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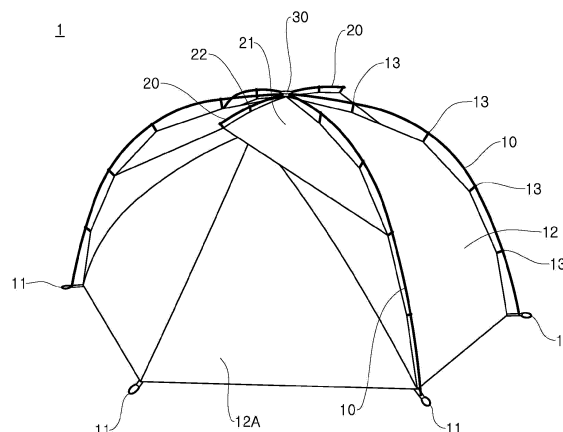
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(54) **TENT**

(57) A tent according to an embodiment of the present invention may be provided with: a plurality of support frames that form an assembled tent frame when the tent has been assembled; a tent fabric which is supported by the tent frame and surrounds the inner space of the tent frame; ridge frames that extend from the top portion of the tent frame in a direction parallel to the ground or an upwardly inclined direction with respect to the ground;

pieces of awning fabric which are supported by the ridge frames, installed in an overhanging shape at the top portion of the tent frame, and form awning spaces with the tent frame; and connection strings of which, in the awning spaces, one end is coupled to the lower surface of each piece of awning fabric and the other end is coupled to the outer surface of the tent fabric so as to stretch out the tent fabric upward.

[FIG. 1]



EP 4 230 826 A1

Description

[Technical Field]

[0001] The present invention relates to a tent, and more particularly, to a tent having high-quality ventilation performance and wind resistance.

[Background Art]

[0002] In general, a tent refers to a structure installed for sleeping outside during camping. The tent is installed by coupling tent fabric to a frame including poles.

[0003] When the wind blows to a lateral side of the tent, the wind collides with an inclined portion of the lateral side of the tent. There is concern that the tent collapses because of a force of the wind without maintaining an original. Therefore, the important factor in designing the tent is to improve wind resistance so that the tent is not collapsed by the force of the wind. In addition, another important in designing the tent is to smoothly perform ventilation and ensure a large internal space, if possible.

[0004] Korean Patent Application Laid-Open No. 10-2012-0037505 discloses an example of a tent in the related art. The tent disclosed in the patent document has a ventilation opening, but a size of the ventilation opening is small, which causes a problem in that air is not smoothly introduced and discharged. In addition, there are problems in that the tent has poor wind resistance because no structure for resisting the wind is provided on the lateral side of the tent, and the tent has a narrow internal space because the tent has a shape inclined upward rapidly.

[Disclosure]

[Technical Problem]

[0005] The present invention has been made in an effort to solve the above-mentioned problem, and an object of the present invention is to provide a tent capable of withstanding the wind blowing to a lateral side of the tent, providing a larger internal space, and having high-quality ventilation performance.

[Technical Solution]

[0006] A tent according to an embodiment of the present invention may include: a plurality of support frames configured to define an assembled tent frame when the tent is assembled; tent fabric supported by the tent frame and configured to surround an internal space of the tent frame; a ridge frame extending from a top portion of the tent frame in a direction parallel to the ground surface or a direction inclined upward with respect to the ground surface; awning fabric supported by the ridge frame and installed in an overhanging shape at the top portion of the tent frame, the awning fabric being

configured to define an awning space with the tent fabric; and a connecting string having one end coupled to a lower surface of the awning fabric in the awning space, and the other end coupled to an outer surface of the tent fabric to stretch the tent fabric upward.

[0007] In another example, the awning fabric may have a pocket shape and be attached to the outer surface of the tent fabric.

[0008] In another example, the awning space may be provided as a plurality of awning spaces defined along a periphery of the top portion of the tent frame.

[0009] In another example, one end of the connecting string may be coupled to a portion disposed immediately below a portion where the awning fabric is fixed to the ridge frame.

[0010] In another example, a clip may be installed on an outer surface of the awning fabric and configured to be coupled to the ridge frame, and one end of the connecting string may be coupled to an inner surface of the awning fabric at a portion where the clip is installed.

[0011] In another example, the tent may further include: a connector provided at the top portion of the tent frame, in which the support frames and the ridge frame are separably coupled to the connector.

[0012] In another example, one end of the connecting string may be connected at a point spaced apart from a fixed end of the ridge frame by a distance of 1/4 to 3/4 of an overall length of the ridge frame.

[0013] In another example, the ridge frame may extend in a direction inclined upward with respect to the ground surface.

[Advantageous Effects]

[0014] According to the tent according to the embodiments of the present invention, the awning space is defined at the upper side of the tent by the awning fabric. Therefore, in case that the wind blows to the lateral side of the tent, the awning space generates a force that lifts the tent upward and offsets a force that collapses the tent. Therefore, it is possible to improve wind resistance.

[0015] In addition, when the ventilation opening is provided inside the awning space, the wind may be smoothly introduced into the tent, and the tent may be easily ventilated.

[0016] In addition, the connecting string installed on the lower surface of the awning fabric for defining the awning space pulls upward a part of the tent fabric at the lower side of the awning fabric, such that a wide internal space at the upper side of the tent may be ensured, and the tent fabric is prevented from sagging.

[Description of Drawings]

[0017]

FIG. 1 is a perspective view illustrating a tent according to a first embodiment of the present invention.

FIG. 2 is a perspective view illustrating a connector capable of being applied to the tent in FIG. 1.

FIG. 3 is a view illustrating a projected part of the tent in FIG. 1.

FIG. 4 is a side view illustrating an enlarged part of the tent in FIG. 3.

FIG. 5 is a cross-sectional view taken along line A-A in FIG. 4.

FIG. 6 is a view for explaining a force applied to the tent when the wind blows to the lateral side of the tent in FIG. 1.

FIG. 7 is a side view of a tent according to a second embodiment of the present invention.

FIG. 8 is a top plan view of a tent according to a third embodiment of the present invention.

[Best Mode]

[0018] Hereinafter, embodiments of the present invention will be described in detail with reference to the drawings. In giving reference numerals to constituent elements of the respective drawings, it should be noted that the same constituent elements will be designated by the same reference numerals, if possible, even though the constituent elements are illustrated in different drawings. Further, in the following description of the embodiments of the present invention, a detailed description of related publicly known configurations or functions will be omitted when it is determined that the detailed description obscures the understanding of the embodiments of the present invention.

First Embodiment

[0019] FIG. 1 is a perspective view illustrating a tent according to a first embodiment of the present invention, and FIG. 2 is a perspective view illustrating a connector capable of being applied to the tent in FIG. 1.

[0020] As illustrated in FIG. 1, a tent 1 according to a first embodiment of the present invention includes a plurality of support frames 10, tent fabric 12, ridge frames 20, pieces of awning fabric 21, and a connector 30.

[0021] The plurality of support frames 10 defines an assembled tent frame when the tent 1 is assembled. The tent frame defines an internal space in the tent 1. For example, the plurality of support frames 10 each has a curved shape. One end of the support frame and one end of the support frame are connected to each other by the connector 30. The other end of the support frame is supported on the ground surface. Therefore, the plurality of support frames 10 may be assembled to define the tent frame. The tent 1 according to the embodiment illustrated in FIG. 1 has four support frames 10. The four support frames 10 are connected to one another by the connector 30 and define the tent frame.

[0022] However, the shape of the tent frame is not limited to the shape illustrated in FIG. 1. The tent frame may have various shapes that may be defined by assembling

the plurality of support frames 10. For example, the plurality of support frames 10 is each curved in an arcuate shape, such that the plurality of support frames 10 may each have two ends supported on the ground surface when the tent 1 is assembled. That is, the shape of the support frame 10 is not limited to the above-mentioned shape. Any shape, which may define the tent frame having the internal space when the plurality of support frames is assembled, may be included in the present embodiment.

[0023] The support frames 10 may each include a fixing part 11 configured to fix the end of the support frame 10 onto the ground surface. For example, the fixing part 11 may be a member having a ring shape. The tent 1 may further include a separate member that may pass through the fixing part 11 having a ring shape and fix the support frame 10 to the ground surface. In this case, the separate member may be a fixing nail that may pass through the fixing part 11. A user may fix the support frame 10 to the ground surface by fixing the fixing nail to the ground surface. Meanwhile, the configuration of the fixing part 11 is not limited to the above-mentioned configuration. Any configuration, which may fix the support frame 10, may be included in the present embodiment. In addition, the fixing part 11 may be attached to the tent fabric 12 to be described below.

[0024] The tent fabric 12 may be supported by the tent frame and surround the internal space of the tent frame. For example, the tent fabric 12 is coupled to the tent frame by a plurality of coupling members 13 and surrounds at least a part of the internal space defined by the tent frame. A space surrounded by the tent fabric 12 may be used as a space in the tent 1, and a portion, which is not surrounded by the tent fabric 12 may be an entrance or exit that communicates with the interior of the tent. In the embodiment illustrated in FIG. 1, the tent fabric 12 is fixed to the ground surface by means of the support frames 10 and the fixing part 11 so that a base surface of the tent 1 has a hexagonal shape.

[0025] The coupling member 13 is a member that may couple the tent fabric 12 to the tent frame. For example, the coupling member 13 may be a member having a clip or hook shape, and the coupling member 13 may be attached to an outer surface of the tent fabric 12 and coupled to the support frame 10. In addition, the coupling member 13 may be configured as a member having a ring shape. The support frame 10 penetrates the coupling member 13 having a ring shape, such that the tent fabric 12 may be coupled to the tent frame. Meanwhile, the shape of the coupling member 13 is not limited to the above-mentioned shape. The coupling member 13 may have various shapes capable of coupling the tent fabric 12 to the tent frame.

[0026] The coupling member 13 may be attached to the outer surface of the tent fabric 12. The coupling member 13 may be disposed at a position corresponding to the shape of the tent frame when the tent fabric 12 is coupled to the tent frame. For example, when the tent

fabric 12 is coupled to the tent frame, the plurality of coupling members 13 may be attached to the tent fabric 12 so that the plurality of coupling members 13 is disposed at predetermined intervals in a longitudinal direction of the support frame 10.

[0027] Meanwhile, in the embodiment illustrated in FIG. 1, the configuration has been described in which the tent fabric 12 is coupled inside the tent frame. However, the way to couple the tent fabric 12 is not limited to the above-mentioned way. For example, the tent frame may be covered by the tent fabric 12 from the outside of the tent frame.

[0028] In the embodiment illustrated in FIG. 1, the tent 1 has a pair of ridge frames 20. The ridge frames 20 each extend from a top portion of the tent frame in a direction parallel to the ground surface. More specifically, one end of each of the pair of ridge frames 20 is fixedly coupled to the top portion of the tent frame, and the pair of ridge frames 20 extends in opposite directions with respect to one end of each of the pair of ridge frames 20.

[0029] The awning fabric 21 is supported by the ridge frame 20 so as to be installed in an overhanging shape at the top portion of the tent frame. Therefore, the awning fabric 21 defines an awning space between the awning fabric 21 and the tent fabric 12. Like the tent fabric 12, the awning fabric 21 may be coupled to the ridge frame 20 by a clip 22 attached to an outer surface of the awning fabric 21. Meanwhile, the clip 22 may be substantially identical in configuration to the coupling member 13, and a detailed description thereof will be omitted.

[0030] In addition, the awning fabric 21 may have a pocket shape and be attached to the outer surface of the tent fabric 12. For example, the pocket shape means that the other side of the awning fabric 21 is opened outward as one side of the awning fabric 21 is attached to the tent fabric 12. Therefore, the awning fabric 21 may define the awning space that is opened outward between the awning fabric 21 and the tent fabric 12.

[0031] Meanwhile, in the embodiment illustrated in FIG. 1, the tent 1 has the pair of ridge frames 20 opposite to each other, such that the awning spaces opened in opposite directions are provided. However, the arrangement and number of the ridge frames 20 and the awning space are not limited to the above-mentioned arrangement and number. For example, the plurality of ridge frames 20 may be coupled to the tent frame so as to be radially disposed along a periphery of the top portion of the tent frame. Therefore, a plurality of awning spaces may be defined along the periphery of the top portion of the tent frame.

[0032] The connector 30 may be disposed at the top portion of the tent frame and couple the support frames 10 so that the support frames 10 are separable, such that the plurality of support frames 10 defines the tent frame. Further, the connector 30 may couple the ridge frames 20 to the tent frame so that the ridge frames 20 are separable.

[0033] For example, as illustrated in FIG. 2, the con-

necter 30 may include: a ring-shaped body portion 31; and insertion holes 32 disposed at predetermined intervals at a lateral side of the body portion 31 so that the ends of the support frames 20 and the ends of the ridge frames 20 may be inserted into the insertion holes 32. Therefore, the ends of the support frames 10 and the ends of the ridge frames 20 may be connected to one another radially by the connector 30.

[0034] In the embodiment illustrated in FIG. 2, the connector 30 has six insertion holes 32. In this case, the four support frames 10 are inserted into the insertion holes 32 respectively corresponding to the four support frames 10, such that the tent frame is defined. Likewise, the two ridge frames 20 are inserted into the insertion holes 32 respectively corresponding to the two ridge frames 20, such that the two ridge frames 20 are connected to the tent frame.

[0035] Meanwhile, the number of insertion holes 32 of the connector 30 is not limited to the above-mentioned number. The number of insertion holes 32 may be freely modified depending on the number of support frames 10 and the number of ridge frames 20. In addition, the shape of the connector 30 is not limited to the above-mentioned shape. The connector 30 may have other shapes depending on the shape of the support frame 10 and the shape of the ridge frame 20. For example, the connector may have a body portion and a column portion in order to define the tent frame by connecting the support frames 10 each having an arcuate shape and to connect the ridge frames 20 to the tent frame. A plurality of through-holes may be formed in parallel with each other vertically in the body portion, and the support frames 10 may be penetratively inserted into the plurality of through-holes. The column portion may be formed on an upper portion of the body portion, and the ridge frames 20 may be inserted into the column portion.

[0036] FIG. 3 is a view illustrating a projected part of the tent in FIG. 1, FIG. 4 is a side view illustrating an enlarged part of the tent in FIG. 3, and FIG. 5 is a cross-sectional view taken along line A-A in FIG. 4.

[0037] Referring to FIGS. 3 to 5, the tent 1 includes connecting strings 23. The connecting string 23 may be disposed inside the awning space. One end of the connecting string 23 is coupled to a lower surface of the awning fabric 21, and the other end of the connecting string 23 is coupled to an outer surface of the tent fabric 12. Therefore, the connecting string 23 may connect the awning fabric 21 and the tent fabric 12. Therefore, the connecting string 23 may stretch the tent fabric 12 upward.

[0038] One end of the connecting string 23 may be coupled to a portion disposed immediately below a portion where the awning fabric 21 is fixed to the ridge frame 20. Specifically, as described above, the clip 22 is installed on the outer surface of the awning fabric 21 so as to be coupled to the ridge frame 20. One end of the connecting string 23 may be coupled to the inner surface of the awning fabric 21 at the portion where the clip 22 is

installed.

[0039] One end of the connecting string 23 may be connected at a point spaced apart from a fixed end of the ridge frame 20 by a distance of 1/4 to 3/4 of an overall length of the ridge frame 20. Particularly, the connecting string 23 may be connected to a middle point of the ridge frame 20. Therefore, it is possible to prevent the ridge frame 20 from excessively sagging in comparison with a case in which the connecting string 23 is connected to a free end of the ridge frame 20. In addition, because the ridge frame 20 is prevented from excessively sagging, the ridge frame 20 may provide a sufficient supporting force that enables the connecting string 23 to stretch the tent fabric 12 upward.

[0040] As illustrated in FIGS. 4 and 5, as tension of the connecting string 23 is applied to the tent fabric 12, a part of the tent fabric 12 has lift portions 12A lifted upward. Therefore, because the lift portions 12A are lifted upward, the internal space of the tent 1 may be further widened.

[0041] Meanwhile, in case that the tent fabric 12 is coupled to the tent frame, the tent fabric 12 may sag at a portion where the tent fabric 12 is not coupled to the tent frame. However, in the present embodiment, the connecting string 23 may be attached to the tent fabric 12 and pull the tent fabric 12 upward. Therefore, it is possible to prevent sagging of the tent fabric 12 of the tent 1 of the present embodiment.

[0042] In addition, the tent fabric 12 may include a ventilation opening 14 through which outside air may be introduced and air in the internal space of the tent 1 may be discharged. The ventilation opening 14 may be formed in the tent fabric 12 inside the awning space. An inflow of the wind may be guided through the awning space having one side opened outward, and outside air may be introduced into the internal space of the tent 1 through the ventilation opening 14, such that the internal space of the tent 1 may be easily ventilated. In addition, because the awning fabric 21 serves as an awning, there is no concern that rainwater is introduced into the internal space of the tent 1 through the ventilation opening 14.

[0043] As described above, the awning spaces may be defined at the lateral sides of the tent 1, which are opposite to each other, by the pair of ridge frames 20 extending in the opposite directions. When the wind is introduced through the ventilation opening 14 formed inside one of the pair of awning spaces, the wind may be easily discharged through the ventilation opening 14 formed in the other of the pair of awning spaces. Therefore, the internal space of the tent 1 may be more easily ventilated.

[0044] In the present embodiment, the example has been described in which the pair of the ventilation openings 14 are formed at opposite sides of the tent 1. However, the present invention is not limited thereto. For example, a plurality of awning spaces may be defined along the periphery of the top portion of the tent frame, a plurality of ventilation openings 14 may be respectively formed in the plurality of awning spaces and formed along

the periphery of the top portion of the tent frame.

[0045] FIG. 6 is a view for explaining a force applied to the tent when the wind blows to the lateral side of the tent in FIG. 1.

[0046] Referring to FIG. 6, in case that the wind blows to the lateral side of the tent 1, the wind collides with the inclined portion of the lateral side of the tent 1, and the influence of the wind applies a downward force to the tent 1 toward the ground surface. Therefore, in case that the strong wind blows to the lateral side of the tent 1, there may occur a problem in that the tent 1 collapses.

[0047] However, in case that the wind blows to the lateral side of the tent 1 of the present embodiment, the wind reaches the awning space defined between the awning fabric 21 and the tent fabric 12, and the wind collides with the awning fabric 21 inside the awning fabric 21. Therefore, an upward force is applied to the awning fabric 21. Therefore, as illustrated in FIG. 5, the upward force of the wind applied to the awning fabric 21 may offset the downward force of the wind applied to the tent 1. As described above, the tent 1 of the present embodiment may withstand the strong wind blowing to the lateral side of the tent, such that the tent 1 has improved wind resistance in comparison with a general tent.

Second Embodiment

[0048] FIG. 7 is a side view of a tent according to a second embodiment of the present invention. Hereinafter, the tent according to the second embodiment of the present invention will be described with reference to FIG. 7. However, the components identical or corresponding to the components of the tent according to the first embodiment are denoted by the identical or corresponding reference numerals, and a specific description will be omitted.

[0049] Referring to FIG. 7, ridge frames 20' extend from the top portion of the tent frame in a direction inclined upward with respect to the ground surface.

[0050] In comparison with the tent 1 of the first embodiment, the ridge frame 20' is disposed to be inclined upward, such that tension applied to the tent fabric 12 is further increased. Therefore, a degree to which the lift portion 12A of the tent fabric 12 is lifted is also increased, such that the internal space of a tent 2 may be further widened, and the tent fabric 12 may be further prevented from sagging.

[0051] In addition, in comparison with the tent 1 of the first embodiment, a volume of the awning space defined between the awning fabric 21 and the tent fabric 12 may be increased, and a portion of the awning space, which is opened outward, may be further widened. Therefore, outside air may be more easily introduced through the awning space, such that the internal space of the tent 2 may be more easily ventilated.

Third Embodiment

[0052] FIG. 8 is a top plan view of a tent according to a third embodiment of the present invention. Hereinafter, the tent according to the third embodiment of the present invention will be described with reference to FIG. 8. However, the components identical or corresponding to the components of the tent according to the first embodiment are denoted by the identical or corresponding reference numerals, and a specific description will be omitted.

[0053] Referring to FIG. 8, a base surface of a tent 3 has a quadrangular shape. Even in case that the base surface of the tent 3 has a quadrangular shape, the tent fabric 12 may have the lift portions 12A. Therefore, because the lift portions 12A are lifted upward, the internal space of the tent 3 may be further widened.

[0054] In addition, like the above-mentioned embodiments, the connecting string 23 may be connected to the middle portion of the ridge frame 20, such that the ridge frame 20 may further protrude outward from the tent 3 than an imaginary line that connects edges of the tent 3. Therefore, a volume of the awning space defined between the awning fabric 21 and the tent fabric 12 may be increased, such that outside air may be more easily introduced through the awning space.

[0055] Meanwhile, in the embodiment illustrated in FIGS. 1 to 8, the tent frame includes the four support frames 10 connected to one another radially by the connector 30, but the present invention is not limited thereto. For example, the tent frame may include a roof frame extending in a horizontal direction, and a leg frame having one end coupled to at least one end of the roof frame, and the other end fixed to the ground surface. The ridge frame may be connected to the roof frame. That is, the present embodiment may include any configuration of the tent frame as long as the internal space may be defined by assembling the plurality of support frames.

[0056] In addition, the base surface of the tent according to the present embodiments may have various shapes. As described above, the base surface may have a quadrangular or hexagonal shape. The tent frame may be implemented to have a base surface having a triangular shape, a pentagonal shape, or a polygonal shape depending on a method of assembling the support frames.

[0057] The above description is simply given for illustratively describing the technical spirit of the present invention, and those skilled in the art to which the present invention pertains will appreciate that various changes and modifications are possible without departing from the essential characteristic of the present invention. Therefore, the embodiments disclosed in the present invention are provided for illustrative purposes only but not intended to limit the technical spirit of the present invention. The scope of the technical spirit of the present invention is not limited thereby. The protective scope of the present invention should be construed based on the following claims, and all the technical spirit in the equiv-

alent scope thereto should be construed as falling within the scope of the present invention.

Claims

1. A tent (1, 2, 3) comprising:

a plurality of support frames (10) configured to define an assembled tent frame when the tent (1, 2, 3) is assembled;

tent fabric (12) supported by the tent frame and configured to surround an internal space of the tent frame;

a ridge frame (20) extending from a top portion of the tent frame in a direction parallel to the ground surface or a direction inclined upward with respect to the ground surface;

awning fabric (21) supported by the ridge frame (20) and installed in an overhanging shape at the top portion of the tent frame, the awning fabric (21) being configured to define an awning space with the tent fabric; and

a connecting string (23) having one end coupled to a lower surface of the awning fabric (21) in the awning space, and the other end coupled to an outer surface of the tent fabric to stretch the tent fabric upward.

2. The tent (1, 2, 3) of claim 1, wherein the awning fabric (21) has a pocket shape and is attached to the outer surface of the tent fabric.

3. The tent (1, 2, 3) of claim 1, wherein the awning space is provided as a plurality of awning spaces defined along a periphery of the top portion of the tent frame.

4. The tent (1, 2, 3) of claim 1, wherein one end of the connecting string (23) is coupled to a portion disposed immediately below a portion where the awning fabric (21) is fixed to the ridge frame (20).

5. The tent (1, 2, 3) of claim 1, wherein a clip (22) is installed on an outer surface of the awning fabric (21) and configured to be coupled to the ridge frame (20), and wherein one end of the connecting string (23) is coupled to an inner surface of the awning fabric (21) at a portion where the clip (22) is installed.

6. The tent (1, 2, 3) of claim 1, further comprising:

a connector (30) provided at the top portion of the tent frame,

wherein the support frames (10) and the ridge frame (20) are separably coupled to the connector (30).

7. The tent (1, 2, 3) of claim 1, wherein one end of the connecting string (23) is connected at a point spaced apart from a fixed end of the ridge frame (20) by a distance of $1/4$ to $3/4$ of an overall length of the ridge frame (20).

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8. The tent (1, 2, 3) of claim 1, wherein the ridge frame (20) extends in a direction inclined upward with respect to the ground surface.

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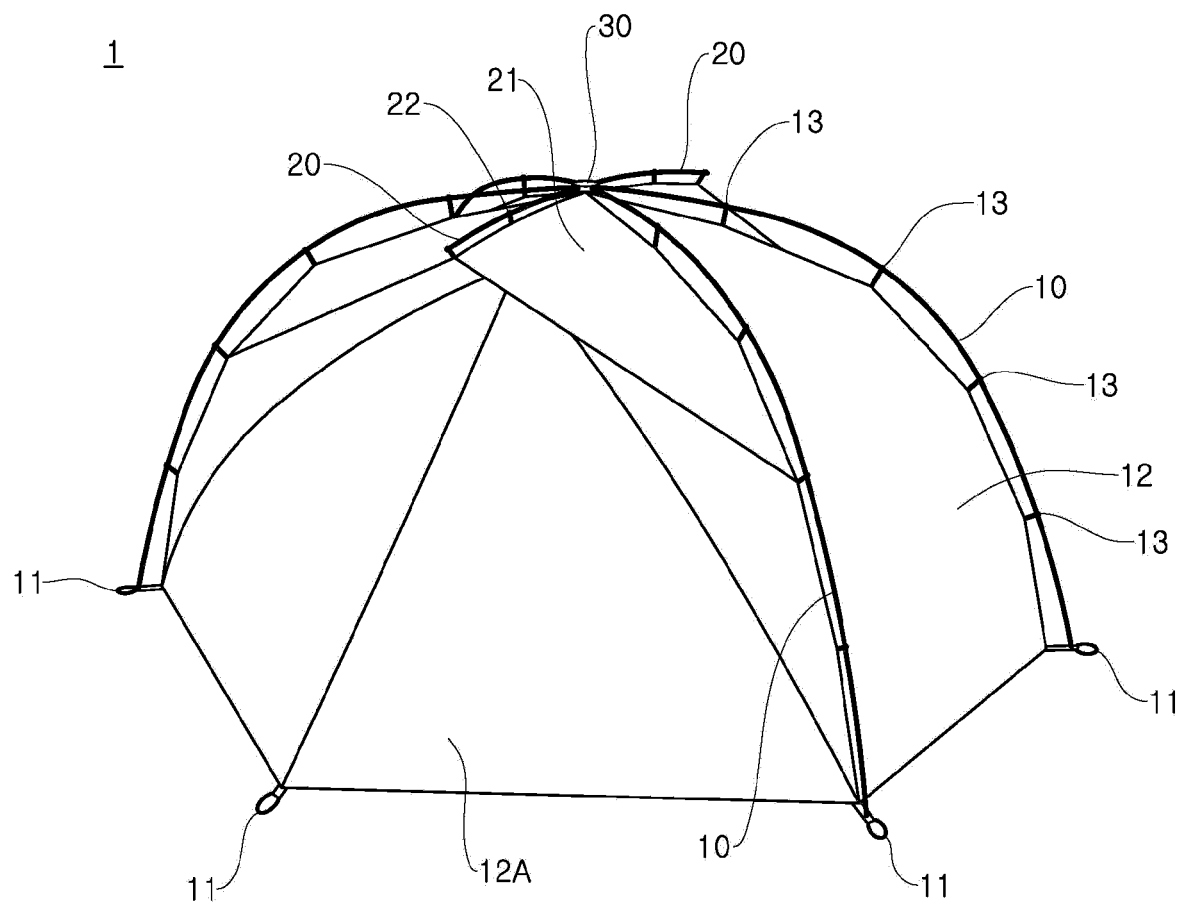
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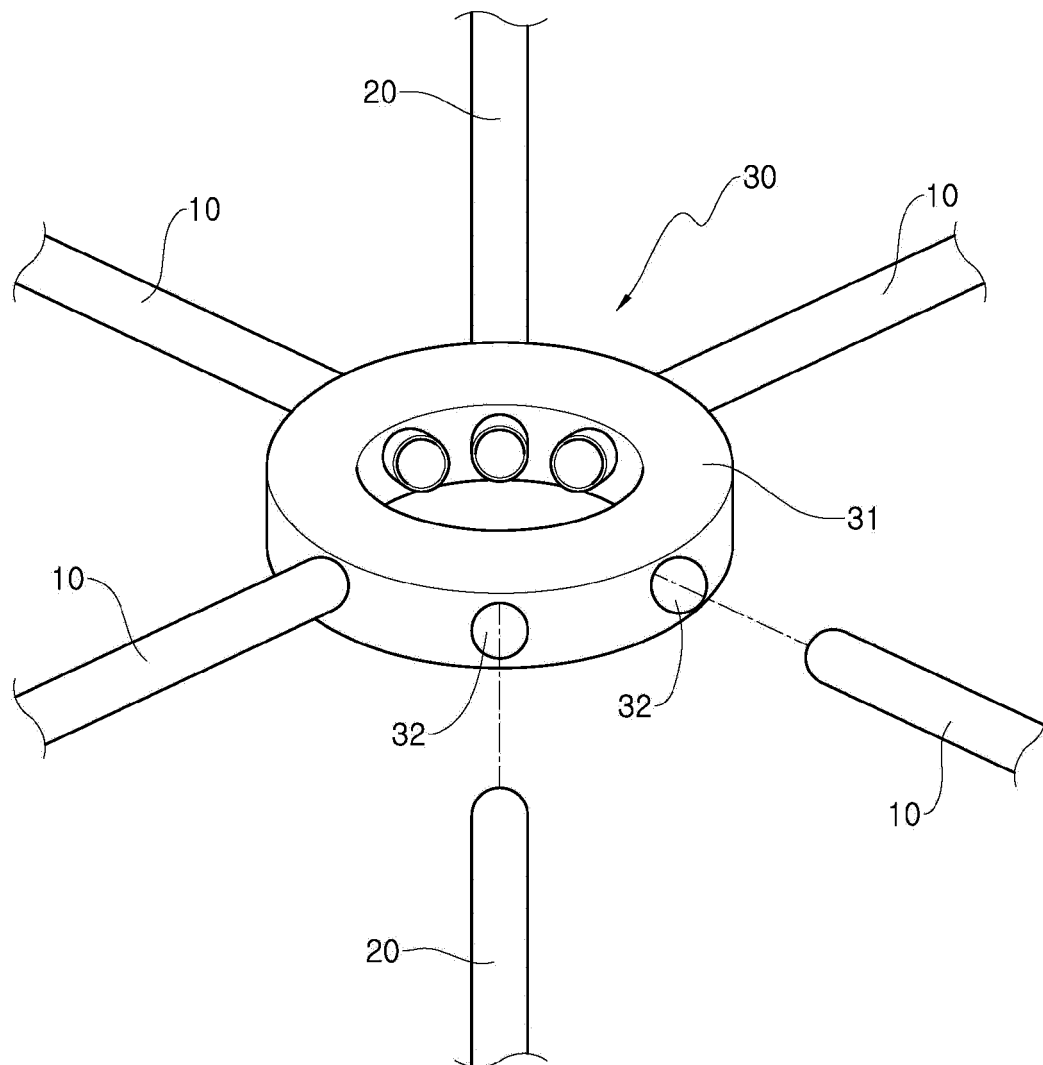
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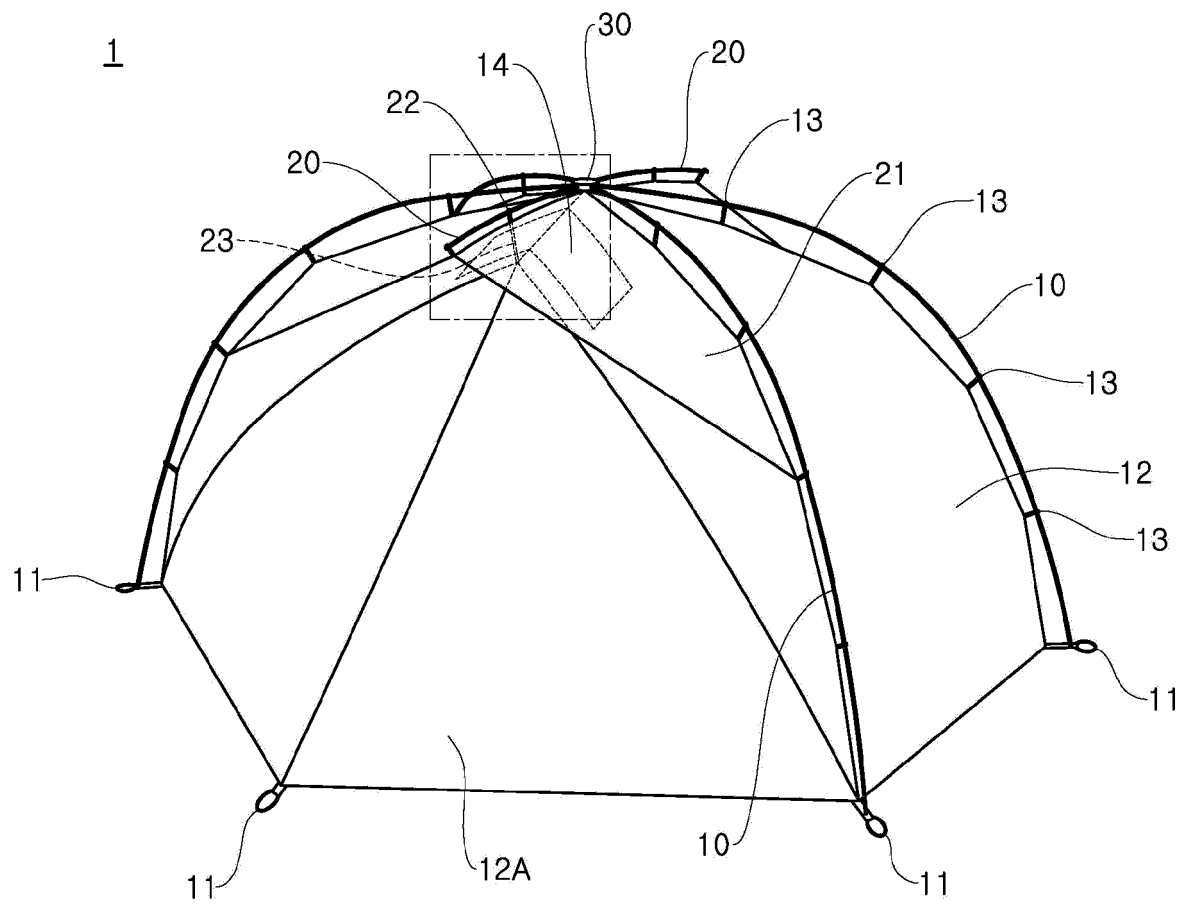
[FIG. 1]



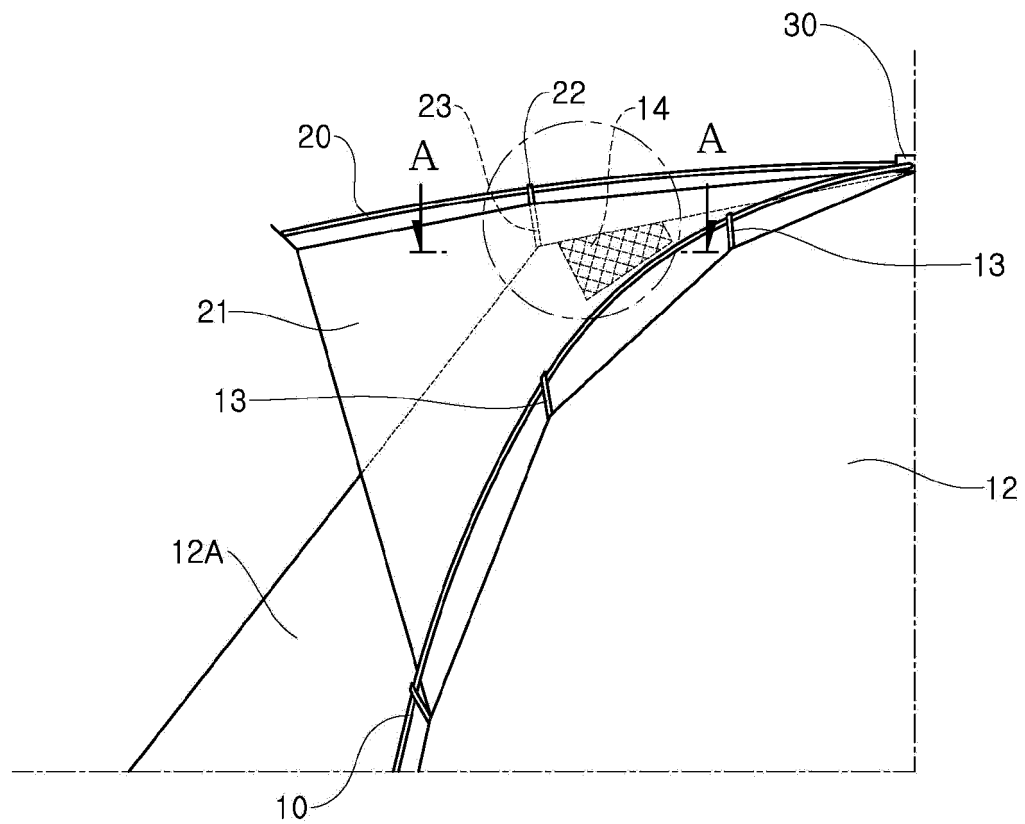
[FIG. 2]



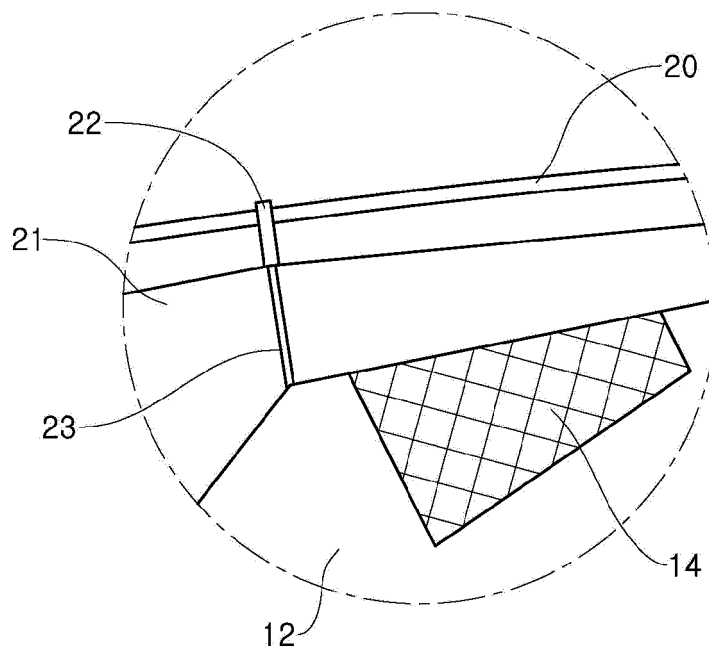
[FIG. 3]



[FIG. 4]

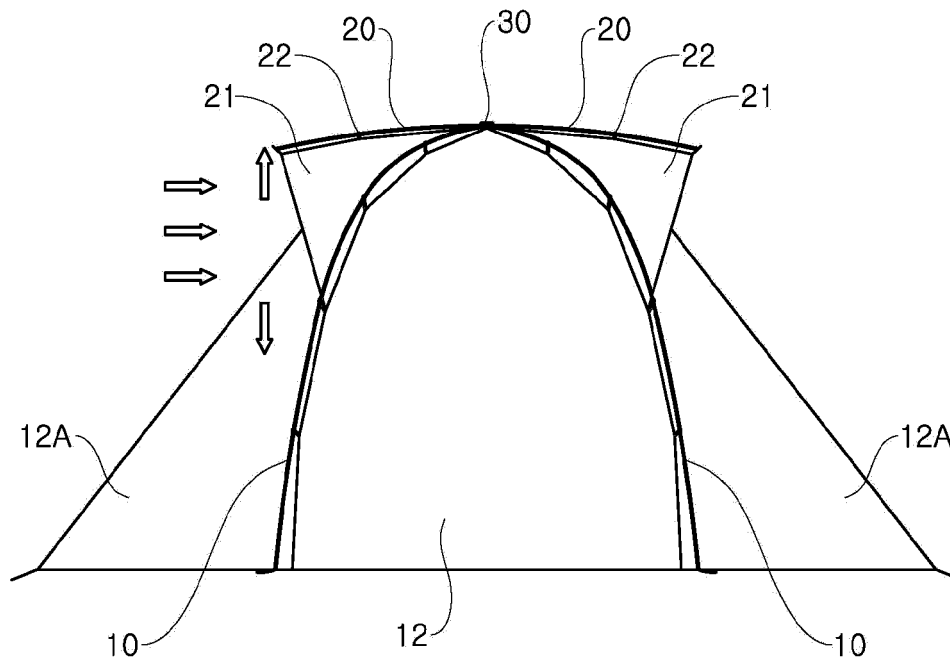


[FIG. 5]



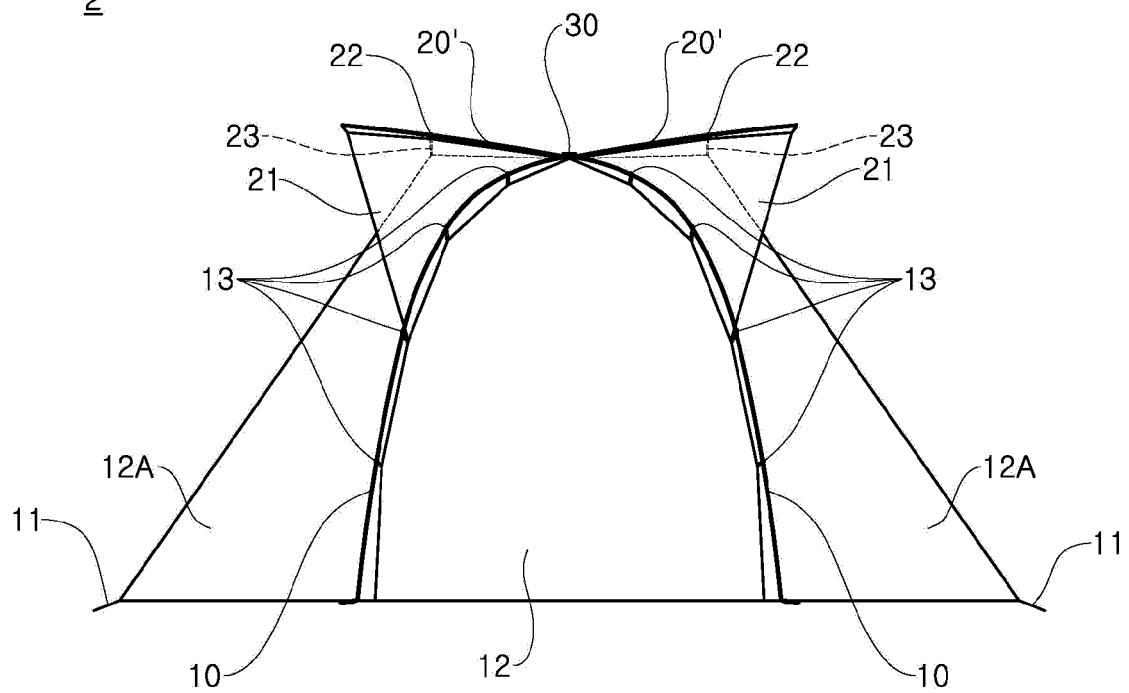
[FIG. 6]

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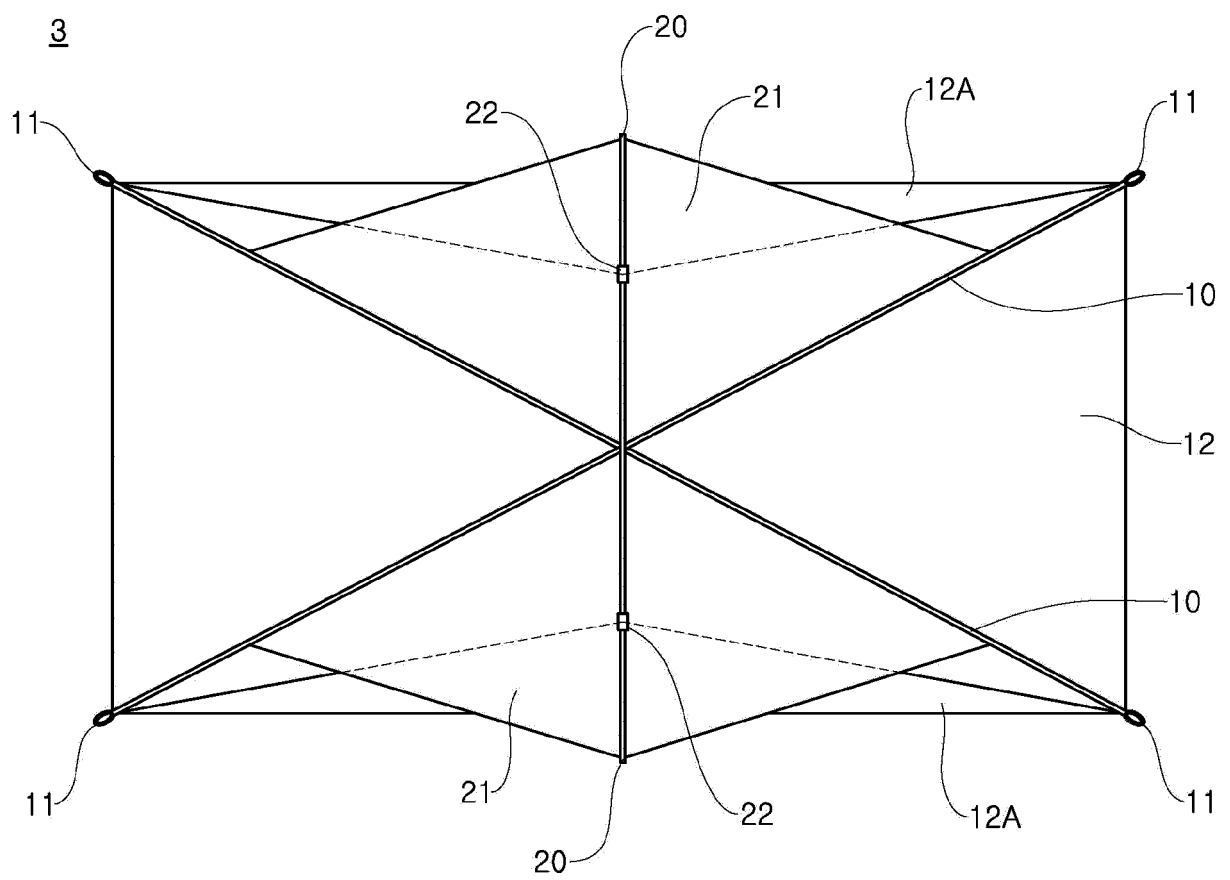


[FIG. 7]

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[FIG. 8]



INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR2021/013295

A. CLASSIFICATION OF SUBJECT MATTER

E04H 15/34(2006.01)i; E04H 15/64(2006.01)i; E04H 15/54(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

E04H 15/34(2006.01); E04H 15/32(2006.01); E04H 15/42(2006.01); E04H 15/56(2006.01); E04H 15/64(2006.01);
F16B 45/02(2006.01)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models: IPC as above

Japanese utility models and applications for utility models: IPC as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS (KIPO internal) & keywords: 텐트(tent), 커넥터(connector), 환기(ventilation), 와이어(wire) 및 확장(expansion)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2016-0115708 A1 (CAMPVALLEY (XIAMEN) CO., LTD.) 28 April 2016 (2016-04-28) See paragraphs [0002]-[0003] and figure 1.	1-8
Y	KR 20-0267526 Y1 (BANPOTECH CO., LTD.) 12 March 2002 (2002-03-12) See figures 1-2.	1-8
Y	KR 20-2018-0001636 U (DONGAH ALUMINUM CORPORATION) 01 June 2018 (2018-06-01) See figures 9-11.	4,5
Y	KR 20-0314973 Y1 (LAH, Jeh Kun) 02 June 2003 (2003-06-02) See paragraph [0021] and figure 3.	6,8
A	KR 10-2007-0011918 A (LAH, Jeh Kun) 25 January 2007 (2007-01-25) See abstract and figures 1-2.	1-8

☐ Further documents are listed in the continuation of Box C.
 ☒ See patent family annex.

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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/KR2021/013295

Patent document cited in search report	Publication date (day/month/year)	Patent family member(s)	Publication date (day/month/year)
US 2016-0115708 A1	28 April 2016	CA 2820560 C	15 November 2016
		CN 203113900 U	07 August 2013
		US 2014-0202512 A1	24 July 2014
		US 9340995 B2	17 May 2016
		US 9637948 B2	02 May 2017
		WO 2014-110955 A1	24 July 2014
KR 20-0267526 Y1	12 March 2002	None	
KR 20-2018-0001636 U	01 June 2018	DE 202017107114 U1	04 December 2017
		KR 20-0487940 Y1	26 November 2018
		US 2018-0142494 A1	24 May 2018
KR 20-0314973 Y1	02 June 2003	None	
KR 10-2007-0011918 A	25 January 2007	DE 102005048272 A1	25 January 2007
		DE 102005048272 B4	31 October 2007
		KR 10-0727045 B1	12 June 2007
		US 2007-0017564 A1	25 January 2007

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Patent documents cited in the description

- KR 1020120037505 [0004]