0002] Work and life in modern society are hectic and stressful. Many people go camping on weekends to moderate the pace of their daily life and relieve the stress. A tent is a necessary piece of camping equipment. Pitching or striking a tent is a necessary part of setting up or striking camp, and most campers want to take as little time as possible to pitch or strike the tent. Furthermore, campers want to use as much of their available time as possible to enjoy nature so quickly pitching or striking the tent adds to the campers' enjoyment. However, conventional tents need many complicated procedures to be pitched and struck. Therefore, the campers need to use much time to pitch and stick the conventional tents,

[0003] To overcome the shortcomings, the present invention provides a quickly pitching method for a tent to mitigate or obviate the aforementioned problems.

[0004] The main objective of the present invention is to provide a quickly pitching method for a tent. The quickly pitching method for a tent comprising acts of: pivoting the bottom section of each pole relative to the middle section of the pole; securely aligning the bottom section of each pole relative to the middle section of the pole; attaching the poles securely to the ground; pushing the center hub upward to pivot the top section of each pole relative to the middle section of the pole; securely fastening the top section of each pole relative to the middle section of the pole when an included angle between the top and the middle sections is an obtuse angle.

[0005] Other objectives, advantages and novel features of the invention will become more apparent from the following detailed description when taken in conjunction with the accompanying drawings.

IN THE DRAWINGS

[0006]

Fig. 1 is a perspective view of a tent pitched by and struck by a method in accordance with the present invention;

Fig. 2 is an exploded perspective view of a joint of the tent in Fig. 1;

Fig. 3 is another exploded perspective view of the joint of the tent in Fig. 1;

Fig. 4 is a partially perspective view of a cloth housing and a clip of the tent in Fig. 1;

Fig. 5 is a partially perspective view of the cloth housing and an end connector of the tent in Fig. 1;

Fig. 6 is a block diagram of a quickly pitching method

for a tent in accordance with the present invention; Fig. 7 is an operational perspective view of the tent when the tent in Fig. 1 is completely folded;

Fig. 8 is an operational perspective view of the tent in Fig. 1 without the cloth housing when the tent is completely folded;

Fig. 9 is an operational side view of the joint in Fig. 3 when the tent is completely folded;

Fig. 10 is an operational perspective view of the tent in Fig. 1 when the tent is unfolding;

Fig. 11 is an operational perspective view of the tent in Fig. 1 when the tent is anchored to the ground;

Fig. 12 is an operational side view of the joint in Fig. 3 when the bottom and middle sections are fastened to align with each other;

Fig. 13 is an operational perspective view of the tent in Fig. 1 when the center hub is pushed upward; and

Fig. 14 is an operational side view of the tent in Fig. 1 when the center hub is pushed upward,

[0007] With reference to Fig. 1, a tent quickly pitched by and struck by a method in accordance with the present invention comprises a frame (10) and a cloth housing (20),

[0008] The frame (10) comprises a center hub (30) and multiple poles (40),

[0009] The poles (40) are mounted respectively pivotally on the center hub (30). Each pole (40) comprises a top section (41), a middle section (42), a bottom section (43), an end cap (44) and two joints (45). The top section (41) is mounted pivotally on the center hub (30). The top, middle and bottom sections (41,42,43) connect pivotally to each other and have the same length. The end cap (44) is attached securely on the bottom section (43). The joints (45) are mounted between the sections (41, 42, 43) to pivotally connect the sections (41, 42, 43) to each other.

[0010] With further reference to Figs. 2 and 3, each joint (45) comprises a male leaf (46), a female leaf (47), a lock (48), a bolt (49) and a nut (490).

[0011] The male leaf (46) connects to one of the sections (41, 42, 43) of the pole (40) and comprises an attachment sleeve (461) and a male head (463). The attachment sleeve (461) is mounted around the corresponding section (41, 42, 43) of the pole (40). The male head (463) is formed on an end of the attachment sleeve (461) and has an inner surface, an outer surface, a center, an edge, a keyhole (464), a keyway (465) and an arched limit groove (466). The keyhole (464) is formed through the male head (463) near the edge of the male head (463). The keyway (465) is formed radially in the keyhole (464). The arched limit groove (466) is formed in the inner surface of the male head (463) near the edge of the male head (463) and separates from the keyhole (464).

[0012] The female leaf (47) connects to the adjacent section (41,42,43) of the pole (40) and comprises an attachment sleeve (471) and a female head (473). The

attachment sleeve (471) is mounted around the corresponding section (41, 42, 43) of the pole (40). The female head (473) is formed on an end of the attachment sleeve (471) and has an inner surface, an outer surface, a center, an edge, a lock hole (474) and a limit stub (475). The lock hole (474) is formed in the inner surface of the female head (473) near the edge of the female head (473) and selectively aligns with the keyhole (464) in the male head (463). When the joint (45) is mounted between the top section (41) and the middle section (42), the lock hole (474) aligns with the keyhole (464) while the included angle between the top section (41) and the middle section (42) is a predetermined obtuse angle such as 120 degrees, 135 degrees, 150 degrees, 160 degrees, etc. to form a roof of the tent. When the joint (45) is mounted between the middle section (42) and the bottom section (43), the lock hole (474) aligns with the keyhole (464) while the included angle between the middle section (42) and the bottom section (43) is 180 degrees to form a sidewall of the tent. The limit stub (475) is formed on and extends out of the inner surface of the female head (473), is mounted slidably in the limit groove (466) in the male head (463) and selectively abuts two ends of the limit groove (466),

[0013] The lock (48) is mounted movably in the keyhole (464) in the male head (463) and has a sidewall, an inner end, an outer end, a key (481), an annular flange (482), a spring (483), a diametric hole (484) and a pull ring (485). The key (481) is formed radially on the sidewall of the lock (48) near the outer end of the lock (48), selectively abuts the outer surface of the male head (463) and selectively aligns and engages the keyway (465) in the male head (463). When the key (481) misaligns with the keyway (465), the key (481) abuts the outer surface of the male head (463). The annular flange (482) is formed radially on the sidewall of the lock (48) near the inner end of the lock (48). The spring (483) is mounted around the lock (48) and respectively abuts annular flange (482) and an outer end of the keyhole (464) in the male head (463). The diametric hole (484) is formed radially through the lock (48) adjacent to the outer end of the lock (48). The pull ring (485) extends through the diametric hole (484).

[0014] The bolt (49) extends through the centers of the male and female heads (463, 473). The nut (490) is screwed onto an end of the bolt (49) to hold the male and female heads (463, 473) together and to allow the male leaf (46) and the female leaf (47) to pivot relative to each other.

[0015] With reference to Figs. 1, 4 and 5, the cloth housing (20) is suspended on the frame (10) and has a canopy (21), multiple flexible loops (22), multiple clips (23), multiple end connectors (24) and multiple pegs (25). The flexible loops (22) are attached securely to canopy (21). Each clip (23) is attached securely on one of the flexible loops (22) and is mounted slidably around a corresponding one of the poles (40). Each end connector (24) connects between the canopy (21) and the bottom section (43) of one of the poles (40). The pegs (25) extend

respectively through the end connectors (24) to anchor the tent to the ground.

[0016] With reference to Fig. 6, a quickly pitching method for a tent in accordance with the present invention comprises acts as follows:

[0017] With further reference to Figs. 2, 3, 7, 8 and 9, the completely folded tent is stowed in a carry bag (50) and is bound by a buckle (60). The poles (40) are folded so that the top, middle and bottom sections (41, 42, 43) are parallel with each other. The keyhole (464) of each joint (45) disaligns with the corresponding lock hole (474) of the joint (45) to allow the male leaf (46) pivoting relative to the female leaf (47).

[0018] With further reference to Fig. 10, the buckle (60) is released and the carry bag (50) is removed. The poles (40) are unfolded to pivot the bottom section (43) of each pole (40) relative to the middle section (42) of the pole (40) via the male leaf (46) pivoting relative to the female leaf (47) of each joint (45) between the bottom and middle sections (42). The limit stub (475) of each joint (45) between the middle and bottom sections (42, 43) slides along the corresponding limit groove (466) of the joint (45). The lock (48) is rotated via the pull ring (485) to align the key (481) with the keyway (465). Accordingly, the key (481) is allowed to slide in the keyway (465) and the lock (48) can be moved relative to the male head (463).

[0019] With further reference to Figs. 11 and 12, when the bottom section (43) of each pole (40) is pivoted to align with the middle section (42) of the pole (40), the keyhole (464) of each joint (45) between the bottom and middle sections (42, 43) will align with the corresponding lock hole (474) of the joint (45). With the alignment of the keyhole (464) with the corresponding lock hole (474), the lock (48) is pushed to extend into the lock hole (474) with the force provided by the spring (483) to stop the pivoting rotation of the male leaf (46) relative to the female leaf (47). Therefore, each bottom section (43) securely aligns with the corresponding middle section (42). The pegs (25) are driven respectively through the end connectors (24) to attach the poles (40) securely to the ground so as to anchor the tent to the ground.

[0020] With further reference to Figs. 13 and 14, the user pushes the center hub (30) upward to pivot the top section (41) of each pole (40) relative to the middle section (42) of the pole (40). The limit stub (475) of each joint (45) between the top and middle sections (41, 42) slides along the corresponding limit groove (466) of the joint (45).

[0021] With further reference to Fig. 1, when the included angle between the top section (41) and the middle section (42) achieves the predetermined obtuse angle, the keyhole (464) of each joint (45) between the top and bottom sections (41, 42) aligns with the corresponding lock hole (474) of the joint (45). Consequently, the lock (48) is pushed to extend into the lock hole (474) with the force provided by the spring (483) to stop the pivotal rotation of the male leaf (46) relative to the female leaf (47).

Therefore, the included angle between the top section (41) and the middle section (42) is held to form the roof of the tent.

[0022] With the methods as described, the campers can quickly pitch and strike the tent. Therefore, the campers can get as much of their available time as possible to enjoy nature.

[0023] Even though numerous characteristics and advantages of the present invention have been set forth in the foregoing description, together with details of the structure and features of the invention, the disclosure is illustrative only. Changes may be made in the details, especially in matters of shape, size, and arrangement of parts within the principles of the invention to the full extent indicated by the broad general meaning of the terms in which the appended claims are expressed.

Claims

1. A quickly pitching method for a tent that comprises a cloth housing (20) and a frame (10) having a center hub (30) and multiple poles (40) and each pole (40) has a top section (41), a middle section (42) and a bottom section (43) having the same length wherein the cloth housing (20) is suspended on the frame (10), the top sections (41) of the poles (40) are mounted pivotally on the center hub (30) and the top, middle and bottom sections (41, 42, 43) are parallel to each other when the tent is completely folded, and the quickly pitching method comprising acts of:

pivoting the bottom section (43) of each pole (40) relative to the middle section (42) of the pole (40);

securely aligning the bottom section (43) of each pole (40) relative to the middle section (42) of the pole (40);

attaching the poles (40) securely to the ground; pushing the center hub (30) upward to pivot the top section (41) of each pole (40) relative to the middle section (42) of the pole (40); and

securely fastening the top section (41) of each pole (40) relative to the middle section (42) of the pole (40) when an included angle between the top and the middle sections (41,42) is an obtuse angle.

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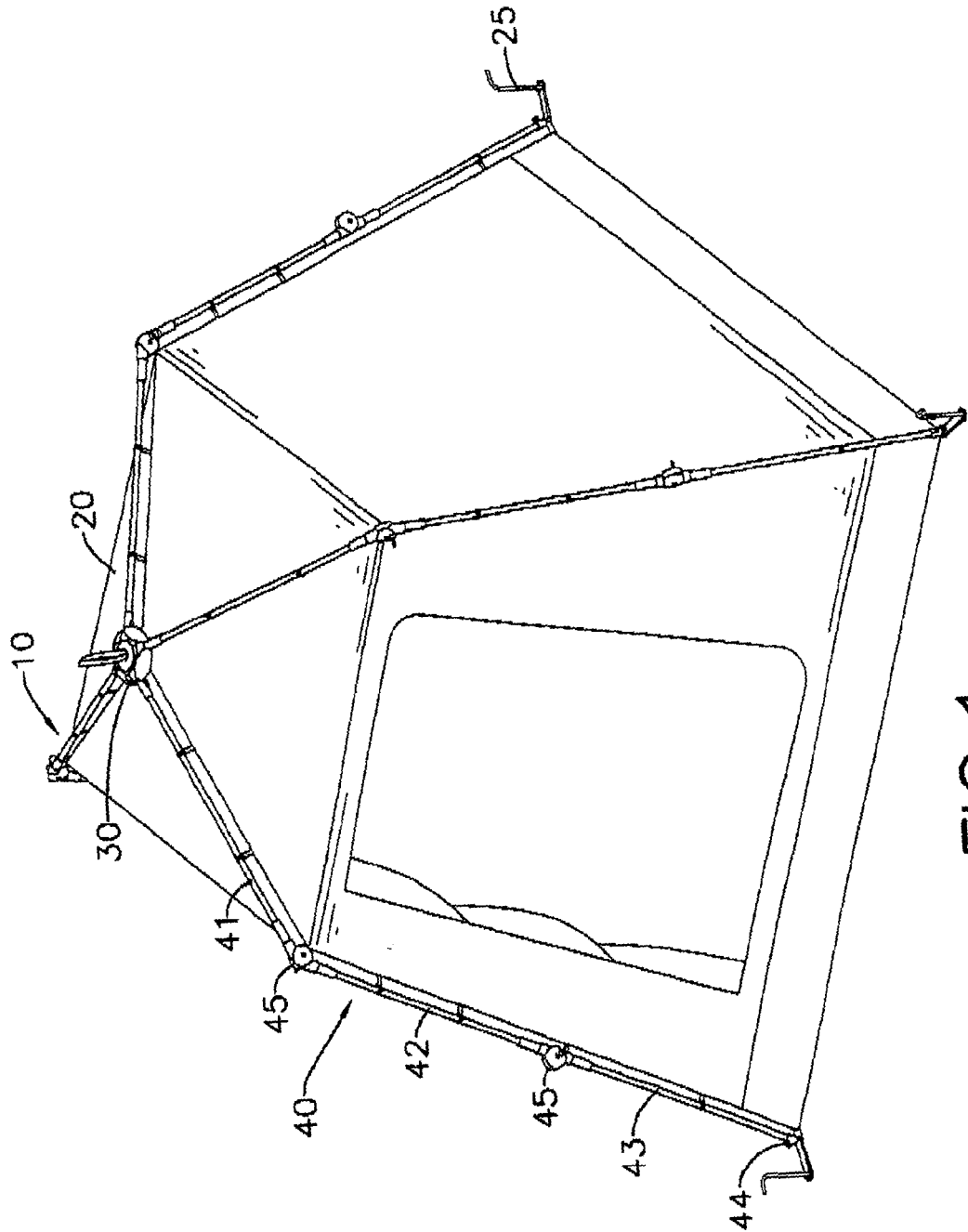


FIG. 1

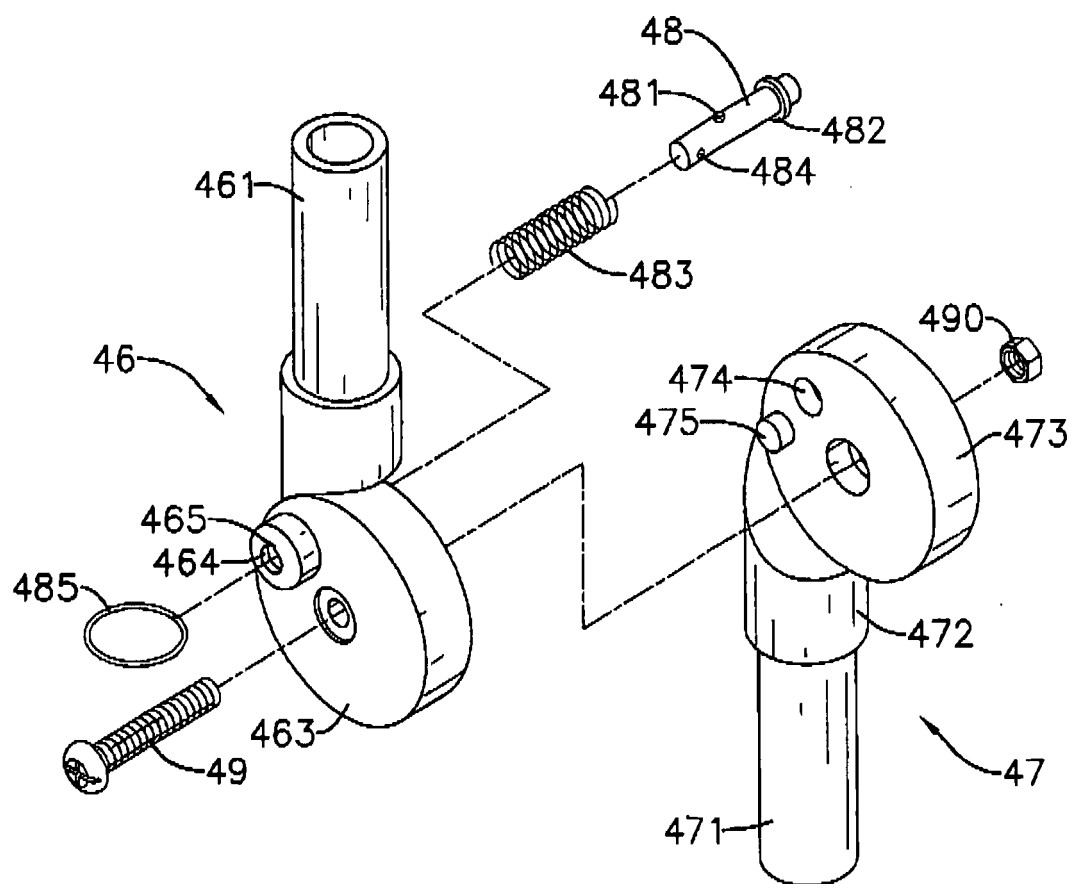


FIG.2

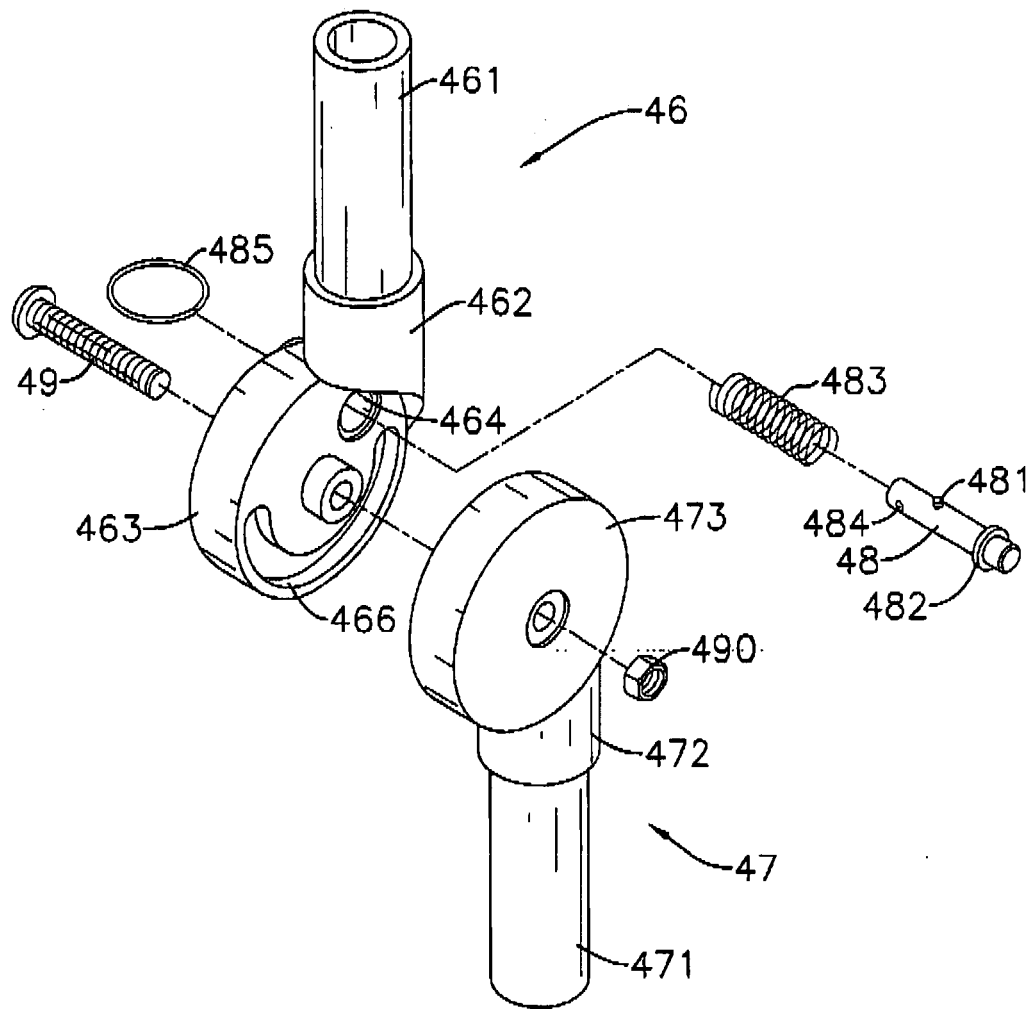


FIG.3

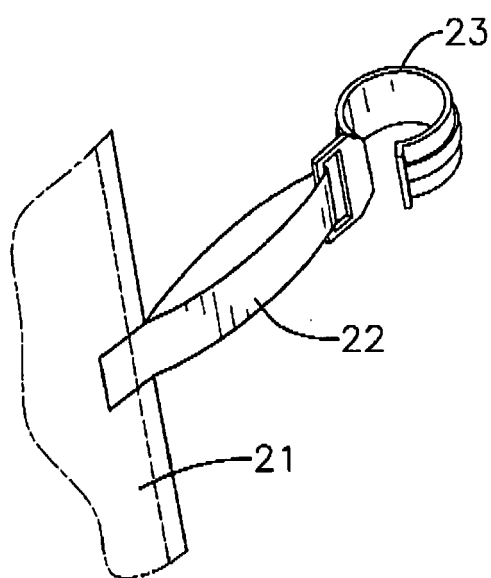


FIG. 4

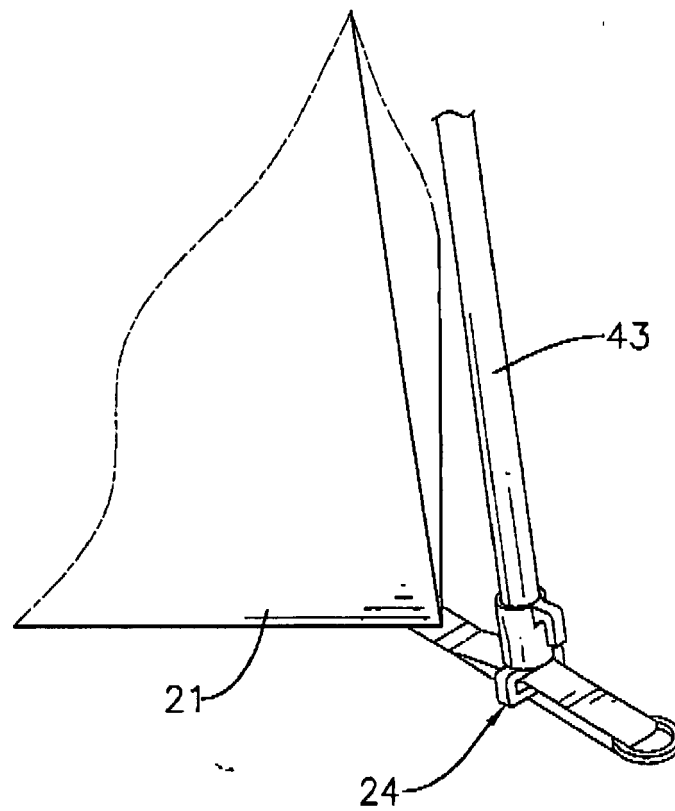


FIG.5

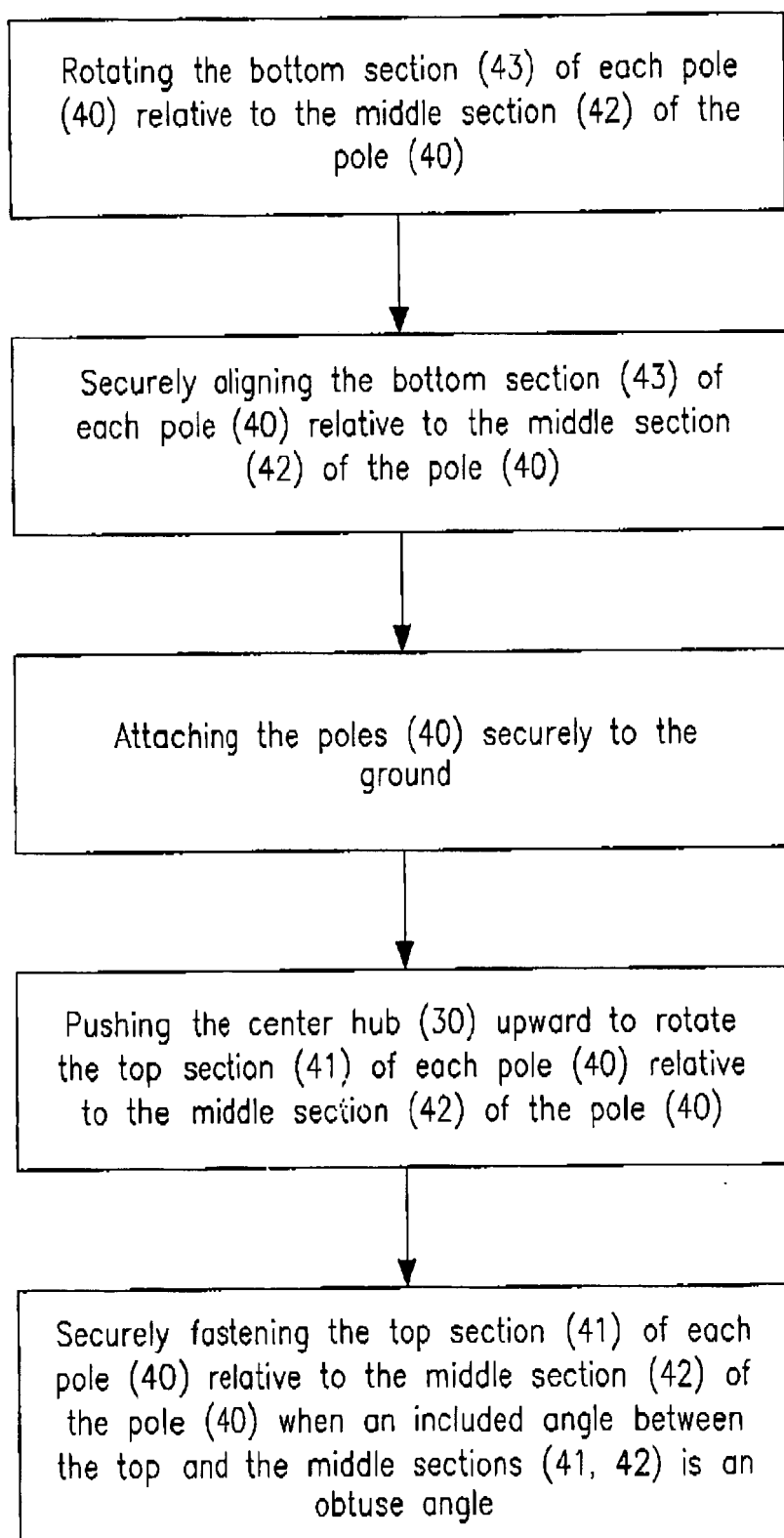


FIG.6

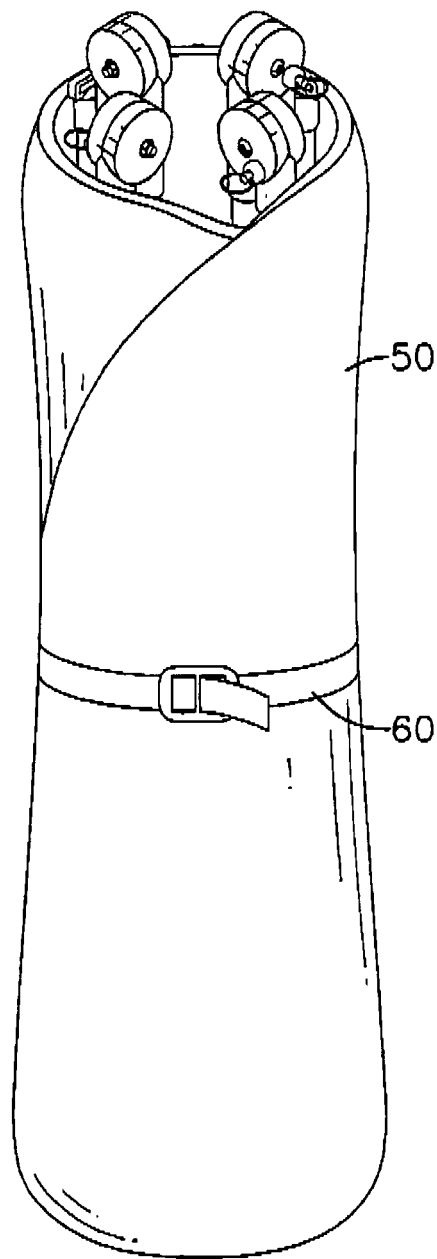


FIG.7

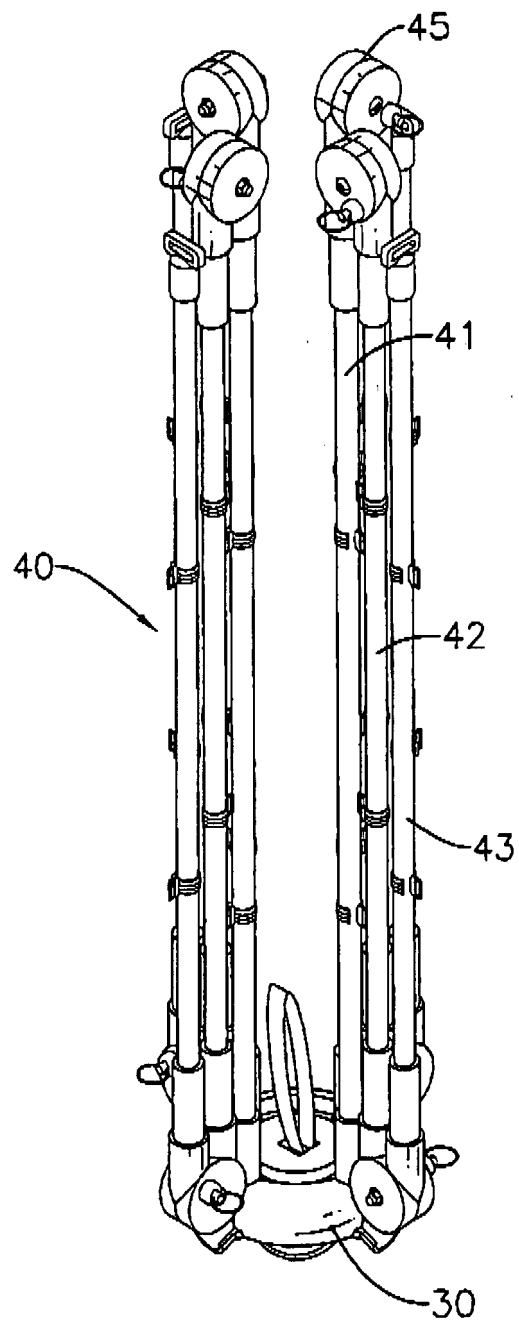


FIG.8

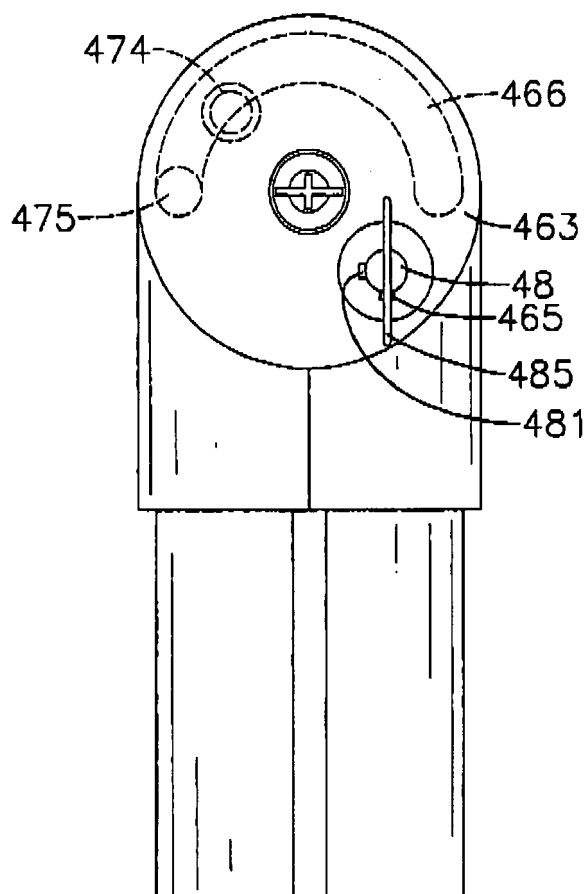


FIG.9

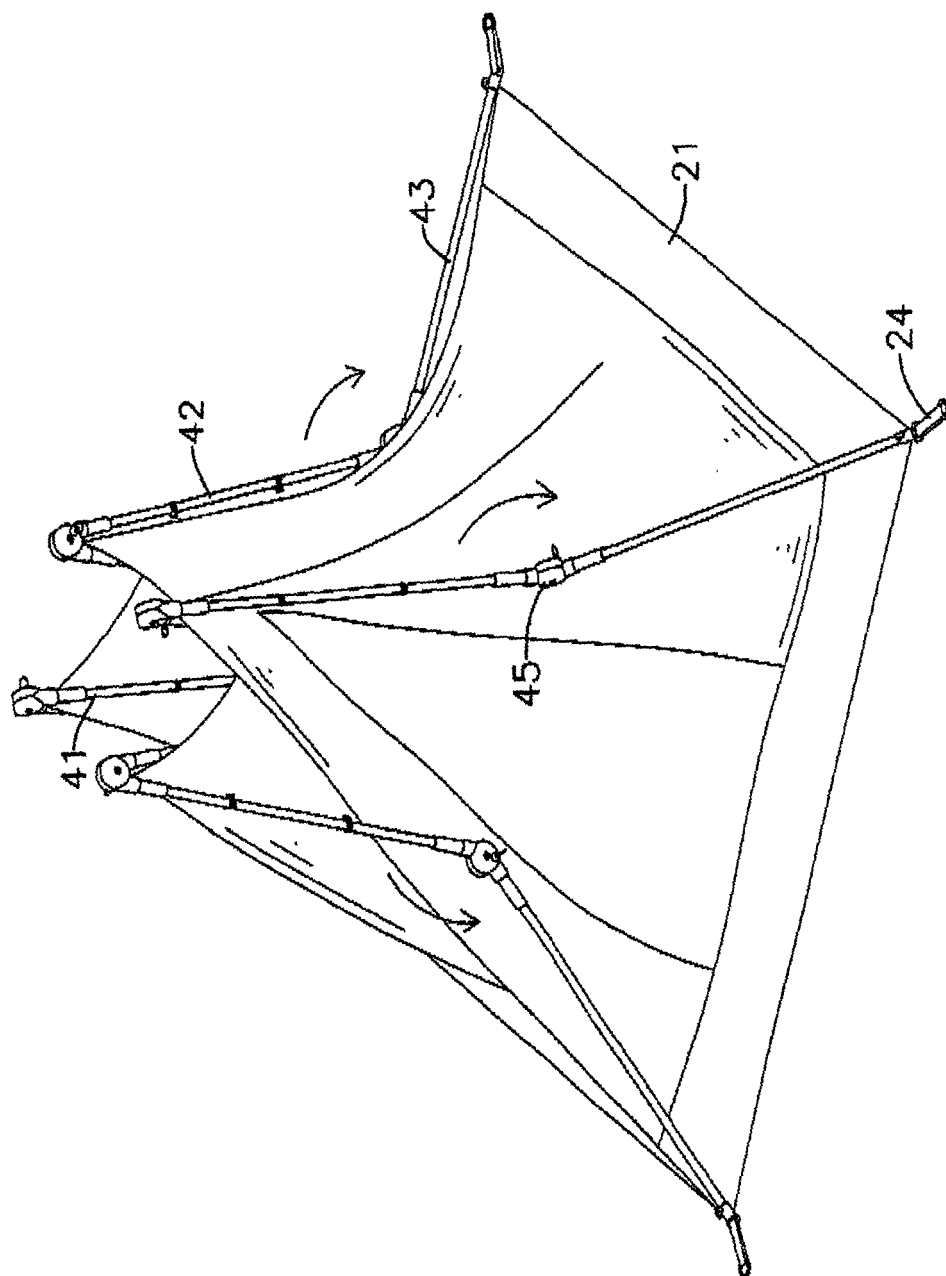


FIG.10

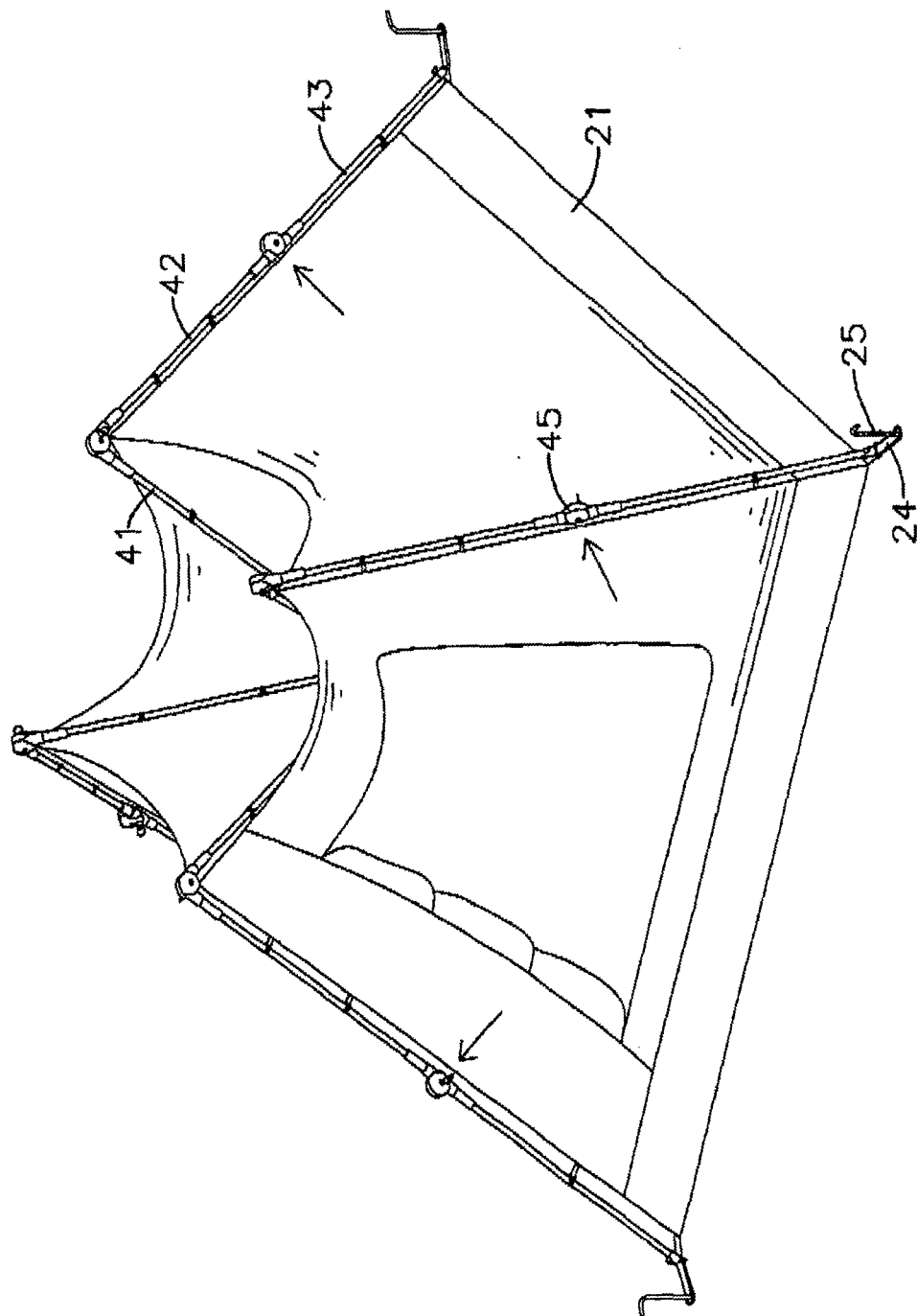


FIG. 11

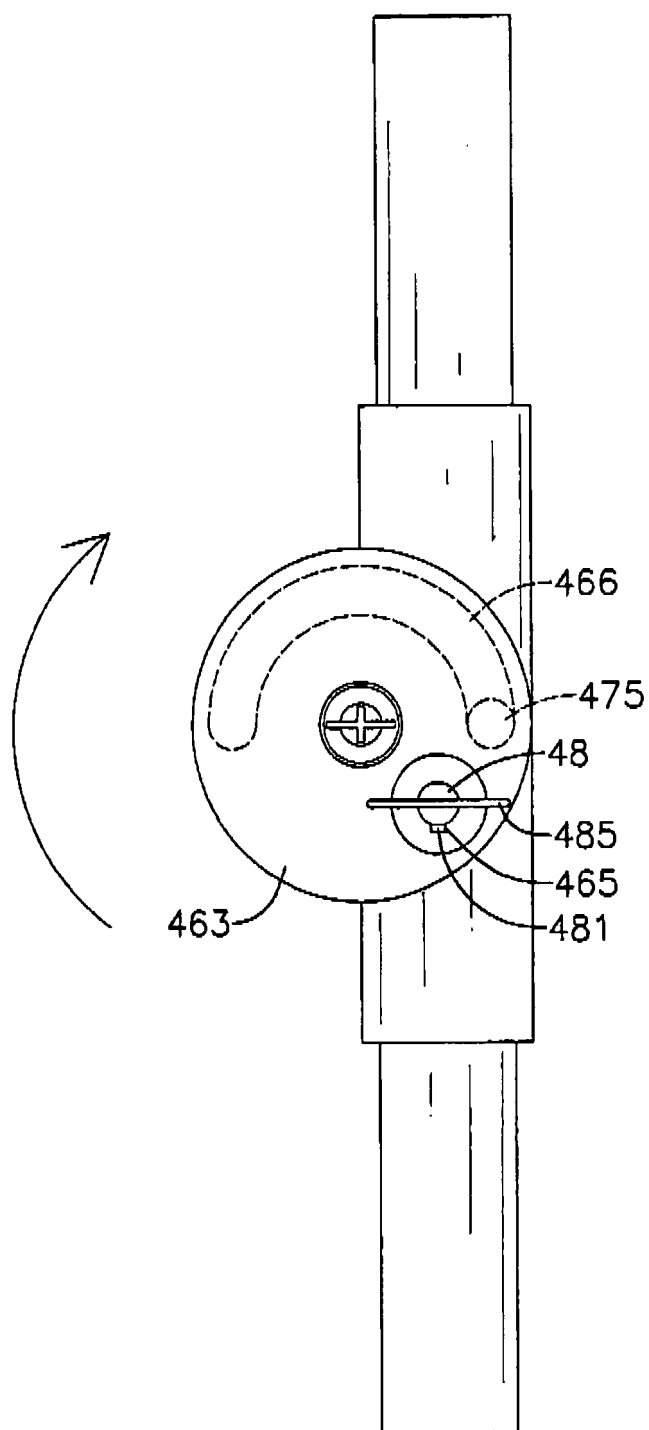


FIG.12

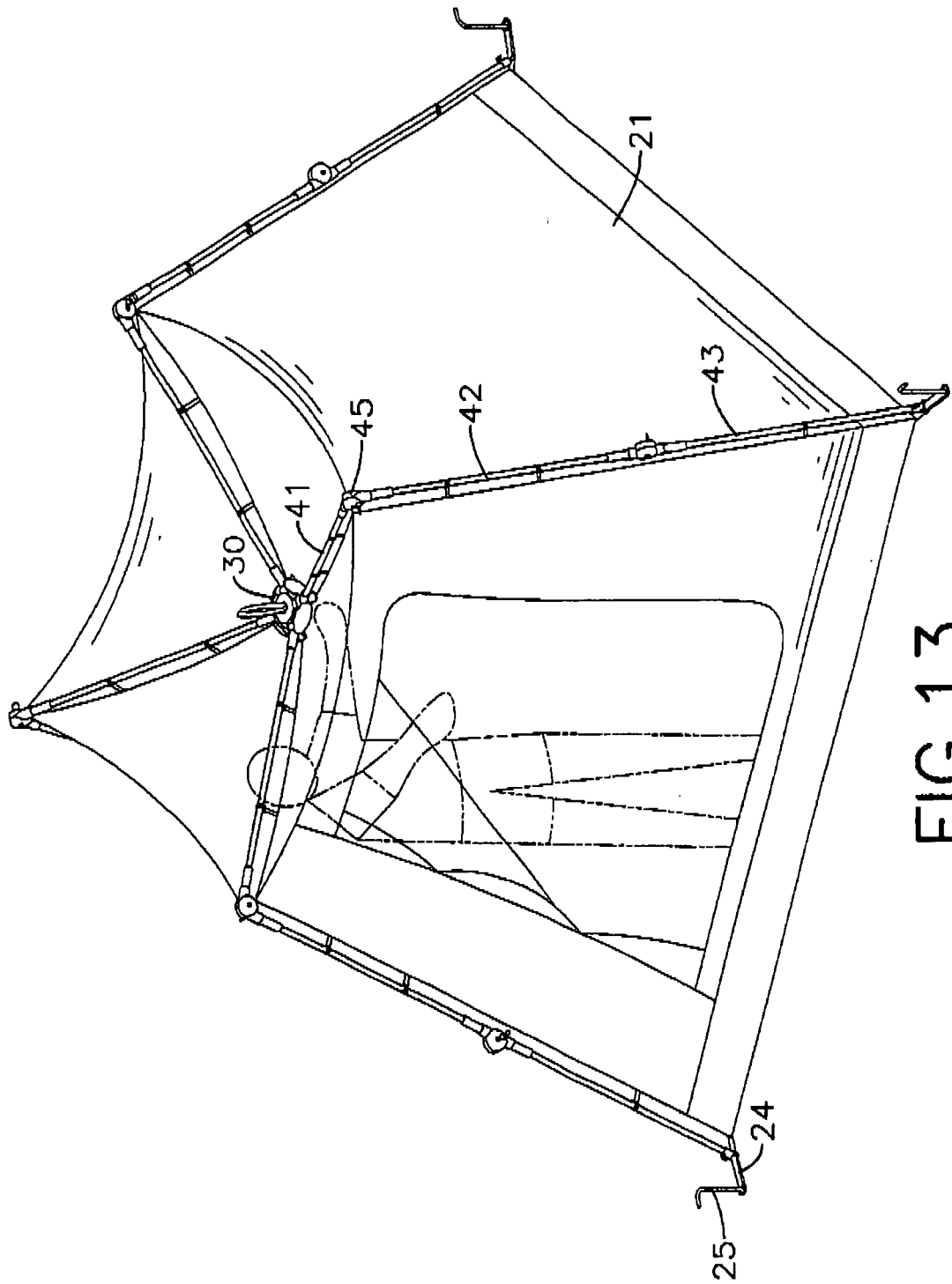


FIG. 13

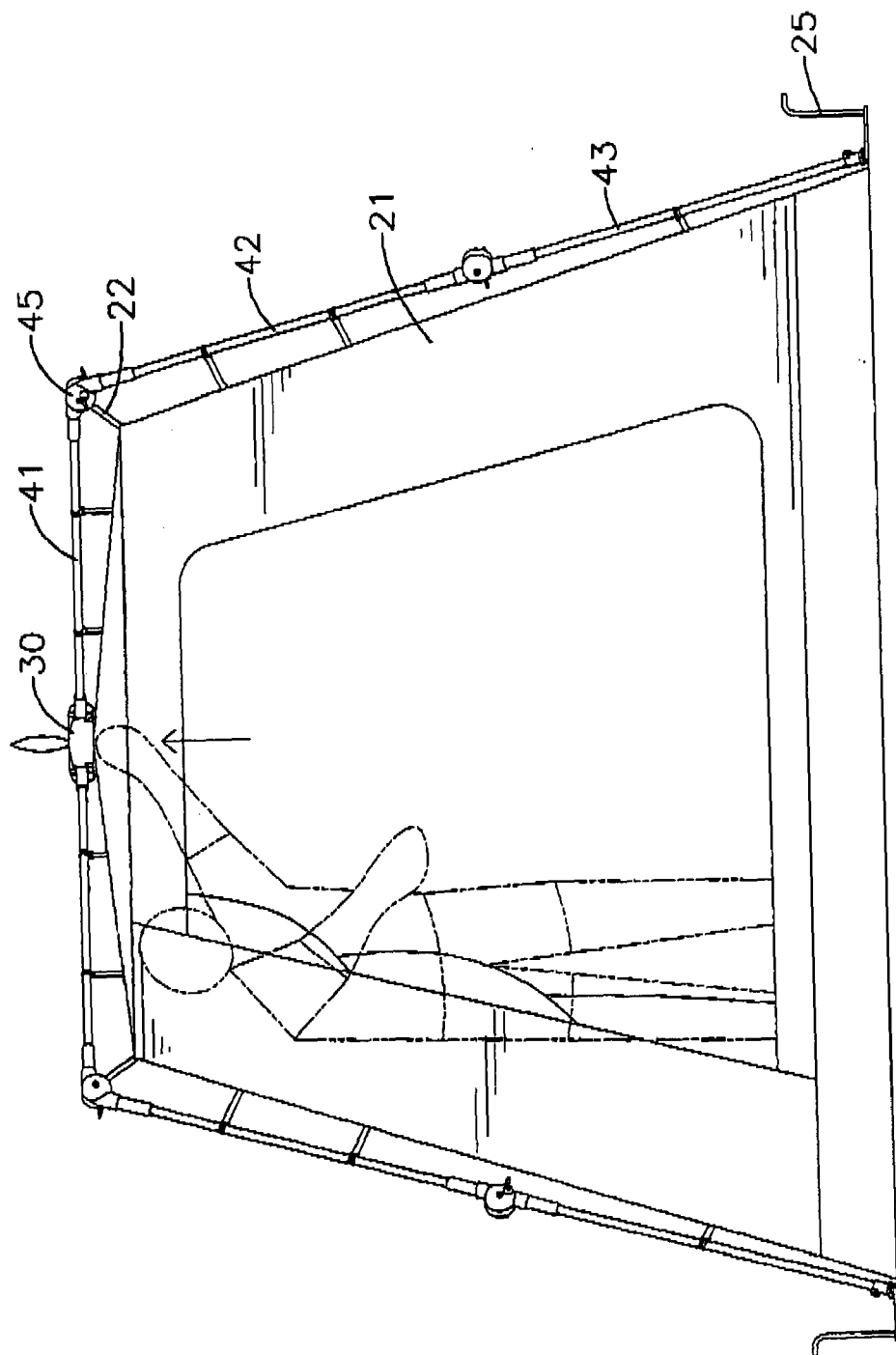


FIG. 14



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 07 00 6676

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 6 776 179 B1 (CHEN YEONG-SHU [TW]) 17 August 2004 (2004-08-17) * column 5, line 4 - line 57; figures 1-13 *	1	INV. E04H15/42 E04H15/46 E04H15/48 E04H15/64
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			E04H
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 21 August 2007	Examiner Zuurveld, Gerben
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EPO FORM 1503 03/02 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 07 00 6676

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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21-08-2007

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