(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 2 522 238 A2**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
14.11.2012 Bulletin 2012/46

(51) Int Cl.:
A42B 3/32 *(2006.01)* ***A42B 3/22*** *(2006.01)*

(21) Application number: **11192523.6**

(22) Date of filing: **08.12.2011**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME

(30) Priority: **09.05.2011 US 201113103328**

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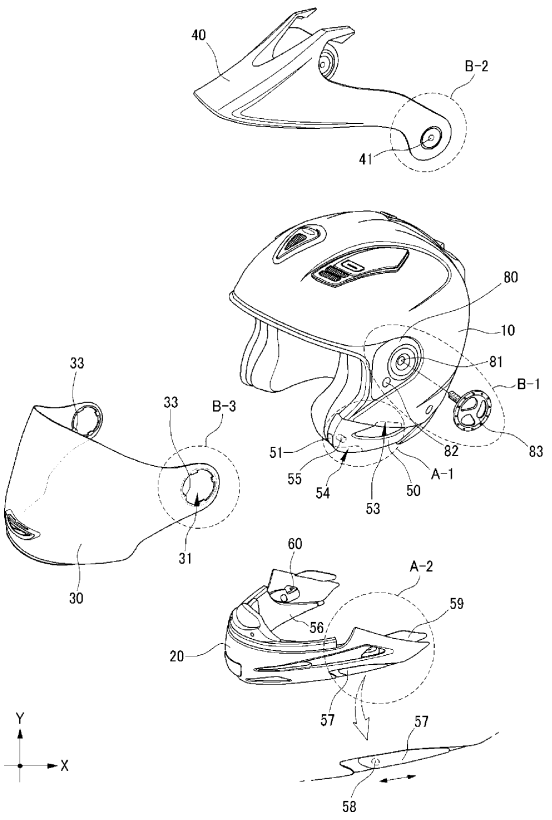
(54) **Multifunctional helmet**

(57) There is provided a helmet including: a main body (10) that includes a facial opening at its front side; a chin guard (20) connected to a lower side surface of the main body; and a connector (A) capable of connecting/disconnecting the chin guard to/from the main body, wherein the connector includes first connectors (A-1) that are positioned at both ends of the lower side surface of the main body and include locking protrusions (55) capable of coupling and fixing a part of the chin guard and second connectors (A-2) that are positioned at both ends of the chin guard and include coupling loops (60) to be caught by the locking protrusions so as to be coupled and fixed.

FIG. 2



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Description

FIELD OF THE INVENTION

[0001] The present disclosure relates to a helmet. To be specific, the present disclosure relates to a multifunctional helmet capable of being used in various ways with a chin guard, a shield, a sun visor, and the like which are detachably connected to the helmet.

BACKGROUND OF THE INVENTION

[0002] A rider is necessarily required to wear a helmet when riding a two-wheeled vehicle such as a motorcycle, and a retractable shield may be installed at a front side of a helmet main body to allow a helmet wearer to obtain a front view. Further, depending on a use of the helmet, an inner sun visor or a peak sun visor may be installed to protect the wearer's eyes from sunlight and a chin guard may be installed to improve safety.

[0003] Recently, the number of people who use a motorcycle as a means of transportation and also enjoy riding the motorcycle as a hobby has been on the increase. Thus, motor cycle riders may need helmets having various shapes and uses.

[0004] However, conventionally, a helmet has been manufactured with fixed components such as a shield, a sun visor, a chin guard, and the like depending on a use of the helmet. Even if the components can be detachably installed at the helmet, a component having a different shape for a different use cannot be installed at the helmet.

[0005] Therefore, it may be a burden to the motorcycle rider to buy a lot of helmets having various shapes and uses with large costs, which may bring about inconvenience in buying helmets of various shapes.

BRIEF SUMMARY OF THE INVENTION

[0006] In order to solve the above-described problem, an embodiment of the present disclosure provides a multifunctional helmet which may be provided with at least one of a chin guard, a shield and a peak sun visor.

[0007] The embodiment of the present disclosure provides a multifunctional helmet including a component a connector which can connect/ disconnect the chin guard to/from the helmet with a simple operation.

[0008] Further, the embodiment of the present disclosure provides a multifunctional helmet including a component such as a rotational connection unit which can manipulate a degree of rotation when at least any one of the shield and the peak sun visor is installed at a helmet main body.

[0009] In view of the foregoing, in accordance with an embodiment of the present disclosure provides a helmet comprising: a main body that includes a facial opening at its front side; a chin guard connected to a lower side surface of the main body; and a connector capable of connecting/disconnecting the chin guard to/from the main body, wherein the connector includes first connectors that are positioned at both ends of the lower side surface of the main body and include locking protrusions capable of coupling and fixing a part of the chin guard and second connectors that are positioned at both ends of the chin guard and include coupling loops to be caught by the locking protrusions so as to be coupled and fixed.

[0010] In accordance with another embodiment of the present disclosure provides a helmet comprising: a main body including a facial opening formed at its front and a locking protrusion protruded from its lower surface, and being connected to at least one of a chin guard, a shield and a sun visor, wherein the chin guard includes a coupling loop and is coupled and fixed to the main body by one end of the coupling loop caught to the locking protrusion, wherein the shield is coupled to a side surface of the main body to be movable and to adjust a movement degree, wherein the sun visor is coupled to the side surface of the main body and has a restricted movement range, and wherein at least one of the chin guard, the shield and the sun visor is connected to the main body and the helmet is transformed in various ways.

[0011] In accordance with the present disclosure, it is possible to provide a multifunctional helmet which may be provided with at least any one of a chin guard, a shield and a peak sun visor and can be transformed in various ways.

[0012] In accordance with the present disclosure, it is possible to connect/disconnect a chin guard to/from a helmet with a simple operation.

[0013] Further, in accordance with the present disclosure, it is possible to manipulate a degree of rotation when at least any one of a shield and a peak sun visor is installed at a helmet main body, so that it may be possible to prevent a risk that the shield or the peak sun visor may slide at the time of rotation and block a helmet wearer's view.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] Non-limiting and non-exhaustive embodiments will be described in conjunction with the accompanying drawings. Understanding that these drawings depict only several embodiments in accordance with the disclosure and are, therefore, not to be intended to limit its scope, the disclosure will be described with specificity and detail through use of the accompanying drawings, in which:

[0015]

Fig. 1 is a perspective view of a multifunctional helmet equipped with all components in accordance with an embodiment of the present disclosure;

Fig. 2 is an exploded perspective view of a multifunctional helmet in accordance with the embodiment of the present disclosure;

Figs. 3A to 3B are cross-sectional views for explaining a connector of a chin guard in accordance with the embodiment of the present disclosure;

Fig. 4 is an exploded perspective view for explaining a rotational connection unit of a shield or a peak sun visor in accordance with the embodiment of the present disclosure;

Figs. 5 to 9 are perspective views for explaining various shapes of a multifunctional helmet in accordance with the embodiment of the present disclosure;

Figs. 10A to 10B are perspective views of a chin guard to be decorated with an ornament in a multifunctional helmet in accordance with another embodiment of the present disclosure;

Fig. 11 is a perspective view of a multifunctional helmet including an opening/closing apparatus of an internal sun visor in accordance with another embodiment of the present disclosure; and

Fig. 12 is a perspective view showing a ventilation unit of a shield in a multifunctional helmet in accordance with another embodiment of the present disclosure.

DETAILED DESCRIPTION OF THE INVENTION

[0016] Hereinafter, embodiments of the present invention will be described in detail with reference to the accompanying drawings so that the present invention may be readily implemented by those skilled in the art. However, it is to be noted that the present invention is not limited to the embodiments but can be realized in various other ways. In the drawings, parts irrelevant to the description are omitted for the simplicity of explanation, and like reference numerals denote like parts through the whole document.

[0017] Through the whole document, the term "connected to" or "coupled to" that is used to designate a connection or coupling of one element to another element includes both a case that an element is "directly connected or coupled to" another element and a case that an element is "electronically connected or coupled to" another element via still another element. Further, the term "comprises or includes" and/or "comprising or including" used in the document means that one or more other components, steps, operation and/or existence or addition of elements are not excluded in addition to the described components, steps, operation and/or elements.

[0018] Fig. 1 is a perspective view of a multifunctional helmet equipped with all components in accordance with an embodiment of the present disclosure.

[0019] As depicted in Fig. 1, a multifunctional helmet in accordance with an embodiment of the present disclosure may include a main body 10, a chin guard 20, a shield 30 and a peak sun visor 40.

[0020] In the multifunctional helmet in accordance with an embodiment of the present disclosure, each of the chin guard 20, the shield 30, and the peak sun visor 40 may be connected/disconnected to/from the main body 10. Fig. 1 shows the main body 10 connected to all of the chin guard 20, the shield 30 and the peak sun visor 40.

[0021] To be specific, the main body 10 may have a facial front opening at its front side and may be formed into a cap to be worn on a helmet wearer's head. Further, the main body 10 may include a part of connectors A configured to connect the chin guard 20 to the main body 10 by coupling both ends of the chin guard 20 to both ends of lower sides. Furthermore, the main body 10 may be provided with at least one of the shield 30 and the peak sun visor 40 at its both side surfaces and may include a part of rotational connection units B configured to manipulate opening/closing or a degree of rotation of the shield 30 or the peak sun visor 40.

[0022] The chin guard 20 may be configured to protect a chin of the helmet wearer by covering a lower side of the opening of the main body 10. The chin guard 20 may include a part of the connectors A capable of connecting/disconnecting the chin guard 20 to/from the main body 10, and the chin guard 20 may be connected to the main body 10 by the connectors A.

[0023] The shield 30 may be configured to obtain a front view despite wind introduced through the front and prevent difficulty in breathing while the motorcycle moves forwards by opening/closing the facial front opening of the main body 10. The shield 30, of which extended side surfaces may be coupled to both side surfaces of the main body 10, may include a part of the rotational connection units B capable of opening/closing the shield 30 from a front top of the main body 10 in up and down directions (i.e. Y-axis direction) and the shield 30 may be connected to the main body 10 by the rotational connection units B.

[0024] The peak sun visor 40 may be connected to a top of the main body 10 and configured to protect eyes of the helmet wearer from light while the motorcycle moves forwards. The peak sun visor 40, of which extended side surfaces may be coupled to both side surfaces of the main body 10, may include a part of the rotational connection units B capable of manipulating a degree of rotation of the peak sun visor 40 from the front top of the main body 10 in the up and down directions (i.e. Y-axis direction) and the peak sun visor 40 may be connected to the main body 10 by the rotational connection units B.

[0025] There will be explained a configuration, a coupling method, a method of opening/closing, a method of rotation of the connectors A of the chin guard 20 and the rotational connection units B of the shield 30 and the peak sun visor 40 in detail with reference to Figs. 2 to 4.

[0026] Fig. 2 is an exploded perspective view of a multifunctional helmet in accordance with the embodiment of the present disclosure.

[0027] Figs. 3A to 3B are cross-sectional views for explaining a connector of a chin guard in accordance with the embodiment of the present disclosure, and Fig. 4 is an exploded perspective view for explaining a rotational connection unit of a shield or a peak sun visor in accordance with the embodiment of the present disclosure.

[0028] As depicted in Fig. 2, in the multifunctional helmet in accordance with the embodiment of the present disclosure, the chin guard 20, the shield 30 and the peak

sun visor 40 may be configured to be connected/disconnected to/from the main body 10.

[0029] Referring to Figs. 2, 3A and 3B, the connectors A of the chin guard 20 will be explained.

[0030] The connectors A may include first connectors A-1 installed at both lower ends of the side surfaces of the main body 10 and second connectors A-2 installed at both ends of the chin guard 20. At least a part of the second connectors A-2 may be inserted into the first connectors A-1, so that the chin guard 20 may be connected to the main body 10.

[0031] To be specific, the first connectors A-1 may include a plate-shaped outer base member 50 positioned at an outside of the main body 10 and a plate-shaped inner base member 51 positioned at an inside of the main body 10. The outer base member 50 and the inner base member 51 may be connected to the main body 10 by at least one connecting member. When the outer base member 50 and the inner base member 51 are connected to each other, an inner space may be formed there between.

[0032] In a partial outside surface of the outer base member 50, an intagliated groove may be formed in a direction to be in contact with a lower surface of the main body 10, and a difference in a height may be made between an outside surface of the main body 10 and the partial outside surface of the outer base member 50 by the intagliated groove. In the main body 10's lower surface in contact with the intagliated groove, there may be formed a fixing opening 53 into which a part of the second connector A-2 may be inserted for fixing a position. Fig. 2 shows that in the first connector A-1 in accordance with the embodiment of the present disclosure, the intagliated groove is formed into a slanting line starting from the front of the main body 10 toward the back of the main body 10. Since the intagliated groove is formed into a slanting line, the chin guard 20 can be easily coupled to the main body 10 along a direction of the chin of the helmet wearer.

[0033] In a partial lower surface formed by connecting the outer base member 50 and the inner base member 51, there may be formed a coupling opening 54 into which a part of the second connector A-2 may be inserted for coupling. In an inside surface of the inner base member 51, a locking protrusion 55, by which a part of the second connector A-2 inserted into the locking protrusion 55 may maintain them as being coupled, may be protruded. Although Fig. 2 shows that the locking protrusion 55 is formed in the inside surface of the inner base member 51, the locking protrusion 55 may be formed in an inside surface of the outer base member 50. Since the locking protrusion 55 is formed in the first connector A-1 of the main body 10, when the connector A break down due to damage to the locking protrusion 55, it may be possible to fix the connector A simply by replacing a part of the first connector A-1.

[0034] The second connectors A-2 may include an insertion base member 56, a coupling control member 57, a manipulating protrusion 58, a fixing wing 59 and a coupling loop 60.

[0035] To be specific, the plate-shaped insertion base member 56 is positioned at both ends inside the chin guard 20. The insertion base member 56 may be connected to the chin guard 20 by at least one connecting member, and when the insertion base member 56 is connected to the chin guard 20, an inner space may be formed therebetween.

[0036] At a side surface of the inner space (i.e. inside surface) of the insertion base member 56, a rotation shaft is installed, and the coupling loop 60 inserted into the first connector A-1 may be fixed to the rotation shaft so as to be rotated.

[0037] The coupling control member 57 may be exposed to an outside surface of the chin guard 20 and may be moved in a transversal direction (i.e. X-axis direction), and the manipulating protrusion 58 may be protruded toward the side surface of the inner space (i.e. inside surface) of the chin guard 20.

[0038] The manipulating protrusion 58 may be formed at a position in contact with an end of the coupling loop 60, and as the manipulating protrusion 58 moves in the transversal direction, the end of the coupling loop 60 may be moved in the same direction as the manipulating protrusion 58. Further, as the end of the coupling loop 60 moves in the transversal direction, the other end of the coupling loop 60 may be moved in the up and down directions (i.e. Y-axis direction) and the second connector A-2 may be coupled to or decoupled from the first connector A-1.

[0039] Hereinafter, a method of the first connector A-1 to the second connector A-2 will be explained in detail with reference to Figs. 3A and 3B.

[0040] Fig. 3A is a cross-sectional view for explaining an internal configuration and a coupling status of the first connector A-1 and the second connector A-2, and Fig. 3B is a cross-sectional view for explaining a decoupling status thereof by a coupling control operation of the first connector A-1.

[0041] To be specific, as depicted in Fig. 3A, the coupling loop 60 may be fixed at a rotation shaft 61 installed at the insertion base member 56 of the second connector A-2. In this case, the coupling loop 60 may be caught by the locking protrusion 55 at a position (hereinafter, referred to as "original position") at which one end 60-1 of both ends may be not influenced by force caused by manipulation of the coupling control member 57 and the coupling loop 60 may be fixed at the rotation shaft 61 such that the other end 60-2 may be caught by the manipulating protrusion 58 at the original position.

[0042] The coupling loop 60 in accordance with the embodiment of the present disclosure may be formed into a "T" shape curved in the middle and the coupling loop 60 may be opened at a partial outside surface of the curved area at which a fixing groove 60-3 configured to catch an end of an elastic member 62 may be formed. The elastic member 62 may include a spring or the like and may have elasticity by which the elastic member 62

may be stretched in a direction of force caused by a transversal movement of the coupling control member 57 and may return to its original position when the force caused by the transversal movement of the coupling control member 57 is removed.

[0043] The end of the elastic member 62 may be caught by the fixing groove 60-3, and the other end may be extended toward an inside of the curved area and caught by a catch bloc formed in the insertion base member 56. The other end 60-2 of the coupling loop 60 may be continuously caught by the manipulating protrusion 58 by contractile force in a direction toward the manipulating protrusion 58 of the elastic member 62.

[0044] In this case, if the end 60-1 of coupling loop 60 is inserted into the coupling opening 54 so as to introduce from a lower side of the locking protrusion 55 toward the back of the main body 10, the end 60-1 may be rotated in a downward direction (i.e. in a downward direction of the Y-axis) by pushing force of the fixed locking protrusion 55 and the other end 60-2 may be rotated in the downward direction accordingly.

[0045] If the end 60-1 of the coupling loop 60 is free from the locking protrusion 55 and inserted into the first connector A-1, the end 60-1 may be influenced by restoring force of the elastic member 62 to return to a upward direction (i.e. upward direction of the Y-axis) and the end 60-1 may be caught by the locking protrusion 55. As depicted in Fig. 3A, a state in which the end 60-1 of the coupling loop 60 is caught by the locking protrusion 55 may be referred to as a coupled state.

[0046] Meanwhile, as depicted in Fig. 3B, a state in which the end 60-1 of the coupling loop 60 is rotated in the downward direction of the locking protrusion 55 and free from the locking protrusion 55 may be referred to as a decoupled state.

[0047] To be specific, if the coupling control member 57 is moved in the transversal direction while the coupling loop 60 is inserted into the first connector A-1, the manipulating protrusion 58 may be moved in the transversal direction which is the same direction as the coupling control member 57.

[0048] Fig. 3B shows that the manipulating protrusion 58 may be moved in a right direction and the other end 60-2 of the coupling loop 60 caught by the manipulating protrusion 58 may be applied with pushing force in the right direction. Thus, the other end 60-2 may be pushed in the right direction and rotated in the downward direction (i.e. in the downward direction of the Y-axis) at the same time. Accordingly, the end 60-1 of the coupling loop 60 may be rotated in the downward direction of the locking protrusion 55 to be in a decoupled state.

[0049] As described above, after the coupling loop 60 of the second connector A-2 is inserted into the first connector A-1, a coupled state may be maintained, so that the chin guard 20 may be connected to the main body 10. Further, if the coupling loop 60 is in a decoupled state by a transversal movement of the coupling control member 57 of the second connector A-2, the chin guard 20 may be disconnected from the main body 10.

[0050] In this case, the connector A in accordance with the embodiment of the present disclosure may further include the fixing wing 59 in order to stably fix a coupled position of the chin guard 20.

[0051] To be specific, as depicted in Fig. 2, the fixing wing 59 may be installed at a partial upper surface of both ends of the chin guard 20 and inserted into the fixing opening 53 formed by the intagliated groove between the main body 10 and the first connector A-1. In this way, the fixing wing 59 may be inserted into the fixing opening 53, so that the coupled position of the chin guard 20 may be stably fixed along a direction of the chin of the helmet wearer.

[0052] Hereinafter, the rotational connection unit B of the shield 30 and the peak sun visor 40 will be explained with reference to Figs. 2 and 4.

[0053] The rotational connection unit B of the shield 30 and the peak sun visor 40 may include first rotational connection units B-1 installed at both side surfaces of the main body 10, second rotational connection units B-2 installed at both extended side surfaces of the peak sun visor 40, and third rotational connection units B-3 installed at both ends of extended side surfaces of the shield 30.

[0054] The first rotational connection unit B-1 may include a plate-shaped rotational connection base member 80, a groove-shaped rotation shaft 81, connection grooves 82 formed at corresponding positions in the rotational connection base member 80 and in the main body 10, and a coupling fixing member 83.

[0055] After the first rotational connection unit B-1 is coupled to at least one of the second rotational connection unit B-2 positioned in the peak sun visor 40 and the third rotational connection unit B-3 positioned in the shield 30, the coupling fixing member 83 may be connected to the rotation shaft 81, so that the shield 30 and the peak sun visor 40 may be coupled to the main body 10.

[0056] In this case, the coupling fixing member 83 and the rotation shaft 81 may be screw-coupled with each other, and a screw thread of the coupling fixing member 83 may be formed longer than a plate thickness of each of the extended side surfaces of the shield 30 and the peak sun visor 40.

[0057] To be specific, the coupling fixing member 83 may be designed to adjust a height to be screw-inserted into the rotation shaft 81, and, thus, the main body 10 may be connected to any one or both of the shield 30 and the peak sun visor 40. That is, a coupled state can be fixed by screwing the coupling fixing member 83 to the rotation shaft 81 as much as any one of the shield 30 and the peak sun visor 40 is connected to the first rotational connection unit B-1 or by screwing the coupling fixing member 83 to the rotation shaft 81 as much as both the shield 30 and the peak sun visor 40 are connected to the first rotational connection unit B-1.

[0058] Meanwhile, as depicted in Fig. 4, in the first ro-

tational connection unit B-1 positioned outside the main body 10, the rotational connection base member 80 may be connected (for example, screw-coupled) to the main body 10 by inserting a connection member 84 into the connection grooves 82 formed with a certain depth at the corresponding positions in the rotational connection base member 80 and in the main body 10.

[0059] In the rotational connection base member 80, a deviation prevention groove 86, an annular-shaped fan receiving unit 89, an annular-shaped insertion guide 88, and a latch stopper 85 may be installed in sequence.

[0060] At an outer peripheral surface of the insertion guide 88, a guide passage opened from a center to an outside may be formed. Further, at a partial area of the outer peripheral surface of the insertion guide 88, a guide groove opened to the guide passage and opened from the center to the outside may be formed such that an insertion protrusion, which will be described later, of the shield 30 may be inserted to the guide groove and rotated along the guide passage. Fig. 4 shows that a first guide groove 87-1, a second guide groove 87-2, and a third guide groove 87-3 may be formed in the outer peripheral surface of the insertion guide 88.

[0061] As depicted in Fig. 4, the second rotational connection unit B-2 including a coupling hole 41 through which the coupling fixing member 83 may pass, a deviation prevention protrusion 42 in a shape to be received within the deviation prevention groove 86, a fan protrusion 43 having prominences and depressions contrary to prominences and depressions of the fan receiving unit 89 so as to join together may be positioned at both ends of the extended side surfaces of the peak sun visor 40.

[0062] A width of the deviation prevention groove 86 may be greater than a width of the deviation prevention protrusion 42, and, thus, if the second rotational connection unit B-2 is coupled to the first rotational connection unit B-1, when the peak sun visor 40 is rotated around the rotation shaft 81, a degree of rotation may be limited to be within a range of the width of the deviation prevention groove 86.

[0063] When the second rotational connection unit B-2 is coupled to the first rotational connection unit B-1, the fan receiving unit 89 may engage with the fan protrusion 43, and, thus, the peak sun visor 40 may be intermittently rotated at a certain degree.

[0064] That is, if the peak sun visor 40 is coupled to the main body 10, the peak sun visor 40 may be rotated within a range of the width of the deviation prevention groove 86, and, thus, it may be possible to prevent a risk that the peak sun visor 40 may block the helmet wearer's view. Further, since the peak sun visor 40 may be intermittently rotated, it may be possible to conveniently adjust an angle of the peak sun visor 40 depending on an incident angle of light and possible to prevent a risk that the peak sun visor 40 may slide down.

[0065] As depicted in Fig. 4, the third rotational connection unit B-3 including an annular-shaped coupling hole 31 through which the coupling fixing member 83 may pass and which may have a size sufficient to receive an outer peripheral surface of the insertion guide 88, at least one insertion protrusion 32 protruding from a partial area of an inner peripheral surface of the coupling hole 31, and a shield protrusion 33 configured to be received in the latch stopper 85 to be engaged therewith such that a step can be adjusted at the time of opening/closing the shield 30 may be positioned at both ends of the extended side surfaces of the shield 30.

[0066] Fig. 4 shows that a first insertion protrusion 32-1, a second insertion protrusion 32-2, and a third insertion protrusion 32-3 may be formed in the inner peripheral surface of the coupling hole 31. The first to third insertion protrusion 32-1, 32-2 and 32-3 may be inserted into the first to third guide grooves 87-1, 87-2 and 87-3, respectively and may be rotated along the guide passage of the insertion guide 88.

[0067] As depicted in Fig. 4, when the first to third insertion protrusion 32-1, 32-2 and 32-3 are inserted into the insertion guide 88, the shield protrusion 33 may be coupled so as to be positioned at a first step of the latch stopper 85. In this case, if the first to third insertion protrusion 32-1, 32-2 and 32-3 are rotated in a downward direction of a front surface of the main body 10, the shield protrusion 33 may be moved to a second step of the latch stopper 85. In this way, as the first to third insertion protrusion 32-1, 32-2 and 32-3 are moved in the downward direction, the shield protrusion 33 may be moved to the next step of the latch stopper 85. Thus, the shield 30 coupled to the main body 10 may be intermittently rotated.

[0068] As described above, the shield 30 may be intermittently rotated in the downward direction, and, thus, it may be possible to prevent a risk that the shield 30 may slide down when the shield 30 is opened at the front opening of the main body 10 and possible to adjust an opening angle of the shield 30.

[0069] In the multifunctional helmet in accordance with the embodiment of the present disclosure, if the main body 10 needs to be connected to both the shield 30 and the peak sun visor 40, the shield 30 may be coupled to the main body 10 and then the peak sun visor 40 may be coupled thereto and the coupling fixing member 83 may pass through the coupling hole 41 of the peak sun visor 40 and the coupling hole 31 of the shield 30 so as to connect to the rotation shaft 81 of the main body 10. In this way, both the shield 30 and the peak sun visor 40 may be connected to the main body 10.

[0070] In the multifunctional helmet in accordance with the embodiment of the present disclosure, if the main body 10 needs to be connected to any one of the shield 30 and the peak sun visor 40, any one of them may be connected to the main body and then coupling fixing member 83 may be connected to the rotation shaft 81.

[0071] In the multifunctional helmet in accordance with the embodiment of the present disclosure, at least one of the chin guard 20, the shield 30, and the peak sun visor 40 may be connected to or disconnected from the

main body 10. Hereinafter, there will be explained helmet examples in various shapes configured by using such a structure.

[0072] Figs. 5 to 9 are perspective views for explaining various shapes of a multifunctional helmet in accordance with the embodiment of the present disclosure.

[0073] Fig. 5 shows a full-face type helmet in which the main body 10 may be connected to the chin guard 20 and the shield 30, and Fig. 6 shows an open-face type helmet in which the main body 10 may be connected to the shield 30 and the peak sun visor 40.

[0074] Fig. 7 shows an off-road type helmet in which the main body 10 may be connected to the peak sun visor 40, and Fig. 8 shows a zet-face type helmet in which the chin guard 20, the shield 30 and the peak sun visor 40 may be disconnected from the main body 10. Further, Fig. 9 shows a supermoto type helmet in which the main body 10 may be connected to the chin guard 20 and the peak sun visor 40.

[0075] As described above, the multifunctional helmet in accordance with the embodiment of the present disclosure may be configured to have various shapes other than the shapes shown in Figs. 5 to 9 by using the structure in which the chin guard 20, the shield 30 and the peak sun visor 40 may be connected to and disconnected from the main body 10.

[0076] In a multifunctional helmet in accordance with another embodiment of the present disclosure, a chin guard 20 may be decorated with an ornament which can accentuate characteristics of each helmet.

[0077] Figs. 10A to 10B are perspective views of a chin guard to be decorated with an ornament in a multifunctional helmet in accordance with another embodiment of the present disclosure.

[0078] Fig. 10A shows a state in which the chin guard 20 in accordance with the embodiment of the present disclosure may be coupled to an ornament 21 and Fig. 10B is provided to explain a method of coupling the chin guard 20 to the ornament 21.

[0079] Figs. 10A and 10B show the chin guard 20 which may include all components of the chin guard 20 of the above-described multifunctional helmet in accordance with the embodiment of the present disclosure and may further include the ornament 21.

[0080] To be specific, as depicted in Fig. 10A, the ornament 21 may be coupled to a front central area of the chin guard 20, and even if the ornament 21 is coupled to be higher than a top of the chin guard 20, a ventilating opening 22 may be formed such that air can be circulated.

[0081] To be specific, as depicted in Fig. 10B, connection members 23, 23-1 and 23-3 to be connected to connection grooves 24-1, 24-2 and 24-3, respectively, formed in an outside surface of the front central area of the chin guard 20 may protrude from an inside surface of the ornament 21. If the ornament 21 is connected to the front central area of the chin guard 20, an intagliated groove may be formed such that air can be introduced through the ventilating opening 22.

[0082] A multifunctional helmet in accordance with another embodiment of the present disclosure may further include an internal sun visor and an opening/closing apparatus configured to control opening/closing of the internal sun visor.

[0083] Fig. 11 is a perspective view of a multifunctional helmet including an opening/closing apparatus of an internal sun visor in accordance with another embodiment of the present disclosure.

[0084] Fig. 11 shows a main body 10 which may include all components of the main body 10 of the above-described multifunctional helmet in accordance with the embodiment of the present disclosure and may further include an internal sun visor 90 and an opening/closing unit 95 of the internal sun visor 90.

[0085] As depicted in Fig. 11, the internal sun visor 90 may be received in an inner space of a front top area of a main body 10 and a connection groove 91, through which a connection member 92 to be connected to a rotation shaft may pass, may be formed at both ends of extended side surfaces. The connection member 92 may be fixed to the main body 10 by the connection groove 91 such that the internal sun visor 90 can be rotated.

[0086] The opening/closing unit 95 of the internal sun visor 90 may include a sliding member 97 which may be connected to a central area of the internal sun visor 90 so as to push the internal sun visor 90 toward a front opening of the main body 10 and maintain an opening state or so as to receive the internal sun visor 90 in the inner space and maintain a closing state. Further, the opening/closing unit 95 of the internal sun visor 90 may include a guide holder 98 configured to guide forward/backward movements of the sliding member 97 and restrict a movement range of the sliding member 97 and a button 96 configured to return the sliding member 97 to the inner space at the time of closing.

[0087] A shield of a multifunctional helmet in accordance with another embodiment of the present disclosure may further include a ventilation unit.

[0088] Fig. 12 is a perspective view showing a ventilation unit of a shield in a multifunctional helmet in accordance with another embodiment of the present disclosure.

[0089] Fig. 12 shows a shield 20 which may include all components of the shield 20 of the above-described multifunctional helmet in accordance with the embodiment of the present disclosure and may further include a ventilation unit C.

[0090] As depicted in Fig. 12, the ventilation unit C may include a ventilating guide 35 protruding toward an outside of the shield 20 and supporting an opening threshold 36, the opening threshold 36 configured to be opened and closed by movements in up and down directions (i.e. Y-axis direction), and opening holes 37 formed in an upper end of a space protruding toward an inside of the shield 20.

[0091] Fig. 12 shows that if the opening threshold 36 is moved downward, the ventilating guide 35 may be

opened and as the ventilating guide 35 is opened, air introduced through the opening holes 37 can be circulated.

[0092] The above description of the present invention is provided for the purpose of illustration, and it would be understood by those skilled in the art that various changes and modifications may be made without changing technical conception and essential features of the present invention. Thus, it is clear that the above-described embodiments are illustrative in all aspects and do not limit the present invention. For example, each component described to be of a single type can be implemented in a distributed manner. Likewise, components described to be distributed can be implemented in a combined manner.

[0093] The scope of the present invention is defined by the following claims rather than by the detailed description of the embodiment. It shall be understood that all modifications and embodiments conceived from the meaning and scope of the claims and their equivalents are included in the scope of the present invention.

Claims

1. A helmet comprising:

a main body that includes a facial opening at its front side;
a chin guard connected to a lower side surface of the main body; and
a connector capable of connecting/disconnecting the chin guard to/from the main body,
characterized in that the connector includes first connectors that are positioned at both ends of the lower side surface of the main body and include locking protrusions capable of coupling and fixing a part of the chin guard and second connectors that are positioned at both ends of the chin guard and include coupling loops able to be caught by the locking protrusions so as to be coupled and fixed.

2. The helmet of claim 1,
wherein in the first connectors, an inner space is formed by connecting plate-shaped base members (50, 51) and the locking protrusions protrude from an surface on the inner space side of the base members, and
the second connectors include a coupling control member that is exposed to an outside of the chin guard and movable in a transversal direction, a manipulating protrusion that protrudes toward an inside of the chin guard and is movable in the same direction as the coupling control member, and the coupling loop of which one end is able to be caught by the manipulating protrusion and which is returned to an original position by an elastic member when force caused by a movement of the manipulating protrusion is removed, wherein the other end of the coupling loop is able to be caught by the locking protrusion at the original position and, when the manipulating protrusion is moved, is able to become free from the locking protrusion.

3. The helmet of claim 2,
wherein the coupling loop is formed into a curved shape in order for the other end to be able to be caught by the locking protrusion at the original position while the end is continuously caught by the manipulating protrusion by contractile force of the elastic member,
whereby if the locking protrusion is moved in a first direction contrary to a direction of the contractile force, the end is moved in the first direction and the other end is rotated in a second direction different from a direction in which the other end is caught by the locking protrusion so as to be free from the locking protrusion, and
whereby if the locking protrusion is manipulated to be free from the force in the first direction, the end and the other end are returned to the original position by the contractile force of the elastic member.

4. The helmet of claim 2,
wherein in the first connector, an open intagliated groove is formed in an outer surface of the base member in a direction to be in contact with the main body and a fixing opening is formed in a contact surface of the main body at a position corresponding to the intagliated groove, and
the second connector further includes a fixing wing positioned at both upper ends of the chin guard and inserted into the fixing opening.

5. The helmet of claims 1, further comprising:

a shield configured to be coupled to the side surface of the main body and opened/closed at the facial opening;
a peak sun visor configured to be coupled to the side surface of the main body and positioned at an upper area of the facial opening; and
a rotational connection unit configured to couple at least one of the shield and the peak sun visor to be rotated around a rotation shaft,
wherein the rotational connection unit includes:

a first rotational connection unit positioned at both side surfaces of the main body including a coupling fixing member connected to the rotation shaft to couple and fix at least one of the shield and the peak sun visor, a second rotational connection unit positioned at both ends of extended side surfaces of the peak sun visor and including a

first coupling hole through which the coupling fixing member passes, and a third rotational connection unit positioned at both ends of extended side surfaces of the shield and including a second coupling hole through which the coupling fixing member passes.

6. The helmet of claim 5,
wherein the coupling fixing member is screw-coupled to the rotation shaft, and
a height of the screw-coupling is adjusted to correspond to a height of a coupling of at least one of the shield and the peak sun visor to the main body.

7. The helmet of claim 5,
wherein the first rotational connection unit includes:

a deviation prevention groove that restricts a movement range of the peak sun visor;
an annular-shaped fan receiving unit that adjusts a movement degree of the peak sun visor;
an annular-shaped insertion guide into which an inner peripheral surface of the first coupling hole is able to be inserted;
at least one guide groove formed at an outer peripheral surface of the insertion guide; and
a latch stopper that adjusts a movement degree of the shield and restricts a movement range of the shield.

8. The helmet of claim 7,
wherein the second rotational connection unit includes:

the first coupling hole formed to pass the coupling fixing member through a position corresponding to the rotation shaft;
a deviation prevention protrusion that is formed to correspond to a shape of the deviation prevention groove and protrudes with a width less than a width of the deviation prevention groove; and
a fan protrusion that has prominences and depressions that are arranged to be opposite to prominences and depressions of the fan receiving unit when joined with the fan receiving unit.

9. The helmet of claim 7,
wherein the third rotational connection unit includes:

the second coupling hole formed to pass the coupling fixing member through a position corresponding to the rotation shaft;
at least one insertion protrusion formed at a position corresponding to the guide groove in the inner peripheral surface of the second coupling hole; and
a shield protrusion that is inserted into the latch stopper to move the shield in multiple steps.

10. The helmet of claim 5, further comprising:

an inner sun visor that is received in an inside of the main body and able to be closed and opened at the facial opening.

11. The helmet of claim 5, further comprising:

a ventilation unit including:

a ventilating guide that is positioned at a front lower central area of the shield and protrudes toward an outside;
an opening threshold that is supported by the ventilating guide and opens/closes the ventilating guide by up and down movements; and
opening holes that are formed in an upper end of a space protruding toward an inside of the shield and, if the ventilating guide is opened, opened for air to be circulated in the inside of the shield.

12. The helmet of claim 5, further comprising:

a connection member that couples a replaceable ornament to a front central area of the chin guard.

13. A helmet comprising:

a main body including a facial opening formed at its front and a locking protrusion protruded from its lower surface, and being connected to at least one of a chin guard, a shield and a sun visor,
characterized in that the chin guard includes a coupling loop and is able to be coupled and fixed to the main body by one end of the coupling loop caught to the locking protrusion,
wherein the shield is able to be coupled to a side surface of the main body to be movable and to adjust a movement degree,
wherein the sun visor is able to be coupled to the side surface of the main body and has a restricted movement range.

FIG. 1

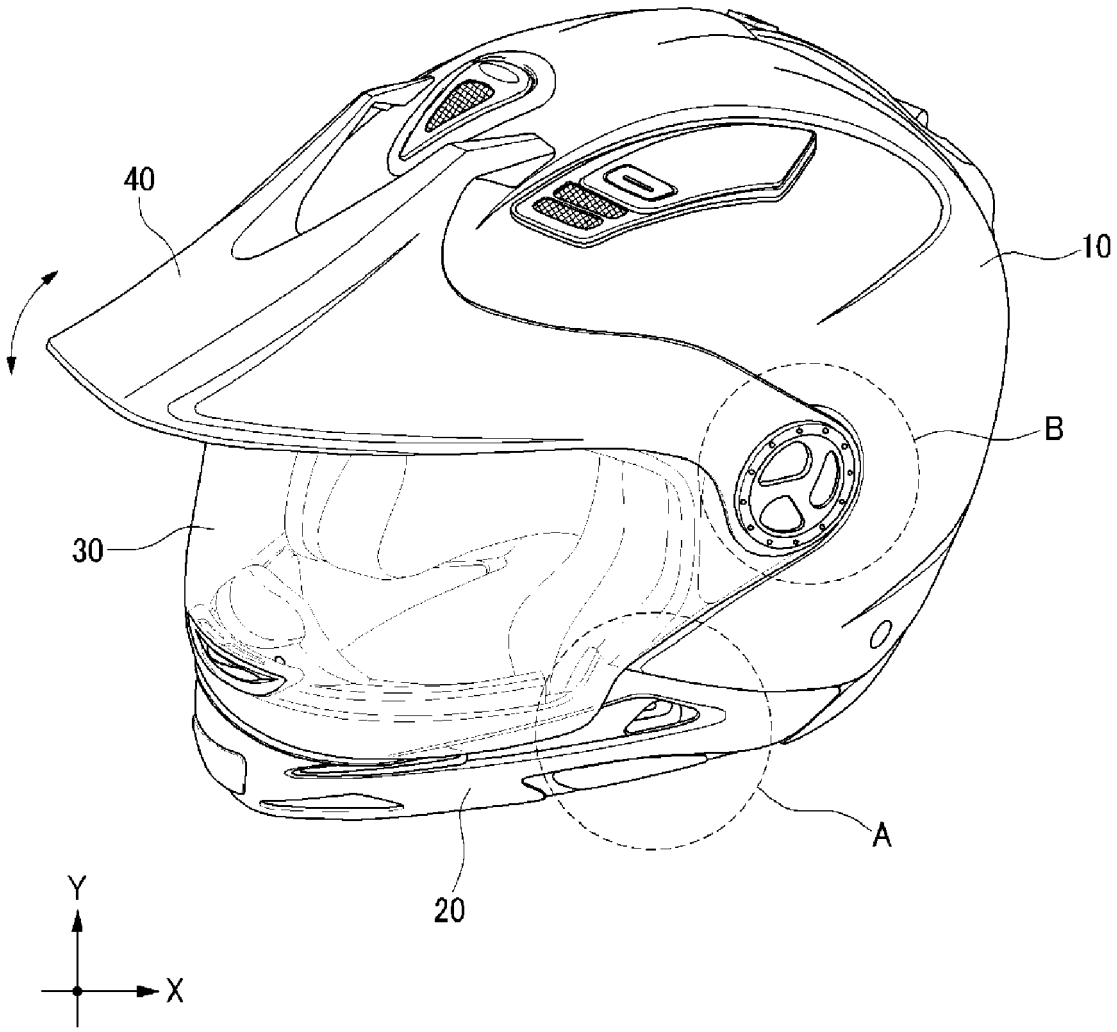

FIG. 2

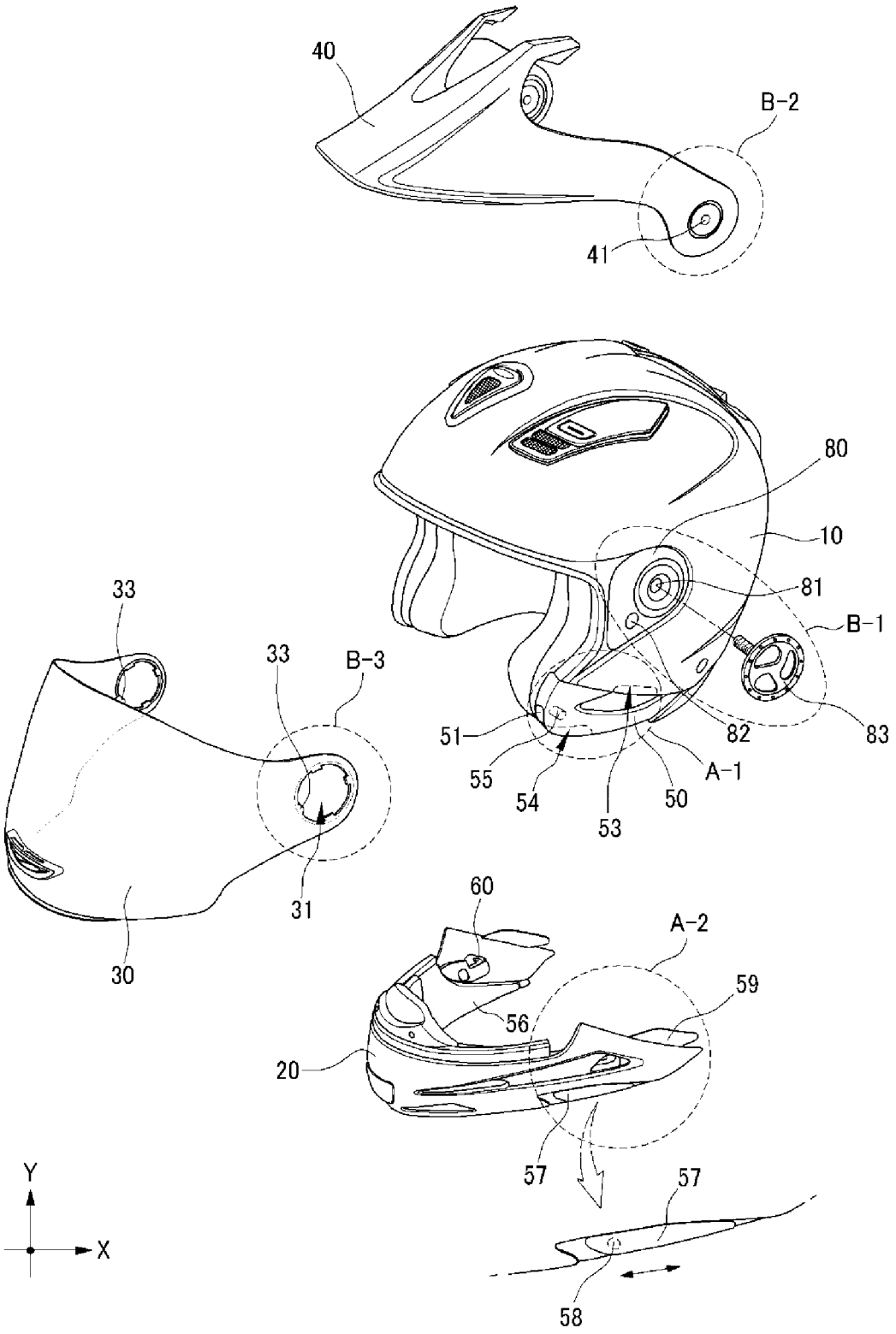
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FIG. 3A

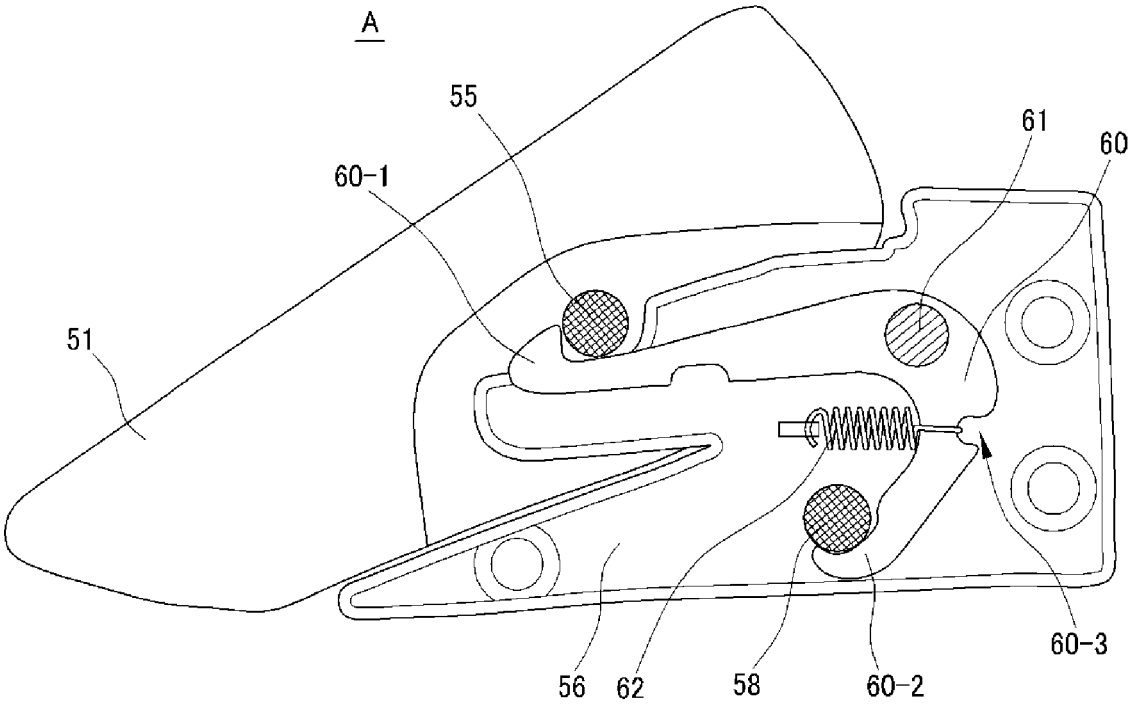


FIG. 3B

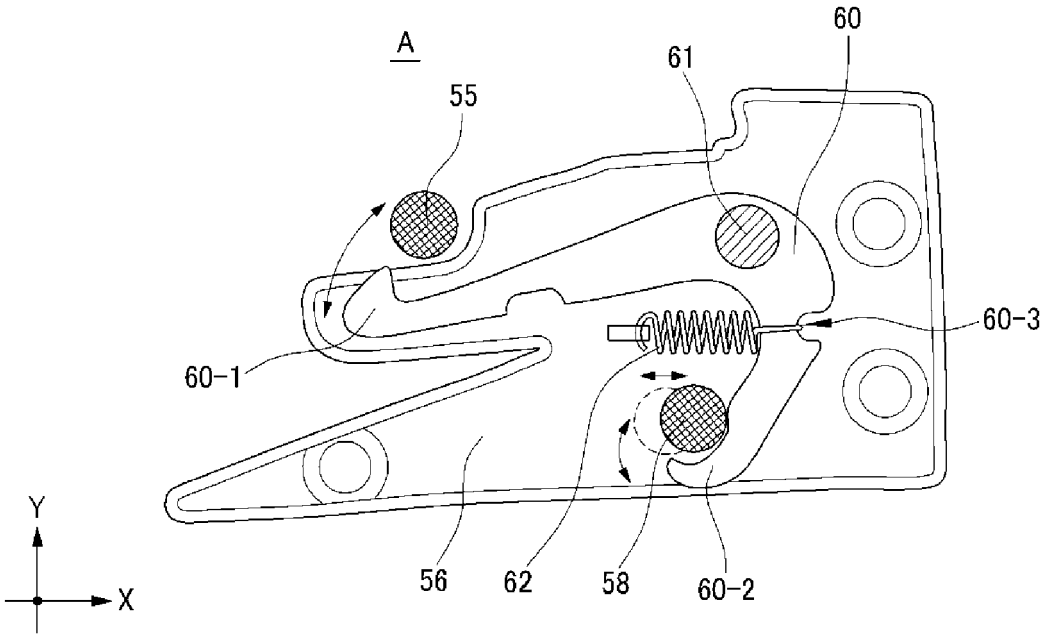
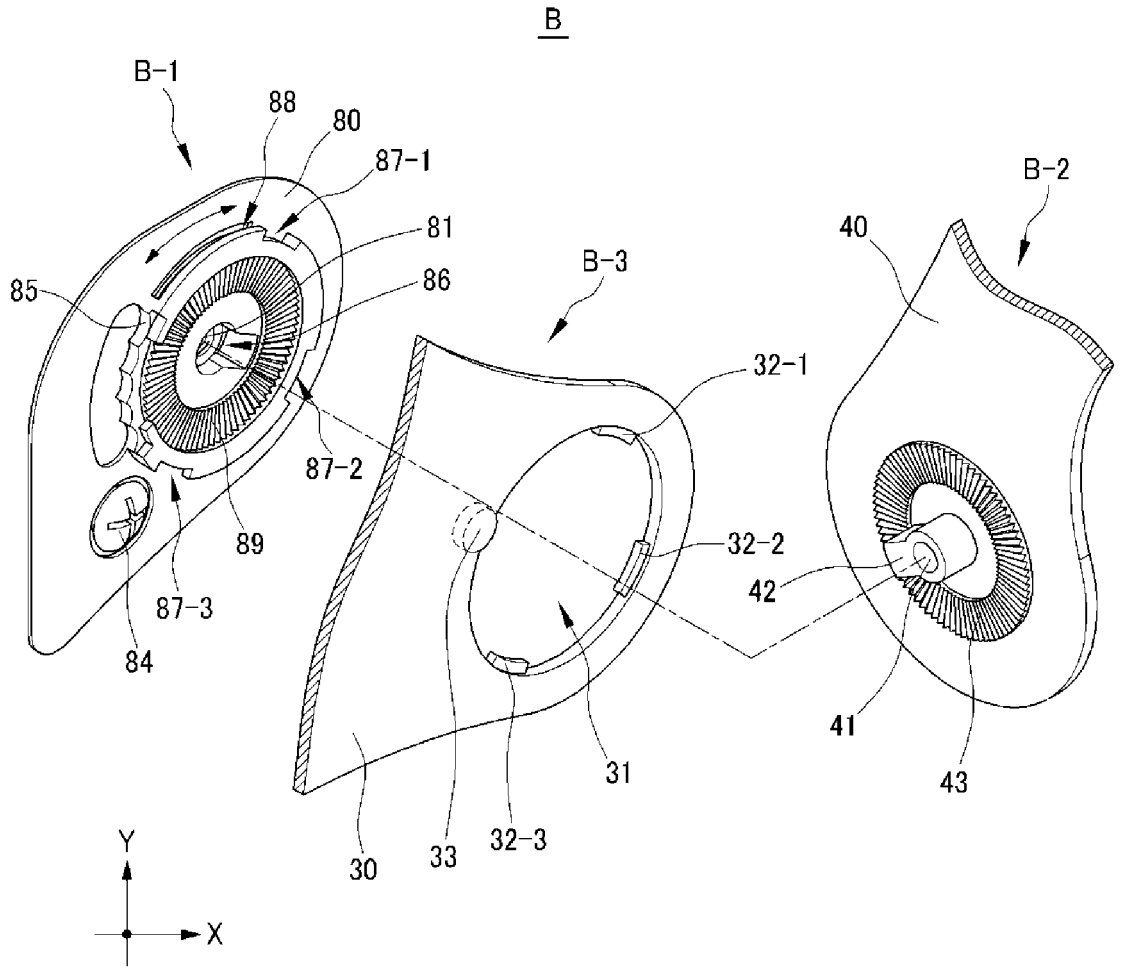


FIG. 4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Y
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FIG. 5

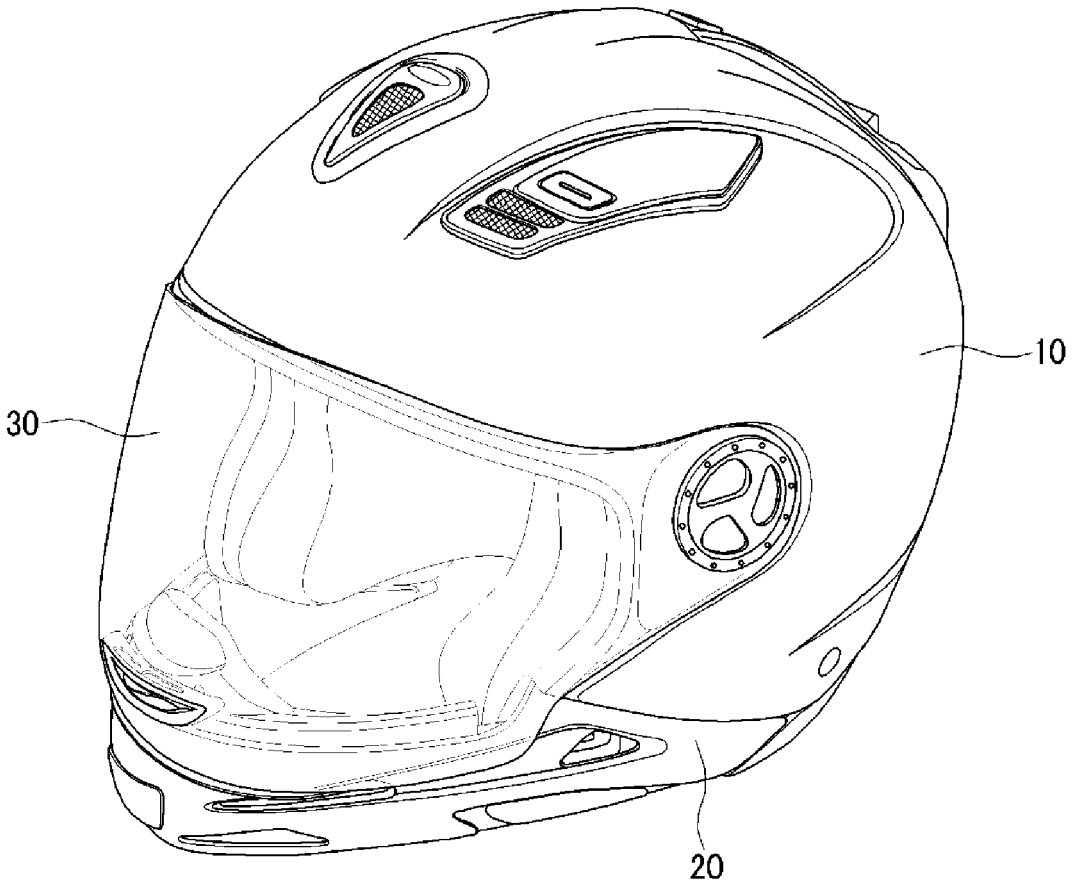

FIG. 6

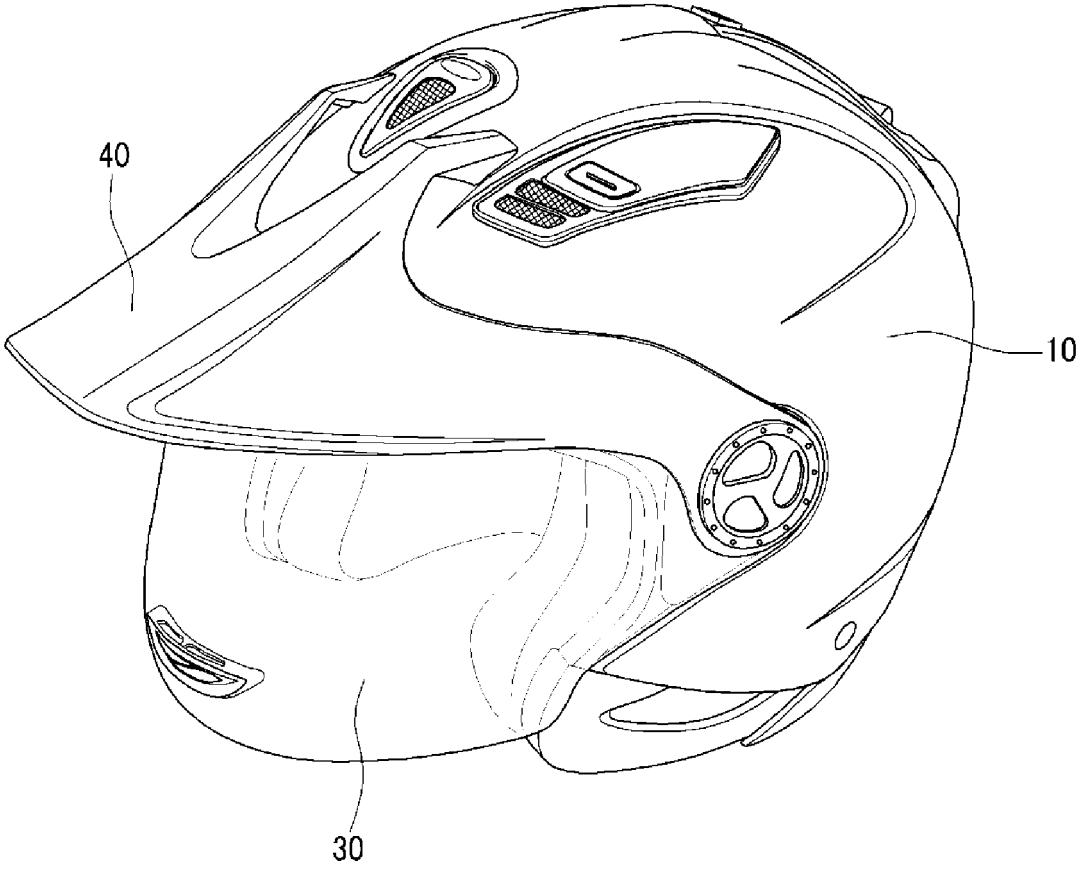

FIG. 7

FIG. 8

FIG. 9

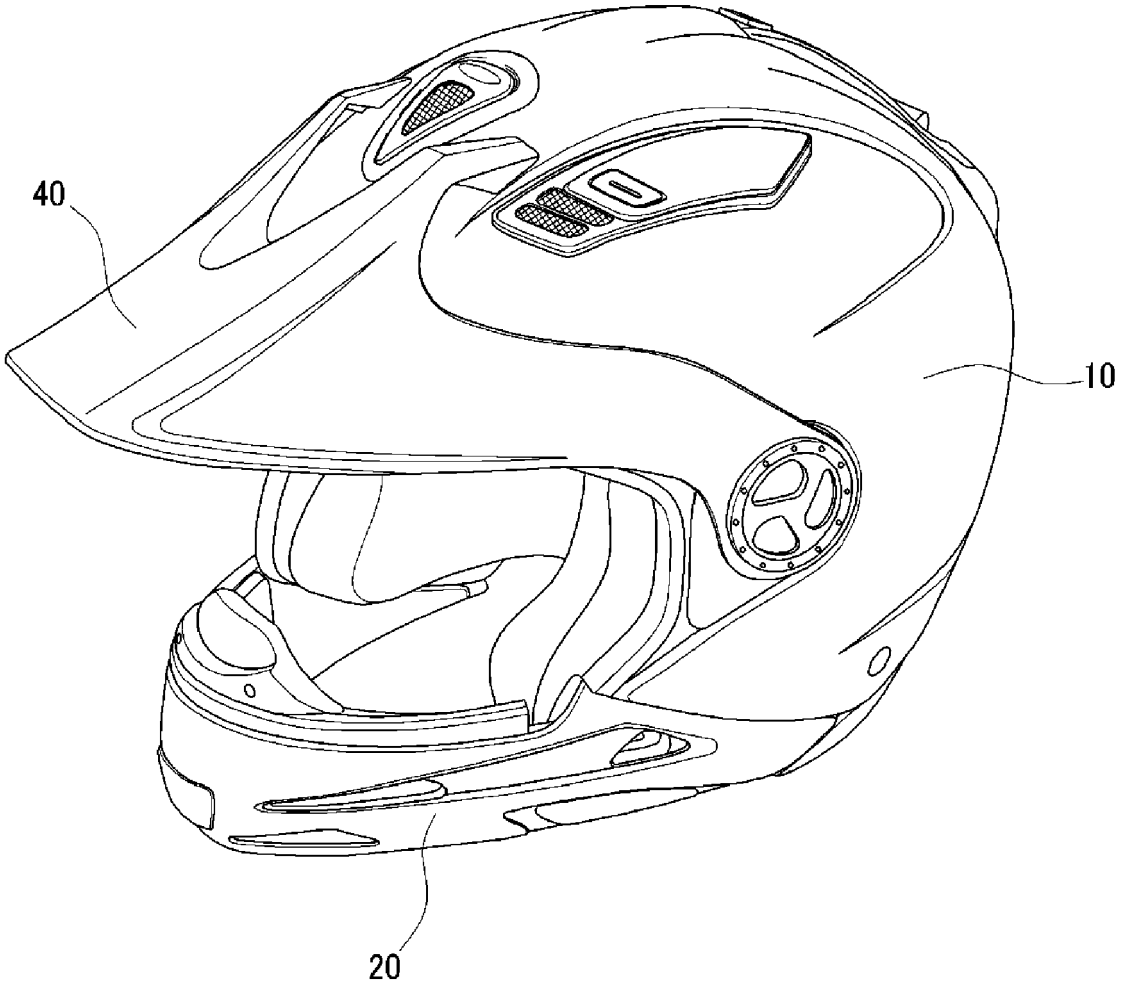

FIG. 10A

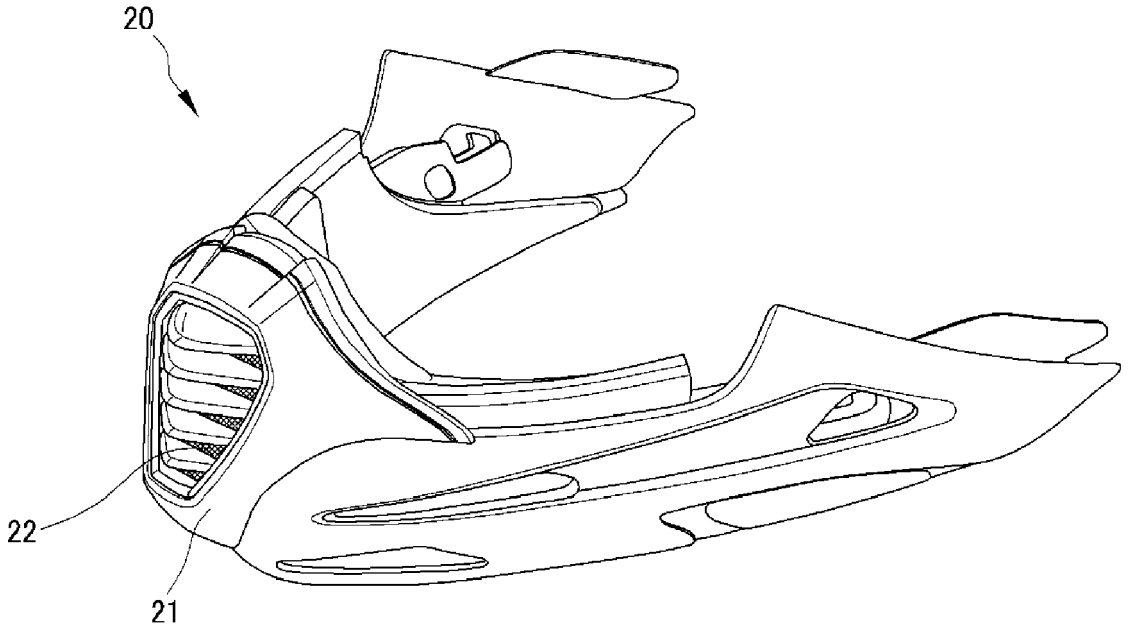

FIG. 10B

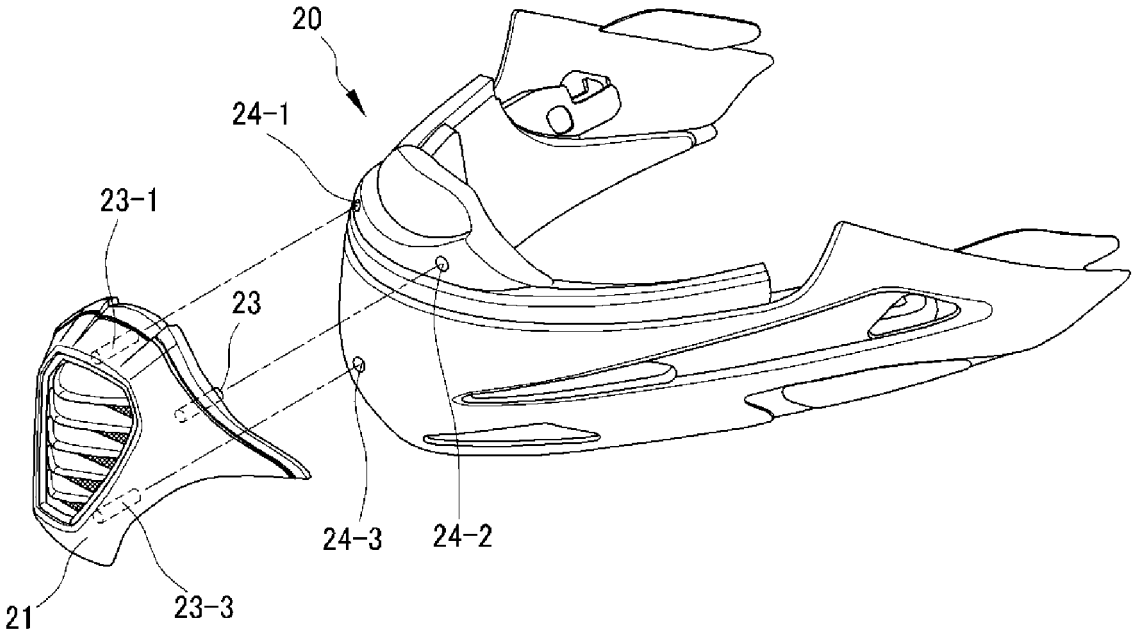

FIG. 11

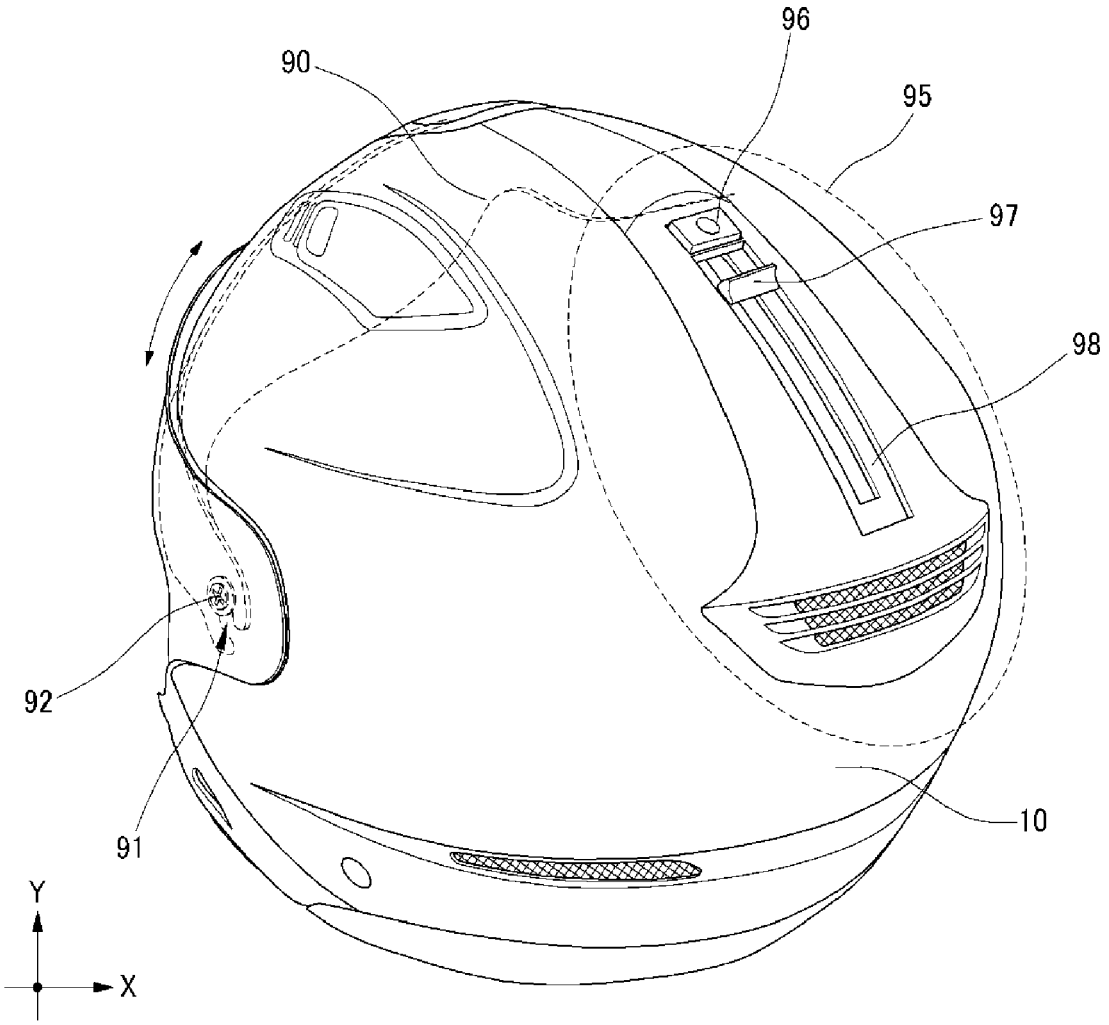

FIG. 12