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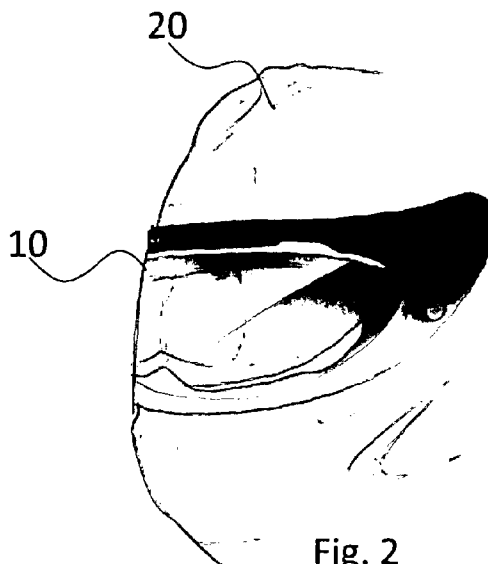


Fig. 2

(57) Abstract: A frame for correction lenses that can be attached to a helmet. The frame is attached to the inside of a visor of a helmet so that, in use, the lenses are in the line of sight of the wearer



WO 2011/064537 A2

A FRAME FOR A CORRECTION LENS

The present invention relates to a frame for a correction lens. More especially, the invention relates to a frame for a correction lens for use
5 with a helmet visor.

Many motorcyclists require spectacles for ordinary day activities, which often includes driving. At present, the only practical option is to wear prescription glasses under the motorcycle helmet. In the majority of cases
10 this is extremely uncomfortable for the user as the glasses are pressed firmly against the users face putting pressure, in particular, across the bridge of the nose. This can lead to unsightly indents across the nose and, in more serious cases, to headaches and other medical problems. Moreover, the continual pressure put on the glasses can weaken the
15 frame structure thereby causing the frame to break far easier.

A further problem with wearing glasses behind the helmet visor is that the glasses can easily and regularly mist over.

20 The present invention seeks to alleviate the aforementioned disadvantages faced by spectacle wearers by providing a frame for correction lenses that can be attached to a helmet, preferably the inside of a visor of a helmet so that, in use, the lenses are in the line of sight of the wearer.

25 According to one aspect of the invention, there is provided a frame for at least one correction lens means to attach the frame to the inside of a helmet.

30 Preferably, the frame has corner sections that engage with fixing members secured to the inner surface of the helmet visor.

Preferably, the frame is made from a polycarbonate structure.

Preferably still the frame sections which, in use, retain the lenses, have an inner wall formed with a longitudinal groove in which the periphery of
5 the lens is received.

Preferably the fixing members have a base portion and an upwardly projecting wall having an outer profile corresponding to the inner profile of the corner sections. The base is preferably attached to the inner
10 surface of the helmet visor.

Preferably, the projecting wall includes at least one flexible clip section which, in use, engages with a complimentary clip recess formed in an inner side wall of the frame corner sections.
15

Preferably the frame is attached to the visor in such a way as to form a seal between the or each lens and the inside surface of the visor.

Preferably the sealing mechanism forms a vacuum between each lens and
20 the visor.

Preferably the sealing means comprises a silicon seal. In addition, the sealing mechanism may include a semi-permanent self-adhesive.

25 Preferably the frame is made from a polycarbonate structure.

Preferably each lens is mounted in the frame using a clip-in mechanism.

An embodiment of the invention will now be described with reference to
30 the accompanying figures in which :

Figure 1 is a front perspective view of a frame constructed in accordance with the present invention mounted within a helmet;

Figure 2 is a side perspective view of the frame and helmet of Figure 1;

5

Figure 3 illustrates the lens and frame mechanism;

Figure 4 is an exploded view showing the separate components of the frame and visor of Figures 1 and 2;

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Figure 5 is a front perspective view of a frame constructed in accordance with a second embodiment of the invention;

Figure 6 is an angled perspective view of the frame of Figure 5;

15

Figure 7 is perspective view of a fixing member for use with the frame of Figure 6;

Figures 8 and 9 are enlarged views of sections of the fixing member of Figure 7;

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Figures 10 and 11 are perspective views of the inner side of the frame of Figure 5;

25

Figures 12 and 13 are perspective views of the outer side of the frame of Figures 10 and 11; and

Figure 14 is an enlarged view of the section of the inner side of the frame showing the mechanism to connect the frame to the fixing member.

30

Referring first to Figure 4, the invention provides a frame 10 in which can be mounted correction (prescription) lenses 12 (only one can be seen in this figure).

- 5 The frame 10 is made from a polycarbonate material. It will be appreciated that the frame could be made from any similar material that has rigidity whilst retaining some flexibility to allow the frame 10 to mould around the contours of a visor 18.
- 10 The frame 10 is attached through a silicon seal 14 to a semi-permanent self-adhesive frame structure 16 which, in turn, is adhered to the inside surface of a visor 18 pivotally connected in use to a helmet 20. The helmet 20 is generally herein described as being a motorcycle helmet but it will be appreciated that the helmet could be of any type, for example
- 15 one used for sporting activity such as a ski helmet.

The frame 10 and adhesive frame structure 16 are generally shaped to follow the contour of the visor 18.

- 20 As can be seen in Figure 1, the adhesive frame structure 16 extends beyond the boundary of the lens frame 10 to provide sufficient surface area to adhere the frame structure 16 to the inside surface of the visor 18.
- 25 The mechanism to mount each lens 12 to the lens frame 10 is shown in Figure 3. The lens 12 is simply mounted to the frame 10 using a clip-in mechanism.

- In an alternative arrangement the lenses 12 are mounted using a push-fit
- 30 mechanism.

Arms 22 retain the lens 12 in place and are provided with a quick-release mechanism to allow each lens 12 to be easily released from the frame 10 if required. The arms 22 are secured to the frame structure 16 by the silicon seal 14.

5

As well as providing an air tight seal, the silicon seal 14 dampens vibrations to the lenses 12 as the wearer moves.

Each lens 12 is mounted within the frame 10 so to provide a sealed gap
10 between the surface of each lens 12 and the visor 18. This gap, in which a vacuum is formed, prevents misting of the surface of each lens 12.

Although the description discloses the frame 10 being adhered to the
inside of the visor 18 it will be appreciated that the frame 10 could
15 alternatively, or additionally, be secured to another part of the helmet 20 in such a way that the lenses 12, when mounted within the frame, remain in the line of sight of the wearer.

In an alternative embodiment (not shown) clips are provided to clip the
20 frame 10 in place within the helmet.

Figures 5 to 14 illustrate a second embodiment of the invention. In this
embodiment the frame 20 comprises sections for receiving each lens 12
and corner sections 22, 24 which, in use, clip to corresponding fixing
25 members 26 fixed to the inside surface of the visor 18.

The main body of the frame 20, which, in use, holds the lenses 12, has
inner wall which includes a longitudinal groove 28 in which a rail curve

extending around the periphery of each lens 12 fits to retain the lens 12 within the frame 20.

Referring now to figures 5 to 8, each fixing member 26 comprises a base
5 30 with an upwardly projecting wall 32. The wall 32 compliments the inner profile of the corner sections 22, 24. Each projecting wall 32 includes flexible clip sections 34, which, in use, engage with corresponding clip recesses 36 formed in the inner side walls of the frame corner sections 22, 24.

10

The mechanism to clip the frame 20 to the fixing members 26 is very simple. The corner sections 22, 24 of the frame 20 are pushed down over the projecting walls 32 until clip sections of 34 of the fixing members 26 engage with corresponding recesses 36 of the corner sections 22, 24.

15

When no longer required, the frame 20 can be simply removed from the fixing members 26 by flexing the clip sections 34 outwardly and disengaging them from the recesses 36 of the corner sections 22, 24 of the frame 20.

20

The base 30 of each fixing member 26 is adhered to the inner surface of the visor 18 using a suitable adhesive. The base 30 may alternatively be fixed using known fixing techniques. They may be removable.

25 It will be appreciated that the foregoing are merely an examples of embodiments and just some examples of their use. The skilled reader will

readily understand that modifications can be made thereto without departing from the true scope of the invention.

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Claims

- 5 1. A frame for holding at least one correction lens and means to attach
the frame to the inside of a helmet.
2. A frame according to claim 1, comprising corner sections that
engage with fixing members secured to the inner surface of the
helmet visor.
- 10 3. A frame according to claim 1 or claim 2, wherein the frame is made
from a polycarbonate structure.
4. A frame according to any one of claims 1 to 3, wherein the or each
15 section of the frame which, in use, retains the or each lens, has an
inner wall formed with a longitudinal groove in which the periphery
of the lens is received.
5. A frame according to any one of claims 2 to 5, wherein the fixing
20 members comprise a base portion and an upwardly projecting wall
having an outer profile corresponding to the inner profile of the
corner sections.
6. A frame according to claim 5, wherein the base is secured to the
25 inner surface of the helmet visor.
7. A frame according to claim or claim 6, wherein the projecting wall
includes at least one flexible clip section which, in use, engages with
a complimentary clip recess formed in an inner side wall of the
30 frame corner sections.

8. A frame according to claim 1, wherein the frame is attached to the visor in such a way as to form a seal between the or each lens and the inside surface of the visor.

5 9. A frame according to claim 8, wherein the sealing mechanism forms a vacuum between each lens and the visor.

10. A frame according to claim 9, wherein the sealing means comprises a silicon seal.

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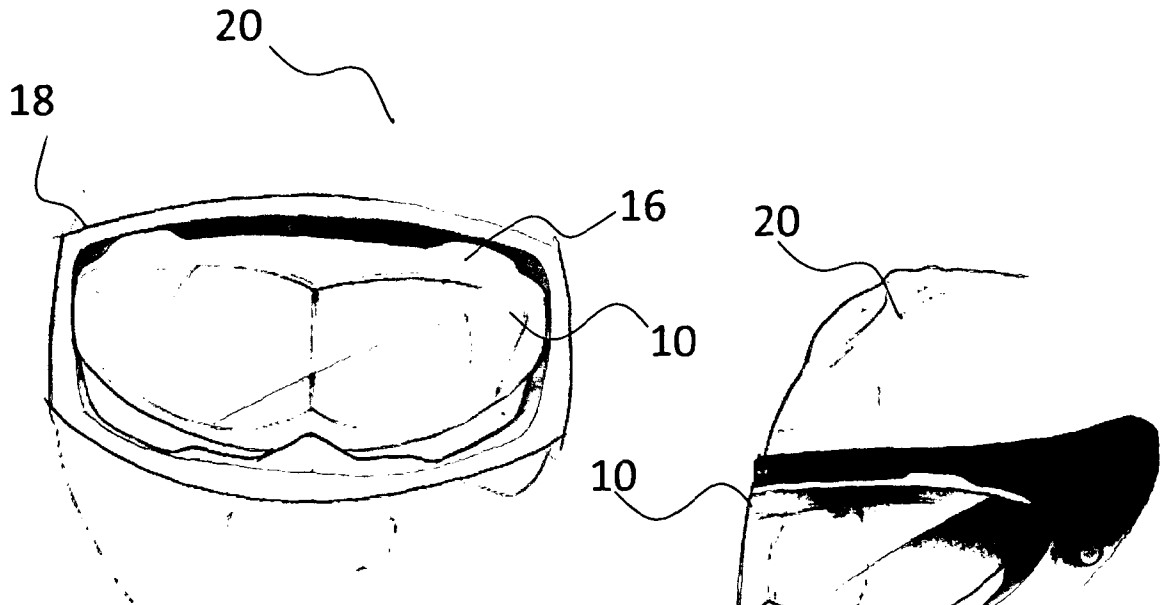


Fig. 1

Fig. 2

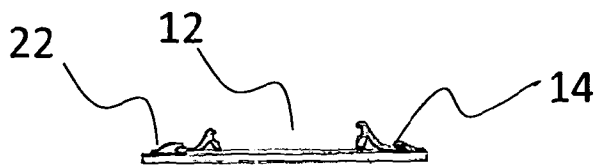


Fig. 3

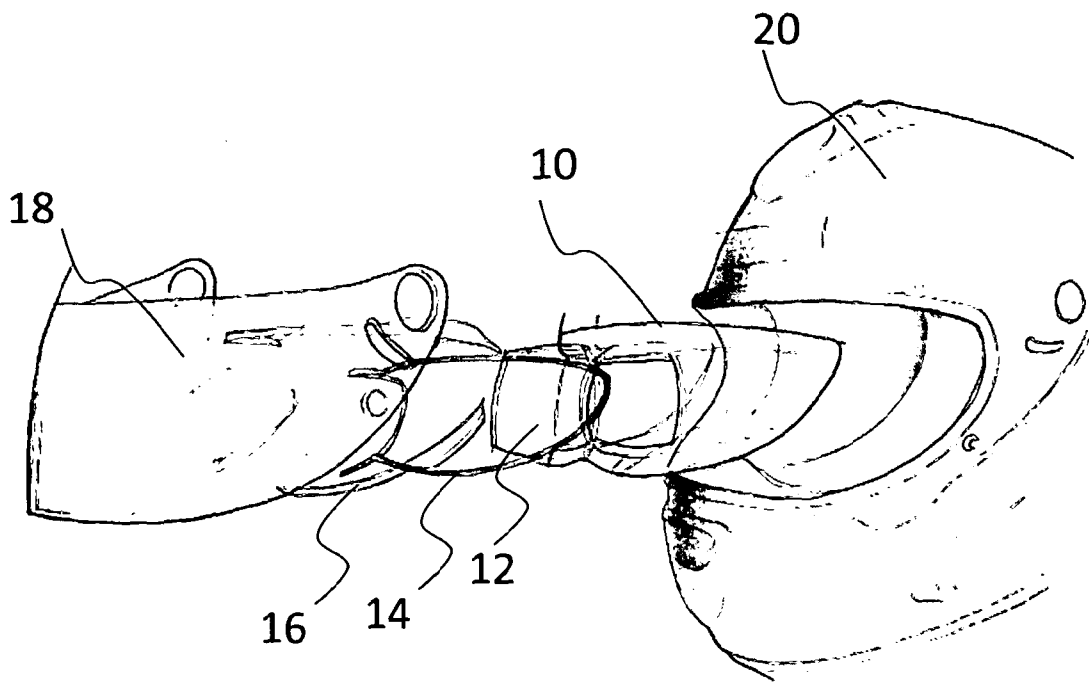


Fig. 4

3/4

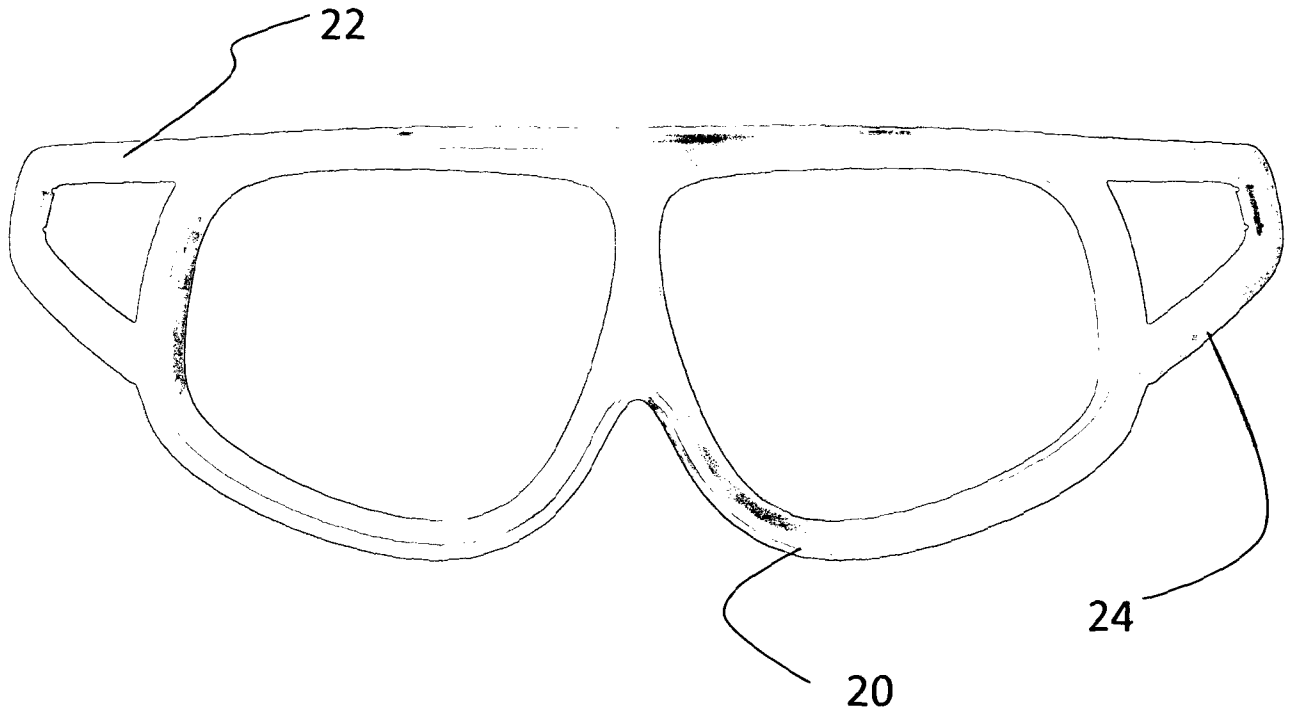


Fig. 5

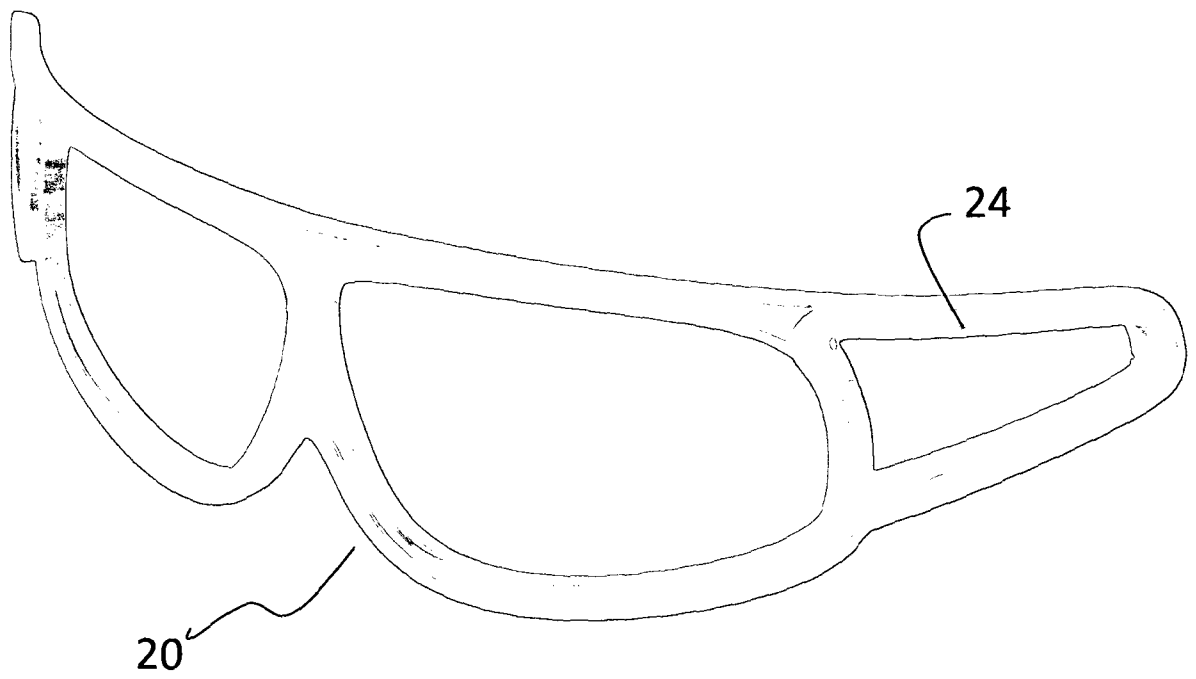


Fig. 6

4/4

