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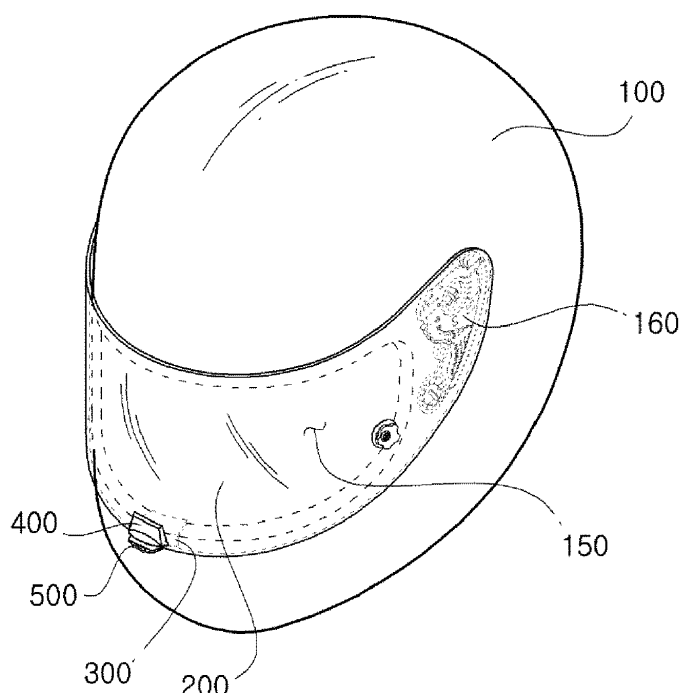
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(54) **HELMET**

(57) Disclosed is a helmet including a helmet main body (100) having a front opening (150), a shield (200) having both ends coupled to the helmet main body for opening or closing the opening, a locking support member (300) provided on one side of the opening, a locking unit (400) including a shield mount (410) fixed to the shield, and a fastening member (430) having one end pivotally rotatably connected to the shield mount via a

coupling shaft (420) and a remaining end for being fastened to or unfastened from the locking support member, and a fixing unit (500) for preventing the fastening member from being pivotally rotated about the coupling shaft by a prescribed angle or more relative to the shield mount in a state in which the fastening member is fastened to the locking support member, thereby keeping the fastening member fastened to the locking support member.

FIG. 1



Description

BACKGROUND OF THE INVENTION

Field of the Invention

[0001] The present invention relates to a helmet.

Description of the Related Art

[0002] Generally, helmets are essentially required in order to protect the wearer's head during the riding of a motorcycle, and laws dictate that helmets must be worn while riding. As disclosed in the following patent document pertaining to the prior art, a conventional helmet includes a front opening in order to secure the field of vision of the wearer. In addition, the opening may be provided with a selectively openable shield, in order to block the introduction of wind or dust during riding.

[0003] However, the conventional motorcycle helmet described above has no device for securely fixing the shield when the shield closes the opening. Therefore, the conventional motorcycle helmet suffers from the problem whereby the shield may open regardless of the wearer's intention.

[Prior Art Document]

[Patent Document]

[0004] (Patent Document 1) KR10-0649944 B1

SUMMARY OF THE INVENTION

[0005] Therefore, the present invention has been made in view of the above problems, and it is an object of the present invention to provide a helmet, which includes a fixing unit for securely fixing a shield when the shield closes an opening in a main body of the helmet.

[0006] In accordance with an aspect of the present invention, to accomplish the above and other objects, there is provided a helmet including a helmet main body having a front opening, a shield having both ends coupled to the helmet main body for opening or closing the opening, a locking support member provided on one side of the opening, a locking unit including a shield mount fixed to the shield, and a fastening member having one end pivotally rotatably connected to the shield mount via a coupling shaft and a remaining end for being fastened to or unfastened from the locking support member, and a fixing unit for preventing the fastening member from being pivotally rotated about the coupling shaft by a prescribed angle or more relative to the shield mount in a state in which the fastening member is fastened to the locking support member, thereby keeping the fastening member fastened to the locking support member.

[0007] In addition, the fastening member may include a retaining protrusion for protruding in an inward direction

of the shield so as to be caught by the locking support member.

[0008] In addition, the locking unit may further include an elastic member for providing elasticity in order to keep the fastening member fastened to the locking support member.

[0009] In addition, the fastening member may include a first grip portion for protruding in an outward direction of the shield.

[0010] In addition, the fixing unit may be coupled to the fastening member so as to be movable to a first position and a second position along the fastening member, the fastening member may be pivotally rotated about the coupling shaft by the prescribed angle or more relative to the shield mount in a state in which the fixing unit is located at the first position, and the fastening member may be prevented from being pivotally rotated about the coupling shaft by the prescribed angle or more relative to the shield mount in a state in which the fixing unit is located at the second position.

[0011] In addition, the shield mount may have a recess indented in one surface thereof that faces the fastening member, the fixing unit may include a fixing unit main body, and a protruded member for protruding from one end of the fixing unit main body toward the shield mount so as to correspond to the recess, the protruded member may be inserted into the recess when the fastening member is pivotally rotated about the coupling shaft relative to the shield mount in the state in which the fixing unit is located at the first position, and the protruded member may come into contact with the surface of the shield mount when the fastening member is pivotally rotated about the coupling shaft relative to the shield mount in the state in which the fixing unit is located at the second position.

[0012] In addition, the fixing unit may further include a second grip portion for protruding from a remaining end of the fixing unit main body in an outward direction of the fastening member, and the fixing unit may be movable to the first position and the second position along the fastening member when the second grip portion is pushed.

[0013] In addition, the fastening member may include a first through-hole, through which the fixing unit main body penetrates such that the second grip portion protrudes in the outward direction of the fastening member, and a second through-hole, through which the protruded member penetrates so as to protrude toward the shield mount.

[0014] In addition, the fixing unit main body may be guided by the first through-hole and the protruded member may be guided by the second through-hole, whereby the fixing unit is movable to the first position and the second position.

[0015] In addition, the second grip portion may be caught by one end of the first through-hole, and a retaining boss protruding from the fixing unit main body may be caught by a remaining end of the first through-hole.

[0016] In addition, the fixing unit main body may be provided on one end thereof with an elastic portion for being elastically deformable so as to be closer to the fixing unit main body, the elastic portion having a first boss for protruding away from the fixing unit main body, the fastening member may be provided with a second boss for protruding toward the elastic portion, and the elastic portion may be elastically deformed so as to be closer to the fixing unit main body as the first boss and the second boss are brought into contact with each other when the fixing unit is moved from the first position to the second position, or moved from the second position to the first position.

[0017] In addition, a side surface of the first boss may be caught by a side surface of the second boss to thus fix the fixing unit when the fixing unit is located at the first position or the second position.

[0018] Features and advantages of the present invention will become clearer from the following detailed description with reference to the accompanying drawings.

[0019] The terms or words used in the specification and claims of the present invention should not be interpreted using typical or dictionary limited meanings, and should be constructed as meanings and concepts conforming to the technical spirit of the present invention based on the principle that the inventors can appropriately define the concepts of the terms to explain the present invention in the best manner.

BRIEF DESCRIPTION OF THE DRAWINGS

[0020] The above and other objects, features and other advantages of the present invention will be more clearly understood from the following detailed description taken in conjunction with the accompanying drawings, in which:

FIG. 1 is a perspective view illustrating a helmet in accordance with an embodiment of the present invention;

FIG. 2 is an exploded perspective view illustrating the helmet in accordance with the embodiment of the present invention;

FIGS. 3 and 4 are exploded perspective views illustrating a locking unit and a fixing unit illustrated in FIG. 1;

FIGS. 5A and 5B are sectional views illustrating the operation of the locking unit illustrated in FIG. 1;

FIG. 6A is a perspective view illustrating the operation of the locking unit when the fixing unit illustrated in FIG. 1 is located at a first position;

FIG. 6B is a sectional view illustrating the operation of the locking unit when the fixing unit illustrated in FIG. 1 is located at the first position;

FIG. 7A is a perspective view illustrating the locking unit when the fixing unit illustrated in FIG. 1 is located at a second position;

FIG. 7B is a sectional view illustrating the operation of the locking unit when the fixing unit illustrated in

FIG. 1 is located at the second position; and
FIGS. 8A and 8B are bottom views of the fixing unit and the locking unit illustrated in FIG. 1.

DETAILED DESCRIPTION OF THE INVENTION

[0021] The objects, specific advantages and novel features of the present invention will become clearer from the following detailed description in conjunction with the accompanying drawings and the exemplary embodiments. In the specification, with regard to reference numerals added to constituent elements illustrated in the respective drawings, it is to be noted that the same constituent elements are designated by the same reference numerals even when they are depicted in different drawings. In addition, the terms "first", "second", "one end", "the other end", etc. are used simply to distinguish any one element from other elements, and the elements are not limited by the terms. In the following description of the present invention, a detailed description of known functions incorporated herein will be omitted when it may make the subject matter of the disclosure rather unclear.

[0022] Hereinafter, the exemplary embodiment of the present invention will be described in detail with reference to the accompanying drawings.

[0023] FIG. 1 is a perspective view illustrating a helmet in accordance with an embodiment of the present invention, FIG. 2 is an exploded perspective view illustrating the helmet in accordance with the embodiment of the present invention, and FIGS. 3 and 4 are exploded perspective views illustrating a locking unit and a fixing unit illustrated in FIG. 1.

[0024] As illustrated in FIGS. 1 to 4, the helmet in accordance with the present embodiment includes a helmet main body 100 having a front opening 150, a shield 200 having both ends coupled to the helmet main body 100 for opening or closing the front opening 150, a locking support member 300 provided on one side of the opening 150, a locking unit 400 comprised of a shield mount 410 fixed to the shield 200 and a fastening member 430 having one end pivotally rotatably connected to the shield mount 410 via a coupling shaft 420 and the other end configured to be fastened to or unfastened from the locking support member 300, and a fixing unit 500 for preventing the fastening member 430 from being pivotally rotated about the coupling shaft 420 by a prescribed angle or more relative to the shield mount 410 in the state in which the fastening member 430 has been fastened to the locking support member 300, thereby keeping the fastening member 430 fastened to the locking support member 300.

[0025] The helmet main body 100 serves to protect the wearer's head. Here, the helmet main body 100 is formed of a shock-absorbing material, and the opening 150 is formed in the front portion of the helmet main body 100 in order to secure the field of vision of the wearer.

[0026] The shield 200 serves to block, for example, wind or dust. Here, the shield 200 is coupled at opposite

ends thereof to the helmet main body 100 so as to open or close the opening 150 in the helmet main body 100. At this time, the opposite ends of the shield 200 may be coupled to pivots 160 (see FIGS. 1 and 2) provided on opposite sides of the opening 150 in the helmet main body 100 so as to be pivotally rotated up and down, thereby opening or closing the opening 150 in the helmet main body 100.

[0027] The locking support member 300 serves to fix the shield 200 in conjunction with the locking unit 400 so that the shield 200 keeps the opening 150 in the helmet main body 100 closed (see FIG. 2). Here, the locking support member 300 may be provided at one side of the opening 150, for example, at the center of the lower end of the opening 150. At this time, the locking support member 300 is configured so that a retaining protrusion 435 of the locking unit 400, which will be described below, may be caught by the locking support member 300 in order to be fastened to the shield 200 via the locking unit 400 (see FIG. 5A). In addition, the locking support member 300 is configured so as to be easily fastened to or unfastened from the retaining protrusion 435 when fastened to or unfastened from the shield 200.

[0028] The locking unit 400 serves to fix the shield 200 by being caught by the locking support member 300, and includes the shield mount 410 and the fastening member 430 (see FIGS. 3 and 4).

[0029] Here, the shield mount 410 is fixed to one end (i.e. the lower end) of the shield 200, and prevents the locking unit 400 from being arbitrarily separated from the shield 200. At this time, the shield mount 410 may include at least one mounting plate 413 (see FIG. 4), which is arranged to face the rear surface of the shield 200 in order to allow the shield mount 410 to be stably coupled to the shield 200. A portion of the mounting plate 413 may protrude from the shield mount 410 and a remaining portion of the mounting plate 413 may be inserted in the shield mount 410. In addition, one end (i.e. the lower end) of the shield 200 may be fitted into the space between the mounting plate 413 and the rear surface of the shield mount 410, thereby ultimately preventing the locking unit 400 from being arbitrarily separated from the shield 200. In addition, the mounting plate 413 may have a hole formed in the protruding portion thereof so that the coupling shaft 420 is inserted into the hole in order to allow the mounting plate 413 to be pivotally rotatably connected to the fastening member 430 via the coupling shaft 420.

[0030] Meanwhile, the fastening member 430 serves to fasten or unfasten the locking unit 400 to or from the locking support member 300. For example, when the shield 200 is positioned so as to close the opening 150 (see FIG. 5A), the fastening member 430 is fastened to the locking support member 300, thereby causing the shield 200 to keep the opening 150 closed. On the other hand, when the shield 200 is released from the position at which it closes the opening 150 (see FIG. 5B), the fastening member 430 is unfastened from the locking

support member 300, thereby causing the shield 200 to open the opening 150. Specifically, one end (i.e. the upper end) of the fastening member 430 is pivotally rotatably connected to the shield mount 410 via the coupling shaft 420 and the other end (i.e. the lower end) of the fastening member 430 is fastened to or unfastened from the locking support member 300.

[0031] More specifically, the other end of the fastening member 430 may be provided with the retaining protrusion 435, which protrudes in the inward direction of the shield 200 so as to be caught by the locking support member 300. Here, the retaining protrusion 435 may take the form of a hook that protrudes from the fastening member 430 in the inward direction of the shield 200, and the fastening member 430 may be fastened to or unfastened from the locking support member 300 via the retaining protrusion 435. At this time, the locking support member 300, which is fastened to the retaining protrusion 435, may have a cross-sectional shape, in which the front end thereof protrudes downward and the portion behind the protruding end is indented upward, in order to ensure the easy fastening or unfastening between the retaining protrusion 435 and the locking support member 300. Of course, it is to be noted that both the retaining protrusion 435 and the locking support member 300 may have any known shape, instead of the above-described shape, so long as they are capable of being fastened to or unfastened from each other.

[0032] In addition, the fastening member 430 may further include a first grip portion 437, which protrudes in the outward direction of the shield 200. Here, the first grip portion 437 takes the form of a gripper that protrudes from the fastening member 430 in the outward direction of the shield 200. When the wearer pushes the first grip portion 437, the fastening member 430 may be unfastened from the locking support member 300. At this time, the first grip portion 437 may be located at the opposite side of the retaining protrusion 435 on the basis of the coupling shaft 420. Accordingly, when the wearer pushes the first grip portion 437 upward in the state in which the fastening member 430 is fastened to the locking support member 300 (see FIGS. 5A and 5B), the retaining protrusion 435 is moved downward, causing the fastening member 430 and the locking support member 300 to be unfastened from each other. Thereby, the shield 200 may open the opening 150 via pivotal rotation thereof.

[0033] Meanwhile, as illustrated in FIG. 4, one end of the fastening member 430 is pivotally rotatably connected to the shield mount 410 via the coupling shaft 420. To this end, one end of the fastening member 430 may be provided with a hole for the insertion of the coupling shaft 420, so as to correspond to the hole formed in the shield mount 410 (more particularly, the mounting plate 413). That is, as the hole formed in the shield mount 410 (more particularly, the mounting plate 413) and the hole formed in one end of the fastening member 430 are aligned with each other and the coupling shaft 420 is inserted through the aligned holes, one end of the fastening member 430

and the shield mount 410 may be pivotally rotatably connected to each other. Here, the coupling shaft 420 may take the form of a bar having a prescribed length in order to fasten the fastening member 430 and the shield mount 410 to each other, without being limited thereto. All known technologies capable of fastening the fastening member 430 and the shield mount 410 to each other may be employed.

[0034] In addition, as illustrated in FIGS. 3 and 4, the locking unit 400 may further include an elastic member 440 for providing elasticity between one end of the fastening member 430 and the shield mount 410, which are fastened to each other via the coupling shaft 420. Here, the elastic member 440 provides the elasticity required to keep the fastening member 430 and the locking support member 300 fastened to each other (see FIG. 5A). That is, the elastic member 440 provides the retaining protrusion 435 of the fastening member 430 with upward elastic force so as to keep the fastened state between the locking support member 300 and the retaining protrusion 435 of the fastening member 430. In addition, when the retaining protrusion 435 of the fastening member 430 is unfastened from the locking support member 300, the elastic member 440 may serve to return the fastening member 430 to the original position thereof by providing the retaining protrusion 435 of the fastening member 430 with upward elastic force. Although the kind of elastic member 440 is not specially limited, a torsion spring may be used, as illustrated. When the elastic member 440 is a torsion spring, the elastic member 440 may be located so as to surround the coupling shaft 420. At this time, when the first grip portion 437 is pushed upward, the retaining protrusion 435 of the fastening member 430 is moved downward, causing the elastic member 440 to be compressed. Thereafter, when the force applied to the first grip portion 437 is removed, the compressed elastic member 440 is returned to its original shape, thereby providing the retaining protrusion 435 of the fastening member 430 with elastic force for returning to the original position thereof.

[0035] Meanwhile, an additional coupling member may be formed or provided in order to allow the locking unit 400 to be more stably coupled to the shield 200. For example, as illustrated in FIGS. 3 and 4, the lower end of the shield 200 may be provided with a guide groove 210 so as to allow the shield mount 410 to be effectively mounted to the shield 200. Here, the guide groove 210 may be formed in one end (i.e. the lower end) of the shield 200, and may have a shape corresponding to the shape of the shield mount 410 and the mounting plate 413 so as to allow the shield mount 410 to be easily fitted into and mounted to the shield 200. In addition, the guide groove 210 may be formed in one end (i.e. the lower end) of the shield 200 so as to have any one of various shapes depending on the shape of the shield mount 410 and the mounting plate 413. In addition to the guide groove 210, screws, which may be fastened to the shield mount 410, may be used. At this time, a first screw-hole 417 may be

formed in the rear surface of the shield mount 410, and a second screw-hole 220 may be formed in the shield 200 so as to correspond to the first screw-hole 417. When a screw 419 is fastened through the first screw-hole 417 and the second screw-hole 220, the shield mount 410 and the shield 200 may be coupled to each other.

[0036] As illustrated in FIG. 5A, when the locking unit 400 and the locking support member 300 are fastened to each other, the elastic member 440 applies counter-clockwise elastic force to the fastening member 430, causing the retaining protrusion 435 of the fastening member 430 to be caught by the locking support member 300. This may prevent the shield 200 from being pivotally rotated, thereby preventing the opening 150 in the helmet main body 100 from being opened.

[0037] As illustrated in FIG. 5B, when the wearer pushes the first grip portion 437 of the fastening member 430 clockwise, the retaining protrusion 435 of the fastening member 430 is separated from the locking support member 300. At this time, the shield 200 may be pivotally rotated, thus causing the opening 150 in the helmet main body 100 to be opened.

[0038] However, when the wearer unintentionally touches the fastening member 430 (more particularly, the first grip portion 437), there is the risk of the first grip portion 437 being pushed clockwise, thus causing the shield 200 to be opened. However, the helmet in accordance with the embodiment of the present invention includes the fixing unit 500, and thus may assuredly prevent the shield 200 from being arbitrarily opened regardless of the wearer's intention.

[0039] As illustrated in FIGS. 7A and 7B, the fixing unit 500 serves to prevent the fastening member 430 from being pivotally rotated about the coupling shaft 420 by a prescribed angle or more relative to the shield mount 410 once the fastening member 430 has been fastened to the locking support member 300, thereby keeping the fastening member 430 fastened to the locking support member 300. That is, the fixing unit 500 prevents the fastening member 430 from being pivotally rotated by a prescribed angle or more in the state in which the retaining protrusion 435 of the fastening member 430 is fastened to the locking support member 300, thereby preventing the shield 200 from being arbitrarily opened.

[0040] Specifically, as illustrated in FIGS. 6A and 7A, the fixing unit 500 may be coupled to the fastening member 430 so as to be slidably movable to a first position A and a second position B on the fastening member 430. When the fixing unit 500 is located at the first position A (see FIGS. 6A and 6B), the fastening member 430 is pivotally rotatable about the coupling shaft 420 by a prescribed angle or more relative to the shield mount 410. When the fixing unit 500 is located at the second position B (see FIGS. 7A and 7B), the fixing unit 500 prevents the fastening member 430 from being pivotally rotated about the coupling shaft 420 by a prescribed angle or more relative to the shield mount 410. That is, when the fixing unit 500 is located at the first position A (see FIGS. 6A

and 6B), the fastening member 430 is pivotally rotated about the coupling shaft 420 by a prescribed angle or more relative to the shield mount 410, whereby the retaining protrusion 435 of the fastening member 430 is unfastened from the fixing unit 500. On the other hand, when the fixing unit 500 is located at the second position B (see FIGS. 7A and 7B), the fastening member 430 cannot be pivotally rotated about the coupling shaft 420 by a prescribed angle or more relative to the shield mount 410, whereby the retaining protrusion 435 of the fastener 430 cannot be unfastened from the fixing unit 500.

[0041] More specifically, a recess 415 is formed in one surface (i.e. the lower surface) of the shield mount 410, which faces the fastening member 430, and the fixing unit 500 includes a fixing unit main body 510, and a protruded member 520, which protrudes from one end of the fixing unit main body 510 toward the surface (i.e. the lower surface) of the shield mount 410 so as to correspond to the recess 415. Accordingly, in the state in which the fixing unit 500 is located at the first position A (see FIGS. 6A and 6B), the protruded member 520 is inserted into the recess 415 when the fastening member 430 is pivotally rotated about the coupling shaft 420 relative to the shield mount 410. On the other hand, in the state in which the fixing unit 500 is located at the second position B (see FIGS. 7A and 7B), the protruded member 520 is brought into contact with one surface (i.e. the lower surface) of the shield mount 410 when the fastening member 430 is pivotally rotated about the coupling shaft 420 relative to the shield mount 410. That is, because the protruded member 520 is aligned with the recess 415 to thereby be inserted into the recess 415 when the fixing unit 500 is located at the first position A (see FIGS. 6A and 6B), the fastening member 430 is pivotally rotatable about the coupling shaft 420 by a prescribed angle or more relative to the shield mount 410. Accordingly, the retaining protrusion 435 of the fastening member 430 may be unfastened from the locking support member 300. On the other hand, because the protruded member 520 deviates from the recess 415 and comes into contact with one surface (i.e. the lower surface) of the shield mount 410 rather than being inserted into the recess 415 when the fixing unit 500 is located at the second position B (see FIGS. 7A and 7B), the fastening member 430 cannot be pivotally rotated about the coupling shaft 420 by a prescribed angle or more relative to the shield mount 410. Accordingly, it is possible to prevent the retaining protrusion 435 of the fastening member 430 from being unfastened from the locking support member 300.

[0042] Meanwhile, the fixing unit 500 may further include a second grip portion 530 to facilitate movement thereof to the first position A and the second position B. Here, the second grip portion 530 protrudes in the outward direction of the fastening member 430 from the other end of the fixing unit main body 510 (opposite the end of the fixing unit main body 510 from which the protruded member 520 protrudes). That is, the second grip portion 530 may protrude outward from the fastening member

430 to ensure easy operation by the wearer. Specifically, when the wearer pushes the second grip portion 530, the fixing unit 500 may be moved from the first position A to the second position B, or may be moved from the second position B to the first position A. For example, when the wearer pushes the second grip portion 530 so as to move the fixing unit 500 from the first position A to the second position B, the fastening member 430 is not pivotally rotated about the coupling shaft 420 by a prescribed angle or more relative to the shield mount 410, and consequently, the retaining protrusion 435 of the fastening member 430 is not unfastened from the locking support member 300 (see FIGS. 7A and 7B). On the other hand, when the wearer pushes the second grip portion 530 so as to move the fixing unit 500 from the second position B to the first position A, the fastening member 430 is pivotally rotated about the coupling shaft 420 by a prescribed angle or more relative to the shield mount 410, and consequently, the retaining protrusion 435 of the fastening member 430 may be unfastened from the locking support member 300 (see FIGS. 6A and 6B).

[0043] In addition, although the fixing unit 500 may be coupled to any position of the fastening member 430, as illustrated in FIGS. 3 and 4, the fixing unit 500 may be coupled to the first grip portion 437 of the fastening member 430. Specifically, the first grip portion 437 is provided with an extension 439, which extends downward orthogonal to the distal end of the first grip portion 437, and a first through-hole 533 is formed in the extension 439 so that the fixing unit main body 510 penetrates the first through-hole 533. As such, the second grip portion 530, extending from the fixing unit main body 510, may protrude in the outward direction of the fastening member 430 (more particularly, the extension 439 of the first grip portion 437). In addition, the first grip portion 437 has a second through-hole 535 so that the protruded member 520 vertically penetrates the second through-hole 535. Thereby, the protruded member 520 may protrude from the first grip portion 437 toward the shield mount 410. At this time, the fixing unit main body 510 and the protruded member 520 may be separate elements such that a retaining boss 511 formed on the distal end of the protruded member 520 is clipped to the fixing unit main body 510, and simultaneously, a fastening boss 512 formed on the distal end of the protruded member 520 is inserted into a fastening hole 513 formed in the fixing unit main body 510. As described above, the fixing unit main body 510 and the protruded member 520 may be coupled to each other via clipping, without being limited thereto, and may be coupled to each other via any known method. In addition, the fixing unit main body 510 and the protruded member 520 may be integrally formed with each other.

[0044] Meanwhile, the fixing unit 500 is movable to the first position A and the second position B when the fixing unit main body 510 is guided by the first through-hole 533 and the protruded member 520 is guided by a second through-hole 535. Specifically, as illustrated in FIG. 3, the length of the first through-hole 533 in the first direction

α (i.e. the left-right direction) is greater than the length of the fixing unit main body 510, which penetrates the first through-hole 533, in the first direction α (i.e. the left-right direction), and the length of the first through-hole 533 in the second direction β (i.e. the up-down direction) corresponds to the length of the fixing unit main body 510, which penetrates the first through-hole 533, in the second direction β (i.e. the up-down direction). Accordingly, the fixing unit main body 510 is guided by the first through-hole 533 so as to be movable in the first direction α (i.e. the left-right direction), but cannot move in the second direction β (i.e. the up-down direction). In addition, the length of the second through-hole 535 in the first direction α (i.e. the left-right direction) is greater than the length of the protruded member 520, which penetrates the second through-hole 535, in the first direction α (i.e. the left-right direction), and the length of the second through-hole 535 in the third direction γ (i.e. the front-rear direction) corresponds to the length of the protruded member 520, which penetrates the second through-hole 535, in the third direction γ (i.e. the front-rear direction). Accordingly, the protruded member 520 is guided by the second through-hole 535 so as to be movable in the first direction α (i.e. the left-right direction), but cannot move in the third direction γ (i.e. the front-rear direction). In conclusion, the fixing unit 500, which includes the fixing unit main body 510 and the protruded member 520, is guided by the first through-hole 533 and the second through-hole 535 so as to be movable only in the first direction α (i.e. the left-right direction), but cannot move in the second direction β (i.e. the up-down direction) or the third direction γ (i.e. the front-rear direction). That is, the fixing unit 500 may be moved between the first position A and the second position B by sliding only in a single direction (i.e. the first direction α).

[0045] In addition, as illustrated in FIGS. 8A and 8B, the second grip portion 530, which protrudes from the fixing unit main body 510, is located at one end of the first through-hole 533. The cross-sectional area of the second grip portion 530 is greater than the cross-sectional area of the first through-hole 533. Thus, the second grip portion 530 is caught by one end of the first through-hole 533. In addition, the retaining boss 511, which protrudes from the fixing unit main body 510, is located at the other end of the first through-hole 533 so as to be caught by the other end of the first through-hole 533. In conclusion, because both ends of the first through-hole 533 are caught by the second grip portion 530 and the retaining boss 511, the fixing unit 500 may be stably fixed in the third direction γ (i.e. the front-rear direction), and may be slidably moved only in the first direction α (i.e. the left-right direction). At this time, in order to couple the fixing unit main body 510 and the protruded member 520 to each other, the retaining boss 511 may take the form of a clip formed on the distal end of the protruded member 520 (see FIGS. 3 and 4).

[0046] In addition, the fastening member 430 may have a receiving space 537 (see FIGS. 4, 8A and 8B) formed

behind the first through-hole 533 so that the fixing unit main body 510 is placed in the receiving space 537. The fixing unit main body 510 may have an elastic portion 515 formed on one end thereof. Here, the elastic portion 515 may be elastically deformable so as to be closer to the fixing unit main body 510. For example, the elastic portion 515 may be a plastic elastic element integrally injection-molded with the fixing unit main body 510, without being limited thereto, and may be any of all elastically deformable elements. Specifically, the elastic portion 515 may have a first boss 517 configured to extend away from the fixing unit main body 510, and the receiving space 537 formed in the fastening member 430 may be provided with a second boss 519 configured to extend toward the elastic portion 515. At this time, the first boss 517 may protrude from the center of the fixing unit main body 510, and the second boss 519 may protrude from the center of the receiving space 537. Accordingly, as illustrated in FIGS. 8A and 8B, when the fixing unit 500 is moved from the first position A to the second position B or vice versa, the first boss 517 and the second boss 519 come into contact with each other, thus causing the elastic portion 515 to be elastically deformed so as to be closer to the fixing unit main body 510. In addition, when the fixing unit 500 is located at the first position A or the second position B, the side surface of the first boss 517 is caught by the side surface of the second boss 519 so that the fixing unit 500 is fixed. That is, when the fixing unit 500 is located at the first position A or the second position, the first boss 517 and the second boss 519 are engaged with each other to thus fix the fixing unit 500 so as to prevent the arbitrary movement of the fixing unit 500. When the wearer pushes the second grip portion 530 to move the fixing unit 500 from the first position A to the second position B or vice versa, the elastic portion 515 may be elastically deformed so as to be closer to the fixing unit main body 510, and the first boss 517 may pass over the second boss 519. In conclusion, the fixing unit 500 is fixed at the first position A or the second position B when the wearer applies no force via the elastic portion 515, the first boss 517 and the second boss 519, but may be moved from the first position A to the second position B or vice versa only when the wearer's force is applied.

[0047] As is apparent from the above description, according to the present invention, a fixing unit may securely fix a shield when the shield closes an opening, whereby it is possible to prevent the shield from being arbitrarily opened regardless of the wearer's intention.

[0048] Although the embodiments of the present invention have been described above in detail, it is clear that the above description is merely given to concretely describe the present invention and the present invention is not limited thereto, and that alterations or improvements thereof are possible by those skilled in the art within the scope of the present invention.

[0049] The simplified alterations and modifications of the present invention fall within the scope of the present

invention, and the concrete protection range of the present invention will be made clear by the accompanying claims.

Claims

1. A helmet comprising:

a helmet main body having a front opening;
 a shield having both ends coupled to the helmet main body for opening or closing the opening;
 a locking support member provided on one side of the opening;
 a locking unit including a shield mount fixed to the shield, and a fastening member having one end pivotally rotatably connected to the shield mount via a coupling shaft and a remaining end for being fastened to or unfastened from the locking support member; and
 a fixing unit for preventing the fastening member from being pivotally rotated about the coupling shaft by a prescribed angle or more relative to the shield mount in a state in which the fastening member is fastened to the locking support member, thereby keeping the fastening member fastened to the locking support member.

2. The helmet according to claim 1, wherein the fastening member includes a retaining protrusion for protruding in an inward direction of the shield so as to be caught by the locking support member.

3. The helmet according to claim 1, wherein the locking unit further includes an elastic member for providing elasticity in order to keep the fastening member fastened to the locking support member.

4. The helmet according to claim 1, wherein the fastening member includes a first grip portion for protruding in an outward direction of the shield.

5. The helmet according to claim 1, wherein the fixing unit is coupled to the fastening member so as to be movable to a first position and a second position along the fastening member, wherein the fastening member is pivotally rotated about the coupling shaft by the prescribed angle or more relative to the shield mount in a state in which the fixing unit is located at the first position, and wherein the fastening member is prevented from being pivotally rotated about the coupling shaft by the prescribed angle or more relative to the shield mount in a state in which the fixing unit is located at the second position.

6. The helmet according to claim 5, wherein the shield mount has a recess indented in one surface thereof

that faces the fastening member, wherein the fixing unit includes a fixing unit main body, and a protruded member for protruding from one end of the fixing unit main body toward the shield mount so as to correspond to the recess, wherein the protruded member is inserted into the recess when the fastening member is pivotally rotated about the coupling shaft relative to the shield mount in the state in which the fixing unit is located at the first position, and wherein the protruded member comes into contact with the surface of the shield mount when the fastening member is pivotally rotated about the coupling shaft relative to the shield mount in the state in which the fixing unit is located at the second position.

7. The helmet according to claim 6, wherein the fixing unit further includes a second grip portion for protruding from a remaining end of the fixing unit main body in an outward direction of the fastening member, and wherein the fixing unit is movable to the first position and the second position along the fastening member when the second grip portion is pushed.

8. The helmet according to claim 7, wherein the fastening member includes:

a first through-hole, through which the fixing unit main body penetrates such that the second grip portion protrudes in the outward direction of the fastening member; and
 a second through-hole, through which the protruded member penetrates so as to protrude toward the shield mount.

9. The helmet according to claim 8, wherein the fixing unit main body is guided by the first through-hole and the protruded member is guided by the second through-hole, whereby the fixing unit is movable to the first position and the second position.

10. The helmet according to claim 8, wherein the second grip portion is caught by one end of the first through-hole, and wherein a retaining boss protruding from the fixing unit main body is caught by a remaining end of the first through-hole.

11. The helmet according to claim 6, wherein the fixing unit main body is provided on one end thereof with an elastic portion for being elastically deformable so as to be closer to the fixing unit main body, the elastic portion having a first boss for protruding away from the fixing unit main body, wherein the fastening member is provided with a second boss for protruding toward the elastic portion, and

wherein the elastic portion is elastically deformed so as to be closer to the fixing unit main body as the first boss and the second boss are brought into contact with each other when the fixing unit is moved from the first position to the second position, or moved from the second position to the first position. 5

12. The helmet according to claim 11, wherein a side surface of the first boss is caught by a side surface of the second boss to thus fix the fixing unit when the fixing unit is located at the first position or the second position. 10

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FIG. 1

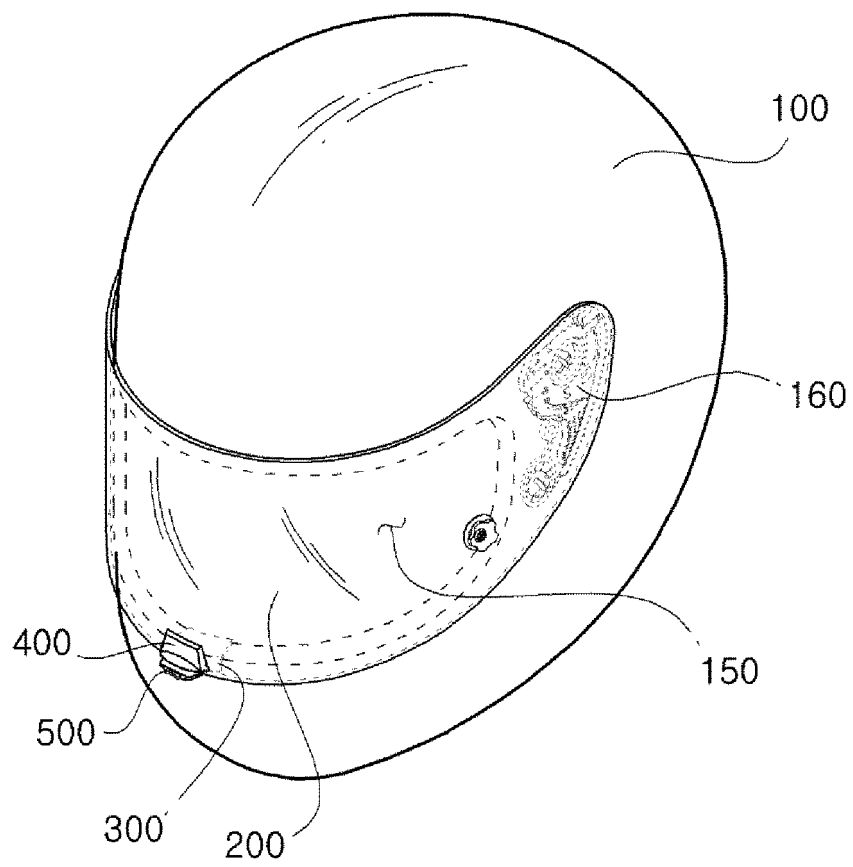


FIG. 2

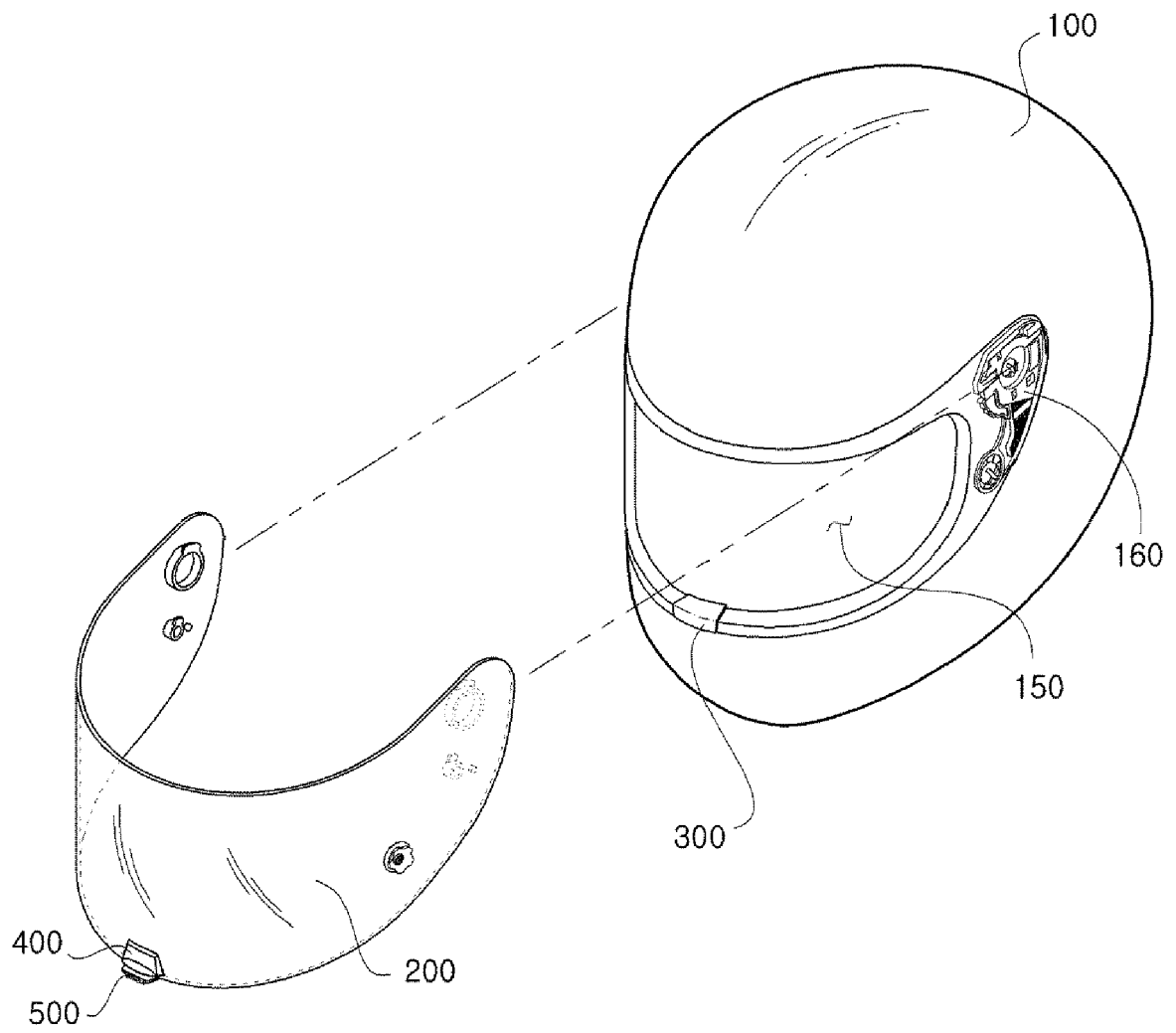


FIG. 3

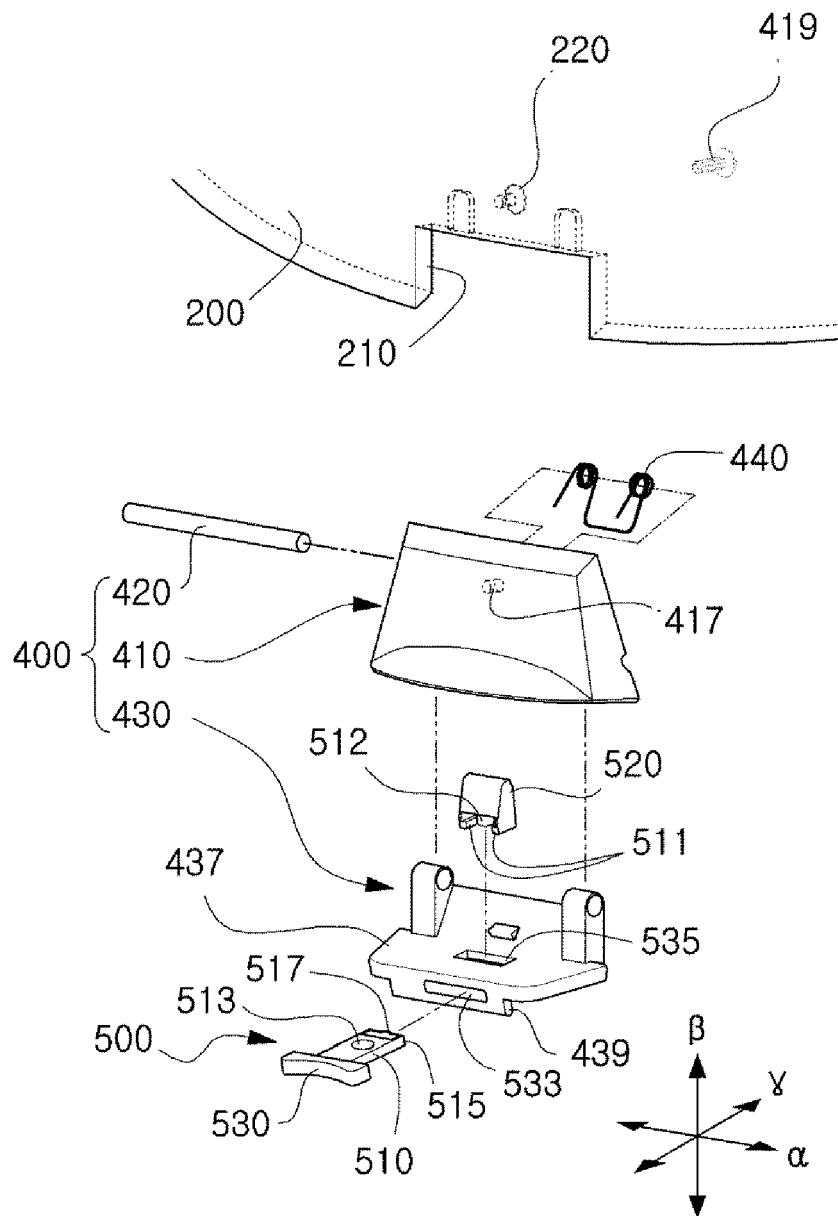


FIG. 4

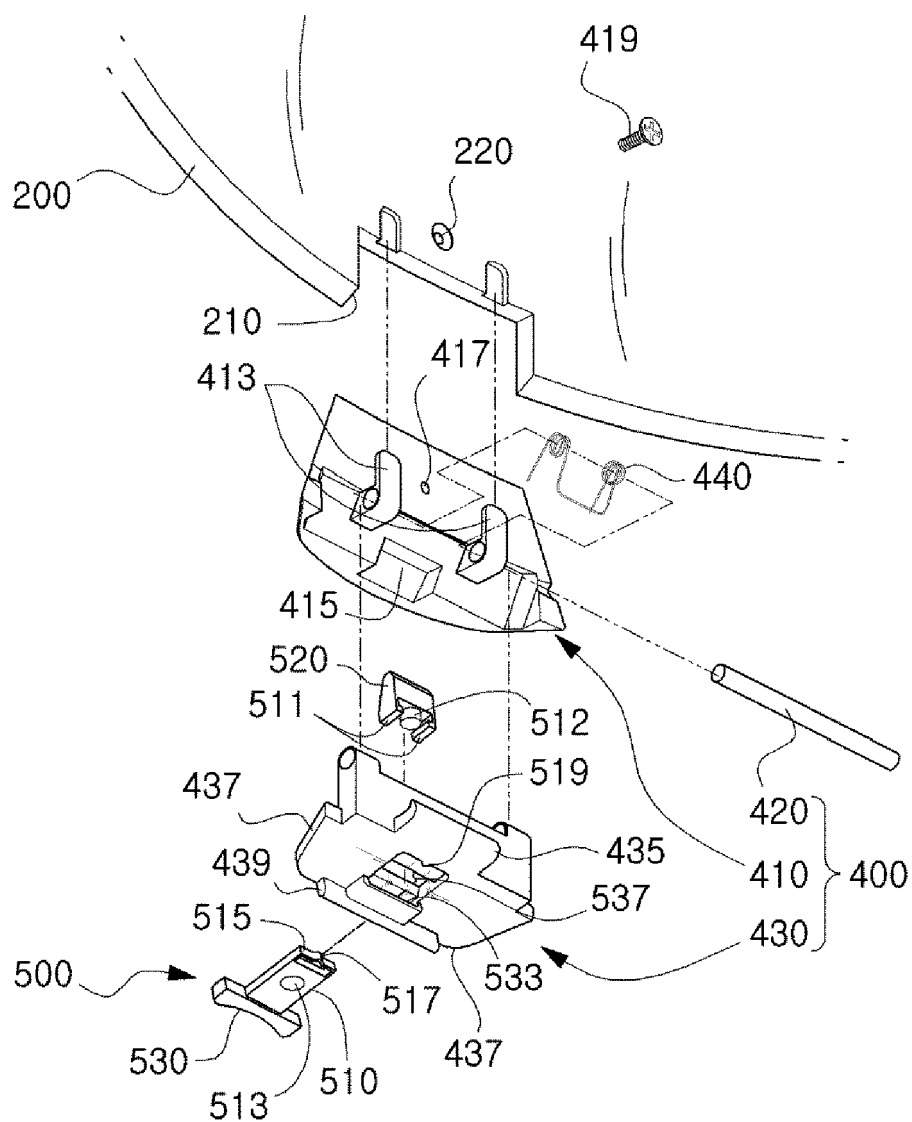


FIG. 5A

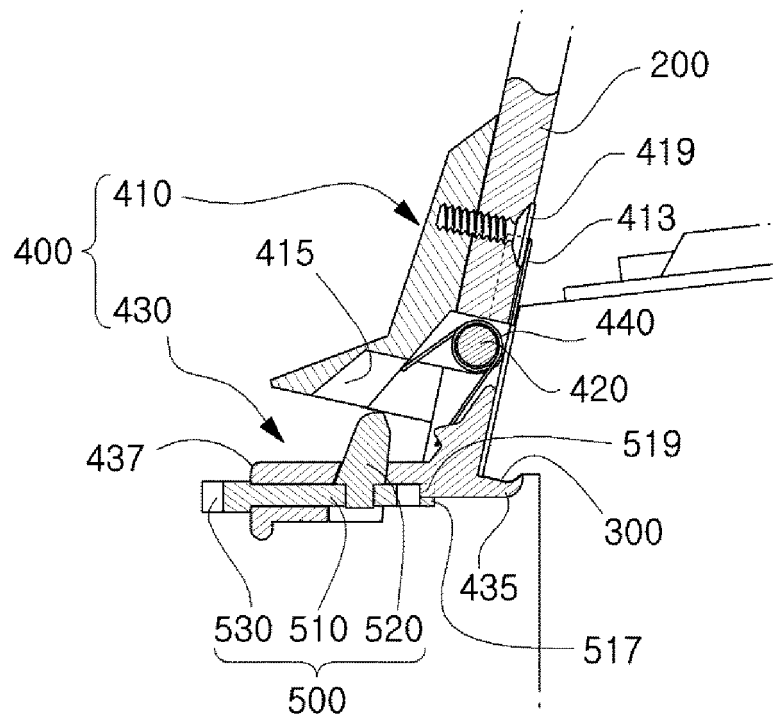


FIG. 5B

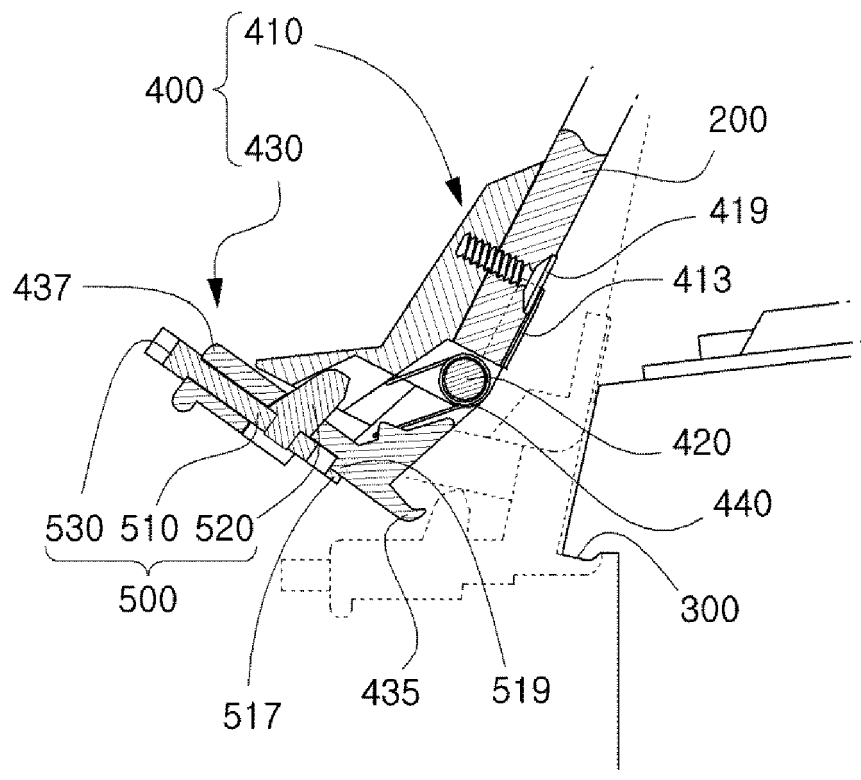


FIG. 6A

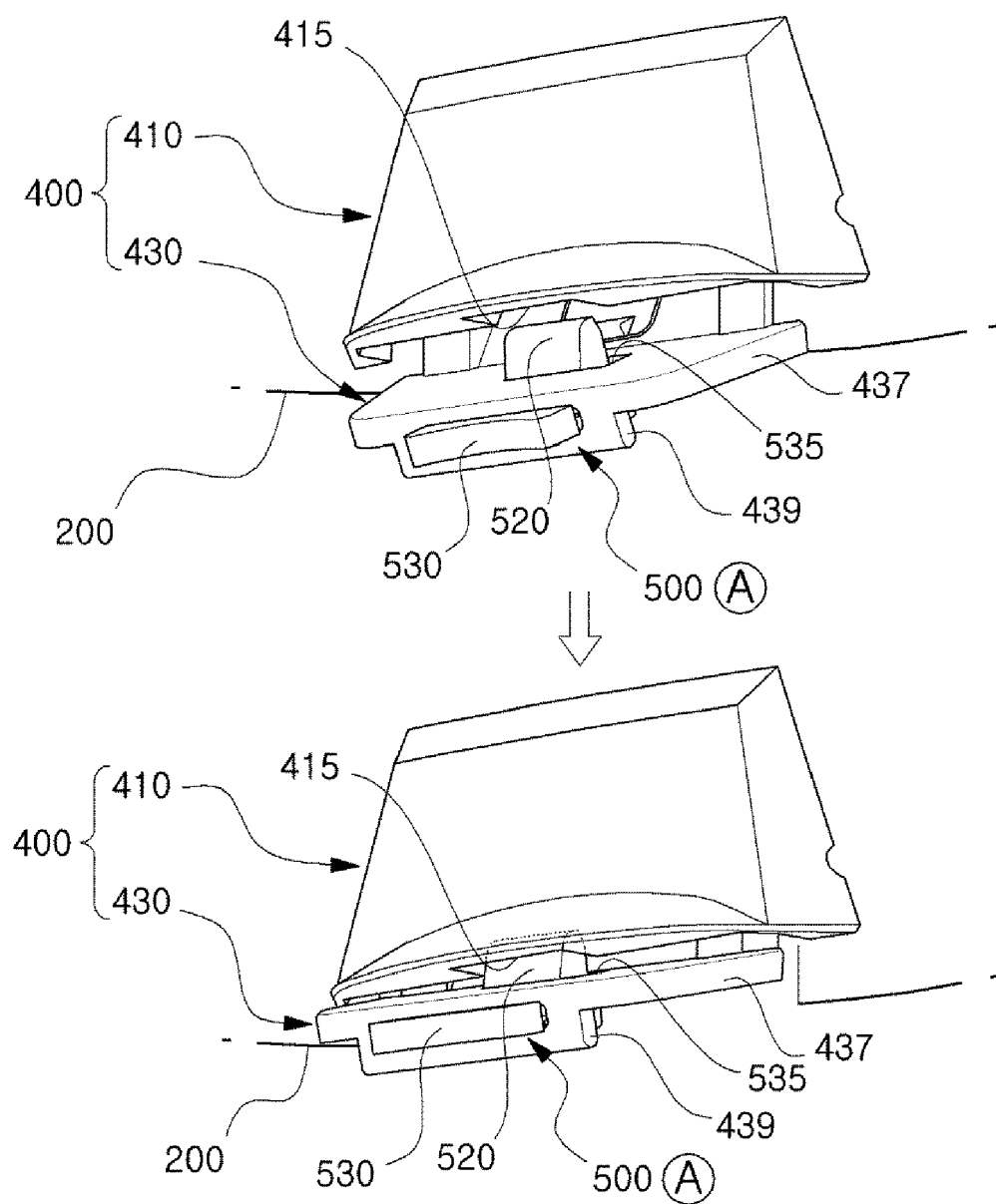


FIG. 6B

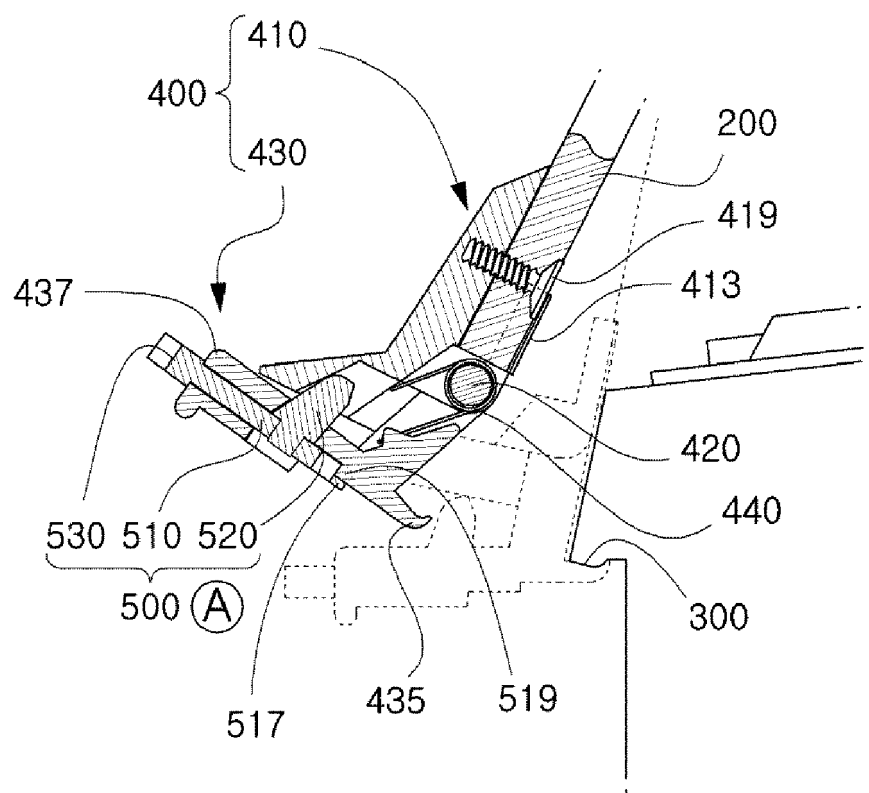


FIG. 7A

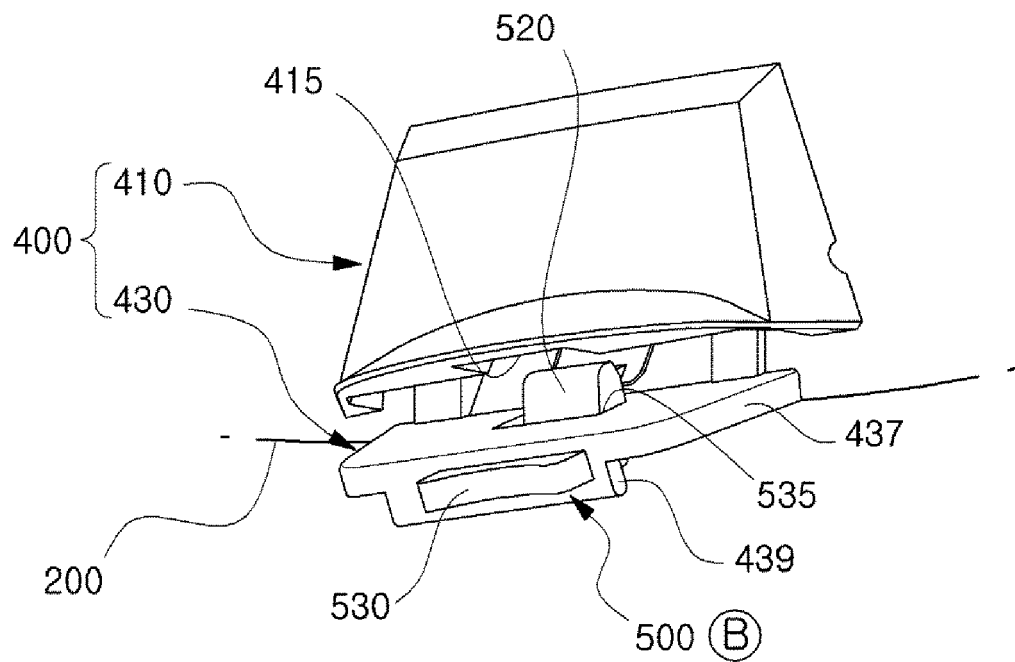


FIG. 7B

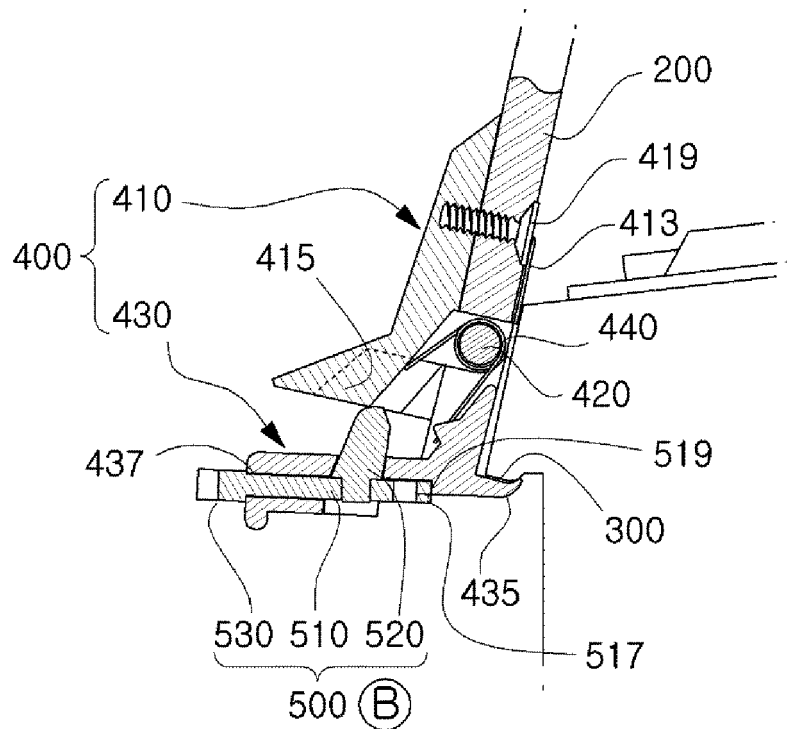


FIG. 8A

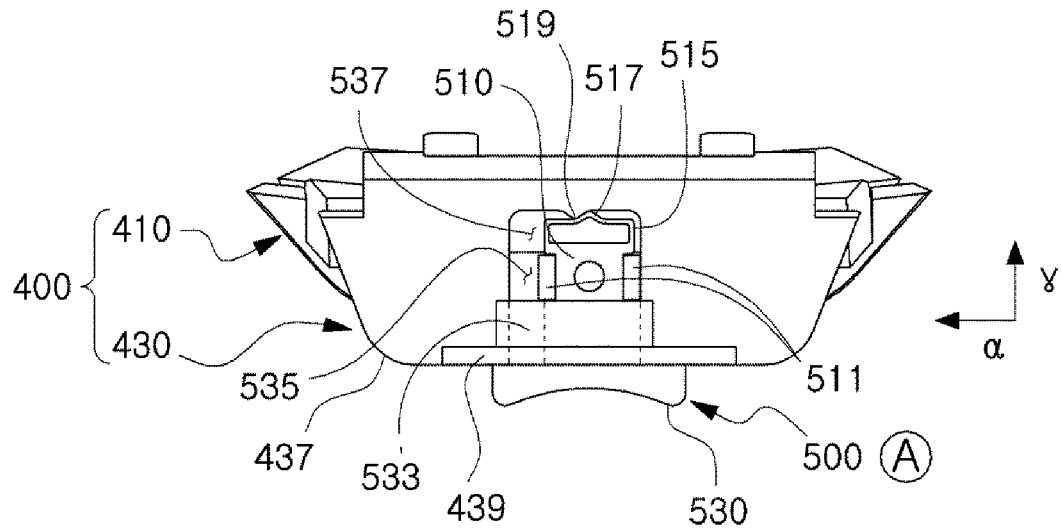
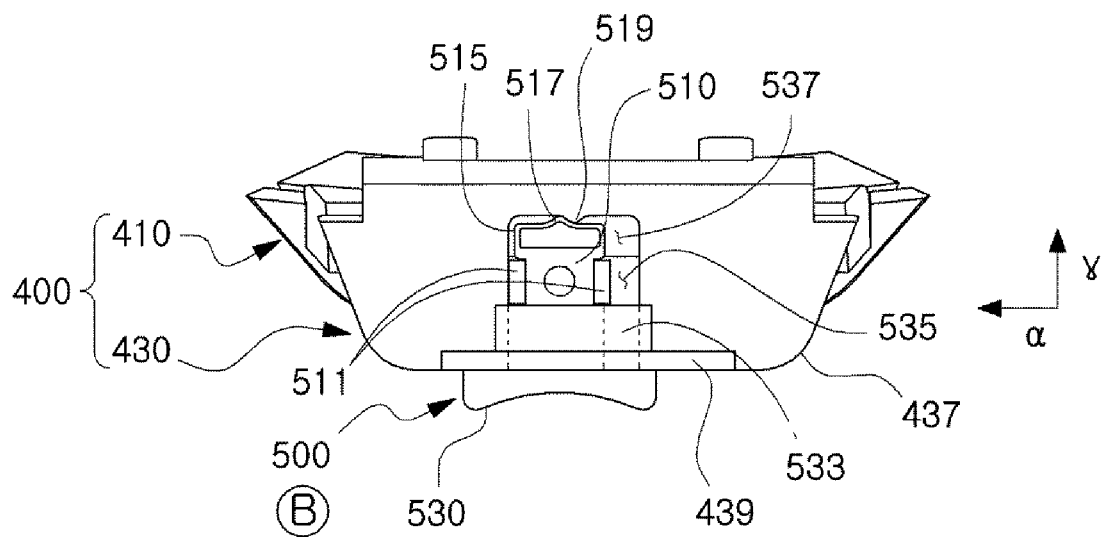


FIG. 8B





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Place of search The Hague		Date of completion of the search 23 March 2017	Examiner D'Souza, Jennifer
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