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CLERK, U.S. DISTRICT COURT  
SOUTHERN DISTRICT OF CALIFORNIA

BY: 

DEPUTY

10 UNITED STATES DISTRICT COURT  
11 SOUTHERN DISTRICT OF CALIFORNIA

12 OAKLEY, INC., a Washington  
13 corporation,

14 Plaintiff,

15 vs.

16 MOUNTAIN SHADES, INC. dba  
17 OPTIC NERVE, a Colorado  
18 corporation,

19 Defendant.

Case No. 09 CV 2333 IEG

BLM

COMPLAINT FOR PATENT  
INFRINGEMENT AND  
TRADE DRESS INFRINGEMENT

JURY TRIAL

20 Plaintiff Oakley, Inc. (hereinafter referred to as "Oakley") hereby complains  
21 of Defendant Mountain Shades, Inc. dba Optic Nerve (hereinafter referred to as  
22 "Optic Nerve"), and alleges as follows:

23 JURISDICTION AND VENUE

24 1. Jurisdiction over this action is founded upon 15 U.S.C. § 1121, and 28  
25 U.S.C. §§ 1331 and 1338.

26 2. Venue is proper under 28 U.S.C. §§ 1391(b) and (c) and 28 U.S.C. §  
27 1400(b). The Defendant has sold infringing products in this district, attempted to  
28 pass off infringing products in this district, directed sales and marketing efforts

1 toward this district and/or own or operate a website soliciting and selling in this  
2 district.

### 3 THE PARTIES

4 3. Plaintiff Oakley is a corporation organized and existing under the laws  
5 of the State of Washington, having its principal place of business at One Icon,  
6 Foothill Ranch, California 92610 and doing business within this judicial district.

7 4. Oakley is informed and believes, and thereupon alleges that  
8 Defendant Mountain Shades, Inc. does business as Optic Nerve and is a Colorado  
9 corporation located at 11931 I-70 Frontage Road North, Wheat Ridge, Colorado  
10 80033, and doing business within this judicial district at least on its website,  
11 www.nerveusa.com. Oakley is further informed and believes, and thereupon  
12 alleges, that Defendant has been selling products, including the accused eyewear,  
13 directly in this district and in the stream of commerce knowing such products  
14 would be sold in California and in this judicial district.

### 15 FACTUAL BACKGROUND

16 5. As early as 1985, Oakley has been and continues to be actively  
17 engaged in the manufacture and sale of high quality sport sunglasses under various  
18 product lines. Oakley is the manufacturer and retailer of several lines of  
19 sunglasses, including its "Jawbone", "Half Jacket®", and "Flak Jacket®" eyeglass  
20 lines. These eyeglasses have enjoyed substantial success and are protected by  
21 various intellectual property rights owned by Oakley.

22 6. Oakley is informed and believes, and thereupon alleges, that  
23 Defendant Mountain Shades Inc. manufactures, imports, offers for sale and/or sells  
24 eyeglasses under the name Optic Nerve. Eyeglass models sold under the brand  
25 name Optic Nerve are the subject of this action.

### 26 PATENT INFRINGEMENT FACTS

27 7. Oakley is the owner by assignment of U.S. Patent No. 5,638,145, duly  
28 and lawfully issued on June 10, 1997, describing and claiming an invention

1 entitled "Vented Eyeglass Lens." A correct copy of U.S. Patent No. 5,638,145 is  
2 attached hereto as Exhibit 1.

3 8. Oakley is informed and believes, and thereupon alleges, that  
4 Defendant Optic Nerve is selling sunglasses that incorporate the claimed  
5 technology of U.S. Patent No. 5,638,145. In particular, Oakley alleges that  
6 Defendant's "Savant", "Eyeque", "Hell Camino", "Response", "Silkworm",  
7 "Squeezebox", "Banshee", "Autovaughn", and "Halogyn" sunglass models  
8 embody the subject matter claimed in Oakley's patent referred to above without  
9 any license; such sales therefore infringe the '145 Patent. Oakley is informed and  
10 believes, and based thereon alleges, that Defendant Optic Nerve has made, used,  
11 imported, offered for sale and/or sold these sunglasses to multiple distributors,  
12 retailers, and retail customers.

13 9. Oakley is the owner by assignment of U.S. Patent No. 5,387,949, duly  
14 and lawfully issued on February 7, 1995, describing and claiming the invention  
15 entitled "Eyeglass Connection Device" that protects the described and claimed  
16 technology embodied by Oakley's "Half Jacket", and "Flak Jacket" lines of  
17 eyeglasses. A correct copy of U.S. Patent No. 5,387,949 is attached hereto as  
18 Exhibit 2.

19 10. Oakley is informed and believes, and thereupon alleges that  
20 Defendant is selling sunglasses that unlawfully embody the claimed subject matter  
21 of U.S. Patent No. 5,387,949. In particular, Oakley alleges that Defendant's  
22 "Threat", "Revolt", "Response", "Silkworm", "Banshee", "White Ranch", and  
23 "Halogyn" sunglass models embody the subject matter claimed in Oakley's '949  
24 patent without any license from Oakley; such sales therefore infringe the patent.  
25 Oakley is informed and believes and based thereon alleges that Defendant Optic  
26 Nerve made, used, imported, offered for sale and/or sold their accused sunglasses  
27 to multiple distributors, retailers, and/or retail customers.

28 . . . . .

1           11. Defendant has received written notice of Oakley's proprietary rights in  
2 its patents forming the subject of this lawsuit. Further, Defendant has received  
3 constructive notice of Oakley's patents, as Oakley caused its patents to be placed  
4 plainly on the product and/or packaging. Despite actual and constructive  
5 knowledge, Defendant continues to infringe Oakley's patent rights. On information  
6 and belief, such infringement by Defendant must have been willful and wanton.

7           12. Oakley is informed and believes and thereupon alleges that the sale of  
8 the unauthorized, infringing sunglasses has resulted in lost sales, has reduced the  
9 business and profit of Oakley, all to Oakley's damage in an amount not yet fully  
10 determined.

11           13. The exact amount of profits realized by Defendant as a result of its  
12 infringing activities, are presently unknown to Oakley, as are the exact amount of  
13 damages suffered by Oakley as a result of said activities. These profits and  
14 damages cannot be accurately ascertained without an accounting

15                                   TRADE DRESS FACTS

16           14. Oakley has expended large sums of money in the promotion of its  
17 "Half Jacket" line of sunglasses. As a result of Oakley's promotional efforts, this  
18 sunglass configuration has become and are now widely known and recognized in  
19 this District and elsewhere as emanating from and authorized by Oakley. Oakley's  
20 "Half Jacket" product line is inherently distinctive in appearance, and has become,  
21 through widespread public acceptance, a distinctive designation of the source of  
22 origin of goods offered by Oakley and an asset of incalculable value as a symbol of  
23 Oakley and its quality goods and good will. A representation of the Half Jacket  
24 tradedress configuration is attached hereto and incorporated by reference as  
25 Exhibit 3.

26           15. Oakley is informed and believes, and thereupon alleges, that the  
27 Defendant's "Response" model is designed, manufactured, packaged, advertised,  
28 displayed and sold expressly to profit from the demand created by Oakley for the

1 inherently distinctive features of Oakley's "Half Jacket" configuration and to trade  
2 on Oakley's goodwill and reputation.

3 16. Oakley is informed and believes, and thereupon alleges, that  
4 Defendant's copy sunglasses are inferior products to authentic Oakley sunglasses.  
5 Oakley is further informed and believes, and thereupon alleges, that as a result of  
6 the inferior quality Defendant Optic Nerve's copy of Oakley's "Half Jacket"  
7 sunglasses, they are sold in the marketplace at a lower price than are authentic  
8 Oakley sunglasses. As a result, Oakley has been damaged significantly in the  
9 sunglass market. Oakley contends and believes that its image and the reputation of  
10 its products has been tarnished and diminished by Defendant's sale of Oakley copy  
11 sunglasses of inferior quality.

12 17. Oakley is further informed and believes and thereupon alleges that the  
13 presence of Defendant's "Half Jacket" sunglass copies in the marketplace damages  
14 the value of Oakley's exclusive rights. The presence of the copies in the  
15 marketplace is likely to diminish the apparent exclusivity of genuine Oakley  
16 products thereby dissuading potential customers who otherwise would have sought  
17 inherently distinctive Oakley sunglass designs. Upon information and belief,  
18 Oakley alleges that such deception has misled, and continues to mislead, and  
19 confuse many purchasers to buy the products sold by Defendant and/or have  
20 misled non-purchasers to believe the sunglass copies emanate from or are  
21 authorized by Oakley.

22 18. Oakley is informed and believes and thereupon alleges that  
23 Defendant's sale of the allegedly infringing "Half Jacket" sunglass copies has  
24 resulted in lost sales, has reduced the business and profit of Oakley, and has greatly  
25 injured the general reputation of Oakley due to the inferior quality of the copies, all  
26 to Oakley's damage in an amount not yet fully determined.

27 .....  
28

19. The exact amount of profits realized by Defendant as a result of its infringing activities, are presently unknown to Oakley, and neither are the exact amount of damages suffered by Oakley as a result of these activities. These profits and damages cannot be accurately ascertained without an accounting. Further, Defendant's actions are irreparably injuring Oakley and will continue unless and until enjoined by this court.

## FIRST CLAIM FOR RELIEF

## Patent Infringement

20. The allegations of paragraphs 1 through 19 are replied and realleged as though fully set forth herein.

21. This is a claim for patent infringement, and arises under 35 U.S.C. Sections 271 and 281.

22. Jurisdiction is founded upon 28 U.S.C. §§ 1331 and 1338.

23. Oakley is the owner of U.S. Patent No. 5,638,145, which protects the described and claimed technology embodied by Oakley's "Jawbone" and "Water Jacket" lines of eyeglasses. A true and correct copy of U.S. Patent No. 5,638,145 is attached hereto as Exhibit 1. By statute, the patent is presumed to be valid and enforceable under 35 U.S.C. § 282.

24. Defendant, through its agents, employees and servants, has manufactured, imported, offered to sell, and/or sold, without any rights or license from Oakley, sunglasses that fall within the scope and claim contained in U.S. Patent No. 5,638,145.

25. Oakley is informed and believes and thereupon alleges that Defendant willfully infringed upon Oakley's exclusive rights under this patent, with full notice and knowledge thereof.

26. Oakley is informed and believes, and thereupon alleges, that Defendant has derived, received and will continue to derive and receive from the aforesaid acts of infringement, gains, profits and advantages in an amount not

1 presently known to Oakley. By reason of the aforesaid acts of infringement,  
2 Oakley has been, and will continue to be, greatly damaged.

3 27. Defendant may continue to infringe U.S. Patent No. 5,638,145 to the  
4 great and irreparable injury of Oakley, for which Oakley has no adequate remedy  
5 at law unless the Defendant is enjoined by this court.

## 6 **SECOND CLAIM FOR RELIEF**

### 7 **Patent Infringement**

8 28. The allegations of paragraphs 1 through 19 are replied and realleged as  
9 though fully set forth herein.

10 29. This is a claim for patent infringement, and arises under 35 U.S.C.  
11 Sections 271 and 281.

12 30. Jurisdiction is founded upon 28 U.S.C. §§ 1331 and 1338.

13 31. Oakley is the owner of U.S. Patent No. 5,387,949, which protects the  
14 described and claimed technology embodied by Oakley's "Half Jacket", and "Flak  
15 Jacket" lines of eyeglasses. A true and correct copy of U.S. Patent No. 5,387,949  
16 is attached hereto as Exhibit 2. By statute, the patent is presumed to be valid and  
17 enforceable under 35 U.S.C. § 282.

18 32. Defendant, through its agents, employees and servants, has  
19 manufactured, imported, offered to sell, and/or sold, without any rights or license,  
20 sunglasses which fall within the scope and claim contained in U.S. Patent No.  
21 5,387,949.

22 33. Oakley is informed and believes, and thereupon alleges, that  
23 Defendant willfully infringed upon Oakley's exclusive rights under this patent,  
24 with full notice and knowledge thereof.

25 34. Oakley is informed and believes and thereupon alleges that Defendant  
26 has derived, received and will continue to derive and receive from the aforesaid  
27 acts of infringement, gains, profits and advantages in an amount not presently  
28 known to Oakley. By reason of the aforesaid acts of infringement, Oakley has  
been, and will continue to be, greatly damaged.

1           35. Defendant may continue to infringe U.S. Patent No. 5,387,949 to the  
2 great and irreparable injury of Oakley, for which Oakley has no adequate remedy  
3 at law unless the Defendant is enjoined by this court.

4                           **THIRD CLAIM FOR RELIEF**  
5                           **TRADE DRESS INFRINGEMENT**

6           36. Oakley realleges paragraphs 1 through 19 as though set forth fully at  
7 this point.

8           37. This is an action for trade dress infringement and false designation of  
9 origin pursuant to 15 U.S.C. § 1125(a) against Defendant Optic Nerve.

10          38. Jurisdiction is founded upon 28 U.S.C. §§ 1331 and 1338.

11          39. Since 2002, Oakley has marketed and sold its "Half Jacket" line of  
12 sunglasses. The configuration of Oakley's "Half Jacket" sunglass is distinctive  
13 and well-recognized by the industry and consumers as emanating from Oakley.  
14 The "Half Jacket" sunglass has enjoyed enormous commercial success, which is  
15 expected to continue, and have become, through wide-spread recognition, an  
16 indicator of Oakley as the source of the products.

17          40. Oakley is informed and believes, and thereupon alleges, that the  
18 Defendant's sale of copies of Oakley's "Half Jacket" sunglass configuration  
19 constitutes trade dress infringement and unfair competition, as a false designation  
20 of origin, a false description or representation of goods, and false representation to  
21 the consuming public that the Defendant's sunglasses originated from or somehow  
22 are authorized by or affiliated with Oakley.

23          41. Oakley is informed and believes, and thereupon alleges, that  
24 Defendant has derived, received, and will continue to derive and receive from the  
25 aforesaid acts of infringement, gains, profits and advantages in an amount not  
26 presently known to Oakley. By reason of these acts of infringement, Oakley has  
27 been and will continue to be greatly damaged.  
28



1           42. Oakley is informed and believes and thereupon alleges that the actions  
2 of Defendant were done willfully, knowingly and maliciously with the intent to  
3 trade upon the good will of Oakley and to injure Oakley.

4           43. The Defendant's acts are in violation of 15 U.S.C. § 1125 (a) and will  
5 continue to the great and irreparable injury of Oakley until enjoined by this Court.

6           WHEREFORE, Plaintiff Oakley, Inc. prays as follows:

- 7           1. That Defendant be adjudicated to have infringed Oakley's U.S. Patent  
8           No.5,638,145, and that the patent is valid and enforceable and is  
9           owned by Oakley;
  - 10          2. That Defendant be adjudicated to have infringed Oakley's U.S. Patent  
11          No. 5,387,949, and that the patent is valid and enforceable and is  
12          owned by Oakley;
  - 13          3. That the Defendant be adjudicated to have infringed Oakley's "Half  
14          Jacket" trade dress, and that Oakley's trade dress rights are  
15          enforceable and owned by Oakley;
  - 16          4. That Defendant, its agents, servants, employees, and attorneys and all  
17          persons in active concert and participation with them, be forthwith  
18          preliminarily and thereafter permanently enjoined from making, using  
19          or selling any sunglass which infringe United States Patent Nos.  
20          5,638,145 and 5,387,949;
  - 21          5. That Defendant, its agents, servants, employees, and attorneys, and all  
22          these persons in active concert or participation with Defendant, be  
23          forthwith preliminary and thereafter permanently enjoined from  
24          infringing Oakley's "Half Jacket" trade dress;
  - 25          6. For an order requiring Defendants to deliver up and destroy all  
26          infringing sunglasses;
- 27  
28

- 1 7. That an award of reasonable costs, expenses, and attorney's fees be  
2 awarded against Defendants pursuant to 15 U.S.C. § 1116(a) and 35  
3 U.S.C. § 285; and  
4 8. That Defendant be directed to file with this court and serve upon  
5 Oakley within 30 days after the service of the injunction, a report in  
6 writing under oath, setting forth in detail the manner and form in  
7 which Defendant has complied with the injunction.

8 DATED: 10/19/09

WEEKS, KAUFMAN, NELSON & JOHNSON

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11 GREGORY K. NELSON  
12 Attorney for Plaintiff, Oakley, Inc.

13 JURY DEMAND

14 Plaintiff Oakley, Inc. hereby requests a trial by jury in this matter.

15 DATED: 10/19/09

WEEKS, KAUFMAN, NELSON & JOHNSON

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18 GREGORY K. NELSON  
19 Attorney for Plaintiff, Oakley, Inc.  
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# EXHIBIT 1



US005638145A

**United States Patent** [19]  
**Jannard et al.**

[11] **Patent Number:** **5,638,145**  
[45] **Date of Patent:** **Jun. 10, 1997**

[54] **VENTED EYEGLASS LENS**

[75] **Inventors:** **James H. Jannard**, Eastsound, Wash.;  
**Peter K. Yee**, Irvine, Calif.

[73] **Assignee:** **Oakley, Inc.**, Irvine, Calif.

[21] **Appl. No.:** **608,711**

[22] **Filed:** **Feb. 29, 1996**

[51] **Int. Cl.<sup>6</sup>** ..... **G02C 1/08**

[52] **U.S. Cl.** ..... **351/62; 351/41; 2/435**

[58] **Field of Search** ..... **351/41, 62, 86,**  
**351/96, 106; 2/435, 436, 437**

[56] **References Cited**

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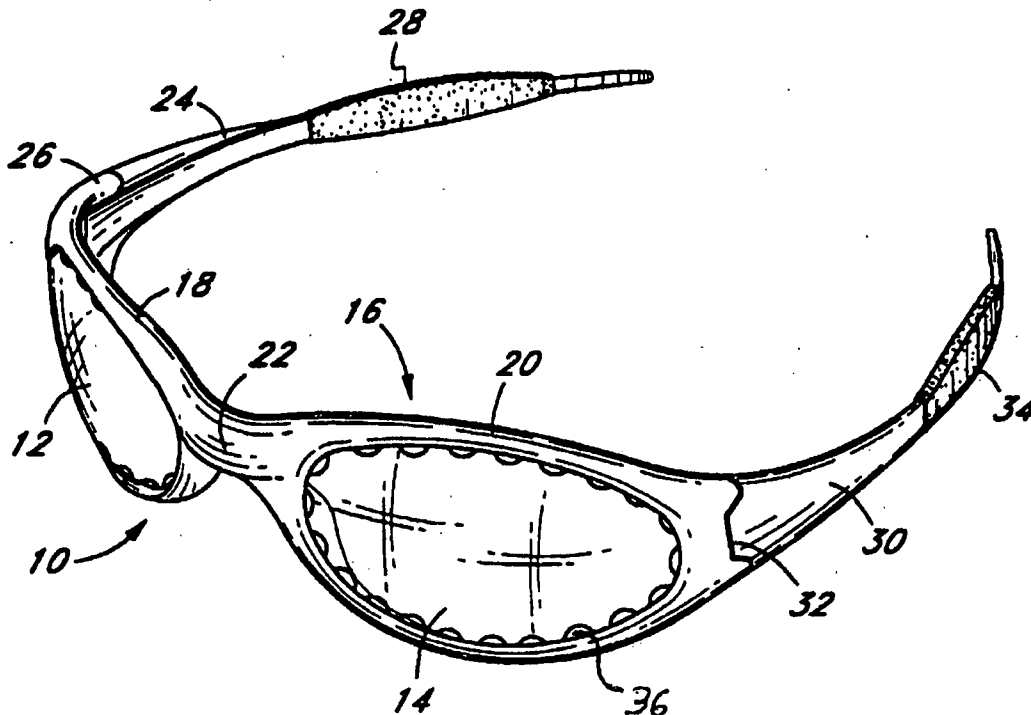
*Primary Examiner*—Hung X. Dang

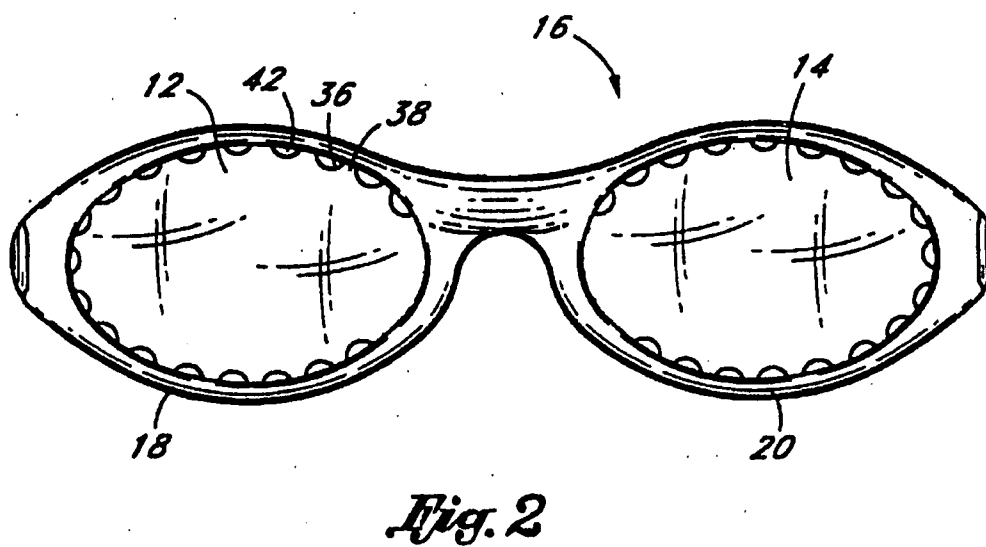
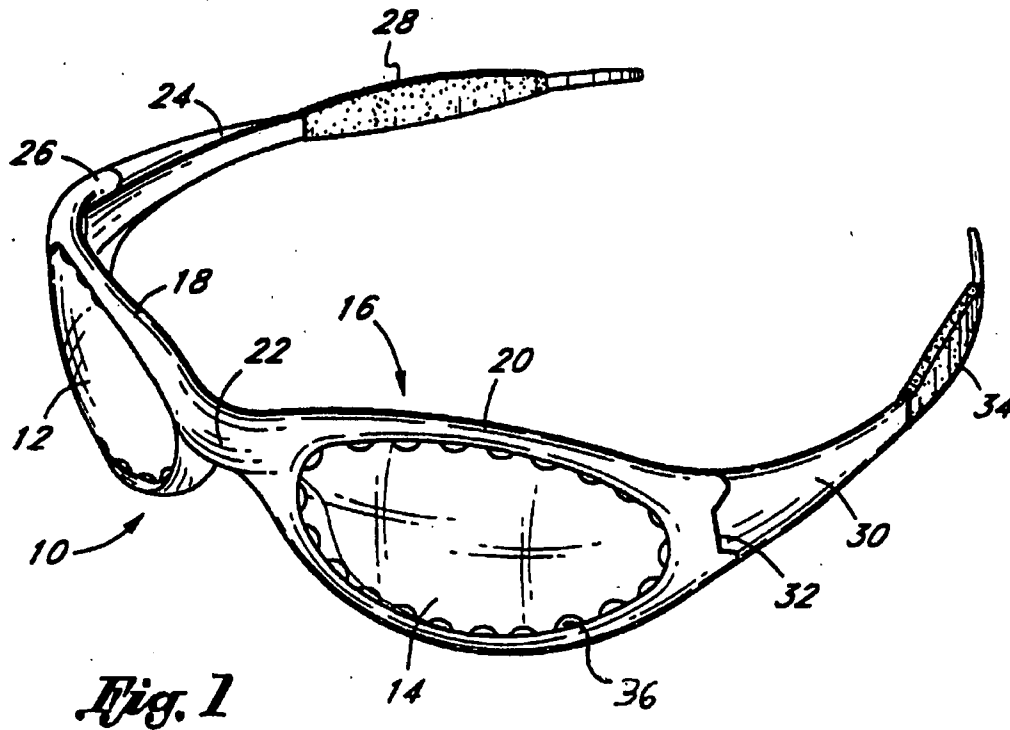
*Attorney, Agent, or Firm*—Knobbe, Martens, Olson & Bear,  
LLP

[57] **ABSTRACT**

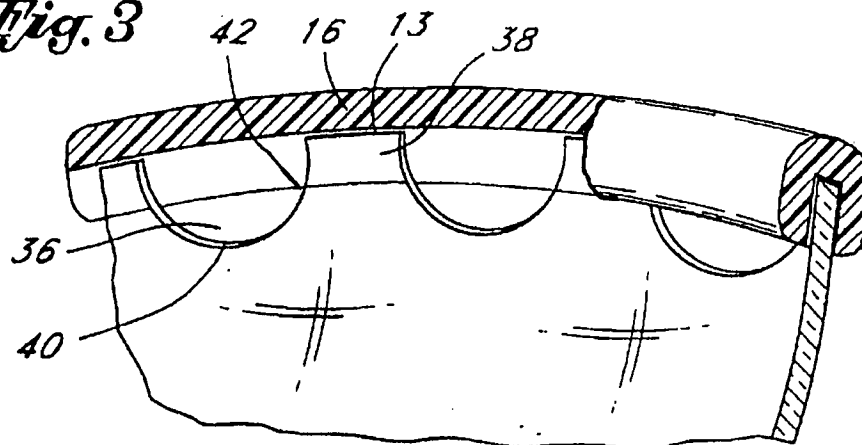
Disclosed is a dual-lens vented eyeglass. In one embodiment, each lens is provided with a plurality of apertures extending therethrough, at the junction between the lens and the surrounding frame. In another embodiment, a plurality of apertures are provided in the frame, surrounding the lens. The apertures optimize ventilation, with minimal intrusion into the optical zone.

**5 Claims, 2 Drawing Sheets**

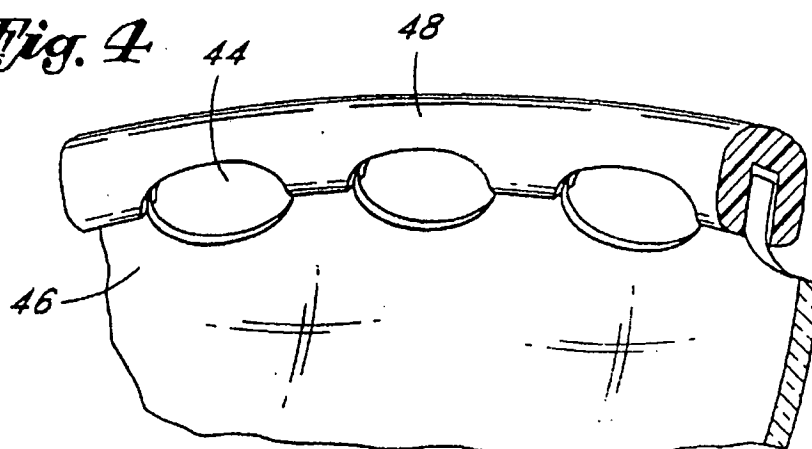




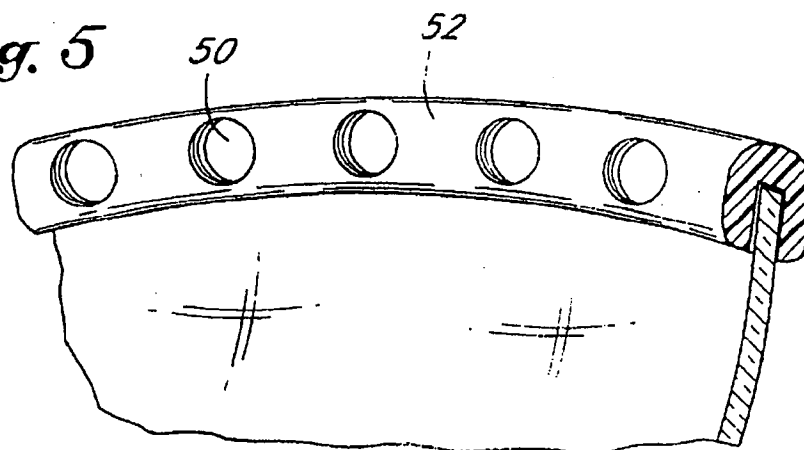
*Fig. 3*



*Fig. 4*



*Fig. 5*



# VENTED EYEGLASS LENS

## BACKGROUND OF THE INVENTION

The present invention relates to eyeglass lenses, and, in particular, to vented eyeglass lenses.

Early dual-lens eyeglass systems generally comprised a right and left lens suspended by an eyeglass frame in the wearer's line of sight. Each of the right and left lenses was generally disposed on a plane which was perpendicular to the wearer's normal or "straight ahead" line of sight. Although the upper portion of the eyeglass frame generally contacts the forehead, a significant ventilation gap was normally present between the lower and lateral edges of the eyeglass lens and the wearer's cheek bone.

Dual lens eyeglasses have more recently been developed in which the eyeglasses exhibit a significant rake and wrap compared to the prior art.

Lens rake refers to the extent to which the lower edge of a lens curves in towards the wearer's face. One effect of enhancing rake in a dual lens system is to more closely conform the lens in the vertical plane to the head of the wearer.

Lens wrap refers to the extent to which the lateral edge of the lens curves rearwardly to conform more closely to the side of the wearer's head.

Increased lens rake and wrap have as a consequence a reduction in the gap between the lower edge of the lens and the face as well as a reduction in the gap between the lateral edge of the lens and the face.

Although increased rake and wrap in dual-lens eyeglasses produce a variety of benefits, one disadvantage is the entrapment of a relatively small volume of air between the lens and the wearer's face. When someone wears eyeglasses of this design during active sports, such as skiing, bicycling or the like, the lenses are susceptible to fogging on the inside surface due to an inadequate ability to circulate moisture-laden air.

Thus, there remains a need for a dual lens eyeglass system which permits a relatively high level of rake and wrap compared to the prior art, yet which minimizes the risk of fogging due to the entrapment of air between the lens and the face of the wearer.

## SUMMARY OF THE INVENTION

There is provided in accordance with one aspect of the present invention a vented dual lens eyeglass system. The eyeglass system comprises a right and a left lens, each having a central optical zone and a peripheral edge. Each lens is provided with at least one recess, extending into the lens from the peripheral edge towards the optical zone. The lens is mounted in an eyeglass frame, which surrounds the peripheral edge of the lens to enclose the recess thereby forming an aperture at the junction between the lens and the surrounding frame.

In another embodiment of the invention, each lens is provided with one or more perforations near the peripheral edge. When the lens is mounted in the frame, the frame overlaps at least a portion of the perforation.

Preferably, a plurality of apertures are provided, spaced apart along the junction between the lens and the frame. Apertures may be provided along the top edge of the lens, or the bottom edge, or either lateral edge, or any combination thereof. In a preferred embodiment, an aperture free zone is provided along a lower medial edge of the lens.

In accordance with another aspect of the present invention, there is provided a method of producing a vented

dual lens eyeglass. The method comprises the steps of providing a lens blank, and cutting the lens blank to produce a lens having an outer periphery and a plurality of recesses extending radially inwardly into the lens from the outer periphery. The lens is secured to an eyeglass orbital such that the recesses extend radially inwardly from the orbital to produce a plurality of apertures between the lens and the orbital. The orbital may previously or thereafter be secured to a bridge, earstems and other components of a pair of eyeglasses.

In accordance with a further aspect of the present invention, there is provided a method of optimizing ventilation while minimizing interference with the optical zone in a high wrap, high rake dual lens eyeglass system. The method comprises the steps of producing a right and a left lens for a dual lens eyeglass, each of said lenses having a central optical zone and a peripheral edge. A plurality of recesses or apertures are provided at or near the peripheral edge of the lens. The lens is mounted in an eyeglass frame to produce an eyeglass such that the eyeglass frame intersects at least some of the apertures.

In one embodiment of the invention, each lens as mounted has a vertical dimension within the range of from about 1 inch to about 2½ inches, and a horizontal arc length from about 2 inches to about 3½ inches. In an embodiment having a vertical height of about 1½ inches and a horizontal arc length of about 2½ inches, the sum of the cross-sectional area of the apertures is within the range of from about 0.5% to about 15% of the total area of the lens within the surrounding orbital. Preferably, each recess extends no more than about 0.25 inches radially inwardly towards the center of the lens.

Further features and advantages of the present invention will become apparent from the detailed description of preferred embodiments which follows, when considered together with the attached drawings and claims.

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a front perspective view of a dual lens pair of eyeglasses in accordance with the present invention.

FIG. 2 is a front elevational view of a pair of eyeglasses similar to those in FIG. 1, having a different ventilation aperture pattern.

FIG. 3 is a fragmentary cut-away view of a portion of the connection between the lens and the upper frame in the embodiment of FIG. 2.

FIG. 4 is a fragmentary view of an alternative embodiment of the vent apertures of the present invention.

FIG. 5 is another alternate embodiment of the vent apertures of the present invention.

## DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

Referring to FIG. 1, there is disclosed a dual-lens eyeglass system 10. The eyeglass system 10 generally comprises a right lens 12 and a left lens 14 mounted in an eyeglass frame 16 and adapted to be positioned in the wearer's line of sight. Eyeglass frame 16 comprises a right annular orbital 18 for supporting right lens 12 and a left annular orbital 20 for supporting left lens 14. The right orbital 18 and left orbital 20 are connected by way of a bridge 22.

A right temple 24 is connected by way of a hinge 26 to the eyeglass frame 16 as is known in the art. The temple 24 may be provided with any of a variety of structures for improving retention of the eyeglass on the head of the wearer, such as

3

conventional hook shaped rearward portions, or an elastomeric traction device 28. Such devices are disclosed and claimed in U.S. Pat. Nos. 5,054,903 and 5,137,342, the disclosures of which are incorporated herein by reference.

The opposing temple 30 is similarly connected at its forward end by way of a hinge 32 to the frame 16. The rearward end of the temple 30 may also be provided with an elastomeric traction device 34.

Referring to FIG. 2, there is disclosed an eyeglass frame 16 as in FIG. 1, having lenses 12 and 14 suspended in orbitals 18 and 20, respectively. Lens 12 is provided with a plurality of apertures 36, separated from each other by lens portions 38 for connecting the lens 12 to the orbital 18. In most embodiments of the present invention, the right and left lenses will be mirror images of each other. Accordingly, the apertures 36 will for simplicity be discussed only in connection with a single lens 12.

Referring to FIG. 3, there is disclosed an enlarged fragmentary view of the aperture 36 in a lens mounted within frame 16. In this embodiment, the outer peripheral edge 13 of the lens 12 fits within a radially outwardly extending slot in the orbital 18. Although the present invention will be disclosed in connection with a lens mounted within a slot in the lens orbital, it will be apparent to those of skill in the art that the apertures 36 of the present invention can be readily incorporated into eyeglass systems having lenses mounted to the associated frame in any of a variety of other fashions.

One of the advantages of the design of the present invention is the ability to provide ventilation apertures 36 in a relatively small lens, while at the same time minimizing interference with the optical zone of the lens. In the embodiments illustrated in FIGS. 1-4, this is accomplished by positioning the aperture 36 such that at least a first portion of the circumference of the aperture is formed by the lens and at least a second portion of the circumference of the aperture is formed by a portion of the frame. In an alternate embodiment of the invention illustrated in FIG. 5 and discussed infra, the entire circumference of the aperture is surrounded by the frame.

Apertures can alternatively be positioned in the lens spaced apart from the frame, if the overall lens area is large enough to produce a sufficient uninterrupted optical zone for the desired application.

As will be apparent to those of skill in the art, the cross-sectional shape of the aperture can take any of a variety of forms and still accomplish the objectives of the present invention. For example, FIG. 3 illustrates a lens having a plurality of semicircular apertures 36 at the edge of the lens. Apertures may alternatively be formed by a plurality of enclosed circles punched into the peripheral zone of the lens, which circular holes are partially covered by the frame to produce the appearance of a plurality of semicircles. The apertures 36 in the as mounted condition may thus be defined by a relatively tight radius curved wall 40 in the lens and a relatively flatter curved or straight wall 42 formed by a portion of the frame 16.

The circular or semi-circular indent in the lens which forms aperture 36 can have a constant or substantially constant radius. Alternatively, the aperture 36 can take any of a variety of alternate forms as will be apparent to those of skill in the art in view of the disclosure herein. For example, the aperture may be defined by a portion or all of a circular, semicircular, oval, elliptical, or non regular curved shape depending upon the shape of the recess or aperture and upon its orientation once mounted in the frame. Angular configurations such as triangular, square, rectangular, or others

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having sharp corners can be used but tend to be less desirable due to stress dispersion considerations as will be apparent to those of skill in the art. However, the provision of radiused corners in an otherwise angular geometry can minimize the risk of lens fracture. Thus, for example, elongated rectangular apertures with slightly rounded corners can be provided to extend along the interface between the frame and the lens.

The cross-sectional size or area of the aperture 36 can also be varied considerably and remain within the scope of the present invention. Two relevant size considerations are the cross-sectional area of each individual aperture 36, as well as the sum of all of the cross-sectional areas of all apertures 36 on a given lens. To achieve a desired total cross-sectional flow area, fewer relatively larger apertures 36 may accomplish the same flow objective as relatively more smaller cross-sectional area apertures 36. In general, the size and number of apertures 36 to achieve a desired total flow area can be optimized depending upon a variety of competing considerations such as desired impact strength for the lens, desired flow distribution across the lens, and the acceptable distance into the optical zone that the apertures 36 can project.

In general, the total cross-sectional flow area of the apertures 36 in the lens will generally range from about 0.2% to about 50% of the total lens area. Preferably the flow area of the apertures will be in the range of from about 0.5% to about 20% of the total lens area, and, more preferably, between about 1% and about 10% of the total lens area. In one embodiment, in a pair of eyeglass lenses as illustrated in FIG. 2 having a generally elliptical shape with vertical height through the lens of about 1.58 inches, and a horizontal arc length of the lens of about 2.62 inches, 13 semicircular apertures each having a radius of about 0.062 inches have a combined cross sectional area of roughly 2.5% of the total area of the lens. For this purpose, the total area of the lens refers to the total area within the orbital or within the outer periphery of the lens if the orbital does not encircle the lens, as though there were no apertures in the lens.

In an embodiment such as that illustrated in FIG. 2, each aperture 36 has a constant radius (r) within the range of from about  $\frac{1}{32}$  inch to about  $\frac{1}{4}$  inch. In an embodiment having an aperture diameter of  $\frac{1}{8}$  inch and having a maximum aperture dimension from the wall 42 to the bottom of the aperture of  $\frac{1}{16}$  inch, the width of the aperture 36 at the point of contact with the frame (i.e., the length of wall 42 within a given aperture) is therefore about  $\frac{1}{8}$  inch (2r).

Within the range of from about 1 to about 20 or 30 or more total apertures 36 are typically provided for each lens. As the cross sectional area of each aperture gets too small, however, flow may become unacceptably low due to interference and flow rate limiting effects. Thus, no more than about 12 to 18 apertures are generally preferred.

The minimum number of apertures is affected by a variety of factors, including desired air flow and other aspects of the eyeglass design. For example, if the eyewear conforms very closely to the wearer's head, at least one lower edge aperture and at least one upper edge aperture is preferred to permit a convection flow. Preferably, four or more apertures are provided at each of the upper and lower edges. In terms of area, each of the lower and upper edges is preferably provided with apertures totalling at least about 0.2% and more preferably at least about 1% of the total area of the lens. Apertures can be positioned along the top or the bottom edges or either side, or any combination thereof.

In the embodiment illustrated in FIG. 1, the apertures 36 are spaced apart by a distance of about 2r, all the way around



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the orbital 18. Spacing between adjacent apertures 36 can vary within the range of from about  $\frac{1}{2}$  of the maximum aperture width up to as much as 5 or 10 or more times the length of wall 42 within an aperture 36 (maximum aperture width). The width of each aperture 36 can extend for a longer distance around the circumference of orbital 18, such as in the case of an elongate slot, or a shorter distance around the circumference of orbital 18, as will be apparent to those of skill in the art.

The distribution of apertures 36 around the circumference of the lens 12 may also be varied asymmetrically. For example, in the embodiment illustrated in FIG. 2, no apertures 36 are provided at the medial (nose piece) side of the lens 12. Apertures in this region can, under high wind conditions, produce an undesirable drying of the eye.

In another embodiment of the vented eyeglass lens of the present invention, a plurality of apertures 44 extend both into the lens 46 as well as into the frame 48. See FIG. 4. This embodiment permits a greater preservation of the optical zone of the lens 46. Alternatively, referring to FIG. 5, there is disclosed an embodiment having a plurality of apertures 50 extending through the frame 52. In this embodiment, the entire circumference of the aperture 50 is surrounded by the frame 52. In a further alternative, the apertures extend through the lens but spaced apart from the frame. Alternatively, portions of the frame can be spaced apart from the lens to form one or more flow passages between the lens and the frame.

In most of the embodiments herein, the apertures are either positioned through the frames or adjacent the frame. This permits the use of an additional bore hole (not illustrated) through the frame for communicating with the aperture to provide an additional flow path. The bore hole in one embodiment extends from the aperture radially outwardly through the outer edge of the frame. Bore holes may be provided for each lens or frame aperture, or only for selected apertures depending upon the desired flow characteristics.

Lenses such as lens 12 in FIG. 2 and lens 46 in FIG. 4 can be manufactured in accordance with any of a variety of techniques well known in the art. For example, the lens may be injection molded from an optically suitable material into the form of a raw lens blank. The profile of the desired finished lens may be cut from the lens blank. Where the aperture 36 is formed along the exterior periphery of the lens, the aperture can be formed simultaneously with cutting the lens from the lens blank.

In an embodiment such as that illustrated in FIGS. 4 or 5, the aperture extends either partially or wholly through the eyeglass frame. The eyeglass frame may be formed such as by injection molding, or other techniques which are appropriate for the material of the eyeglass frame. The recesses on the frame which form a portion of aperture 44 as illustrated in FIG. 4 can be formed as a part of the frame molding process, or can be drilled or otherwise provided in the frame in a post-molding operation. Similarly, the apertures 50 in the embodiment illustrated in FIG. 5 can be formed either during the injection molding or other formation process, or can be provided such as by drilling in a post-forming

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operation. The optimal manufacturing technique can be readily determined by those of skill in the art, in view of the construction materials provided, as well as the dimensions and intended utility of the finished eyeglasses. In the embodiment illustrated in FIG. 5, the apertures 52 may or may not pass through a portion of the lens depending upon the extent to which the lens interferes within the frame 52, and the relative width of the frame 52 as will be apparent to those of skill in the art.

Although the present invention has been described in terms of certain preferred embodiments, other embodiments will become apparent to those of skill in the art in view of the disclosure herein. Accordingly, the present invention is intended to be defined solely by reference to the appended claims, and not limited to the preferred embodiments disclosed herein.

What is claimed is:

1. A vented dual lens eyeglass system, comprising:

a right and a left lens each having a central optical zone and a peripheral edge;

at least one recess extending through the peripheral edge of the lens;

an eyeglass frame surrounding at least a portion of the lens;

wherein the eyeglass frame contacts the peripheral edge of the lens on a first side and on a second side of the recess to enclose a non-tortuous aperture, at least a portion of which is spaced apart from the frame in the direction of the optical zone of the lens.

2. A vented dual lens eyeglass system as in claim 1, comprising a plurality of apertures formed around the peripheral edge of the lens.

3. A vented dual lens eyeglass system as in claim 2, wherein each aperture comprises a curved wall, the convex side of which faces the optical zone.

4. A vented dual lens eyeglass system as in claim 1, wherein the eyeglass lens has a vertical dimension within the range of from about 1 inch to about 2 inches, and a horizontal arc length along the surface of the lens within the range of from about 2 inches to about 3 inches.

5. A method of manufacturing vented eyeglasses, comprising the steps of:

providing a lens blank;

cutting the lens blank to produce a lens having an outer periphery and a plurality of recesses extending radially inwardly into the lens from the outer periphery, each recess bordered by a lens edge; and

securing the outer periphery of the lens to an eyeglass orbital such that the recesses extend radially inwardly from the orbital to produce a plurality of apertures between the lens and the orbital, each aperture formed between the edge of the lens surrounding the recess and a portion of the orbital;

wherein a portion of the edge is spaced apart radially inwardly from the portion of the orbital by about the cross section of the aperture.

\* \* \* \* \*

# EXHIBIT 2



US005387949A

**United States Patent** [19]**Tackles**[11] **Patent Number:** **5,387,949**[45] **Date of Patent:** **Feb. 7, 1995**

- [54] **EYEGLASS CONNECTION DEVICE**  
[75] **Inventor:** George Tackles, Lake Elsinore, Calif.  
[73] **Assignee:** Oakley, Inc., Irvine, Calif.  
[21] **Appl. No.:** 825,476  
[22] **Filed:** Jan. 29, 1992  
[51] **Int. Cl.<sup>6</sup>** ..... G02C 5/14  
[52] **U.S. Cl.** ..... 351/121; 351/44;  
351/110; 351/140  
[58] **Field of Search** ..... 351/121, 110, 111, 140,  
351/41, 158, 153, 141, 142, 149, 44

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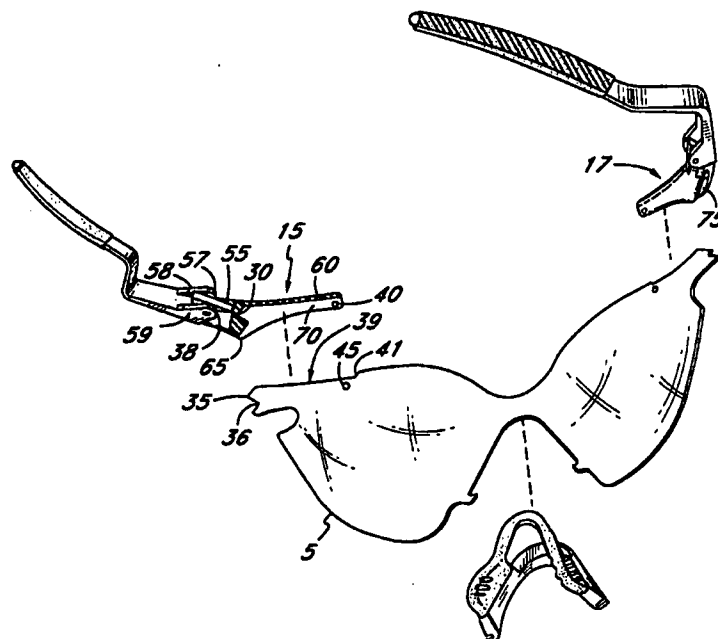
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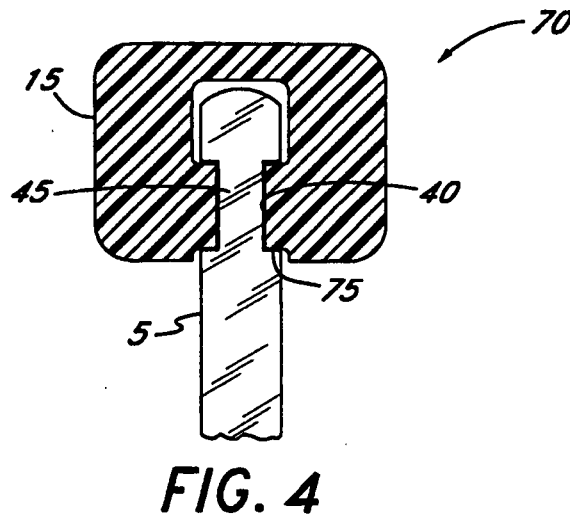
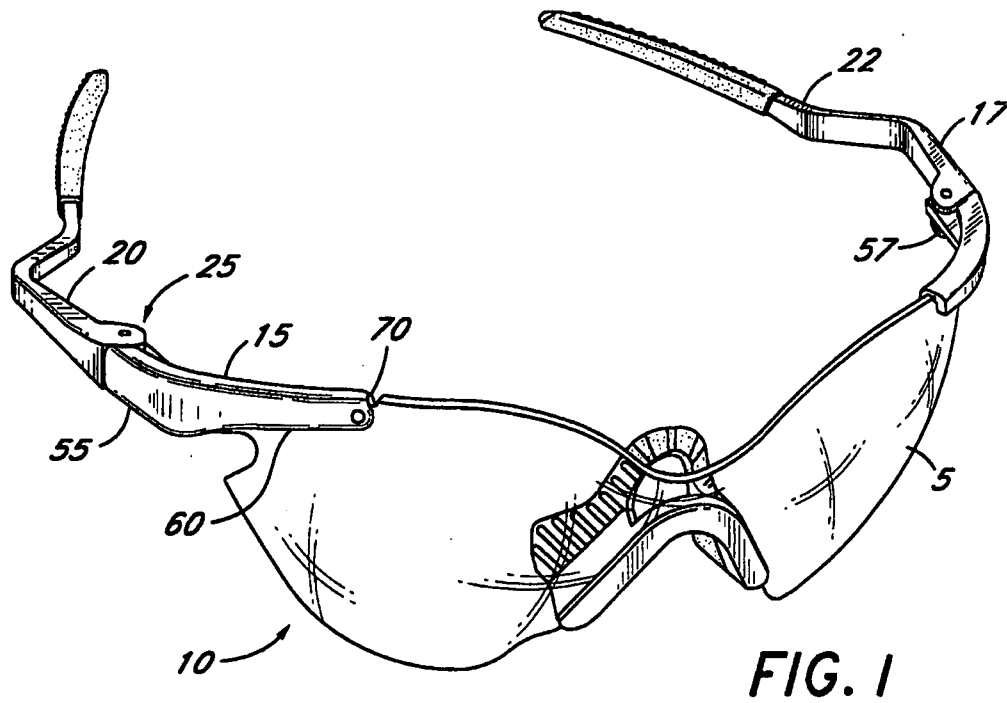
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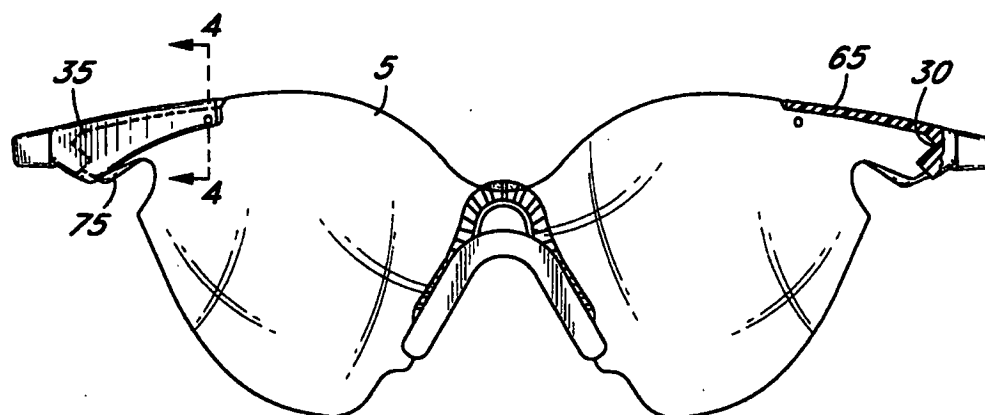
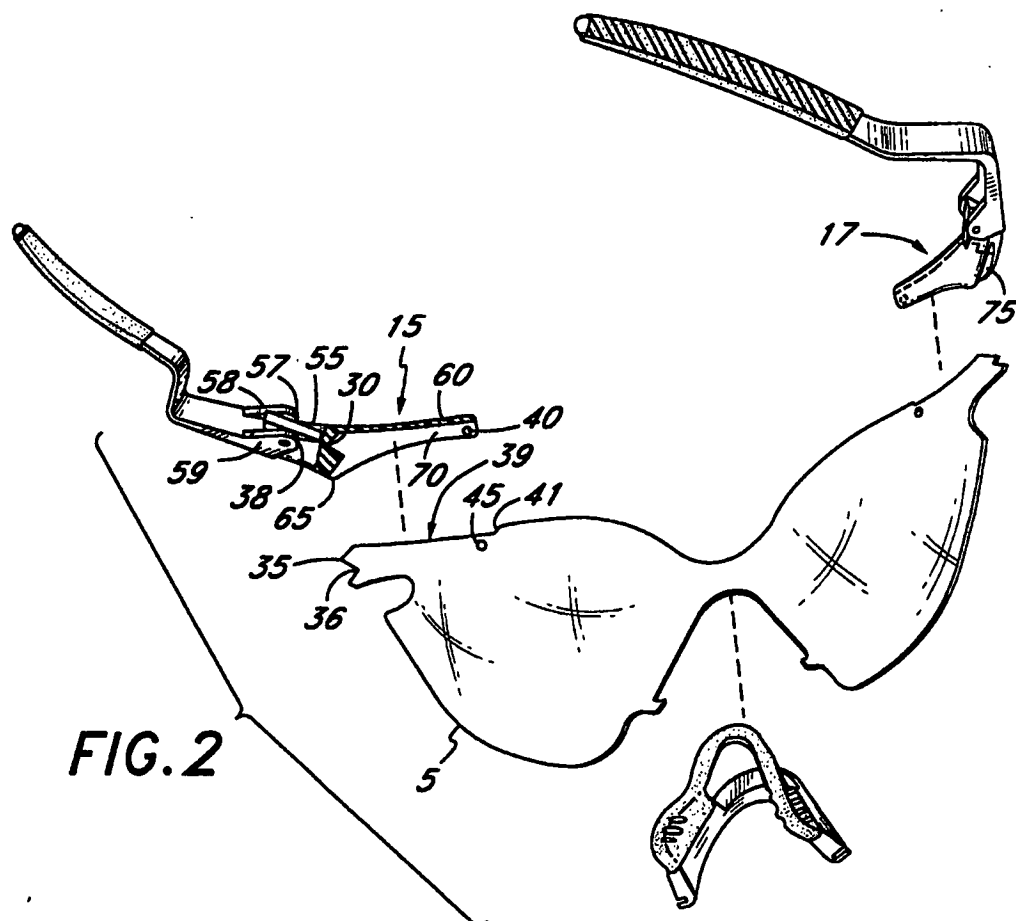
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*Primary Examiner*—William L. Sikes*Assistant Examiner*—Hung Xuan Dang*Attorney, Agent, or Firm*—Knobbe, Martens, Olson & Bear[57] **ABSTRACT**

Disclosed is a connector for use in connecting a lens to an earstem, comprising a main body which contains a hinge end and a lens receiving end. The connector contains a channel for receiving a portion of the lens. The pivot end of the channel contains a recess whereas the locking end of the channel contains a projection. The hinge end of the connector is attached to the earstem by a releasable pin connection. The lens is connected to the connector by inserting a lens into the channel where the lens is pivoted at the pivot end and then the connector is snapped down to cover over the top edge of the lens. Variations, component parts, and a wire frame dual lens detachable component system are also disclosed.

**18 Claims, 3 Drawing Sheets**





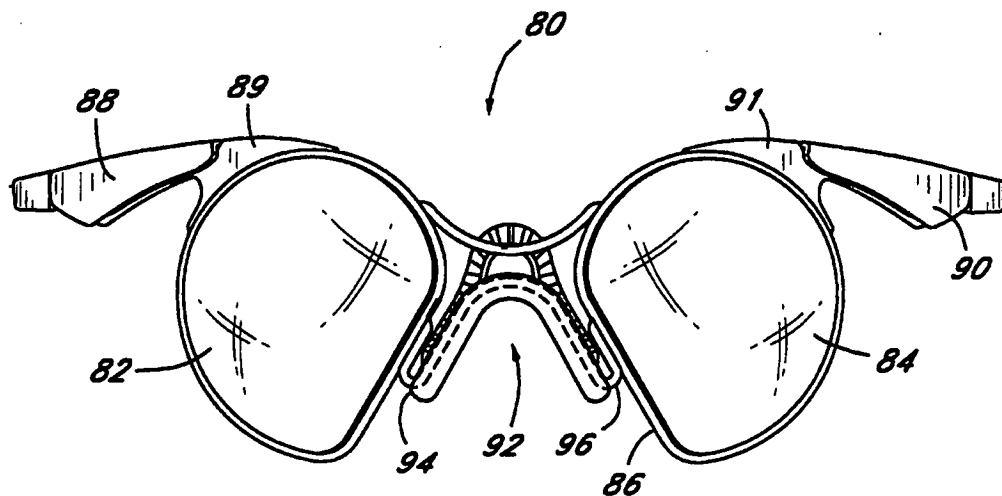


FIG. 5

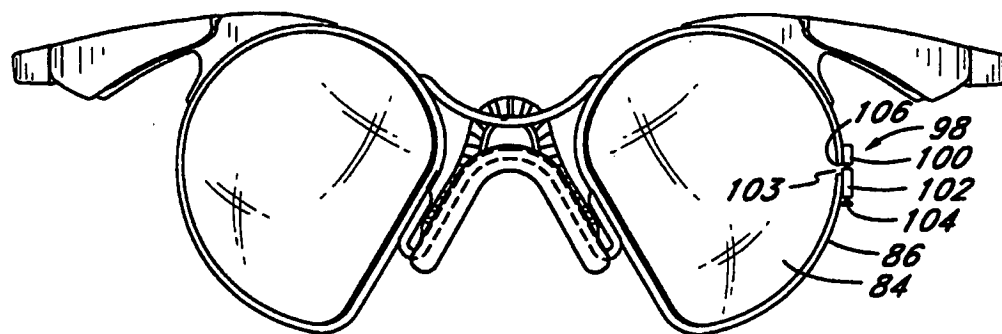


FIG. 6

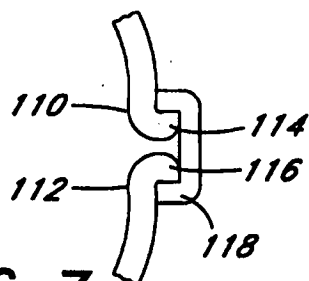


FIG. 7

## EYEGLASS CONNECTION DEVICE

## BACKGROUND OF THE INVENTION

The present invention relates to a connector for connecting an eyeglass lens to an earstem. The connector enables the user to interchange different earstems with different lenses, thus creating different color or configuration combinations.

This invention can be used with any shape of lens or earstem that is designed to accept the connector. In addition, the connector of the present invention is useable with both dual lens and unitary lens eyeglass systems. The connector is easily attachable and removable from the top, side or bottom edge of the lens, yet provides a sturdy connection when locked into position.

Unitary lens eyeglasses having interchangeable lenses are known in the art. See, for example, U.S. Pat. Nos. 4,824,233 and 4,867,550, both to James H. Jannard. The upper frame in these prior devices generally comprises a bar extending across the top edge of the lens and connecting to both earstems.

In order to switch lenses, the top edge of the new lens typically has a complementary shape to a slot extending the length of the upper frame. Thus, the shape of the top edge of the lens was generally dictated by the unique shape of the frame.

Thus, there remains a need for a connector that allows for the quick and easy interchange of earstems or lenses that will be secure when in the locked position, but that minimizes the need for structural correspondence between the edge of the lens and the lens contacting portion of the frame, and which does not require a frame along the entire top edge of the lens.

## SUMMARY OF THE INVENTION

There has been provided, in accordance with one aspect of the present invention, an eyeglass connection device that connects the earstem to the lens, which enables the user to interchange the lens or earstem. There are two connectors in a standard eyeglass assembly, each connecting an earstem to the lens. Thus, one may change both earstems or either one of them.

The connector comprises a main body having a lateral end a medial end, and a lens receiving channel extending from the medial end in the direction of the lateral end. A first interlock structure is provided in the lateral end of the channel, and a second interlock structure is spaced apart from the lateral end of the channel.

Preferably, the first interlock structure comprises a locking surface for engaging a corresponding locking surface on a lens for resisting vertical upward motion of the lateral end of the connector with respect to the lens. The locking surface on the first interlock structure preferably comprises a ramped edge of a projection on the connector. The projection is preferably integrally molded on the connector, and extends within the channel in the medial direction.

The second interlock structure comprises a locking surface for releasably engaging a corresponding locking surface on the lens. Preferably, the second interlock structure comprises at least one projection within the channel for engaging a recess in the lens. More preferably, the second interlock structure comprises first and second projections on the connector extending towards each other from opposite sides of the channel for engaging opposing recesses in the lens. Alternatively, the second interlock structure comprises at least one recess

in the channel for receiving at least one projection on the lens.

In accordance with a further aspect of the present invention, there is provided a sunglass comprising a unitary transparent lens adapted to extend in a curved pane in the path of the wearer's left and right eye fields of vision, said lens having at least one connector extending along a portion of an edge of the lens, the connector having an elongated slot formed therein to removably receive a portion of the edge of the lens.

At least one projection is provided on the lens to interlock within a recess on the connector at a first end of the connector. A locking surface is provided on the connector, spaced apart from the recess, for releasably engaging a locking surface on the lens.

Preferably, the connector extends no more than about one-third of the way across the top edge of the lens. More preferably, the connector extends no more than about one-fifth of the way across the top of the lens. Alternatively, the connector extends along at least a portion of either the lateral edge of the lens or the bottom edge of the lens. In a further alternative, the connector connects to a flange or other extension of a frame for the lens.

In accordance with a further aspect of the present invention, there is provided a method of removably securing an earstem to a lens or frame in a pair of eyeglasses of the type having a right and left lens region, a nose piece and right and left earstems. The right and left lens regions are generally defined by a horizontal axis which extends from side to side throughout the left and right lens regions, and which is longer than a vertical axis which extends generally perpendicular to the horizontal axis.

The method comprises the steps of providing a frame or lens having a first and a second interlock structure thereon, and providing a connector having a slot therein for receiving the lens, said connector having a first and second complementary interlock structure thereon.

The connector is advanced along the horizontal axis until the first interlock structure of the connector is in contact with the first interlock structure on the lens. The second interlock structure on the connector is thereafter rotated downward, generally along the vertical axis, until the second interlock structure on the connector engages the second interlock structure on the lens.

In accordance with a further aspect of the present invention, there is provided a lens for assembly using the connectors of the present invention into an eyeglass of the type suitable for participation in active sports such as biking, skiing and the like.

The lens comprises a unitary pane having an upper edge and a lower edge, the lower edge having a nose piece opening formed therein for cooperating with the connectors and earstems to mount the lens on the nose of the wearer. The nose piece opening has an upper extremity, and the distance separating the upper extremity of the nose piece and the upper edge of the pane being defined as D1, and the distance separating the upper edge of the pane and the lower edge of the pane is defined as D2. D1 is in the range between about  $\frac{1}{4}$  inch and  $1\frac{1}{2}$  inches, and D2 is in the range of from about  $1\frac{1}{4}$  inches to about  $2\frac{1}{4}$  inches.

The lens has an arcuate cross-sectional configuration in a horizontal direction from a first lateral end to a

second lateral end, having an arc length within the range of from about 5- $\frac{1}{2}$  inches to about 7 inches.

At least one lateral interlock structure is provided in the upper lateral region of the lens, and at least one medial interlock structure is spaced apart from the lateral interlock structure by no more than about one-half of the arc length of the lens.

Further objects, features and advantages of the present invention will become apparent in the detailed description of the preferred embodiments which follows, when considered together with the attached figures and claims.

#### BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a front perspective view of a connection device of the present invention as part of an eyewear system;

FIG. 2 is a partial exploded view of the eyewear of FIG. 1, including a partial cut away view of a connection device;

FIG. 3 is a front elevational view of eyewear including connection devices of the present invention, with one connection device in partial cut away view; and

FIG. 4 is a cross-sectional view of a connection device of the present invention taken along line 4-4 of FIG. 3.

FIG. 5 is a front elevational view of a further embodiment of the present invention.

FIG. 6 is a front elevational view of a further embodiment of the present invention.

FIG. 7 is a partial elevational view of a frame closure lock in accordance with the present invention.

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to FIG. 1, there is disclosed in accordance with one aspect of the present invention a unitary lens 5 connected to earstems 20, 22 via connectors 15, 17 to form an eyeglass system 10.

The eyeglass system 10 may comprise either a dual lens system or a unitary lens system. Dual lens systems are well known in the art of prescription glasses, and include a separate right lens and left lens held in place in front of the range of vision of the wearer's right and left eyes by a conventional frame. See, e.g., FIG. 5.

The unitary lens systems utilize a single lens extending throughout both the wearer's left eye and right eye fields of vision. Unitary lenses having a variety of configurations which may be used in combination with the present invention are known in the art. For example, unitary lenses having a configuration which defines a portion of the surface of a cylinder are disclosed in U.S. Pat. No. 4,859,048 to James H. Jannard, which is incorporated herein by reference. Unitary lenses having a configuration which defines a portion of the surface of a toroid are disclosed in U.S. Pat. No. 4,867,550 to James H. Jannard, which is also incorporated herein by reference. In addition, unitary lenses having a configuration which defines a portion of the surface of a sphere, a frusto conical or other geometrical configuration can also be utilized in combination with the connectors of the present invention.

Since both connectors 15, 17 and both earstems 20, 22 are preferably mirror images, respectively, reference will be made to only one connector 15 and one earstem 20 herein. Referring to FIG. 1, connector 15 comprises a hinge end 55 and a lens receiving end 60.

In the illustrated embodiment, the connector 15 has a lens receiving channel 75 that starts from the lens receiving end 60 and extends through at least a part of the length of the connector 15. The channel 75 has a locking end 70 located at the lens receiving end 60 of the connector 15, and a pivot end 65. See FIG. 2. The terms "locking end" and "pivot end" are used only as descriptive terms for the functioning of the illustrated embodiment, and not as a limitation on the scope of the invention.

The length of the connector 15 and channel 75 can be varied depending upon the desired contact area between the connector 15 and the connector contacting surface 39 of lens 5. Typically, each connector will extend no more than about half way across the top of the lens 5 in a top mount embodiment. Preferably, each connector will extend no more than about a third of the way across lens 5 thereby leaving at least about a third of the upper lens edge exposed. More preferably, connector 15 will extend no more than about one fifth of the arc length of lens 5. Thus, in a lens having an arc length of about 6 inches, each connector contacting surface 39 will have a length within the range of from about  $\frac{3}{4}$  inches to about 1- $\frac{1}{4}$  inches.

Preferably, the medial end of the connector contacting surface 39 is defined by a ramp or shoulder 41 corresponding to the thickness of the back wall of the channel 75 so that the upper edge of the installed connector 15 and lens 5 form a generally smooth transition.

Alternatively, the connector 15 can readily be adapted to extend along the lateral edge or bottom edge of the lens 5. In these embodiments, the connector will be releasably retained on the lens by two or more cooperating locking surfaces, as will be discussed in connection with the top mount embodiment, infra.

The hinge end 55 of connector 15 is connected to the earstem 20 via a pin connection 25. In the illustrated embodiment, a flange 57 extends from the main body of the connector 15, and is provided with a pin or recess to cooperate with corresponding structure on the earstem for pivotably securing the earstem 20. The pin connection 25 allows the earstem 20 to be folded inward toward the lens 5 so that the eyeglass 10 will take a more compact shape.

In general, flange 57 is adapted for removable insertion between a pair of generally parallel extensions 58 and 59 on the hinge end of the earstem 20. See, e.g., FIG. 2. Flange 57 in the illustrated embodiment is provided with a pair of opposing pins extending in opposite directions therefrom. Each pin is received in a recess or bore in the corresponding extension 58 or 59. These components are preferably molded or formed from a plastic material that will permit the extensions 58 and 59 to be separated slightly to releasably snap over the pins on flange 57.

Alternatively, the relationships of these components can be reversed in a variety of ways. For example, pins can be provided extending towards each other from the opposing inside surfaces of the extensions 58 and 59 to be received by a bore in the flange 57. The pin connection 25 will not be further described since variations will be readily understood by one of skill in the art in view of the disclosure herein.

Referring to FIG. 2, the lens 5 is provided with a first locking structure such as tooth 35, spaced apart from a second locking structure such as indent 45. The tooth 35 defines a recess 36 on the bottom side thereof for receiving



ing an interlocking structure such as extension 38 on the connector 15.

Although illustrated as an extension 38 on the connector 15 for engaging a recess 36 on the lens, any of a variety of complementary surface structures on the lens and connector will accomplish the inventive connection. In general, the first locking structure comprises a structure on the lens having a locking surface for resisting vertical upward movement of a corresponding locking surface on the connector 15. This may be accomplished by cooperating projections and indents having a variety of configurations, including interlocking "teeth" pins and recesses, beads and grooves and the like, as will become apparent to one of skill in the art in view of the present disclosure.

For example, the upper edge 39 of the connector receiving portion of the lens 5 can be provided with a plurality of bumps or projections extending generally transversely to the local plane of the lens. Alternatively, a continuous raised bead can extend along the edge 39 of the lens 5. In this embodiment, the inner surface of the channel 75 is provided with at least one recess for cooperating with the raised lens structure to provide a secure friction or interference fit. Installation can then be accomplished by sliding the lens axially into a slot on the connector having a "T" or functionally similar type cross section. Thus, the first and second locking structure can merge into a continuation of the same structure. The connector can additionally be permanently adhered to the lens such as by solvent based adhesives or heat; however, the two components remain removably secured in the preferred embodiment.

Referring to FIGS. 3 and 4, the second locking structure at medial end 70 of the channel 75 contains at least one interlocking structure such as projection 40. The projection 40 snaps into the indent 45 of the lens 5 when the connector 15 is locked into position.

There may be one indent 45 extending partially or completely through the lens, or two located on opposite sides of the lens 5. Indent 45 can take the form of a circular hole, elongate slot, shelf or shoulder formed beneath a ramp or otherwise, as long as a surface is provided for cooperating with the corresponding structure on lens 5 to produce a friction or interference fit.

Accordingly, there may be one projection 40 or there may be two or more located on opposing sides of the interior of the channel 75. The projection 40 can be of any shape generally as long as it has an interference fit with the corresponding locking structure on the lens, such as indent 45. The projection 40 can extend part-way or even all the way along the length of the channel 75 in the form of a ridge, as has been discussed. In this embodiment, the first and second locking structures may be merged into a single elongate or repeating structure. The projection 40 is illustrated as located slightly above the bottom edge of the connector 15, but it can be located exactly on the bottom edge.

As will be apparent in view of the disclosure herein, the interlock structure on the lens cooperates with the corresponding interlock structure on the connector to produce an interference fit which resists both upward rotation of the connector about the tooth 35, and also lateral motion of the connector 15 with respect to the lens 5.

To attach the connector 15 to the lens 5, the tooth 35 of the lens 5 is advanced into the recess 30 of the connector 15 while the longitudinal axis of connector 15 is angled slightly above parallel to surface 39, so that the

lens receiving end 60 is positioned above the connector receiving edge 39 of the lens 5. Once the tooth 35 is positioned in the recess 30, the lens receiving end 60 of the connector 15 can be pivoted down and snapped onto the top edge of the lens 5. The projection 40 of the connector 15 will advance into the indent 45 of the lens 5 to provide an interference fit. Removal is accomplished by the same steps in reverse. Removing the projection 40 from the indent 45 is accomplished by plastic deformation of the material utilized in making the connector 15 as the lens receiving end 60 is rotated upward about the tooth 35.

The order of attachment of the first and second locking structures will depend upon the particular embodiment. For example, if the medial locking structure comprises a projection and recess which are roughly mirror images of the lateral locking structure, either the medial or the lateral end of the connector can be set first.

The connector 15 is preferably molded as an integral unit from any of a variety of plastics conventionally used for detachable component sunglass frames. Alternatively, the slot 75 can be milled as a post molding step. In a unitary lens embodiment, the lens is preferably injection molded from polycarbonate or other conventional material and cut or ground to produce the appropriate profile.

Since the connector 15 is attached to the lens 5 at only a relatively small portion of the top, side or bottom edge of lens 5, the shape of the top edge of the lens may be varied without regard to the shape of an upper frame. This can be advantageous in a variety of circumstances, such as for uses in which it is desirable to minimize obstacles to the range of vision at the upper portion of the lens.

For example, bicyclists tend to look through the uppermost portion of the lens and can be distracted or limited by an upper frame. In addition, the range of vision for each eye at the top of the field of vision does not necessarily follow a uniform curve having a continuous single radius. Thus, positioning a single arcuate upper frame sufficiently high that it optimizes the field of view can result in the use of unnecessary lens and frame material in regions where it extends beyond the upper range of vision.

By eliminating the need for a full upper frame, the present invention permits contouring of the upper edge of the lens in a manner that minimizes weight while maximizing protection of the wearer's full field of vision, and at the same time retaining all of the advantages of rapid interchangeability of components without the use of tools.

Referring to FIG. 5, there is disclosed a further embodiment in accordance with the present invention. A wire frame pair of eyeglasses 80 is disclosed, having a right lens 82 and a left lens 84 disposed in a wire frame 86. In a preferred embodiment, lenses 82 and 84 are removably disposed in the frame 86 to permit selective interchanging of lenses, as will be discussed.

Wire frame 86 is provided with a right mounting flange 89 and left mounting flange 91 for receiving connectors 88 and 90, respectively. Preferably, connectors 88 and 90 are removably secured to flanges 89 and 91, in the same manner as has been discussed in connection with FIGS. 1-4, supra.

Flanges 89 and 91 may be constructed of any of a variety of materials having sufficient structural strength to accomplish the intended function. However, in a preferred embodiment, the flanges 89 and 91 comprise a

metal which is bondable to the metal used for the construction of the frame 86. A wide variety of metals are known in the art which may be utilized for the present purposes, including titanium, aluminum, nickel silver alloys, stainless steel, brass and various non-metal composites. These metals or other materials may be drawn into wire, or stamped from sheet stock, or otherwise molded or formed to create a frame 86 which may then be secured such as by soldering or brazing to flanges 89 and 91, which are preferably stamped from sheet stock, and thereafter provided with any desired curvature.

Preferably, the wire frame glasses 80 are provided with a nose piece 92 having a slot 94 extending along the upper surface thereof to receive a nose piece connector wire or flange 96. The nose piece connector wire 96 is preferably secured to the remainder of frame 86 by conventional brazing or soldering techniques. The foregoing construction permits the user interchangeability of nose pieces onto the wire frame 86, with the nose piece releasably retained in position by friction or interference fit structures, as will be apparent to one of skill in the art.

In accordance with a further embodiment of the detachable component wire frame glasses 80 of the present invention, there is provided a means for removably retaining the lenses 82 and 84 within the wire frame 86. Referring to FIG. 6, there is disclosed a lens 84 mounted in a frame 86 which has been provided with a frame closure lock 98. Closure lock 98 may be provided at any location along the perimeter of lens 84, such as on the lateral end as illustrated, or at the medial surface, or at the connection point between the frame 86 and the flange 91.

The closure lock 98 in the embodiment illustrated in FIG. 6 comprises a threaded barrel 100 secured to the frame 86. Threaded barrel 100 is axially aligned with a tubular sleeve 102 secured to an adjacent portion of frame 86. A discontinuity or space 103 is provided in the frame 86 between the threaded barrel 100 and sleeve 102, as will be understood by one of skill in the art.

A screw 104 extends axially through the sleeve 102 and into the threaded barrel 100. Tightening or loosening screw 104 will draw adjacent ends 106 and 108 of frame 86 towards each other or away from each other, thereby reducing or enlarging the circumference of the frame 86 which encircles lens 84.

In this manner, the circumference of frame 86 can be enlarged to release the lens 84 so that it may be interchanged with another lens having different refractive properties or different color densities or other design configurations.

A variety of alternative embodiments based upon the axially aligned barrel embodiment are contemplated herein. For example, the sleeve 102 or a flange need only have a sufficient axial length to support the screw 104. The screw 104 may be a conventional threaded machine screw, or may be a modified rod having one or more radially outwardly extending projections or a medical luer lock configuration.

A rod having a "T" shaped distal end can be inserted into a keyway in the opposing barrel, and rotation of the rod through an angle, e.g., of about 90° will move the "T" structure out of alignment with the keyway to prevent retraction of the rod. In general, any locking structure which involves a rod or pin which is rotatable from a first, aligned position to permit axial insertion into a keyway, and a second, nonaligned position to prevent retraction from the keyway will work.

In any of the foregoing "barrel" embodiments of the closure lock, the closure lock structure can be located at any convenient point around the periphery of the lens. Preferably, the closure lock will be disposed on the posterior side of the flange 91.

Referring to FIG. 7, there is disclosed another embodiment of the frame closure lock in accordance with the present invention. In this embodiment, the frame is severed to provide two abutting ends 110 and 112 having a space therebetween. Each of ends 110 and 112 is provided with an outwardly extending projection 114 and 116, respectively. Once a lens 84 has been disposed within the wire frame 86, the ends 110 and 112 are manually drawn towards each other, and a retention clip 118 may be snapped over the projections 114 and 116 to retain the frame 86 in its reduced circumference configuration, thereby retaining the lens.

For this purpose, the contact surfaces between the abutment 114, 116 and the clip 118 are preferably configured in a manner that provides an interference fit to retain the clip 118 in place until the resilience of the clip 118 is overcome, such as by prying with a fingernail or removal tool. The contact surfaces between the clip 118 and abutments 114 and 116 will therefore be angled and tolerated in a manner that provides a sufficient resistance to removal of clip 118 that it will not be likely to come unconnected during normal use. Clip 118 may be constructed from metal, or from any of a wide variety of polymeric materials which are known in the sunglass manufacturing art.

In a variation of the foregoing, the nose piece, nose-piece connector 96 or flange 91 may be configured to function as clip 118, thereby permitting interchangeability of the lens by removing an eyeglass component. For example, one end 106 of frame 86 can be bonded to flange 91, and the space 103 provided in the frame at a point adjacent the connection to flange 91. The other end 108 can then be removably secured to the flange to accomplish the interchangeability of lenses.

The lens 84 and frame 86 may be provided with any of a variety of interlock structures which will become apparent to one of skill in the art in view of the disclosure herein. For example, the outer periphery of lens 84 in one embodiment is provided with a radially inwardly extending channel extending all the way around for receiving a wire frame 86 therein. Tightening of the frame closure lock 98 reduces the circumference of the wire 86 so that it rests in the channel formed around the circumference of the lens 84. In an alternate embodiment, the lens 84 is provided with a radially outwardly extending flange having the same or a reduced thickness compared to the remainder of the lens. The flange is received within a groove provided around the inside surface of the wire frame 86 to provide an interlock fit.

Thus, there has been provided in accordance with this aspect of the present invention a detachable component system having interchangeable left and right lenses, an interchangeable nose piece and interchangeable connectors for providing hinged support to a pair of removably secured earstems. Although described as a wire frame eyeglass 80, it is to be understood that the wire 86 can readily be replaced by stamped or rolled metal sheet stock or extruded or molded polymeric materials, which extend outwardly from the contact surface with the lens as far as is practical for a given purpose. For example, in an embodiment intended for use as protective eyewear, the frame 86 preferably extends a relatively large distance from side to side and

from top to bottom to create a "mask" of metal or plastic which will provide sufficient eye protection for the intended application. In this manner, protective prescription lens eyewear may be provided for a wide variety of uses, ranging from surgery, welding, bicycle racing and others.

Although this invention has been described in terms of certain preferred embodiments, other embodiments that are apparent to those of ordinary skill in the art are also within the scope of this invention. Accordingly, the scope of this invention is intended to be limited only by the appended claims.

What is claimed is:

1. A connector for eyeglasses, for connecting one or more earstems to a lens, said connector comprising:
  - a main body with a lateral end and a medial end;
  - a lens receiving channel extending from the medial end in the direction of the lateral end;
  - a first interlock structure in the lateral end of the channel, said first interlock structure comprising a locking surface for engaging a corresponding locking surface on the lens for resisting vertical upward motion of the lateral end of the connector with respect to the lens, said locking surface on the first interlock structure comprising a ramped edge of a projection on the connector; and
  - a second interlock structure spaced apart from the lateral end of the channel.
2. A connector for eyeglasses as in claim 1, wherein the projection is integrally molded on the connector and extends within the channel in the medial direction.
3. A connector for eyeglasses as in claim 1, wherein the second interlock structure comprises a locking surface for releasably engaging a corresponding locking surface on the lens.
4. A connector for eyeglasses as in claim 1, wherein the second interlock structure comprises a projection within the channel for engaging a recess in the lens.
5. A connector for eyeglasses as in claim 4, wherein the second interlock structure comprises first and second projections on the connector extending toward each other from opposite sides of the channel.
6. An eyeglass, comprising a lens, an earstem, and at least one connector as defined in claim 1 for removably connecting the earstem to the lens.
7. A eyeglass as in claim 6, further comprising an earstem pivotally secured to the connector.
8. An eyeglass, comprising a lens, an earstem, and at least one connector as defined in claim 1 for removably connecting the earstem to the lens.
9. Sunglasses, comprising:

a unitary transparent lens adapted to extend in the path of the wearer's left and right eye fields of vision; and

at least one connector as defined in claim 1 extending along a portion of an edge of said lens, said lens having at least one projection on the lens to interlock with said connector.

10. A sunglass as in claim 9, further comprising a second connector secured to said lens.

11. A sunglass as in claim 9, further comprising an earstem pivotally secured to said connector.

12. A sunglass as in claim 9, wherein said connector extends no more than about one-third of the way across a top edge of the lens.

13. A sunglass as in claim 9, wherein the connector extends no more than about one-fifth of the way across the top edge of the lens.

14. A sunglass as in claim 9, wherein said connector extends along at least a portion of the lateral edge of the lens.

15. A sunglass as in claim 9, wherein said connector extends along at least a portion of the bottom edge of the lens.

16. The connector of claim 1, further comprising an earstem pivotally secured to the connector.

17. A connector for eyeglasses, for connecting one or more earstems to a lens, said connector comprising:
 

- a main body with a lateral end and a medial end;
- a lens receiving channel extending from the medial end in the direction of the lateral end;
- a first interlock structure in the lateral end of the channel; and
- a second interlock structure spaced apart from the lateral end of the channel, said second interlock structure comprising a recess in the channel for receiving a projection on the lens.

18. An eyeglass, comprising:

a lens, said lens having a connector contacting surface having a projection at a lateral point thereon and a recess at a medial point thereon;

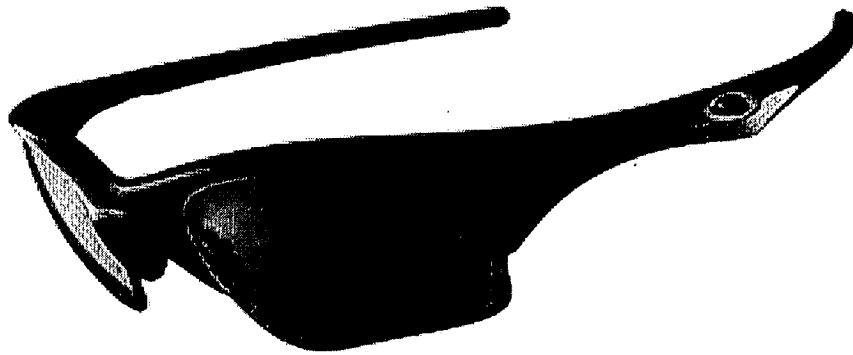
an earstem; and

at least one connector for connecting one or more earstems to a lens, said connector comprising a main body with a lateral end and a medial end; a lens receiving channel extending from the medial end in the direction of the lateral end; a first interlock structure in the lateral end of the channel; and a second interlock structure spaced apart from the lateral end of the channel, said connector for removably connecting the earstem to the lens.

\* \* \* \* \*

# EXHIBIT 3

EXHIBIT 3



## CIVIL COVER SHEET

The JS 44 civil cover sheet and the information contained herein neither replace nor supplement the filing and service of pleadings or other papers as required by law, except as provided by local rules of court. This form, approved by the Judicial Conference of the United States in September 1974, is required for the use of the Clerk of Court for the purpose of initiating the civil docket sheet. (SEE INSTRUCTIONS ON THE REVERSE OF THE FORM.)

## I. (a) PLAINTIFFS

OAKLEY, INC., a Washington corporation

(b) County of Residence of First Listed Plaintiff Orange County, CA  
(EXCEPT IN U.S. PLAINTIFF CASES)

(c) Attorney's (Firm Name, Address, and Telephone Number)

Weeks, Kaufman, Nelson & Johnson  
462 Stevens Ave., #310, Solana Beach, CA 92075

## DEFENDANTS

MOUNTAIN SHADES, INC. dba OPTIQ NERVE, a Colorado corporation

County of Residence of First Listed Defendant Jefferson County CO  
(IN U.S. PLAINTIFF CASES ONLY)NOTE: IN LAND CONDEMNATION CASES, USE THE LOCATION OF THE LAND INVOLVED. SOUTHERN DISTRICT OF CALIFORNIA

Attorneys (Firm Name)

09 CV 2333-IEG

BLM DEPUTY

## II. BASIS OF JURISDICTION (Place an "X" in One Box Only)

- ☐ 1 U.S. Government Plaintiff
- ☒ 3 Federal Question (U.S. Government Not a Party)
- ☐ 2 U.S. Government Defendant
- ☐ 4 Diversity (Indicate Citizenship of Parties in Item III)

## III. CITIZENSHIP OF PRINCIPAL PARTIES (Place an "X" in One Box for Plaintiff and One Box for Defendant)

- Citizen of This State ☐ 1 ☐ 1 PTF DEF Incorporated or Principal Place of Business In This State ☐ 4 ☐ 4
- Citizen of Another State ☐ 2 ☐ 2 Incorporated and Principal Place of Business In Another State ☐ 5 ☐ 5
- Citizen or Subject of a Foreign Country ☐ 3 ☐ 3 Foreign Nation ☐ 6 ☐ 6

## IV. NATURE OF SUIT (Place an "X" in One Box Only)

CONTRACT	TORTS	FORFEITURE/PENALTY	BANKRUPTCY	OTHER STATUTES
<input type="checkbox"/> 110 Insurance <input type="checkbox"/> 120 Marine <input type="checkbox"/> 130 Miller Act <input type="checkbox"/> 140 Negotiable Instrument <input type="checkbox"/> 150 Recovery of Overpayment & Enforcement of Judgment <input type="checkbox"/> 151 Medicare Act <input type="checkbox"/> 152 Recovery of Defaulted Student Loans (Excl. Veterans) <input type="checkbox"/> 153 Recovery of Overpayment of Veteran's Benefits <input type="checkbox"/> 160 Stockholders' Suits <input type="checkbox"/> 190 Other Contract <input type="checkbox"/> 195 Contract Product Liability <input type="checkbox"/> 196 Franchise	<b>PERSONAL INJURY</b> <input type="checkbox"/> 310 Airplane <input type="checkbox"/> 315 Airplane Product Liability <input type="checkbox"/> 320 Assault, Libel & Slander <input type="checkbox"/> 330 Federal Employers' Liability <input type="checkbox"/> 340 Marine <input type="checkbox"/> 345 Marine Product Liability <input type="checkbox"/> 350 Motor Vehicle <input type="checkbox"/> 355 Motor Vehicle Product Liability <input type="checkbox"/> 360 Other Personal Injury	<b>PERSONAL INJURY</b> <input type="checkbox"/> 362 Personal Injury - Med. Malpractice <input type="checkbox"/> 365 Personal Injury - Product Liability <input type="checkbox"/> 368 Asbestos Personal Injury Product Liability <b>PERSONAL PROPERTY</b> <input type="checkbox"/> 370 Other Fraud <input type="checkbox"/> 371 Truth in Lending <input type="checkbox"/> 380 Other Personal Property Damage <input type="checkbox"/> 385 Property Damage Product Liability	<input type="checkbox"/> 422 Appeal 28 USC 158 <input type="checkbox"/> 423 Withdrawal 28 USC 157 <b>PROPERTY RIGHTS</b> <input type="checkbox"/> 820 Copyrights <input checked="" type="checkbox"/> 830 Patent <input type="checkbox"/> 840 Trademark	<input type="checkbox"/> 400 State Reapportionment <input type="checkbox"/> 410 Antitrust <input type="checkbox"/> 430 Banks and Banking <input type="checkbox"/> 450 Commerce <input type="checkbox"/> 460 Deportation <input type="checkbox"/> 470 Racketeer Influenced and Corrupt Organizations <input type="checkbox"/> 480 Consumer Credit <input type="checkbox"/> 490 Cable/Sat TV <input type="checkbox"/> 810 Selective Service <input type="checkbox"/> 850 Securities/Commodities/Exchange <input type="checkbox"/> 875 Customer Challenge 12 USC 3410 <input type="checkbox"/> 890 Other Statutory Actions <input type="checkbox"/> 891 Agricultural Acts <input type="checkbox"/> 892 Economic Stabilization Act <input type="checkbox"/> 893 Environmental Matters <input type="checkbox"/> 894 Energy Allocation Act <input type="checkbox"/> 895 Freedom of Information Act <input type="checkbox"/> 900 Appeal of Fee Determination Under Equal Access to Justice <input type="checkbox"/> 950 Constitutionality of State Statutes
<b>REAL PROPERTY</b> <input type="checkbox"/> 210 Land Condemnation <input type="checkbox"/> 220 Foreclosure <input type="checkbox"/> 230 Rent Lease & Ejectment <input type="checkbox"/> 240 Torts to Land <input type="checkbox"/> 245 Tort Product Liability <input type="checkbox"/> 290 All Other Real Property	<b>CIVIL RIGHTS</b> <input type="checkbox"/> 441 Voting <input type="checkbox"/> 442 Employment <input type="checkbox"/> 443 Housing/Accommodations <input type="checkbox"/> 444 Welfare <input type="checkbox"/> 445 Amer. w/Disabilities - Employment <input type="checkbox"/> 446 Amer. w/Disabilities - Other <input type="checkbox"/> 440 Other Civil Rights	<b>PRISONER PETITIONS</b> <input type="checkbox"/> 510 Motions to Vacate Sentence <b>Habeas Corpus:</b> <input type="checkbox"/> 530 General <input type="checkbox"/> 535 Death Penalty <input type="checkbox"/> 540 Mandamus & Other <input type="checkbox"/> 550 Civil Rights <input type="checkbox"/> 555 Prison Condition	<b>LABOR</b> <input type="checkbox"/> 710 Fair Labor Standards Act <input type="checkbox"/> 720 Labor/Mgmt. Relations <input type="checkbox"/> 730 Labor/Mgmt. Reporting & Disclosure Act <input type="checkbox"/> 740 Railway Labor Act <input type="checkbox"/> 790 Other Labor Litigation <input type="checkbox"/> 791 Empl. Ret. Inc. Security Act <b>IMMIGRATION</b> <input type="checkbox"/> 462 Naturalization Application <input type="checkbox"/> 463 Habeas Corpus - Alien Detainee <input type="checkbox"/> 465 Other Immigration Actions	<b>SOCIAL SECURITY</b> <input type="checkbox"/> 861 HIA (1395ff) <input type="checkbox"/> 862 Black Lung (923) <input type="checkbox"/> 863 DIWC/DIWW (405(g)) <input type="checkbox"/> 864 SSID Title XVI <input type="checkbox"/> 865 RSI (405(g)) <b>FEDERAL TAX SUITS</b> <input type="checkbox"/> 870 Taxes (U.S. Plaintiff or Defendant) <input type="checkbox"/> 871 IRS—Third Party 26 USC 7609

## V. ORIGIN

(Place an "X" in One Box Only)

- ☒ 1 Original Proceeding
- ☐ 2 Removed from State Court
- ☐ 3 Remanded from Appellate Court
- ☐ 4 Reinstated or Reopened
- ☐ 5 Transferred from another district (specify)
- ☐ 6 Multidistrict Litigation
- ☐ 7 Appeal to District Judge from Magistrate Judgment

## VI. CAUSE OF ACTION

Cite the U.S. Civil Statute under which you are filing (Do not cite jurisdictional statutes unless diversity):

35 U.S.C. sections 271 and 281

Brief description of cause:

This is a case for patent infringement

## VII. REQUESTED IN COMPLAINT:

☐ CHECK IF THIS IS A CLASS ACTION UNDER F.R.C.P. 23

DEMAND \$

CHECK YES only if demanded in complaint:

JURY DEMAND: ☒ Yes ☐ No

## VIII. RELATED CASE(S) IF ANY

(See instructions):

JUDGE see notice of related cases

DOCKET NUMBER

DATE

10/19/09

SIGNATURE OF ATTORNEY OF RECORD

FOR OFFICE USE ONLY

RECEIPT #

6485

AMOUNT

350.00

APPLYING IFP

JUDGE

MAG. JUDGE

CR

MS 10/20/09

Court Name: USDC California Southern  
Division: 3  
Receipt Number: CAS006485  
Cashier ID: msweeney  
Transaction Date: 10/20/2009  
Payer Name: GREGORY K NELSON ATTY AT LAW

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CIVIL FILING FEE  
For: OAKLEY INC V MOUNTAIN SHADES  
Case/Party: D-CAS-3-09-CV-002333-001  
Amount: \$350.00

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CHECK  
Check/Money Order Num: 2349  
Amt Tendered: \$350.00

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Total Due: \$350.00  
Total Tendered: \$350.00  
Change Amt: \$0.00

There will be a fee of \$45.00  
charged for any returned check.