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LEE et al.(10) **Pub. No.: US 2017/0119081 A1**(43) **Pub. Date: May 4, 2017**(54) **HEADGEAR***A42B 1/06* (2006.01)*A42C 5/02* (2006.01)(71) Applicants: **SEUNG WOO LEE**, Gimpo (KR);
HANOK KANG, Gimpo (KR)*A42B 3/08* (2006.01)*A63B 71/10* (2006.01)(72) Inventors: **SEUNG WOO LEE**, Gimpo (KR);
HANOK KANG, Gimpo (KR)*A42B 3/32* (2006.01)*A42B 3/22* (2006.01)(52) **U.S. Cl.**CPC *A42B 3/125* (2013.01); *A42B 3/324*(2013.01); *A42B 3/283* (2013.01); *A42B 3/227*(2013.01); *A42C 5/02* (2013.01); *A42B 3/08*(2013.01); *A63B 71/10* (2013.01); *A42B 1/062*

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(57)

ABSTRACT

Headgear that can protect a head from an external impact and that can simply and minutely perform size adjustment is provided.

The headgear includes: a main body that is worn on a user's head; and an impact absorption means that is provided within the main body to absorb an impact, when an impact is applied from the outside.

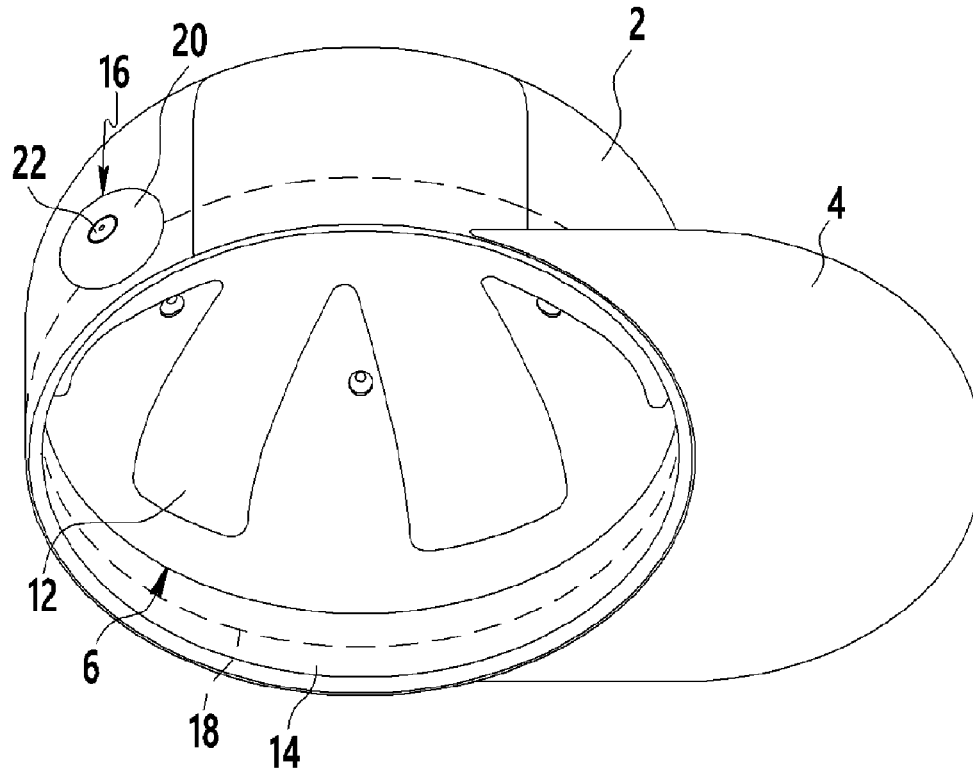


FIG. 1

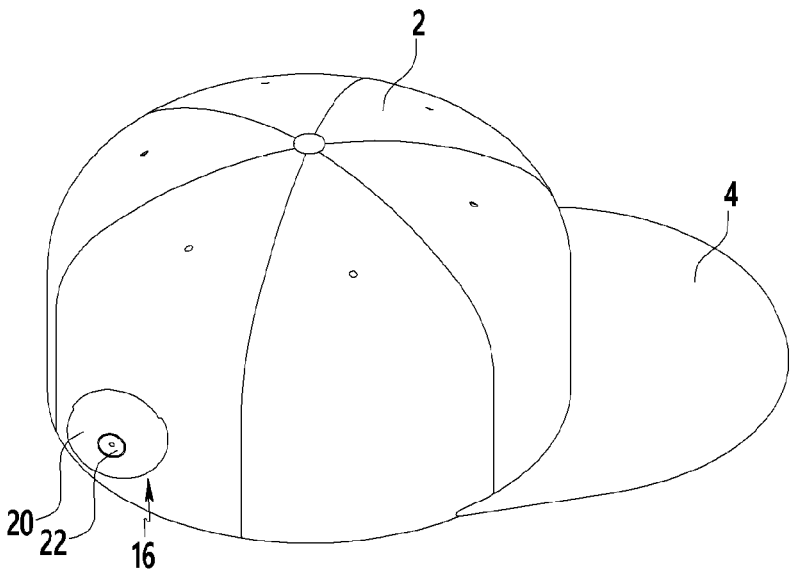


FIG. 2

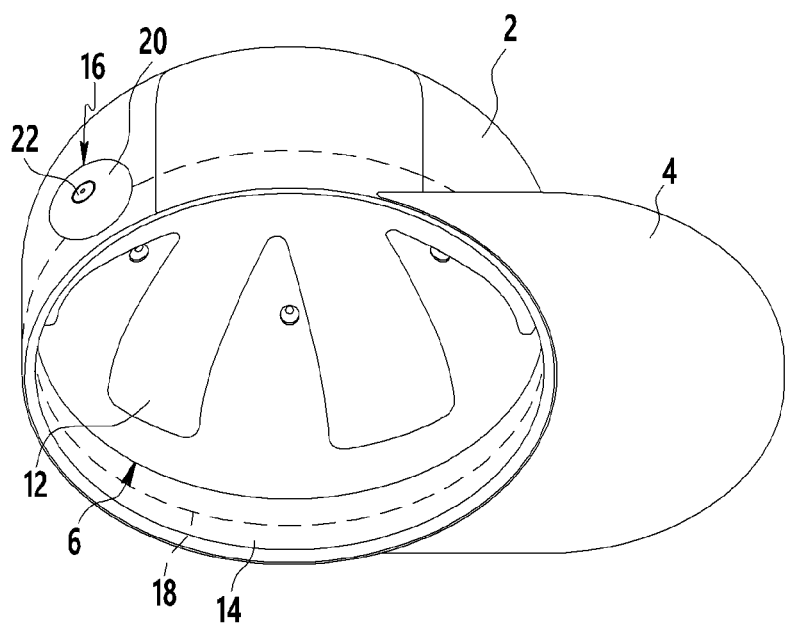


FIG. 3

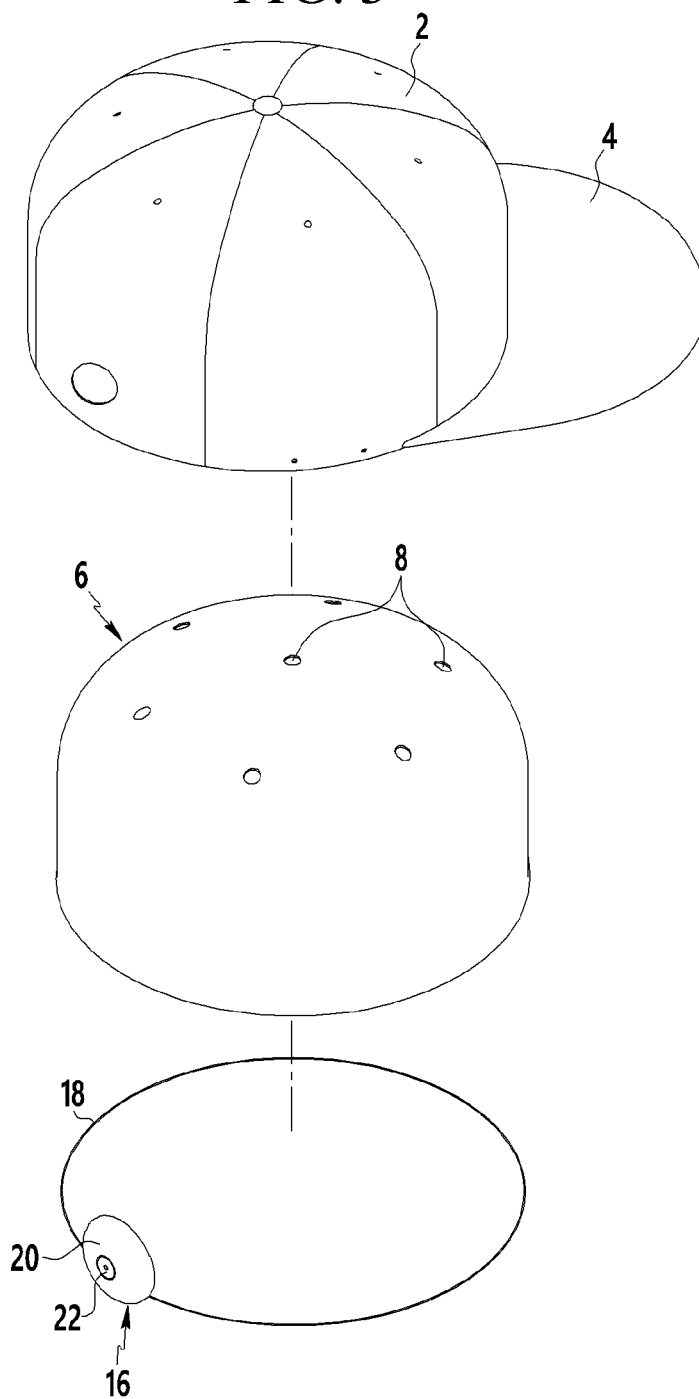


FIG. 4

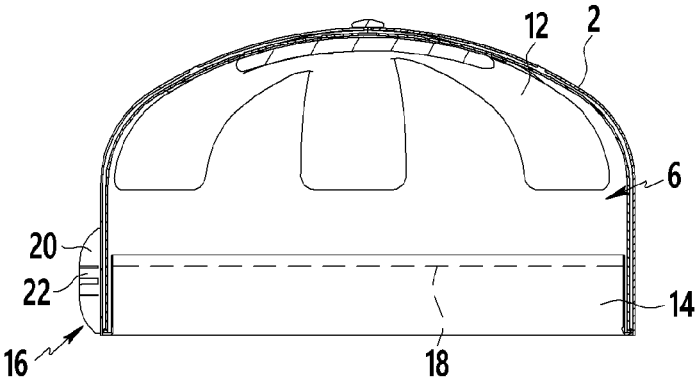


FIG. 5

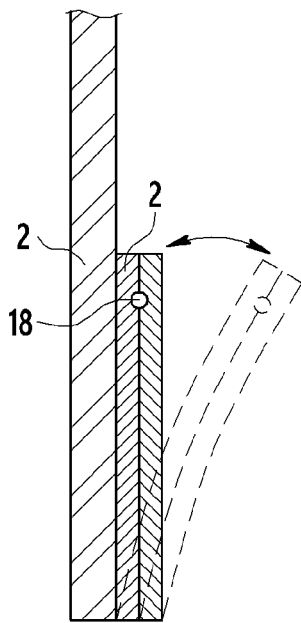
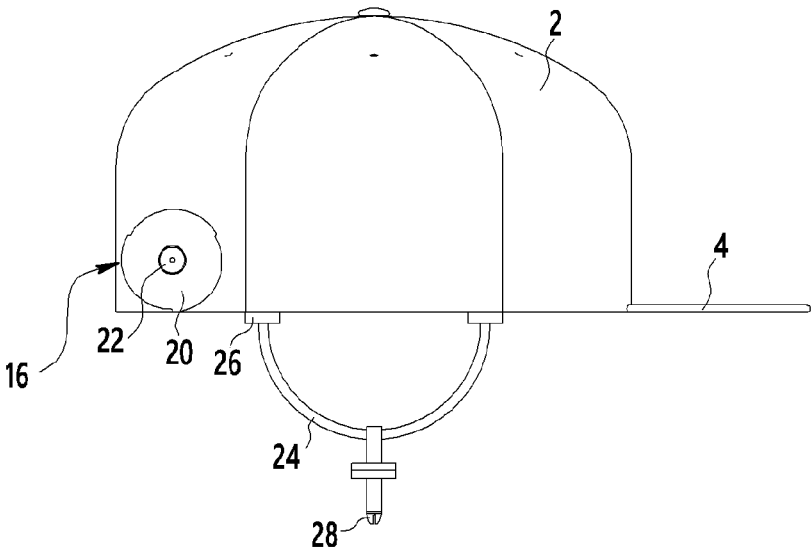


FIG. 6



HEADGEAR

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims priority to and the benefit of Korean Patent Application No. 10-2015-0154660 and 10-2016-0011385 filed in the Korean Intellectual Property Office on Nov. 4, 2015 and Jan. 29, 2016, the entire contents of which are incorporated herein by reference.

BACKGROUND OF THE INVENTION

[0002] (a) Field of the Invention

[0003] The present invention relates to headgear. More particularly, the present invention relates to headgear that can protect a head from an impact that is applied from the outside and of which a wearing size thereof can be simply and minutely adjusted.

[0004] (b) Description of the Related Art

[0005] In general, headgear includes a cap portion that may be worn on a head and a visor portion that is extended from the cap portion to the outside to block direct inflow of sunlight to a wearer face.

[0006] At a lower end portion of the cap portion, a size adjustment portion that can adjust a circumferential surface of the cap to correspond to a head size of the wearer is attached.

[0007] Such headgear is mostly made of fabric, and is designed in several shapes according to use to be used as an item representing a decorative aesthetic impression.

[0008] However, in such headgear, because a cap portion is made of fabric, a wearer's head may not be completely protected from an external impact. For example, when taking exercise such as golf or baseball or when viewing a game, a hard object such as a golf ball or a baseball may fly and apply an impact to a wearer head, and the headgear may not fully absorb such an impact.

[0009] When the wearer's head receives an impact due to such an object, a serious accident such as one causing brain damage may occur.

[0010] Further, in conventional headgear, when adjusting a size thereof using a size adjustment portion, the size may not be minutely adjusted or the size adjustment portion is completely released and a size of the headgear is adjusted and then the size adjustment portion should be again fixed and thus size adjustment is inconvenient and requires much time.

PRIOR ART DOCUMENT

Patent Document

[0011] (Patent Document 1) Korean Patent Laid-Open Publication No. 10-2006-0124234

[0012] The above information disclosed in this Background section is only for enhancement of understanding of the background of the invention and therefore it may contain information that does not form the prior art that is already known in this country to a person of ordinary skill in the art.

SUMMARY OF THE INVENTION

[0013] The present invention has been made in an effort to provide headgear having advantages of being capable of safely protecting a wearer's head from an external impact.

[0014] The present invention has been made in an effort to further provide headgear having advantages of being capable of simply adjusting a wearing size of the headgear and minutely adjusting the wearing size to correspond to a head circumference of a wearer.

[0015] An exemplary embodiment of the present invention provides headgear including: a main body that is worn on a user's head; and an impact absorption means that is provided within the main body to absorb an impact, when an impact is applied from the outside.

[0016] Another embodiment of the present invention provides headgear including: a main body that is worn on a user's head; an impact absorption means that is provided within the main body to absorb an impact, when an impact is applied from the outside; and a size adjustment portion that adjusts the main body to correspond to a user's head size.

[0017] The impact absorption means may be separably inserted into the main body with a forced fitting method, a band portion that absorbs sweat may be provided at a lower end portion of an inner side surface of the main body, and the impact absorption means may be separably supported to the band portion.

[0018] The impact absorption means may be formed in a hard cap form with the same shape as or a shape similar to that of the main body, and the hard cap may be made of any one of plastic, fiber reinforced plastic (FRP), carbon, and nonferrous metal.

[0019] The hard cap may have a vent to communicate air therein, and a buffer member may be provided at an inner side surface of the hard cap.

[0020] The size adjustment portion may include an adjustment string that is installed along a circumferential surface of a lower end portion of the main body, and an adjustment dial that is connected with both end portions of the adjustment string to adjust a size of a circumferential surface of the lower end portion of the main body by adjusting a length of the adjustment string by winding or unwinding.

[0021] Connection rings may be connected at both side surfaces of a lower end portion of the main body, and a chin strap may be separably connected with the connection ring.

[0022] In headgear according to the present invention, an impact absorption means that is formed in a hard cap form is provided within a main body, and thus when an impact is applied from the outside, the impact absorption means absorbs the impact, thereby perfectly protecting a head of a headgear wearer.

[0023] Because an impact absorption means may be separately housed from the main body, the impact absorption means is usually separated from the main body and the headgear can be used, and when playing baseball or golf, the impact absorption means is housed in the main body and the headgear can be used, and thus the headgear can be used for a multiple purposes.

[0024] Further, a size adjustment portion that adjusts a circumferential size of a lower end portion of the main body to correspond to a head size of a user is provided to simply and minutely adjust a size of the headgear.

BRIEF DESCRIPTION OF THE DRAWINGS

[0025] FIG. 1 is a perspective view of headgear according to an exemplary embodiment of the present invention.

[0026] FIG. 2 is a perspective view illustrating a bottom surface of the inside of headgear according to an exemplary embodiment of the present invention.

[0027] FIG. 3 is an exploded perspective view of headgear according to an exemplary embodiment of the present invention.

[0028] FIG. 4 is a cross-sectional view of headgear according to an exemplary embodiment of the present invention.

[0029] FIG. 5 is a cross-sectional view illustrating size adjustment of headgear according to an exemplary embodiment of the present invention.

[0030] FIG. 6 is a diagram illustrating a chin strap that is provided in headgear according to an exemplary embodiment of the present invention.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0031] An exemplary embodiment of the present invention will hereinafter be described in detail with reference to the accompanying drawings.

[0032] FIGS. 1 and 2 are perspective views of headgear according to an exemplary embodiment of the present invention, FIG. 3 is an exploded perspective view of headgear according to an exemplary embodiment of the present invention, and FIG. 4 is a cross-sectional view of headgear according to an exemplary embodiment of the present invention.

[0033] As shown in the drawings, headgear according to an exemplary embodiment of the present invention includes a main body 2 that is worn on a user's head, a visor portion 4 that is connected with the main body 2 to block sunlight, and an impact absorption means that is provided within the main body 2 to absorb an impact, when an impact is applied from the outside.

[0034] The main body 2 and the visor portion 4 may be the same as or similar to those of common headgear that is referred to as a baseball cap. In the present exemplary embodiment, headgear of a form in which the visor portion 4 is provided in the main body 2 is described, but headgear having no visor portion 4 may be provided.

[0035] The main body 2 may be formed in an approximate hemispherical shape of which a lower surface is opened using a material such as fabric, and the visor portion 4 may be formed with fabric or may be formed in a form in which fabric encloses the outside of a thin synthetic resin plate.

[0036] The impact absorption means may be formed with a hard cap 6 of the same shape as or a shape similar to that of the main body 2. That is, the hard cap 6 may be formed in an approximate hemispherical shape of which a lower surface is opened.

[0037] The hard cap 6 may be produced using a material such as plastic, fiber reinforced plastic (FRP), glass fiber, carbon, and nonferrous metal (light metal), and when producing the hard cap 6 with a thin thickness in a range of predetermined strength, good headgear wearing comfort may be maintained.

[0038] Such a hard cap 6 may have a vent 8 to communicate air therein.

[0039] Further, at an inner side surface of the hard cap 6, a buffer member 12 that weakens an impact that is transferred to a head of the headgear wearer is provided.

[0040] The buffer member 12 may be made of fabric or sponge, and may be fixed to the hard cap 6 with a method such as adhesion.

[0041] The hard cap 6 may be formed in a size that may be inserted and fixed to the inside of the main body 2 with a forced fitting method.

[0042] Accordingly, the headgear may be worn with the hard cap 6 inserted into the main body 2 or the headgear may be worn with the hard cap 6 separated from the main body 2.

[0043] Further, a band portion 14 that absorbs sweat is provided along a lower end portion of an inner side surface of the main body 2, and the hard cap 6 may be separably fixed and supported to the main body 2 using the band portion 14.

[0044] That is, a lower end portion of the band portion 14 is fixed by sewing along the lower end of an inner side surface of the main body 2 and an upper end portion thereof is formed in a free end portion, and thus when inserting the hard cap 6 into the main body 2 and when inserting a circumference of a lower end portion of the hard cap 6 into an inner side surface of the band portion 14, in a state in which the hard cap 6 is supported to the main body 2 with a forced fitting method, the lower end portion is fixed and supported to the band portion 14 and thus the hard cap 6 may be strongly supported to the main body 2.

[0045] When executing outdoor activity, when playing golf or baseball, or when viewing a game such as golf or baseball, even if an impact is applied by a ball that flies toward a head, such a hard cap 6 fully absorbs the impact to safely protect the head of the headgear wearer.

[0046] Further, headgear according to an exemplary embodiment of the present invention may be worn even when rollerblading or skateboarding, and in this case, if a headgear wearer falls down, even if an impact is applied to the head side, the hard cap 6 absorbs the impact to safely protect the head.

[0047] In this way, when executing outdoor activity, when viewing a golf or baseball game, or when rollerblading or skateboarding, the headgear according to an exemplary embodiment of the present invention may be worn in a state in which the hard cap 6 is inserted into the main body 2, and in other cases, by separating the hard cap 6 from the main body 2, the headgear may be used as a general form of a baseball cap.

[0048] In headgear according to an exemplary embodiment of the present invention, a size adjustment portion 16 that adjusts the main body 2 to correspond to a user's head size is further provided.

[0049] The size adjustment portion 16 includes an adjustment string 18 that is installed along an internal circumferential surface of a lower end portion of the main body 2 or the band portion 14, and an adjustment dial 20 that is connected with end portions of both sides of the adjustment string 18 to adjust headgear size by adjusting a size of a circumference of a lower end portion of the main body 2 or a circumferential size of the band portion 14, by adjusting a length of the adjustment string by winding the adjustment string 18 or by unwinding the wound adjustment string 18.

[0050] A structure of the size adjustment portion 16, operation of the adjustment dial 20, and adjustment of the adjustment string 18 are disclosed in Korean Patent Nos. 10-1040372 and 10-1147681 that are used for a shoestring

tightening device that is provided to mountain-climbing boots and therefore a detailed description thereof will be omitted.

[0051] The adjustment string 18 constituting the size adjustment portion 16 may be installed at an internal circumferential surface of a lower end portion of the main body 2 or within the band portion 14, and in an exemplary embodiment of the present invention, it is assumed that the adjustment string 18 is installed within the band portion 14, as shown in FIGS. 2, 4, and 5.

[0052] As a central portion of the adjustment dial 20 may be hingedly fixed by a hinge pin 22, the adjustment dial 20 may rotate about the hinge pin 22, and when rotating the adjustment dial 20 in one direction in this way, while the adjustment string 18 is wound in an internal winding drum (not shown), the adjustment string 18 is reduced and thus while a circumferential size thereof reduces, the band portion 14 is reduced to the inside and thus a circumferential size of the band portion 14 also reduces, as shown in FIG. 5.

[0053] In this state, in order to increase a wearing size of the headgear, when pulling the adjustment dial 20 to the outside, while the adjustment dial 20 is protruded to the outside in a state that it is supported by the hinge pin 22, a restricted state of the winding drum is released, and in this state, when pulling the adjustment string 18, the adjustment string 18 that is wound in the winding drum is unwound, and in this state, when pressing the band portion 14 toward the main body 2, a circumferential size of the band portion 14 increases.

[0054] A circumferential size of the band portion 14 may be adjusted to be smaller or larger through such a size adjustment portion 16. Size adjustment of the headgear may be adjusted easily, quickly, and minutely with such a method.

[0055] When a headgear size may be minutely adjusted, by minutely adjusting the headgear size to correspond to a head circumferential size of a headgear wearer, headgear wearing comfort may be maintained in an optimal state.

[0056] FIG. 6 is a diagram illustrating a state in which a chin strap 24 is connected with headgear according to an exemplary embodiment of the present invention, and connection rings 26 are respectively connected with both sides surfaces of a lower end portion of the main body 2, and the chin strap 24 is separably connected with the connection rings 26.

[0057] The chin strap 24 is formed with two members, and at the front end portion thereof, another connection ring is formed to be separably inserted into the connection ring 26, thereby being connected with the main body 2 or being separated from the main body 2.

[0058] Further, a buckle 28 to be separately coupled is provided to the chin strap 24 to be separably connected thereto. In addition, a length of the chin strap 24 may be adjusted, as in, for example, a chin strap that is provided to a helmet for a bicycle.

[0059] Headgear having such a chin strap 24 may be worn, for example, when taking exercise, when riding horseback, or when rollerblading or skateboarding. In this case, the chin strap 24 can prevent the headgear from falling off.

[0060] Further, by separating the chin strap 24 from the connection ring 26 of the main body 2, the headgear may be used as headgear of a form having no chin strap.

[0061] The headgear according to an exemplary embodiment of the present invention may be worn with the hard cap 6 housed in the main body 2, and in this case, when a headgear size does not correspond to a user's head, a size of the main body 2 or the band portion 14 may be adjusted using the size adjustment portion 16 and the headgear may be worn.

[0062] In a state in which the hard cap 6 is housed within the main body 2, the user may execute outdoor activity, play golf or baseball, or rollerblade or skateboard, or view a golf game or a baseball game with the headgear on.

[0063] In this case, when a ball flies toward the head to apply an impact or when an impact is applied to a wearer's head by a headgear wearer falling down, impact energy is primarily absorbed in the main body 2, the hard cap 6 that is located within the main body 2 secondarily absorbs the most impact, and the buffer member 12 tertiarily absorbs a remaining impact and thus impact energy is dissipated or minimized, thereby protecting the wearer's head from the impact energy.

[0064] For example, when riding horseback or when rollerblading or skateboarding, by connecting the chin strap 24 with the connection ring 26 that is formed at both side surfaces of a lower end portion of the main body 2, and by fastening the buckle 28 of the chin strap 24, in a state in which the chin strap 24 is supported to the wearer's jaw, the wearer may wear the headgear.

[0065] In this way, when the headgear is worn with the chin strap 24 connected with the headgear, upon riding horseback or upon rollerblading or skateboarding, the headgear does not fall off, and upon falling from a horse or upon falling down, a head of the headgear wearer can be protected from an external impact.

[0066] When performing outdoor activities, when playing golf or baseball, or when viewing a golf game or a baseball game, the headgear may be worn with the chin strap 24 separated therefrom.

[0067] Further, in the above state, when the hard cap 6 is separated from the main body 2, the headgear may be used as a common cap.

[0068] When wearing such headgear, if a headgear size does not correspond to the wearer's head, a size of the main body 2 or the band portion 14 may be adjusted using the size adjustment portion 16 and the headgear may be worn.

[0069] While this invention has been described in connection with what is presently considered to be practical exemplary embodiments, it is to be understood that the invention is not limited to the disclosed embodiments, but, on the contrary, is intended to cover various modifications and equivalent arrangements included within the spirit and scope of the appended claims.

DESCRIPTION OF SYMBOLS

- [0070] 2: main body 4: visor portion
- [0071] 6: hard cap 8: vent
- [0072] 10: cut-out groove 12: buffer member
- [0073] 14: band portion 16: size adjustment portion
- [0074] 18: adjustment string 20: adjustment dial
- [0075] 22: hinge pin 24: chin strap
- [0076] 26: connection ring 28: buckle

1. A headgear, comprising:
a main body that is worn on a user's head; and
an impact absorption means that is provided within the main body to absorb an impact, when an impact is applied from the outside.
2. A headgear, comprising:
a main body that is worn on a user's head;
an impact absorption means that is provided within the main body to absorb an impact, when an impact is applied from the outside; and
a size adjustment portion that adjusts the main body to correspond to a user's head size.
3. The headgear of claim 1, wherein the impact absorption means is separably inserted into the main body with a forced fitting method.
4. The headgear of claim 1, wherein a band portion that absorbs sweat is provided at a lower end portion of an inner side surface of the main body, and the impact absorption means is separably supported to the band portion.
5. The headgear of claim 1, wherein the impact absorption means is formed in a hard cap form with the same shape as or a shape similar to that of the main body.
6. The headgear of claim 5, wherein the hard cap is made of any one of plastic, fiber reinforced plastic (FRP), carbon, and nonferrous metal.
7. The headgear of claim 5, wherein the hard cap has a vent to communicate air therein.
8. The headgear of claim 5, wherein a buffer member is provided at an inner side surface of the hard cap.
9. The headgear of claim 2, wherein the size adjustment portion comprises an adjustment string that is installed along a circumferential surface of a lower end portion of the main body, and an adjustment dial that is connected with both end

portions of the adjustment string to adjust a size of a circumferential surface of a lower end portion of the main body by adjusting a length of the adjustment string by winding or unwinding.

10. The headgear of claim 1, wherein a visor portion for blocking sunlight is provided in the main body.

11. The headgear of claim 1, wherein a chin strap is connected with the main body.

12. The headgear of claim 11, wherein the chin strap is separably connected with the main body.

13. The headgear of claim 2, wherein the impact absorption means is separably inserted into the main body with a forced fitting method.

14. The headgear of claim 2, wherein a band portion that absorbs sweat is provided at a lower end portion of an inner side surface of the main body, and the impact absorption means is separably supported to the band portion.

15. The headgear of claim 2, wherein the impact absorption means is formed in a hard cap form with the same shape as or a shape similar to that of the main body.

16. The headgear of claim 15, wherein the hard cap is made of any one of plastic, fiber reinforced plastic (FRP), carbon, and nonferrous metal.

17. The headgear of claim 15, wherein the hard cap has a vent to communicate air therein.

18. The headgear of claim 15, wherein a buffer member is provided at an inner side surface of the hard cap.

19. The headgear of claim 2, wherein a visor portion for blocking sunlight is provided in the main body.

20. The headgear of claim 2, wherein a chin strap is connected with the main body.

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