HAIR BAND-UV PROTECTION SUN VISOR AND METHOD OF MANUFACTURING THE SAME

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ABSTRACT

A hair band-UV protection sun visor includes an outer band and an inner band, a visor unit coupled to the band unit to be rotatable on the band unit, and a cap side coupling device that couples the band unit and the visor unit. The cap side coupling device includes a circular coupler and a latch coupler, the circular coupler is fixedly coupled to the visor unit and the latch coupler is fixedly coupled to the band unit, and the circular coupler visor unit is rotated or fixed on the latch coupler band unit.
FIG. 7A

FIG. 7B
HAIR BAND-UV PROTECTION SUN VISOR AND METHOD OF MANUFACTURING THE SAME

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] The present invention relates to a hair band-UV protection sun visor, and more particularly to a cap side coupling device that couples a sun visor to a band unit and allows an angle therebetween to be adjusted.

[0003] 2. Description of the Prior Art

[0004] No UV protection sun visor (visor unit) attached to a hair band has been found in the prior art. To all outward appearances, a fixed type sun cap in which a band unit and a visor unit are fixed to each other so as to maintain a sun cap in which the angle of a visor unit coupled to a band unit is adjustable, are similar to such a UV protection sun visor. An example of a fixed type sun cap is disclosed in Korean Patent No. 10-1181720 registered in the name of the present applicant entitled “Sun Cap with Gradation Visor”. The patent discloses a sun cap that includes: a visor which is coated with a color that such that the color is gradated to fade as approaching outside from a wearer’s forehead; a head support integrally formed with the visor to be fixed to the forehead; a pair of fixing legs hinged to the opposite ends of the head support to be folded; and a hinge means configured to couple the head support and the fixing legs. Since the material of the visor is identical to that of glass, the strength of the visor may be improved. In addition, since the visor is coated with a color such that the color is gradated to fade as approaching outside from the wearer’s forehead, the visor may efficiently shield ultraviolet rays while securing a clear view. However, in the granted invention, since the band unit and the visor are attached to each other, it is impossible to adjust the angle of the visor even when the sunlight is strong. As a result, there is a problem in that the wearer’s eyes may not be protected.

[0005] In addition, an example of the angle-adjustable type sun cap is disclosed in Korean Utility Model Registration No. 20-0426424 entitled, “Sun Cap”. The Utility Model discloses a sun cap in which, when a visor of the sun cap covers a user’s eyes, a transparent visor portion of a polycarbonate film is disposed at a portion corresponding to the user’s field of vision and at least one opaque visor portion which is thinner than the transparent visor portion is disposed at the remaining portion. The transparent visor portion and the opaque visor portion are connected with each other through backstitching so as to form the visor. The invention is configured such that the angle of the transparent visor portion may be adjusted about a hinge axis. However, since the transparent visor portion cannot be fixed, there is a problem in that the transparent visor portion may slip down as time goes on.

SUMMARY OF THE INVENTION

[0006] Accordingly, the present invention has been made to solve the above-mentioned problems occurring in the prior art, and an aspect of the present invention is to provide a UV protection sun visor attached to a hair band and including a cap side coupling device configured to adjust and fix an angle between a band unit and a visor unit in such a manner that the angle of the visor unit coupled to a band unit may be adjusted and the visor unit may be correctly fixed at the adjusted angle.

The coupling device includes an outer coupler and an inner coupler. The cap side coupling device includes circular coupler and a latch coupler.

[0007] In order to accomplish this object, there is provided a hair band-UV (Ultra-Violet) protection sun visor including: a band unit including an outer band and an inner band; a visor unit coupled to the band unit to be rotatable on the band unit; and a cap side coupling device that couples the band unit and the visor unit. The cap side coupling device includes a circular coupler and a latch coupler, the circular coupler is fixedly coupled to the visor unit and the latch coupler is fixedly coupled to the band unit, and the circular coupler visor unit is rotated or fixed on the latch coupler band unit.

[0008] The outer band is a hair band formed by a tubular flexible and elastic band that is woven in a hollow cylindrical shape. The inner band is a plastic stiffener. When the circular coupler is rotated or fixed on the latch coupler, the visor unit is rotated or fixed on the band unit. The visor unit includes a fixing groove and the circular coupler includes a fixing projection. In addition, the fixing groove of the visor unit is fixed by being engaged with the fixing projection of the circular coupler and when the visor unit is rotated, the visor unit and the circular coupler are moved in unison. Further, the latch coupler includes a plurality of fixing lugs and the circular coupler includes a toothed fixing portion. Moreover, the toothed fixing portion of the circular coupler are fixed engaged with the fixing lugs of the latch coupler so that, when the circular coupler is rotated, the toothed fixing portion is rotated on the fixing lugs and when the circular coupler is stopped, the fixing lugs are engaged with teeth of the toothed fixing portion. The latch coupler is assembled with the circular coupler and a fixing plate is assembled thereon so that the fixing plate is fixed by one or more second latches of the latch coupler.

[0009] In addition, the latch coupler is assembled with the circular coupler, the fixing plate is assembled thereon, and a coupling device cover is assembled on the latch coupler. Rectangular holes are formed at each of the centers of opposite end portions of the plastic stiffener and fixing steps are formed at top and bottom sides of each of the rectangular holes. When first latches of the latch coupler 3 are inserted into any of the rectangular holes of the plastic strip piece, the latches are engaged with the fixing steps of the rectangular hole to be fixed so that the inner band plastic stiffener is integrated with the latch coupler. The outer band is a hair band of which the inner surface is not formed with an opening to expose a clamp or a plastic. The visor unit is made of polycarbonate. The visor unit has a “O” shape so as to maintain the tension of the visor unit and the curve of the visor unit to be fitted on a forehead. The cap side coupling device is made of POM or acetate.

[0010] In accordance with another aspect of the present invention, there is provided a method of manufacturing a hair band-UV protection sun visor including: a band unit including an outer band and an inner band; a visor unit coupled to the band unit to be rotatable on the band unit; and a cap side coupling device that couples the band unit and the visor unit. The cap side coupling device includes a circular coupler and a latch coupler, the circular coupler is fixedly coupled to the visor unit, the latch coupler is fixedly coupled to the band unit, the visor unit is rotated or fixed on the band unit when the circular coupler is rotated or fixed on the latch coupler, the outer band is a tubular band, and the inner band is a plastic stiffener. The method of manufacturing a hair band-UV pro-
tection sun visor includes: manufacturing the band unit; manufacturing the visor unit; manufacturing the cap side coupling device; and assembling the band unit, the visor unit and the cap side coupling device. The manufacturing of the band unit includes: cutting a woven cylindrical hollow member into a predetermined length to obtain a tubular band; inserting an iron strip into the tubular band and shooting a laser beam into one surface of the band to perforate the surface; and inserting the plastic stiffener into the tubular band so that the plastic stiffener is disposed at a predetermined position within the tubular band.

[0011] The plastic stiffener is made of PC/ABS PLUS GLASS 5 (registered trademark) to have a curvature that corresponds to an average curvature of adults’ foreheads so that the band comes into close contact with a forehead and is formed with one or two holes at each of the opposite end portions so that the plastic stiffener may be used for various sizes of the visor unit.

[0012] The manufacturing of the visor unit includes: pressing a flat polycarbonate plate in the shape of the visor unit using a press; fixing the flat polycarbonate plate to a mold having a curvature which is same as that of the plastic stiffener and putting the mold with the polycarbonate plate into a heating chamber to be heated for a predetermined length of time; and forming, before mirror coating, a hard coating to improve the strength of the surface of the visor and to facilitate the mirror coating.

[0013] In the manufacturing of the cap side coupling device, the fixing plate, the circular coupler and the latch coupler of the cap side coupling device are made of POM or acetate and the cap side coupling device cover is made of an aluminum sheet.

[0014] The assembling of the band unit, the visor unit and the cap side coupling device includes: matching the holes of the opposite end portions of the visor unit with the holes of the band unit and inserting the first latches of the assembled cap side coupling device into the band unit hole of the band unit to assemble the coupling device with the band unit; and connecting the opposite ends of the band unit by sewing and mounting a clip thereon to finish the opposite ends.

[0015] As described above, the hair band-UV protection sun visor according to the present invention includes a band unit including an outer band and an inner band; a visor unit coupled to the band unit to be rotatable on the band unit; and a cap side coupling device that couples the band unit and the visor unit. The cap side coupling device includes a circular coupler and a latch coupler, the circular coupler is fixedly coupled to the visor unit and the latch coupler is fixedly coupled to the band unit, and the circular coupler (visor unit) is rotated or fixed on the latch coupler (band unit).

[0016] With the cap side coupling device according to the present invention, the angle of the visor unit coupled to the band unit may be adjusted and the visor unit may be correctly rotated or fixed at the adjusted angle.

**BRIEF DESCRIPTION OF THE DRAWINGS**

[0017] The above and other objects, features and advantages of the present invention will be more apparent from the following detailed description taken in conjunction with the accompanying drawings, in which:

[0018] FIG. 1 is a perspective view illustrating a hair band UV protection sun visor according to an exemplary embodiment of the present invention;
inner surface which comes into contact with a forehead and is not provided with an opening that exposes a clamp, a plastic member or the like. The outer band 16 looks similar to the band unit 20 on the exterior. The visor unit 40 may be formed to be transparent or have a color selected from various colors. The size in width or area of the visor unit 40 may be variously changed.

Fig. 2 is a plan view illustrating the hair band-UV protection sun visor illustrated in Fig. 1. Referring to Fig. 2, the hair band-UV protection sun visor is provided with a cap side coupling device 60 at each side thereof to couple and adjust the band unit 20 and the visor unit 40. The rear portion of the hair band-UV protection sun visor is completely closed through sewing to have a continuous oval shape.

Fig. 3 is an exploded perspective view illustrating the hair band-UV protection sun visor illustrated in Fig. 1. Referring to Fig. 3, the hair band-UV protection sun visor may be divided into the band unit 20, the visor unit 40, and the cap side coupling device 60. The band unit 20 is a hair band and is formed with band unit holes 22 and 22' on the outer surface of each side thereof so as to fix the cap side coupling device 60, and the visor unit 40 is assembled to the cap side coupling device 60 in such a manner that the visor unit 40 may be engaged with the band unit holes 22 and 22' to be rotated or fixed.

Fig. 4A is a perspective view of an inner band (plastic stiffener) 12 according to an exemplary embodiment of the present invention and Fig. 4B is a view illustrating the inner band 12 inserted into the outer band 16. First latches 34 and 34' of the latch coupler are inserted into the rectangular holes 13 and 13' of the inner band 12. Depending on the kind of the visor (a long visor or a short visor), one of the two rectangular holes 13 and 13 may be selectively used. The plastic stiffener forms the inner band 12. The plastic stiffener 12 is made of PC/ABS and GLASS 5 to have a curvature that corresponds to an average curvature of adults’ foreheads so that the band comes into close contact with a forehead and is formed with one or two holes at each of the opposite end portions so that the plastic stiffener 12 may be used for various sizes of the visor unit 40.

Fig. 5A is a plan view illustrating a visor unit according to an exemplary embodiment of the present invention and Fig. 5B is a perspective view of the visor unit. The visor unit 40 is formed with a fixing groove 44 together with a fixing hole 42. The fixing groove 44 of the visor unit 40 is fixedly engaged with a fixing protrusion 38 of the circular coupler 36 so as to enable the visor unit 40 and the circular coupler 36 to be moved in unison when the visor unit 40 is rotated. The protruding height of the fixing protrusion 38 is the same as the thickness of the visor unit 40. Accordingly, when the visor unit 40 is assembled, the visor does not protrude in the thickness direction thereof.

The visor unit 40 is fixed to the inside of the cap side coupling device 30 by a fixing plate 39 of the cap side coupling device 60 after the fixing groove 44 of the visor unit 40 is fixedly engaged with the fixing protrusion 38 of the circular coupling 36. The visor unit 40 is made of polycarbonate and maintained in a \( \cap \) shaped curve so as to maintain the tension thereof to enable the visor unit 40 to be fitted on a forehead.

Fig. 6A is a perspective view illustrating the cap side coupling device 60 and Fig. 6B is an exploded perspective view of the cap side coupling device 60. In addition, Fig. 7A is a plan view illustrating a latch coupler 32 and Fig. 7B is a front view of the latch coupler 32. Fig. 8A is a front view illustrating a circular coupler 36, and Fig. 8B is a rear view of the circular coupler 36. The latch coupler 32 is illustrated in Figs. 7A and 7B and the circular coupler 36 is illustrated in Figs. 8A and 8B are components of the cap side coupling device 60 illustrated in Figs. 6A and 6B. The cap side coupling device is made of POM or acetal.

The latch coupler 32 is assembled with the circular coupler 36 in which the fixing groove 44 of the visor unit 40 is fixed on the fixing protrusion 38 of the circular coupler 36 and then the circular coupler 36 to which the visor unit 40 is attached by the fixing plate 39 and the latch coupler 32 are fixedly engaged with each other. The fixing plate 39 is fixed by second latches 35 and 35' of the latch coupler 32.

Fig. 9A is a perspective view illustrating the inner band (plastic stiffener) 12 after the cap side coupling device 60 is assembled thereto and Fig. 9B is an enlarged Perspective view the inner band 12 illustrating rectangular holes 13 and 13' in an enlarged.

Referring to Figs. 9A and 9B, the rectangular holes 13 and 13' are formed at each of the centers of opposite end portions of the plastic stiffener 12 and fixing steps 14 and 14' are formed at top and bottom sides of each of the rectangular holes 13 and 13'. When the first latches 34 and 34' of the latch coupler 32 are inserted into any of the rectangular holes 13 and 13' of the plastic stiffener 12, the first latches 34 and 34' are fixed to the fixing steps 14 and 14' of the rectangular hole 13 or 13' so that the inner band (plastic stiffener) 12 is integrated with the latch coupler 32. Since the inner band 12 is housed within the band unit 20, the latch coupler 32 is integrated with the band unit 20.

Thus, the circular coupler 36 is integrated with the visor unit 40 and the latch coupler 32 is integrated with the band unit 20. The circular coupler 36 is rotated or fixed on the latch coupler 32. The toothed fixing portion 37 of the circular coupler 36 is rotated or fixed on the fixing lug 33, 33', 33'' and 33''' of the latch coupler 32. When the circular coupler 36 is rotated on the latch coupler 32, the teeth of the toothed fixing portion 37 are rotated while slipping on the fixing lugs 33, 33', 33'' and 33''' of the latch coupler 32 and when the circular coupler 36 is stopped on the latch coupler 32, the fixing lugs 33, 33', 33'' and 33''' of the latch coupler 32 are fixedly engaged with the teeth of the toothed fixing portion 37. Since the visor unit 40 is integrated with the circular coupler 36 and the band unit 20 is integrated with the latch coupler 32, the circular coupler 36 of the visor unit 40 is rotated or fixed on the latch coupler 32 of the band unit 20. That is, the visor unit 40 may be rotated or stopped by the function of the cap side coupling device 60 of the band unit 20. When the circular coupler 36 is rotated or fixed on the latch coupler 32, the visor unit 40 is rotated or fixed on the band unit 20.

A coupling device cover 50 is assembled over the latch coupler 32. Considering a beautiful appearance, the coupling device cover 50 may be made of aluminum.

According to another aspect, the present invention provides a method of manufacturing a hair band-UV protection sun visor. The hair band includes: a band unit including an outer band 16 and an inner band 12; a visor unit 40 coupled to the band unit 20 to be rotatable on the band unit 20; and a cap side coupling device 60 that couples the band unit 20 and the visor unit 40. The cap side coupling device 60 includes a circular coupler 36 and a latch coupler 32, the circular coupler 36 is fixedly coupled to the visor unit 40, and the latch coupler 32 is fixedly coupled to the band unit 20. The visor unit 40 is rotated or fixed on the band unit 20 when the circular coupler
is rotated or fixed on the latch coupler 20, the outer band is a tubular band, and the inner band 12 is a plastic stiffener. The method of manufacturing the hair band-UV protection sun visor includes: manufacturing the band unit 20; manufacturing the visor unit 40; manufacturing the cap side coupling device 60; and assembling the band unit 20, the visor unit 40 and the cap side coupling device 60. The manufacturing of the band unit 20 includes: cutting a weaved cylindrical hollow member into a predetermined length to obtain a tubular band; inserting the iron strip 15 into the tubular band and shooting a laser beam into one surface of the outer band to perforate the surface; and inserting the inner band (plastic stiffener) 12 into the tubular band so that the inner band (plastic stiffener) 12 is disposed at a predetermined position within the tubular band.

[0044] FIGS. 11A and 11B illustrate a process of fabricating an outer band according to an exemplary embodiment of the present invention. FIG. 11A illustrates a step of cutting a tubular band weaved in a hollow cylindrical shape to a predetermined length in the outer band fabricating process. FIG. 11B illustrates a step of inserting an iron strip 15 into the tubular band and shooting a laser beam into one surface of the outer band to perforate the surface. That is, only the outer surface of the outer band is perforated and the inner surface of the outer band is not perforated. The inner surface directly comes in contact with a forehead and is not perforated so as to provide a smooth feeling. For this purpose, the iron strip 15 is used so as to perforate only the inner surface of the outer band.

[0045] Next, as illustrated in FIG. 4B, the plastic stiffener (inner band) 12 is inserted into the tubular band (outer band) 16 to be disposed at a predetermined position within the tubular band (outer band) 16. In such a case, the band unit holes 15a of the outer band 16 should be matched with the rectangular holes 13 and 13' of the inner band 12.

[0046] The plastic stiffener 12 is made of PC/ABS PLUS GLASS (registered trademark) to have a curvature that corresponds to an average curvature of adults' foreheads so that the band comes into close contact with a forehead and is formed with one or two holes at each of the opposite end portions so that the plastic stiffener 12 may be used for various sizes of the visor unit 40.

[0047] The manufacturing step of the visor unit 40 may include: pressing a flat polycarbonate plate in the shape of the visor unit using a press; fixing the flat polycarbonate plate to a mold having a curvature which is the same as that of the plastic stiffener 12 and putting the mold with the polycarbonate plate into a heating chamber to be heated for a predetermined length of time; and forming, before mirror coating, a hard coating to improve the strength of the surface of the visor 40 and to facilitate the mirror coating.

[0048] In the manufacturing step of the cap side coupling device 60, the fixing plate 39, the circular coupler 36 and the latch coupler of the cap side coupling device 60 may be made of POM or acetal and the cap side coupling device cover may be made of an aluminum sheet.

[0049] FIG. 10A is a perspective view illustrating the clip 80 and FIG. 10B illustrates the clip 80 assembled to the band unit 20.

[0050] The assembling step of the band unit 20, the visor unit 40 and the cap side coupling device 60 may include: assembling the each end of the visor unit to the cap side coupling device and then pushing the first latches 34, 34' of the assembled coupling device 60 into the band unit hole 22 or 22' of the band unit 20 to assemble the coupling device 60 with the band unit 40; and connecting the opposite ends of the band unit 20 by sewing and mounting a clip thereon to finish the opposite ends.

[0051] As described above, the hair band-UV protection sun visor according to the present invention includes a band unit including an outer band and an inner band; a visor unit coupled to the band unit to be rotatable on the band unit; and a cap side coupling device that couples the band unit and the visor unit such that the band unit is movable on the band unit and the visor unit may be adjusted and the visor unit may be fixed at the adjusted angle. With the cap side coupling device according to the present invention, the angle of the visor unit coupled to the band unit may be adjusted and the visor unit may be correctly rotated or fixed at the adjusted angle.

[0052] Although the present invention has been described with reference to several exemplary embodiments and the accompanying drawings, the terms or words used in the detailed description and claims shall be interpreted to correspond to the technical idea of the present invention in meaning and concept rather than being limitatively interpreted as typical or dictionary meaning. Accordingly, it shall be noted that since the exemplary embodiments described in the detailed description and the configurations illustrated in the drawings merely exemplify the present invention, various equivalents and modified examples may be made without departing from the scope of the present invention which is defined by the accompanying claims and all the equivalents and the modified examples belong to the scope of the present invention.

What is claimed is:

1. A hair band-UV (Ultra-Violet) protection sun visor comprising:

a band unit including an outer band and an inner band;

a visor unit coupled to the band unit to be rotatable on the band unit; and

a cap side coupling device that couples the band unit and the visor unit,

wherein the cap side coupling device includes a circular coupler and a latch coupler, the circular coupler is fixedly coupled to the visor unit and the latch coupler is fixedly coupled to the band unit, and the circular coupler visor unit is rotated or fixed on the latch coupler band unit.

2. The hair band-UV protection sun visor of claim 1, wherein the outer band is a hair band formed by a tubular flexible and elastic band that is woven in a hollow cylindrical shape.

3. The hair band-UV protection sun visor of claim 1, wherein the inner band is a plastic stiffener.

4. The hair band-UV protection sun visor of claim 1, wherein, when the circular coupler is rotated or fixed on the latch coupler, the visor unit is rotated or fixed on the band unit.

5. The hair band-UV protection sun visor of claim 1, wherein the visor unit includes a fixing groove and the circular coupler includes a fixing protrusion.

6. The hair band-UV protection sun visor of claim 5, wherein the fixing groove of the visor unit is fixed by being engaged with the fixing protrusion of the circular coupler and when the visor unit is rotated, the visor unit and the circular coupler are moved in unison.

7. The hair band-UV protection sun visor of claim 1, wherein the latch coupler includes a plurality of fixing lugs and the circular coupler includes a toothed fixing portion.
8. The hair band-UV protection sun visor of claim 7, wherein the toothed fixing portion of the circular coupler are engaged with the fixing lugs of the latch coupler so that, when the circular coupler is rotated, the toothed fixing portion is rotated on the fixing lugs and when the circular coupler is stopped, the fixing lugs are engaged with teeth of the toothed fixing portion.

9. The hair band-UV protection sun visor of claim 8, wherein the latch coupler is assembled with the circular coupler and a fixing plate is assembled thereon so that the fixing plate is fixed by one or more second latches of the latch coupler.

10. The hair band-UV protection sun visor of claim 9, wherein the latch coupler is assembled with the circular coupler, the fixing plate is assembled thereon, and a coupling device cover is assembled on the latch coupler.

11. The hair band-UV protection sun visor of claim 3, wherein rectangular holes are formed at each of the centers of opposite end portions of the plastic stiffener and fixing steps are formed at top and bottom sides of each of the rectangular holes.

12. The hair band-UV protection sun visor of claim 11, wherein, when first latches of the latch coupler are inserted into any of the rectangular holes of the plastic strip piece, the latches are engaged with the fixing steps of the rectangular hole to be fixed so that the inner band plastic stiffener is integrated with the latch coupler.

13. The hair band-UV protection sun visor of claim 2, wherein the outer band 6 is a hair band of which the inner surface is not formed with an opening to expose a clamp or a plastic.

14. The hair band-UV protection sun visor of claim 1, wherein the visor unit is made of polycarbonate.

15. The hair band-UV protection sun visor of claim 1, wherein the visor unit has a \( \wedge \) shape so as to maintain the tension of the visor unit and the curve of the visor unit to be fitted on a forehead.

16. The hair band-UV protection sun visor of claim 1, wherein the cap side coupling device is made of POM or acetal.

17. A method of manufacturing a hair band-UV protection sun visor comprising: a band unit including an outer band and an inner band; a visor unit coupled to the band unit to be rotatable on the band unit; and a cap side coupling device that couples the band unit and the visor unit, wherein the cap side coupling device includes a circular coupler and a latch coupler, the circular coupler is fixedly coupled to the visor unit, the latch coupler is fixedly coupled to the band unit, the visor unit is rotated or fixed on the band unit when the circular coupler is rotated or fixed on the latch coupler, the outer band is a tubular band, and the inner band is a plastic stiffener, the method comprising:

- manufacturing the band unit;
- manufacturing the visor unit;
- manufacturing the cap side coupling device; and
- assembling the band unit, the visor unit and the cap side coupling device, wherein the manufacturing of the band unit comprises:
  - cutting a weaved cylindrical hollow member into a predetermined length to obtain a tubular band;
  - inserting an iron strip 5 into the tubular band and shooting a laser beam into one surface of the band to perforate the surface; and
  - inserting the plastic stiffener into the tubular band so that the plastic stiffener is disposed predetermined position within the tubular band.

18. The method of claim 17, wherein the plastic stiffener is made of PC/ABS PLUS GLASS 5 (registered trademark) to have a curvature that corresponds to an average curvature of adults' foreheads so that the band comes into close contact with a forehead and is formed with one or two holes at each of the opposite end portions so that the plastic stiffener may be used for various sizes of the visor unit.

19. The method of claim 17, wherein the manufacturing of the visor unit comprises:

- pressing a flat polycarbonate plate in the shape of the visor unit using a press;
- fixing the flat polycarbonate plate to a mold having a curvature which is the same as that of the plastic stiffener and putting the mold with the polycarbonate plate into a heating chamber to be heated for a predetermined length of time; and
- forming, before mirror coating, a hard coating to improve the strength of the surface of the visor and to facilitate the mirror coating.

20. The method of claim 17, wherein in the manufacturing of the cap side coupling device, the fixing plate, the circular coupler and the latch coupler of the cap side coupling device are made of POM or acetal and the cap side coupling device cover is made of an aluminum sheet.

21. The method of claim 17, wherein the assembling of the band unit, the visor unit and the cap side coupling device comprises:

- matching the holes of the opposite end portions of the visor unit with the holes of the band unit and inserting the first latches of the assembled coupling device into the band unit hole or of the band unit to assemble the coupling device with the band unit; and
- connecting the opposite ends of the band unit by sewing and mounting a clip thereon to finish the opposite ends.

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