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Description

TECHNICAL FIELD

[0001] The present invention relates to improving sealability of a shield of a helmet.

RELATED ART

[0002] A principal component of a helmet, which is worn by a rider of a two-wheeled powered vehicle or the like, is a main hat body structured by an outer side shell and an inner side liner. The outer side shell is formed of a hard synthetic resin and the inner side liner is formed of an impact-absorbing material such as a foam material or the like. The main hat body of the helmet has a substantially spherical shape, is open downward in order for a wearer to put on the helmet, and is provided with an aperture window at a front to provide the wearer with a field of view. Ordinarily, a transparent shield is disposed at the aperture window. By closing off the aperture window, the shield may prevent the ingress of wind, rain and the like through the aperture window, while assuring the wearer's field of view. The shield is connected to a pair of turning mechanisms that protrude from both of side faces of the main hat body. The shield is structured to be movable between a position that closes off the aperture window and a position that opens the aperture window.

[0003] A "full-face" type helmet includes a chin guard below the aperture window. By covering the jaw area of a wearer, the chin guard protects the jaw area from a strike, impact or the like when, for example, the wearer falls. A "flip-up" type helmet is also well known, in which a chin guard is structured to be movable in an upward direction relative to the main hat body. Thus, it is possible to switch between the safety provided by the full-face type, which is important during high-speed running and the like, and the open feeling given by an "open-face" type helmet that does not include a chin guard, which is desired during low-speed running and when stopped.

[0004] European Patent No. 1,847,192 discloses a technology that provides reliable sealing when a visor (corresponding to the "shield" of the present application) of a helmet is closed, by including a gasket in a support frame of the visor. U.S. Patent No. 4,524,465 discloses a sealing structure of a helmet in which a gasket at an upper end of a visor makes area contact with an upper portion of an aperture window and/or a lower end of the visor makes area contact with a sealing lip at an upper end of a chin protector (corresponding to the "chin guard" of the present application). Japanese Patent Application Laid-Open (JP-A) No. S61-132604 discloses a shield screen (corresponding to the "shield" of the present application) that makes area contact with an upper edge of a window (corresponding to the "aperture window" of the present application) and an upper end edge of a jaw protection plate (corresponding to the "chin guard" of the present application) such that air does not leak through.

DE 76 06 321 U1 shows a helmet corresponding to the preamble of claim 1. US 8 056 144 B2 shows a helmet featuring a shield with an inflected upper edge.

5 SUMMARY

TECHNICAL PROBLEM

[0005] In a helmet with a shield, because there is a gap between the shield and a main hat body, water may ingress inside the helmet, particularly at times of bad weather with strong wind, rain or the like, times of long-duration running in wet weather, and the like. In order to prevent water ingress, a structure has been employed in which rubber (below referred to as "the window rubber") is provided at a peripheral edge of an aperture window in order to seal the gap between the shield and the aperture window. Thus, the gap between the shield and the main hat body is closed off. If water ingresses to an inner side of this shield, the wearer may be distracted, causing an impediment to safe running. Therefore, preventing ingress of water into an area of the wearer's view is particularly important. Specifically, a technique has been devised of locating left and right ends of the window rubber, where water is more likely to ingress, away from the aperture window, that is, relocating positions of the left and right ends of the window rubber toward a rear of the helmet such that, even when water ingresses, the water is kept outside the area of the wearer's view as much as possible.

[0006] However, a pair of turning mechanisms are provided at two side faces of the main hat body. The turning mechanisms are connected with two end portions of the shield and make the shield movable in a vertical direction. Consequently, in order to relocate the positions of the left and right ends of the window rubber toward the rear of the helmet, both the shape of the shield must be changed and the turning mechanisms themselves must be relocated toward the rear of the helmet. However, with regard to reducing weight of the helmet and assuring safety, it is required that structures of the turning mechanisms be kept as simple as possible. As a result, there is a limit on relocation of the turning mechanisms toward the rear of the helmet, which means that positions of the turning mechanisms at the side faces of the main hat body are restricted to some extent. Thus, it is impractical to set locations which is susceptible to water ingress completely outside the area of the wearer's view.

[0007] Because each turning mechanism is structured by various members, when a helmet is viewed from above, the turning mechanisms have shapes that protrude to some extent from the outer surface of the main hat body. Therefore, in order to fill gaps between the main hat body and the shield at peripheries of the turning mechanisms, thicker sealing members than the window rubber attached to a middle portion of the aperture window are required. These sealing members are formed integrally with the window rubber or are structured as

separate members in line with the window rubber. However, exposure of this window rubber and sealing members at the surface of the helmet adversely affects the visual design of the helmet.

[0008] These issues are even more prominent in a flip-up type helmet in which a chin guard is moved relative to the main hat body. In a flip-up type helmet, because the chin guard is structured to be movable in a vertical direction relative to the main hat body, the chin guard is also connected to the turning mechanisms. Thus, with the addition of the thickness of the chin guard, protrusion of the turning mechanisms is even greater, as a result of which sealing members are more bulky. When sealing members are more bulky, strength of contact of the sealing members with the shield falls, as a result of which water ingress prevention performance deteriorates. Accordingly, further sealing members are added to supplement the sealing members around the turning mechanisms. However, adding sealing members in a manner that does not impede movement of the shield or the chin guard is difficult.

[0009] In a flip-up type helmet, in order to overcome the disadvantages described above, a structure can be employed in which the two end portions of the window rubber are relocated further toward the rear of the helmet such that, even if water ingresses, the water is directed outside the area of the wearer's view. However, turning mechanisms for lifting up the chin guard and turning mechanisms for raising and lowering the shield are both provided at the two side faces of the main hat body. Therefore, positional constraints on the turning mechanisms are more severe than in an ordinary full-face type helmet. If the positions of the turning mechanisms are relocated rearward, the shield must be elongated to the rear, as a result of which the shield is larger and heavier. Hence, in a flip-up type helmet, the visual design is likely to be adversely affected and it is complicated to reliably eliminate leaks.

[0010] The technology recited in European Patent No. 1,847,192 causes contact between a shield and a helmet by providing a gasket between the shield and the helmet. However, the gasket is inevitably larger than the shield and the weight of the helmet is increased. In addition, gaps may be formed between the gasket and the helmet. The technologies recited in U.S. Patent No. 4,524,465 and JP-A No. S61-132604 reliably provide area contact between a shield and a window rubber at the middle of an aperture window, but may not completely prevent leaks into a helmet through the peripheries of turning mechanisms.

[0011] The present invention has been devised in consideration of the problems of the related technologies described above. An object of the present invention is to provide a helmet that may improve sealability between a main hat body and a shield of the helmet and that may, for any of various types of helmet, prevent water ingress into the helmet at times of bad weather.

SOLUTION TO PROBLEM

[0012] In order to address the subject described above, a helmet according to the present invention is defined in the independent claim 1 and includes a substantially spherical main hat body that includes an aperture window that opens forward to provide a field of view to a wearer, a shield that is connected to a pair of turning mechanisms protruding from two side faces of the main hat body, the shield being movable between a closed position at which the shield closes off the aperture window and an open position at which the shield opens the aperture window, and a seal member that, when the shield is at the closed position, seals a gap between an upper edge of the shield and an upper edge of the aperture window from a vicinity of one of the turning mechanisms to a vicinity of another of the turning mechanisms of the main hat body. At least a part of an upper end portion of the shield, at vicinities of upper edges of left and right end portions of the seal member, is inflected toward the main hat body, and the part of the upper end portion of the shield abuts the seal member when the shield is at the closed position and the helmet further comprises cover members that cover rear sides of the turning mechanisms, the cover members being connected with the left and right end portions of the seal member, and closing off gaps between the main hat body and left and right rear portions of the shield.

ADVANTAGEOUS EFFECTS OF INVENTION

[0013] According to the present invention, a helmet is provided that improves sealability between a main hat body and a shield of the helmet and that may, for any of various types of helmet, prevent water ingress into the helmet at times of bad weather.

BRIEF DESCRIPTION OF DRAWINGS

[0014]

Fig. 1 is a perspective view of a helmet according to an exemplary embodiment of the present invention when a shield is closed and a chin guard is down.

Fig. 2 is a perspective view of the helmet according to the exemplary embodiment of the present invention when the shield is open and the chin guard is down.

Fig. 3 is a perspective view of the helmet according to the exemplary embodiment of the present invention when the shield is open and the chin guard is up.

Fig. 4 is a schematic view showing a section, taken along line x-x in Fig. 1, of the helmet according to the exemplary embodiment of the present invention when the shield is closed and the chin guard is down.

Fig. 5A is a left side view of the helmet according to the exemplary embodiment of the present invention when the shield is closed and the chin guard is down.

Fig. 5B is a right side view showing a positional re-

lationship between a cover member and a seal member when the chin guard is down.

Fig. 5C is a right side view, corresponding to Fig. 5B, showing a positional relationship between the cover member and the seal member when the chin guard starts to be opened from down to up.

Fig. 5D is a right side view, corresponding to Fig. 5B, showing a positional relationship between the cover member and the seal member when the chin guard is up.

Fig. 6 is a schematic view of the helmet according to the exemplary embodiment of the present invention in a section in which region p in Fig. 5A is cut in a front-and-rear direction.

Fig. 7 is a schematic view of the helmet according to the exemplary embodiment of the present invention in a section in which region q in Fig. 5A is cut in a left-and-right direction.

DETAILED DESCRIPTION

[0015] A helmet according to the present invention includes a main hat body and a shield. The main hat body is provided with an aperture window that provides a field of view to a rider of a two-wheeled powered vehicle or the like who is wearing the helmet. The shield is connected to the main hat body and opens and closes the aperture window. A gap between the aperture window and the shield is sealed by a seal member, in order to prevent water ingress through a gap between the aperture window and the shield when the helmet is worn and the two-wheeled vehicle runs for a long duration during bad weather with strong wind, rain or the like. Left and right ends of the seal member are relocated as far as possible toward the rear such that, even in the event of water ingress into the helmet, the water does not enter an area of the wearer's view.

[0016] The shield is retained between a pair of turning mechanisms that allow opening and closing of the shield, the turning mechanisms are provided at two side faces of the main hat body. The turning mechanisms incorporate components known as "shield bases" that are turned about turning axes substantially orthogonal to the side faces of the main hat body. As a result, the pair of turning mechanisms protrude from the left and right side faces of the main hat body. Thicknesses of the turning mechanisms are sufficient for retaining the shield with an appropriate strength, and positions of the turning mechanisms are specified to be within predetermined ranges.

[0017] Conventionally, left and right ends of a seal member are disposed further toward the front of a helmet than turning mechanisms. Because these turning mechanisms have a certain thickness, the closer the left and right ends of the seal member approach to the turning mechanisms, the higher the seal member must rise from the side faces of the main hat body. When an amount of rise of the seal member is larger, strength of contact against the shield decreases, as a result of which ingres-

sion prevention performance may fall. Accordingly, separate sealing members are added at the left and right ends of the seal member to compensate for the fall in ingress prevention performance.

[0018] However, when the left and right ends of a seal member are relocated further to the rear, separate sealing members may not be added, because the sealing members would interfere with opening and closing movements of the shield. Accordingly, in the present exemplary embodiment, instead of separate sealing members being added at the left and right ends of the seal member, an upper edge end portion of the shield is inflected toward the main hat body. Sealability of the gap between the shield and the main hat body is improved and the gap is eliminated. In addition, air resistance of the upper end portion of the shield is reduced. Thus, ingress of water into the helmet is prevented, aerodynamic performance is improved, and wind noise is reduced.

[0019] Below, an exemplary embodiment of the present invention is described in detail with reference to the drawings. Fig. 1 is a perspective view of a helmet according to the exemplary embodiment of the present invention when a shield is closed and a chin guard is down. As shown in Fig. 1, in a helmet 1 according to the exemplary embodiment of the present invention, a substantially spherical main hat body 10 and a shield 20 are connected. A lower portion of the main hat body 10 is provided with an aperture portion that is open such that a wearer can insert their head and put on the main hat body 10. An aperture window 11 is provided at the front of the main hat body 10. The wearer can see forward through the aperture window 11.

[0020] The shield 20 is movable, by means of a pair of turning mechanisms 12a and 12b, between a closed position at which the shield 20 is fixed so as to close off the aperture window 11 and an open position at which the shield 20 is fixed so as to open the aperture window 11. The shield 20 may be formed of a transparent resin material such as a polycarbonate or the like.

[0021] The turning mechanisms 12a and 12b are provided at two side faces of the main hat body 10. In Fig. 1, the turning mechanism 12a at the left side face is connected with the shield 20 and incorporates a component such as a shield base or the like (not shown in the drawings) that allows the shield 20 to turn about a turning axis that is substantially orthogonal to the left side face of the main hat body 10. Although not shown in the drawings, the turning mechanism 12b is similarly provided at the right side face of the main hat body. Because of the incorporated components, the turning mechanisms 12a and 12b protrude from both the side faces of the main hat body 10.

[0022] A chin guard 13 is provided below the aperture window 11 at the front of the main hat body 10. The chin guard 13 covers a jaw area of the wearer and protects the jaw area from a strike, impact or the like, for example, during a fall. The chin guard 13 is formed as a separate body from the main hat body 10, is connected to the turn-

ing mechanisms 12a and 12b, and turns relative to the main hat body 10. The chin guard 13 is connected to be movable between a first position, at which the chin guard 13 is fixed lower than an aperture window upper edge 111, and a second position, at which the chin guard 13 is fixed higher than the aperture window upper edge 111. A turning axis of the chin guard 13 need not match the turning axis of the shield 20. When the turning axis of the chin guard 13 does not match the turning axis of the shield 20, a structure is possible in which the chin guard 13 is connected to components that are separate from the shield bases to which the shield 20 is connected.

[0023] Fig. 2 is a perspective view of the helmet according to the exemplary embodiment of the present invention when the shield is open and the chin guard is down. Structures of respective portions of the helmet 1 are the same as in Fig. 1 except for the shield 20 being at the open position. Therefore, the respective portions are not described.

[0024] Fig. 3 is a perspective view of the helmet according to the exemplary embodiment of the present invention when the shield is open and the chin guard is up. Structures of respective portions of the helmet 1 are the same as in Fig. 1 except for the shield 20 being at the open position and the chin guard 13 being up (at the second position). Therefore, the respective portions are not described.

[0025] Fig. 4 is a schematic view showing a section, taken along line x-x in Fig. 1, of the helmet according to the exemplary embodiment of the present invention when the shield is closed and the chin guard is down. The x-x section is a substantially horizontal plan view passing through a vicinity of the aperture window upper edge 111.

[0026] As shown in Fig. 1 to Fig. 4, a seal member 14 that seals a gap between the main hat body 10 and the shield 20 is provided at the main hat body 10. The seal member 14 is provided at a peripheral edge of the aperture window 11, sealing the gap between the shield 20 and the aperture window 11. Locations in which the seal member 14 is provided are positions of the main hat body 10 that correspond with an upper edge of the shield 20 when the shield 20 is at the closed position, and are in the vicinity of the aperture window upper edge 111. The seal member 14 is provided so as to seal from a vicinity of the turning mechanism 12a at the left side to a vicinity of the turning mechanism 12b at the right side. Because the turning mechanisms 12a and 12b protrude from the two side faces of the main hat body 10 as mentioned above, the seal member 14 is formed such that a left end 141a and a right end 141b of the seal member 14 are formed with greater thickness than a middle portion of the seal member 14. It is desirable if the left end 141a and right end 141b of the seal member 14 are structured so as to be at the rear side relative to left and right ends of the aperture window 11, as locations of the left end 141a and right end 141b, which has a relatively large risk of water ingress, may be made distant from the area of the wearer's view. The seal member 14 may be struc-

tured as an integral window rubber from a resilient material such as a rubber or the like. The seal member 14 may also be structured by a window rubber and sealing members that are successively formed of a resilient material such as a rubber or the like.

[0027] Cover members 15a and 15b are correspondingly provided at rear peripheries of the turning mechanisms 12a and 12b of the main hat body 10. The cover members 15a and 15b are provided so as to be connected with the left end 141a and right end 141b of the seal member 14. Thus, gaps between the main hat body 10 and left and right rear portions of the shield 20 are closed off and water ingress is prevented. In addition, the turning mechanisms 12a and 12b may be protected from impacts. The cover members 15a and 15b may be formed of resin or the like as separate members from the main hat body 10 and the shield 20. The cover members 15a and 15b may be formed to cause the main hat body 10 to protrude in periphery regions of the turning mechanisms 12a and 12b. The cover members 15a and 15b are provided so as to cover at least rear sides of the turning mechanisms 12a and 12b. Thus, the peripheries of the turning mechanisms 12a and 12b are sealed by the seal member 14 and the cover members 15a and 15b.

[0028] Fig. 5A is a left side view of the helmet according to the exemplary embodiment of the present invention when the shield is closed and the chin guard is down. As shown in Fig. 5A, the cover member 15a is provided so as to cover the rear side of the turning mechanism 12a. In this case, if an upper face of the seal member 14 and an upper face of the cover member 15a form a continuous surface, the shield 20 can be formed as a continuous surface that corresponds with the continuous surface of the seal member 14 and the cover member 15a. Consequently, it is desirable, as there are fewer step shapes, the ingress prevention effect is improved, appearance is excellent, and fabrication is simple.

[0029] Fig. 5B is a right side view of the helmet according to the exemplary embodiment of the present invention when the chin guard is down. As shown in Fig. 5B, in the present exemplary embodiment the cover member 15b at the right side is attached to the chin guard 13. Although not shown in the drawings, the cover member 15a at the left side is attached to the chin guard 13 similarly to the cover member 15b at the right side. When the chin guard 13 is down, an upper end portion 151b of the cover member 15b overlaps with the right end 141b of the seal member 14 and, although not shown in the drawings, an upper end portion 151a of the cover member 15a overlaps with the left end 141a of the seal member 14.

[0030] As shown in Fig. 5C and Fig. 5D, when the chin guard 13 is opened from down to up, the upper end portion 151b of the cover member 15b moves away from the right end 141b of the seal member 14, and the upper end portion 151a of the cover member 15a moves away from the left end 141a of the seal member 14. Note that the shield 20 is not depicted in the drawings of Fig. 5B to Fig. 5D.

[0031] Fig. 6 is a schematic view of the helmet according to the exemplary embodiment of the present invention in a section in which region p in Fig. 5A is cut in the front-and-rear direction. As shown in Fig. 6, the seal member 14 is provided at the main hat body 10 in the vicinity of the aperture window upper edge 111. The shield 20 is inflected such that the upper edge thereof approaches the main hat body 10, and the inflected portion abuts against the seal member 14.

[0032] Fig. 7 is a schematic view of the helmet according to the exemplary embodiment of the present invention in a section in which region q in Fig. 5A is cut in the left-and-right direction. As shown in Fig. 7, the shield 20 is inflected such that the upper edge thereof approaches the main hat body 10, and the inflected portion abuts against the left end 141a of the seal member 14 provided at the main hat body 10.

[0033] In the present exemplary embodiment, the chin guard 13 is connected by the pair of turning mechanisms to be movable between the first position at which the chin guard 13 is fixed lower than the aperture window and the second position at which the chin guard 13 is fixed higher than the aperture window. However, structures of a chin guard are not limited thus. The chin guard 13 may be formed integrally with the main hat body 10 so as to not be movable. Further, a helmet may be formed with only the main hat body 10 and the shield 20, with no chin guard 13.

[0034] According to the present invention as described hereabove, due to the shield being inflected, a seal member is pressed while being tightly contacted. Therefore, the present invention provides an effect that may not be provided by conventional technologies in that, for any of various types of helmet, leaks into the helmet at times of bad weather is prevented. In addition, effects of improving aerodynamic performance and reducing wind noise are provided.

[0035] Hereabove, the present invention has been described using an exemplary embodiment, but embodiments of the present invention are not to be limited by the exemplary embodiment described above. That is, alternative embodiments, additions, modifications, omissions and other changes may be applied within the scope of what a person skilled in the art may devise, as long as it remains within the scope of protection defined by the appended claims.

Claims

1. A helmet (1) comprising:

a substantially spherical main hat body (10) including an aperture window (11) that opens forward to provide a field of view to a wearer;
a shield (20) connected to a pair of turning mechanisms (12a, 12b) protruding from two side faces of the main hat body (10), the shield (20) be-

ing movable between a closed position at which the shield (20) closes off the aperture window (11) and an open position at which the shield (20) opens the aperture window (11); and
a seal member (14) that, when the shield (20) is at the closed position, seals a gap between an upper edge of the shield (20) and an upper edge of the aperture window (11) from a vicinity of one of the turning mechanisms (12a, 12b) to a vicinity of another of the turning mechanisms (12a, 12b) of the main hat body (10), wherein at least a part of an upper end portion of the shield (20), at vicinities of upper edges of left and right end portions (141a, 141b) of the seal member (14), is inflected toward the main hat body (10), and the part of the upper end portion of the shield (20) abuts the seal member (14) when the shield (20) is at the closed position,

characterized in that,

the helmet (1) further comprises cover members (15a, 15b) that cover rear sides of the turning mechanisms (12a, 12b), the cover members (15a, 15b) being connected with the left and right end portions (141a, 141b) of the seal member (14), and closing off gaps between the main hat body (10) and left and right rear portions of the shield (20).

2. The helmet (1) according to claim 1, wherein the upper end portion of the shield (20) is inflected toward the main hat body (10) at the upper edge from one end portion of the seal member (14) to another end portion of the seal member (14).
3. The helmet (1) according to claim 1, wherein the helmet (1) is a full-face type helmet including a chin guard (13) below the aperture window (11), and the cover members (15a, 15b) are integral with the chin guard (13).
4. The helmet (1) according to claim 1, wherein a chin guard (13) is connected to the turning mechanisms (12a, 12b), the chin guard (13) being movable between a first position at which the chin guard (13) is located lower than the upper edge of the aperture window (11) and a second position at which the chin guard (13) is located higher than the upper edge of the aperture window (11), and the cover members (15a, 15b) being formed to be continuous with the chin guard (13).
5. The helmet (1) according to claim 4, wherein, when the chin guard (13) is at the first position, upper faces of the seal member (14) at the left and right end portions (141a, 141b) of the seal member (14) form continuous surfaces with upper faces of the cover members (15a, 15b).

6. The helmet (1) according to any one of claims 1 to 5, wherein the left and right end portions (141a, 141b) of the seal member (14) are at rear sides relative to left and right end portions of the aperture window (11).

Patentansprüche

1. Helm (1), umfassend:

einen im Wesentlichen kugelförmigen Haupthutkörper (10), der ein Öffnungsfenster (11) einschließt, das sich vorwärts öffnet, um einem Träger ein Sichtfeld bereitzustellen; eine Abschirmung (20), die mit einem Paar von Drehmechanismen (12a, 12b) verbunden ist, die von zwei Seitenflächen des Haupthutkörpers (10) vorstehen, wobei die Abschirmung (20) zwischen einer geschlossenen Position, in der die Abschirmung (20) das Öffnungsfenster (11) verschließt, und einer offenen Position, in der die Abschirmung (20) das Öffnungsfenster (11) öffnet, bewegbar ist; und

ein Dichtungselement (14), das, wenn sich die Abschirmung (20) in der geschlossenen Position befindet, einen Spalt zwischen einer oberen Kante der Abschirmung (20) und einer oberen Kante des Öffnungsfensters (11) von einer Nähe eines der Drehmechanismen (12a, 12b) zu einer Nähe eines anderen der Drehmechanismen (12a, 12b) des Haupthutkörpers (10) abdichtet,

wobei mindestens ein Teil eines oberen Endabschnitts der Abschirmung (20) in der Nähe der oberen Kanten der linken und rechten Endabschnitte (141a, 141b) des Dichtungselements (14) in Richtung des Haupthutkörpers (10) gebogen ist und der Teil des oberen Endabschnitts der Abschirmung (20) an dem Dichtungselement (14) anliegt, wenn sich die Abschirmung (20) in der geschlossenen Position befindet,

dadurch gekennzeichnet, dass

der Helm (1) ferner Abdeckelemente (15a, 15b) umfasst, die die Rückseiten der Drehmechanismen (12a, 12b) abdecken, wobei die Abdeckelemente (15a, 15b) mit dem linken und dem rechten Endabschnitt (141a, 141b) des Dichtungselements (14) verbunden sind und Lücken zwischen dem Haupthutkörper (10) und dem linken und dem rechten hinteren Abschnitt der Abschirmung (20) abschließen.

2. Helm (1) nach Anspruch 1, wobei der obere Endabschnitt der Abschirmung (20) an der oberen Kante von einem Endabschnitt des Dichtungselements (14) zu einem anderen Endabschnitt des Dichtungs-

elements (14) in Richtung des Haupthutkörpers (10) gebogen ist.

3. Helm (1) nach Anspruch 1, wobei der Helm (1) ein Vollgesichtshelm ist, der einen Kinnschutz (13) unterhalb des Öffnungsfensters (11) aufweist, und die Abdeckelemente (15a, 15b) mit dem Kinnschutz (13) einstückig sind.

4. Helm (1) nach Anspruch 1, wobei ein Kinnschutz (13) mit den Drehmechanismen (12a, 12b) verbunden ist, wobei der Kinnschutz (13) zwischen einer ersten Position, in der der Kinnschutz (13) niedriger als die obere Kante des Öffnungsfensters (11) angeordnet ist, und einer zweiten Position, in der der Kinnschutz (13) höher als die obere Kante des Öffnungsfensters (11) angeordnet ist, bewegbar ist, und wobei die Abdeckelemente (15a, 15b) so geformt sind, dass sie mit dem Kinnschutz (13) durchgehend sind.

5. Helm (1) nach Anspruch 4, wobei, wenn sich der Kinnschutz (13) in der ersten Position befindet, die Oberseiten des Dichtungselements (14) an den linken und rechten Endabschnitten (141a, 141b) des Dichtungselements (14) durchgehende Flächen mit den Oberseiten der Abdeckelemente (15a, 15b) bilden.

6. Helm (1) nach einem der Ansprüche 1 bis 5, wobei der linke und der rechte Endabschnitt (141a, 141b) des Dichtungselements (14) relativ zu dem linken und dem rechten Endabschnitt des Öffnungsfensters (11) auf der Rückseite liegen.

Revendications

1. Casque (1) comprenant :

un corps de coque principal sensiblement sphérique (10) comprenant une fenêtre d'ouverture (11) qui s'ouvre vers l'avant pour fournir un champ de vision à un porteur ;

un écran (20) relié à une paire de mécanismes de rotation (12a, 12b) faisant saillie sur deux faces latérales du corps de coque principal (10), l'écran (20) étant mobile entre une position fermée dans laquelle l'écran (20) ferme la fenêtre d'ouverture (11) et une position ouverte dans laquelle l'écran (20) ouvre la fenêtre d'ouverture (11) ; et

un élément d'étanchéité (14) qui, lorsque l'écran (20) est en position fermée, obture un espace entre un bord supérieur de l'écran (20) et un bord supérieur de la fenêtre d'ouverture (11) depuis la proximité d'un des mécanismes de rotation (12a, 12b) jusqu'à la proximité d'un autre des mécanismes de rotation (12a, 12b) du corps

de coque principal (10),
 dans lequel au moins une partie d'une extrémité
 supérieure de l'écran (20), à proximité des bords
 supérieurs des extrémités gauche et droite
 (141a, 141b) de l'élément d'étanchéité (14), est 5
 infléchie vers le corps de coque principal (10),
 et la partie de l'extrémité supérieure de l'écran
 (20) vient en butée contre l'élément d'étanchéité
 (14) lorsque l'écran (20) est en position fermée,
caractérisé en ce que, 10
 le casque (1) comprend, en outre, des éléments
 de couverture (15a, 15b) qui couvrent les côtés
 arrière des mécanismes de rotation (12a, 12b),
 les éléments de couverture (15a, 15b) étant re- 15
 liés aux parties d'extrémité gauche et droite
 (141a, 141b) de l'élément d'étanchéité (14), et
 fermant les espaces entre le corps de coque
 principal (10) et les parties arrière gauche et
 droite de l'écran (20). 20

2. Casque (1) selon la revendication 1, dans lequel la
 partie supérieure de l'écran (20) est infléchie vers le
 corps de coque principal (10) au niveau du bord su-
 périeur, d'une extrémité de l'élément d'étanchéité 25
 (14) à une autre extrémité de l'élément d'étanchéité
 (14).
3. Casque (1) selon la revendication 1, dans lequel le
 casque (1) est un casque intégral comprenant une
 mentonnière (13) sous la fenêtre d'ouverture (11), 30
 et les éléments de couverture (15a, 15b) sont soli-
 daires de la mentonnière (13).
4. Casque (1) selon la revendication 1, dans lequel une
 mentonnière (13) est relié aux mécanismes de rota- 35
 tion (12a, 12b), la mentonnière (13) étant mobile en-
 tre une première position dans laquelle la menton-
 nière (13) est située plus bas que le bord supérieur
 de la fenêtre d'ouverture (11) et une seconde posi- 40
 tion dans laquelle la mentonnière (13) est située plus
 haut que le bord supérieur de la fenêtre d'ouverture
 (11), et les éléments de couverture (15a, 15b) étant
 formés pour être continus avec la mentonnière (13).
5. Casque (1) selon la revendication 4, dans lequel, 45
 lorsque la mentonnière (13) se trouve dans la pre-
 mière position, les faces supérieures de l'élément
 d'étanchéité (14) aux extrémités gauche et droite
 (141a, 141b) de l'élément d'étanchéité (14) forment 50
 des surfaces continues avec les faces supérieures
 des éléments de couverture (15a, 15b).
6. Casque (1) selon l'une quelconque des revendica-
 tions 1 à 5, dans lequel les extrémités gauche et 55
 droite (141a, 141b) de l'élément d'étanchéité (14)
 sont situées à l'arrière par rapport aux extrémités
 gauche et droite de la fenêtre d'ouverture (11).

FIG.1

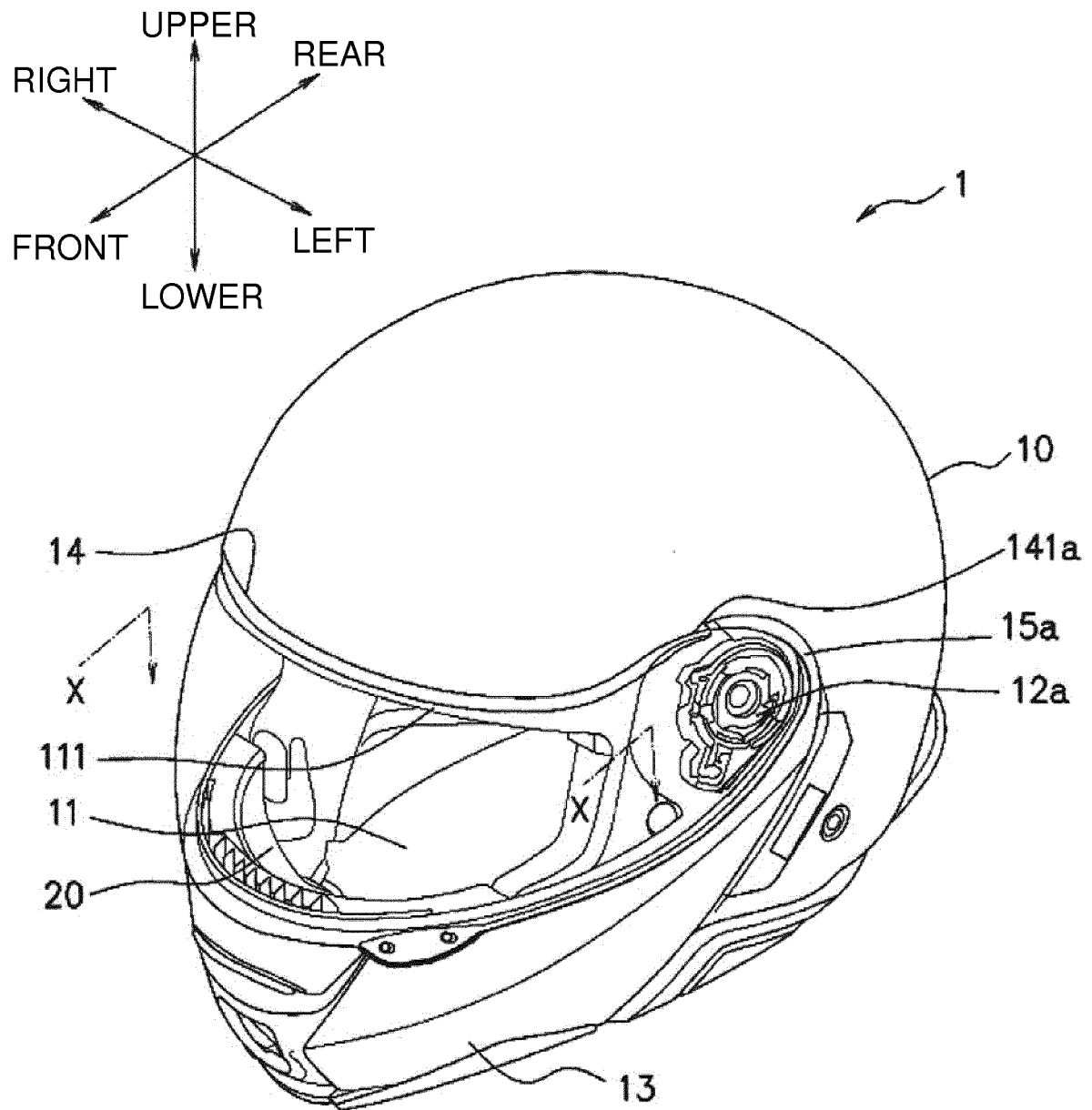


FIG.2

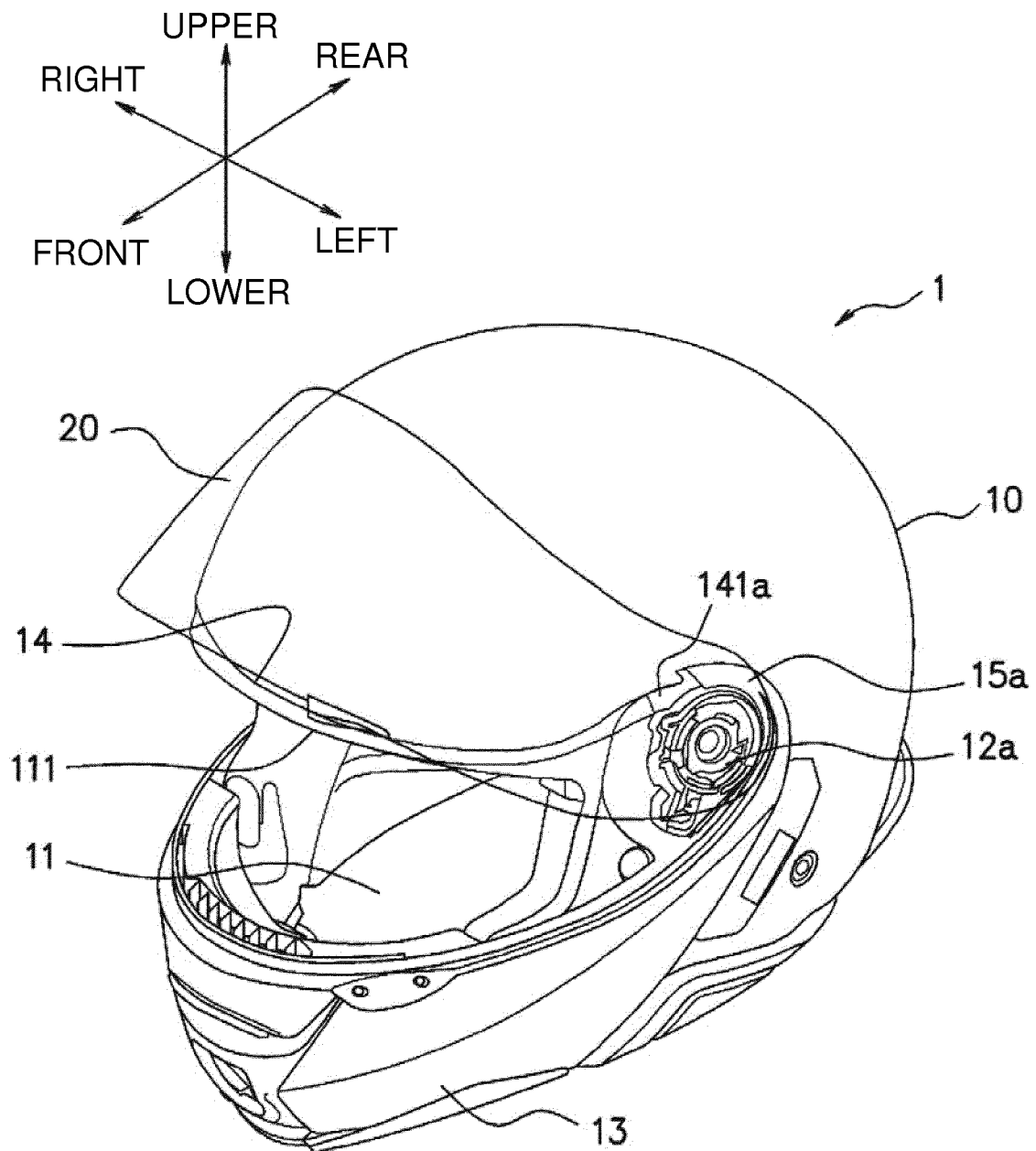


FIG.3

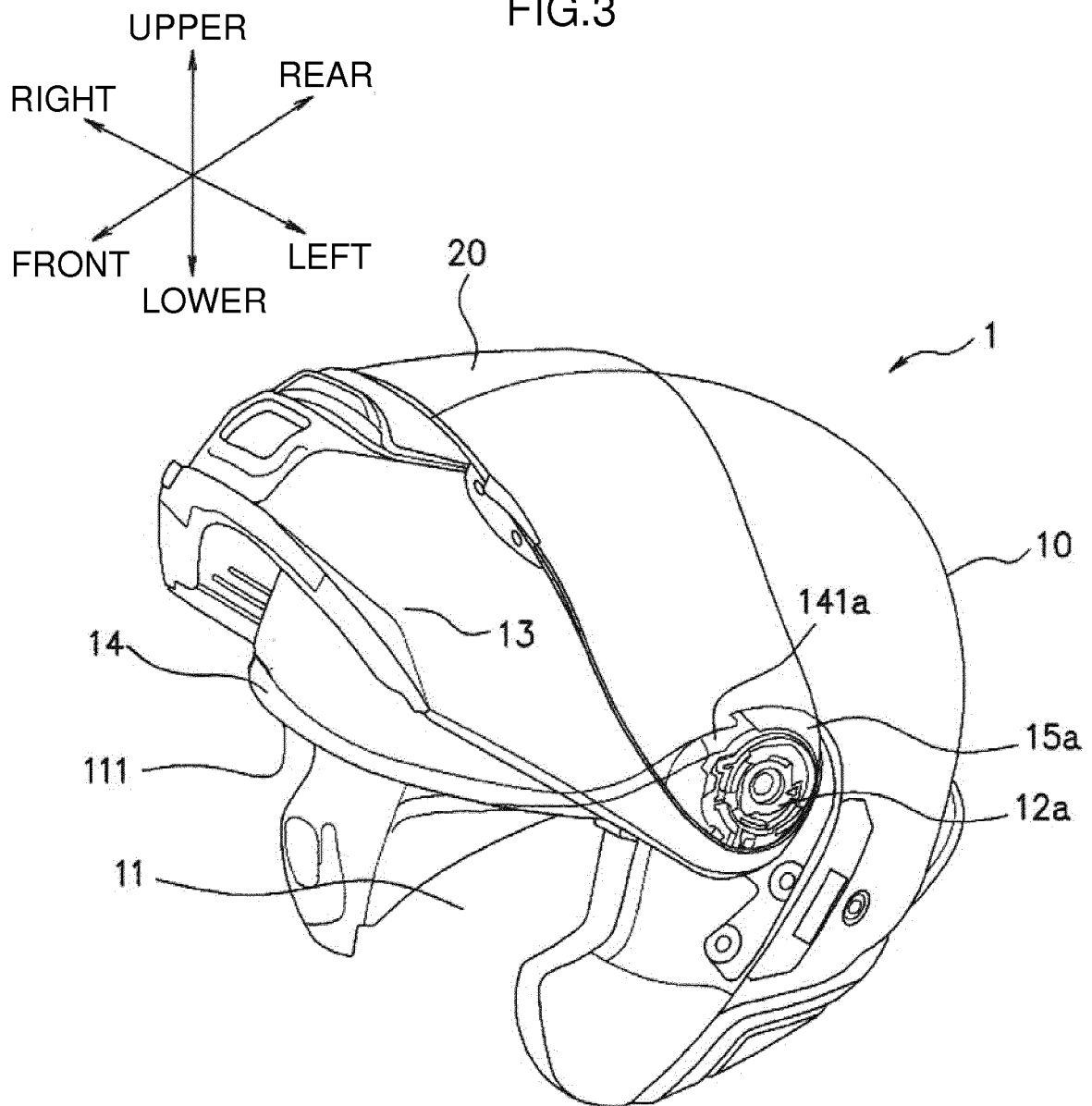


FIG.4

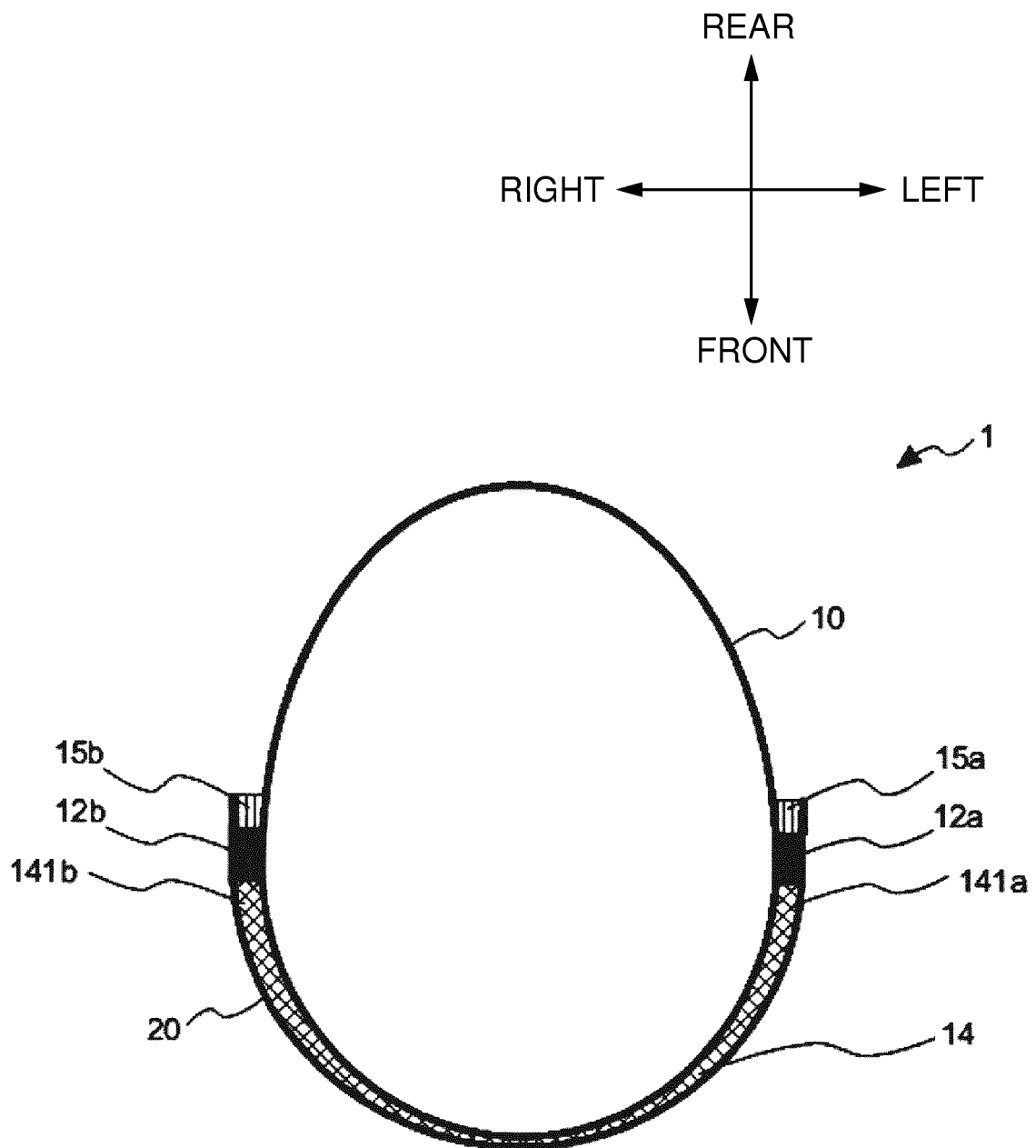


FIG.5A

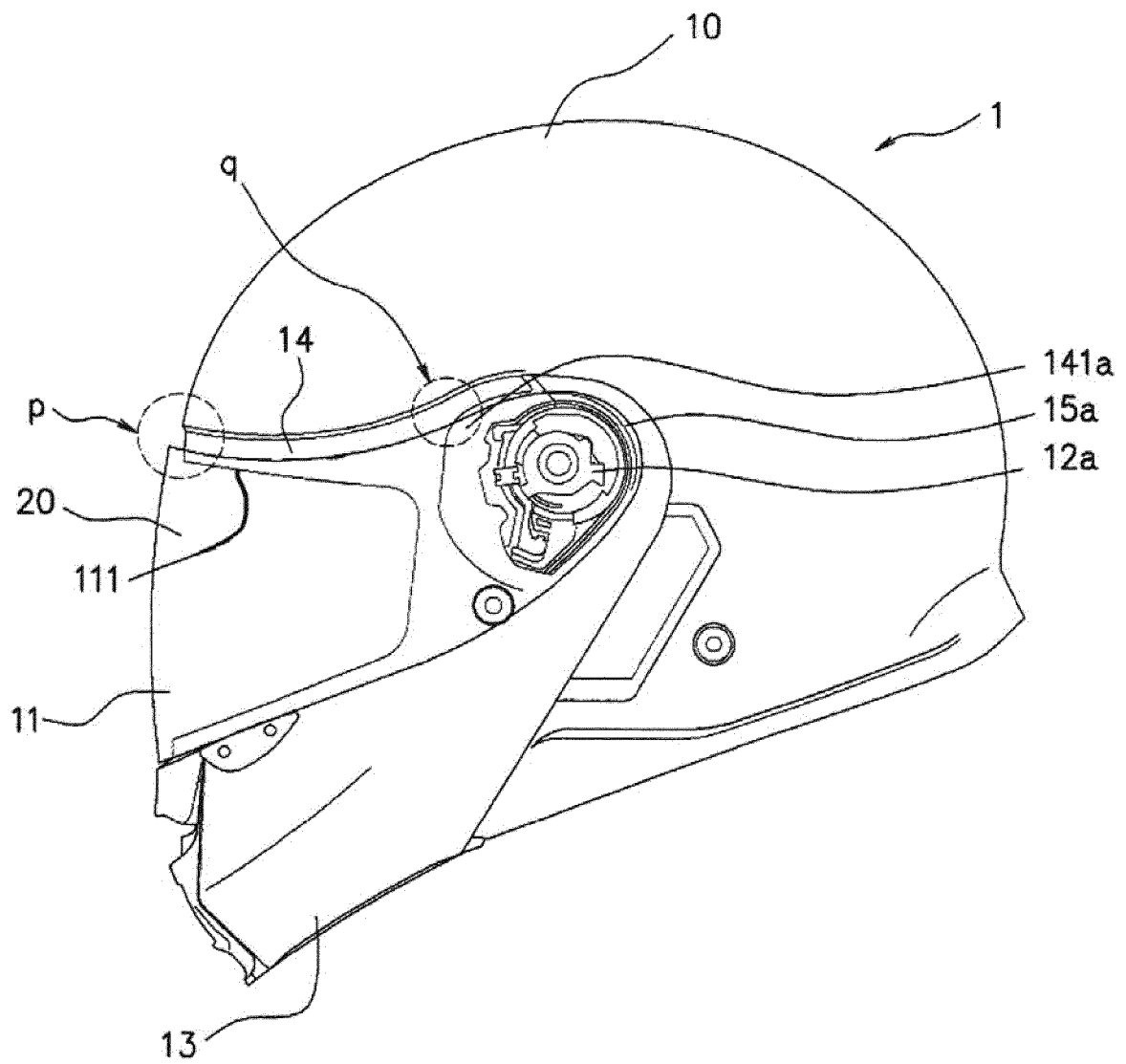


FIG.5B

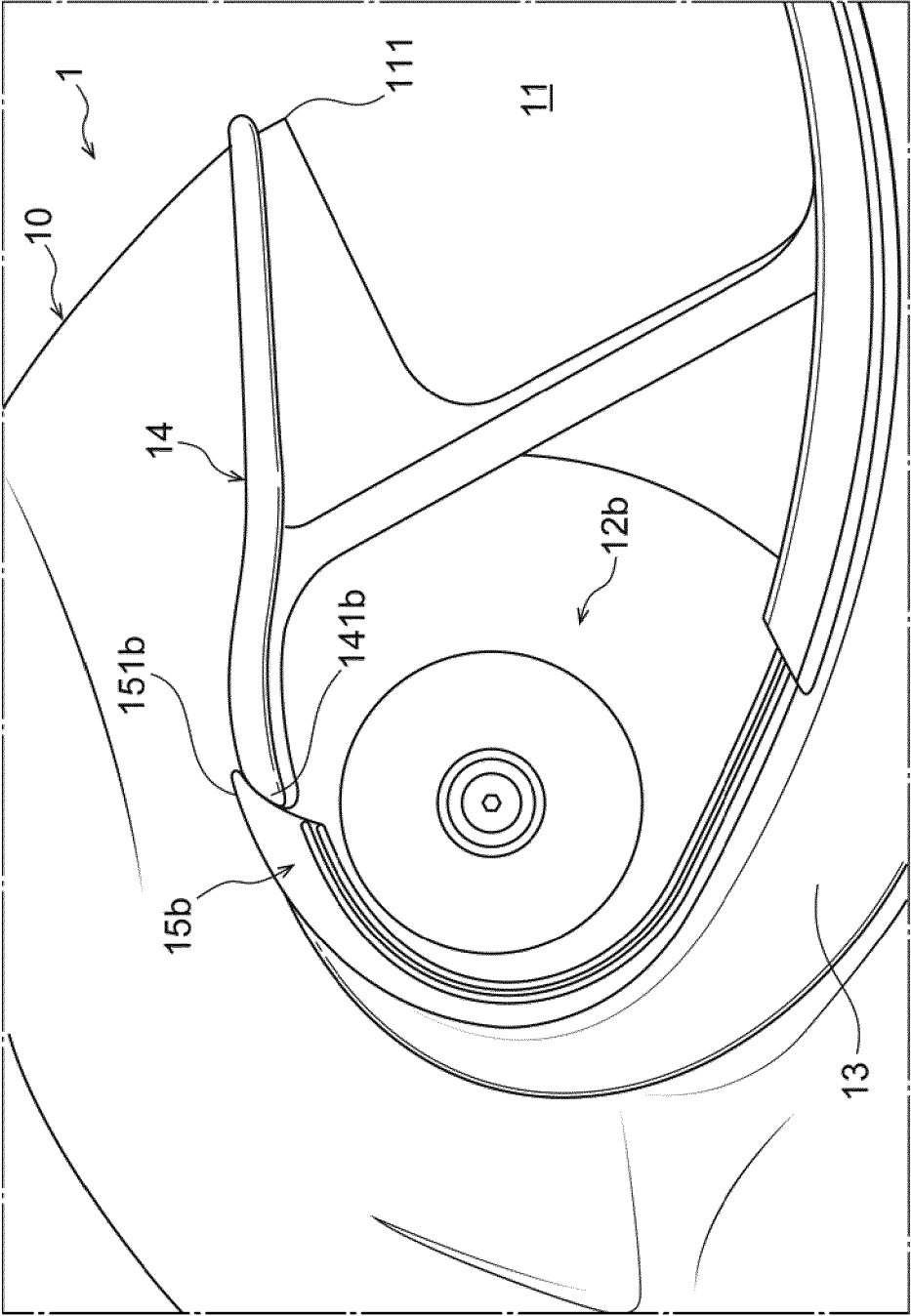


FIG.5C

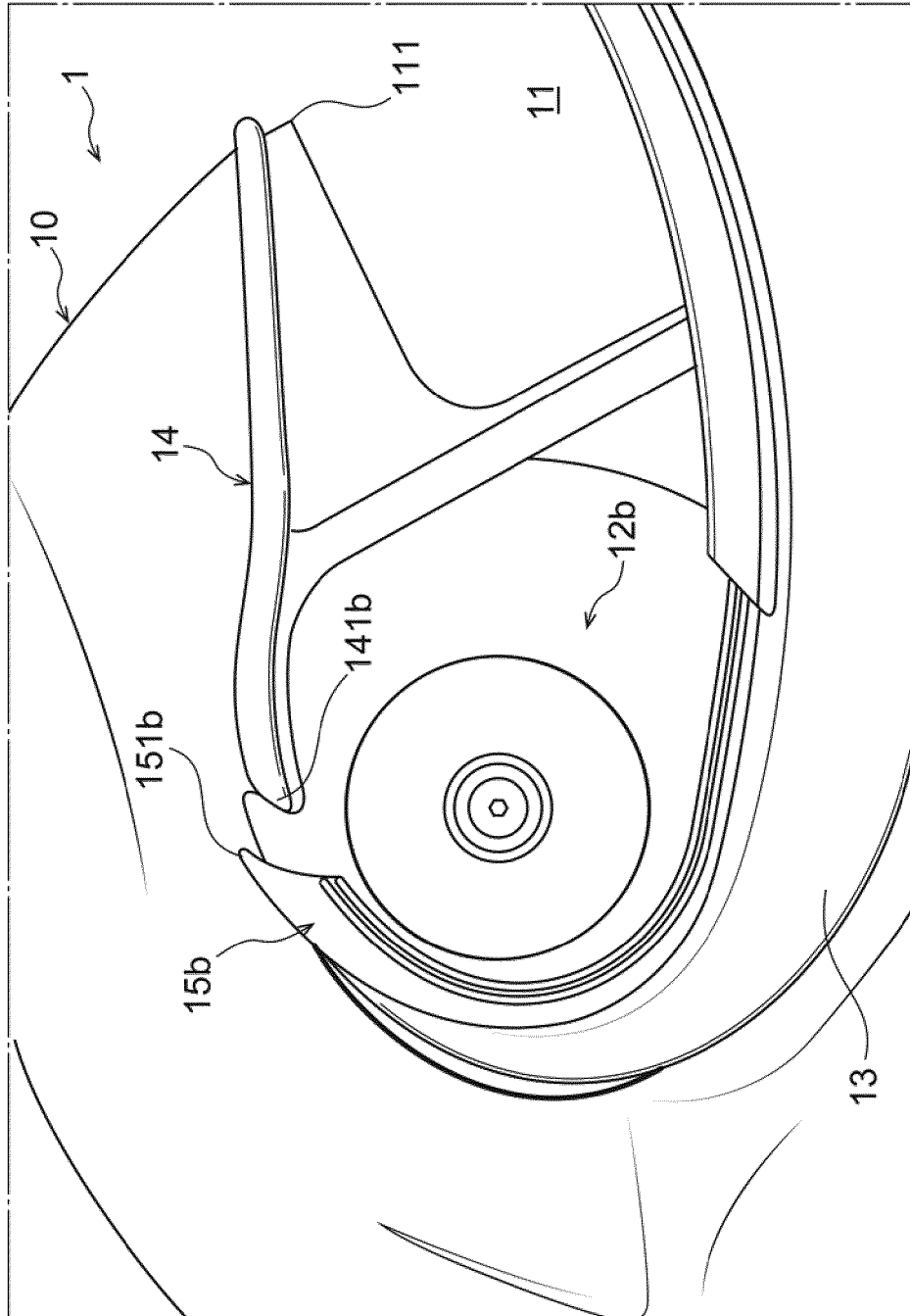


FIG.5D

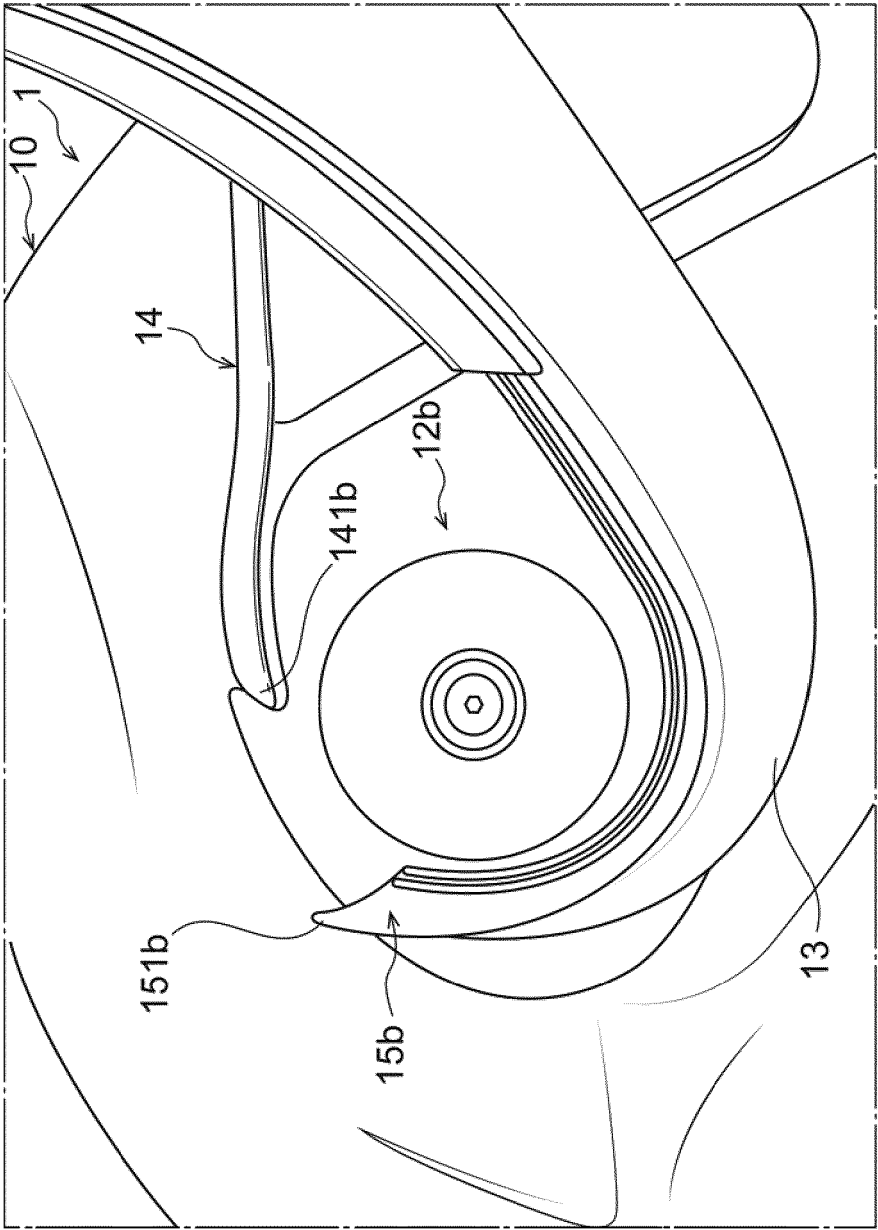


FIG.6

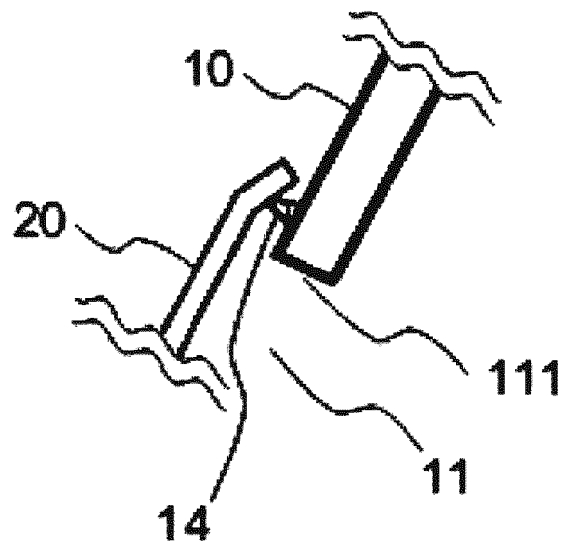
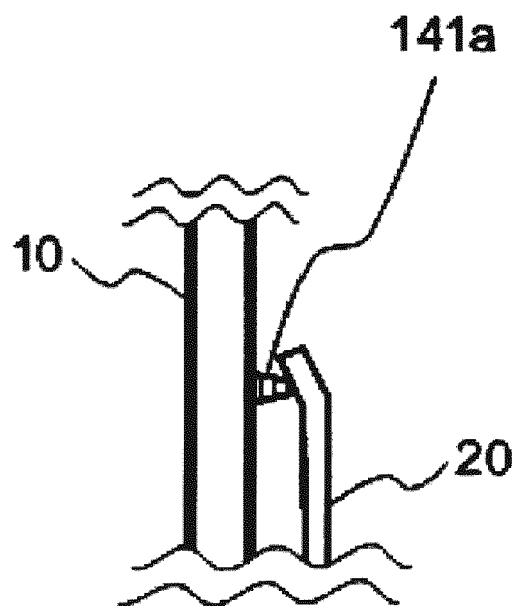


FIG.7



REFERENCES CITED IN THE DESCRIPTION

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