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A Set of Eyeglasses with Attachment System

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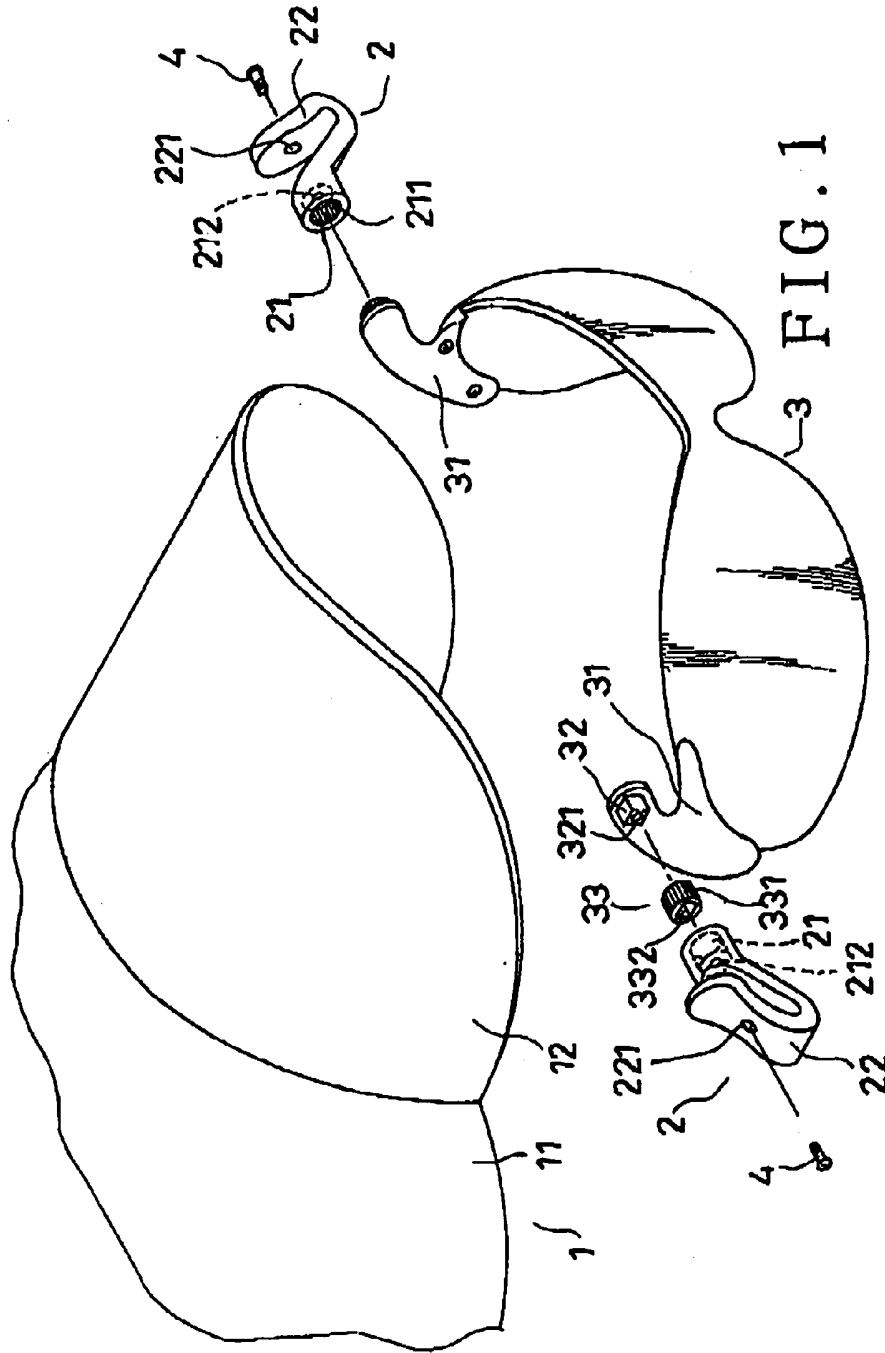
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Abstract

A set of eyeglasses with attachment system for removable attachment to an article of headwear such as a sun hat, the headwear including a main body, and a visor, the set of eyeglasses including at least one eyeglass member and at least one attachment means to removably attach the set of eyeglasses to the headwear wherein the at least one eyeglass member is moveable relative to the at least one attachment means between a use position in front of a wearer's eyes and a stored position adjacent the visor of the headwear.



A SET OF EYEGLASSES WITH ATTACHMENT SYSTEM

Field of the Invention

5 The present invention relates to eyeglasses which can be attached to a sunhat or to a sunhat with eyeglasses, more particularly one, whose eyeglasses can be, when not in use, pivoted so as to be close to a lower side of the visor thereof and can be adjusted in position to suit different users.

Brief Description of the Prior art

10 People usually wear hats to block direct sunlight and prevent heatstroke when taking a walk or doing outdoor exercises. Furthermore, people usually wear sunglasses to protect the eyes from the sun's damaging rays.

15 When people get indoors and take off the sunglasses, they can put the sunglasses in their clothing pockets, on top of their hats or in their handbags. No matter which one of the above ways is used, there is risk of the sunglasses getting damaged. Further, the sunglasses are prone to fall off if they are positioned on top of hats.

20 Other inventors have attempted to produce devices in order to provide consumers with at least a partial solution to the abovementioned problems. For example, the inventor in International Patent Application No. WO 96/28986 provides a hat body adapted to be fitted over the scalp of a wearer and having a flexible head band to engage about the forehead of the wearer. The hat has a brim affixed adjacent the head band with a portion projecting forwardly in use in front of and above the wearer's eyes. The invention of this prior art article was said to lie in that there is secured to the head band beneath the front brim portion a flexible tinted sunglass sheet adapted to be arranged in
25 operative disposition substantially upright and arcuately around the front of the head band in front of the wearer's eyes when the hat body is fitted over the wearer's scalp, and the tinted sunglass sheet is so shaped and so secured at its upper edge to the flexible head band that upon removal of the hat body, the sunglass sheet and head band may be flexed to permit the sunglass sheet to be moved flexibly in the rearwards direction from
30 said operative disposition to a stored inoperative disposition within the hat body in which the sunglass sheet will extend upwards from the head band and be held adjacent the scalp when the hat body is re-fitted to the wearer.

According to this device, the sunglass sheet is fixed to the hat which results in the sunglass being moveable between only two positions, namely the position in front of a wearer's eyes and the inoperative storage position, both positions determined according to the location of the headband to which the sunglass sheet is attached.

5 Different users or wearers of this hat will have different profile faces and so the sunglass sheet will not be ideally located for different users. Some users will no doubt find that the sunglass sheet is too far in front of their face (cheeks) leaving a space between their cheeks and the lower edge of the sheet whilst others will no doubt find that the sheet is too close to their face and either touches their face or allows light to
10 enter at the upper side region.

Further, the sunglasses of the prior art are fixed to the hat so that if a user wears a different hat, there may be no sunglasses with the second hat.

The present invention is therefore directed toward providing a set of eyeglasses which are removably attachable to a hat and which may be adjustable in their
15 position both relative to the hat and relative to a user's face.

Summary Of The Invention

It is a main object of the invention to provide a set of eyeglasses which are removably attachable to a sun hat to overcome the abovementioned problems.

20 In one form, the invention resides in a set of eyeglasses with attachment system for removable attachment to an article of headwear such as a sun hat, the headwear including a main body and a visor, the set of eyeglasses including at least one eyeglass member and at least one attachment means to removably attach the set of eyeglasses to the headwear wherein the at least one eyeglass member is
25 moveable relative to the at least one attachment means between a use position in front of a wearer's eyes and a stored position adjacent the visor of the headwear.

There will typically be two main parameters for properly or ideally locating the eyeglasses relative to a user's face, namely the spacing between the eyeglasses and the face and the angle of the eyeglasses relative to a user's face.

30 The article of headwear may itself be a hat, cap or partial cap, with the head band being discontinued at the rear to be replaced by adjustable connecting straps for example. Also the brim may be of continuous annular form in the case of a hat or it

can be provided at the front only in the case of a cap. In the latter case, the hat body may be in the form of a cup-like baseball-type cap body having a front stiffened but flexible visor or brim.

5 The visor or brim will preferably be arcuate. The visor for a cap will typically have side edges and a front edge but there will generally not be a clear delineation between the two due to the curvature of the visor. The side edges will generally extend forwardly of the main body of the cap and typically from a base edge of the main body of the cap. The side edges are generally in the same plane as the base edge of the main body of the cap. As the side edge extends forwardly, the edge typically
10 curves upwardly and inwardly to form the front edge of the visor.

Preferably, the set of eyeglasses may be or include a unitary tinted sunglass sheet. This sunglass sheet is typically made from sheet material of uniform thickness, being of elongated form and symmetrical to each side of a middle nose-bridging portion. The eyeglass-shaped portions will preferably have curved lower edges at each side of the
15 nose-bridging portion. In one embodiment, the flexible tinted sunglass sheet has resilient cheek-contact members fitted to the lower edges of both eyeglass-shaped portions. The flexible tinted sunglass sheet may also have a resilient nose-contact member fitted to the lower edge of the nose-bridging portion, the resilient contact members preferably being made of foam rubber.

20 In the alternative, the set of eyeglasses may be formed with two separated eyeglass members supported by a frame and a central nose-bridging portion. The frame may surround each of the eyeglass members.

According to a particularly preferred embodiment of the invention, the flexible tinted sunglass sheet is preferably formed by cutting same from a sheet of
25 polycarbonate material, the sunglass sheet suitably having a thickness between 0.25mm and 0.5mm.

The attachment system of the present invention will include at least one attachment means and preferably a pair of attachment means located on either lateral side of the eyeglasses. Typically, the attachment means will attach relative to the side
30 edges of the visor of the headwear. In this manner, the attachment means (and the attached eyeglasses) may be moved along the side edges of the visor to correctly space the eyeglasses from a user's face.

Each attachment means will preferably include two main portions, namely a supporting portion to support the eyeglasses relative to the headwear and an extension portion for securing the eyeglasses relative to the supporting portion.

5 The supporting portion will normally have a fixing portion to removably fix the supporting portion to the headwear and a holding portion to engage with the extension portion. The fixing portion will normally fix the eyeglasses by attaching to the visor or brim of the headwear. The fixing portion will typically attach relative to the side edges of the visor or brim so that the entire set of eyeglasses can be moved along the side edges of the visor to correctly space the eyeglasses from a wearer's face.

10 Preferably, each fixing portion will include a U-shaped, folded portion with a pair of opposed parts spaced apart and between which the visor of the headwear is to be received and held. The opposed parts will typically be an inner part located closer to the eyeglasses and an outer part which will generally be located above the visor when attached to the visor.

15 The outer part will typically have a free end shaped to form a converging opening to receive the visor and to allow easier location of the side edge of the visor in the opening between the opposed parts. The outer part will preferably be longer than the inner part. The outer part will also typically have an opening therethrough.

20 Each of the supporting members also preferably has a holding portion to hold or engage with the eyeglass engagement portion and allow rotation of the eyeglasses relative thereto. Preferably, the holding portion is or includes a hollow, cylindrical portion with a bore therein. The bore will typically have an inner cylindrical sidewall and a basewall. The inner cylindrical sidewall of the bore is preferably provided with a plurality of tooth-shaped protrusions extending parallel to the longitudinal axis of the cylindrical bore. The basewall of the bore is typically provided with a centrally located opening therethrough.

The holding portion is preferably formed integrally with the fixing portion and preferably from a rigid or semi-rigid plastic material.

30 Each attachment means also preferably includes an extension portion for securing the eyeglasses relative to the supporting portion. An extension portion will generally be secured to either side of the eyeglass member or frame, usually through means of a threaded fastener, adhesive or similar.

Each extension portion will preferably have a protrusion to be received in the bore of the holding portion of the supporting portion. The protrusion will ideally be a block-shaped protrusion, attached to or extending from, the extension portion. Normally a polygonal protrusion will be used.

5 There will further normally be an opening in an outer face of the polygonal block-shaped protrusion. The opening is preferably a threaded opening, adapted to receive a connecting element or fastener such as a screw, to attach the extension portion (an the eyeglasses) to the supporting portion.

10 The connecting element will typically be elongate and will normally be inserted through the opening in the outer opposed part of the fixing portion, through the opening in the base wall of the bore and into the opening in the outer face of the block-shaped protrusion.

15 There is also preferably a sleeve located about the block-shaped protrusion. The sleeve also preferably has a holding hole or bore which closely receives the block-shaped protrusion and a cylindrical outer surface. The bore will typically be polygonal and the same cross-sectional shape as the block-shaped protrusion. The outer surface of the sleeve is normally provided with tooth-shaped protrusions to engage the tooth-shaped protrusions in the bore of the holding portion.

20 In assembly, the polygonal block-shaped protrusions of the eyeglasses are fitted in respective ones of the polygonal bores of the sleeve parts and the supporting members are fitted around respective ones of the sleeve parts at the hollow holding portions thereof. Connecting elements can then be passed through the through holes of the hollow holding portions of the supporting members via the through openings of the folded fixing portions, and they are passed into the connecting holes and securely joined

25 to the block-shaped protrusions of the eyeglasses. Next, the supporting members are secured to the visor of the sun hat with the visor being tightly pressed between the folded fixing portions thereof.

30 The outer tooth-shaped protrusions of the sleeve parts will preferably slightly engage the inner tooth-shaped protrusions of the supporting members. Thus, the eyeglasses are normally held in position by means of the supporting members, and they can be pivoted on the supporting members to change orientation in relation to the headwear by means of exerting force on them.

In a much more particular form, the invention resides in a sun hat with eyeglasses, comprising

(a) a sun hat including a main body, and a visor;

(b) two supporting members joined to the visor; each of the supporting
5 members having:

a hollow holding portion; the hollow holding portion being formed with a plurality of tooth-shaped protrusions on an inner side thereof; and

a folded fixing portion extending from an outward end of the hollow holding portion; the folded fixing portion being connected to the visor with two opposed parts
10 thereof being tightly pressed on two sides of the visor, thus securing the supporting member to the visor; and

(c) a pair of eyeglasses; the eyeglasses having:

an extension portion at each of two ends thereof; and

a sleeve part on each of the extension portion thereof; the sleeve parts each having
15 a plurality of tooth-shaped protrusions on an outer side thereof; the eyeglasses being supported on the supporting members with the sleeve parts being held in respective ones of the hollow holding portions and with the tooth-shaped protrusions of the sleeve parts engaging the tooth-shaped protrusions of the hollow holding portions.

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Brief Description Of The Drawings

The present invention will be better understood by referring to the accompanying drawings, wherein:

Fig. 1 is an exploded perspective view of the sun hat with eyeglasses in the present invention,

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Fig. 2 is a partial lateral sectional view of the present invention,

Fig. 3 is a front view of the present invention,

Fig. 4 is a side view of the present invention with the eyeglasses in the in-use position, and

Fig. 5 is a side view of the present invention with the eyeglasses in the
30 not-in-use position.

Detailed Description Of The Preferred Embodiments

Referring to Figs. 1 to 5, a preferred embodiment of a sun hat with eyeglasses in the present invention includes a sun hat 1, two supporting members 2, and a pair of eyeglasses 3.

5 The sun hat 1 includes a main body 11, and a visor 12 having a certain curvature.

Each of the supporting members 2 has a hollow holding portion 21 and a folded fixing portion 22 extending from an outward end of the hollow holding portion 21; the hollow holding portion 21 is formed with several tooth-shaped protrusions 211 on an inner side, and a through hole 212 on the outward end thereof; the folded fixing portion 22 has a through hole 221 aligned with the through hole 211 of the hollow holding portion 21, and it includes two opposed parts, which are so close to each other that when the visor 12 of the sun hat 1 is inserted between them, the visor 12 will be tightly pressed between them, and the supporting member 2 will be secured to the visor 12.

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The eyeglasses 3 have an extension portion 31 at each of two ends thereof, a block-shaped protrusion 32 on each of the extension portions 31, and a sleeve part 33 positioned around each of the block-shaped protrusions 32; the block-shaped protrusions 32 are polygonal, and each have a connecting hole 321; the sleeve parts 33 each have a polygonal holding hole 332, and several tooth-shaped protrusions 331 on an outer side thereof.

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In assembly, the polygonal block-shaped protrusions 32 of the eyeglasses 3 are fitted in respective ones of the polygonal holding holes 332 of the sleeve parts 33, and the supporting members 2 are fitted around respective ones of the sleeve parts 33 at the hollow holding portions 21 thereof. Connecting elements 4 are passed through the through holes 212 of the hollow holding portions 21 of the supporting members 2 via the through holes 221 of the folded fixing portions 22, and they are passed into the connecting holes 321, and securely joined to the block-shaped protrusions 32 of the eyeglasses 3. Next, the supporting members 2 are secured to the visor 12 of the sun hat 1 with the visor 12 being tightly pressed between the folded fixing portions 22 thereof.

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The outer tooth-shaped protrusions 331 of the sleeve parts 3 will slightly engage the inner tooth-shaped protrusions 211 of the supporting members 2; thus, the

eyeglasses 3 are normally held in position by means of the supporting members 2, and they can be pivoted on the supporting members 2 to change orientation in relation to the sun hat 1 by means of exerting force on them, as shown in Figs. 4 and 5.

5 Therefore, the eyeglasses 4 can be pivoted to the in-use position for protecting the eyes of the wearer of the sun hat 1 from sunlight damage, as shown in Fig. 4. Referring to Fig. 5, the eyeglasses 4 can be pivoted upwards so as to be close to the visor 12 when the wearer of the sun hat 1 does not want to use the eyeglasses 4. The eyeglasses 3 can be adjusted in orientation according to the wearer's need.

10 From the above description, it can be easily seen that having the present sun hat with eyeglasses, the user will not have to carry an additional pair of sunglasses, and the eyeglasses can block wind besides protecting the user's eyes from sunlight damage. The eyeglasses are pleasant-looking and adjustable to a comfortable position. Furthermore, there will be less risk of the eyeglasses getting lost.

WHAT IS CLAIMED IS:

- 5 1. A set of eyeglasses with attachment system for removable attachment to an article of headwear such as a sun hat, the headwear including a main body, and a visor, the set of eyeglasses including at least one eyeglass member and at least one attachment means to removably attach the set of eyeglasses to the headwear wherein the at least one eyeglass member is moveable relative to the at least one attachment means between a use position in front of a wearer's eyes and a stored position adjacent the visor of the headwear.
- 10 2. A set of eyeglasses with attachment system according to claim 1 wherein the article of headwear has a stiffened but flexible visor provided on one side only.
- 15 3. A set of eyeglasses with attachment system according to claim 1 or 2 wherein the visor has side edges and a front edge, the side edges extending forwardly of a main body and from a base edge of the main body and as the side edge extends forwardly, the edge curves upwardly and inwardly to form the front edge of the visor, the at least one attachment means located relative to the side edges.
- 20 4. A set of eyeglasses with attachment system according to any one of the preceding claims wherein the set of eyeglasses is or includes a unitary tinted sunglass sheet.
- 25 5. A set of eyeglasses with attachment system according to claim 4 wherein the sunglass sheet is made from sheet material of uniform thickness, being of elongated form and symmetrical to each side of a middle nose-bridging portion.
- 30 6. A set of eyeglasses with attachment system according to claim 5 wherein the flexible tinted sunglass sheet is formed by cutting same from a sheet of polycarbonate material, the sunglass sheet having a thickness between 0.25mm and 0.5mm.
7. A set of eyeglasses with attachment system according to any one of the preceding claims wherein each attachment means includes a supporting portion to support the eyeglasses relative to the headwear and an extension portion for securing the eyeglasses relative to the supporting portion.

8. A set of eyeglasses with attachment system according to claim 7 wherein a pair of attachment means are provided located on either lateral side of the eyeglasses.
- 5 9. A set of eyeglasses with attachment system according to claim 7 wherein each supporting portion includes a U-shaped, folded portion with a pair of opposed parts spaced apart and between which the visor of the headwear is to be received and held.
- 10 10. A set of eyeglasses with attachment system according to claim 7 wherein each supporting portion has a hollow, cylindrical holding portion to hold or engage with the eyeglass engagement portion and allow rotation of the eyeglasses relative thereto with a bore therein, the bore provided with a plurality of tooth-shaped protrusions extending substantially parallel to a longitudinal axis of the cylindrical bore.
- 15 11. A set of eyeglasses with attachment system according to claim 7 wherein each extension portion has a block-shaped protrusion extending from the extension portion to engage with the supporting portion.
- 20 12. A set of eyeglasses with attachment system according to claim 11 further including an opening in an outer face of the block-shaped protrusion adapted to receive a connecting element to attach the extension portion to the supporting portion.
- 25 13. A set of eyeglasses with attachment system according to claim 11 further including a sleeve located about the block-shaped protrusion provided with tooth-shaped protrusions to engage the tooth-shaped protrusions in the bore of the holding portion.
- 30 14. A sun hat with eyeglasses, comprising
- (a) a sun hat including a main body, and a visor;
 - (b) two supporting members joined to the visor; each of the supporting members having:
 - a hollow holding portion; the hollow holding portion being formed with a plurality of tooth-shaped protrusions on an inner side thereof; and
 - a folded fixing portion extending from an outward end of the hollow holding portion; the folded fixing portion being connected to the visor with two

opposed parts thereof being tightly pressed on two sides of the visor, thus securing the supporting member to the visor; and

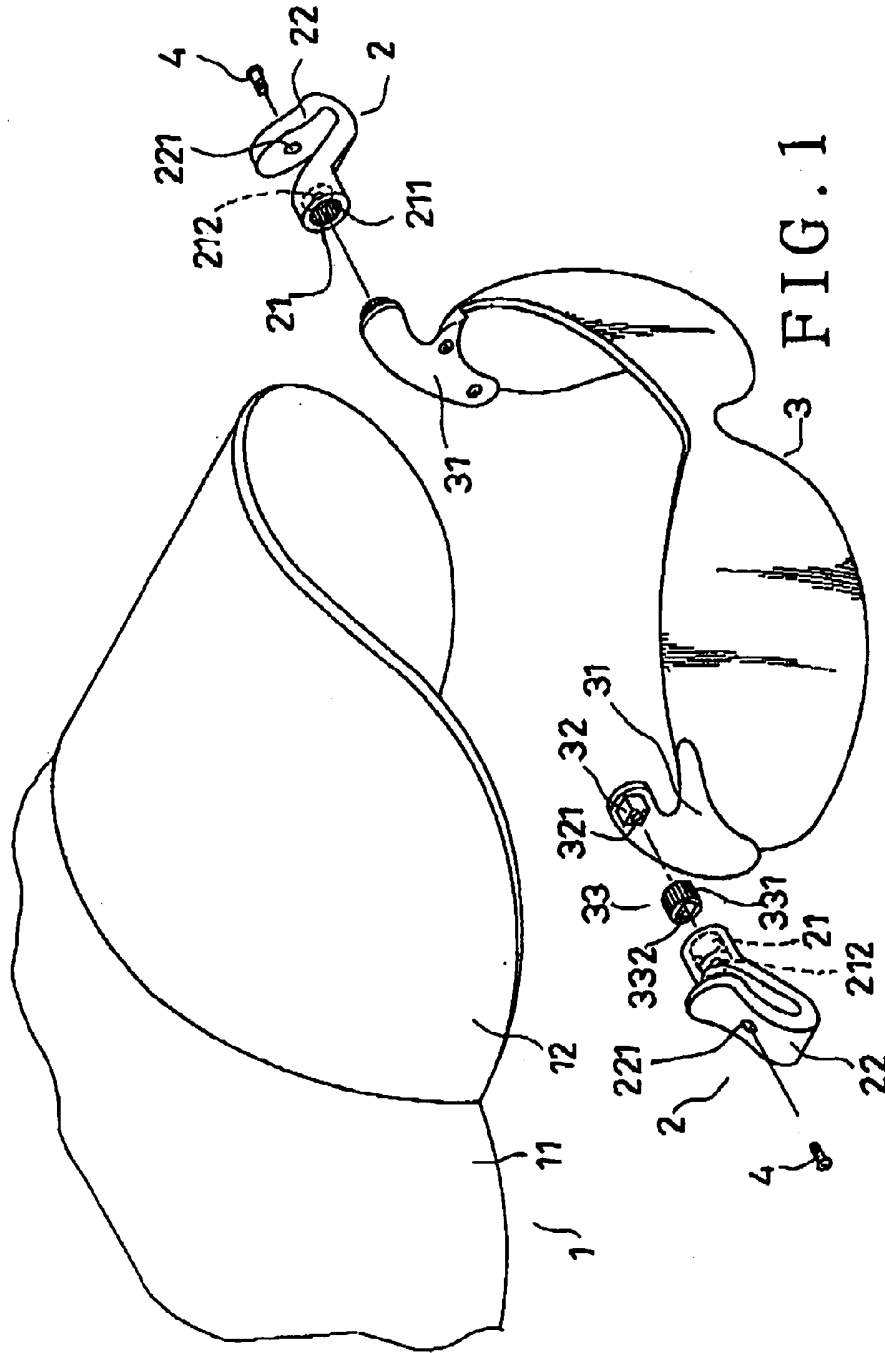
(c) a pair of eyeglasses; the eyeglasses having:

an extension portion at each of two ends thereof; and

5 a sleeve part on each of the extension portion thereof; the sleeve parts each having a plurality of tooth-shaped protrusions on an outer side thereof; the eyeglasses being supported on the supporting members with the sleeve parts being held in respective ones of the hollow holding portions, and with the tooth-shaped protrusions of the sleeve parts engaging the tooth-shaped protrusions of
10 the hollow holding portions.

15. A set of eyeglasses with attachment system substantially as described herein with reference to the accompanying drawings.

16. A sun hat with eyeglasses substantially as described herein with reference to the accompanying drawings.



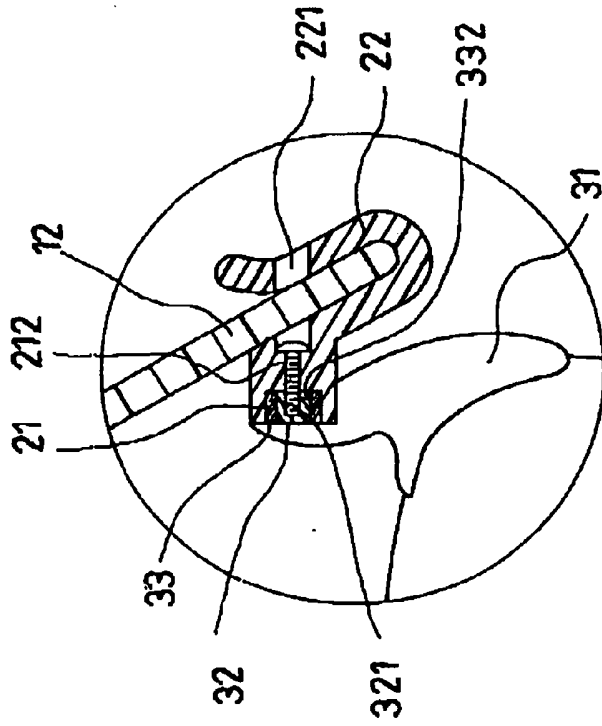


FIG. 2

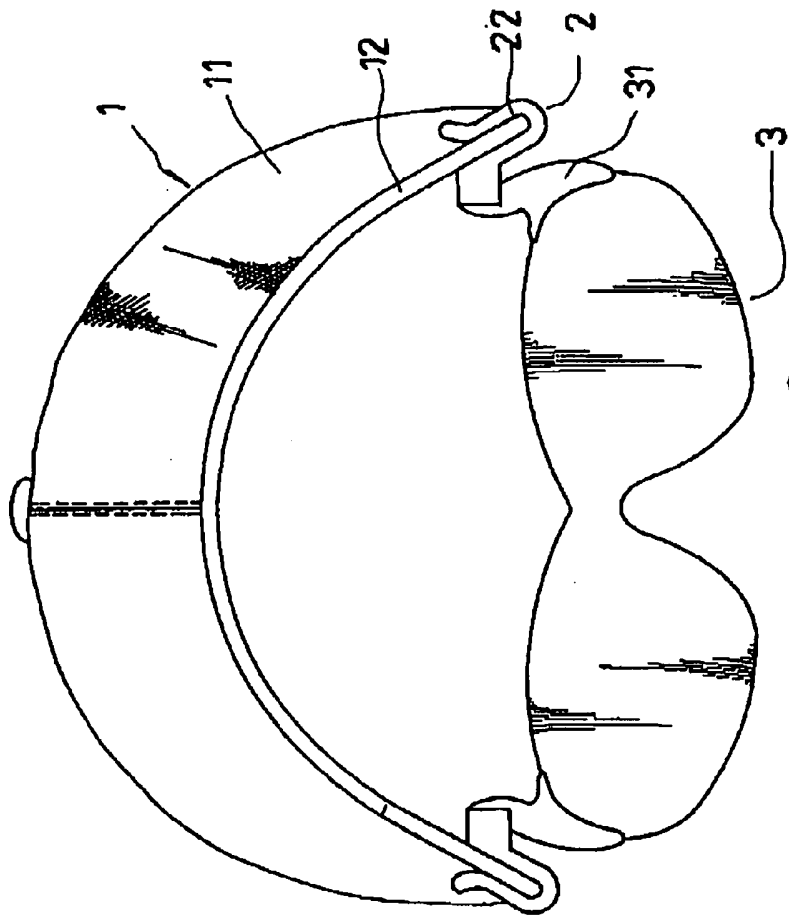


FIG. 3

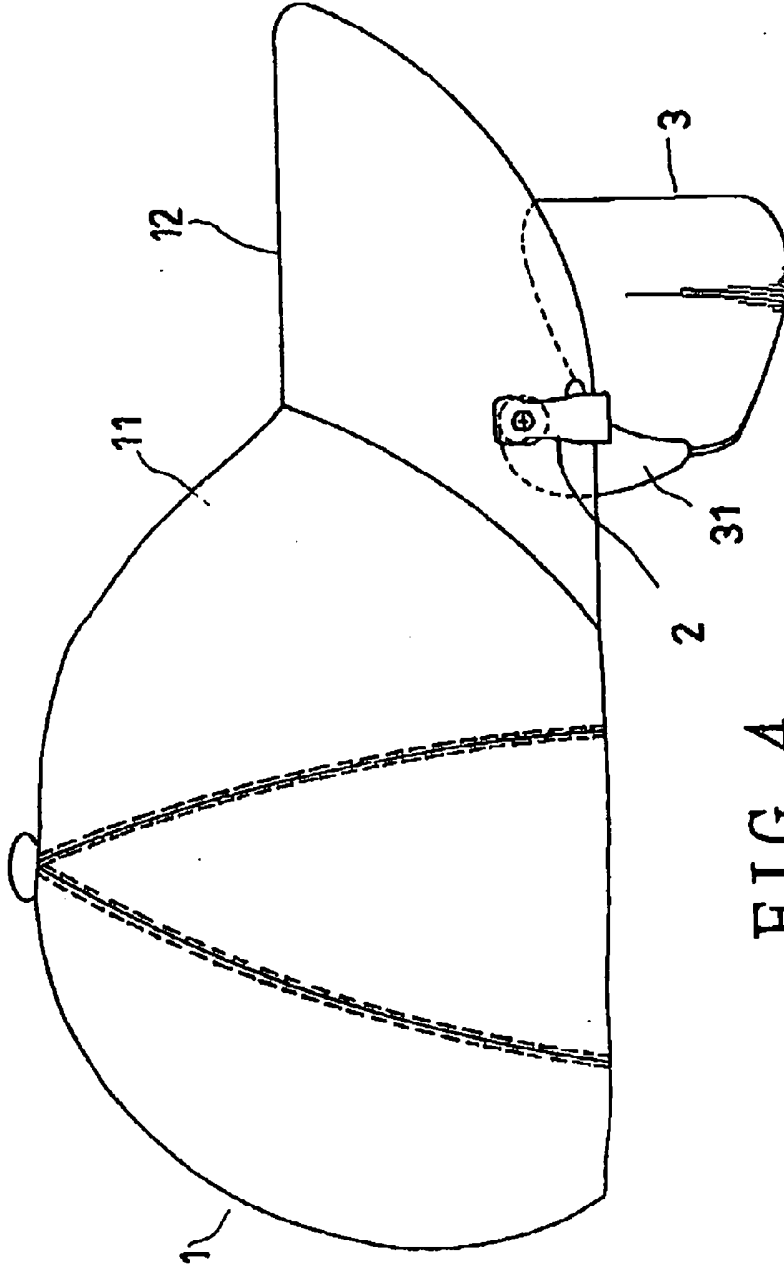


FIG. 4

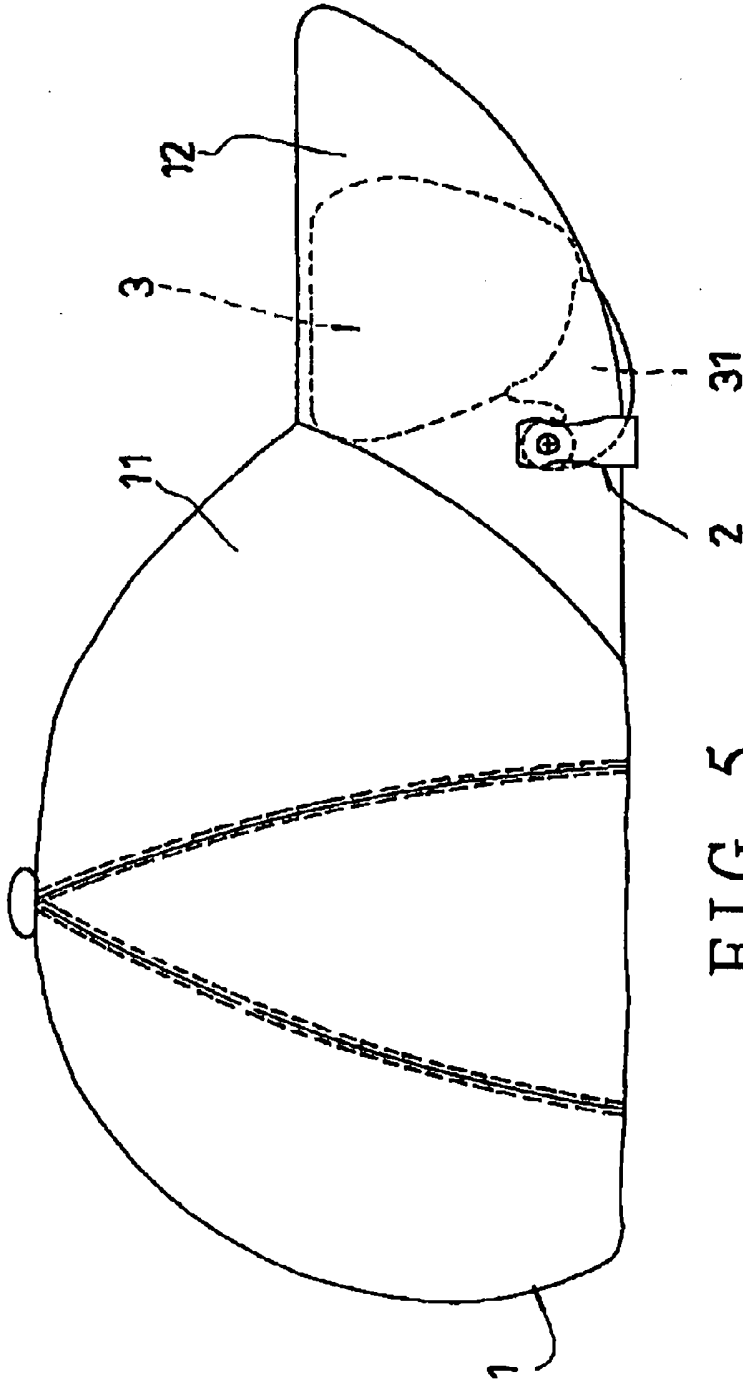


FIG. 5