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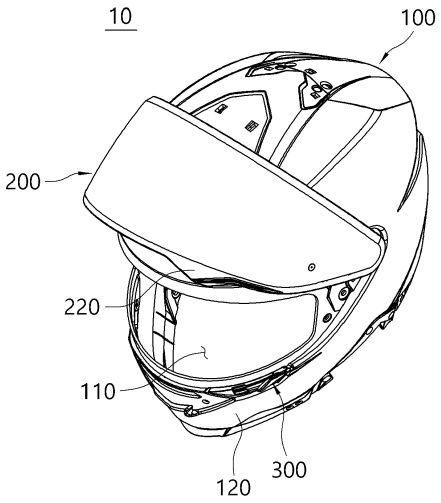
(54) HEAD PROTECTION GEAR

(57) Head protection gear is disclosed. The head protection gear according to one aspect of the present invention comprises: a main frame in which a space is formed; a visor rotatably coupled to the main frame; and a visor locker coupled to the main frame so as to be removably coupled to the visor, wherein the visor includes insertion protrusions, which protrude toward the space so as to be insertively and withdrawably coupled to the visor locker, and the visor locker can include: a support member which is coupled to the main frame and which accommodates the insertion protrusions; and a movable member which supports the accommodated insertion protrusions at the upper side thereof, and which is coupled to the support member so as to be movable in the direction facing the space.

【FIG. 3】



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Description

TECHNICAL FIELD

[0001] The present invention relates to a head protection gear, and more particularly, to a head protection gear having a structure in which a coupling state between a visor and a main frame may be stably maintained and the coupling state may be easily released.

BACKGROUND ART

[0002] Head protection gear, commonly referred to as a helmet, is equipment used to protect the wearer's head.

[0003] The head protection gear has a space formed therein to accommodate the wearer's head. Head protection gear is generally formed to surround the head from the outside in order to safely protect the accommodated head. In this case, a visor made of transparent material is provided on the front side of the head protection gear so that the wearer who is driving can secure the field of view in front.

[0004] The visor is rotatably provided on a frame accommodating the wearer's head. The wearer may rotate the visor to partially open or close the frame.

[0005] When the wearer is driving while wearing a head protection gear, the state in which the visor closes the frame must be stably maintained. In addition, if the wearer wants to partially open the frame, the visor should be able to rotate easily.

[0006] Korean Patent Registration No. 10-1878275 discloses visor attachment mechanism in helmet. Specifically, it discloses a visor attachment mechanism in helmet that can maintain the coupling state of the movable plate in which the visor and the slit into which the visor are inserted are formed, through the combination of the fastening protrusion and the fastening recessed portion.

[0007] However, the visor attachment mechanism in helmet disclosed in the related art document only discloses methods to prevent arbitrary rotation of the visor. That is, the related art document does not provide a method for easily rotating the visor.

[0008] Korean Registered Utility Model Document No. 20-0433302 discloses a visor combination structure of a helmet. Specifically, it discloses a visor combination structure of a helmet in which the visor and helmet body can be detachably combined using a locking groove formed in the visor and a hook formed in the helmet body.

[0009] However, the visor combination structure of a helmet disclosed in the related art document only discloses a method for removing the visor and helmet body, but does not provide a method for limiting the rotation of the visor and for easy rotation of the visor.

Korean Patent Registration No. 10-1878275 (2018. 07. 13.)
Korean Registered Utility Model Document No. 20-0433302 (2006.12.08.)

DISCLOSURE

TECHNICAL PROBLEM

[0010] The present invention is to solve the above problems, and the present invention is directed to providing a head protection gear having a structure in which a coupling state between a visor and a main frame may be stably maintained.

[0011] The present invention is also directed to providing a head protection gear having a structure in which a process for releasing the visor and the main frame may be easily performed.

[0012] The present invention is also directed to providing a head protection gear having a structure in which the direction of external force for opening the visor and releasing the visor and the main frame may be formed similarly.

[0013] The problems of the present invention are not limited to those mentioned above, and other problems not mentioned will be clearly understood by those of ordinary skill in the art from the following description.

TECHNICAL SOLUTION

[0014] According to an aspect of the present invention, provided is a head protection gear, including a main frame with a space formed therein; a visor rotatably connected to the main frame; and a visor locker coupled to the main frame and detachably coupled to the visor, wherein the visor includes an insertion protrusion formed to protrude in a direction toward the space and withdrawably inserted into and coupled to the visor locker, and wherein the visor locker includes a support member coupled to the main frame and accommodating the insertion protrusion; and a movable member that supports the accommodated insertion protrusion from the upper side and is coupled to the support member so as to be movable in a

direction toward the space.

[0015] In this case, the movable member and the support member may extend along the outer circumference of the main frame, and in the movable member, a portion adjacent to one end of the extension direction thereof may be rotatably coupled to the support member, and a portion between the one end and the other end in the extension direction thereof may be elastically supported by the support member.

[0016] In addition, the movable member may include a limiting protrusion which forms the other end and is positioned between the support member and the main frame, when the movable member is pressed in a direction toward the space, the limiting protrusion may be spaced apart from the support member, and when the pressing state is released, the limiting protrusion may be in contact with the support member to limit the movement of the movable member.

[0017] In this case, the movable member may include a movable body extending along the outer circumference of the main frame and rotatably coupled to the support member; and a pressing inclined surface protruding outward from the movable body, extending obliquely with respect to the movable body, and located adjacent to the visor.

[0018] In addition, the visor may include a support edge forming an edge facing the visor locker; and a locker coupling part that extends from the support edge toward the visor locker wherein one side of the locker coupling part extends obliquely with respect to the support edge, and the pressing inclined surface may be positioned adjacent to the one side of the locker coupling part.

[0019] In this case, the visor may include a gripping protrusion positioned adjacent to the one side of the locker coupling part, protruding outward and extending obliquely with respect to the movable body.

[0020] In addition, the pressing inclined surface may include a first inclined surface supporting the one side of the locker coupling part; a second inclined surface continuous with the first inclined surface and extending outward away from the locker coupling part; and a third inclined surface continuous with the second inclined surface and extending inward away from the locker coupling part, so that a portion where the second inclined surface and the third inclined surface are continuous protrudes outward.

[0021] In this case, the support member may include a movable member accommodation part movably accommodating the movable member; a visor protrusion accommodation part communicating with the movable member accommodation part and accommodating the visor; and a locking opening that communicates with the movable member accommodation part and the visor protrusion accommodation part, respectively and is formed to be recessed in the thickness direction thereof.

[0022] In addition, the movable member may include a movable body that is movably accommodated in the movable member accommodation part and extends along an outer circumference of the main frame; and a locking protrusion located adjacent to one end in the extension direction of the movable body and movably accommodated in the locking opening.

[0023] In this case, the visor may include an insertion protrusion protruding from an inner surface of the visor and withdrawably accommodated in the visor protrusion accommodation part, and the locking protrusion may be configured to support the insertion protrusion accommodated in the visor protrusion accommodation part from the upper side.

[0024] In addition, the main frame may include a jaw protection part extending from the lower side to surround the space; and a locker support part located on one side of the jaw protection part to which the visor locker is coupled.

[0025] In this case, the visor locker may include a coupling member located inside the locker support part and coupled to the support member and the movable member, and the support member and the movable member may be coupled to the locker support part and the coupling member at the outside of the locker support part, respectively.

ADVANTAGEOUS EFFECT

[0026] According to the above configuration, in the head protection gear according to an exemplary embodiment of the present invention, the coupling state of the visor and the main frame can be stably maintained.

[0027] In addition, according to the above configuration, in the head protection gear according to an exemplary embodiment of the present invention, a process for releasing the visor and the main frame can be easily performed.

[0028] In addition, according to the above configuration, in the head protection gear according to an exemplary embodiment of the present invention, the direction of external force for opening the visor and releasing the visor and the main frame can be formed similarly.

[0029] Advantageous effects of the present invention are not limited to the above-described effects, and should be understood to include all effects that can be inferred from the configuration of the invention described in the detailed description or claims of the present invention.

DESCRIPTION OF DRAWINGS

[0030]

FIG. 1 is a perspective view illustrating a head protection gear according to an exemplary embodiment of the present invention.
FIG. 2 is a side view illustrating the head protection gear of FIG. 1.
FIG. 3 is a perspective view illustrating a state in which a visor of the head protection gear of FIG. 1 is opened.
FIG. 4 is a partially enlarged perspective view illustrating a visor provided in the head protection gear of FIG. 1.
FIG. 5 is a partially enlarged perspective view from the rear illustrating the visor of FIG. 4.
FIG. 6 is a partially enlarged perspective view illustrating a main frame and a visor locker provided in the head protection gear of FIG. 1.
FIG. 7 is an exploded perspective view illustrating the main frame and the visor locker of FIG. 6.
FIG. 8 is a perspective view illustrating a movable member provided in the visor locker of FIG. 6.
FIG. 9 is a perspective view from another angle, illustrating the movable member of FIG. 8.
FIG. 10 is a perspective view from yet another angle, illustrating the movable member of FIG. 8.
FIG. 11 is a perspective view illustrating a support member provided in the visor locker of FIG. 6.
FIG. 12 is a perspective view from another angle, illustrating the support member of FIG. 11.
FIG. 13 is a perspective view from yet another angle, illustrating the support member of FIG. 11.
FIG. 14 is a perspective view illustrating a coupling member provided in the visor locker of FIG. 6.
FIG. 15 is a cross-sectional view illustrating a coupling state of the main frame, the visor, and the visor locker of the head protection gear of FIG. 1.

MODES OF THE INVENTION

[0031] Hereinafter, exemplary embodiments of the present invention will be described in detail so that those of ordinary skill in the art can readily implement the present invention with reference to the accompanying drawings. The present invention may be embodied in many different forms and is not limited to the embodiments set forth herein. In the drawings, parts unrelated to the description are omitted for clarity of description of the present invention, and throughout the specification, same or similar reference numerals denote same elements.

[0032] Terms and words used in the present specification and claims should not be construed as limited to their usual or dictionary definition. They should be interpreted as meaning and concepts consistent with the technical idea of the present invention, based on the principle that inventors may appropriately define the terms and concepts to describe their own invention in the best way.

[0033] Accordingly, the embodiments described in the present specification and the configurations shown in the drawings correspond to preferred embodiments of the present invention, and do not represent all the technical idea of the present invention, so the configurations may have various examples of equivalent and modification that can replace them at the time of filing the present invention.

[0034] In the following description, in order to clarify the features of the present invention, descriptions of some components may be omitted.

[0035] The terms "above or upper side", "below or lower side", "left side", "right side", "front side", and "rear side" used in the following description will be understood with reference to the coordinate system shown in FIG. **1.**

[0036] In a head protection gear 10 according to an exemplary embodiment of the present invention, the coupling state between a main frame 100 and a visor 200 may be stably maintained by a visor locker 300. In addition, if the visor 200 is to be moved, the visor locker 300 may be pressed corresponding to the direction in which the visor 200 is moved so that the visor 200 may be released and moved.

[0037] The head protection gear 10 may include a plurality of components. The plurality of respective components are movably coupled to each other, so that one component may be configured to limit or allow movement of the other component.

[0038] In the embodiments shown in FIGS. 1 to 3, the head protection gear 10 includes a main frame 100, a visor 200, and a visor locker 300.

[0039] The main frame 100 forms a part of the external shape of the head protection gear 10. A space is formed inside the main frame 100 to accommodate the head of the user. The main frame 100 is configured to protect the user's head accommodated in the space from external impact.

[0040] The main frame 100 may have an arbitrary shape capable of accommodating the user's head and protecting the accommodated head. In the illustrated embodiment, the main frame 100 has a sphere shape with an open lower side.

[0041] The visor 200 is rotatably coupled to the main frame 100. The visor 200 is configured to open or close an opening on the front side communicating with the space of the main frame 100, that is, a frame opening 110 to be described later.

[0042] The visor locker 300 is coupled to the main frame 100. A part of the configuration of the visor locker 300 is fixedly coupled to the main frame 100, and another part of the configuration of the visor locker 300 may be movably coupled to the main frame 100.

[0043] Accordingly, when the other part of the visor locker 300 is pressed and moved, the visor 200 coupled to the visor

locker 300 may be released. This will be described later in detail.

[0044] In the illustrated embodiment, the main frame 100 includes a frame opening 110, a jaw protection part 120, and a locker support part 130.

[0045] The frame opening 110 is formed to be open on one side of the main frame 100, that is, on the front side in the illustrated embodiment. The frame opening 110 communicates the outside with the space formed inside the main frame 100.

[0046] The frame opening 110 may be opened or closed by the visor 200. Specifically, when the visor 200 rotatably coupled to the main frame 100 rotates and is moved downward, the frame opening 110 is closed by the visor 200. In addition, when the visor 200 rotates and is moved upward, the frame opening 110 may be opened to communicate with the outside.

[0047] The frame opening 110 is surrounded by another part of the main frame 100. In the illustrated embodiment, the left, right, and upper sides of the frame opening 110 are surrounded by the main frame 100. In addition, the lower side of the frame opening 110 is surrounded by the jaw protection part 120.

[0048] The jaw protection part 120 forms the other side of the main frame 100, that is, the lower side of the front side in the illustrated embodiment. The jaw protection part 120 extends along the extension direction of the main frame 100. In the illustrated embodiment, the jaw protection part 120 is formed to extend toward a left rear side and a right rear side of the main frame 100.

[0049] The visor 200 may be positioned adjacent to the jaw protection part 120. Specifically, in a state in which the visor 200 closes the frame opening 110, the visor 200 may be positioned adjacent to the jaw protection part 120. In this case, the support edge 210 of the visor 200 may be disposed adjacent to an upper edge of the jaw protection part 120.

[0050] The jaw protection part 120 may be formed to have a predetermined thickness, that is, a height in the up-down direction in the illustrated embodiment. The visor locker 300 may be disposed at one end of the ends in the height direction of the jaw protection part 120 toward the visor 200, that is, at the upper end in the illustrated embodiment. The visor locker 300 may be coupled to the visor 200 disposed adjacent to the jaw protection part 120.

[0051] By the coupling, the visor 200 may be maintained in a state in which the frame opening 110 is closed. This will be described later.

[0052] The locker support part 130 is a part at which the visor locker 300 is coupled to the main frame 100 (see FIG. 7). The locker support part 130 is formed on the jaw protection part 120. Specifically, in the illustrated embodiment, the locker support part 130 is positioned to be biased to the left on the jaw protection part 120.

[0053] The locker support part 130 is positioned to be biased toward one side of the ends in the height direction of the jaw protection part 120 toward the visor 200, that is, the upper side in the illustrated embodiment.

[0054] The position of the locker support part 130 may be changed according to the position of at least one of a locker coupling part 220, a gripping protrusion 230, an insertion protrusion 240, and a locking protrusion accommodation part 250 coupled to the visor 200.

[0055] The locker support part 130 may be provided in any form in which the visor 200 may be detachably coupled through the visor locker 300 by being coupled to the visor locker 300. In the embodiment shown in FIG. 7, the locker support part 130 is provided as a space formed through or recessed in the jaw protection part 120.

[0056] In the illustrated embodiment, the locker support part 130 includes a first support part 131 and a second support part 132.

[0057] The first support part 131 is formed through the jaw protection part 120 in the thickness direction, that is, in the radial direction in the illustrated embodiment. The first support part 131 extends in the extension direction of the jaw protection part 120, that is, in the outer circumferential direction in the illustrated embodiment. The space formed inside the main frame 100 and the outside may communicate with each other by the first support part 131.

[0058] The visor locker 300 is coupled to the first support part 131. Specifically, a support member 320 is coupled from the outside toward the inside while covering the first support part 131. In addition, the movable member 310 is coupled in a direction from the outside toward the inside of the support member 320. A locking protrusion 314 of the movable member 310 may be inserted into and withdrawn from the first support part 131.

[0059] Therefore, it may be said that the first support part 131 forms a space for the movable member 310 to move toward the inside of the main frame 100.

[0060] A coupling member 330 of the visor locker 300 is coupled to the first support part 131 to be opposite to the support member 320. Specifically, in the illustrated embodiment, the coupling member 330 covers the first support part 131 inside the main frame 100 and is coupled to the jaw protection part 120. A first portion 332a and a second portion 332b of an accommodation opening 332 formed inside the coupling member 330 communicate with the first support part 131.

[0061] The inside of the first support part 131 is configured to be covered by the coupling member 330 and the outside of the first support part 131 is configured to be covered by the movable member 310 and the support member 320. Accordingly, the first support part 131 is not arbitrarily exposed to the outside.

[0062] In addition, the movable member 310 is coupled in a direction from the outside toward the inside of the support member 320. The movable member 310 may be moved by a restoring force applied by an elastic member 400

accommodated in the first support part 131.

[0063] The first support part 131 may be formed at an arbitrary position where some components of the visor locker 300 may be movably coupled. In the illustrated embodiment, the first support part 131 is positioned to be biased toward the front side compared to the second support part 132.

[0064] The second support part 132 is formed adjacent to the first support part 131.

[0065] The second support part 132 is formed through the jaw protection part 120 in the thickness direction, that is, in the radial direction in the illustrated embodiment.

[0066] The visor locker 300 is coupled to the second support part 132. Specifically, a frame coupling part 326 of the support member 320 is coupled through the second support part 132. The support member 320 covers the second support part 132 from the outside and is coupled to the second support part 132. In this case, among a plurality of frame coupling parts 326, the frame coupling part 326 positioned at the rear side is inserted into and coupled to the second support part 132 (see FIG. 13).

[0067] The coupling member 330 of the visor locker 300 is coupled to the second support part 132 to be opposite to the support member 320. Specifically, in the illustrated embodiment, the coupling member 330 covers the second support part 132 inside the main frame 100 and is coupled to the jaw protection part 120.

[0068] The inside of the second support part 132 is configured to be covered by the coupling member 330 and the outside of the second support part 132 is configured to be covered by the movable member 310 and the support member 320. Accordingly, the second support part 132 is not arbitrarily exposed to the outside.

[0069] The position and shape of the second support part 132 may be changed according to the position and shape of the frame coupling part 326 located at the rear side described above. In the illustrated embodiment, the second support part 132 has a cylindrical shape having a circular cross-section and extending in the radial direction of the main frame 100. In addition, in the illustrated embodiment, the second support part 132 is positioned to be biased toward the rear side compared to the first support part 131.

[0070] The visor 200 is rotatably coupled to the main frame 100 to open or close the frame opening 110. The visor 200 extends in the same shape as the outer circumference of the main frame 100. In the illustrated embodiment, each end in the extension direction of the visor 200, that is, the left rear end and the right rear end, are rotatably coupled to the main frame 100.

[0071] The visor 200 may be formed in a shape corresponding to the shape of the frame opening 110. In the illustrated embodiment, the visor 200 has a curved shape rounded to be convex toward the outside of the main frame 100.

[0072] In a state in which the visor 200 closes the frame opening 110, the visor 200 may be coupled to the visor locker 300. As long as an external force is not applied to the visor locker 300, the coupling state between the visor 200 and the visor locker 300 may be maintained.

[0073] When the visor locker 300 is pressed, the visor 200 may be released from the visor locker 300 through a process to be described later. In this case, a direction in which the visor locker 300 is pressed and a direction in which the visor 200 is pressed to open the frame opening 110 may be continuous. Therefore, the user may move the visor 200 without changing the direction of the force pressing the visor locker 300.

[0074] In the embodiments shown in FIGS. 4 to 5, the visor 200 includes a support edge 210, a locker coupling part 220, a gripping protrusion 230, an insertion protrusion 240, and a locking protrusion accommodation part 250.

[0075] The support edge 210 forms an edge of the visor 200. The support edge 210 may be defined as an edge of the visor 200 that faces the jaw protection part 120. In the illustrated embodiment, the support edge 210 forms a lower edge of the visor 200.

[0076] The support edge 210 may be positioned adjacent to or spaced apart from the jaw protection part 120. In a state in which the visor 200 closes the frame opening 110 and is coupled to the visor locker 300, the support edge 210 may be positioned adjacent to the jaw protection part 120. In a state in which the visor 200 opens the frame opening 110 and is separated from the visor locker 300, the support edge 210 may be positioned to be spaced apart from the jaw protection part 120.

[0077] Therefore, the visor 200 may be moved and positioned to cover the frame opening 110 until the support edge 210 contacts the jaw protection part 120.

[0078] The locker coupling part 220 is formed on one side of the support edge 210 adjacent to the visor locker 300, that is, on the front right side in the illustrated embodiment.

[0079] The locker coupling part 220 is formed to extend from the one side of the support edge 210 toward the jaw protection part 120. In other words, the locker coupling part 220 is formed to protrude outward from the support edge 210, that is, downward in the illustrated embodiment.

[0080] When the visor 200 is positioned to close the frame opening 110, the locker coupling part 220 is disposed to cover portions of the movable member 310 and the support member 320 of the visor locker 300. In the illustrated embodiment, in the above state, the locker coupling part 220 is disposed to cover a portion of the front side of the movable member 310 and the support member 320.

[0081] The insertion protrusion 240 and the locking protrusion accommodation part 250 are provided on the inner

surface of the locker coupling part 220, that is, one surface formed inside the main frame 100. When the locker coupling part 220 is disposed to cover the portions of the movable member 310 and the support member 320, the insertion protrusion 240 and the locking protrusion accommodation part 250 may be coupled to the visor locker 300, respectively.

[0082] The locker coupling part 220 may have any shape where the visor locker 300 is partially covered and the insertion protrusion 240 and the locking protrusion accommodation part 250 may be provided. In the illustrated embodiment, the locker coupling part 220 is formed to have a triangular cross section including a vertex in a direction toward the jaw protection part 120, that is, a downward-facing vertex.

[0083] In the above embodiment, the gripping protrusion 230 is formed adjacent to one edge of the locker coupling part 220, that is, the rear edge in the illustrated embodiment.

[0084] The gripping protrusion 230 is a portion where the visor 200 is pressed against the user. The gripping protrusion 230 is formed to protrude outward from the outer surface of the visor 200, that is, one surface opposite to the inner space of the main frame 100.

[0085] The gripping protrusion 230 is positioned adjacent to the support edge 210. In an embodiment, the gripping protrusion 230 may be formed to extend along a portion of the support edge 210. In the illustrated embodiment, the gripping protrusion 230 extends along the rear portion of the support edge 210.

[0086] In this case, the direction in which the gripping protrusion 230 extends may be similar to the extension direction of a pressing inclined surface 312 of the movable member 310 of the visor locker 300. That is, the force pressing the pressing inclined surface 312 may be applied to the gripping protrusion 230 without excessive change in its direction and utilized to move the visor 200. In the illustrated embodiment, the gripping protrusion 230 is formed to extend toward the front lower side and the rear upper side.

[0087] The gripping protrusion 230 may be divided into a plurality of portions. The plurality of portions may be continuous with each other and may extend with different inclinations. In the illustrated embodiment, two gripping protrusions 230 are provided, including a first gripping protrusion 231 and a second gripping protrusion 232.

[0088] The first gripping protrusion 231 forms a front portion of the gripping protrusion 230. The first gripping protrusion 231 extends along the support edge 210 and is formed on the locker coupling part 220. That is, as shown in FIG. 4, the first gripping protrusion 231 is located adjacent to the rear edge of the lower edge of the locker coupling part 220.

[0089] The first gripping protrusion 231 extends in the same direction as the rear edge of the locker coupling part 220, that is, toward the front lower side and the rear upper side in the illustrated embodiment. In this case, an inclination of the first gripping protrusion 231, that is, an inclination with respect to a horizontal plane, may be formed to be greater than an inclination of the second gripping protrusion 232.

[0090] The first gripping protrusion 231 is continuous with the second gripping protrusion 232. In the illustrated embodiment, the rear end of the first gripping protrusion 231 is continuous with the front end of the second gripping protrusion 232.

[0091] The second gripping protrusion 232 forms a rear portion of the gripping protrusion 230. The second gripping protrusion 232 is formed on a portion of the support edge 210 on which the locker coupling part 220 is not formed, that is, on the rear side in the illustrated embodiment. Therefore, it will be understood that the second gripping protrusion 232 is located on the rear side of the first gripping protrusion 231.

[0092] The second gripping protrusion 232 extends in the same direction as the rear side of the support edge 210, that is, toward the front lower side and the rear upper side in the illustrated embodiment. In this case, the inclination of the second gripping protrusion 232 is formed smaller than that of the first gripping protrusion 231 as described above.

[0093] The force pressing the visor locker 300 may be applied to the second gripping protrusion 232 without excessive change in the direction thereof. To this end, the extension direction of the second gripping protrusion 232 may be formed to be similar to the extension direction of the pressing inclined surface 312 of the visor locker 300.

[0094] The insertion protrusion 240 is a portion in which the visor 200 is withdrawably inserted into the visor protrusion accommodation part 324. The insertion protrusion 240 inserted into the visor protrusion accommodation part 324 is restricted from moving upward by the locking protrusion 314 of the movable member 310. Accordingly, the coupling state of the visor 200 and the visor locker 300, and furthermore, the visor 200 and the main frame 100 may be stably maintained.

[0095] The insertion protrusion 240 is located on the locker coupling part 220. Specifically, the insertion protrusion 240 is formed on one surface of the surfaces of the locker coupling part 220 toward the space formed inside the main frame 100, that is, on the rear side surface in the illustrated embodiment. The insertion protrusion 240 is formed to protrude inward from the rear side surface of the locker coupling part 220.

[0096] The insertion protrusion 240 may have any shape that is withdrawably accommodated in the visor protrusion accommodation part 324 and is restricted from moving in the up-down direction by the locking protrusion 314. In the illustrated embodiment, the insertion protrusion 240 is formed to extend in the extension direction of the visor 200, that is, in a direction toward the front lower side and the rear upper side.

[0097] The locking protrusion accommodation part 250 is formed adjacent to the insertion protrusion 240.

[0098] The locking protrusion accommodation part 250 is a space in which the locking protrusion 314 of the movable member 310 is accommodated. The locking protrusion 314 accommodated in the locking protrusion accommodation part

250 is positioned adjacent to the upper side of the insertion protrusion 240 and so is configured to prevent the upward movement of the insertion protrusion 240. Accordingly, the coupling state of the visor 200 and the visor locker 300, and furthermore, the visor 200 and the main frame 100 may be stably maintained.

[0099] The locking protrusion accommodation part 250 is located on the locker coupling part 220. Specifically, the locking protrusion accommodation part 250 is defined as one surface on which the insertion protrusion 240 is disposed among the surfaces of the locker coupling part 220, that is, the rear side surface in the illustrated embodiment. The locking protrusion accommodation part 250 is defined as a part of the rear side surface of the locker coupling part 220 adjacent to the insertion protrusion 240, that is, an upper part in the illustrated embodiment.

[0100] The visor locker 300 is detachably coupled to the visor 200. The visor locker 300 is coupled to the main frame 100, some components of which are fixedly coupled to the main frame 100 and the other components of which are movably coupled to the main frame 100.

[0101] When the visor 200 is coupled to the visor locker 300, the other components may be moved relative to the main frame 100 and may fix the visor 200. When the other components are pressed in a specific direction, the visor 200 may be released from the visor locker 300.

[0102] The visor locker 300 is coupled to the main frame 100. Specifically, the visor locker 300 is coupled to the locker support part 130 formed on the jaw protection part 120. The visor locker 300 is positioned to be biased in a direction toward the visor 200, that is, upward in the illustrated embodiment. The visor locker 300 is positioned adjacent to the locker coupling part 220 of the visor 200 moved to close the frame opening 110.

[0103] The visor locker 300 is detachably coupled to the visor 200. The coupling may be achieved by inserting the insertion protrusion 240 of the visor 200 into the visor protrusion accommodation part 324 to be described later, and by accommodating the locking protrusion 314 in the locking protrusion accommodation part 250.

[0104] In the embodiments shown in FIGS. 6 to 14, the visor locker 300 includes a movable member 310, a support member 320, and a coupling member 330.

[0105] The movable member 310 is defined as the other components of the visor locker 300. The movable member 310 is movably coupled to the main frame 100, specifically the locker support part 130. The coupling may be formed such that the movable member 310 is movably coupled to the support member 320.

[0106] The movable member 310 covers the locker support part 130 and the support member 320 fixedly coupled to the locker support part 130 from the outside and is movably coupled to the support member 320. In the illustrated embodiment, the movable member 310 is coupled to the support member 320 to be movable in a direction facing the main frame 100, that is, in a direction facing radially inward and in the opposite direction thereof, that is, in a direction facing radially outward.

[0107] The movable member 310 is positioned at the outermost side of the visor locker 300. A portion of the movable member 310 is exposed to the outside of the main frame 100. The user may move the movable member 310 by pressing the movable member 310 inward, that is, toward a space formed inside the main frame 100.

[0108] The movable member 310 may extend in the same direction as the direction in which the first support part 131 of the locker support part 130 extends. In the illustrated embodiment, the movable member 310 extends toward the front lower side and the rear upper side.

[0109] In the illustrated embodiment, the movable member 310 includes a movable body 311, a pressing inclined surface 312, a visor seating surface 313, a locking protrusion 314, a limiting protrusion 315, an elastic protrusion 316, and a shaft hollow 317.

[0110] The movable body 311 forms a body of the movable member 310. Other components of the movable member 310 are coupled to and formed in the movable body 311. The movable body 311 may extend in a direction similar to the extension direction of the locker support part 130. In the illustrated embodiment, the movable body 311 extends toward the front lower side and the rear lower side.

[0111] The pressing inclined surface 312 and the visor seating surface 313 are formed on one surface toward outward of the movable body 311. The locking protrusion 314, the limiting protrusion 315, and the elastic protrusion 316 are formed on the other surface toward inward of the movable body 311. In addition, the shaft hollow 317 is formed through one side, that is, the upper side in the illustrated embodiment, of each side of the movable body 311 toward the visor 200.

[0112] The pressing inclined surface 312 is a portion pressed by a force applied by a user. The pressing inclined surface 312 is formed on the one surface of the movable body 311, that is, on the outer surface. The pressing inclined surface 312 is formed to protrude outward from the one surface of the movable body 311. Therefore, the user may easily recognize and pressurize the position of the pressing inclined surface 312 only by tactile sensation.

[0113] The pressing inclined surface 312 is formed on a portion of the one surface of the movable body 311. In the illustrated embodiment, the pressing inclined surface 312 is positioned to be biased toward the rear side of the movable body 311. The visor seating surface 313, the locking protrusion 314, and the limiting protrusion 315 are positioned at a front side of the pressing inclined surface 312.

[0114] The pressing inclined surface 312 may extend in a direction similar to that of the movable body 311. In the illustrated embodiment, the pressing inclined surface 312 may extend toward the front lower side and the rear upper side.

[0115] The pressing inclined surface 312 may be disposed adjacent to the visor 200. Specifically, the pressing inclined

surface 312 may be positioned adjacent to the locker coupling part 220 of the visor 200 moved to cover the frame opening 110. In an embodiment, the pressing inclined surface 312 may be configured to support the locker coupling part 220.

[0116] The pressing inclined surface 312 may be disposed adjacent to the gripping protrusion 230 of the visor 200. In the above state, that is, in a state in which the visor 200 is moved to cover the frame opening 110, the pressing inclined surface 312 may be disposed adjacent to the gripping protrusion 230. The force for pressing the pressing inclined surface 312 may be applied to the gripping protrusion 230 without excessive movement.

[0117] In this case, the extension direction of the pressing inclined surface 312 may be similar to the extension direction of the gripping protrusion 230 of the visor 200, specifically the extension direction of the second gripping protrusion 232. In an embodiment, the pressing inclined surface 312 may extend in the same direction as the second gripping protrusion 232.

[0118] Therefore, the force for pressing the pressing inclined surface 312 may be applied to the gripping protrusion 230 without excessively changing the direction thereof. Accordingly, separation and movement of the visor 200 coupled to the visor locker 300 may be easily performed.

[0119] The pressing inclined surface 312 may be divided into a plurality of portions. The plurality of portions may be continuous with each other, and each portion may be continuous while forming an inclination with each other. In the illustrated embodiment, the pressing inclined surface 312 includes a first inclined surface 312a, a second inclined surface 312b, and a third inclined surface 312c disposed in a direction from the upper side toward the lower side.

[0120] The first inclined surface 312a forms a portion of the pressing inclined surface 312. The first inclined surface 312a is located at the uppermost side among the above portions of the pressing inclined surface 312, and is located adjacent to the support edge 210 and the locker coupling part 220 of the visor 200. In an embodiment, the first inclined surface 312a may be configured to support the locker coupling part 220.

[0121] The first inclined surface 312a may extend in the extension direction of the movable body 311. In this case, the first inclined surface 312a may include a surface facing the visor 200, that is, a surface facing upward in the illustrated embodiment. In the illustrated embodiment, the first inclined surface 312a extends toward the front lower side and the rear upper side.

[0122] The first inclined surface 312a is continuous with the second inclined surface 312b in the height direction thereof, that is, in the up-down direction in the illustrated embodiment.

[0123] The second inclined surface 312b forms another portion of the pressing inclined surface 312. The second inclined surface 312b is located in the middle portion of the portions of the pressing inclined surface 312. The second inclined surface 312b may be formed to extend obliquely outward and protrude outward.

[0124] The second inclined surface 312b is continuous with the first inclined surface 312b at a predetermined angle. In the illustrated embodiment, the second inclined surface 312b, is continuous with the first inclined surface 312b at an obtuse angle.

[0125] The second inclined surface 312b is continuous with the third inclined surface 312c at a predetermined angle. In the illustrated embodiment, the second inclined surface 312b is continuous with the third inclined surface 312c at an obtuse angle. In this case, a portion at which the second inclined surface 312b and the third inclined surface 312c are continuous may protrude radially outward.

[0126] Therefore, the user may recognize the continuous portion of the second inclined surface 312b and the third inclined surface 312c by tactile sensation and press the movable member 310. In this case, the user may move the movable member 310 by pressing the second inclined surface 312b or the third inclined surface 312c.

[0127] The third inclined surface 312c forms yet another portion of the pressing inclined surface 312. The third inclined surface 312c is located in the lower portion of the portions of the pressing inclined surface 312. The third inclined surface 312c extends obliquely toward the inside.

[0128] The third inclined surface 312c extends while forming a predetermined angle with the second inclined surface 312b. As described above, a portion at which the third inclined surface 312c and the second inclined surface 312b are continuous with each other protrudes outward and may be easily recognized by the user. In addition, the user may move the movable member 310 by pressing any one or more of the second inclined surface 312b and the third inclined surface 312c. Accordingly, convenience of operation may be improved.

[0129] The visor seating surface 313 is formed adjacent to the pressing inclined surface 312.

[0130] The visor seating surface 313 is a portion on which the locker coupling part 220 of the visor 200 is seated. The visor seating surface 313 may be defined by the one surface, that is, a portion of the outer surface, of the movable body 311. In the illustrated embodiment, the visor seating surface 313 is defined as a portion of a surface located on the front side of the pressing inclined surface 312 among the outer surfaces of the movable body 311.

[0131] The visor seating surface 313 may be covered by the locker coupling part 220. Specifically, on the visor seating surface 313, a portion of the remaining part of the inner surfaces of the locker coupling part 220 except for the part where the insertion protrusion 240 and the locking protrusion accommodation part 250 are formed is seated. The visor seating surface 313 is covered by the locker coupling part 220 and disposed to face a portion of the remaining part.

[0132] The locking protrusion 314 is disposed adjacent to the visor seating surface 313.

[0133] The locking protrusion 314 is withdrawably accommodated in a locking opening 323 of the support member 320.

The locking protrusion 314 supports the insertion protrusion 240 of the visor 200 accommodated in the visor protrusion accommodation part 324 from the upper side. Accordingly, the insertion protrusion 240 accommodated in the visor protrusion accommodation part 324 is not arbitrarily withdrawn, so that the coupling state between the visor 200 and the main frame 100 or the visor 200 and the visor locker 300 may be stably maintained.

[0134] The locking protrusion 314 is formed to protrude outward from the outer surface of the movable body 311. The locking protrusion 314 extends in the extension direction of the movable body 311, that is, in the front lower side and the rear upper side in the illustrated embodiment.

[0135] In this case, the protruding length of the locking protrusion 314 may be determined according to the movement distance of the movable member 310. That is, in a state in which the movable member 310 is not pressed, the locking protrusion 314 may be disposed to overlap the insertion protrusion 240 along the moving direction of the visor 200, that is, along the up-down direction.

[0136] In addition, the locking protrusion 314 may be disposed to be spaced apart from the insertion protrusion 240 along the up-down direction in a state in which the movable member 310 is pressed. The movable member 310 may be formed to protrude by a length sufficient to form the above state.

[0137] The limiting protrusion 315 is formed adjacent to the locking protrusion 314.

[0138] The limiting protrusion 315 forms a portion at which the movable member 310 is coupled to the support member 320. The limiting protrusion 315 penetrates the support member 320 and is positioned inside the support member 320. That is, the limiting protrusion 315 is positioned between the inner surface of the support member 320 and the jaw protection part 120.

[0139] As will be described later, the movable member 310 is moved radially outward by a restoring force applied by the elastic member 400. In this case, the limiting protrusion 315 is caught on the inner surface of the support member 320, so that the movable member 310 is not separated from the support member 320.

[0140] The limiting protrusion 315 may be disposed at one end of the movable member 310. In the illustrated embodiment, the limiting protrusion 315 forms one end opposite to the pressing inclined surface 312, that is, the front end, of each end in the extension direction of the movable member 310.

[0141] The limiting protrusion 315 is formed to extend in the extension direction of the movable member 310, that is, toward the front lower side in the illustrated embodiment. It is desirable that the limiting protrusion 315 is in contact with the inner surface of the support member 320 and extends long enough to prevent separation of the movable member 310.

[0142] The elastic protrusion 316 is inserted into the elastic member 400 and supports one side in the extension direction of the elastic member 400. The elastic protrusion 316 is formed to protrude inward from the inner surface of the movable body 311.

[0143] The elastic protrusion 316 may be disposed to correspond to positions of the first support part 131 of the locker support part 130, an elastic member housing 327 of the support member 320, and an elastic member support part 328. In the illustrated embodiment, the elastic protrusion 316 is located in a middle portion in the extension direction of the movable body 311. In this case, the elastic protrusion 316 may be disposed to face the visor seating surface 313.

[0144] The shaft hollow 317 is a portion at which the movable member 310 is movably coupled to the support member 320. The shaft hollow 317 may be formed through the height direction of the movable member 310, that is, in the up-down direction in the illustrated embodiment, so that a shaft member (not shown) may be coupled therethrough.

[0145] The shaft hollow 317 may be formed at an arbitrary position capable of movably coupling the movable member 310 to the support member 320. In the illustrated embodiment, the shaft hollow 317 is positioned opposite to the limiting protrusion 315 and adjacent to the other end, that is, the rear end, in the extension direction of the movable body 311.

[0146] Therefore, it will be understood that the movable member 310 rotates in a direction toward the main frame 100 or opposite to the main frame 100 around the shaft hollow 317, but the rotational distance in the direction opposite to the main frame 100 is limited by the limiting protrusion 315.

[0147] The support member 320 is defined as the some components of the visor locker 300. The support member 320 is fixedly coupled to the locker support part 130 of the main frame 100. The movable member 310 is movably coupled to the support member 320. In an embodiment, the movable member 310 is coupled to the support member 320 to be rotatable around the shaft hollow 317 as described above.

[0148] The support member 320 is coupled to the coupling member 330. Specifically, the support member 320 is disposed to face the coupling member 330 with the jaw protection part 120 in which the locker support part 130 is formed therebetween. The support member 320 and the coupling member 330 may be coupled to each other by a fastening member (not shown) penetrating the jaw protection part 120.

[0149] The support member 320 is coupled to the elastic member 400. The support member 320 may be configured to support one side of the elastic member 400. The other side of the elastic member 400 may be coupled to the movable member 310. Accordingly, the support member 320 and the movable member 310 may be elastically coupled to each other.

[0150] The support member 320 is disposed to be covered by the movable member 310. The support member 320 is positioned between the movable member 310 and the coupling member 330.

[0151] The support member 320 may extend in the same direction as the movable member 310. In the illustrated embodiment, the support member 320 extends obliquely toward the front lower side and the rear upper side, similar to the movable member 310.

[0152] In the illustrated embodiment, the support member 320 includes a support body 321, a movable member accommodation part 322, a locking opening 323, a visor protrusion accommodation part 324, a shaft opening 325, a frame coupling part 326, an elastic member housing 327, and an elastic member support part 328.

[0153] The support body 321 forms a body of the support member 320. Other components of the support member 320 are coupled to and formed in the support body 321. The support body 321 may extend in a direction similar to that of the movable body 311.

[0154] The movable member accommodation part 322, the locking opening 323, and the visor protrusion accommodation part 324 are formed on one side, that is, the outside in the illustrated embodiment of each side of the support body 321 toward the movable member 310. The frame coupling part 326, the elastic member housing 327, and the elastic member support part 328 are provided at the other side, that is, the inner side in the illustrated embodiment, of each side of the support body 321 toward the jaw protection part 120. In addition, the shaft opening 325 is formed through one side, that is, the upper side in the illustrated embodiment, of each side of the support body 321 toward the visor 200.

[0155] The movable member accommodation part 322 is a space into which the movable member 310 is withdrawably inserted. The movable member accommodation part 322 is formed to be recessed in one side, that is, the outside in the illustrated embodiment, of the support body 321 toward the movable member 310.

[0156] The movable member accommodation part 322 extends along the extension direction of the support body 321. It will be understood that the extension direction of the movable member accommodation part 322 is the same as the extension direction of the movable body 311 accommodated therein.

[0157] The locking opening 323 is formed at one side end, that is, the front end in the illustrated embodiment, corresponding to the locking protrusion 314 among the ends in the extension direction of the movable member accommodation part 322.

[0158] The locking opening 323 is a space in which the locking protrusion 314 is movably accommodated. While accommodated in the locking opening 323, the locking protrusion 314 may be moved in a direction toward the main frame 100, that is, in a direction toward the inner side in the illustrated embodiment, and in a direction opposite to the main frame 100, that is, in a direction toward the outer side in the illustrated embodiment.

[0159] The locking opening 323 communicates with the movable member accommodation part 322. The locking protrusion 314 continuous with the movable body 311 accommodated in the movable member accommodation part 322 may be moved along the above direction while accommodated in the locking opening 323.

[0160] The locking opening 323 is formed through the inside of the support body 321. In the illustrated embodiment, the locking opening 323 is formed through the support body 321 in the width direction, that is, in the radial direction.

[0161] The locking opening 323 may be formed in a shape corresponding to the locking protrusion 314. In the illustrated embodiment, the locking opening 323 is formed to extend obliquely toward the front lower side and the rear upper side, and is formed to have a height in the up-down direction.

[0162] The visor protrusion accommodation part 324 is formed adjacent to the locking opening 323.

[0163] The visor protrusion accommodation part 324 is configured to accommodate a portion of the visor 200 coupled to the visor locker 300. In an embodiment, the visor protrusion accommodation part 324 may accommodate the insertion protrusion 240 of the visor 200.

[0164] The visor protrusion accommodation part 324 is positioned adjacent to the locking opening 323. In the illustrated embodiment, the visor protrusion accommodation part 324 is positioned at the one side in the extension direction of the movable member accommodation part 322, at the front end in the illustrated embodiment.

[0165] The visor protrusion accommodation part 324 communicates with the movable member accommodation part 322. The locking protrusion 314 may be partially accommodated in the visor protrusion accommodation part 324 to support the insertion protrusion 240. The visor protrusion accommodation part 324 is formed to be recessed in the one side, that is, the outside in the illustrated embodiment, of the support body 321 toward the movable member 310.

[0166] The lower side of the visor protrusion accommodation part 324 may be surrounded by the support body 321. The movement distance of the visor 200 in the downward direction may be limited to a point until the support edge 210 (i.e., adjacent to the insertion protrusion 240) of the visor 200 contacts the support body 321.

[0167] The visor protrusion accommodation part 324 may be formed in a shape corresponding to the locking opening 323. In the illustrated embodiment, the visor protrusion accommodation part 324 extends obliquely toward the front lower side and the rear upper side, and is formed to have a height in the up-down direction.

[0168] The inner side of the visor protrusion accommodation part 324 may be partially surrounded by the inner surface of the support body 321. In the illustrated embodiment, the inner side and the lower side of the visor protrusion accommodation part 324 are surrounded by the inner surface of the support body 321.

[0169] The shaft opening 325 is a portion at which the movable member 310 is movably coupled to the support member 320. The shaft opening 325 may be formed through the height direction of the support member 320, that is, in the up-down

direction in the illustrated embodiment, so that the shaft member (not shown) may be coupled therethrough.

[0170] The shaft opening 325 may be disposed to correspond to the position of the shaft hollow 317. In the illustrated embodiment, the shaft opening 325 is positioned opposite to the locking opening 323 or the visor protrusion accommodation part 324 and adjacent to the other end, that is, the rear end, in the extension direction of the support body 321.

[0171] The frame coupling part 326 forms a portion at which the support member 320 is coupled to the locker support part 130. The frame coupling part 326 is formed to protrude from the other side of the support body 321 facing the locker support part 130, that is, from the inner side in the illustrated embodiment.

[0172] The frame coupling part 326 is coupled to the second support part 132 of the locker support part 130. The frame coupling part 326 may be inserted into and coupled to the coupling opening 333 of the coupling member 330. A hollow (reference numeral not indicated) is formed inside the frame coupling part 326, through which a fastening member (not shown) that penetrates the support member 320, the jaw protection part 120, and the coupling member 330 may pass.

[0173] The frame coupling part 326 may be provided in plurality. The plurality of frame coupling parts 326 may be positioned to be biased toward each end in the extension direction of the support body 321, respectively. In the illustrated embodiment, the frame coupling parts 326 are positioned to be biased toward the front end and the rear end of the support body 321.

[0174] Accordingly, it will be understood that the frame coupling part 326 located at the front side is penetrated into, inserted into, and coupled to the first support part 131 and the coupling opening 333 located at the front side, and the frame coupling part 326 located at the rear side is penetrated into, inserted into, and coupled to the second support part 132 and the coupling opening 333 located at the rear side, respectively.

[0175] Accordingly, it will be understood that the frame coupling part 326 is inserted into and coupled to the coupling opening 333 located at the front side.

[0176] The elastic member housing 327 accommodates the elastic member 400. The elastic member housing 327 is formed to partially surround the accommodated elastic member 400. The elastic member 400 is not arbitrarily separated in the radial direction thanks to the elastic member housing 327 surrounding the outer circumferential direction thereof.

[0177] The elastic member housing 327 is formed to protrude from the other side of the support body 321 facing the locker support part 130, that is, from the inner side in the illustrated embodiment. One side of the elastic member housing 327, that is, the rear side in the illustrated embodiment, may be open and the other side may be closed. Accordingly, the elastic member 400 may be easily inserted into the elastic member housing 327, but arbitrary separation may be prevented.

[0178] The elastic member housing 327 and the elastic member 400 accommodated inside the elastic member housing 327 are inserted into and coupled to the first support part 131.

[0179] The elastic member support part 328 is provided inside the elastic member housing 327.

[0180] The elastic member support part 328 supports the other side in the extension direction of the elastic member 400 accommodated in the elastic member housing 327. In an embodiment where the elastic member 400 is provided as a coil spring, one end of the elastic member 400 may be supported by the elastic protrusion 316 of the movable member 310 and the other end of the elastic member 400 may be supported by the elastic member support part 328. Accordingly, the movable member 310 may be elastically supported by the support member 320.

[0181] The elastic member support part 328 is located inside the elastic member housing 327. The elastic member support part 328 is formed to protrude from one surface of the surfaces of the elastic member housing 327 facing outward in the radial direction.

[0182] The coupling member 330 is coupled to the jaw protection part 120 and the support member 320, respectively. The support member 320 may be fixedly coupled to the jaw protection part 120 by the coupling member 330.

[0183] The coupling member 330 is located in a space formed inside the main frame 100. The coupling member 330 is coupled to the main frame 100 in a direction from the inside toward the outside of the main frame 100. In other words, the coupling member 330 is coupled to the locker support 130 inside the locker support part 130.

[0184] A fastening member (not shown) may be provided for coupling the coupling member 330, the locker support part 130, and the support member 320. The fastening member (not shown) may be coupled to the coupling member 330, the locker support part 130, and the support member 320, respectively.

[0185] In the illustrated embodiment, the coupling member 330 includes a coupling body 331, an accommodation opening 332, and a coupling opening 333.

[0186] The coupling body 331 forms a body of the coupling member 330. Other components of the coupling member 330 are formed in the coupling body 331. The coupling body 331 may extend in a direction similar to that of the movable body 311 or the support body 321.

[0187] The accommodation opening 332 is formed to be recessed on one side, that is, the outer side in the illustrated embodiment, of each side of the coupling body 331 toward the locker support part 130. In addition, the coupling opening 333 is formed through each end in the extension direction of the coupling body 331.

[0188] The accommodation opening 332 is a space for accommodating the locking protrusion 314 that moves inward as the movable member 310 is pressed. The accommodation opening 332 is formed to be open on one side of the coupling

body 331, that is, on the outer side in the illustrated embodiment, so that the locking protrusion 314 may be inserted therein and withdrawn therefrom.

[0189] The accommodation opening 332 communicates with the locking opening 323. The locking protrusion 314 may pass through the locking opening 323 to reach the accommodation opening 332.

[0190] The accommodation opening 332 may be formed in a shape corresponding to the locking protrusion 314 or the locking opening 323. In the illustrated embodiment, the accommodation opening 332 is formed to extend obliquely toward the front lower side and the rear upper side, and is formed to have a height in the up-down direction.

[0191] The accommodation opening 332 may be divided into a plurality of portions. Each of the plurality of divided portions may communicate with each other. In the illustrated embodiment, the accommodation opening 332 includes a first portion 332a positioned on the front side and a second portion 332b positioned on the rear side.

[0192] A portion of the locking protrusion 314 and the limiting protrusion 315 are inserted into and withdrawn from the first portion 332a. The first portion 332a may be formed in a shape corresponding to the shape of the portion of the locking protrusion 314 and the limiting protrusion 315. In this case, the first portion 332a may be formed to have a height shorter than that of the second portion 332b.

[0193] One portion facing the inner side among the portions of the visor seating surface 313 is inserted into and withdrawn from the second portion 332b. The second portion 332b may be formed in a shape corresponding to the shape of the one portion of the visor seating surface 313. As described above, the second portion 332b is formed to have a height longer than that of the first portion 332a.

[0194] The coupling opening 333 is a portion at which the coupling member 330 is coupled to the main frame 100 and the support member 320. The coupling opening 333 is formed through the coupling body 331. A fastening member (not shown) may penetrate the coupling opening 333 and the locker support part 130 and extend to the frame coupling part 326.

[0195] The coupling opening 333 may be provided in plurality. The plurality of coupling openings 333 may be disposed to be spaced apart from each other along the extension direction of the coupling body 331. In the illustrated embodiment, two coupling openings 333 are provided and are disposed adjacent to the front end and the rear end of the coupling body 331, respectively.

[0196] In this case, the coupling opening 333 located on the front side communicates with the first support part 131 and is coupled to the frame coupling part 326 located on the front side. In addition, the coupling opening 333 located on the rear side communicates with the second support part 132 and is coupled to the frame coupling part 326 located on the rear side.

[0197] Referring to FIG. 7, the head protection gear 10 according to the illustrated embodiment includes an elastic member 400.

[0198] The elastic member 400 elastically supports the movable member 310. The elastic member 400 is coupled to the movable member 310 and the support member 320, respectively. When the movable member 310 is pressed toward the inner side, the elastic member 400 is deformed in shape and stores a restoring force. When the pressing state is released, the elastic member 400 provides the stored restoring force to the movable member 310, so that the movable member 310 may be moved outward.

[0199] The elastic member 400 may be provided in any form in which the elastic member 400 may be coupled to the movable member 310 and the support member 320 to elastically support the movable member 310. In the illustrated embodiment, the elastic member 400 is provided in the form of a coil spring extending in the radial direction.

[0200] In the above embodiment, the outer end of the ends in the extension direction of the elastic member 400 may be coupled to and supported by the elastic protrusion 316 of the movable member 310. The inner end of the ends in the extension direction of the elastic member 400 may be coupled to and supported by the elastic member support part 328 of the support member 320. In this case, it is as described above that the elastic member 400 is accommodated in and supported by the elastic member housing 327.

[0201] Although not illustrated, an elastic member provided in the shaft hollow 317 or the shaft opening 325 to elastically support a shaft member (not shown) may be further provided. The elastic member may be provided in the form of a torsion spring to elastically support the movable member 310.

[0202] Referring to FIG. 15, a state in which the visor 200 provided in the head protection gear 10 according to an exemplary embodiment of the present invention is coupled to the visor locker 300 is illustrated.

[0203] In the above state, the insertion protrusion 240 of the visor 200 is restrained by the locking protrusion 314. Accordingly, the visor 200 and the visor locker 300 are not arbitrarily separated.

[0204] Specifically, the insertion protrusion 240 is accommodated in the visor protrusion accommodation part 324 of the support member 320. In this case, the movable member 310 is in a state in which it is moved outward by a restoring force applied by the elastic member 400. The locking protrusion 314 is also moved outward and positioned above the insertion protrusion 240. Accordingly, the upper side of the insertion protrusion 240 is restrained by the locking protrusion 314, so that the visor 200 does not move upward.

[0205] When the movable member 310 is pressed in the above state, the locking protrusion 314 is moved toward the locking opening 323 and the accommodation opening 332. Accordingly, the locking protrusion 314 and the insertion protrusion 240 do not overlap in the up-down direction, so that the insertion protrusion 240 is released. In the above state,

the visor 200 may be moved upward.

[0206] When the pressing state of the movable member 310 is released, the restoring force stored in the elastic member 400 is provided to the movable member 310 as the movable member 310 is moved inward. Accordingly, the movable member 310 may be moved outward.

[0207] Meanwhile, as described above, the gripping protrusion 230 protruding to the outside of the visor 200 extends in a direction similar to the pressing inclined surface 312 protruding to the outside of the movable member 310. That is, the direction of the external force applied to the pressing inclined surface 312 to press the movable member 310 and the direction of the external force applied to the gripping protrusion 230 to move the visor 200 upward may be formed similar.

[0208] Therefore, the user may easily move the visor 200 by pressing the gripping protrusion 230 in a direction of pressing the movable member 310.

[0209] That is, in the head protection gear 10 according to an exemplary embodiment of the present invention, the visor 200 may be moved so that the frame opening 110 is opened through a process in which the movable member 310 is pressed to release the visor 200 and the visor 200 is pressed to move. In this case, the two processes may be performed by a force applied in a similar direction.

[0210] Accordingly, the movement process of the visor 200 may be easily performed.

[0211] Although exemplary embodiments of the present invention have been described, the idea of the present invention is not limited to the embodiments set forth herein. Those of ordinary skill in the art who understand the idea of the present invention may easily propose other embodiments through supplement, change, removal, addition, etc. of elements within the same idea, but the embodiments will be also within the scope of the present invention.

10:	head protection gear	100:	main frame
110:	frame opening	120:	jaw protection part
130:	locker support part	131:	first support part
132:	second support part	200:	visor
210:	support edge	220:	locker coupling part
230:	gripping protrusion	231:	first gripping protrusion
232:	second gripping protrusion	240:	insertion protrusion
250:	locking protrusion accommodation part	300:	visor locker
310:	movable member	311:	movable body
312:	pressing inclined surface	312a:	first inclined surface
312b:	second inclined surface	312c:	third inclined surface
313:	visor seating surface	314:	locking protrusion
315:	limiting protrusion	316:	elastic protrusion
317:	shaft hollow	320:	support member
321:	support body	322:	movable member accommodation part
323:	locking opening	324:	visor protrusion accommodation part
325:	shaft opening	326:	frame coupling part
327:	elastic member housing	328:	elastic member support part
330:	coupling member	331:	coupling body
332:	accommodation opening	332a:	first portion
332b:	second portion	333:	coupling opening
400:	elastic member		

Claims

1. A head protection gear, comprising:

a main frame with a space formed therein;
a visor rotatably connected to the main frame; and
a visor locker coupled to the main frame and detachably coupled to the visor,
wherein the visor comprises:

an insertion protrusion formed to protrude in a direction toward the space and withdrawably inserted into and coupled to the visor locker, and

wherein the visor locker comprises:

a support member coupled to the main frame and accommodating the insertion protrusion; and
a movable member that supports the accommodated insertion protrusion from the upper side and is coupled to the support member so as to be movable in a direction toward the space.

2. The head protection gear of claim 1,

wherein the movable member and the support member extend along the outer circumference of the main frame, and wherein in the movable member,
a portion adjacent to one end of the extension direction thereof is rotatably coupled to the support member, and
a portion between the one end and the other end in the extension direction thereof is elastically supported by the support member.

3. The head protection gear of claim 2,
wherein the movable member comprises:

a limiting protrusion which forms the other end and is positioned between the support member and the main frame,
wherein when the movable member is pressed in a direction toward the space, the limiting protrusion is spaced apart from the support member, and
wherein when the pressing state is released, the limiting protrusion is in contact with the support member to limit the movement of the movable member.

4. The head protection gear of claim 1,
wherein the movable member comprises:

a movable body extending along the outer circumference of the main frame and rotatably coupled to the support member; and
a pressing inclined surface protruding outward from the movable body, extending obliquely with respect to the movable body, and located adjacent to the visor.

5. The head protection gear of claim 4,
wherein the visor comprises:

a support edge forming an edge facing the visor locker; and
a locker coupling part that extends from the support edge toward the visor locker wherein one side of the locker coupling part extends obliquely with respect to the support edge, and
wherein the pressing inclined surface is positioned adjacent to the one side of the locker coupling part.

6. The head protection gear of claim 5,
wherein the visor comprises:
a gripping protrusion positioned adjacent to the one side of the locker coupling part, protruding outward and extending obliquely with respect to the movable body.

7. The head protection gear of claim 6,
wherein the pressing inclined surface comprises:

a first inclined surface supporting the one side of the locker coupling part;
a second inclined surface continuous with the first inclined surface and extending outward away from the locker coupling part; and
a third inclined surface continuous with the second inclined surface and extending inward away from the locker coupling part,
so that a portion where the second inclined surface and the third inclined surface are continuous protrudes outward.

8. The head protection gear of claim 1,
wherein the support member comprises:

a movable member accommodation part movably accommodating the movable member;
a visor protrusion accommodation part communicating with the movable member accommodation part and accommodating the visor; and
a locking opening that communicates with the movable member accommodation part and the visor protrusion accommodation part, respectively and is formed to be recessed in the thickness direction thereof.

9. The head protection gear of claim 8,
wherein the movable member comprises:

a movable body that is movably accommodated in the movable member accommodation part and extends along an outer circumference of the main frame; and
a locking protrusion located adjacent to one end in the extension direction of the movable body and movably accommodated in the locking opening.

10. The head protection gear of claim 9,
wherein the visor comprises:

an insertion protrusion protruding from an inner surface of the visor and withdrawably accommodated in the visor protrusion accommodation part, and
wherein the locking protrusion is configured to support the insertion protrusion accommodated in the visor protrusion accommodation part from the upper side.

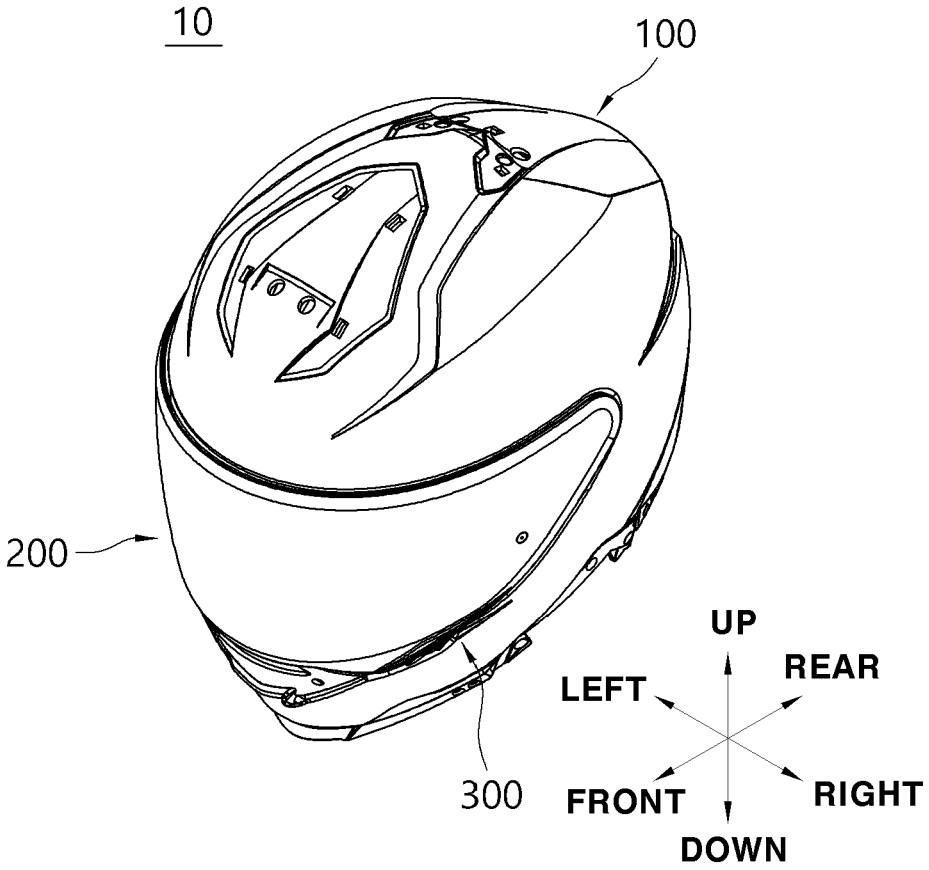
11. The head protection gear of claim 1,
wherein the main frame comprises:

a jaw protection part extending from the lower side to surround the space; and
a locker support part located on one side of the jaw protection part to which the visor locker is coupled.

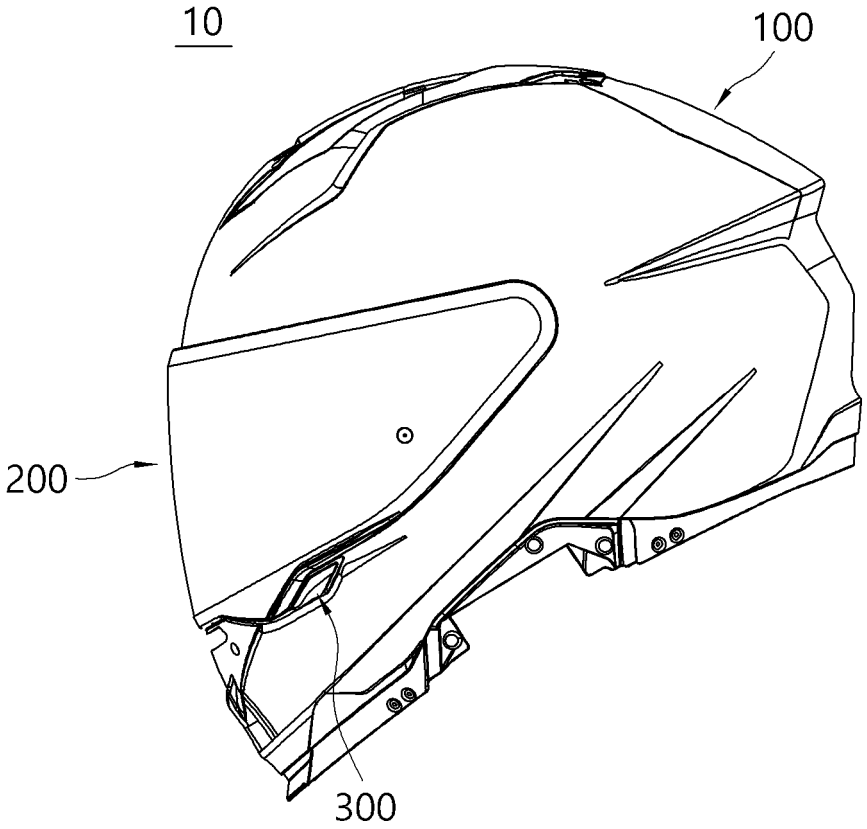
12. The head protection gear of claim 11,
wherein the visor locker comprises:

a coupling member located inside the locker support part and coupled to the support member and the movable member, and
wherein the support member and the movable member are coupled to the locker support part and the coupling member at the outside of the locker support part, respectively.

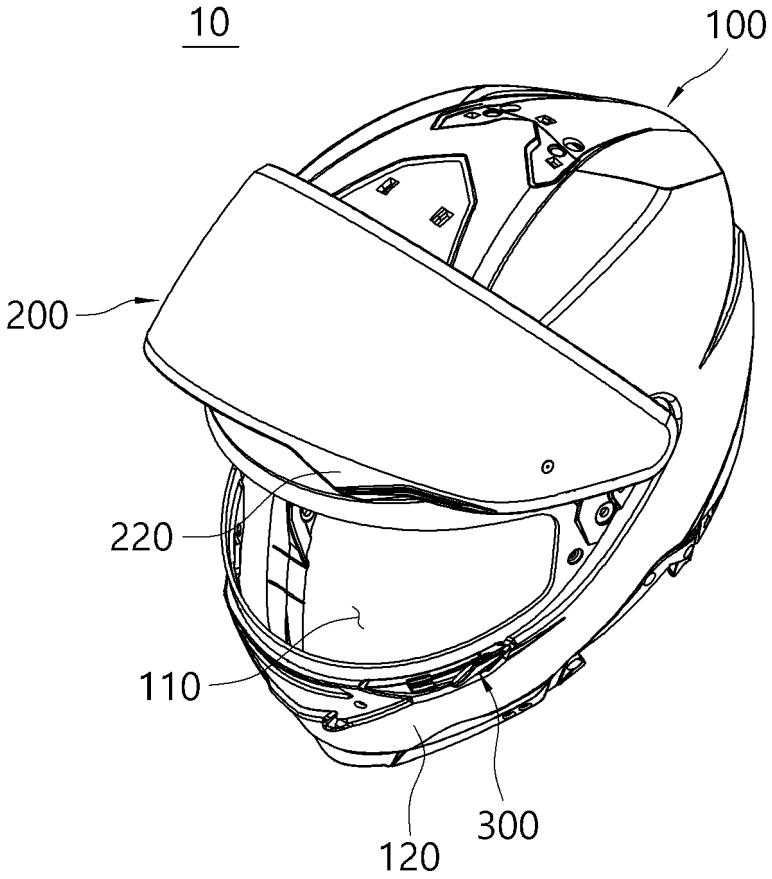
【FIG. 1】



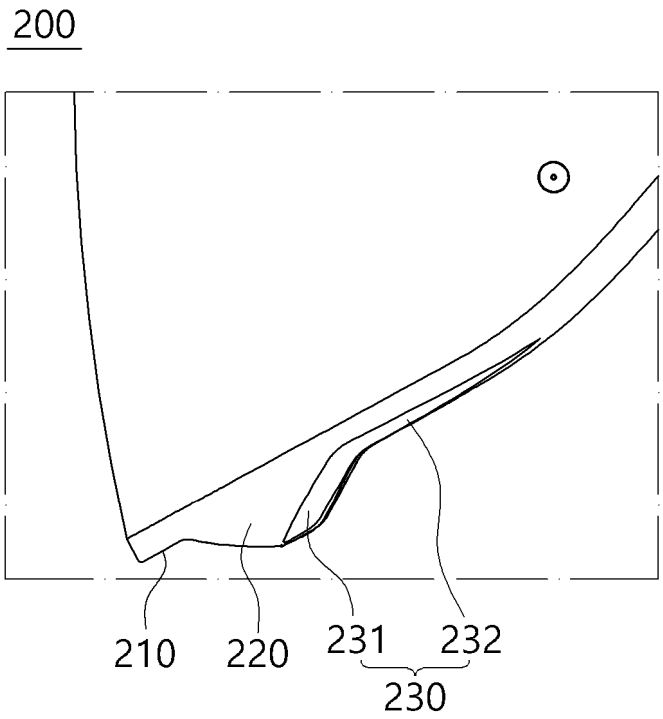
【FIG. 2】



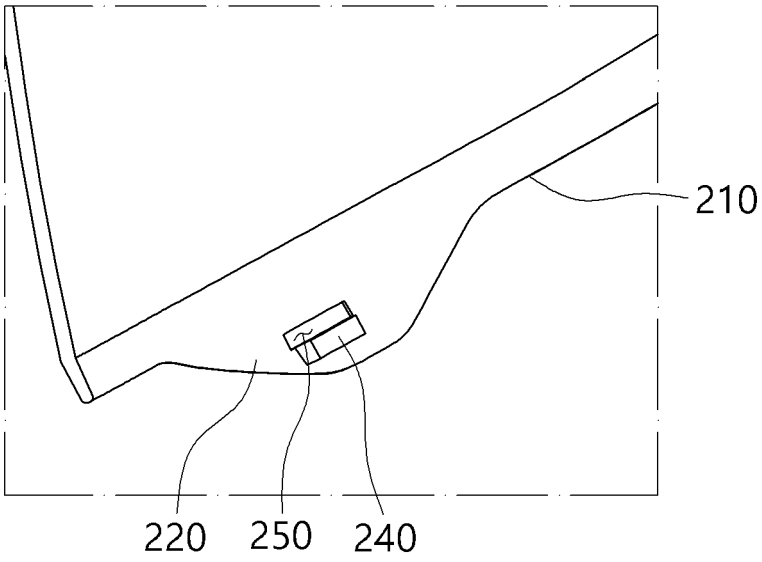
【FIG. 3】



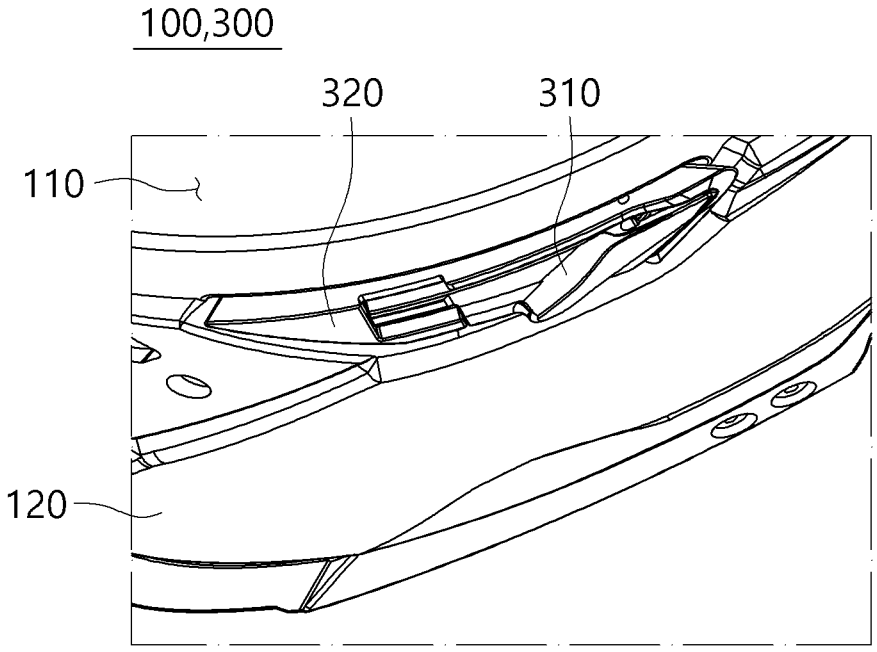
【FIG. 4】



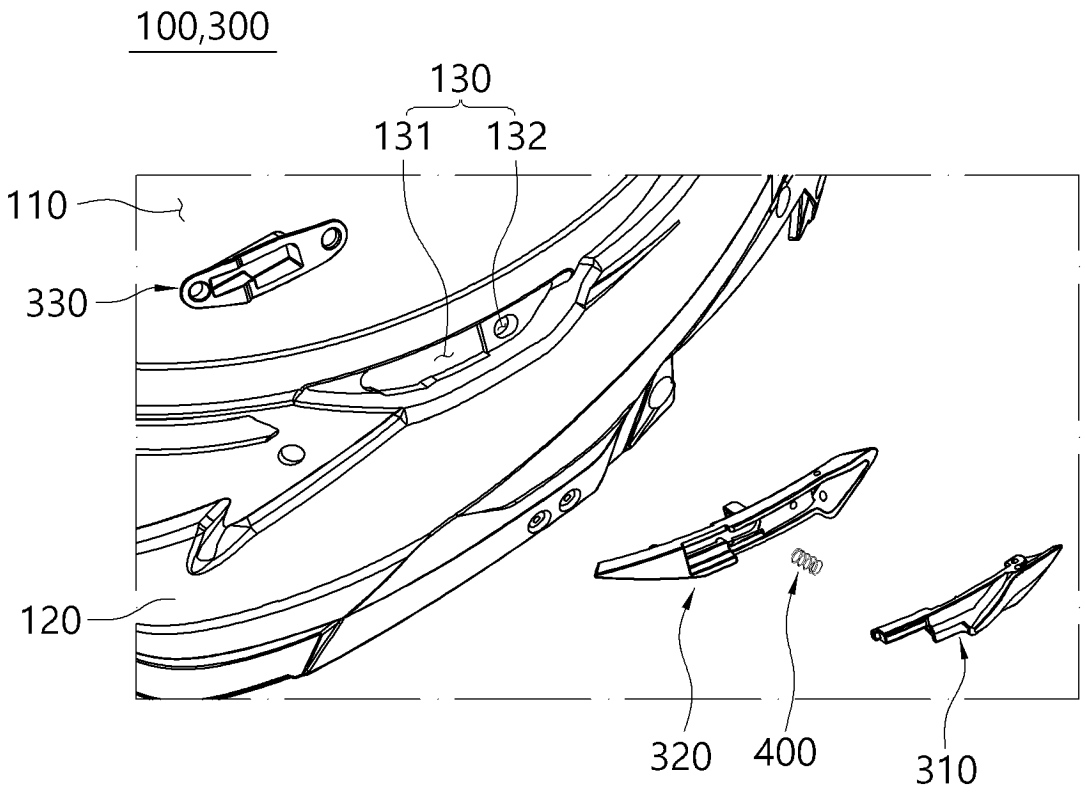
【FIG. 5】



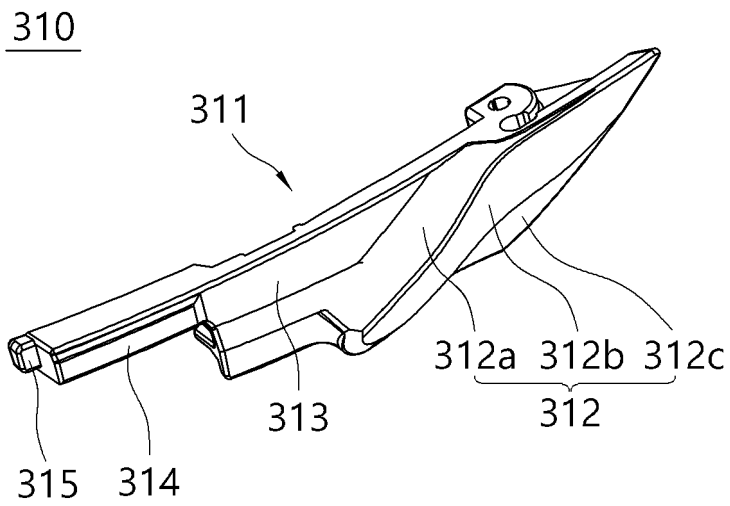
【FIG. 6】



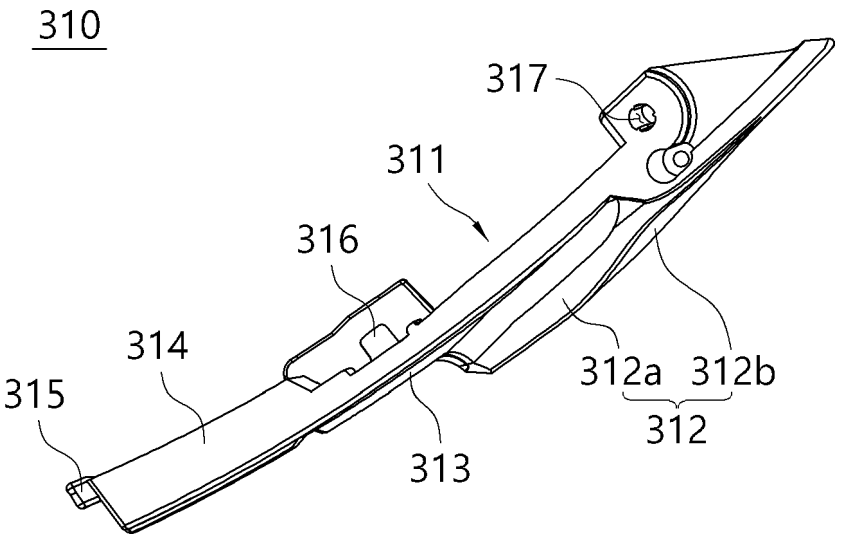
【FIG. 7】



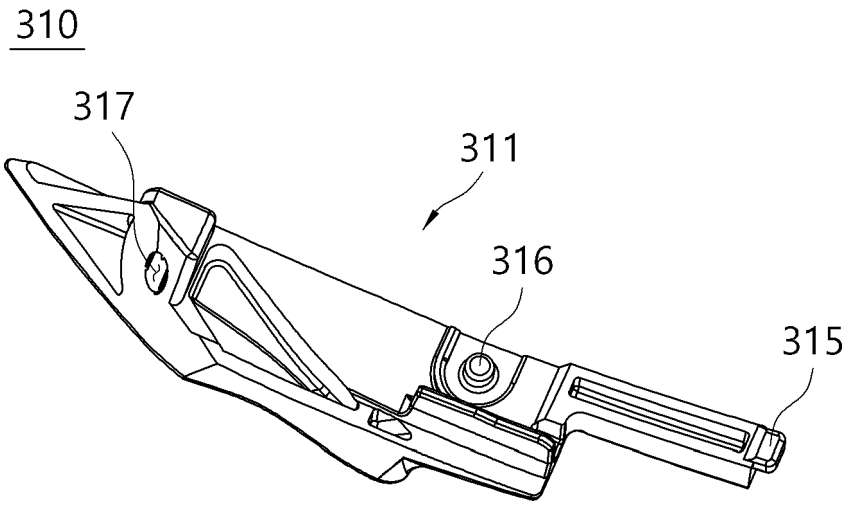
【FIG. 8】



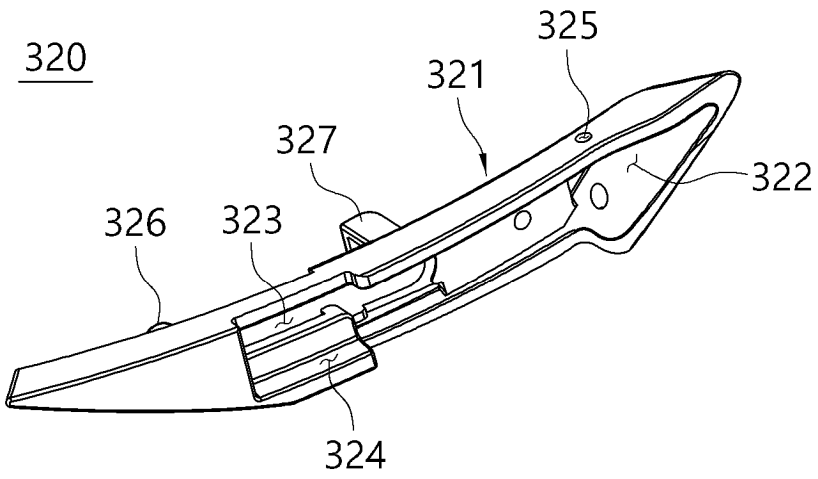
【FIG. 9】



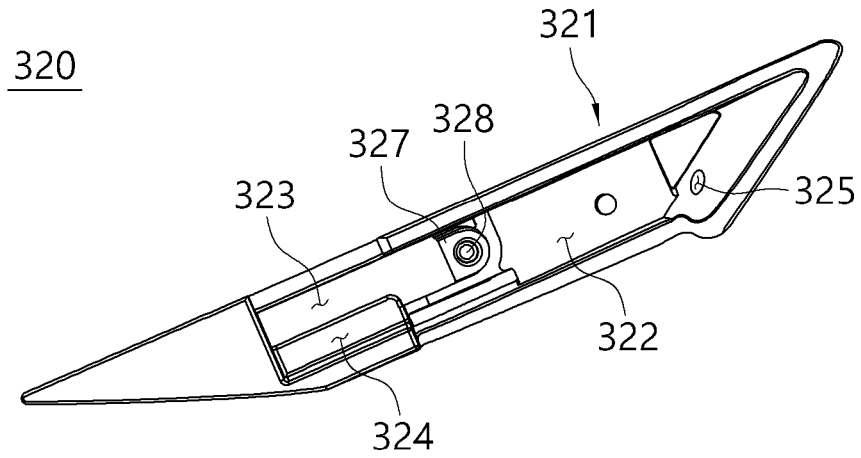
【FIG. 10】



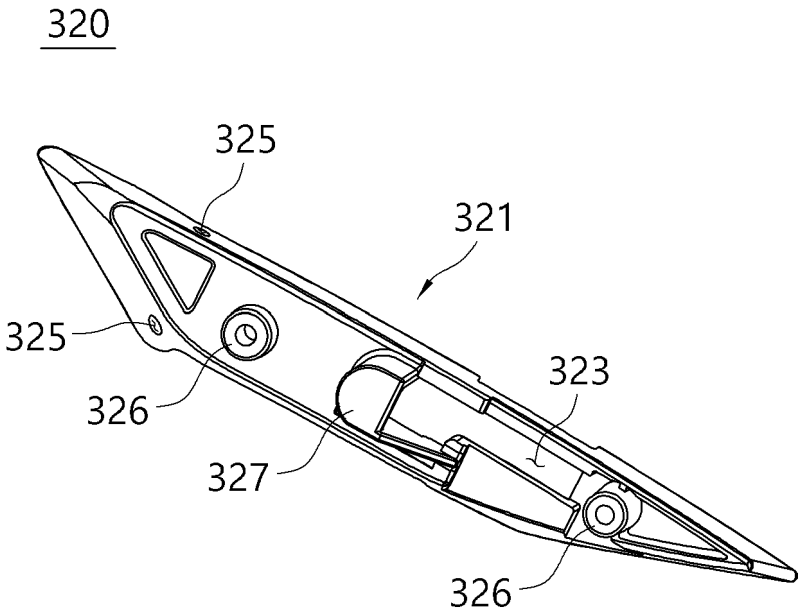
【FIG. 11】



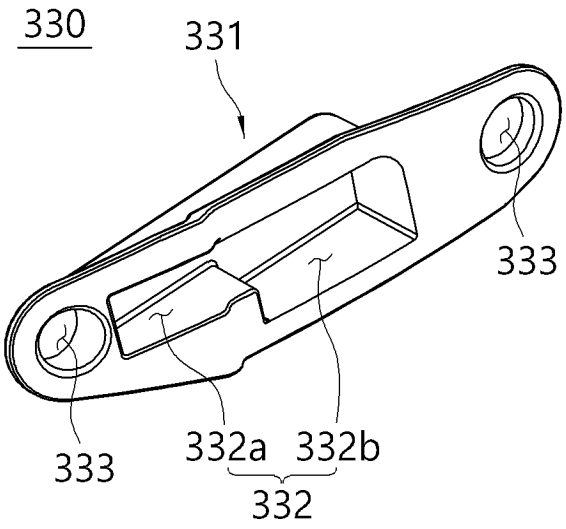
【FIG. 12】



【FIG. 13】



【FIG. 14】



【FIG. 15】

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2023/004565

A. CLASSIFICATION OF SUBJECT MATTER

A42B 3/22(2006.01)i; **A42B 3/06**(2006.01)i; **A42B 3/20**(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)

A42B 3/22(2006.01); A42B 3/00(2006.01); A42B 3/04(2006.01); A42B 3/08(2006.01); A42B 3/32(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: 두부(head), 헬멧(helmet), 바이저(visor), 락커(locker)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	KR 10-2008-0055572 A (ARAI HELMET, LTD.) 19 June 2008 (2008-06-19) See claim 1; paragraph [0069]; and figures 1-3.	1-12
A	JP 05-214604 A (SHOEI KAKO KK) 24 August 1993 (1993-08-24) See entire document.	1-12
A	CN 102469840 A (HJC CO., LTD.) 23 May 2012 (2012-05-23) See entire document.	1-12
A	WO 2019-092297 A1 (MANUFACTURAS TOMAS, S.A.) 16 May 2019 (2019-05-16) See entire document.	1-12
A	WO 2009-133437 A1 (GIVI S.R.L.) 05 November 2009 (2009-11-05) See entire document.	1-12

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

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
12 July 2023	**13 July 2023**
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.

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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/KR2023/004565

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REFERENCES CITED IN THE DESCRIPTION

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- KR 200433302 **[0008] [0009]**