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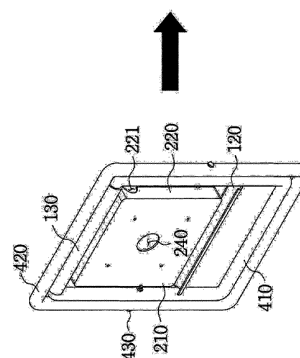
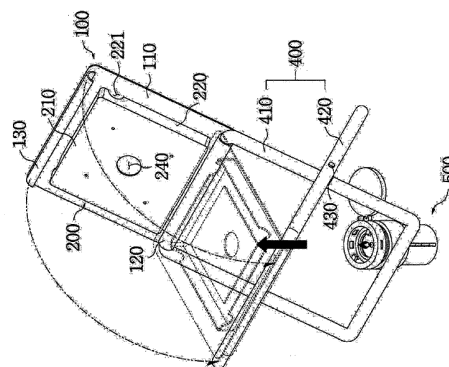
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(54) **FOLDABLE THERMAL CHAIR**

(57) The present invention relates to a foldable thermal chair comprising: a seat part which, when a user is seated, can transmit heat supplied by a candlelight-height automatic adjustment means to the body of a user; a fixing and fastening part which enables the candlelight-height automatic adjustment means to be fasted to the front surface thereof; a stored heat dispersion plate which can transmit a uniform heat to the body of a user as a result of heating the air in a space formed by the connection of the fixing and fastening part and the seat part by means of the heat transmitted from the candlelight-height automatic adjustment means; and a support frame part which extends in an "X" shape during use and can be folded up without any part protruding to the outside when not in use.

[FIG. 6]



Description

TECHNICAL FIELD

[0001] The present invention relates to a foldable thermal chair in which two support frames with different sizes stably support a seat part when the foldable thermal chair is in use, while the support frames form a flat shape and are folded with no part protruding outwards when the foldable thermal chair is not in use thereby making it possible to easily store and carry the foldable thermal chair, and in which a candle-height automatic adjustment means pre-filed by the present inventor is fastened to the bottom of the seat part so as to evenly transmit heat to a user's body thereby making it possible to maintaining the user's body temperature or to relax the user's muscles etc. during outdoor activities.

DESCRIPTION OF THE RELATED ART

[0002] In general, chairs are a means for a person to sit on and come in different shapes according to the purposes of use and according to spaces.

[0003] In particular, chairs used for outdoor activities such as fishing, camping and street vending etc. cannot keep users' bodies warm and maintain the body temperature in the winter when outdoor temperature is low. As a means to solve the problem, chairs capable of installing a briquette etc., a material for generating heat, thereunder or in the space formed therein can be used, or an electric heater or electric pad are used as a means to generate heat.

[0004] In the case of a briquette, the user's skin can be burned due to high-temperature heat that is generated while the briquette is burned, and a certain amount of bulky and heavy briquettes has to be piled for use. This causes inconvenience to the users. Additionally, an electric heater cannot be used in places without electricity, and is likely to cause an accident due to a short circuit caused by humidity in rainy weather or wet weather.

[0005] As a related art, South Korean Utility Model No. 20-0436577 (published on September 7, 2007) discloses a heating chair for a candle with a height adjustable device, which is capable of heating a chair by burning a candle inside the chair consisting of metal, and capable of adjusting the heat generation point of the candle through a manipulation handle so as to heat the chair thereby making it possible to effectively maintain users' body temperature even during outdoor activities.

[0006] However, according to the related art, the chair has to have a space with a certain size such that a candle, a material for generating heat, is installed inside the chair. Accordingly, the chair has to be correspondingly configured to have a certain height and volume. This makes it harder to carry the chair for outdoor activities such as fishing or camping etc., and to evenly distribute heat because a part of a seat part is heated through the candle, a material for generating heat, so as to directly transmit

the heat to the user's body thereby increasing the possibility of causing users' skin to be burned due to the overheated seat part.

[0007] As a means to solve the problems, provided is a foldable thermal chair in which a seat part and each support frame supporting the seat part are configured to have different sizes so as to stably support a user's body, while the support frames form a flat shape and are folded with no part protruding outwards when the foldable thermal chair is carried or not in use thereby making it possible to minimize the volume of the chair and to easily store and carry the foldable thermal chair, in which a candle-height automatic adjustment means pre-filed by the present inventor is fastened to the bottom of the seat part so as to effectively maintain the user's body temperature even during long-lasting outdoor activities such as fishing or camping etc. thereby improving the user's convenience, and in which a store heat dispersion plate, provided at the bottom of the seat part, receives heat from the candle-height automatic adjustment means, heats air inside the seat part, and performs convection by means of the heated air so as to transmit heat to the seat part thereby efficiently and evenly transmit heat.

DETAILED DESCRIPTION OF THE INVENTION

TECHNICAL PROBLEMS

[0008] As a means to solve the above-described problems, provided is a foldable thermal chair in which two support frames with different sizes extend in an "X" shape so as to stably support a user's body despite the changes in the center of gravity of the user's body when the foldable thermal chair is in use, and a small frame is inserted into a large frame so as to form a flat shape including the seat part with no part protruding out of the large frame when the foldable thermal chair is carried or not in use.

[0009] Further, provided is a foldable thermal chair in which a candle-height automatic adjustment means pre-filed by the present inventor is fastened to the bottom of the seat part so as to maintain the user's body temperature even during long-lasting outdoor activities such as fishing or camping etc., and a stored heat dispersion plate is provided to the seat part so as to receive heat from the candle-height automatic adjustment means, heat air inside the seat part, and then evenly transmit heat to the seat part by means of the convection of the heated air.

TECHNICAL SOLUTIONS

[0010] As a means to solve the problems, provided is a foldable thermal chair including a seat part which can transmit, to the body of a user, heat supplied by a candlelight-height automatic adjustment means in the state where the user sits on the seat part, a fixing and fastening part which enables the candlelight-height automatic adjustment means to be fasted to the bottom surface thereof, a stored heat dispersion plate which can evenly trans-

mit heat to the body of the user as a result of heating the air in a space formed by the connection of the fixing and fastening part and the seat part by means of the heat transmitted from the candlelight-height automatic adjustment means, and a support frame part which extends in an "X" shape when the foldable thermal chair is in use and is folded without any part protruding towards the outside when the foldable thermal chair is not in use.

ADVANTAGEOUS EFFECTS

[0011] According to a foldable thermal chair of the present invention, two support frames with different sizes extend in an "X" shape so as to stably support a user's body despite the changes in the center of gravity of the user's body when the foldable thermal chair is in use, thereby improving structural stability, and a small frame is inserted into a large frame so as to form a flat shape and folded with no part protruding out of the large frame when the foldable thermal chair is carried or not in use, thereby making it possible to easily store and carry the foldable thermal chair.

[0012] Further, the front and back of the foldable thermal chair can be determined because of the difference in the sizes of an inner frame and outer frame, and the larger frame can be used as a rear leg so as to stabilize the center of gravity and to enable the chair to be firmly installed on the ground.

[0013] Further, according to a foldable thermal chair of the present invention, a candle-height automatic adjustment means pre-filed by the present inventor is fastened to the bottom of a seat part so as to effectively maintain the body temperature even during long-lasting outdoor activities such as fishing or camping etc. Additionally, air inside the seat part (convection), not the seat part itself (conduction), is heated by means of a stored heat dispersion plate heated by a candle, and heat is evenly and efficiently transmitted to the seat part by means of the convection of the heated air so as not to cause the user's skin to be burned due to the overheating of the seat part.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014]

FIGS. 1 and 2 are exemplary views of a foldable thermal chair.

FIGS. 3 and 4 are exemplary views of a support frame of a foldable thermal chair.

FIG. 5 is a view illustrating the relationship in which separated elements of a foldable thermal chair are coupled.

FIG. 6 is a view illustrating a state where a foldable thermal chair is assembled and a process in which a foldable thermal chair is used.

FIG. 7 is a sectional view of a foldable thermal chair according to an embodiment of the present inven-

tion.

FIGS. 8 and 9 are sectional views of a support frame of a foldable thermal chair according to another embodiment of the present invention.

FIG. 10 is a sectional view of a stored heat dispersion plate of a foldable thermal chair according to another embodiment of the present invention.

FIGS. 11 to 13 are sectional views of a seat part and a support frame of a foldable thermal chair according to another embodiment of the present invention.

BEST MODE FOR CARRYING OUT THE INVENTION

[0015] A foldable thermal chair according to the present invention includes a seat part that includes a top plate part on which a user sits, a coupling part provided at the bottom surface of the top plate part, and a hanger provided at the opposite side of the coupling part; and a support frame that includes an inner frame coupled to the coupling part or the hanger, and an outer frame detachably coupled to the coupling part or the hanger and having a width and length larger than those of the inner frame, wherein when the foldable thermal chair is in use, the inner frame and the outer frame extend in an "X" shape on the basis of a point where the inner frame and the outer frame are mutually crossed such that the top of the outer frame is coupled to the hanger so as to support the top plate part, and when the foldable thermal chair is not in use, the inner frame is inserted into the outer frame so as to form a flat shape in the state where the top of the outer frame is separated from the hanger such that the inner frame is folded without no part protruding out of the outer frame.

MODE FOR CARRYING OUT THE INVENTION

[0016] Preferred embodiments of the present invention and the relationship of elements consisting of the embodiments of the present invention as a means to achieve the above-describe purposes will be described with reference to the attached drawings. Additionally, technical features the same as those of related arts or included in the technical scope of related arts will not be described in detail.

[0017] Terms and words used in this specification and the appended claims should not be interpreted as those defined in commonly used dictionaries. Accordingly, the terms and words should be interpreted on the basis of the meaning and concept in accordance with the technical spirit of the present invention according to the principle that the inventor can properly define the concept of terms so as to best describe the invention.

[0018] The embodiments set forth in this specification and the elements illustrated in the drawings will be presented only as preferred embodiments and do not represent all the technical spirit of the present invention. Accordingly, it should be understood that various equivalents and modifications replaceable with the embodi-

ments and elements can exist at the time when this application is filed.

[0019] As illustrated in FIGS. 1 and 2, and 5 to 7, the present invention relates to a foldable thermal chair including a seat part 100 which can transmit, to the body of a user, heat supplied by a candlelight-height automatic adjustment means 500 into which a candle is inserted as a heating element in the state where the user sits on the seat part, a fixing and fastening part 200 which enables the candlelight-height automatic adjustment means 500 to be fastened to the bottom surface thereof in the state where the fixing and fastening part can be coupled to the bottom surface of the seat part 100, a stored heat dispersion plate 300 which can be positioned between the seat part 100 and the fixing and fastening part 200, and can evenly transmit heat to the body of the user sitting on the seat part 100 as a result of heating the air in a space formed by the connection of the fixing and fastening part 200 and the seat part 100 by means of the heat transmitted from the candlelight-height automatic adjustment means 500, and a support frame part 400 which has a shape in which two frames in different sizes can be coupled intersectably, is fastened to both sides of the bottom surface of the seat part 100, extends in an "X" shape so as to stably support the seat part 100 when the foldable thermal chair is in use, and is folded up without any part protruding towards the outside when the foldable thermal chair is not in use.

[0020] Additionally, the user can sit on the seat part 100. The seat part 100 includes a top plate part 110 configured as a plate consisting of metal with a high thermal conductivity so as to efficiently absorb heat and to evenly transmit the observed heat to the body, a coupling part 120 configured to have a pipe shape or to be bent in a pipe shape and provided at one side of the bottom surface of the top plate part 110 so as to enable the support frame part 400 to be fastened to the coupling part 120, and a hanger 130 in which a circular pipe is configured to have the shape of a half circle cut in the widthwise direction or a hook so as to correspond to the other side of the coupling part 120 and the top of an outer side frame 420 that will be described hereafter.

[0021] Meanwhile, the fixing and fastening part 200 consists of synthetic resins with low thermal conductivity so as to enable heat of a heated stored heat dispersion plate 300 to be transmitted only towards the bottom of the top plate part 110 provided to the seat part 100, thereby preventing heat loss and transmitting heat efficiently, and includes a fastening plate 210 having a bottom surface to which the candlelight-height automatic adjustment means 500 can be fastened, lateral surface support parts 220 integrally protruding upwards from the top surface of the fastening plate 210 around the fastening plate 210 so as to form a convection space part 230 for convection of the air heated by means of the insertion and fastening of the stored heat dispersion plate 300 and the stored heat dispersion plate 300, as a result of the fastening of the lateral surface support parts to the bottom

surface of the top plate part 110 of the seat part 100, an inlet 240 penetrating and formed at the center of the fastening plate 210 so as to introduce, to the stored heat dispersion plate 300, heat generated by the candlelight-height automatic adjustment means 500 fastened to the bottom surface of the fastening plate 210, and a plurality of stored heat dispersion plate fastening openings 250 formed at the fastening plate 210 so as to fasten the stored heat dispersion plate 300 to the top of the fixing and fastening part 200, wherein air outlets 221 penetrate and are formed at each lateral surface of the lateral support parts 220 so as to facilitate convection of the air heated by heat generated by the stored heat dispersion plate 300 inserted into and fastened to the convection space part 230 and at the same time, so as to discharge air cooled after the convection.

[0022] Further, the air outlets 221 can be formed at positions farthest from the heat generation point of the candle inserted into the candlelight-height automatic adjustment means 500 so as to maximize efficiency of heat generation through convection of heated air, and the size and number of the air outlet can be adjusted so as to optimize the time for convection of the heater air in the convection space part 230 thereby maximizing efficiency of heat transmitted to the top plate part 110 of the seat part 100.

[0023] Meanwhile, the stored heat dispersion plate 300 can be coupled to the stored heat dispersion plate fastening openings 250 of the fixing and fastening part 200, and provided with a fastening plate coupling part 310 protruding downwards from the bottom surface of the stored heat dispersion plate 300 such that the stored heat dispersion plate 300 is regularly spaced apart from and fastened to the top surface of the fastening plate 210 provided to the fixing and fastening part 200.

[0024] Further, the stored heat dispersion plate 300 preferably is configured as a plate consisting of metal having high thermal conductivity so as to efficiently absorb heat transmitted from the candlelight-height automatic adjustment means 500.

[0025] As illustrated in FIGS. 1 to 7, the support frame part 400 includes an inner frame 410 and an outer frame 420 so as to be coupled to the coupling part 120 of the seat part 100 when a foldable thermal chair is in use or not in use. The inner frame 410 has an inner frame opening part 411 where a part of the center of the top of the inner frame is cut, and the outer frame 420 is detachably coupled to the hanger 130 of the seat part 100, and has a rectangular shape 422 as in FIG. 4a or a "□" shape in which the bottom is opened or a part of the bottom is cut as in FIG. 4b.

[0026] Further, the outer frame 420 has a width and length larger than those of the inner frame 410 such that the inner frame 410 is inserted into the outer frame 420 when a foldable thermal chair is folded so as to be carried or stored, and the inner frame 410 also has a width and length larger than those of the seat part 100 and the fixing and fastening part 200 such that the outer frame 420, the

inner frame 410, the seat part 100 and the fixing and fastening part 200 form a flat shape when a foldable thermal chair is not in use. Accordingly, the support frame can be folded without any part protruding out of the outer frame 420 thereby making the foldable thermal chair small enough to be easily carried and stored.

[0027] Additionally, inner frame coupling openings 412 and outer frame coupling openings 421 are formed at portions of both sides of the inner and outer frames, where the inner frame 410 and the outer frame 420 are crossed. Further, fastening bolts 430, a single body, are inserted into and coupled to all the inner frame coupling openings 412 and outer frame coupling openings 421 so as to fasten the inner frame 410 and the outer frame 420, and at the same time, the inner frame 410 and the outer frame 420 can swivel around the fastening bolts 430 and extend so as to extend the support frame part 400 in an "X" shape for the use of a foldable thermal chair.

[0028] In this case, a means to fasten the inner frame 410 to the outer frame 420 is not limited to fastening bolts 430.

[0029] As in FIG. 6 as an embodiment of the present invention, the inner frame 410 and the outer frame 420 swivel around the fastening bolts 430 inserted into and fastened to portions where the inner frame 410 and the outer frame 420 are crossed, and extend in an "X" shape. Then, a hanger 130 is coupled to the top of the extended outer frame 420 so as to enable the user to sit, thereby ensuring structural stability.

[0030] Further, an extended foldable thermal chair can stably support the body of the user without collapsing as a result of the difference between the lengths of the inner frame 410 and the outer frame 420 even when the center of gravity is changed in the state where the user sits on the chair.

[0031] Further, the fixing and fastening part 200 can be coupled to the bottom surface of the seat part 100 fastened to the upper end of the support frame 400. The stored heat dispersion plate 300 is regularly spaced apart by means of the fastening plate coupling part 310 from the top surface of the fastening plate 210 provided to the fixing and fastening part 200 in the convection space part 230 formed by the combination of the seat part 100 and the fixing and fastening part 200 and afterwards, the candlelight-height automatic adjustment means 500 is fastened to the bottom surface of the fastening plate 210 so as to transmit heat from the candlelight-height automatic adjustment means 500 to the stored heat dispersion plate 300 through the inlet 240 formed at the fastening plate 210.

[0032] In this case, the heat transmitted to the stored heat dispersion plate 300, as illustrated in FIG. 7, heats air inside the convection space part 230, in which the stored heat dispersion plate 300 is installed, such that heat is transmitted to the bottom surface of the top plate part 110 provided to the seat part 100 by means of the convection of the heated air, and air cooled after the convection can be discharged outwards through air outlets

221 formed at the lateral side support part 220 of the fixing and fastening part 200.

[0033] Further, the stored heat dispersion plate 300, as illustrated in FIG. 10, is configured to be convex, not to be flat, and can be replaced with a ventilator 320 for preventing an increase in pressure of inner air.

[0034] Meanwhile, when a foldable thermal chair is not in use, the hanger 130 fastened to the upper end of the outer frame 420 is separated from the outer frame 420, and the outer frame 420 and the inner frame 410 are re-swivel around the fastening bolts 430 such that the foldable thermal chair is folded.

[0035] In this case, because the outer frame 420 has a width and length larger than those of the inner frame 410, the inner frame 410 is inserted into the outer frame 420, and the fixing and fastening part 200 coupled to the bottom surface of the seat part 100 is also inserted into the inner frame 410 having a width and length larger than those of the fixing and fastening part 200. Accordingly, the outer frame 420, the inner frame 410, the seat part 100 and the fixing and fastening part 200, as illustrated in FIG. 6, form a flat shape so as to be folded without any part protruding out of the outer frame 420 thereby making a foldable thermal chair small enough to be easily carried and stored.

[0036] Additionally, according to the present invention, the above-described inner frame 410 can be coupled to the coupling part 120 and the above-described outer frame 420 can be detachably coupled to the hanger 130. Surely, the above-described inner frame 410 can also be detachably coupled to the hanger 130, and the above-described outer frame 420 can also be coupled to the coupling part 120.

[0037] Meanwhile, according to another embodiment of the present invention as illustrated in FIG. 8, each of the inner frame 410 and the outer frame 420 of an embodiment of the present invention separately consist of a top frame 410a, 420a and a bottom frame 410b, 420b.

[0038] Herein, the above-described fastening bolts 430 are inserted into and fastened to coupling openings 412a, 412b, 421a, 421b respectively penetrating and formed at portions where the inner frame 410 and the outer frame 420 are mutually crossed, so as to assemble the top frame 410a, 420a and bottom frame 410b, 420b.

[0039] In particular, according to another embodiment of the present invention, the top frame 410a, 420a has a diameter smaller than that of the bottom frame 410b, 420b, and the top frame 410a, 420a is partially inserted into the bottom frame 410b, 420b such that the top frame and the bottom frame are assembled.

[0040] That is, the bottom of the top frame 410a, 420a is partially inserted into the top of the bottom frame 410b, 420b having a hollow inside, and afterwards, the fastening bolts 430 are inserted into and fastened to the coupling openings 412a, 412b, 421a, 421b so as to assemble the top frame and the bottom frame. By doing so, the top frame and the bottom frame are easily assembled, thereby creating convenience in production.

[0041] Additionally, the state where the top frame 410a, 420a and the bottom frame 410b, 420b are coupled is illustrated in the sectional view of FIG. 8. Suppose the thickness of both sides of the top frame 410a, 420a and the bottom frame 410b, 420b except for the inner hollow thereof is respectively "T". If the support frame consists of one inner frame 410 and one outer frame 420 respectively as in an embodiment of the present invention, the total of the thickness of a portion supported by the fastening bolts 430 is "4T". However, if the inner frame 410 and the outer frame 420, as described above, are configured to have a double frame coupling structure which consists of a top frame 410a, 420a and a bottom frame 410b, 420b, the total of the thickness of a coupled portion supported by the fastening bolts 430 is "8T". By doing so, the fastening bolts strongly support a coupled portion, thereby stably improving the durability of the inner frame 410 and the outer frame 420.

[0042] Meanwhile, according to yet another embodiment of the present invention as illustrated in FIG. 9, each of the inner frame 410 and the outer frame 420 of another embodiment of the present invention separately consist of a top frame 410a, 420a and a bottom frame 410b, 420b, and as illustrated above, the above-described fastening bolts 430 are inserted into and fastened to the coupling openings 412a, 412b, 421a, 421b respectively penetrating and formed at portions where the inner frame 410 and the outer frame 420 are mutually crossed so as to assemble the top frame 410a, 420a and the bottom frame 410b, 420b.

[0043] The diameter of the top frame 410a, 420a is the same as that of the bottom frame 410b, 420b, wherein the top frames 410a, 420a are provided with round bar members B whose part protrudes outwards and which are coupled to the inside of the top frame, and protruding portions of the round bar members B are inserted into the bottom frames 410b, 420b in the state where coupling openings 412a, 421a are formed at protruding ends of the round bar members B so as to assemble the top and bottom frames.

[0044] Herein, the round bar members B have a rod shape without a hollow inside unlike the top frame 410a, 420a and the bottom frame 410b, 420b. As illustrated in FIG. 9, the thickness of coupled portions supported by the fastening bolts 430 through the above-described round bar members B becomes thicker. By doing so, the durability of the inner frame 410 and the outer frame 420 are improved. As in another embodiment of the present invention, the gap between the appearances of the inner frame and outer frame, which is caused by the differences in the diameter of the top frame 410a, 420a and bottom frame 410b, 420b, can be bridged, thereby ensuring the aesthetics of the appearances of the inner frame 410 and outer frame 420.

[0045] Meanwhile, a foldable thermal chair according to yet another embodiment of the present invention includes a seat part 100, a fixing and fastening part 200, a store heat dispersion plate 300, a support frame part

400 and a candlelight-height automatic adjustment means 500 as described above.

[0046] The seat part 100, as illustrated in FIGS. 11 and 12, includes a cover part 140 consisting of fabric with thickness and provided with an opening and closing member 141 for opening and closing the inside of the seat part, a cushion member 150 having thickness and installed inside the cover part 140, a coupling part 120 consisting of metal, having a pipe shape whose longitudinal section is round or polygonal, and provided at a portion extended on one side in the widthwise direction of the cover part 140, and a hanger 130 consisting of metal, having a hook-shaped longitudinal section, and attached and fixed to a portion extended on the other side in the widthwise direction of the cover part 140 by means of sewing, riveting or attachment etc.

[0047] In this case, the fabric can be any one selected from natural resins such as usual cotton, hemp cloth, ramie, or linen etc., or synthetic resins, and usual zippers, snap buttons, buttons or Velcro tapes etc. can be used as the opening and closing member 141.

[0048] In particular, the hanger 130 has arranging grooves 131 on the inner surface thereof, and the outer frame 420 has arranging protrusions 423 at the top thereof at positions corresponding to those of the arranging grooves 131 so as to couple the arranging protrusions to the arranging grooves 131. Conversely, the hanger 130 has arranging protrusions 132 the inner surface thereof, and the outer frame 420 has arranging grooves 424 at the top thereof at positions corresponding to those of the arranging protrusions 132 so as to couple the arranging grooves to the arranging protrusions 132.

[0049] By doing so, in the state where the user sits on the seat part 100, a position where the seat part 100 and the outer frame 420 are coupled is fixed such that the user can control the movement of the seat part 100, thereby ensuring stability of a foldable thermal chair in use and preventing damage to the support frame 400. This is applicable to all the embodiments of the present invention.

[0050] Additionally, the arranging grooves 131, 424 formed on the tops of the hanger 130 and the outer frame 420 can be configured to have a hole shape corresponding to the arranging protrusions 132, 423.

[0051] Meanwhile, the above-described inner frame 410, as illustrated in FIG. 13, has a guide groove 413 along the circumference of the longitudinal section thereof at the top thereof, and the coupling part 120 has one or more guide protrusions 121 protruding inwards at a position corresponding to that of the guide groove 413.

[0052] In this case, the guide groove 413 is preferably formed at the center of the inner frame 410 in the widthwise direction thereof at the top thereof, and can also be configured as a hole penetrating the guide groove such that one or more of the above-described guide protrusions 121 are inserted and come into close contact on both sides in the widthwise direction of the inner frame.

[0053] Further, the guide protrusion 121 is configured

to protrude towards the inside of the coupling part 120. The guide protrusion can be configured to protrude to some degree from the inner surface of the coupling part when the coupling part 120 is formed for the first time, and usual bolts or set screws etc. can also be inserted and fastened along the circumference of the longitudinal section of the coupling part 120 so as to protrude towards the inside of the coupling part 120 in the state where the inner frame 410 is coupled to the coupling part 120.

[0054] By doing so, in the state where the user sits on the seat part 100, a position where the seat part 100 and the inner frame 410 are coupled is fixed such that the user can control the movement of the seat part 100, thereby ensuring stability of a foldable thermal chair in use and preventing damage to the support frame 400. This is applicable to all the embodiments of the present invention.

[0055] Additionally, when a foldable thermal chair is in use, or when it needs to be stored, the seat part 100 can rotate in the state where the inner frame 410 is coupled and fixed to the coupling part 120. In this case, the guide protrusion 121 guides the rotation of the seat part 100 in the state where the guide protrusion 120 is fitted into the guide groove 413, and blocks the movement of both sides of the seat part 100 so as to stably rotate the seat part when the seat part 100 rotates.

[0056] Further, the above-described guide protrusion 121 is provided to the coupling part 120, and the above-described guide groove 413 is formed at the inner frame 410. However, grooves or holes can be formed at the coupling part 120, and protrusions can be formed at the inner frame 410 according to convenience in manufacture, assembly and use of a foldable thermal chair.

[0057] Meanwhile, according to a foldable thermal chair of yet another embodiment of the present invention, a seat part 100, as illustrated in FIG. 11, includes a cover part 140 consisting of fabric with thickness and provided with an opening and closing member 141 for opening and closing a convection space part formed therein, and a thermal module 160 installed at the convection space part inside the cover part 140.

[0058] By doing so, heated air inside the convection space part equipped with the thermal module 160 that generates heat on its own transmits heat to the top plate part of the seat part 100. This enables the user to maintain the body temperature during outdoor long-lasting activities such as fishing or camping etc. without a candlelight-height automatic adjustment means 500 pre-filed by the present applicant. Further, this makes it possible to simplify the structure of a foldable thermal chair because a candlelight-height automatic adjustment means 500 does not need to be coupled.

[0059] Meanwhile, according to a foldable thermal chair of yet another embodiment of the present invention, a seat part is provided with a pocket into which a thermal module can be inserted, a coupling part consists of fabric such that a metallic pipe is separately installed, and a hanger can be wrapped in fabric. By doing so, a foldable

thermal chair of the present invention has the advantage of generating heat on its own through the above-described thermal module, and of separating and coupling the seat part and the support frame easily. This makes it possible to readily carry and store a foldable thermal chair.

[0060] The present invention has been described with reference to specific items such as elements etc. limited embodiments and drawings. However, such items, embodiments and drawings have been provided as examples such that the present invention can be better understood. Accordingly, it should be understood that the present invention is not limited to the above-described embodiments and that the present invention can be modified and changed by one of ordinary skill in the art to which the present invention pertains from such descriptions.

[0061] That is, it should be understood that the spirit of the present invention are not construed as being limited to the above-described embodiments and that the appended claims, and the equivalents and equivalent modifications of the appended claims are included in the scope of the present invention.

Claims

1. A foldable thermal chair comprising:

a seat part, wherein the seat plate comprises a top plate part on which a user sits, a coupling part provided at the bottom surface of the top plate part, and a hanger provided at the opposite side of the coupling part; and
a support frame, wherein the support frame comprises an inner frame coupled to the coupling part or the hanger, and an outer frame detachably coupled to the coupling part or the hanger and having a width and length larger than those of the inner frame.

2. The foldable thermal chair according to claim 1, wherein when the foldable thermal chair is in use, the inner frame and the outer frame extend while being mutually crossed such that the top of the outer frame is coupled to the hanger, and when the foldable thermal chair is not in use, the outer frame is separated from the hanger, and the inner frame is inserted into the outer frame so as to form a flat shape.

3. The foldable thermal chair according to claim 1, wherein the coupling part is configured to have a pipe shape or to be bent in a pipe shape, and is provided at the bottom surface of the top plate part, and the inner frame has an inner frame opening part where a part of the top of the inner frame is cut such

that the top of the inner frame except for the inner frame opening part is coupled to the coupling part.

4. The foldable thermal chair according to claim 1,
Wherein the hanger is configured to correspond to the top of the outer frame and provided at the bottom surface of the top plate part
5. The foldable thermal chair according to claim 1,
wherein the outer frame has an outer frame opening part in which the bottom of the outer frame is opened or a part of the bottom of the outer frame is cut.
6. The foldable thermal chair according to claim 1,
wherein each of the inner frame and the outer frame separately consist of a top frame and a bottom frame, and
fastening bolts are inserted into and fastened to coupling openings respectively penetrating and formed at portions where the inner frame and the outer frame are mutually crossed, so as to assemble the top frame and bottom frame.
7. The foldable thermal chair according to claim 6,
wherein the top frame has a diameter smaller than that of the bottom frame, and the top frame and the bottom frame are assembled in the state where the top frame is partially inserted into the bottom frame.
8. The foldable thermal chair according to claim 6,
wherein the diameter of the top frame is the same as that of the bottom frame,
the top frames are provided with round bar members whose part protrudes outwards and which are coupled to the inside of the top frame, and protruding portions of the round bar members are inserted into the bottom frames in the state where coupling openings are formed at protruding ends of the round bar members so as to assemble the top and bottom frames.
9. The foldable thermal chair according to claim 1, further comprising:

a fixing and fastening part fastened to the bottom of the top plate part,
wherein the fixing and fastening part comprises a fastening plate, and lateral support parts configured to protrude upwards along the perimeter of the fastening plate and having a convection space part, in which heated air performs convection, therein.
10. The foldable thermal chair according to claim 9,
the fixing and fastening part further comprising:

an inlet which penetrates and is formed at the bottom of the fastening plate, and at which a

candlelight-height automatic adjustment means is installed,

a stored heat dispersion plate positioned at the convection space part so as to heat air and to transmit heat to the user's body, and fasten the stored heat dispersion plate to the top of the fixing and fastening part, and

air outlets which penetrate and are formed at the lateral support parts.

11. The foldable thermal chair according to claim 10,
Wherein the stored heat dispersion plate has a concave shape, and penetrates and is formed at a ventilator.
12. The foldable thermal chair according to claim 1,
the seat part comprising;
a cover part consisting of fabric with thickness and provided with an opening and closing member for opening and closing the inside of the seat part;
a cushion member installed inside the cover part;
a coupling part consisting of metal, and attached to and provided at a portion extended on one side of the cover part in the widthwise direction thereof; and
a hanger consisting of metal, having a hook-shaped longitudinal section, and attached to and provided at a portion extended on the other side of the cover part in the widthwise direction thereof.
13. The foldable thermal chair according to any one of claims 1 to 12,
wherein the hanger has arranging grooves on the inner surface thereof, and the outer frame has arranging protrusions, coupled to the arranging grooves, at the top thereof, or
the hanger has arranging protrusions on the inner surface thereof, and the outer frame has arranging grooves coupled to the arranging protrusions.
14. The foldable thermal chair according to any one of claims 1 to 12,
wherein the inner frame has a guide groove along the circumference of the longitudinal section thereof at the top thereof, and the coupling part has one or more guide protrusions protruding inwards at a position corresponding to that of the guide groove.
15. The foldable thermal chair according to claim 1,
the seat part comprising:

a cover part consisting of fabric with thickness and provided with an opening and closing member for opening and closing a convection space part formed inside the seat part; and
a thermal module installed at the convection space part.
16. The foldable thermal chair according to claim 1,

wherein the seat part is provided with a pocket into which a thermal module is inserted, the coupling part consists of fabric, and the hanger is wrapped in fabric.

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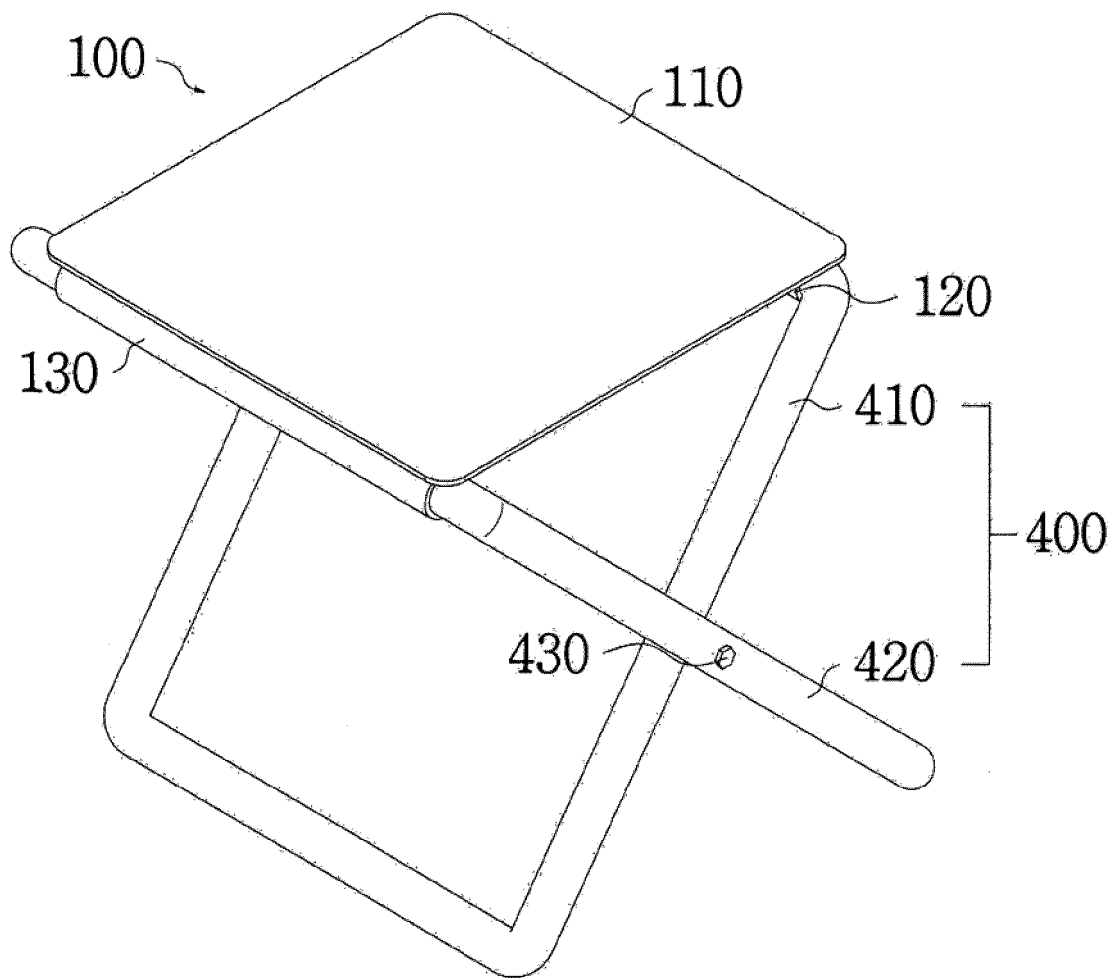
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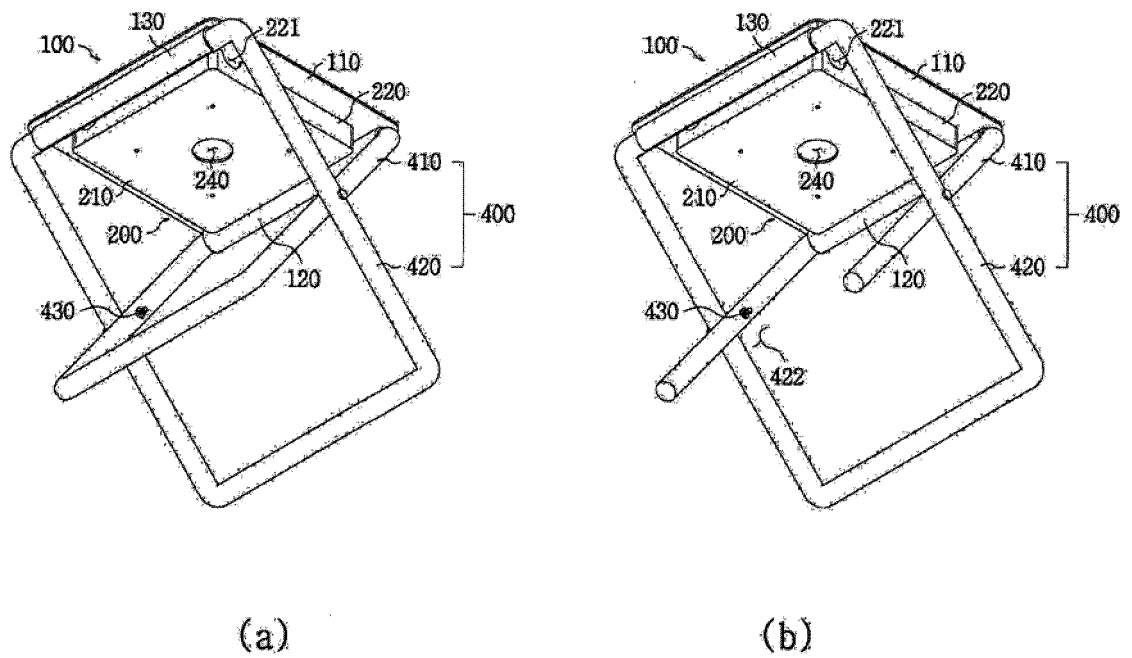
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[FIG. 1]

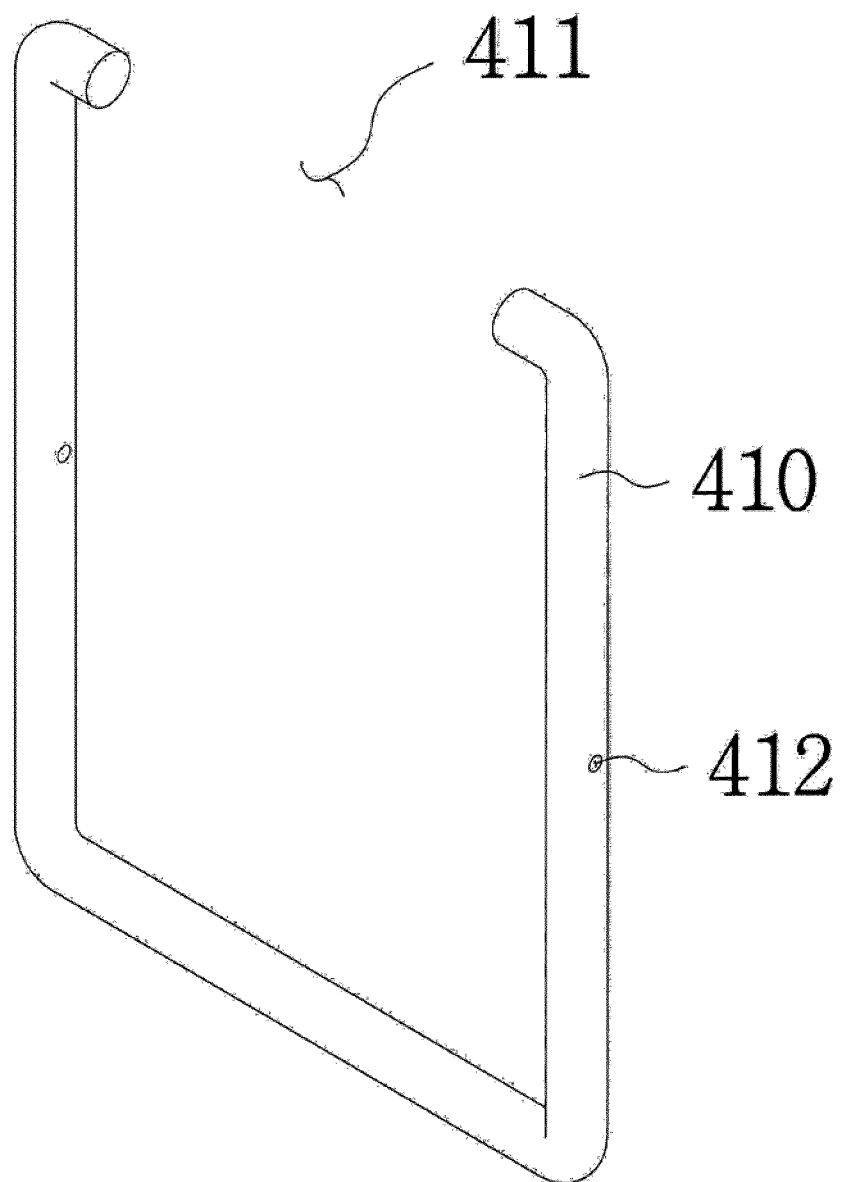


[FIG. 2]



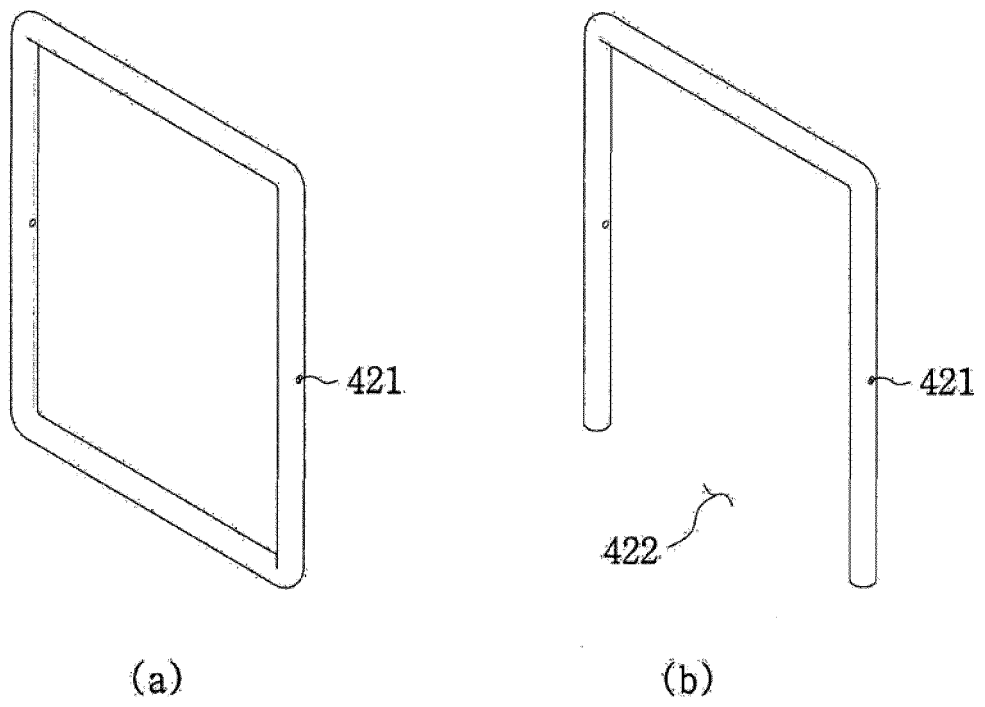
[FIG. 3]

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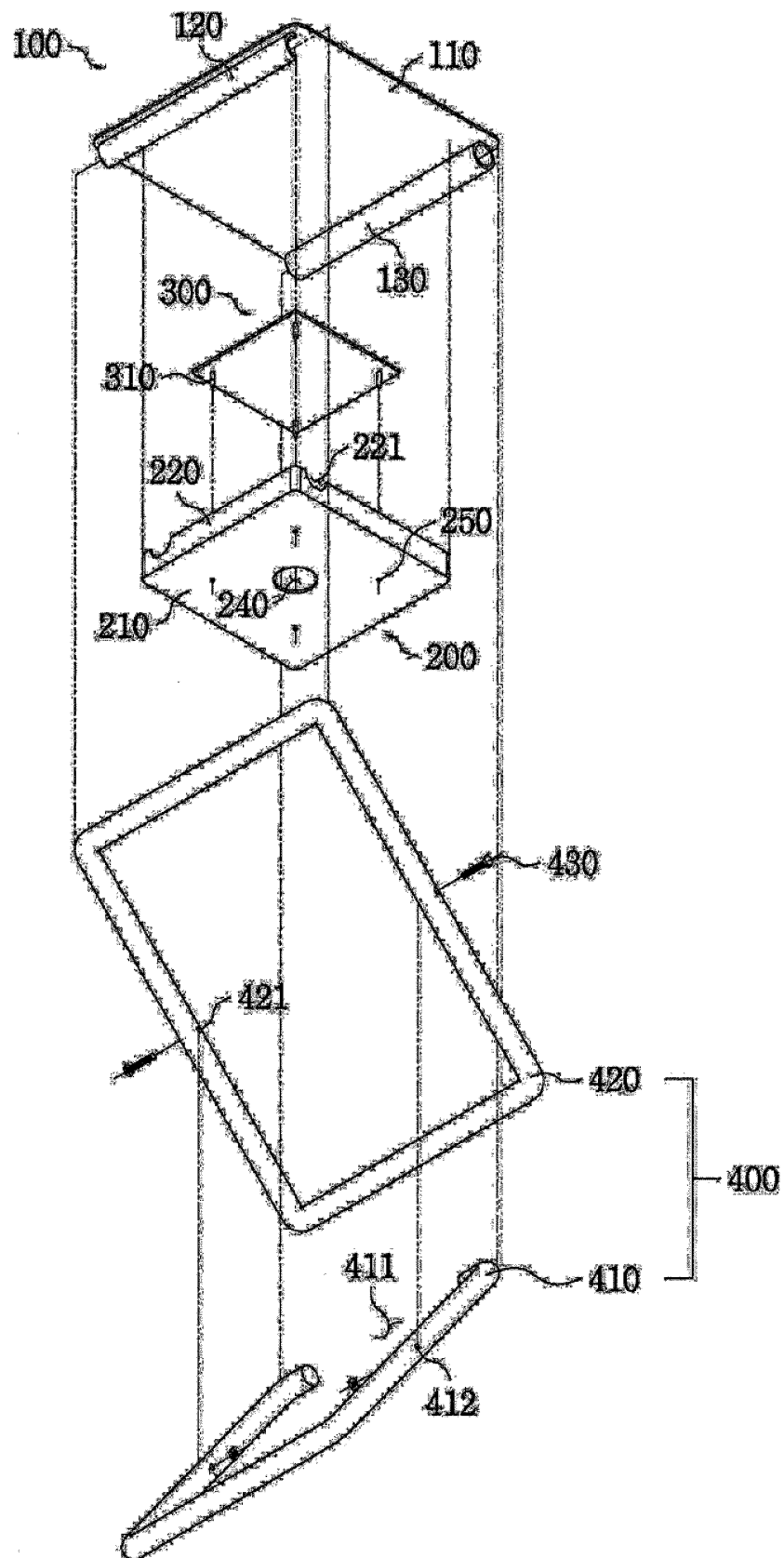


[FIG. 4]

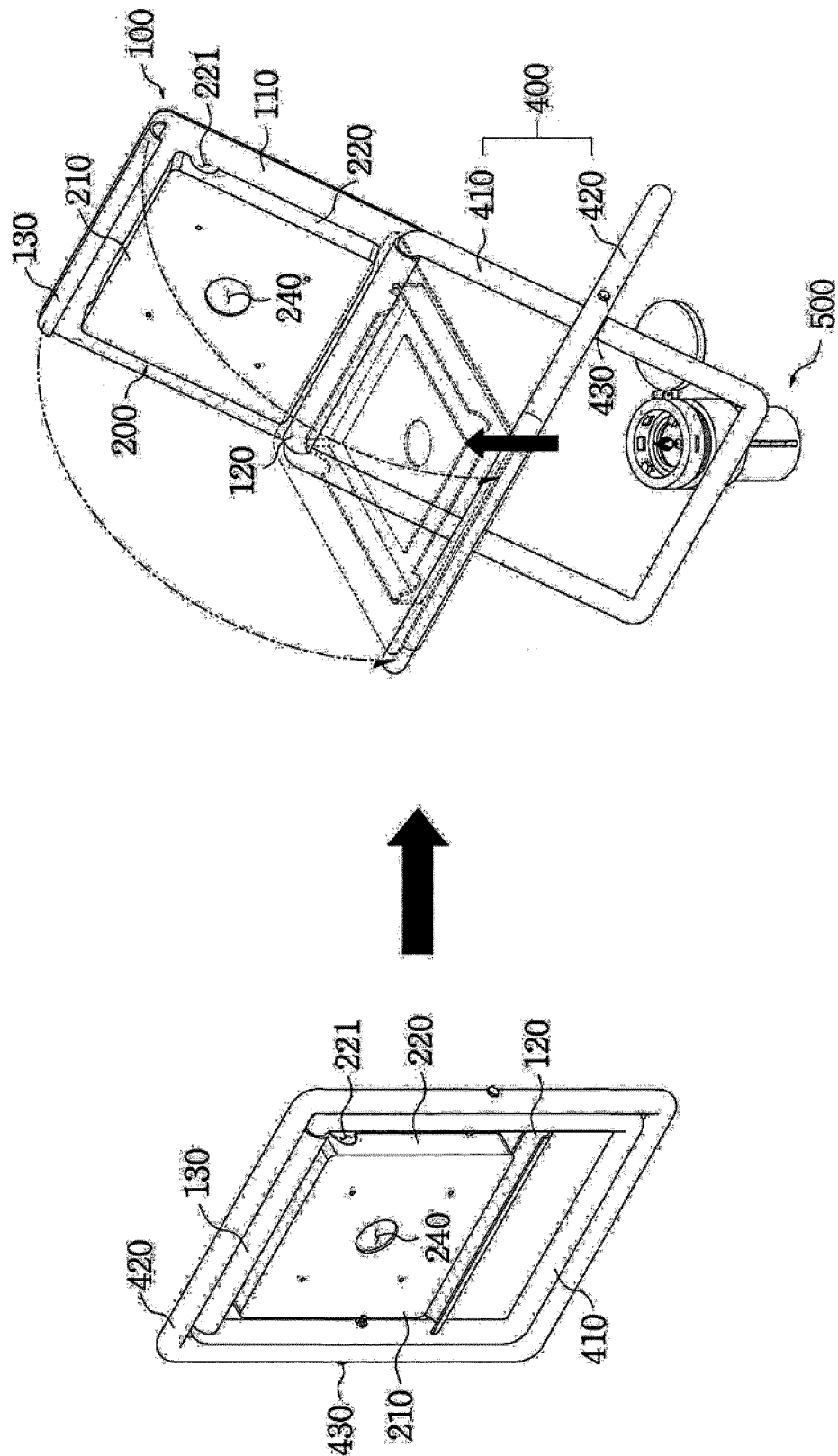
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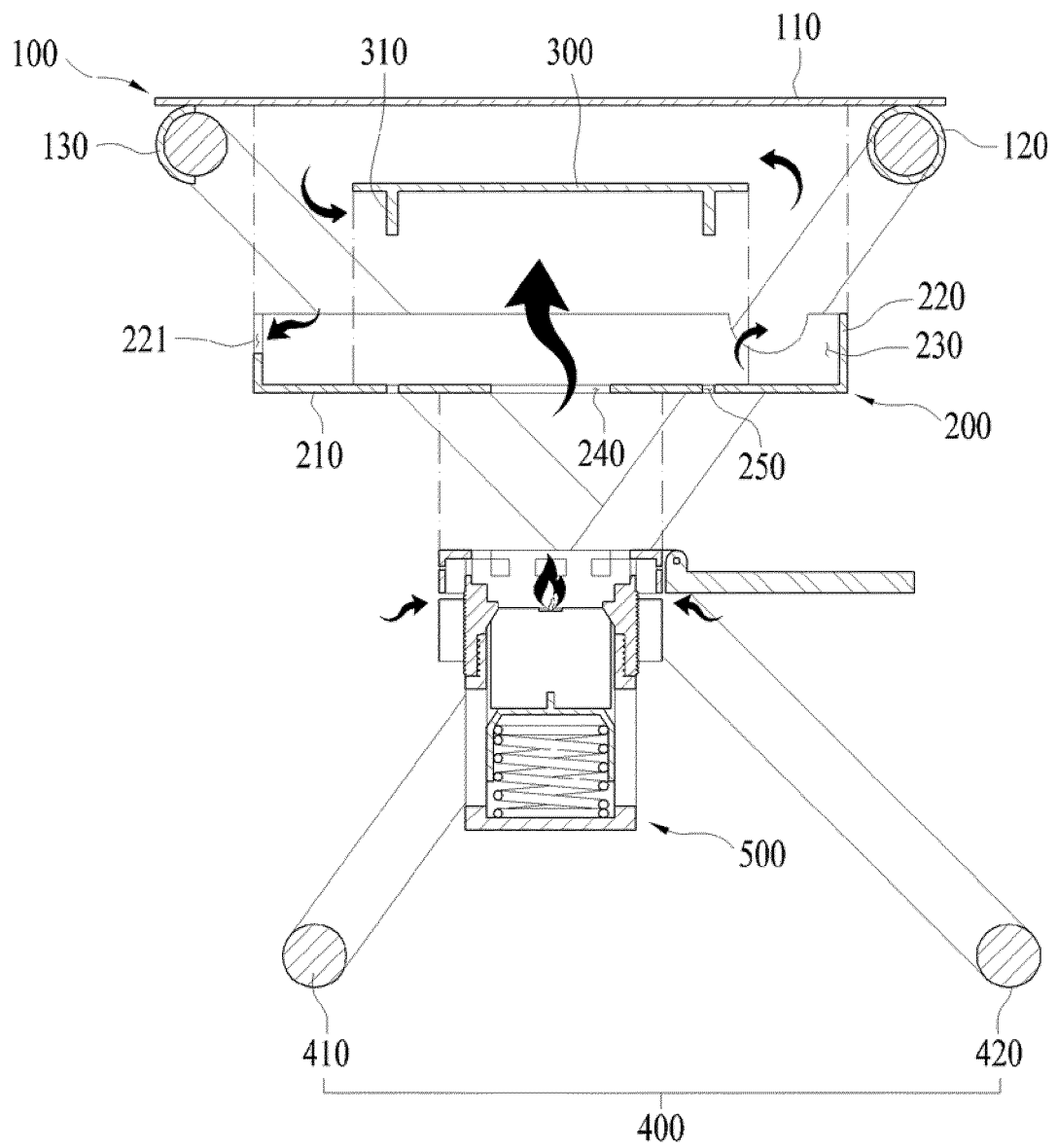
[FIG. 5]



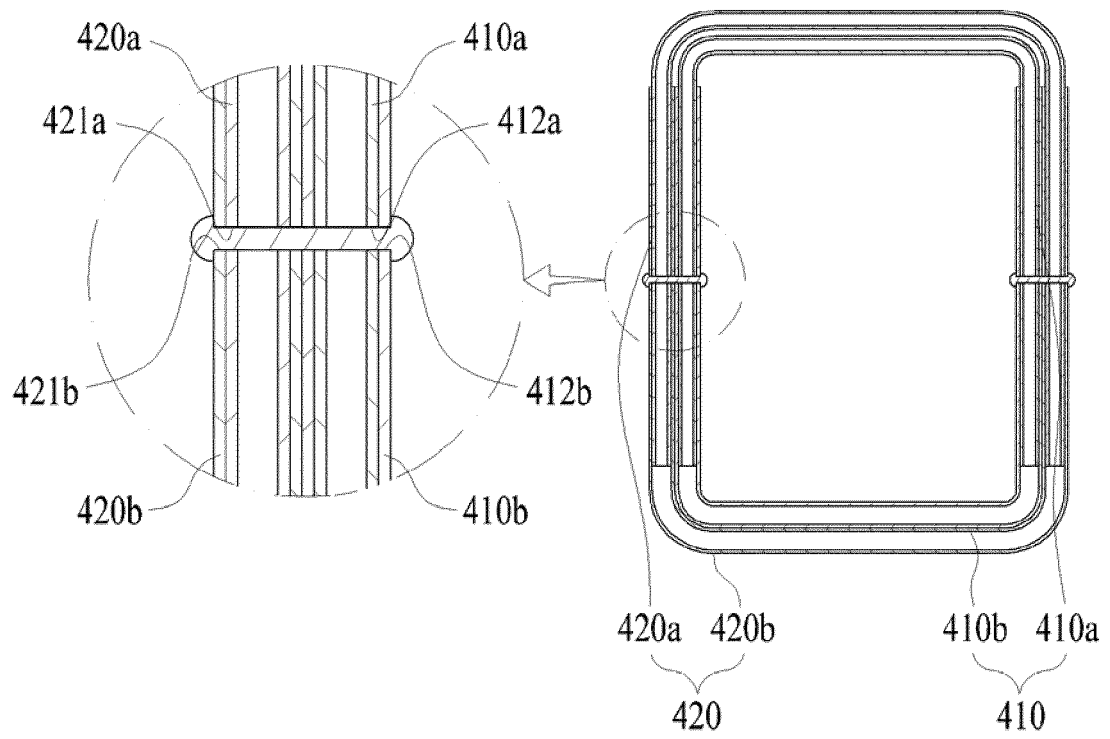
[FIG. 6]



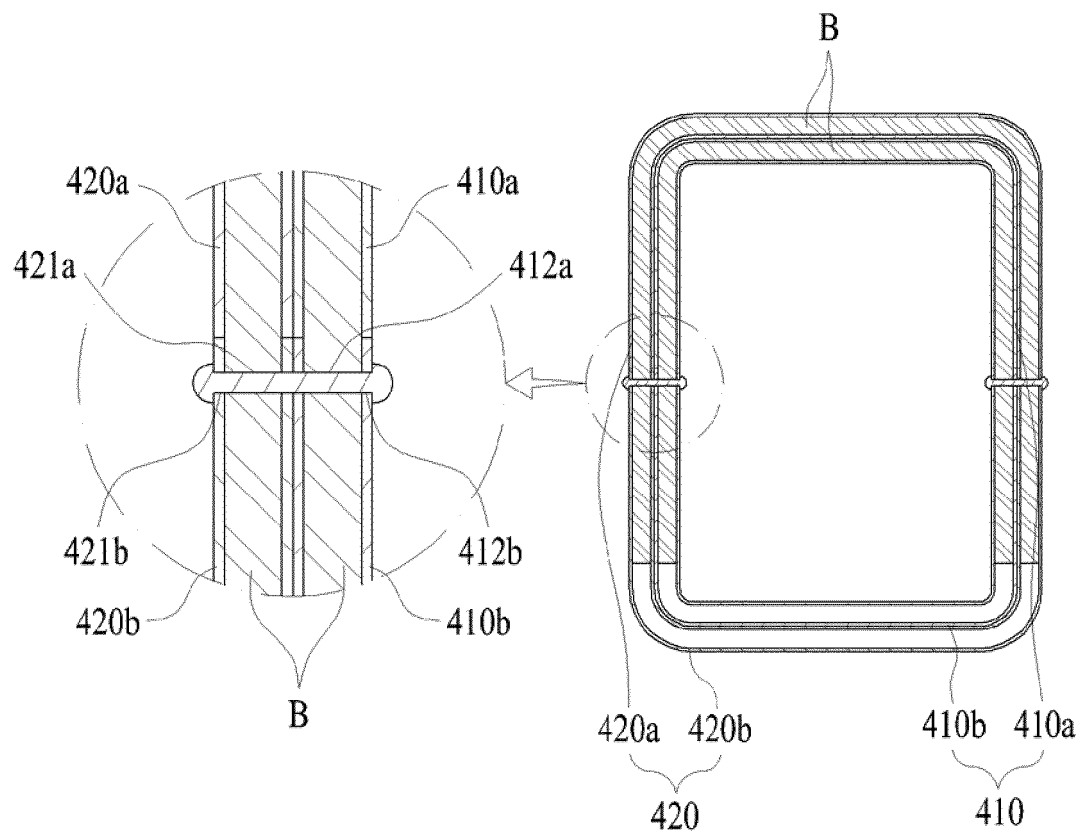
[FIG. 7]



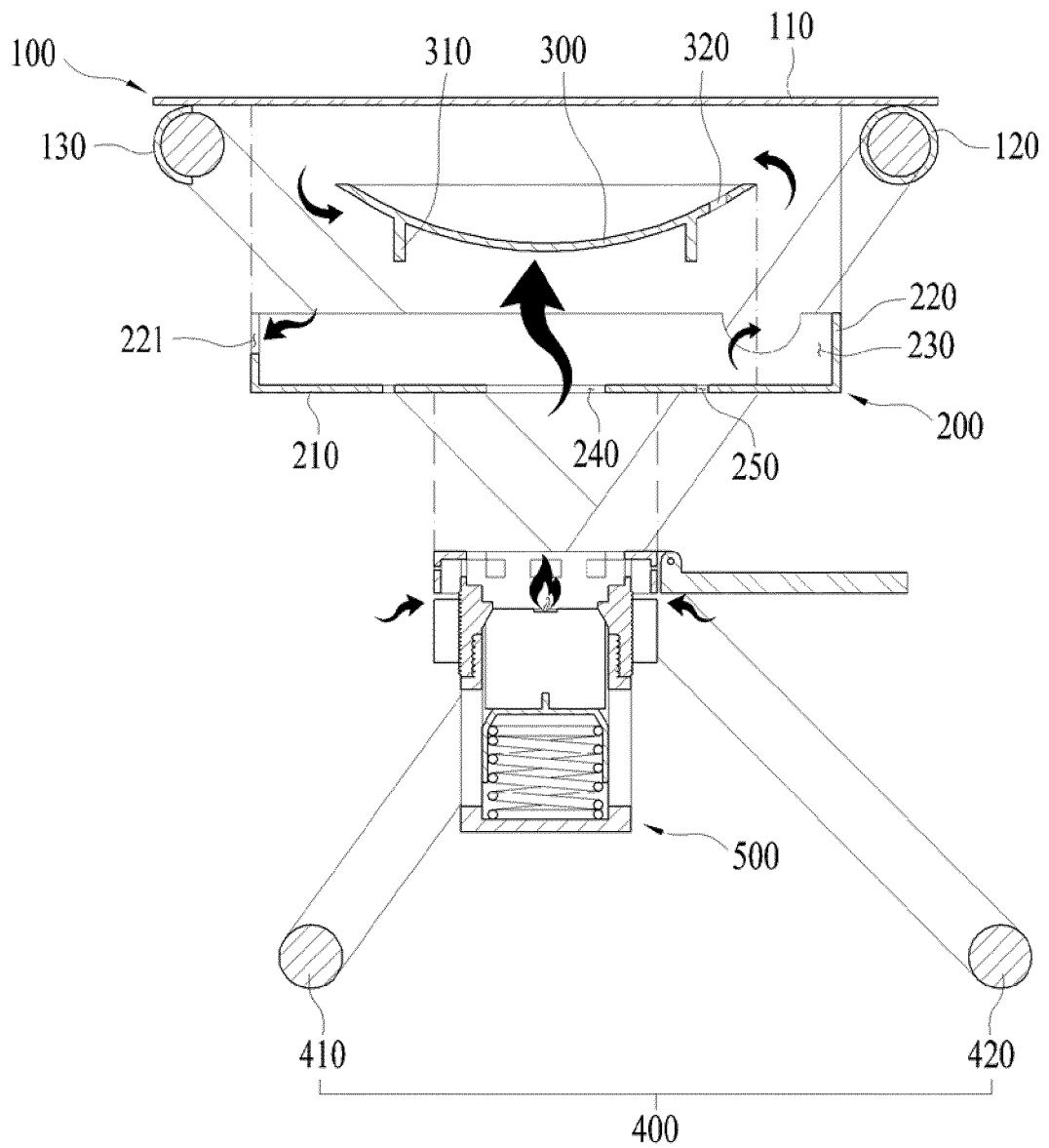
[FIG. 8]



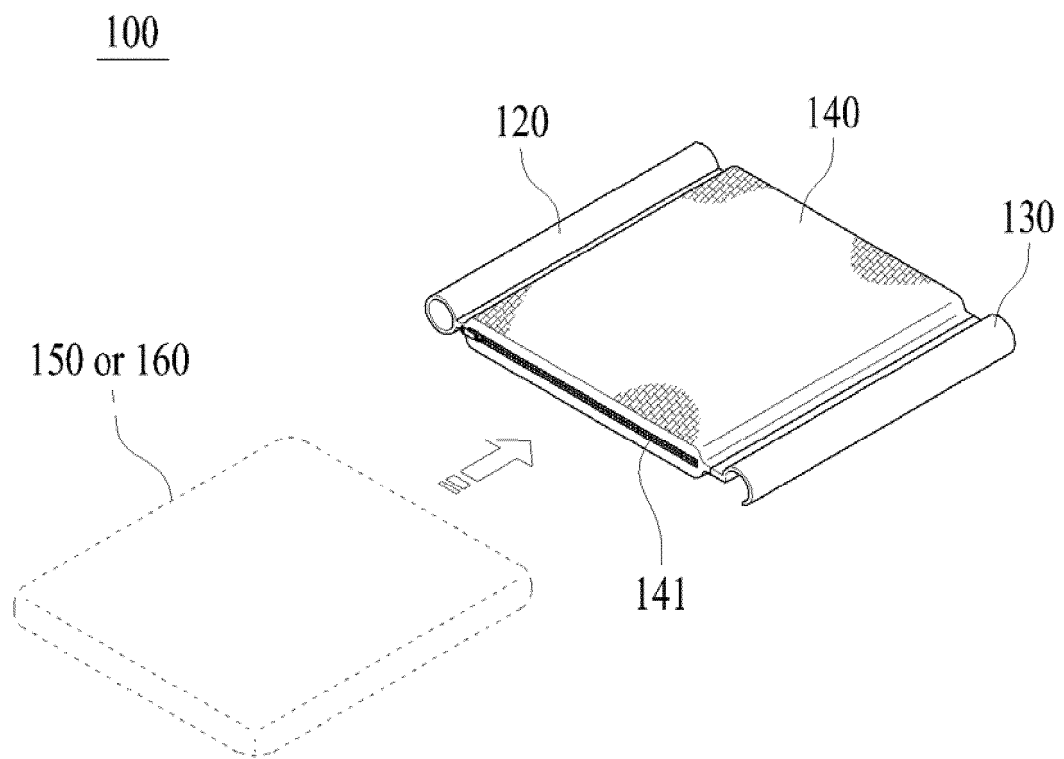
[FIG. 9]



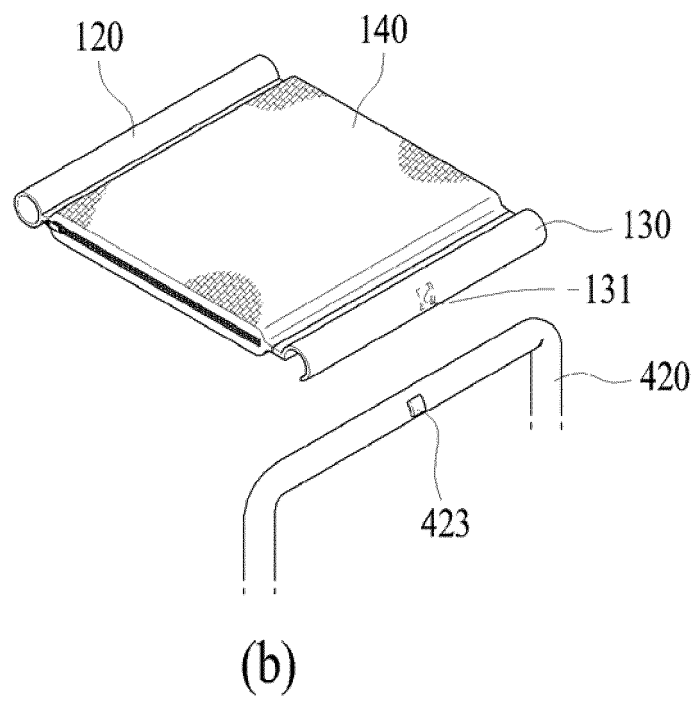
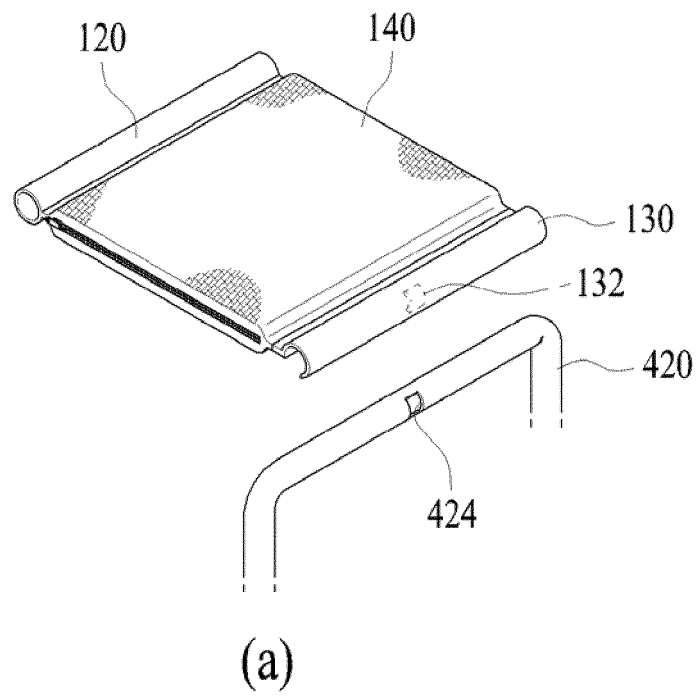
[FIG. 10]



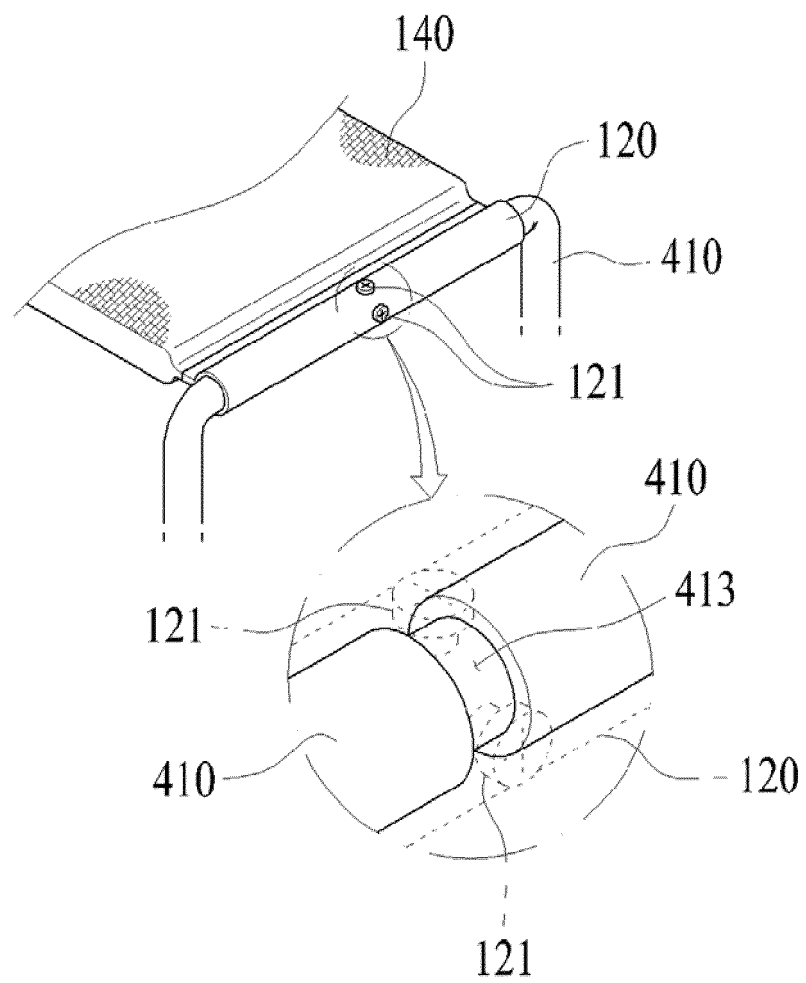
[FIG. 11]



[FIG. 12]



[FIG. 13]



REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- KR 200436577 [0005]