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(54) **LEISURE SPORTS HELMET**

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(57) **ABSTRACT**

Disclosed herein is a leisure sports helmet. The leisure sports helmet includes: a helmet body (**110**), protective eyewears (**120**), a slide guide unit (**130**) and a handle (**140**). The helmet body has a slide slot (**114**) in a front portion thereof. Vent holes (**111**) are formed in a circumferential surface of the helmet body. The protective eyewears are disposed in the slide slot and are extracted from or retracted into the helmet body in a sliding manner. The slide guide unit is provided in the slide slot to support and guide the protective eyewears. The handle is removably coupled to the protective eyewears to enable the protective eyewears to slide along the slide slot.

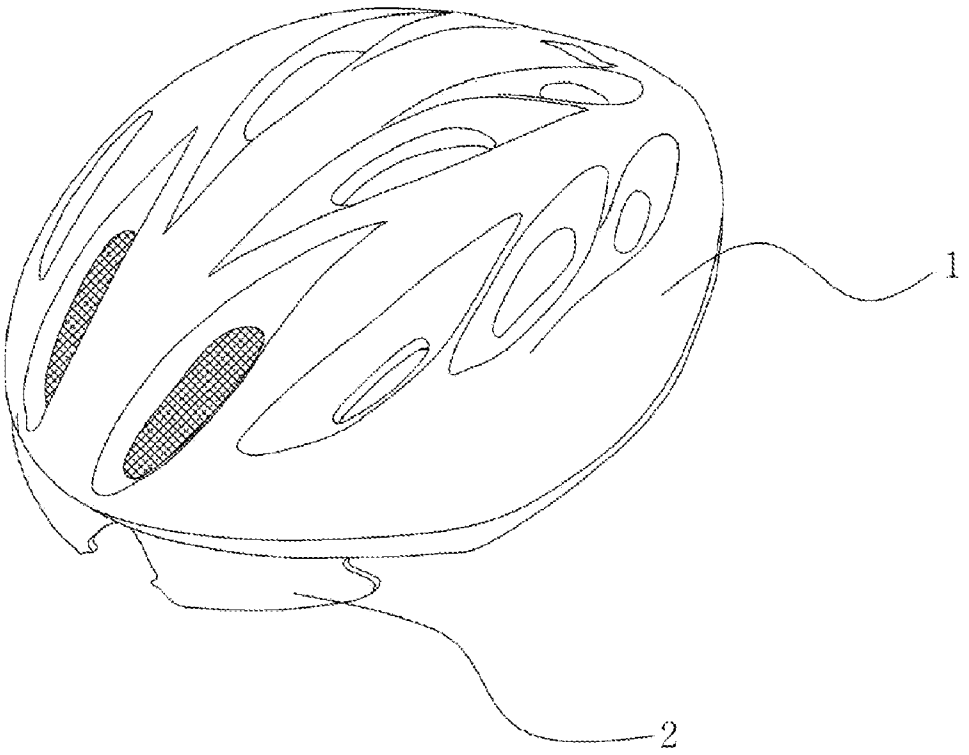


FIG. 1

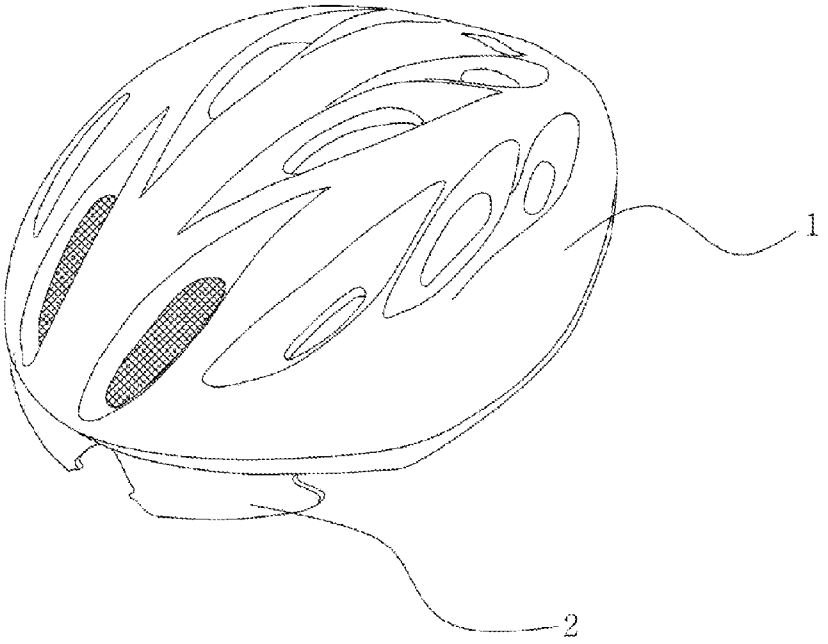


FIG. 2

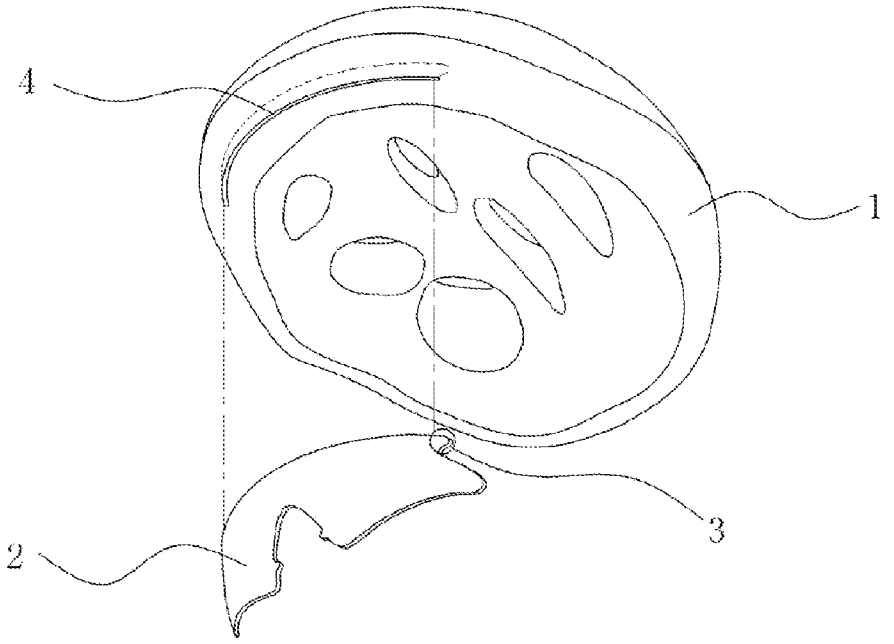


FIG. 3

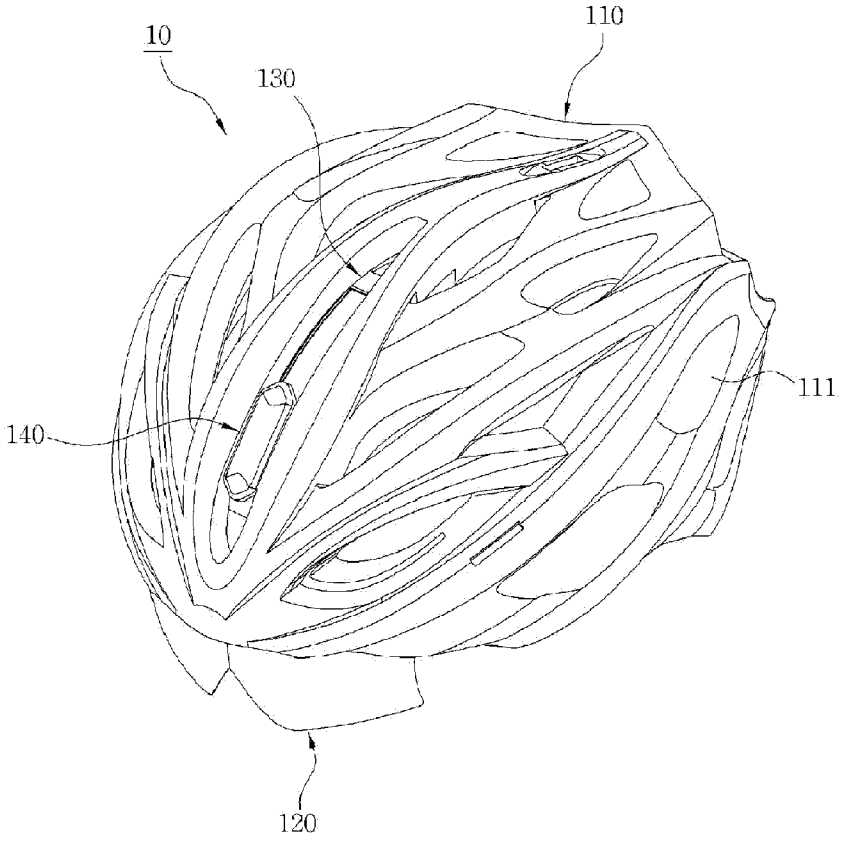


FIG. 4

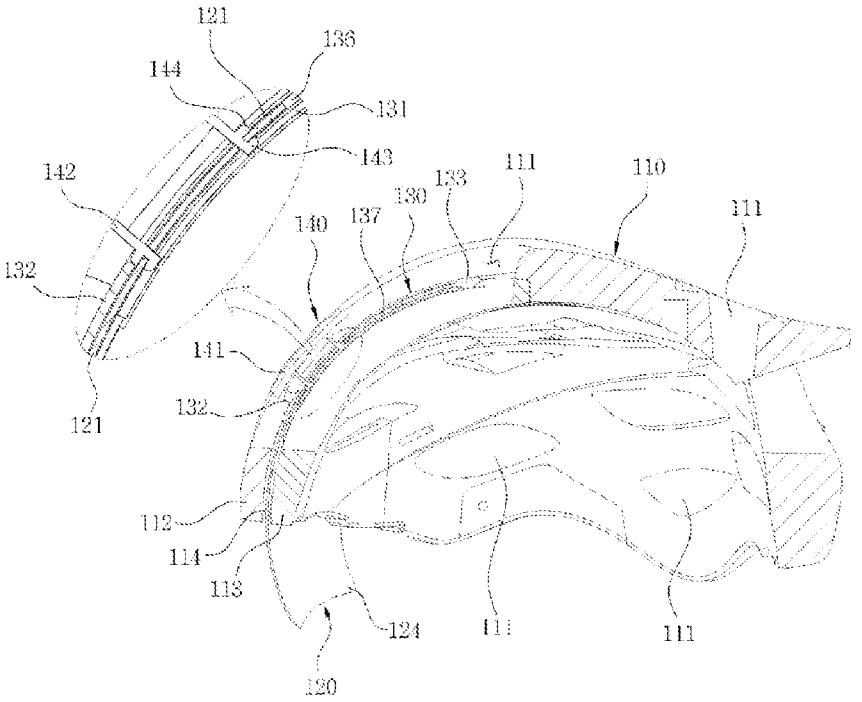

121
136
144
131
143
142
133
111
110
130
137
140
111
132
141
132
121
112
114
113
124
111
111
120

FIG. 5

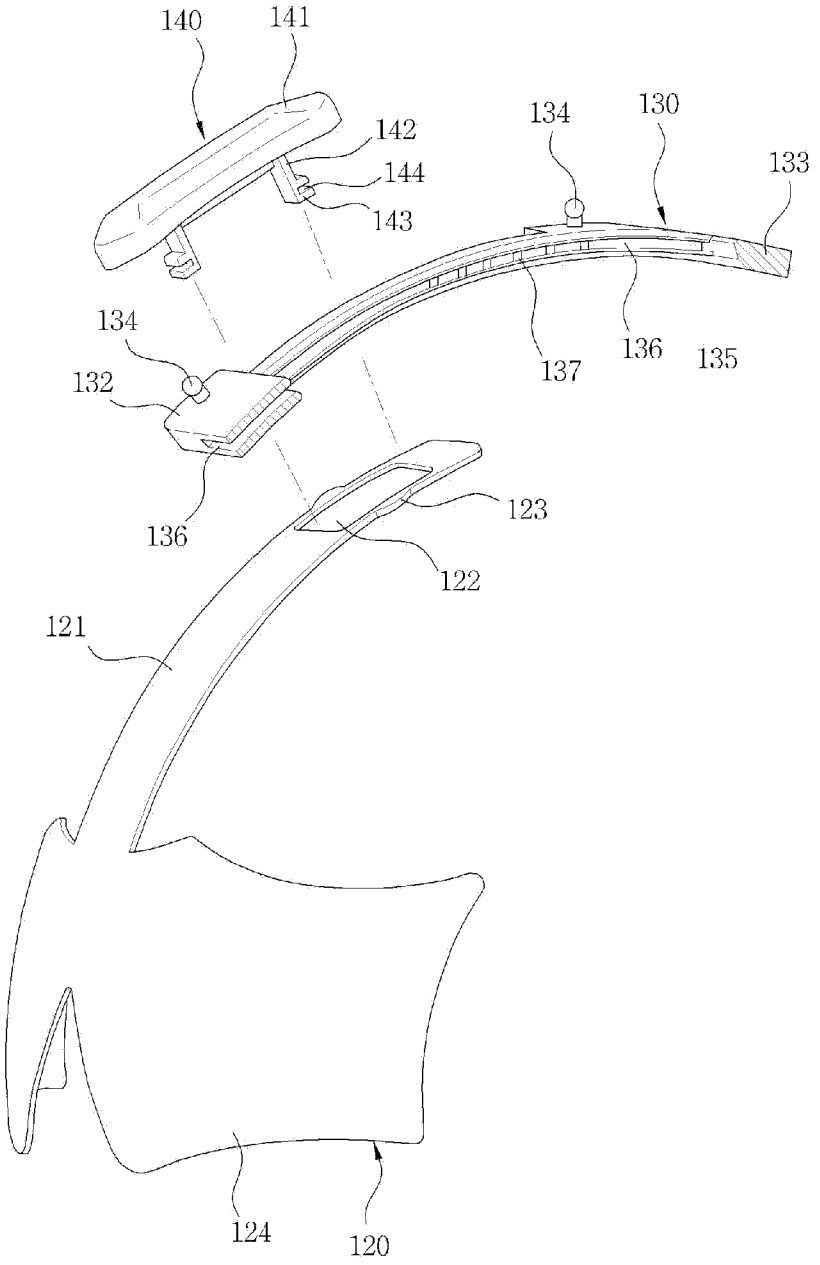

140
141
142
144
143
134
130
133
134
132
137
136
135
136
123
122
121
124
120

FIG. 6

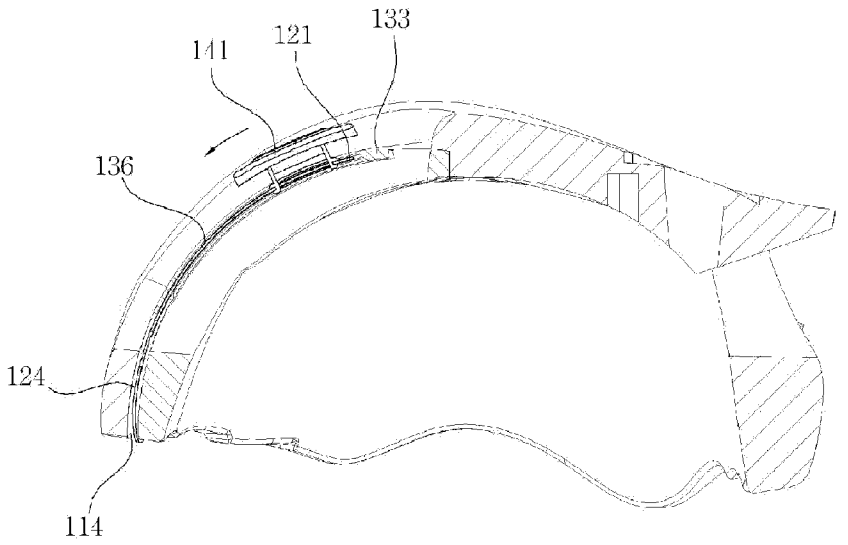


FIG. 7

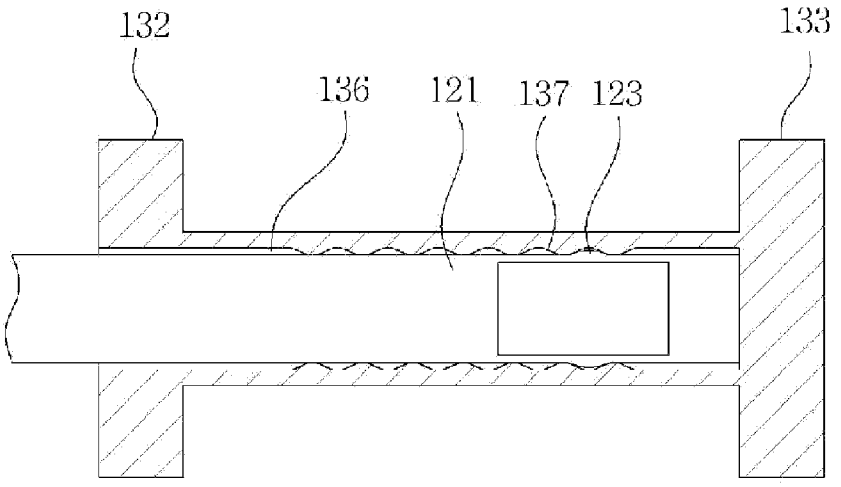


FIG. 8

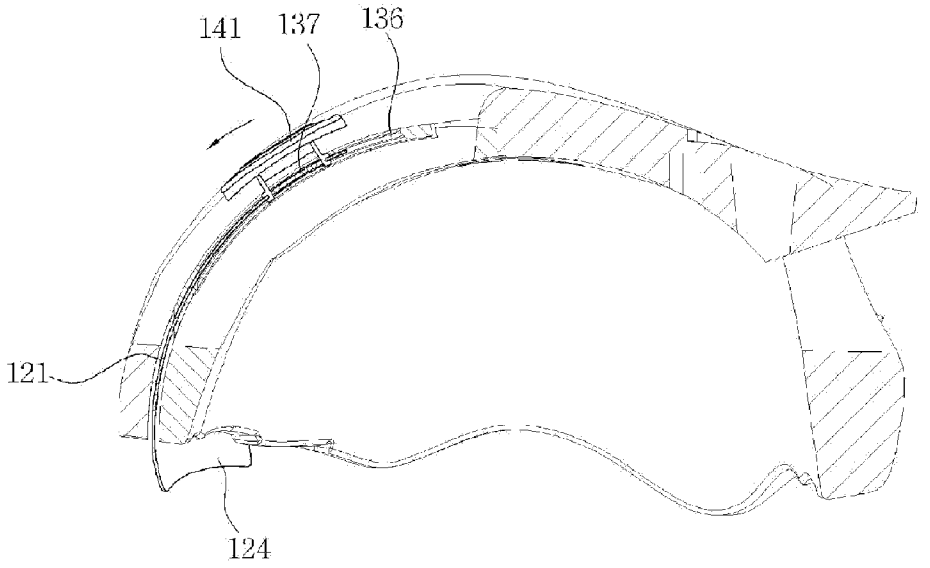


FIG. 9

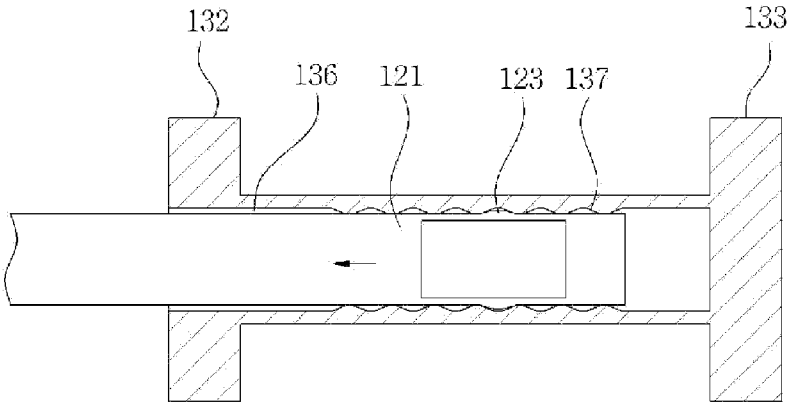


FIG. 10

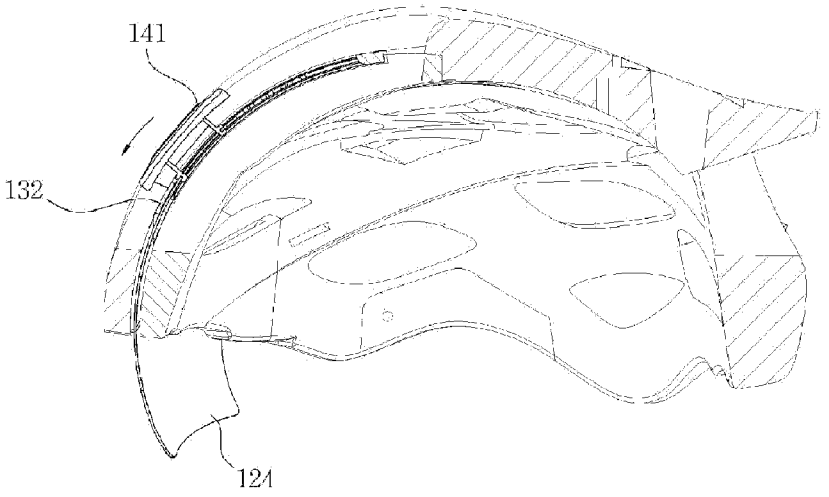


FIG. 11

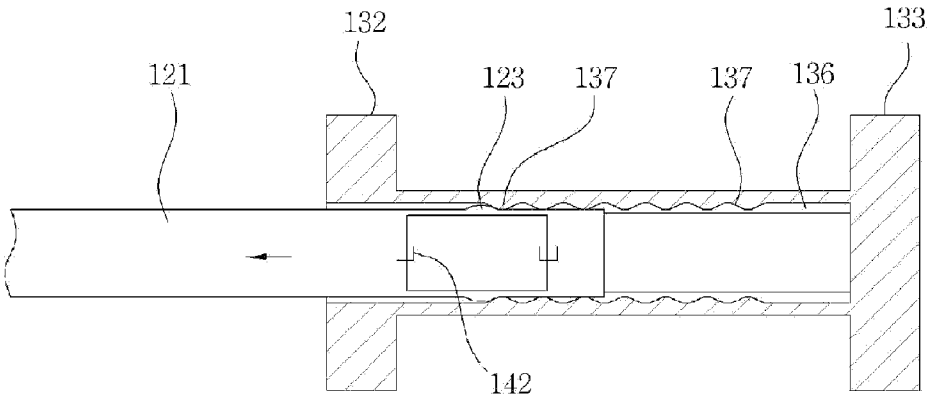
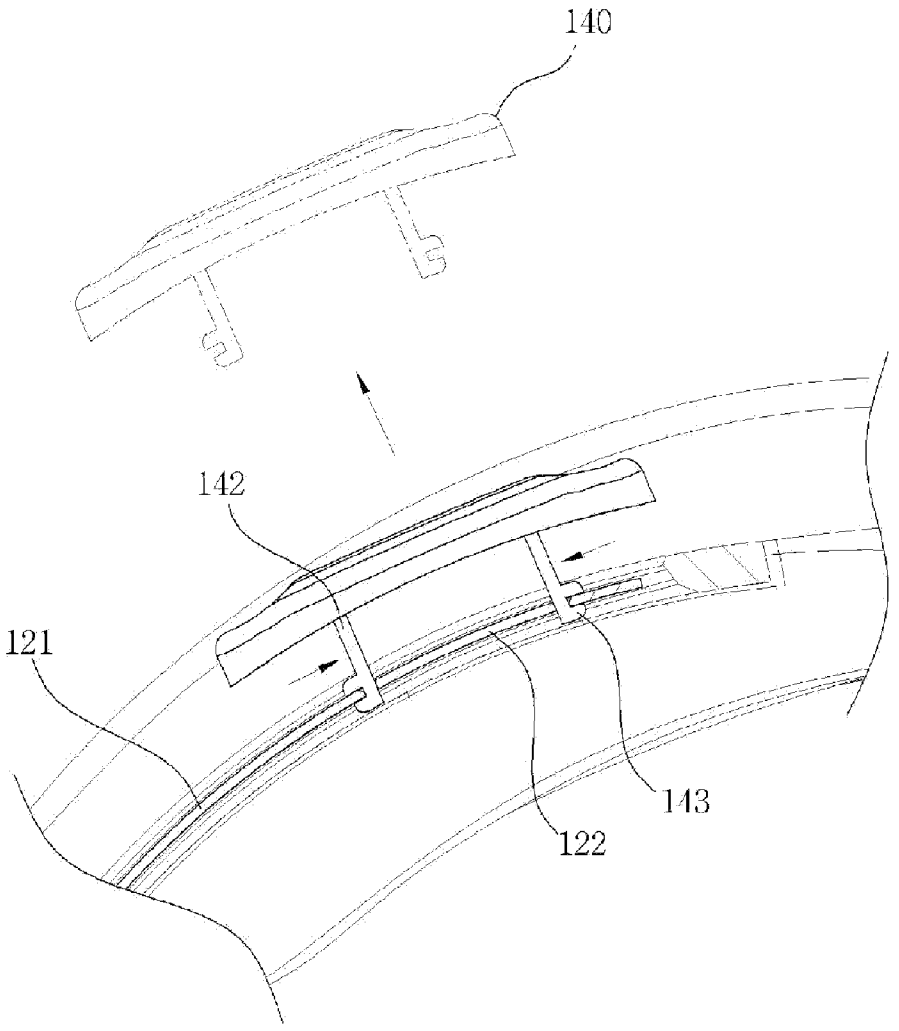


FIG. 12



LEISURE SPORTS HELMET

TECHNICAL FIELD

[0001] The present invention relates, in general, to leisure sports helmets and, more particularly, to a leisure sports helmet which is configured such that, as needed, a user extracts protective eyewears from the helmet body or retracts the protective eyewears thereinto in a sliding manner, whereby a separate storage container for protective eyewears is not required, and in which the protective eyewears are extracted from or retracted into the helmet body with a distance between the protective eyewears and the face of the user, thus preventing sweat of the user, which may block the sight of the user, from getting on the protective eyewears.

BACKGROUND ART

[0002] Generally, helmets as means for protecting the heads of users are widely used in different kinds of leisure sports such as inline skating, cycling, riding scooters, mountain climbing, horse riding, etc.

[0003] Such leisure sports helmets must be light and superior in ventilation, because users wear the helmets for a long time and typically sweat a lot while participating in leisure sports because of a large amount of activity.

[0004] Most leisure sports helmets have structures for covering only the upper portions of the heads of users, unlike helmets for motorcycle which generally cover the entireties of the faces and heads of users. Therefore, the users mainly wear separate protective eyewears for protecting their eyes.

[0005] As such, if users separately wear leisure sports helmets and protective eyewears, there is the possibility of the protective eyewears being undesirably removed from a user's face because of the nature of leisure sports in which a lot of movement is required while participating in leisure sports. Furthermore, in this case, the sweat of the users may get on his or her protective eyewears, thus blocking the sight of the users. In addition, there is a need for users to take the protective eyewears on or off in response to changing circumstances.

[0006] In an effort to overcome the above-mentioned problems, a technique in which protective eyewears are attached to a helmet was proposed in Korean Utility Model Laid-open Publication No. 20-2009-0010786. The helmet according to this technique is illustrated in FIGS. **1** and **2**.

[0007] In a helmet **1** according to this technique, a curved insert slot **4** is formed in a lower surface of a front portion of the helmet **1**. Protective eyewears **2** which have a curved shape corresponding to the shape of the insert slot **4** are provided. Protrusions **3** are respectively provided on upper portions of opposite ends of the protective eyewears **2** so that the protective eyewears **2** can be coupled to the insert slot **4** by means of the protrusions **3**. That is, the protective eyewears are removably coupled to the helmet in such a way that the protrusions of the protective eyewears are inserted into and locked to the insert slot. The helmet **1** having the above-mentioned structure has advantages in which it is not required for a user to wear separate protective eyewears, and the protective eyewears are prevented from making close contact with the face of the user causing sweat of the user getting on the protective eyewears.

[0008] However, because the conventional helmet is configured such that the protective eyewears can be removed from the helmet, if external impact is applied to the helmet, for example, by a rough motion of the user, the protective eyewears may be undesirably removed from the helmet.

[0009] Furthermore, when the user removes the protective eyewears from the helmet to use only the helmet, a separate storage container for storing the protective eyewears is required, thus inconveniencing the user because he/she must carry the storage container for protective eyewears.

DISCLOSURE

Technical Problem

[0010] Accordingly, the present invention has been made keeping in mind the above problems occurring in the prior art, and an object of the present invention is to provide a leisure sports helmet which is configured such that whenever necessary, a user can extract protective eyewears from a helmet body or retract the protective eyewears thereinto in a sliding manner, thus not requiring a separate storage container for protective eyewears, and in which the protective eyewears slide with respect to the helmet body with a distance between them and the face of the user, thus preventing sweat of the user which may block the sight of the user from getting on the protective eyewears.

[0011] Another object of the present invention is to provide a leisure sports helmet which is configured such that the protective eyewears can be replaced with other protective eyewears, thus making it possible for the user to selectively use different kinds of protective eyewears depending on circumstances.

[0012] A further object of the present invention is to provide a leisure sports helmet in which the protective eyewears are removably coupled to the helmet body, whereby the protective eyewears can be replaced with other protective eyewears depending on the sight of the user, and even if the user has bad eyesight, he/she can wear the helmet and the protective eyewears with separate glasses worn directly on the user, thereby making it possible to cope actively with changing conditions.

Technical Solution

[0013] In order to accomplish the above objects, the present invention provides a leisure sports helmet, including: a helmet body having a slide slot in a front portion thereof, with a plurality of vent holes formed in a circumferential surface of the helmet body; protective eyewears disposed in the slide slot, the protective eyewears being extracted from or retracted into the helmet body in a sliding manner; a slide guide unit provided in the slide slot, the slide guide unit supporting and guiding the protective eyewears; and a handle removably coupled to the protective eyewears so that the protective eyewears slide along the slide slot by means of the handle.

[0014] The helmet body may include an inner frame or part and an outer frame or part between which the protective eyewears are extracted from or retracted into the helmet body, wherein the inner frame or part may be made of a material different from a material of the outer frame or part.

[0015] The material of the inner frame or part may be harder than the material of the outer frame or part.

[0016] The protective eyewears may include: a frame, with a coupling hole formed in a first end of the frame; and a shield provided on a second end of the frame.

[0017] The shield may comprise one selected from between sunglasses and glasses.

[0018] The slide guide unit may include: a guide slot; a frame having a guide groove therein; and stoppers and respectively provided on opposite ends of the frame.

[0019] Furthermore, a stop protrusion and a locking protrusion may be respectively provided in the frames at positions corresponding to each other.

[0020] The locking protrusion may comprise a plurality of locking protrusions arranged in a direction in which the stop protrusion moves.

[0021] The handle may include: a lever provided to move the protective eyewears; and an elastic member extending downwards from a lower surface of the lever, with a coupling protrusion provided on an end of the elastic member, the coupling protrusion entering the coupling hole of the frame and holding the frame.

[0022] The protective eyewears may be made of a material having elastic restoring force.

Advantageous Effects

[0023] In a leisure sports helmet according to the present invention, whenever necessary a user can extract protective eyewears from a helmet body or retract the protective eyewears thereinto in a sliding manner. Thus, a separate storage container for protective eyewears is not required. The protective eyewears slide with respect to the helmet body with a distance between them and the face of the user. Therefore, sweat of the user which may block the sight of the user can be prevented from being getting on the protective eyewears.

[0024] Furthermore, the leisure sports helmet is configured such that the protective eyewears can be replaced with other protective eyewears, thus making it possible for the user to selectively use different kinds of protective eyewears depending on circumstances.

[0025] Because the protective eyewears are removably coupled to the helmet body, the protective eyewears can be replaced with other protective eyewears depending on the sight of the user. Even if the user has bad eyesight, he/she can wear the helmet and the protective eyewears with separate glasses worn directly on the user. As such, the present invention can cope actively with changing conditions.

DESCRIPTION OF DRAWINGS

[0026] FIG. **1** is a perspective view showing a conventional helmet;

[0027] FIG. **2** is an exploded bottom perspective view showing the helmet of FIG. **1**;

[0028] FIG. **3** is a perspective view illustrating a leisure sports helmet according to the present invention;

[0029] FIG. **4** is a sectional view illustrating the leisure sports helmet of FIG. **3**;

[0030] FIG. **5** is an exploded perspective view illustrating protective eyewears and a slide guide unit of the leisure sports helmet of FIG. **3**;

[0031] FIGS. **6** through **11** are views illustrating the operation of the leisure sports helmet according to the present invention; and

[0032] FIG. **12** is a partial sectional view showing removal of a handle from a frame according to the present invention.

BEST MODE

[0033] Hereinafter, a preferred embodiment of the present invention will be described in detail with reference to the attached drawings. Those skilled in the art will appreciate that various modifications are possible, and the present invention is not limited to the following embodiment. Furthermore, the embodiment of the present invention aims to help those with ordinary knowledge in this art more clearly understand the present invention. For reference, the shape of each element may be exaggeratedly expressed in the drawings for the sake of understanding the present invention.

[0034] It will be understood that, although the terms first, second, etc. may be used herein to describe various elements, these elements should not be limited by these terms. These terms are only used to distinguish one element, from another element.

[0035] The terminology used herein is for the purpose of describing particular embodiment only and is not intended to be limiting. As used herein, the singular forms "a," "an" and "the" are intended to include plural forms as well, unless the context clearly indicates otherwise. It will be further understood that the terms "comprises" and/or "comprising," or "includes" and/or "including" when used in this specification, specify the presence of stated features, regions, integers, steps, operations, elements, and/or components, but do not preclude the presence or addition of one or more other features, regions, integers, steps, operations, elements, components, and/or groups thereof.

[0036] As shown in FIG. **3**, a leisure sports helmet **10** according to the present invention includes a helmet body **110**, protective eyewears **120**, a slide guide unit **130** and a handle **140**.

[0037] As shown in FIG. **4**, a plurality of vent holes **111** are formed in a circumferential surface of the helmet body **110** so that when a user wears the helmet, an area around the head of the user can be easily ventilated. A slide slot **114** is formed in a lower end of a front surface of the helmet body **110** along a curved surface of the helmet.

[0038] The helmet body **110** includes an outer frame or part **112** and an inner frame or part **113**. The inner frame or part **113** is provided to be limited to a side at which the slide slot **114** is formed.

[0039] In this structure, the outer frame or part **112** primarily absorbs external impact so as to prevent the external impact from being applied to the user, and the inner frame or part **113** secondarily absorbs the rest of the external impact after primarily absorbed, thus minimizing impact applied to the head of the user.

[0040] The inner frame or part is preferably made of harder material than that of the outer frame or part. The reason for this is to prevent an event in which when the protective eyewears or the slide guide unit that is provided in the helmet body is damaged by external impact, the damaged portion injures the user.

[0041] As shown in FIG. **5**, the protective eyewears **120** include a frame **121** which is made of a curved plate, a coupling hole **122** which is formed in a first end of the frame **121**, and a shield **124** which is provided on a second end of the frame **121** that is opposite to the coupling hole **122**.

[0042] Protruding in opposite directions, stop protrusions **123** are respectively provided on opposite edges of the portion of the frame **121** in which the coupling hole **122** is formed. The stop protrusions **123** are releasably locked to locking protrusions, which will be explained later herein, so as to make it possible for the sliding motion of the frame to be conducted restrictively.

[0043] It is preferable that the protective eyewears **120** be formed to have elastic restoring force. In this case, the pro-

tective eyewears **120** can absorb a predetermined amount of external impact by themselves using elastic restoring force, whereby the protective eyewears **120** can be more reliably prevented from being broken by external impact.

[0044] The shield **124** may comprise one selected from between sunglasses or glasses, or it may comprise sunglasses the power of which is adjusted for the user.

[0045] If the user has bad eyesight, the lenses of the sunglasses may be adjusted in power for the user's eyes so that it is not required for the user to wear separate glasses. If the user has extremely bad eyesight, the shield **124** may be configured such that the user can wear separate glasses. As such, to respond to various cases, the shield **124** can be configured in a variety of ways. With regard to this, the user can selectively use one among different kinds of shields **124**.

[0046] As shown in FIG. **5**, the slide guide unit **130** includes a frame **131**, stoppers (**132**; **133**) which are respectively provided on opposite ends of the frame **131**, and fastening protrusions **134** which fasten the slide guide unit to the helmet body.

[0047] Having a predetermined length, a guide slot **135** is formed in the frame **131**. A guide groove **136** is longitudinally formed in each of opposite side surfaces that define the guide slot **135** therebetween. The guide groove **136** extends to the stopper **132** that is disposed on the front end of the frame **132** and passes through the stopper **132**.

[0048] A plurality of locking protrusions **137** are provided in each guide groove **136** at positions spaced apart from each other at regular intervals so that when each stop protrusion **123** is locked to one selected from the locking protrusions **137**, movement of the frame **121** is limited. For example, if five locking protrusions **137** are provided in each guide groove **136**, the movement of the frame can comprise five stages of movement. Thus, extraction of the frame from the helmet body is conducted by stages. As a result, depending on the position (vision) of the eyes of the user, the degree with which the protective eyewears are extracted from the helmet body can be adjusted.

[0049] Preferably, the protective eyewears **120** and the slide guide unit **130** have the same curved shape as that of the slide slot **114** formed in the helmet body **110**. The reason for this is because the protective eyewears must be configured such that they slide along the slide slot and are extracted from or retracted into the helmet body.

[0050] The handle **140** includes a lever **141**, a pair of elastic members **142** which extend downwards from a lower surface of the lever **141**, and a coupling protrusion **143** which is provided on an end of each elastic member **142**. Depressions **144** are formed in the respective coupling protrusions **143** and are oriented in opposite directions of each other.

[0051] In an embodiment, the handle **140** includes the lever **141** and the elastic members **142** which extend downwards from the lower surface of the lever **141** and are provided with the coupling protrusions **143** that are inserted into the coupling hole **122** of the frame **121** and hold the frame **121**. The user can use the handle **140** to slide the protective eyewears relative to the helmet body. Further, the handle **140** prevents the protective eyewears from being undesirably removed from the helmet body and makes it easy to remove the protective eyewears from the helmet body and couple it thereto when desired.

[0052] The coupling relationship among the parts of the present invention will be explained with reference to the attached drawings.

[0053] First, the slide slot **114** that has the same shape as that of the protective eyewears **120** is formed in the front surface of the helmet body **110**. Thereafter, the inner frame or part **113** that corresponds to the slide slot **114** is provided in the helmet body **110**. As stated above, the inner frame or part is made of harder material than that of the outer frame or part. For example, if the outer frame or part is made of material such as polystyrene having appropriate elasticity so that it can absorb a predetermined amount of external impact, the inner frame or part is made of material such as urethane, compressed polymer, etc. that has appropriate elasticity and is able to maintain sufficient strength, whereby the entire weight of the helmet body can be reduced, and yet it can reliably protect the head of the user. Here, the materials of the inner and outer frame or parts are merely exemplary to illustrate the fact that the inner and outer frame or parts can be made of different kinds of materials and the material of the inner frame or part can be harder than that of the outer frame or part. The present invention is not limited to this, and any material can be used so long as it falls within the bounds of the present invention.

[0054] Subsequently, the slide guide unit **130** is disposed adjacent to the slide slot **114**, and the fastening protrusions **134** of the slide guide unit **130** are inserted into the inner surface of the helmet body so that the slide guide unit **130** is fixed in the slide slot.

[0055] Preferably, a vent hole is formed in the helmet body at a position corresponding to the slide slot so that the inside and outside of the helmet body communicate with each other through the vent hole. By virtue of this structure, depending on the movement of the protective eyewears, air may be drawn from the outside into the helmet body through the guide slot **135** formed in the slide guide unit.

[0056] Thereafter, the inner frame or part **113** is coupled to the portion of the helmet body in which the slide slot **114** is located, so that the slide slot **114** formed in the inner surface of the helmet body is covered with the inner frame or part **113**. Here, the inner frame or part may be bonded to the outer frame or part by an adhesive or, alternatively, the inner frame or part may be fused to the outer frame or part by thermoforming.

[0057] In other words, any method can be used to couple the inner frame or part to the outer frame or part, so long as the inner and outer frame or part can be reliably and closely coupled to each other.

[0058] Subsequently, the frame **121** of the protective eyewears **120** that has a curved shape is inserted into the slide slot **114** formed in the helmet body and then disposed in the slide guide unit provided in the slide slot, such that the frame **121** is positioned in the guide grooves **136** formed in the slide guide unit.

[0059] The handle **140** is thereafter inserted into the helmet body towards the protective eyewears **120** through one of the corresponding vent holes formed in the outer frame or part.

[0060] The elastic members **142** of the handle are inserted into the coupling hole **122**. The coupling protrusions **143** and the depressions **144** which are provided on the ends of the elastic members **142** are coupled to the inner edge of the coupling hole **122** so that the protective eyewears can slide with respect to the slide guide unit when the user moves the handle.

[0061] Here, the stop protrusions and the locking protrusions which correspond to each other are respectively provided on the protective eyewears and the slide guide unit. Thereby, the protective eyewears that are disposed in the slide

guide unit can be prevented from being undesirably extracted from the helmet body by an external factor such as external impact.

[0062] Hereinafter, the operation of the present invention will be described in detail with reference to the attached drawings.

[0063] Referring to FIGS. **6** and **7**, the frame **121** of the protective eyewears is disposed in the guide grooves **136** of the slide guide unit and the end of the frame **121** makes close contact with the rear stopper **133** while, as stated above, the stop protrusions **123** of the frame **121** are locked to the corresponding locking protrusions **137** of the guide grooves **136**.

[0064] In this state, as shown in FIGS. **8** and **9**, when the user pushes, in the direction designated by the arrows of the drawings, the lever **141** of the handle that is disposed to protrude outward from the helmet body, the protective eyewears coupled to the handle are moved along the slide slot.

[0065] During the movement of the protective eyewears, the locking protrusions provided in the slide guide unit make the protective eyewears move in stages. The reason for this is to make it possible for the protective eyewears to be moved to a desired position and maintained at the position.

[0066] In other words, the present invention is configured such that when the user slides the protective eyewears using the handle, the protective eyewears can be moved in stages by means of the locking protrusions and the stop protrusions. Thus, the user can adjust the position at which the protective eyewears are stopped. Thereby, the protective eyewears may conduct a function similar to that of a shade screen or the like.

[0067] In addition, by virtue of locking between the locking protrusions and the stop protrusions, the protective eyewears can be prevented from being unnecessarily removed from the helmet body.

[0068] As shown in FIGS. **10** and **11**, as the handle is further moved, the shield of the protective eyewears is completely extracted from the helmet body.

[0069] In this state, the vent hole of the helmet body that has been covered with the frame **121** opens so that outside air is drawn into the helmet body through the vent hole, thus assisting air circulation in the helmet body.

[0070] The elastic members **142** which are coupled to the coupling hole **122** of the frame **121** are brought into close contact with an end of the stopper **132** which is disposed on the front end of the slide guide unit, whereby the protective eyewears can no longer move forwards. In this state, the protective eyewears entirely cover the eyes of the user and function as sunglasses. In the present invention, because the protective eyewears maintain a distance between them and the face of the user, sweat which may block the view of the user can be prevented from getting on the protective eyewears.

[0071] Particularly, because the stop protrusions **123** of the protective eyewears, the locking protrusions **137** of the slide guide unit and the stopper **132** are brought into close contact with each other and are supported by each other, the shield can be prevented from being undesirably retracted into the helmet body again by external impact even when the shield is in the state of being completely extracted from the helmet body.

[0072] That is, it becomes possible for the protective eyewears to be extracted from or retracted into the helmet body only when the user manipulates the handle.

[0073] As shown in FIG. **12**, when it is required to replace the protective eyewears with other protective eyewears, the user pushes the elastic members **142** of the handle **120** in the directions designated by the arrows of FIG. **12**. Then, the coupling protrusions **143** of the elastic members are removed from the coupling hole **122**, and the handle can be separated from the protective eyewears. The protective eyewears that have been separated from the handle are removed out of the helmet body through the slide slot and replaced with other protective eyewears.

[0074] The shield of the protective eyewears may be replaced with ones which can function as typical sunglasses. In the case where the user has bad eyesight, the shield of the protective eyewears may be replaced with ones which can function as glasses with the power that is adjusted for the user. In other words, if different kinds of protective eyewears are provided, the user can selectively use ones depending on the circumstances.

[0075] As described above, a leisure sports helmet according to the present invention is configured such that protective eyewears which function as sunglasses or the like are extracted from or retracted into a helmet body in a sliding manner. Therefore, a separate space is not required to store the sunglasses or the like. Furthermore, the present invention can prevent a problem in which if sunglasses or the like are directly worn on the face of the user, the sight of the user can be blocked by sweat getting on them, thus markedly improving convenience.

[0076] Although the preferred embodiment of the present invention has been disclosed for illustrative purposes, the embodiment only aims to help those with ordinary knowledge in this art more clearly understand the present invention rather than aiming to limit the bounds of the present invention.

[0077] In other words, those with ordinary knowledge in this art will easily appreciate that various modifications, additions and substitutions or are possible without departing from the scope and spirit of the invention, and such modifications, additions and substitutions fall within the bounds of the present invention as disclosed in the accompanying claims.

1. A leisure sports helmet, comprising:

a helmet body having a slide slot in a front portion thereof, with a plurality of vent holes formed in a circumferential surface of the helmet body;

protective eyewears disposed in the slide slot, the protective eyewears being extracted from or retracted into the helmet body in a sliding manner;

a slide guide unit provided in the slide slot, the slide guide unit supporting and guiding the protective eyewears; and

a handle removably coupled to the protective eyewears so that the protective eyewears slide along the slide slot by means of the handle.

2. The leisure sports helmet of claim **1**, wherein the helmet body comprises an inner frame or part and an outer frame or part between which the protective eyewears are extracted from or retracted into the helmet body, wherein the inner frame or part is made of a material different from a material of the outer frame or part.

3. The leisure sports helmet of claim **2**, wherein the material of the inner frame or part is harder than the material of the outer frame or part.

4. The leisure sports helmet of claim **1**, wherein the protective eyewears comprise: a frame, with a coupling hole formed in a first end of the frame; and a shield provided on a second end of the frame.

5. The leisure sports helmet of claim **4**, wherein the shield comprises one selected from between sunglasses and glasses.

6. The leisure sports helmet of claim **1**, wherein the slide guide unit comprises: a guide slot; a frame having a guide groove therein; and stoppers respectively provided on opposite ends of the frame.

7. The leisure sports helmet of claim **6**, wherein a stop protrusion and a locking protrusion are respectively provided in the frames at positions corresponding to each other.

8. The leisure sports helmet of claim **7**, wherein the locking protrusion comprises a plurality of locking protrusions arranged in a direction in which the stop protrusion moves.

9. The leisure sports helmet of claim **1**, wherein the handle comprises: a lever provided to move the protective eyewears; and an elastic member extending downwards from a lower surface of the lever, with a coupling protrusion provided on an end of the elastic member, the coupling protrusion entering the coupling hole of the frame and holding the frame.

10. The leisure sports helmet of claim **1**, wherein the protective eyewears are made of a material having elastic restoring force.

11. The leisure sports helmet of claim **2**, wherein the protective eyewears comprise: a frame, with a coupling hole formed in a first end of the frame; and a shield provided on a second end of the frame.

12. The leisure sports helmet of claim **11**, wherein the shield comprises one selected from between sunglasses and glasses.

13. The leisure sports helmet of claim **9**, wherein the protective eyewears are made of a material having elastic restoring force.

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