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(54) AWNING FOR VEHICLE

(57) An awning for a vehicle according to an embodiment of the present disclosure includes a housing including an openable/closable internal space, a first pole assembly rotatably coupled to one side of the housing, a second pole assembly rotatably coupled to the other side of the housing, and a sun shelter configured to cover an upper surface of the first pole assembly and an upper surface of the second pole assembly, in which the first pole assembly, the second pole assembly, and the sun shelter are selectively accommodated in the housing or unfolded by rotating to the outside of the housing.

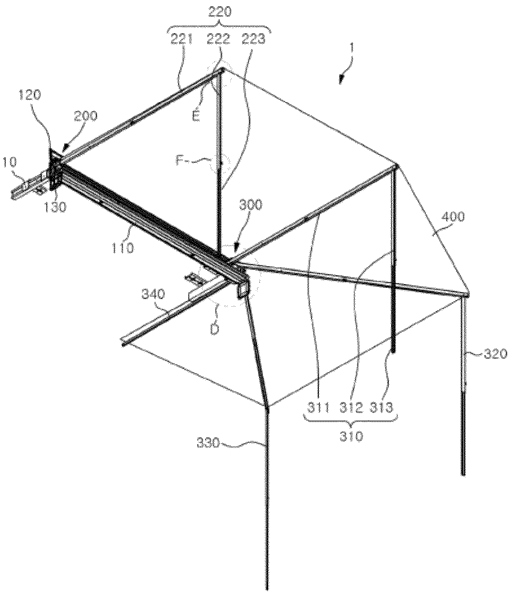

Fig. 3

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Description

CROSS REFERENCE TO RELATED APPLICATION

[0001] The present application claims priority of Korean Patent Application No. 10-2021-0054833 filed on April 28, 2021; Korean Patent Application No. 10-2021-0152926 filed on April 28, 2021; Korean Patent Application No. 10-2021-0152925 filed on November 9, 2021, the entire contents of which is incorporated herein for all purposes by this reference.

BACKGROUND OF THE DISCLOSURE

Field of the Disclosure

[0002] The present disclosure relates to an awning for a vehicle.

Description of the Related Art

[0003] In general, an awning serves as a tent, a sun shelter, a weatherproof tent, and the like. Recently, various types of awnings for vehicles have been developed, which may be installed more conveniently by using vehicles.

[0004] An awning for a vehicle in the related art has a structure installed on a roof of the vehicle by using the vehicle as a part of a support. For example, the awning for a vehicle may be installed on a roof rack of the vehicle and fixed by poles standing in a state in which the awning is unfolded when the awning is used.

[0005] Meanwhile, there is a tendency that as a region that the awning may cover increases, an overall size of the awning increases in proportion to the increase in region covered by the awning. Various leisure items need to be loaded into a limited space in the vehicle to allow a user to perform leisure activities. For this reason, various leisure items are loaded onto the roof of the vehicle. However, there is a problem in that it is difficult to load other leisure items because of a volume occupied by the awning.

[0006] Accordingly, there is a need for the development of an awning for a vehicle, which is capable of covering a sufficient region, being minimized in size when stored, and being easily installed on the vehicle or the like.

SUMMARY OF THE DISCLOSURE

[0007] An object of the present disclosure is to provide an awning for a vehicle, which is capable of being easily accommodated and minimized in volume when stored.

[0008] Another object of the present disclosure is to provide an awning for a vehicle, which may be easily installed on a fixing object such as a vehicle.

[0009] An embodiment of the present disclosure provides an awning for a vehicle, the awning including: a housing including an openable/closable internal space; a first pole assembly rotatably coupled to one side of the housing; a second pole assembly rotatably coupled to the other side of the housing; and a sun shelter configured to cover an upper surface of the first pole assembly and an upper surface of the second pole assembly, in which the first pole assembly, the second pole assembly, and the sun shelter are selectively accommodated in the housing or unfolded by rotating to the outside of the housing.

[0010] Another embodiment of the present disclosure provides an awning for a vehicle, the awning including: a housing including an openable/closable internal space; and a bracket module detachably provided on one surface of the housing and configured to fix the housing to a fixing object, in which the bracket module includes: a first fixing bracket slidably inserted into one surface of the housing and fixed to a predetermined position; a second fixing bracket including a first fixing part detachably fixed to one surface of the first fixing bracket, and a first bent part bent and extending from one end of the first fixing part and detachably fastened to the fixing object; and a third fixing bracket including a second fixing part detachably coupled to one surface of the first fixing bracket, and a second bent part bent and extending from one end of the second fixing part and configured to come into contact with one surface of the first bent part.

[0011] Still another embodiment of the present disclosure provides an awning for a vehicle, the awning including: a housing including an openable/closable internal space; and a bracket module detachably provided on one surface of the housing and configured to fix the housing to a fixing object, in which the housing includes: a body connected to the bracket module and including an internal space; a first door rotatably coupled to an upper end of the body; and second doors rotatably coupled to two opposite ends of the body, in which the internal space of the body is exposed to the outside or closed as the first door and the second door rotate, and in which the bracket module includes: a first fixing bracket slidably inserted into one surface of the housing and fixed to a predetermined position; a second fixing bracket including a first fixing part detachably fixed to one surface of the first fixing bracket, and a first bent part bent and extending from one end of the first fixing part and detachably fastened to the fixing object; and a third fixing bracket including a second fixing part detachably coupled to one surface of the first fixing bracket, and a second bent part bent and extending from one end of the second fixing part and configured to come into contact with one surface of the first bent part.

[0012] The awning for a vehicle according to the embodiment of the present disclosure may be easily installed on the fixing object such as the vehicle.

[0013] In addition, the awning for a vehicle according to the embodiment of the present disclosure may be easily accommodated and minimized in volume when stored.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014]

FIG. 1 is a schematic perspective view of an awning for a vehicle according to an embodiment of the present disclosure.

FIG. 2 is a schematic perspective view illustrating a state in which the awning for a vehicle illustrated in FIG. 1 is unfolded.

FIG. 3 is a schematic bottom perspective view of the awning for a vehicle illustrated in FIG. 2.

FIG. 4 is an enlarged view of part A in FIG. 1.

FIG. 5 is an enlarged view of part B in FIG. 1.

FIG. 6 is an enlarged view of part C in FIG. 2.

FIG. 7 is a side view of FIG. 6.

FIG. 8 is a partially exploded view of FIG. 6.

FIG. 9 is an enlarged view of part D in FIG. 3.

FIG. 10 is a partially exploded view of FIG. 9.

FIG. 11 is a partial perspective view illustrating a state in which a first door is removed from the awning for a vehicle in FIG. 1.

FIG. 12 is an enlarged view of part E in FIG. 3.

FIG. 13 is a partially exploded view of FIG. 12.

FIG. 14 is an enlarged view of part F in FIG. 3.

FIG. 15 is a schematic perspective view of an awning for a vehicle according to another embodiment of the present disclosure.

FIG. 16 is a schematic perspective view of the awning for a vehicle when viewed at an angle different from an angle in FIG. 15.

FIG. 17 is a schematic perspective view illustrating a state in which a bracket module is separated from the awning for a vehicle in FIG. 15.

FIG. 18 is a schematic perspective view illustrating a state in which the awning for a vehicle in FIG. 15 is unfolded.

FIG. 19 is a schematic bottom perspective view of the awning illustrated in FIG. 18.

FIG. 20 is an enlarged view of part A in FIG. 15.

FIG. 21 is an enlarged view of part B in FIG. 15.

FIG. 22 is an enlarged view of part C in FIG. 18.

FIG. 23 is a side view of FIG. 22.

FIG. 24 is a partially exploded view of FIG. 22.

FIG. 25 is an enlarged view of part D in FIG. 19.

FIG. 26 is a partially exploded view of FIG. 25.

FIG. 27 is a partial perspective view illustrating a state in which a first door is removed from the awning for a vehicle in FIG. 15.

FIG. 28 is an enlarged view of part E in FIG. 19.

FIG. 29 is a partially exploded view of FIG. 28.

FIG. 30 is an enlarged view of part F in FIG. 19.

FIG. 31 is a schematic exploded perspective view of a bracket module in FIG. 15.

FIG. 32 is a schematic exploded side view of the bracket module in FIG. 15.

FIG. 33 is a schematic side view illustrating a state in which a housing and the bracket module are separated in the awning for a vehicle in FIG. 15.

FIG. 34 is a schematic cross-sectional view taken along line G-G' in FIG. 15.

FIG. 35 is a schematic partial perspective view of the awning for a vehicle in FIG. 15.

FIG. 36 is a perspective view illustrating a state in which the awning for a vehicle in FIG. 15 is installed on a roof rack of a vehicle.

DETAILED DESCRIPTION OF THE DISCLOSURE

[0015] Hereinafter, specific embodiments for implementing the spirit of the present disclosure will be described in detail with reference to the drawings.

[0016] In addition, in the description of the present disclosure, the specific descriptions of publicly known related configurations or functions will be omitted when it is determined that the specific descriptions may obscure the subject matter of the present disclosure.

[0017] In addition, when one constituent element is described as being "connected to," "supported by," or "in contact with" another constituent element, it should be understood that one constituent element can be connect-

ed directly to, supported directly by, or in direct contact with another constituent element, and an intervening constituent element can also be present between the constituent elements.

[0018] The terms used in the present specification are used only for the purpose of describing particular embodiments and are not intended to limit the present disclosure. Singular expressions include plural expressions unless clearly described as different meanings in the context.

[0019] In addition, it is noted in advance that in the present specification, the terms "upper side," "lower side," "lateral side," and the like are explained based on the illustration in the drawings and may be differently expressed when the directions of the corresponding objects are changed. For the same reason, some constituent elements in the accompanying drawings are illustrated in an exaggerated or schematic form or are omitted, and a size of each constituent element does not entirely reflect an actual size.

[0020] In addition, the terms including ordinal numbers such as "first," "second," and the like may be used to describe various constituent elements, but the constituent elements are not limited by the terms. These terms are used only to distinguish one constituent element from another constituent element.

[0021] The terms "comprises" and/or "comprising" used in the specification specify particular features, regions, integers, steps, operations, elements, and/or components, but do not exclude the presence or addition of other particular features, regions integers, steps, operations, elements, components, and/or groups thereof.

[0022] FIG. 1 is a schematic perspective view of an awning for a vehicle according to an embodiment of the present disclosure, FIG. 2 is a schematic perspective view illustrating a state in which the awning for a vehicle according to the embodiment of the present disclosure is unfolded, and FIG. 3 is a schematic bottom perspective view of the awning illustrated in FIG. 2.

[0023] Referring to FIGS. 1 to 3, an awning 1 for a vehicle according to an embodiment of the present disclosure may include a housing 100 including an openable/closable internal space S (see FIG. 7), a first pole assembly 200 rotatably coupled to one side of the housing 100, a second pole assembly 300 rotatably coupled to the other side of the housing 100, and a sun shelter 400 configured to cover an upper surface of the first pole assembly 200 and an upper surface of the second pole assembly 300.

[0024] The awning 1 for a vehicle according to the embodiment of the present disclosure may have a stored mode (see FIG. 1) and an unfolded mode (see FIG. 2). The stored mode may mean a state in which the first pole assembly 200, the second pole assembly 300, and the sun shelter 400 are accommodated in the housing 100. The unfolded mode may mean a state in which the first pole assembly 200, the second pole assembly 300, and the sun shelter 400 are unfolded and exposed to the outside of the housing 100.

[0025] The housing 100 may be manufactured by using a material such as metal or resin having predetermined rigidity and have a column shape including the internal space S. For example, the housing 100 may be made of aluminum and have a quadrangular column shape.

[0026] For example, the housing 100 may include: a body 110 including the internal space S and having one surface on which vehicle fixing brackets 10 configured to be installed on a vehicle are provided; a first door 120 rotatably coupled to an upper end of the body 110; and second doors 130 rotatably coupled to two opposite ends of the body 110.

[0027] The vehicle fixing brackets 10 may be provided to bind the awning 1 for a vehicle to the vehicle. For example, the vehicle fixing brackets 10 may be coupled to a roof of the vehicle. In this case, a separate structure such as a roof rack may be installed on the roof of the vehicle, and the vehicle fixing bracket 10 may be connected to the structure.

[0028] The body 110 may include the internal space S. In the stored mode, the first pole assembly 200, the second pole assembly 300, and the sun shelter 400 may be accommodated in the internal space S of the body 110. For example, the body 110 may be provided as a structure having a longitudinal cross-section having a 'ㄴ' shape. In this case, the terms related to the directions are defined. A longitudinal direction may mean an x-axis direction based on FIG. 1, a width direction may mean a y-axis direction based on FIG. 1, and a thickness direction may mean a z-axis direction based on FIG. 1.

[0029] The first door 120 may be rotatably connected to an upper end of the body 110. One end of the first door 120 may be coupled to the body 110 by means of hinges 121. In case that the first door 120 is coupled to the body 110, the body 110 and the first door 120 may define the column shape having the internal space S and opened overall at two opposite ends thereof. The first door 120 may selectively open or close a front side of the body 110.

[0030] The second doors 130 may be rotatably connected to the two opposite ends of the body 110. The second doors 130 may selectively open or close the two opposite surfaces of the body 110.

[0031] The first pole assembly 200 may be rotatably provided at one side of the housing 100. The first pole assembly 200 may rotate to be accommodated in the internal space S of the housing 100 (stored mode) or exposed to the outside of the housing 100 (unfolded mode). The first pole assembly 200 may include a first pole 220. The first pole 220 may include a first horizontal rod 221, a first vertical rod 222 rotatably connected to an end of the first horizontal rod 221, and a first auxiliary vertical rod 223 slidably connected to the first vertical rod 222. The first vertical rod 222 may rotate to be inserted into the first horizontal rod 221. The first auxiliary vertical rod 223 may slide to be inserted into the first vertical rod 222.

[0032] The second pole assembly 300 may be rotatably provided at the other side of the housing 100. The second pole assembly 300 may rotate to be accommodated in the internal space S of the housing 100 (stored mode) or exposed to the outside of the housing 100 (unfolded mode). The second pole assembly 300 may include a second pole 310. The second pole 310 may be similar in structure to the first pole 220. For example, the second pole 310 may include a second horizontal rod 311, a second vertical rod 312 rotatably connected to an end of the second horizontal rod 311, and a second auxiliary vertical rod 313 slidably connected to the second vertical rod 312. The second vertical rod 312 may rotate to be inserted into the second horizontal rod 311. The second auxiliary vertical rod 313 may slide to be inserted into the second vertical rod 312.

[0033] FIG. 4 is an enlarged view of part A in FIG. 1. Referring to FIG. 4, the other end of the first door 120 may be detachably fastened to a bottom surface of the body 110. An opening/closing device 112 may be provided on the first door 120 and the body 110. For example, a hook device 112a may be provided on the first door 120, and a catching device 112b may be provided on the bottom surface of the body 110. The first door 120 may selectively open or close the internal space S of the body 110 as the hook device 112a is fastened to the catching device 112b by being caught by the catching device 112b or separated from the catching device 112b. However, the configuration of the catching device and the configuration of the hook device may be substituted with various configurations commonly used in the art as long as the configuration of the catching device and the configuration of the hook device provide the structure capable of fastening the first door 120 to the body 110 so that the first door 120 is detachable.

[0034] FIG. 5 is an enlarged view of part B in FIG. 1, FIG. 6 is an enlarged view of part C in FIG. 2, and FIG. 7 is a side view of FIG. 6.

[0035] Referring to FIGS. 5 to 7, the second doors 130 may be rotatably connected to the two opposite ends of the body 110. The second doors 130 may be configured to selectively open or close the two opposite ends of the housing 100. For example, the second doors 130 may be rotatably connected to the bottom surfaces at the two opposite ends of the body 110. Fastening protrusions 131 may be provided on an outer peripheral surface of the second door 130. The fastening protrusions 131 may be inserted into or separated from first fastening holes 110a provided at the two opposite ends of the body 110 and second fastening holes 120a provided at the two opposite ends of the first door 120. In other words, in case of the stored mode, the second doors 130 may close lateral sides of the housing 100 in the state in which the fastening protrusions 131 are inserted into the first fastening holes 110a and the second fastening holes 120a. In the case of the unfolded mode, the fastening protrusions 131 may be separated from the first fastening holes 110a and the second fastening holes 120a, and the door 130 may rotate downward. That is, in the unfolded mode, the first door 120 may rotate upward to open the front side of the housing 100, and the second door 130 may rotate downward to open the lateral sides of the housing 100.

[0036] FIG. 8 is a partially exploded view of FIG. 6. Referring further to FIG. 8, the first pole assembly 200 may include a first bracket 210 fixedly installed on an inner surface of the housing 100, and the first pole 220 rotatably connected to the first bracket 210 and configured to rotate to be accommodated in the housing 100 or exposed to the outside of the housing 100.

[0037] The first bracket 210 may be configured to support the first pole 220 and fix the first pole 220 to the inner surface of the housing 100, more specifically, to an inner surface of the body 110.

[0038] The first bracket 210 may include a first fixing piece 211 coupled to the inner surface of the body 110, a first bracket outer casing 212 seated on and coupled to an upper surface of the first fixing piece 211, first bracket inner casings 213 coupled to an upper inner surface and a lower inner surface of the first bracket outer casing 212, and a first stopper 214 configured to restrict a rotation angle of the first pole 220.

[0039] An end of the first horizontal rod 221 of the first pole 220 may be rotatably connected to the first bracket 210 by means of a first rotary hinge 221a. In the unfolded mode, the first horizontal rod 221 may rotate by means of the first rotary hinge 221a. In this case, a rotation radius of the first horizontal rod 221 may be adjusted by the first stopper 214. In other words, the first horizontal rod 221 may rotate until the first horizontal rod 221 comes into contact with the first stopper 214. The rotation of the first horizontal rod 221 may be restricted after the first horizontal rod 221 comes into contact with the first stopper 214.

[0040] FIG. 9 is an enlarged view of part D in FIG. 3, FIG. 10 is a partially exploded view of FIG. 9, and FIG. 11 is a partial perspective view illustrating a state in which the first door is removed from the awning for a vehicle according to the embodiment of the present disclosure.

[0041] Referring to FIGS. 9 to 11, the second pole assembly 300 may include a second bracket 350 fixedly installed on the inner surface of the housing 100, and one or more second poles 310, 320, and 330 rotatably connected to the second bracket 350 and configured to rotate to be accommodated in the housing 100 or exposed to the outside of the housing 100.

[0042] In case that the second poles 310, 320, and 330 are provided as a plurality of second poles 310, 320, and 330, the plurality of second poles 310, 320, and 330 may have the same shape. Therefore, for convenience of description, a configuration of the second pole, which is designated by reference numeral '310' among the second poles, will be described below.

[0043] The second bracket 350 may be configured to support the second pole 310 and fix the second pole 310 to the inner surface of the housing 100, more specifically,

to the inner surface of the body 110.

[0044] For example, the second bracket 350 may include a second fixing piece 351 coupled to the inner surface of the body 110, a second bracket outer casing 352 seated on and coupled to an upper surface of the second fixing piece 351, and second bracket inner casings 353 coupled to an upper inner surface and a lower inner surface of the second bracket outer casing 352.

[0045] The second pole 310 may be rotatably connected to the second bracket 350. For example, the second pole 310 may be rotatably connected to the second bracket 350 by means of a second rotary hinge 31 0a. Meanwhile, in case that the second pole 310 is provided as a plurality of second poles, the second rotary hinge may also be provided as a plurality of second rotary hinges 310a, 320a, and 330a, and the plurality of second rotary hinges 31 0a, 320a, and 330a may respectively have inherent rotation axes C2, C3, and C4. In this case, the rotation axes C2, C3, and C4 may be disposed in parallel with one another and spaced apart from one another at predetermined distances in a width direction of the housing 100. Because the rotation axes C2, C3, and C4 are disposed to be spaced apart from one another at predetermined distances in the width direction as described above, the plurality of second poles 310, 320, and 330 may be accommodated in the housing 100 without interfering with one another in the stored mode.

[0046] Furthermore, the rotation axes C2, C3, and C4 of the second rotary hinges 310a, 320a, and 330a may also be disposed in parallel with a rotation axis C1 of the first rotary hinge 221a of the first pole 220 and spaced apart from the rotation axis C1 at predetermined distances in the width direction of the housing 100.

[0047] Therefore, when the first pole 220 and the second pole 310 are accommodated in the housing 100, the first pole 220 and the second pole 310 may be accommodated side by side in the housing 100 without interfering with each other.

[0048] Meanwhile, an auxiliary pole 340 may be rotatably provided on at least one of the plurality of second poles 310, 320, and 330. For example, the auxiliary pole 340 may be rotatably and hingedly coupled to the second pole 330 disposed at an outermost side among the plurality of second poles 310, 320, and 330.

[0049] FIG. 12 is an enlarged view of part E in FIG. 3, FIG. 13 is a partially exploded view of FIG. 12, and FIG. 14 is an enlarged view of part F in FIG. 3.

[0050] Referring to FIGS. 12 to 14, in the awning 1 for a vehicle according to the embodiment of the present disclosure, the first pole 220 may include: the first horizontal rod 221 having a first vertical rod accommodation groove 221b therein and having one end connected to the first bracket 210 so as to be rotatable in a horizontal direction; the first vertical rod 222 connected to the other end of the first horizontal rod 221 so as to be rotatable in a vertical direction and having a first auxiliary vertical rod accommodation groove 222b therein, the first vertical rod 222 being configured to rotate to be accommodated in the first vertical rod accommodation groove 221b or exposed to the outside of the first horizontal rod 221; and the first auxiliary vertical rod 223 slidably connected to the first vertical rod 222 and configured to slide such that a length of the first auxiliary vertical rod 223 accommodated in the first auxiliary vertical rod accommodation groove 222b is adjusted.

[0051] The first horizontal rod 221 may be rotatably connected to the first bracket 210 and rotate in the horizontal direction. In this case, the horizontal direction may mean a direction in which the first horizontal rod 221 rotates in parallel with a x-y plane based on FIG. 1.

[0052] The first vertical rod 222 may be provided at the other end of the first horizontal rod 221 so as to be rotatable in the vertical direction. To this end, a hinge part 222a may be formed at an end of the first vertical rod 222. In the stored mode, the first vertical rod 222 may rotate upward to be accommodated in the first vertical rod accommodation groove 221b.

[0053] The first auxiliary vertical rod 223 may be slidably provided on the first vertical rod 222. For example, the first auxiliary vertical rod 223 may slide in a longitudinal direction of the first vertical rod 222 in a state in which at least a part of the first auxiliary vertical rod 223 is inserted into the first auxiliary vertical rod accommodation groove 222b of the first vertical rod 222. The first auxiliary vertical rod 223 may include a fixing dial 223a. The fixing dial 223a may rotate in one direction to bind the first auxiliary vertical rod 223 to the first vertical rod 222 or rotate in the other direction to allow the first auxiliary vertical rod 223 to be slidable.

[0054] Meanwhile, the second pole 310 may include: the second horizontal rod 311 having a second vertical rod accommodation groove therein and having one end rotatably connected to the second bracket 350; the second vertical rod 312 connected to the other end of the second horizontal rod 311 so as to be rotatable in the vertical direction and having a second auxiliary vertical rod accommodation groove therein, the second vertical rod 312 being configured to rotate to be accommodated in the second vertical rod accommodation groove or exposed to the outside of the second horizontal rod 311; and the second auxiliary vertical rod 313 slidably connected to the second vertical rod 312 and configured to slide such that a length of the second auxiliary vertical rod 313 accommodated in the second auxiliary vertical rod accommodation groove is adjusted. In other words, the second pole 310 included in the second pole assembly 300 may have the same structure as the first pole 220. Therefore, the repetitive descriptions of the identical configurations will be omitted, and the descriptions of the identical configurations will be replaced with the above-mentioned description.

[0055] The awning 1 for a vehicle according to the embodiment of the present disclosure includes the housing 100 having a thin column shape, which makes it possible to minimize a volume occupied when the awning 1 is loaded onto the vehicle.

[0056] In addition, the first pole 220 and the second pole 310 are rotatably provided, and the rotation axes of the first and second poles 220 and 310 are spaced apart from each other at a predetermined distance in the width direction of the housing, such that the first pole 220 and the second pole 310 may rotate without interfering with each other, which makes it possible to improve spatial utilization.

[0057] Hereinafter, an awning for a vehicle according to another embodiment of the present disclosure will be described with reference to FIGS. 15 to 36.

[0058] FIG. 15 is a schematic perspective view of the awning for a vehicle according to the embodiment of the present disclosure, FIG. 16 is a schematic perspective view of the awning for a vehicle when viewed at an angle different from an angle in FIG. 15, FIG. 17 is a schematic perspective view illustrating a state in which a bracket module is separated from the awning for a vehicle in FIG. 15, FIG. 18 is a schematic perspective view illustrating a state in which the awning for a vehicle in FIG. 15 is unfolded, and FIG. 19 is a schematic bottom perspective view of the awning illustrated in FIG. 18.

[0059] Referring to FIGS. 15 to 19, an awning 1' for a vehicle according to an embodiment of the present disclosure may include a housing 100 including an openable/closable internal space S (see FIG. 23), a first pole assembly 200 rotatably coupled to one side of the housing 100, a second pole assembly 300 rotatably coupled to the other side of the housing 100, a sun shelter 400 configured to cover an upper surface of the first pole assembly 200 and an upper surface of the second pole assembly, and bracket modules 500 detachably provided on one surface of the housing 100 and configured to fix the housing 100 to a fixing object R (see FIG. 36) such as a roof rack of a vehicle.

[0060] The awning 1' for a vehicle according to the embodiment of the present disclosure may have a stored mode (see FIG. 15) and an unfolded mode (see FIG. 19). The stored mode may mean a state in which the first pole assembly 200, the second pole assembly 300, and the sun shelter 400 are accommodated in the housing 100. The unfolded mode may mean a state in which the first pole assembly 200, the second pole assembly 300, and the sun shelter 400 are unfolded and exposed to the outside of the housing 100.

[0061] The housing 100 may be manufactured by using a material such as metal or resin having predetermined rigidity and have a column shape including the internal space S. For example, the housing 100 may be made of aluminum and have a quadrangular column shape.

[0062] For example, the housing 100 may include: a body 110 including the internal space S and having one surface to which the bracket modules 500 installed on the fixing object such as the roof of the vehicle are connected; a first door 120 rotatably coupled to an upper end of the body 110; and second doors 130 rotatably coupled to two opposite ends of the body 110. The internal space of the body 110 may be exposed to the outside or closed as the first door 120 and the second door 130 rotate.

[0063] The body 110 may include the internal space S. In the stored mode, the first pole assembly 200, the second pole assembly 300, and the sun shelter 400 may be accommodated in the internal space S of the body 110. For example, the body 110 may be provided as a structure having a longitudinal cross-section having a '⌊' shape. In this case, the terms related to the directions are defined. A longitudinal direction may mean an x-axis direction based on FIG. 15, a width direction may mean a y-axis direction based on FIG. 15, and a thickness direction may mean a z-axis direction based on FIG. 15.

[0064] The first door 120 may be rotatably connected to an upper end of the body 110. One end of the first door 120 may be coupled to the body 110 by means of hinges 121. In case that the first door 120 is coupled to the body 110, the body 110 and the first door 120 may define the column shape having the internal space S and opened overall at two opposite ends thereof. The first door 120 may open or close a front side of the body 110.

[0065] The second doors 130 may be rotatably connected to the two opposite ends of the body 110. The second doors 130 may selectively open or close the two opposite surfaces of the body 110.

[0066] The one or more bracket modules 500 may be connected to one surface of the body 110. For example, a bracket guide slit 111b may be formed in one surface of the body 110. The bracket module 500 may be coupled to one surface of the body 110 while sliding along the bracket guide slit 111b, and may be then coupled to a predetermined position. In addition, a seating protrusion 111a (see FIG. 34) may be provided at a lower end of one surface of the body 110 and seated on and caught by the bracket module 500. A detailed configuration of the bracket module 500 will be described below.

[0067] The first pole assembly 200 may be rotatably provided at one side of the housing 100. The first pole assembly 200 may rotate to be accommodated in the internal space S of the housing 100 (stored mode) or exposed to the outside of the housing 100 (unfolded mode). The first pole assembly 200 may include a first pole 220. The first pole 220 may include a first horizontal rod 221, a first vertical rod 222 rotatably connected to an end of the first horizontal rod 221, and a first auxiliary vertical rod 223 slidably connected to the first vertical rod 222. The first vertical rod 222 may rotate to be inserted into the first horizontal rod 221. The first auxiliary vertical rod 223 may slide to be inserted into the first vertical rod 222.

[0068] The second pole assembly 300 may be rotatably provided at the other side of the housing 100. The second pole assembly 300 may rotate to be accommodated in the internal space S of the housing 100 (stored mode) or exposed to the outside of the housing 100 (unfolded mode). The second pole assembly 300 may include a second pole 310. The second pole 310 may be similar in structure to the first pole 220. For example, the

second pole 310 may include a second horizontal rod 311, a second vertical rod 312 rotatably connected to an end of the second horizontal rod 311, and a second auxiliary vertical rod 313 slidably connected to the second vertical rod 312. The second vertical rod 312 may rotate to be inserted into the second horizontal rod 311. The second auxiliary vertical rod 313 may slide to be inserted into the second vertical rod 312.

[0069] FIG. 20 is an enlarged view of part A in FIG. 15. Referring to FIG. 20, the other end of the first door 120 may be detachably fastened to a bottom surface of the body 110. An opening/closing device 112 may be provided on the first door 120 and the body 110. For example, a hook device 112a may be provided on the first door 120, and a catching device 112b may be provided on the bottom surface of the body 110. The first door 120 may open or close the internal space S of the body 110 as the hook device 112a is fastened to the catching device 112b by being caught by the catching device 112b or separated from the catching device 112b. However, the configuration of the catching device and the configuration of the hook device may be substituted with various configurations commonly used in the art as long as the configuration of the catching device and the configuration of the hook device provide the structure capable of fastening the first door 120 to the body 110 so that the first door 120 is detachable.

[0070] FIG. 21 is an enlarged view of part B in FIG. 15, FIG. 22 is an enlarged view of part C in FIG. 18, and FIG. 23 is a side view of FIG. 22.

[0071] Referring to FIGS. 21 to 23, the second doors 130 may be rotatably connected to the two opposite ends of the body 110. The second doors 130 may be configured to open or close the two opposite ends of the housing 100. For example, the second doors 130 may be rotatably connected to the bottom surfaces at the two opposite ends of the body 110. Fastening protrusions 131 may be provided on an outer peripheral surface of the second door 130. The fastening protrusions 131 may be inserted into or separated from first fastening holes 110a provided at the two opposite ends of the body 110 and second fastening holes 120a provided at the two opposite ends of the first door 120. In other words, in case of the stored mode, the second doors 130 may close lateral sides of the housing 100 in the state in which the fastening protrusions 131 are inserted into the first fastening holes 110a and the second fastening holes 120a. In the case of the unfolded mode, the fastening protrusions 131 may be separated from the first fastening holes 110a and the second fastening holes 120a, and the second door 130 may rotate downward. That is, in the unfolded mode, the first door 120 may rotate upward to open the front side of the housing 100, and the second door 130 may rotate downward to open the lateral sides of the housing 100.

[0072] FIG. 24 is a partially exploded view of FIG. 22. Referring further to FIG. 24, the first pole assembly 200 may include a first bracket 210 fixedly installed on an inner surface of the housing 100, and the first pole 220 rotatably connected to the first bracket 210 and configured to rotate to be accommodated in the housing 100 or exposed to the outside of the housing 100.

[0073] The first bracket 210 may be configured to support the first pole 220 and fix the first pole 220 to the inner surface of the housing 100, more specifically, to an inner surface of the body 110.

[0074] The first bracket 210 may include a first fixing piece 211 coupled to the inner surface of the body 110, a first bracket outer casing 212 seated on and coupled to an upper surface of the first fixing piece 211, first bracket inner casings 213 coupled to an upper inner surface and a lower inner surface of the first bracket outer casing 212, and a first stopper 214 configured to restrict a rotation angle of the first pole 220.

[0075] An end of the first horizontal rod 221 of the first pole 220 may be rotatably connected to the first bracket 210 by means of a first rotary hinge 221a. In the unfolded mode, the first horizontal rod 221 may rotate by means of the first rotary hinge 221a. In this case, a rotation radius of the first horizontal rod 221 may be adjusted by the first stopper 214. In other words, the first horizontal rod 221 may rotate until the first horizontal rod 221 comes into contact with the first stopper 214. The rotation of the first horizontal rod 221 may be restricted after the first horizontal rod 221 comes into contact with the first stopper 214.

[0076] FIG. 25 is an enlarged view of part D in FIG. 19, FIG. 26 is a partially exploded view of FIG. 25, and FIG. 27 is a partial perspective view illustrating a state in which the first door is removed from the awning for a vehicle in FIG. 15.

[0077] Referring to FIGS. 25 to 27, the second pole assembly 300 may include a second bracket 350 fixedly installed on the inner surface of the housing 100, and one or more second poles 310, 320, and 330 rotatably connected to the second bracket 350 and configured to rotate to be accommodated in the housing 100 or exposed to the outside of the housing 100.

[0078] In case that the second poles 310, 320, and 330 are provided as a plurality of second poles 310, 320, and 330, the plurality of second poles 310, 320, and 330 may have the same structure. In this case, the plurality of second poles 310, 320, and 330 may have the same structure, but overall lengths of the plurality of second poles 310, 320, and 330 may be equal to or different from one another.

[0079] Therefore, for convenience of description, a configuration of the second pole, which is designated by reference numeral '310' among the second poles, will be described below.

[0080] The second bracket 350 may be configured to support the second pole 310 and fix the second pole 310 to the inner surface of the housing 100, more specifically, to the inner surface of the body 110.

[0081] For example, the second bracket 350 may include a second fixing piece 351 coupled to the inner surface of the body 110, a second bracket outer casing 352

seated on and coupled to an upper surface of the second fixing piece 351, and second bracket inner casings 353 coupled to an upper inner surface and a lower inner surface of the second bracket outer casing 352.

[0082] The second pole 310 may be rotatably connected to the second bracket 350. For example, the second pole 310 may be rotatably connected to the second bracket 350 by means of a second rotary hinge 310a. Meanwhile, in case that the second pole 310 is provided as a plurality of second poles, the second rotary hinge may also be provided as a plurality of second rotary hinges 310a, 320a, and 330a, and the plurality of second rotary hinges 310a, 320a, and 330a may respectively have inherent rotation axes C2, C3, and C4. In this case, the rotation axes C2, C3, and C4 may be disposed in parallel with one another and spaced apart from one another at predetermined distances in a width direction of the housing 100. Because the rotation axes C2, C3, and C4 are disposed to be spaced apart from one another at predetermined distances in the width direction as described above, the plurality of second poles 310, 320, and 330 may be accommodated in the housing 100 without interfering with one another in the stored mode.

[0083] Furthermore, the rotation axes C2, C3, and C4 of the second rotary hinges 310a, 320a, and 330a may also be disposed in parallel with a rotation axis C1 of the first rotary hinge 221a of the first pole 220 and spaced apart from the rotation axis C1 at predetermined distances in the width direction of the housing 100.

[0084] Therefore, when the first pole 220 and the second pole 310 are accommodated in the housing 100, the first pole 220 and the second pole 310 may be accommodated side by side in the housing 100 without interfering with each other.

[0085] Meanwhile, an auxiliary pole 340 may be rotatably provided on at least one of the plurality of second poles 310, 320, and 330. For example, the auxiliary pole 340 may be rotatably and hingedly coupled to the second pole 330 disposed at an outermost side among the plurality of second poles 310, 320, and 330.

[0086] FIG. 28 is an enlarged view of part E in FIG. 19, FIG. 29 is a partially exploded view of FIG. 28, and FIG. 30 is an enlarged view of part F in FIG. 19.

[0087] Referring to FIGS. 28 to 30, the first pole 220 may include: the first horizontal rod 221 having a first vertical rod accommodation groove 221b therein and having one end connected to the first bracket 210 so as to be rotatable in a horizontal direction; the first vertical rod 222 connected to the other end of the first horizontal rod 221 so as to be rotatable in a vertical direction and having a first auxiliary vertical rod accommodation groove 222b therein, the first vertical rod 222 being configured to rotate to be accommodated in the first vertical rod accommodation groove 221b or exposed to the outside of the first horizontal rod 221; and the first auxiliary vertical rod 223 slidably connected to the first vertical rod 222 and configured to slide such that a length of the first auxiliary vertical rod 223 accommodated in the first auxiliary vertical rod accommodation groove 222b is adjusted.

[0088] The first horizontal rod 221 may be rotatably connected to the first bracket 210 and rotate in the horizontal direction. In this case, the horizontal direction may mean a direction in which the first horizontal rod 221 rotates in parallel with a x-y plane based on FIG. 15.

[0089] The first vertical rod 222 may be provided at the other end of the first horizontal rod 221 so as to be rotatable in the vertical direction. To this end, a hinge part 222a may be formed at an end of the first vertical rod 222. In the stored mode, the first vertical rod 222 may rotate upward to be accommodated in the first vertical rod accommodation groove 221b.

[0090] The first auxiliary vertical rod 223 may be slidably provided on the first vertical rod 222. For example, the first auxiliary vertical rod 223 may slide in a longitudinal direction of the first vertical rod 222 in a state in which at least a part of the first auxiliary vertical rod 223 is inserted into the first auxiliary vertical rod accommodation groove 222b of the first vertical rod 222. The first auxiliary vertical rod 223 may include a fixing dial 223a. The fixing dial 223a may rotate in one direction to bind the first auxiliary vertical rod 223 to the first vertical rod 222 or rotate in the other direction to allow the first auxiliary vertical rod 223 to be slidable.

[0091] Meanwhile, the second pole 310 may include: the second horizontal rod 311 having a second vertical rod accommodation groove therein and having one end rotatably connected to the second bracket 350; the second vertical rod 312 connected to the other end of the second horizontal rod 311 so as to be rotatable in the vertical direction and having a second auxiliary vertical rod accommodation groove therein, the second vertical rod 312 being configured to rotate to be accommodated in the second vertical rod accommodation groove or exposed to the outside of the second horizontal rod 311; and the second auxiliary vertical rod 313 slidably connected to the second vertical rod 312 and configured to slide such that a length of the second auxiliary vertical rod 313 accommodated in the second auxiliary vertical rod accommodation groove is adjusted. In other words, the second pole 310 included in the second pole assembly 300 may have the same structure as the first pole 220. Therefore, the repetitive descriptions of the identical configurations will be omitted, and the descriptions of the identical configurations will be replaced with the above-mentioned description.

[0092] FIG. 31 is a schematic exploded perspective view of the bracket module in FIG. 15, FIG. 32 is a schematic exploded side view of the bracket module in FIG. 15, FIG. 33 is a schematic side view illustrating a state in which the housing and the bracket module are separated in the awning for a vehicle in FIG. 15, and FIG. 34 is a schematic cross-sectional view actual G-G' in FIG. 15.

[0093] The bracket module 500 may be provided on one surface of the housing 100. The bracket module 500

may connect the housing 100 to the fixing object such as the roof rack of the vehicle.

[0094] For example, the bracket module 500 may include: a first fixing bracket 510 slidably inserted into one surface of the housing 100 and fixed to a predetermined position; a second fixing bracket 520 including a first fixing part 521 detachably fixed to one surface of the first fixing bracket 510 and a first bent part 522 bent and extending from one end of the first fixing part 521 and detachably fastened to the fixing object; and a third fixing bracket 530 including a second fixing part 531 detachably coupled to one surface of the first fixing bracket 510 and a second bent part 532 bent and extending from one end of the second fixing part 531 and configured to come into contact with one surface of the first bent part 522.

[0095] The first fixing bracket 510 may be coupled to the housing 100, more specifically, to one surface of the body 110 while sliding, and may be fixed to a predetermined position after sliding and being coupled. To this end, the bracket guide slit 111b may be provided in one surface of the body 110. For example, the first fixing bracket 510 may be fixed to one surface of the body 110 by means of fastening means 540. In this case, the fastening means 540 may include a bolt 541 and a nut 542. A head of the bolt 541 may be inserted into the bracket guide slit 111b of the housing 100 and slide. When the bolt 541 moves along the bracket guide slit 111b and reaches a predetermined position, the bolt 541 and the nut 542 may be fastened, such that the first fixing bracket 510 may be fixed to the housing 100.

[0096] The fastening means 540 may be connected to an upper end of the first fixing bracket 510. For example, first insertion grooves 513 may be formed at the upper end of the first fixing bracket 510, and the fastening means 540 may penetrate the first insertion grooves 513 and be connected to the housing 100. In this case, one end of the first insertion groove 513 may be opened.

[0097] The first fixing bracket 510 may include at least one spacer 511. The spacer 511 may protrude from one surface of the first fixing bracket 510. A fastening means arrangement space may be defined between the housing 100 and one surface of the first fixing bracket 510 by the spacer 511. The spacer 511 may be formed by attaching a separate structure to the first fixing bracket 510, causing a part of the first fixing bracket 510 to protrude (see 511a), or bending a part of the first fixing bracket 510 (see 511b).

[0098] A housing support rail 512 may protrude from a lower end of one surface of the first fixing bracket 510 that faces the housing 100, and the seating protrusion 111a of the housing 100 may be seated on and caught by the housing support rail 512. The housing support rail 512 may include a groove 512a into which the seating protrusion 111a is inserted.

[0099] The second fixing bracket 520 may be a member connected to the fixing object and include the first fixing part 521 detachably fixed to one surface of the first fixing bracket 510, and the first bent part 522 bent and extending from one end of the first fixing part 521 and detachably fastened to the fixing object. Therefore, the second fixing bracket 520 may have a '¬' shape as a whole. The first bent part 522 may have a relatively longer length than the first fixing part 521 so that the first bent part 522 is easily fastened to the fixing object.

[0100] The second fixing bracket 520 may include a rigidity reinforcing support 523. The rigidity reinforcing support 523 may press the first fixing part 521 and the first bent part 522, thereby preventing the first fixing part 521 and the first bent part 522 from being bent by an external force. The rigidity reinforcing support 523 may be inserted into and coupled to at least one of the first fixing part 521 and the first bent part 522. For example, the rigidity reinforcing support 523 may be inserted into and coupled to a rigidity reinforcing support insertion groove 521a formed in the first fixing part 521.

[0101] Meanwhile, third insertion grooves 521b may be formed at one end of the first fixing part 521 which is not connected to the first bent part 522, and the third insertion grooves 521b may correspond to the first insertion grooves 513. One end of the third insertion groove 521b may be opened. In case that the second fixing bracket 520 is connected to the fixing object, when the vertical arrangement direction of the second fixing bracket 520 and the third fixing bracket 530 needs to be changed (see FIG. 35), as necessary, the fastening means 540 may be penetratively coupled to the third insertion groove 521b and the first insertion groove 513.

[0102] The third fixing bracket 530 may include: the second fixing part 531 detachably coupled to one surface of the first fixing bracket 510; and the second bent part 532 bent and extending from one end of the second fixing part 531 and configured to come into contact with one surface of the first bent part 522. The third fixing bracket 530 may have a '⌊' shape as a whole.

[0103] Second insertion grooves 531a may be formed at one side of the second fixing part 531 of the third fixing bracket 530 and have shapes corresponding to the first insertion grooves 513. The fastening means 540 may penetrate the first insertion groove 513 and the second insertion groove 531a and be connected to the housing 100.

[0104] Hereinafter, a method of installing the housing 100 to the fixing object R by means of the bracket module 500 will be described with reference further to FIG. 36. In this case, an example will be described in which a roof rack provided on an upper portion of the vehicle is used as the fixing object.

[0105] First, it is possible to perform a step of coupling the first fixing bracket 510 and the second fixing bracket 520 by means of fastening means such as screws or the like. In this case, the first fixing bracket 510 and the second fixing bracket 520 may be coupled after the rigidity reinforcing support 523 is coupled to the second fixing bracket 520. Alternatively, the rigidity reinforcing support 523 may be coupled to the second fixing bracket 520 after the first fixing bracket 510 and the second fixing

bracket 520 are coupled.

[0106] Thereafter, it is possible to perform a step of temporarily fixing the second fixing bracket 520 to the roof rack of the vehicle. The step of fixing the second fixing bracket 520 to the roof rack of the vehicle may be performed by using the fastening means such as screws or the like.

[0107] Next, the fastening means 540 may be inserted into the bracket guide slit 111b of the housing 100. In this case, the head of the bolt 541 of the fastening means 540 may be coupled to the bracket guide slit 111b while sliding. The bolt 541 may slide along the bracket guide slit 111b to a predetermined position at which the bracket module 500 needs to be coupled.

[0108] Thereafter, the seating protrusion 111a of the housing 100 may be inserted into the housing support rail 512 of the first fixing bracket 510. Next, the third fixing bracket 530 may be disposed to adjoin one surface of the first fixing bracket 510 and an upper surface of the second fixing bracket 520. In this case, the bolt 541 may be disposed to penetrate the first insertion groove 513 and the second insertion groove 531a. Next, the first fixing bracket 510 may be coupled to the housing 100 by fastening the nut 542 to the bolt 541.

[0109] Finally, the second fixing bracket 520 may be coupled to the roof rack by completely fastening the fastening means of the second fixing bracket 520 that is temporarily fixed to the roof rack.

[0110] After the awning 1' for a vehicle is fixed to the roof rack of the vehicle by the above-mentioned method, the mode of the awning 1' for a vehicle may be switched to the unfolded mode. Next, the first door 120 and the second doors 130 may be opened, and then the first pole assembly 200 and the second pole assembly 300 may be unfolded.

[0111] The first horizontal rod 221 of the first pole assembly 200 may be rotated in the horizontal direction, and then the first vertical rod 222 may be rotated downward. Next, the first auxiliary vertical rod 223 may be slid to be fixed to the ground surface.

[0112] Likewise, the second horizontal rod 311 of the second pole assembly 300 may be rotated in the horizontal direction, and then the second vertical rod 312 may be rotated downward. Next, the second auxiliary vertical rod 313 may be slid to be fixed to the ground surface.

[0113] The first pole assembly 200 and the second pole assembly 300 are unfolded, such that the sun shelter 400 may be unfolded to the outside of the housing 100. In this case, the sun shelter 400 may further include an auxiliary sun shelter 410. One side of the auxiliary sun shelter 410 may be connected to the first pole assembly 200 or the second pole assembly 300, and the other side of the auxiliary sun shelter 410 may be provided as a free end. A user may connect the free end of the auxiliary sun shelter 410 to a hood part of the vehicle or other portions where the free end of the auxiliary sun shelter 410 may be fixed. Then, the user may fix the auxiliary sun shelter 410 to the roof rack by using a separate rope 410 or the like.

[0114] As described above, the awning 1' for a vehicle according to the embodiment of the present disclosure may include the bracket module 500 having a simple structure, such that the awning 1' for a vehicle may be easily coupled to or separated from the fixing object such as the roof rack of the vehicle.

[0115] In addition, the awning 1' for a vehicle according to the embodiment of the present disclosure may include the housing 100 having a thin column shape, which makes it possible to minimize a volume occupied when the awning 1 is loaded onto the vehicle. In addition, the first pole 220 and the second pole 310 may be rotatably provided, but the rotation axes of the first and second poles 220 and 310 may be spaced apart from each other at a predetermined distance in the width direction of the housing, such that the first pole 220 and the second pole 310 may rotate without interfering with each other, which makes it possible to improve spatial utilization.

[0116] While the embodiments of the present disclosure have been described above as specific embodiments, the embodiments of the present disclosure are for illustrative purposes only, and the present disclosure is not limited thereto. The present disclosure should be interpreted as having the widest scope defined by the basic spirit disclosed in the present specification. Those skilled in the art may combine/substitute the disclosed embodiments to carry out patterns with unspecified shapes, but this does not depart from the scope of the present disclosure. In addition, it is apparent that those skilled in the art may easily change or modify the embodiment disclosed based on the present specification, and such changes or modifications also belong to the protection scope of the present disclosure.

Claims

1. An awning for a vehicle, the awning comprising:

a housing including an openable/closable internal space;
a first pole assembly rotatably coupled to one side of the housing;
a second pole assembly rotatably coupled to the other side of the housing; and
a sun shelter configured to cover an upper surface of the first pole assembly and an upper surface of the second pole assembly,
wherein the first pole assembly, the second pole assembly, and the sun shelter are selectively accommodated in the housing or unfolded by rotating to the outside of the housing.

2. The awning of claim 1, wherein the housing comprises:

a body including an internal space and having one surface on which a vehicle fixing bracket configured to be installed on a vehicle is provided;
a first door rotatably coupled to an upper end of the body; and
a second door rotatably coupled to two opposite ends of the body, and
wherein the first door and the second door rotate to open or close the internal space.

3. The awning of claim 1, wherein the housing has a quadrangular column shape.

4. The awning of claim 1, wherein the first pole assembly comprises:

a first bracket fixedly installed on an inner surface of the housing; and
at least one first pole rotatably connected to the first bracket and configured to rotate to be accommodated in the housing or exposed to the outside of the housing.

5. The awning of claim 4, wherein the first pole comprises:

a first horizontal rod having a first vertical rod accommodation groove therein and having one end connected to the first bracket so as to be rotatable in a horizontal direction;
a first vertical rod connected to the other end of the first horizontal rod so as to be rotatable in a vertical direction and having a first auxiliary vertical rod accommodation groove therein, the first vertical rod being configured to rotate to be accommodated in the first vertical rod accommodation groove or exposed to the outside of the first horizontal rod; and
a first auxiliary vertical rod slidably connected to the first vertical rod and configured to slide such that a length of the first auxiliary vertical rod accommodated in the first auxiliary vertical rod accommodation groove is adjusted.

6. The awning of claim 1, wherein the second pole assembly comprises:

a second bracket fixedly installed on an inner surface of the housing; and
at least one second pole rotatably connected to the second bracket and configured to rotate to be accommodated in the housing or exposed to the outside of the housing.

7. The awning of claim 6, wherein the second pole comprises:

a second horizontal rod having a second vertical rod accommodation groove therein and having one end connected to the second bracket so as to be rotatable in a horizontal direction;
a second vertical rod connected to the other end of the second horizontal rod so as to be rotatable in a vertical direction and having a second auxiliary vertical rod accommodation groove therein, the second vertical rod being configured to rotate to be accommodated in the second vertical rod accommodation groove or exposed to the outside of the second horizontal rod; and
a second auxiliary vertical rod slidably connected to the second vertical rod and configured to slide such that a length of the second auxiliary vertical rod accommodated in the second auxiliary vertical rod accommodation groove is adjusted.

8. The awning of claim 6, wherein the second pole is provided as a plurality of second poles, and rotation axes of the plurality of the second poles are disposed in parallel with one another and spaced apart from one another at predetermined distances in a width direction of the housing.

9. The awning of claim 6, wherein an auxiliary pole is rotatably coupled to the second pole, and the auxiliary pole has a shorter length than the second pole.

10. The awning of claim 1, wherein the first pole assembly comprises at least one first pole, the second pole assembly comprises at least one second pole, and the first pole and the second pole are accommodated side by side in the housing.

11. The awning of claim 10, wherein the first pole and the second pole are configured to rotate in opposite directions so as to be accommodated in the housing or exposed to the outside of the housing.

12. The awning of claim 10, wherein rotation axes of the first and second poles are disposed in parallel with one another and spaced apart from one another at predetermined distances in a width direction of the housing.

13. An awning for a vehicle, the awning comprising:

a housing including an openable/closable internal space; and
a bracket module detachably provided on one surface of the housing and configured to fix the housing to a fixing object,
wherein the bracket module comprises:

a first fixing bracket slidably inserted into one surface of the housing and fixed to a

predetermined position;
a second fixing bracket including a first fixing part detachably fixed to one surface of the first fixing bracket, and a first bent part bent and extending from one end of the first fixing part and detachably fastened to the fixing object; and
a third fixing bracket including a second fixing part detachably coupled to one surface of the first fixing bracket, and a second bent part bent and extending from one end of the second fixing part and configured to come into contact with one surface of the first bent part.

14. The awning of claim 13, wherein at least one spacer is configured to protrude from one surface of the first fixing bracket that faces the housing, and a fastening means arrangement space is defined between the housing and one surface of the first fixing bracket.

15. The awning of claim 13, wherein a housing support rail is provided at a lower end of one surface of the first fixing bracket that faces the housing, and one side of a lower end of the housing is seated on and caught by the housing support rail.

16. The awning of claim 15, wherein a fastening means is connected to an upper end of the first fixing bracket and configured to connect the first fixing bracket and the housing, and the fastening means is configured to slide to be coupled to a bracket guide slit formed in one surface of the housing.

17. The awning of claim 13, wherein the second fixing bracket comprises a rigidity reinforcing support, and the rigidity reinforcing support is coupled to one surface of the first fixing part so as to be in contact with one surface of the first fixing part and a bottom surface of the first bent part.

18. The awning of claim 13, wherein a first insertion groove is formed at an upper end of the first fixing bracket, a second insertion groove is formed at an upper end of the second fixing part that corresponds to the first insertion groove, and a fastening means is penetratively connected to the first insertion groove and the second insertion groove.

19. The awning of claim 18, wherein a third insertion groove is formed at one end of the first fixing part that is not connected to the first bent part, and the third insertion groove corresponds to the first insertion groove.

20. The awning of claim 18, wherein the fastening means comprises a bolt and a nut, and a head of the bolt slides and is coupled to a bracket guide slit formed in one surface of the housing.

21. The awning of claim 13, further comprising:

a first pole assembly rotatably coupled to one side of the housing;
a second pole assembly rotatably coupled to the other side of the housing; and
a sun shelter configured to cover an upper surface of the first pole assembly and an upper surface of the second pole assembly,
wherein the first pole assembly, the second pole assembly, and the sun shelter are selectively accommodated in the housing or unfolded by rotating to the outside of the housing.

22. The awning of claim 13, wherein the housing is made of aluminum.

23. An awning for a vehicle, the awning comprising:

a housing including an openable/closable internal space; and
a bracket module detachably provided on one surface of the housing and configured to fix the housing to a fixing object,
wherein the housing comprises:

a body connected to the bracket module and including an internal space;
a first door rotatably coupled to an upper end of the body; and
second doors rotatably coupled to two opposite ends of the body,
wherein the internal space of the body is exposed to the outside or closed as the first door and the second door rotate, and
wherein the bracket module comprises:

a first fixing bracket slidably inserted into one surface of the housing and fixed to a predetermined position;
a second fixing bracket including a first fixing part detachably fixed to one surface of the first fixing bracket, and a first bent part bent and extending from one end of the first fixing part and detachably fastened to the fixing object; and
a third fixing bracket including a second fixing part detachably coupled to one surface of the first fixing bracket, and a second bent part bent and extending from one end of the second fixing part and configured to come into contact with one surface of the first bent part.

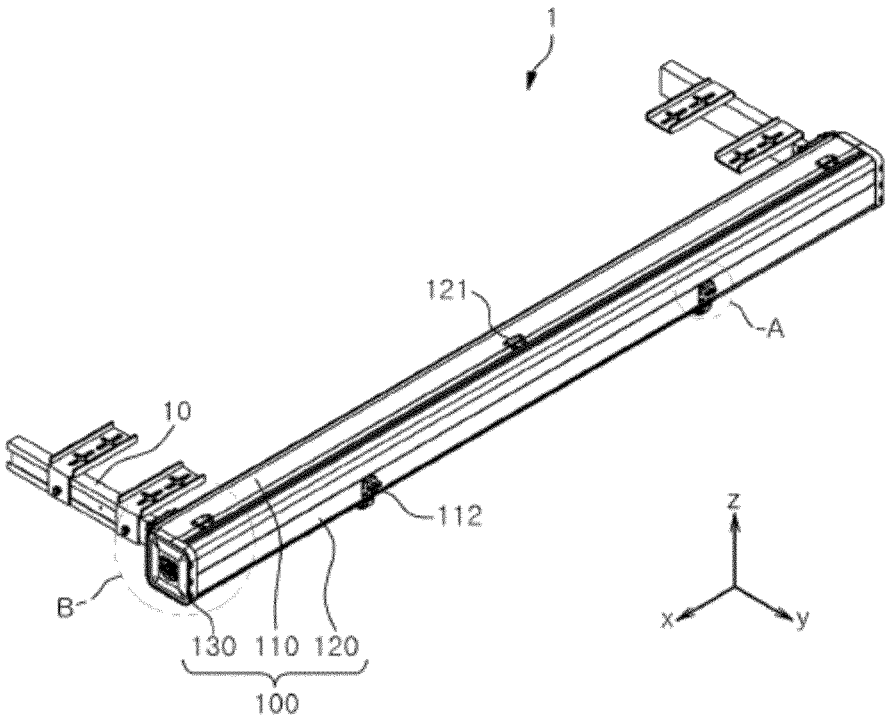


Fig. 1

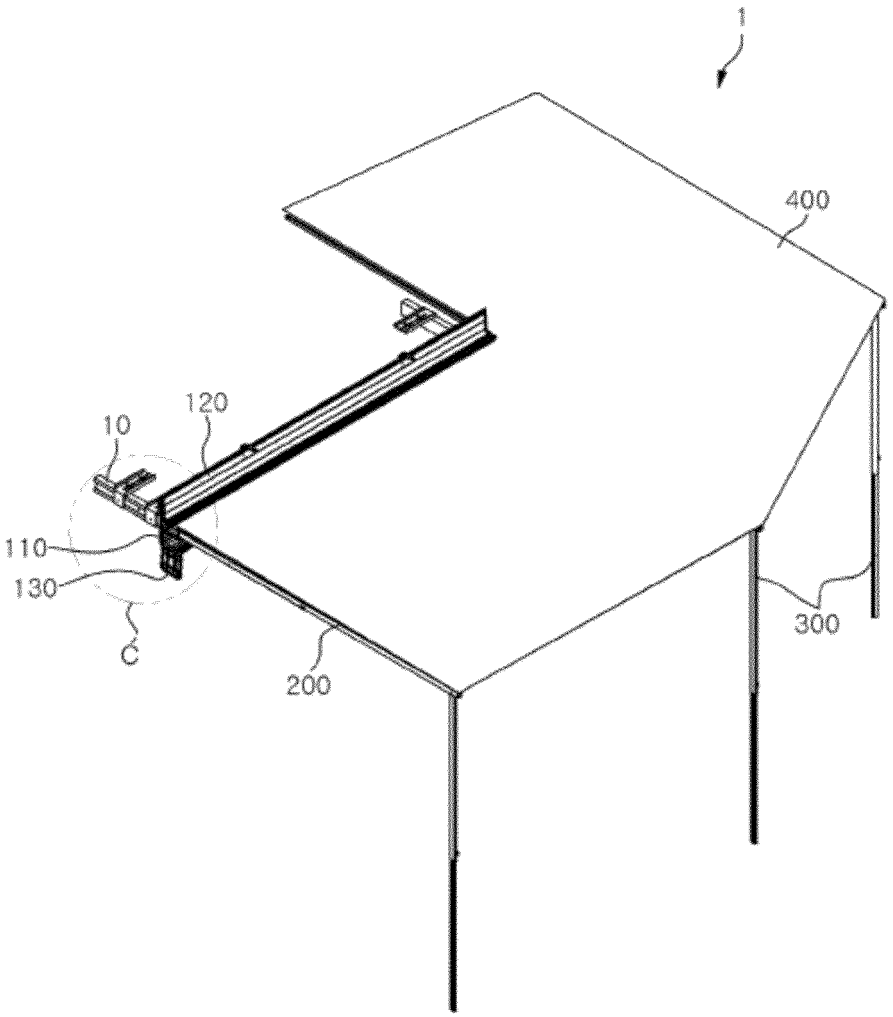
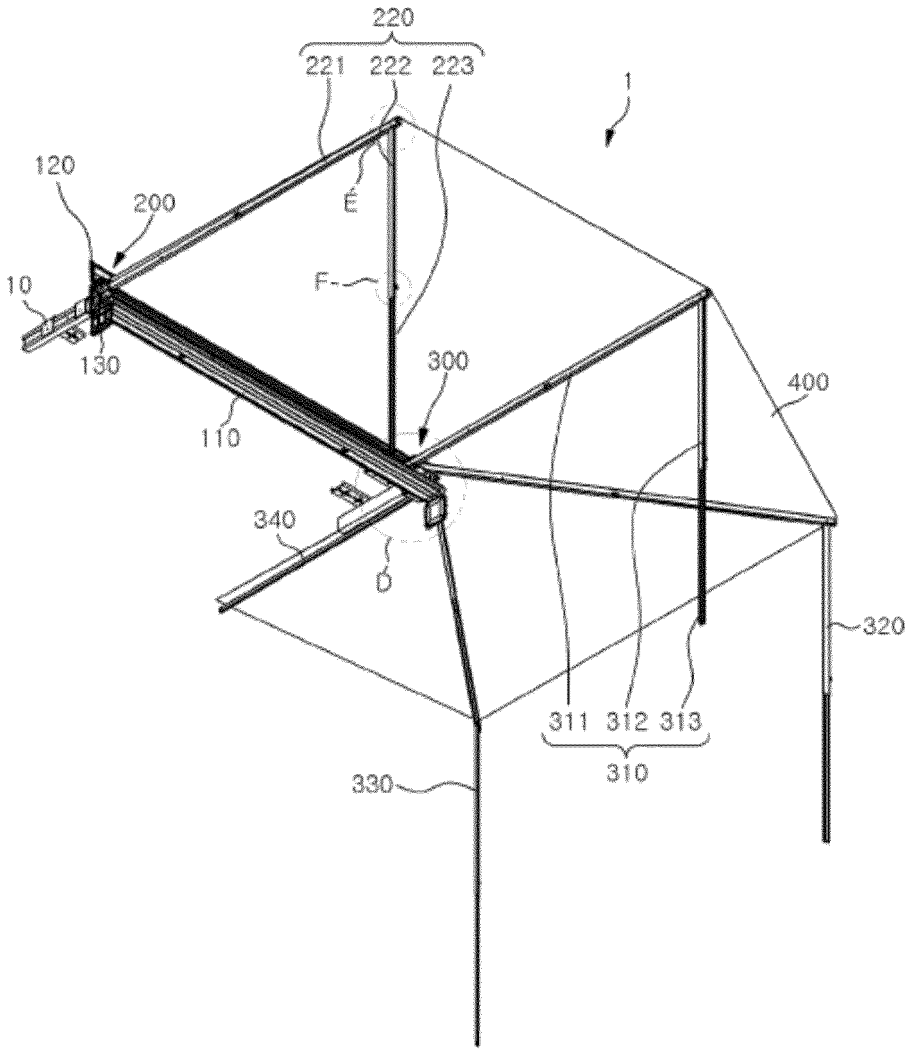


Fig. 2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221
222
223
1
120
200
E
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130
300
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D
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312
313
310
330

Fig. 3

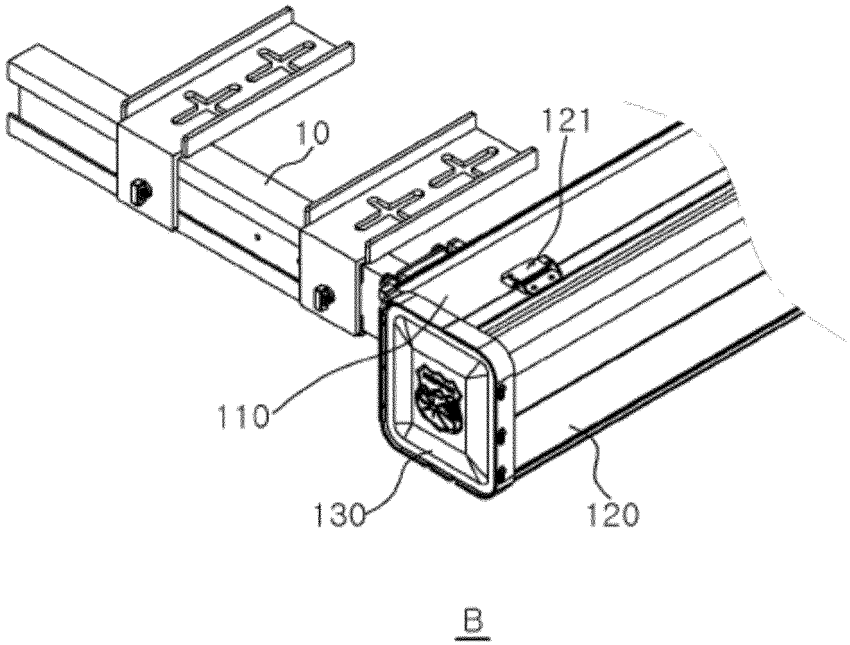
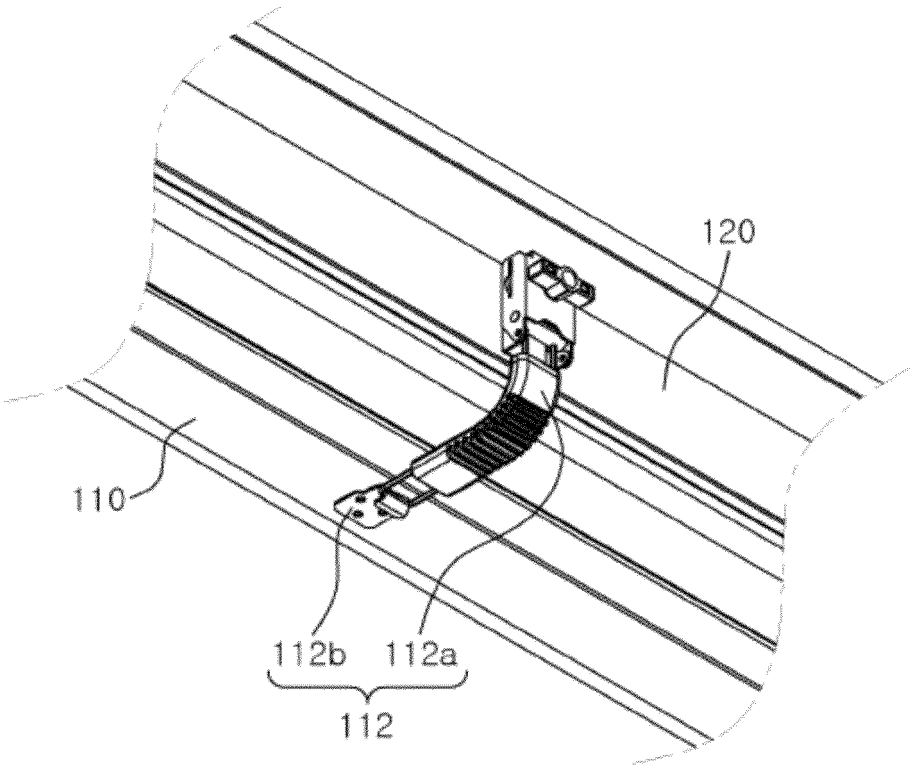


Fig. 4



A

Fig. 5

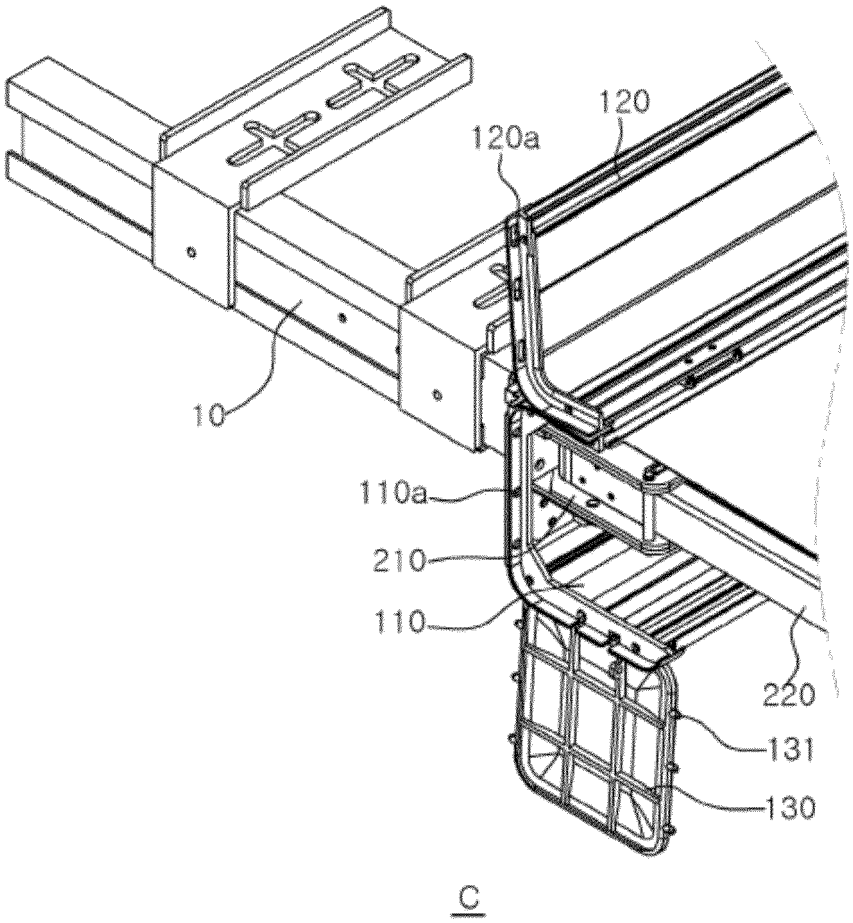


Fig. 6

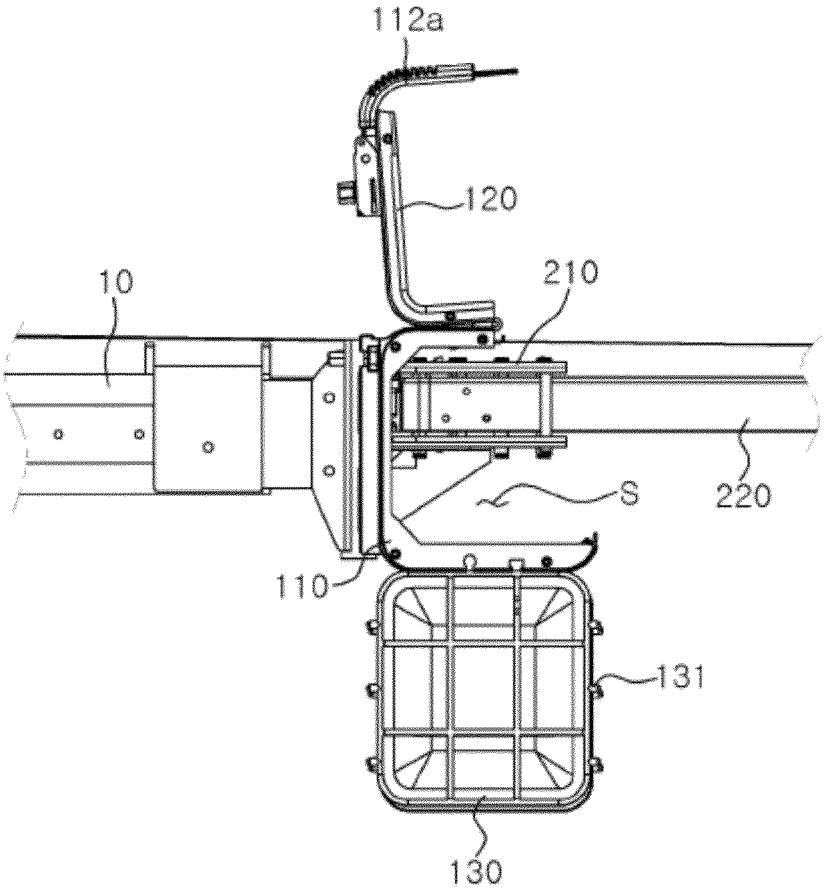


Fig. 7

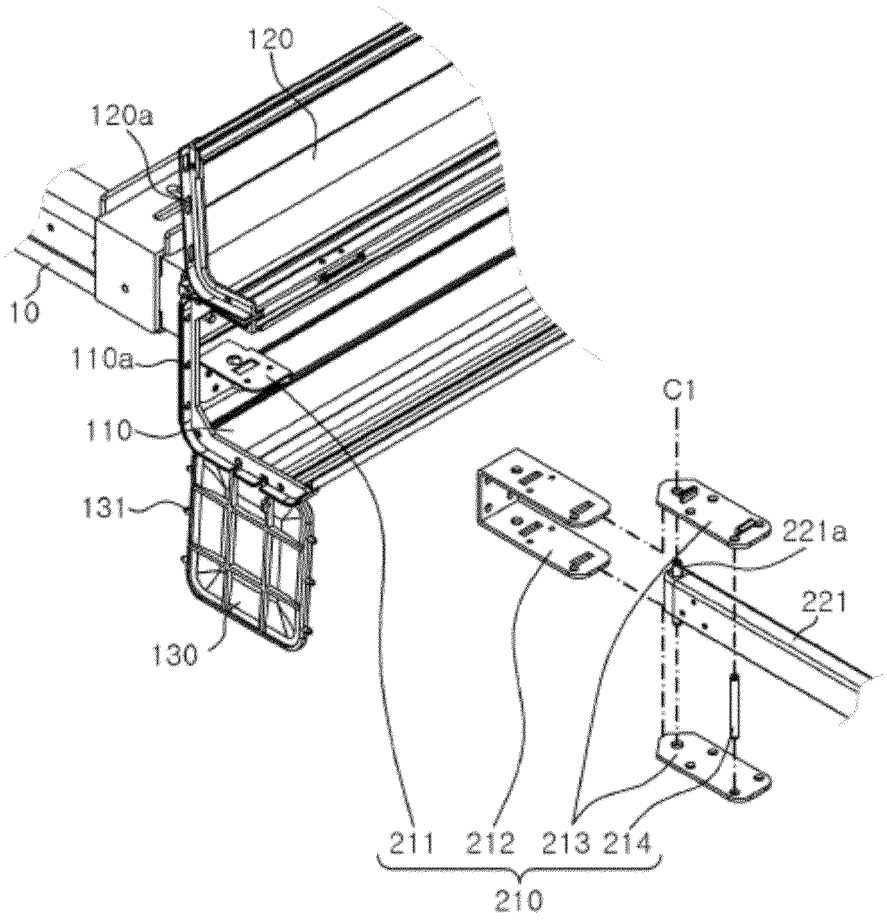


Fig. 8

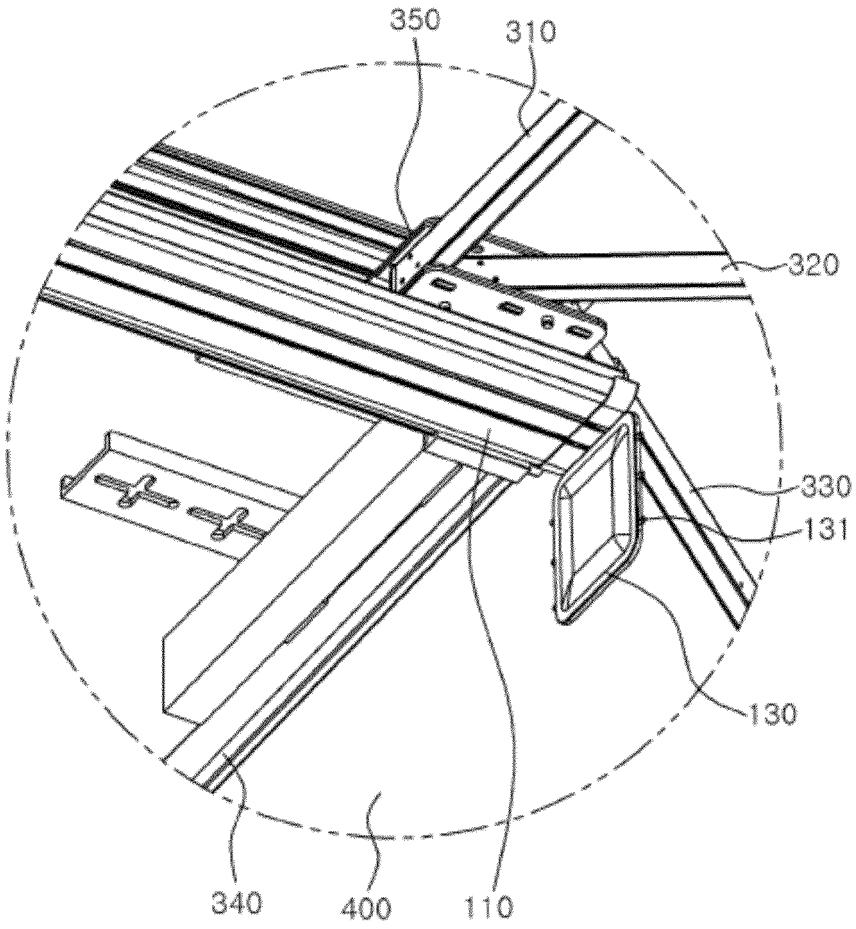


Fig. 9

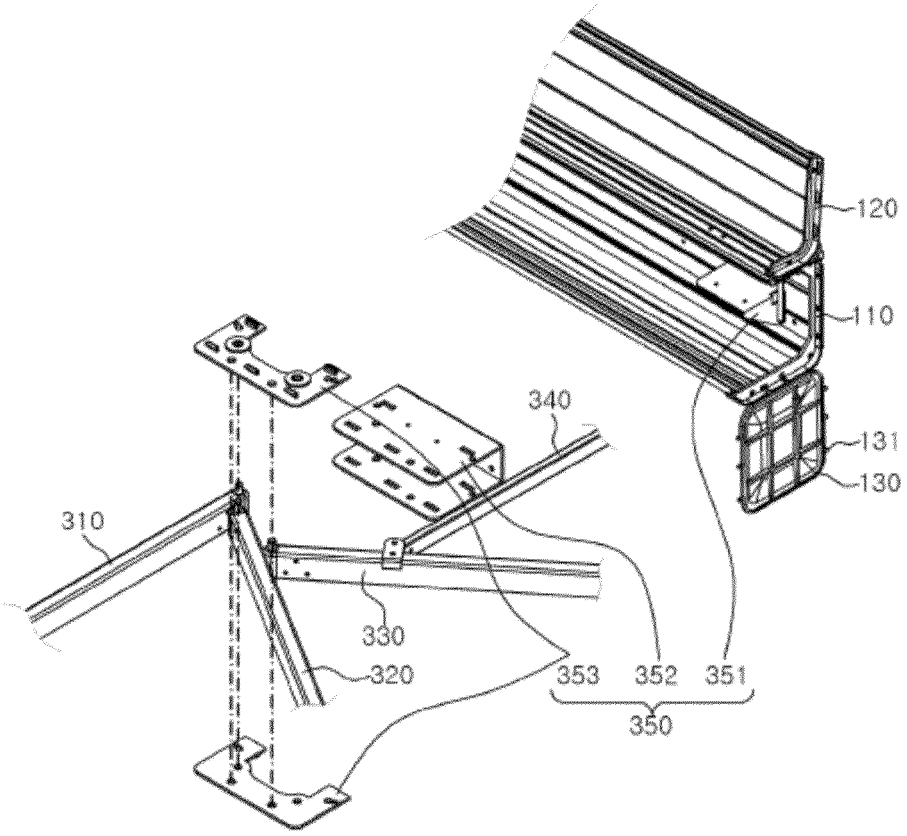


Fig. 10

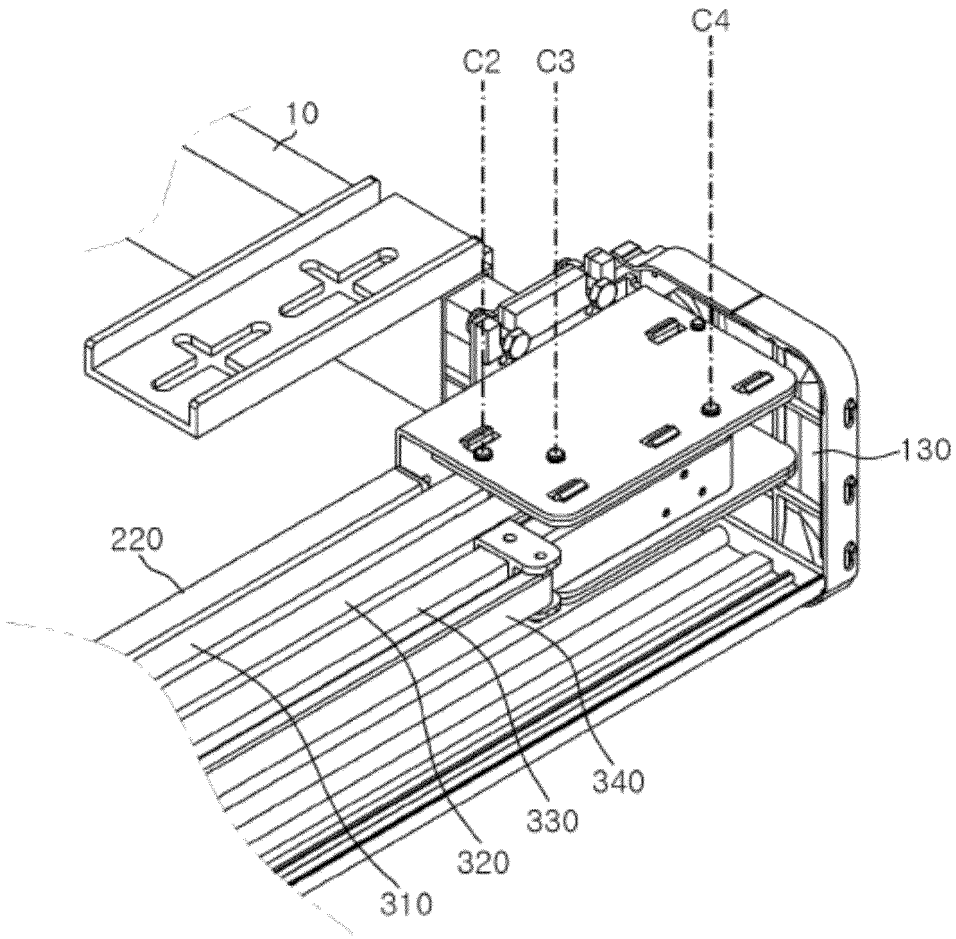
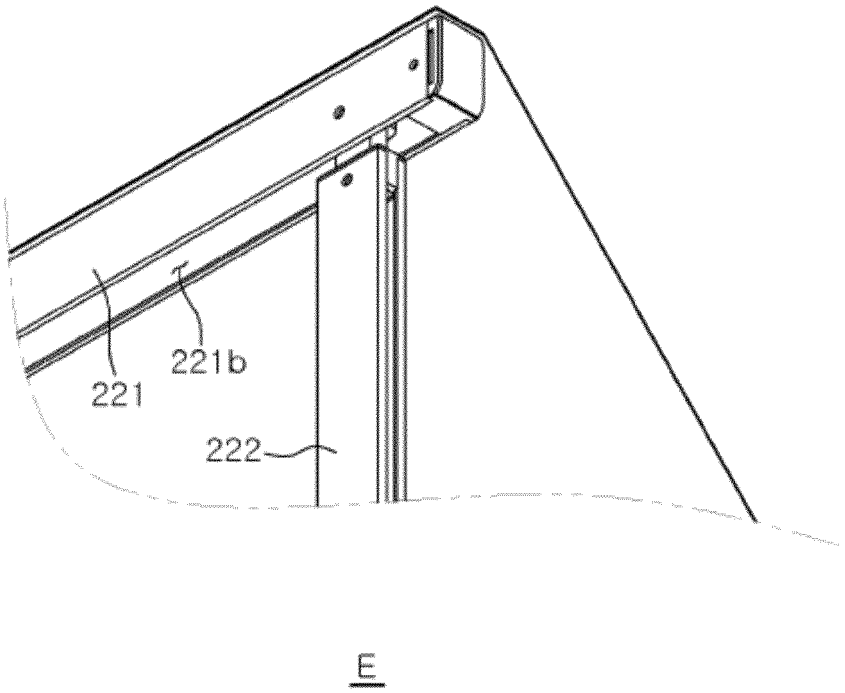


Fig. 11



E

Fig. 12

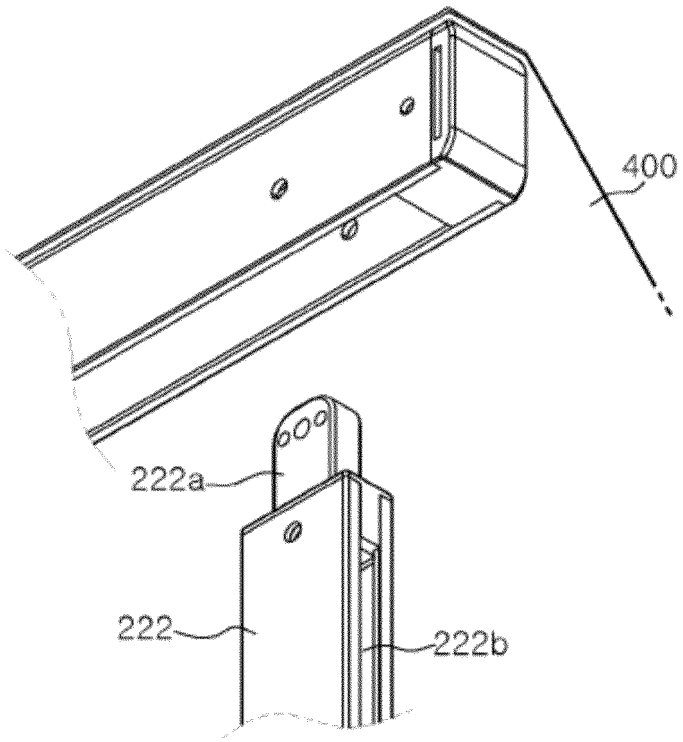


Fig. 13

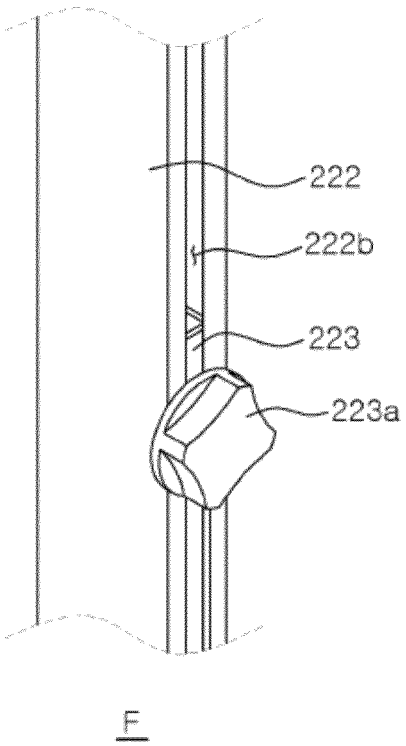


Fig. 14

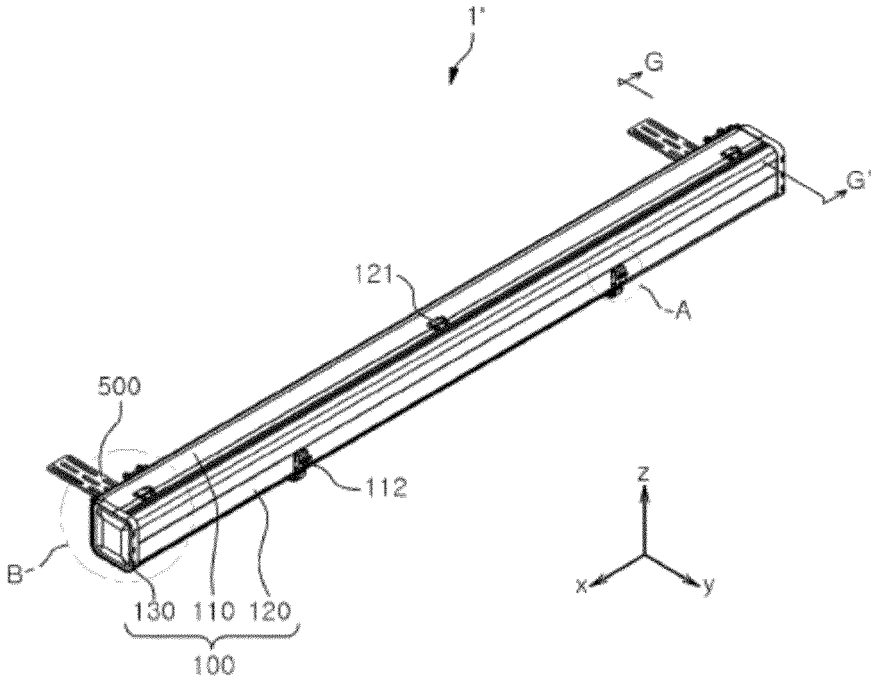


Fig. 15

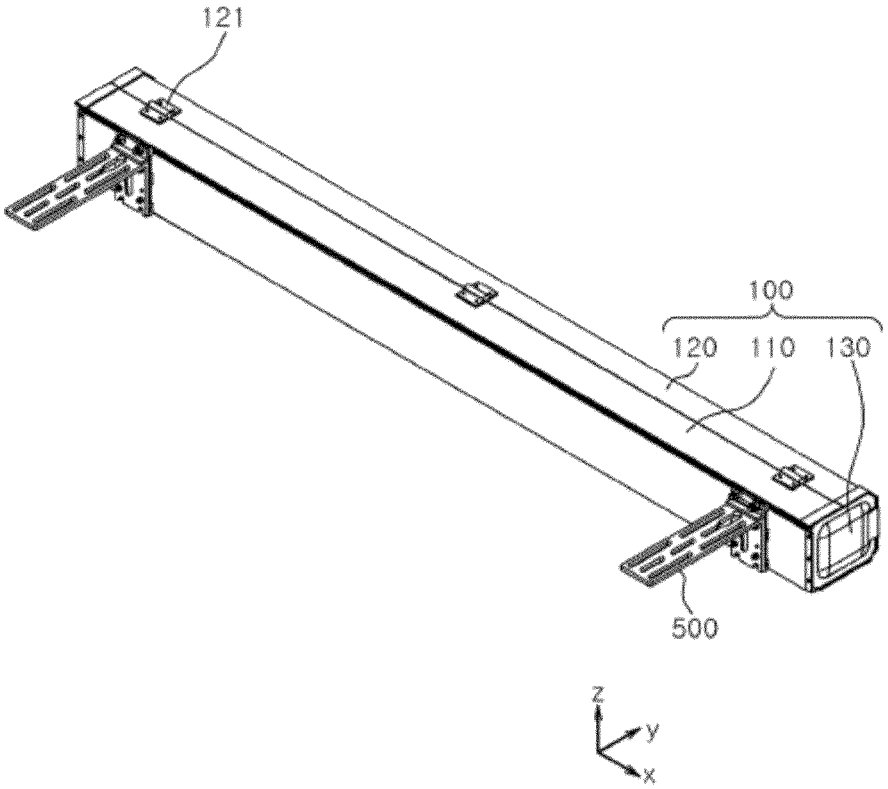


Fig. 16

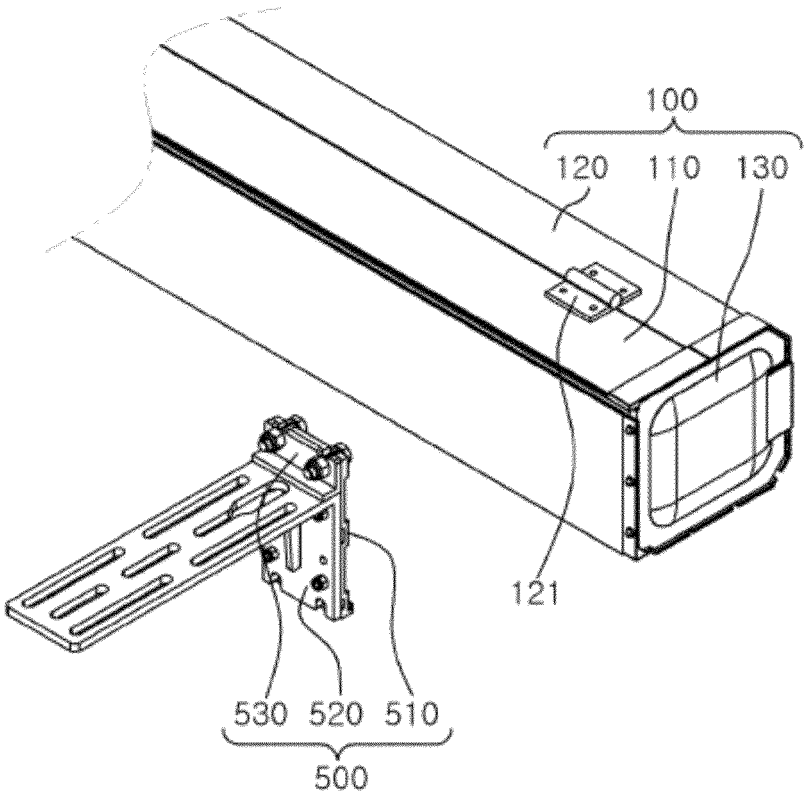


Fig. 17

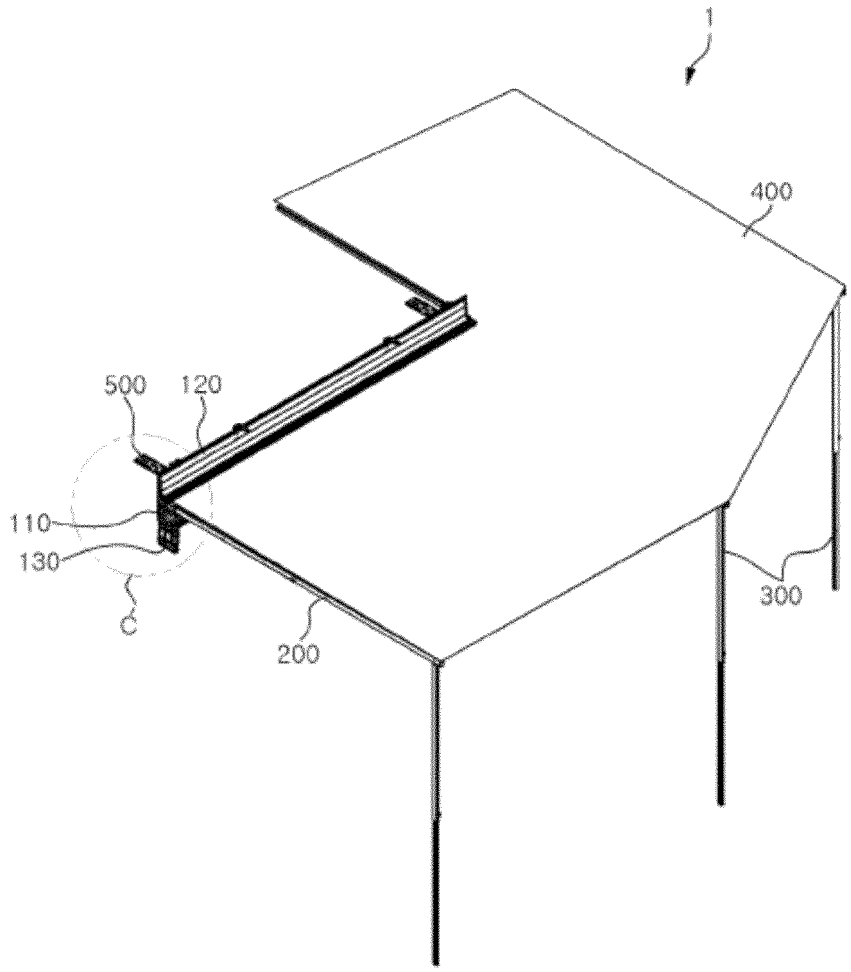


Fig. 18

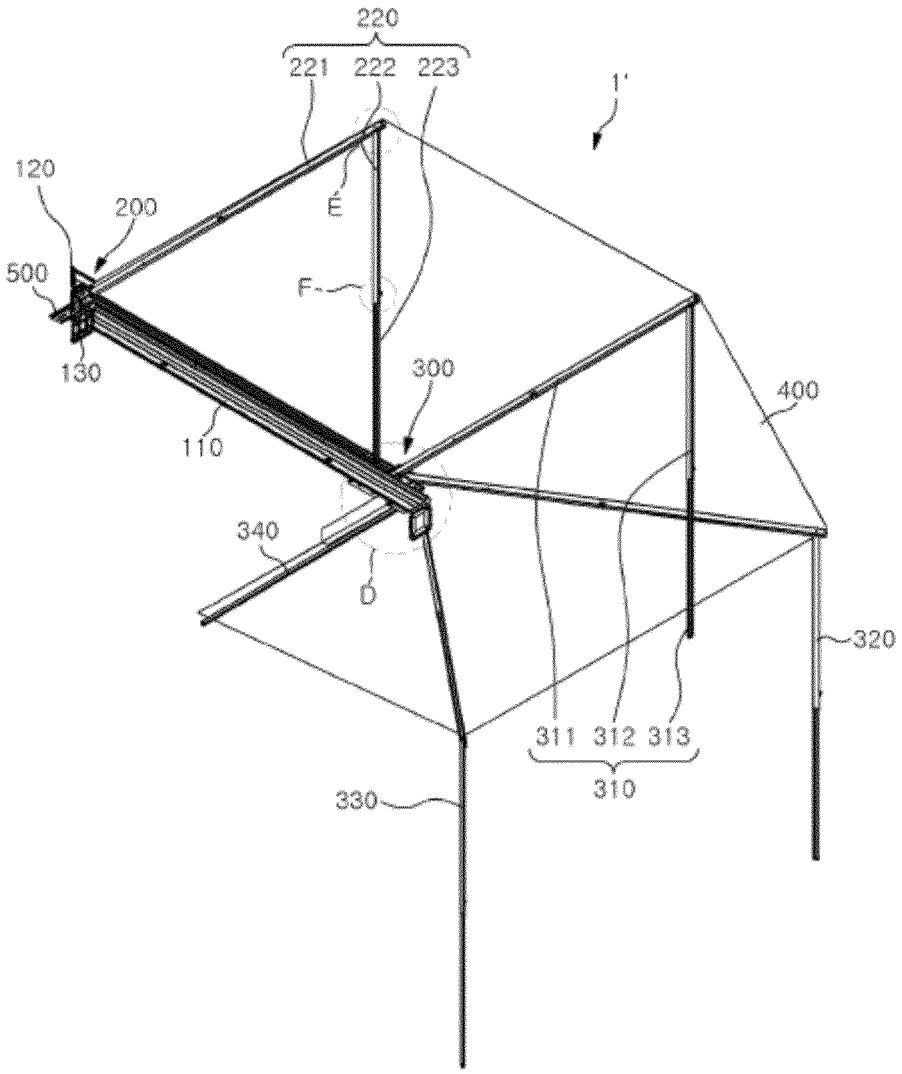

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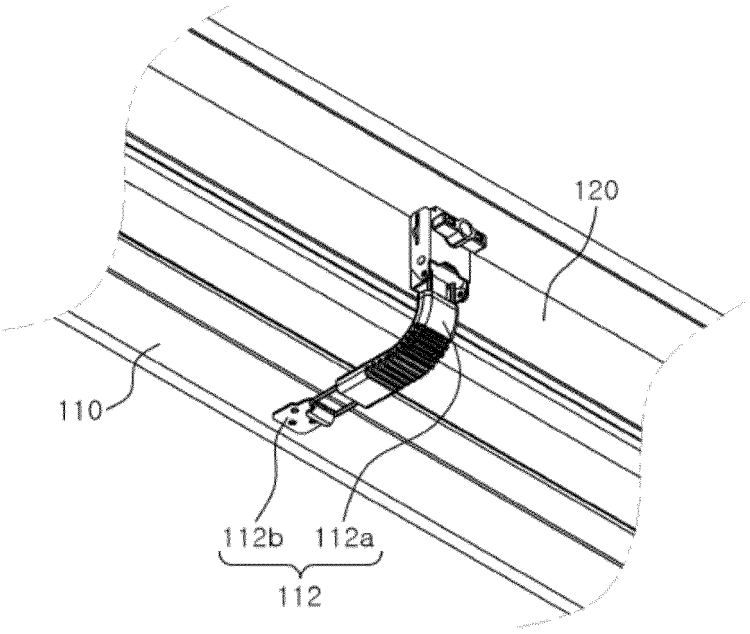
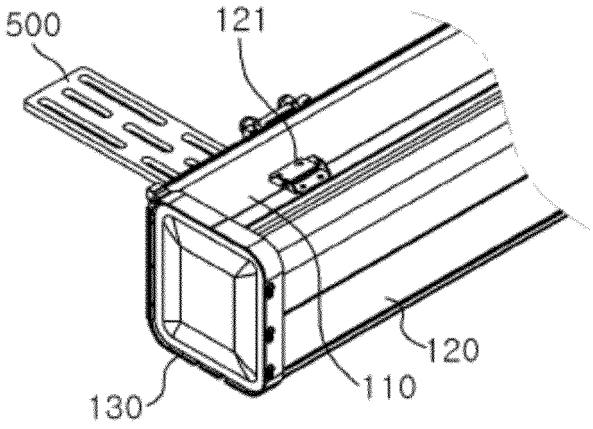
Fig. 19



A

Fig. 20



B

Fig. 21

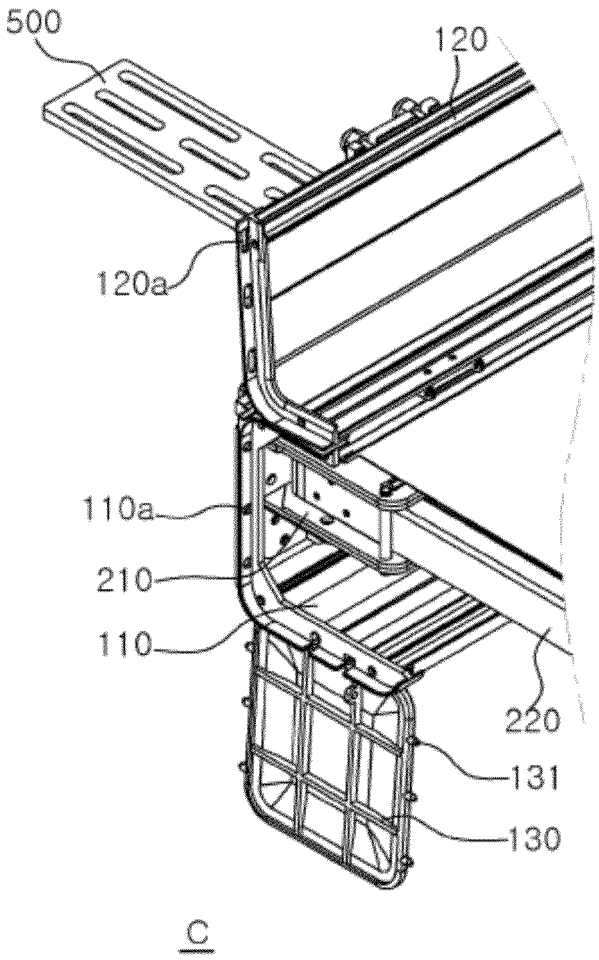


Fig. 22

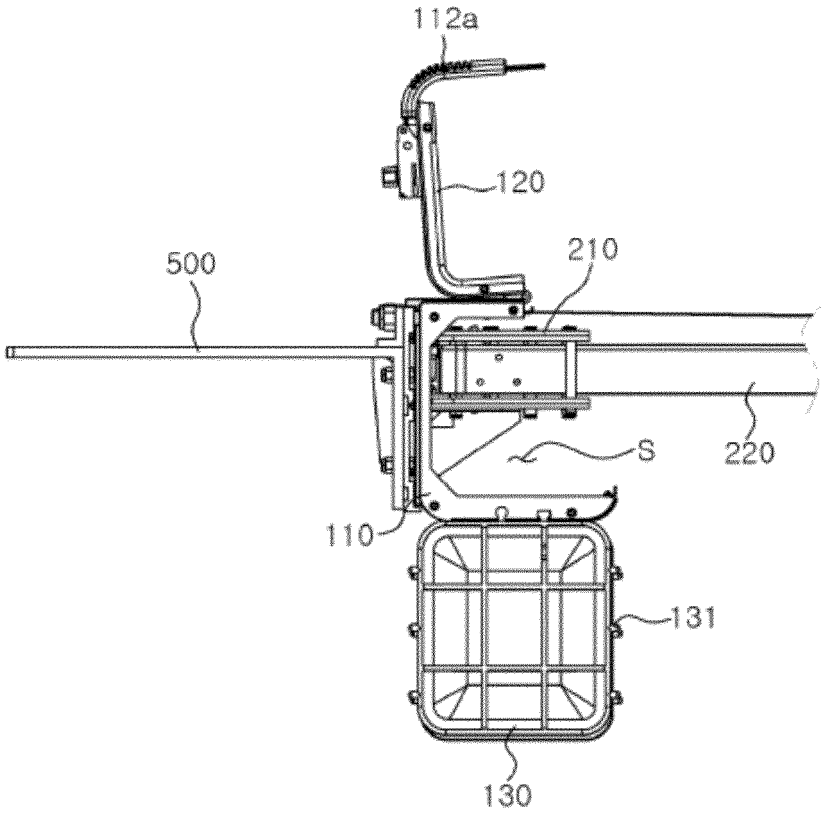


Fig. 23

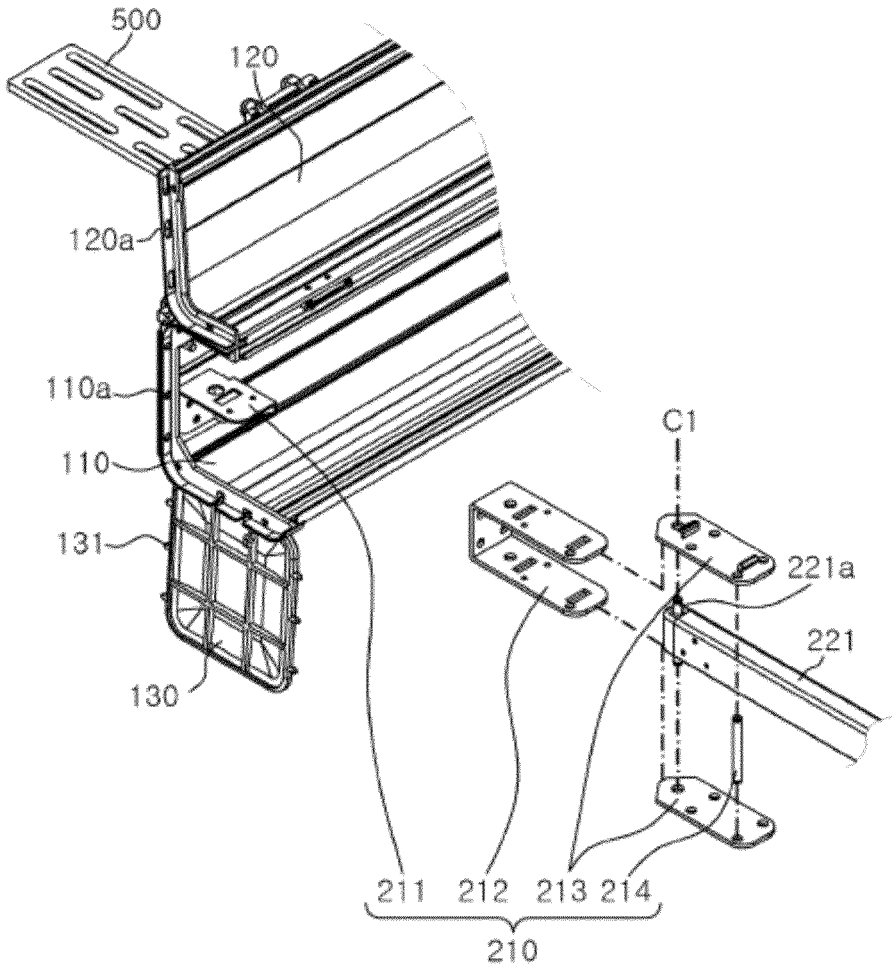


Fig. 24

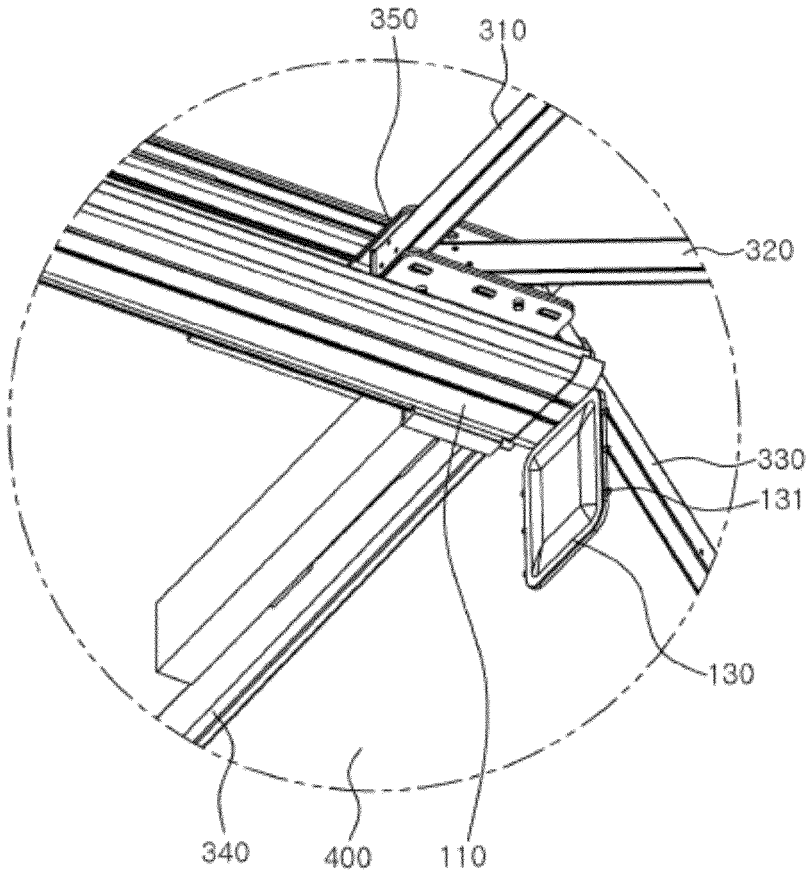


Fig. 25

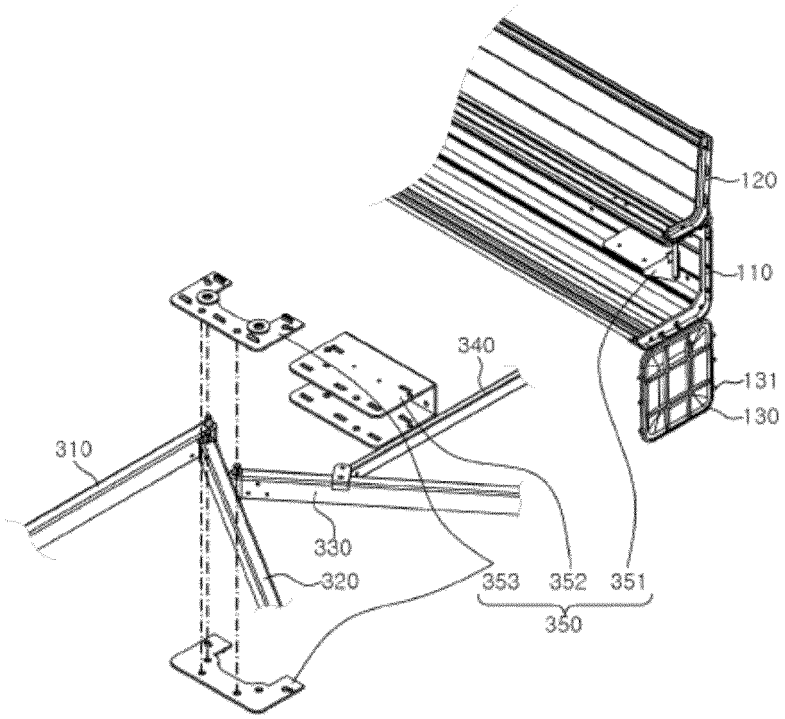
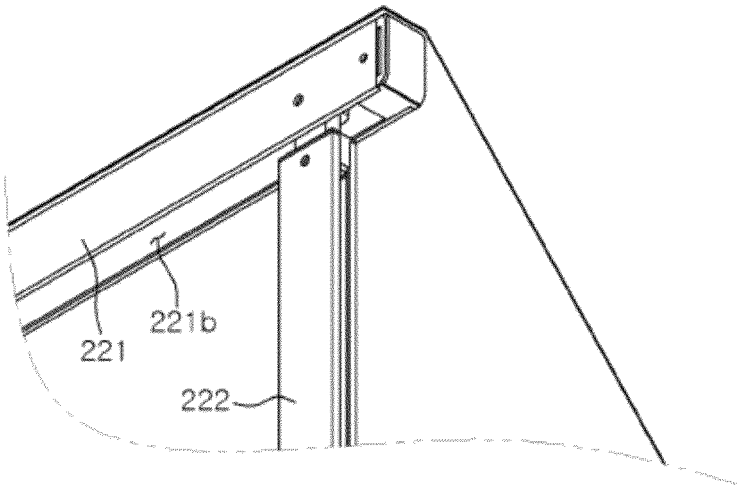


Fig. 26



E

Fig. 27

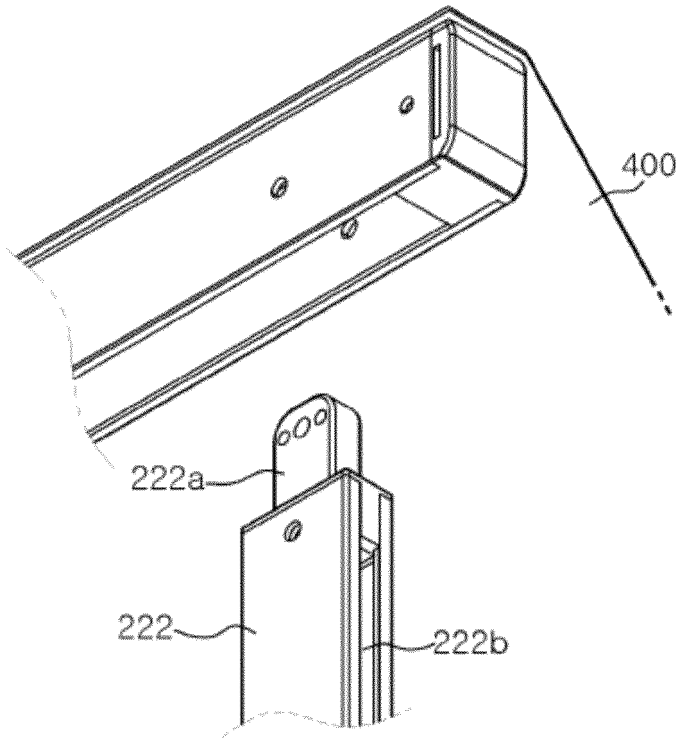


Fig. 28

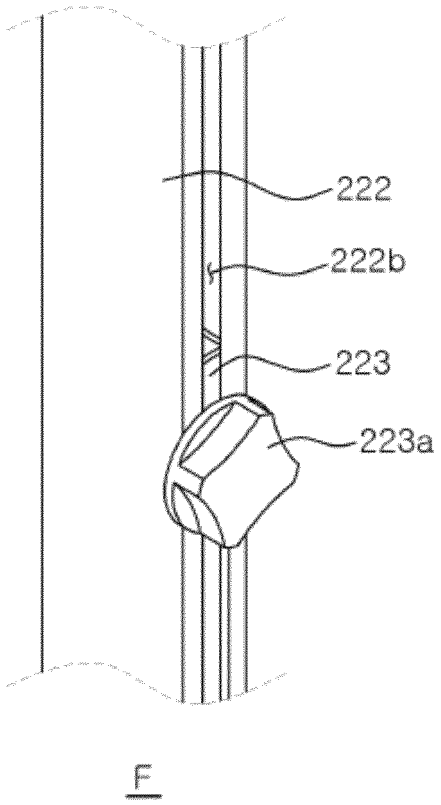


Fig. 29

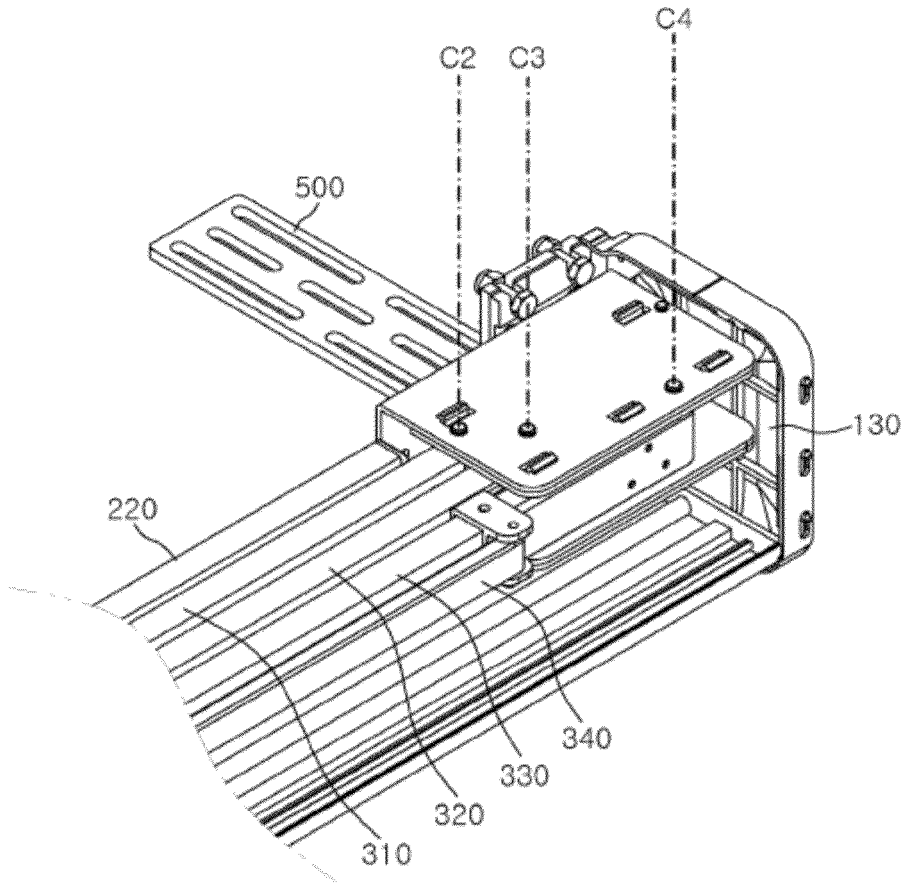


Fig. 30

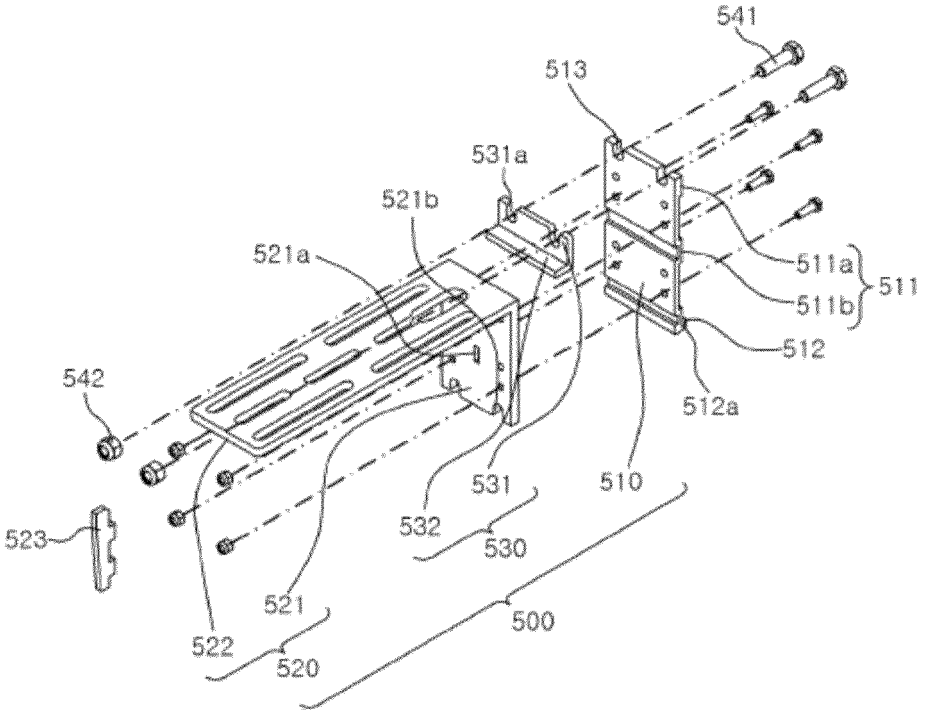

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Fig. 31

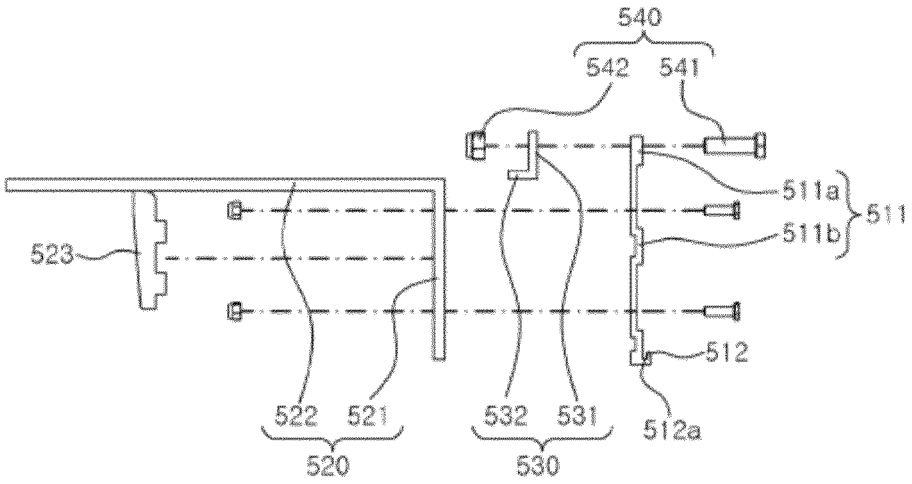
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Fig. 32

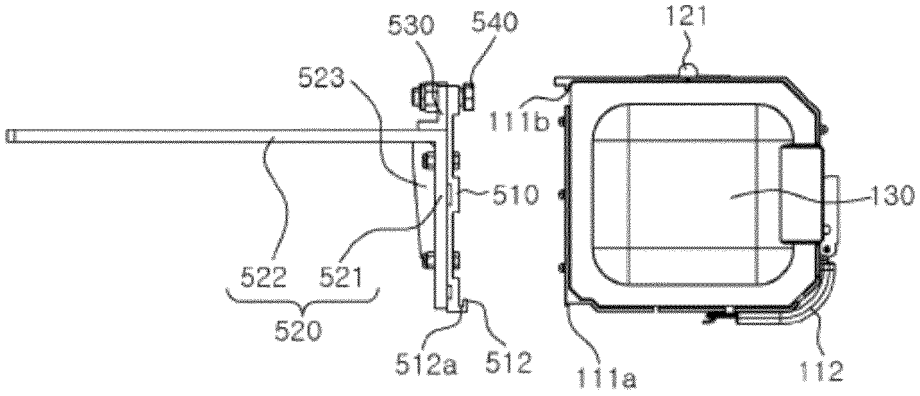
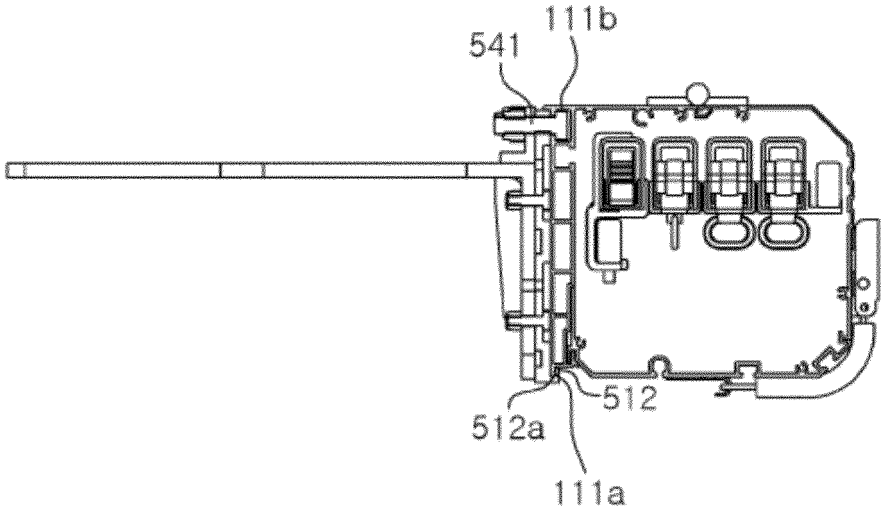


Fig. 33



G - G'

Fig. 34

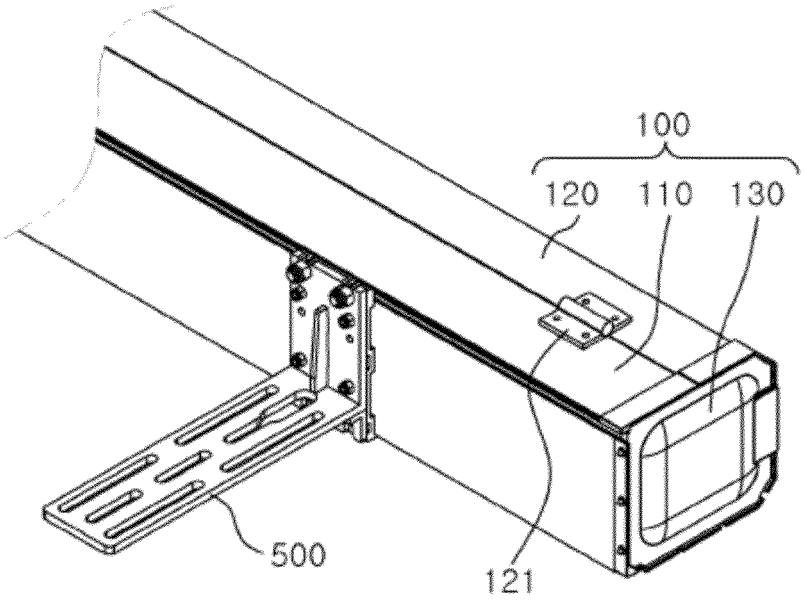


Fig. 35

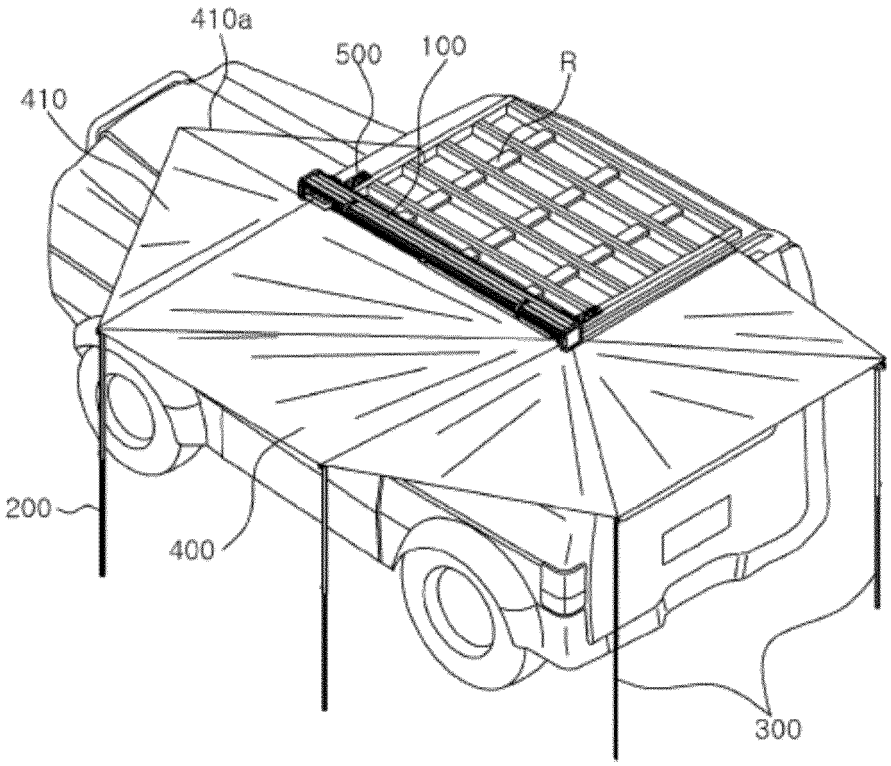


Fig. 36

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2022/005486

A. CLASSIFICATION OF SUBJECT MATTER

E04H 15/06(2006.01)i; **E04H 15/30**(2006.01)i; **E04H 15/34**(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 15/06(2006.01); A47F 5/00(2006.01); B60P 3/34(2006.01); B60R 9/04(2006.01); B60R 9/048(2006.01); B60R 9/058(2006.01); E04F 10/04(2006.01); E04H 15/48(2006.01); E06B 7/28(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: 차량(vehicle), 어닝(awning), 하우징(housing), 폴(pole), 회전(rotation), 브래킷(bracket)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	KR 10-2072952 B1 (CHA, Jae Ho) 03 February 2020 (2020-02-03) See paragraphs [0027], [0028], [0033], [0035], [0040], [0052] and [0053] and figures 1-6.	1-12,21,23
Y	CN 211342055 U (DONGGUAN LONMAN AUTO ACCESSORIES MANUFACTURING CO., LTD.) 25 August 2020 (2020-08-25) See paragraphs [0033], [0037]-[0039] and [0042], claims 1 and 9 and figures 1-10.	1-12,21,23
X	WO 2020-243780 A1 (HOLZ INDUSTRIES PTY. LTD.) 10 December 2020 (2020-12-10) See paragraphs [0014] and [0026]-[0030] and figure 1.	13-20,22
Y		21,23
A	CN 111051128 A (RHINO RACK AUSTRALIA PTY. LTD.) 21 April 2020 (2020-04-21) See claim 1 and figures 7-10.	1-23

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

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"D" document cited by the applicant in the international application
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
19 July 2022	**19 July 2022**
Name and mailing address of the ISA/KR **Korean Intellectual Property Office** **Government Complex-Daejeon Building 4, 189 Cheongsa-ro, Seo-gu, Daejeon 35208** Facsimile No. **+82-42-481-8578**	Authorized officer Telephone No.

Form PCT/ISA/210 (second sheet) (July 2019)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2022/005486

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 3949960 A (MCKEE, Donald S.) 13 April 1976 (1976-04-13) See claims 1 and 2 and figures 1-5.	1-23

Form PCT/ISA/210 (second sheet) (July 2019)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2022/005486

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Claims 1-12 pertain to a car awning comprising a housing, first and second pole assemblies and a shading screen,
Claims 13-23 pertain to a car awning comprising a bracket module consisting of first to third fixing brackets.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. ☑ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.

☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.

☐ No protest accompanied the payment of additional search fees.

Form PCT/ISA/210 (continuation of first sheet) (July 2019)

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/KR2022/005486

Patent document cited in search report			Publication date (day/month/year)	Patent family member(s)			Publication date (day/month/year)
KR	10-2072952	B1	03 February 2020	None			
CN	211342055	U	25 August 2020	None			
WO	2020-243780	A1	10 December 2020	AU	2020-289131	A1	09 December 2021
				CA	3139990	A1	10 December 2020
				EP	3956176	A1	23 February 2022
CN	111051128	A	21 April 2020	AU	2017-101059	A4	31 August 2017
				AU	2017-101059	B4	07 December 2017
				AU	2018-100905	A4	02 August 2018
				CA	3068548	A1	03 January 2019
				US	11230856	B2	25 January 2022
				US	2020-0141151	A1	07 May 2020
				WO	2019-000050	A1	03 January 2019
US	3949960	A	13 April 1976	DE	2609824	A1	07 October 1976

Form PCT/ISA/210 (patent family annex) (July 2019)

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- KR 1020210054833 **[0001]**
- KR 1020210152926 **[0001]**
- KR 1020210152925 **[0001]**