

**IPR2023-00494**  
**U.S. Patent No. 9,010,929**

***Magic Leap, Inc.***

***v.***

***Percept Technologies Inc.***

**May 8, 2024**

# Roadmap

- **'929 Patent**
- **Claim Interpretation**
- **Mann '895, Perner**

# '929 Patent

# '929 Patent: Challenged Claims

| Challenged Claims         | Prior Art                    |
|---------------------------|------------------------------|
| 1-6, 8, 11, 17, 22        | Mann '895, Perner            |
| <del>7, 9, 10, 15</del>   | <del>Mann '895, Perner</del> |
| <del>7, 9, 10, 15</del> * | <del>Jannard</del>           |

\* Claims 7, 9, 10, and 15 were disclaimed with Patent Owner's Preliminary Response (Paper 4; Ex. 2002).

# '929 Patent

  
US009010929B2

(12) **United States Patent**  
**Lewis**

(10) **Patent No.:** US 9,010,929 B2  
(45) **Date of Patent:** \*Apr. 21, 2015

(54) **DIGITAL EYEWEAR**

(71) Applicant: **Percept Technologies Inc.**, Las Vegas, NV (US)

(72) Inventor: **Scott W. Lewis**, Los Gatos, CA (US)

(73) Assignee: **Percept Technologies Inc.**, Las Vegas, NV (US)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.  
This patent is subject to a terminal disclaimer.

(21) Appl. No.: **13/739,929**

(22) Filed: **Jan. 11, 2013**

(65) **Prior Publication Data**  
US 2014/0028967 A1 Jan. 30, 2014

**Related U.S. Application Data**

(67) Continuation of application No. 13/078,589, filed on Apr. 1, 2011, now Pat. No. 8,353,594, which is a continuation of application No. 12/621,423, filed on Nov. 18, 2009, now Pat. No. 7,918,556, which is a continuation of application No. 12/029,068, filed on Feb. 11, 2008, now Pat. No. 7,758,185, which is a division of application No. 11/245,756, filed on Oct. 7, 2005, now abandoned.

(51) **Int. Cl.**  
**G02C 11/00** (2006.01)  
**G09G 3/00** (2006.01)

(52) **U.S. Cl.**  
CPC: **G02C 11/10** (2013.01); **G09G 3/00** (2013.01)

(58) **Field of Classification Search**  
USPC: 351/158; 385/8; 359/13; 630-633; 345/7-9  
See application file for complete search history.

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Claims from U.S. Appl. No. 11/246,873, filed Oct. 7, 2005.  
(Continued)

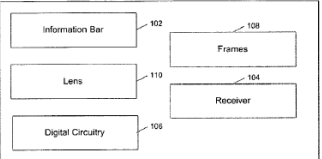
**Primary Examiner** — Darryl J. Collins  
(74) **Attorney, Agent, or Firm** — Sawyer Law Group, P.C.

(57) **ABSTRACT**  
Improved eyewear is disclosed. The eyewear comprises a frame member and a lens. The eyewear also includes circuitry within the frame member for enhancing the use of the eyewear. A system and method in accordance with the present invention is directed to a variety of ways to enhance the use of eyeglasses. They are: (1) media focals, that is, utilizing the eyewear for its intended purpose and enhancing that use by using imaging techniques to improve the vision of the user; (2) telecommunications enhancements that allow the eyeglasses to be integrated with telecommunication devices such as cell phones or the like; and (3) entertainment enhancements that allow the eyewear to be integrated with devices such as MP3 players, radios, or the like.

22 Claims, 6 Drawing Sheets

100

Magic Leap, Inc. Exhibit 1001 Page 1



```
graph LR
    IB[Information Bar 102] --- L[Lens 110]
    L --- DC[Digital Circuitry 108]
    F[Frames 104] --- R[Receiver 106]
```

Improved eyewear is disclosed. The eyewear comprises a frame member and a lens. The eyewear also includes circuitry within the frame member for enhancing the use of the eyewear.

A system and method in accordance with the present invention is directed to a variety of ways to enhance the use of eyeglasses. They are:

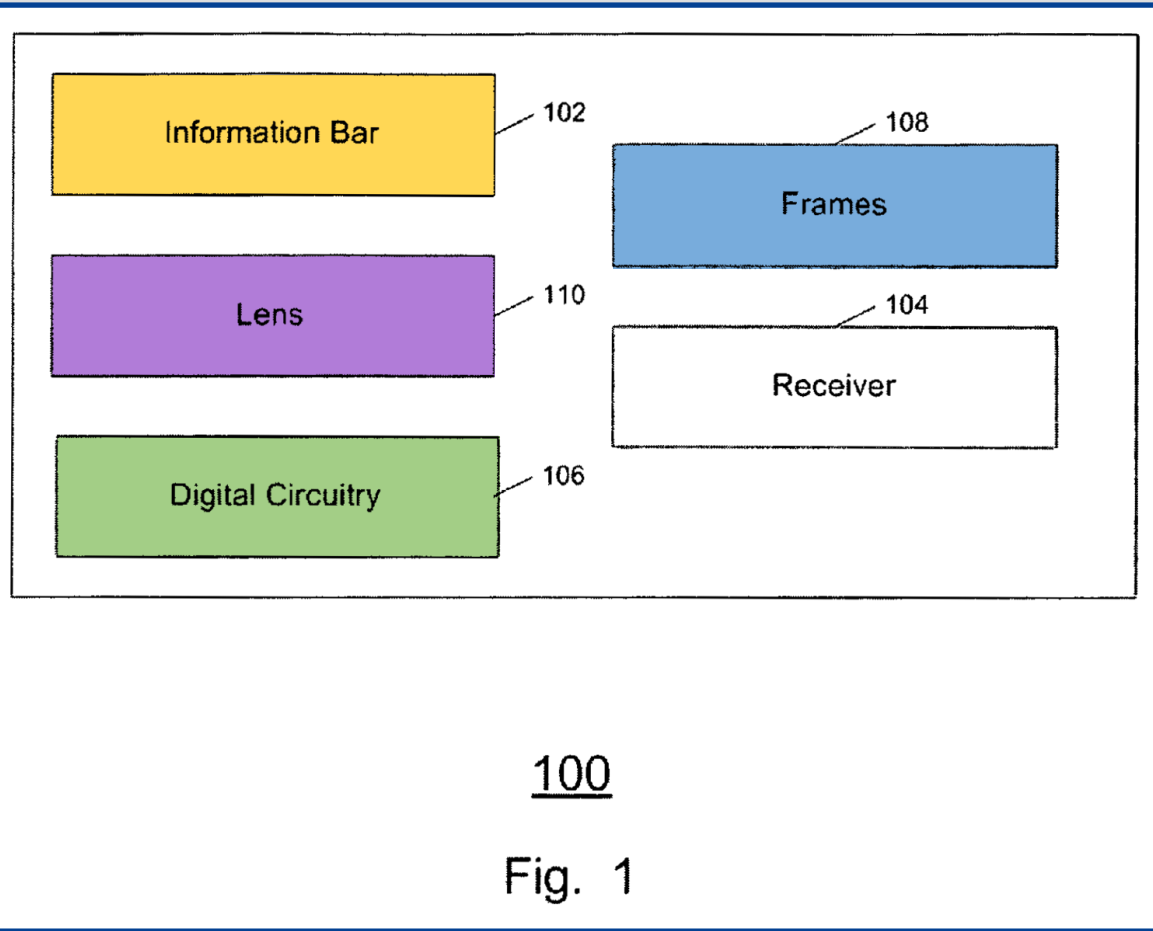
(1) Media focals, that is, utilizing the eyewear for its intended purpose and enhancing that use by using imaging techniques to improve the vision of the user.

(2) Telecommunications enhancements that allow the eyeglasses to be integrated with telecommunication devices such as cell phones or the like.

(3) Entertainment enhancements that allow the eyewear to be integrated with devices such as MP3 players, radios, or the like.

'929 patent (Ex. 1001), 1:44-59

# '929 Patent

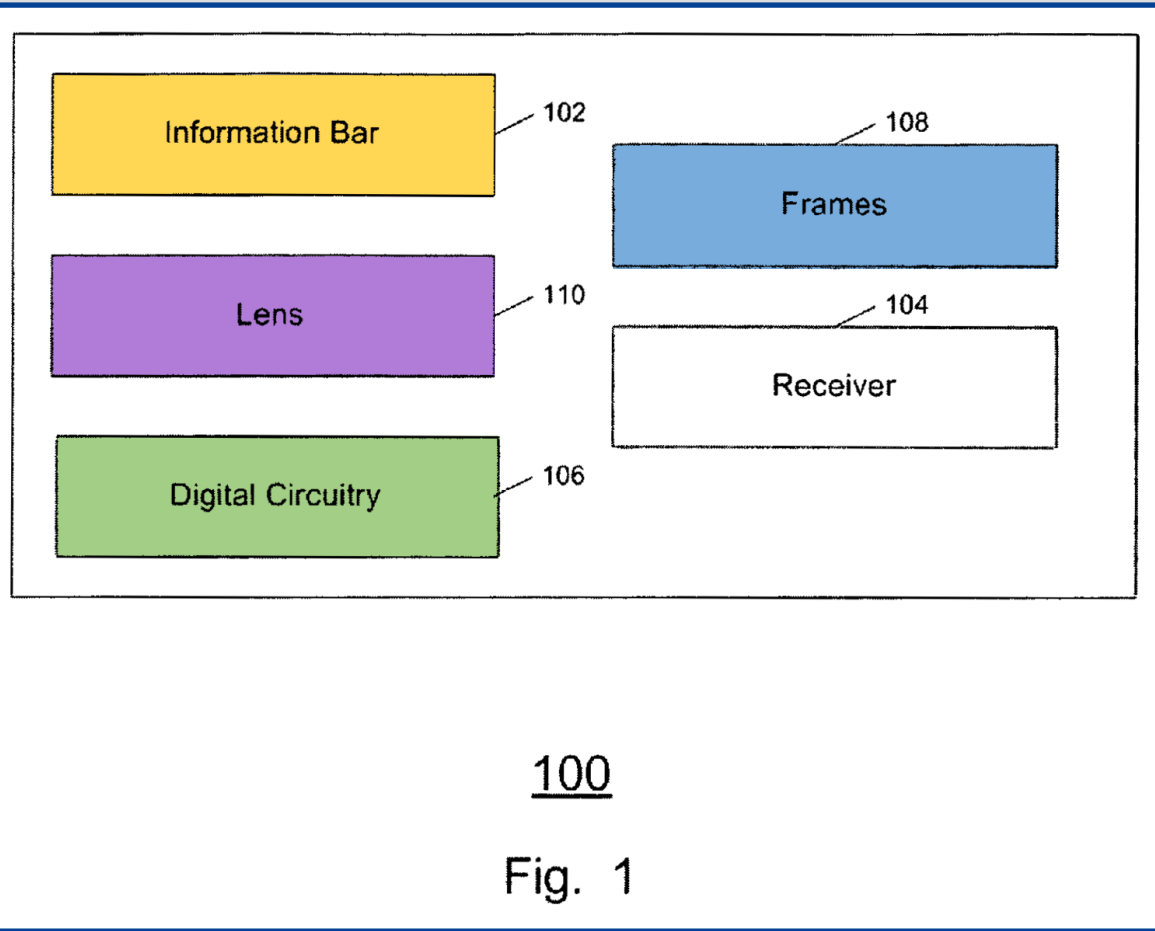


'929 patent (Ex. 1001), Fig. 1

FIG. 1 is a diagram that illustrates Media focals 100. Media focals 100 comprises an information bar 102, receiver 104, digital circuitry 106, frames 108 and lens 110. Media focals 100 allow for enhancing the eyewear for its primary purpose, for example, a digital camera could be placed within the eyewear to allow for seeing certain of these images. For example, the circuitry 106 for the media focals 100 could be placed within the frame 108 of the eyewear. The lens 110 could have a totally reflective surface, or a partially reflective surface using LCDs or the like. In effect the eyewear could look like see-through glasses, but through the use of the circuitry 106 within the eyewear it is actually a media focal.

'929 patent (Ex. 1001), 2:40-51

# Claim 1



'929 patent (Ex. 1001), Fig. 1

1. Eyewear comprising:  
a frame member;  
a lens;  
circuitry within the frame member for enhancing the use of  
the eyewear; and  
an eye sensor coupled to the frame member, the eye sensor  
activating the circuitry responsive to eye motion of a  
user; wherein an information bar is provided on the lens.

'929 patent (Ex. 1001), 5:57-64

# Dependent Claims

2. The eyewear of claim 1 wherein the information bar is provided across the lens for a user.

4. The eyewear of claim 1 wherein the lens is partially reflective.

3. The eyewear of claim 1 wherein the lens is reflective.

5. The eyewear of claim 1 wherein a logo is placed on a front surface of the lens.

6. The eyewear of claim 1 wherein the eyewear incorporates a camera to project a reciprocal display using a second lens.

*'929 patent (Ex. 1001), 5:65-6:7*

# Other Independent Claims

**8.** Eyewear comprising:  
a frame member;  
a lens;  
circuitry within the frame member for enhancing the use of the eyewear; and an eye sensor coupled to the frame member, the eye sensor activating the circuitry responsive to eye motion of a user; wherein the eyewear can be utilized in a client server system to allow for the display of certain information.

**11.** Eyewear comprising:  
a frame member;  
a lens, wherein an information bar is provided on the lens;  
a digital camera;  
circuitry within the frame member and coupled to the camera for enhancing the use of the eyewear, wherein the circuitry provides any of a cell phone, media focals, and an MP3 player, or wherein the circuitry can provide any of texts, email; multimedia information; caller id; and  
an eye sensor coupled to the frame member, the eye sensor activating the circuitry responsive to eye motion of a user,  
wherein the eyewear can be utilized in a client server system to allow for the display of certain information, or wherein the eyewear includes a pushbutton system for control.

**17.** Eyewear comprising:  
a frame member;  
a lens, wherein an information bar is provided on the lens;  
wherein the lens has a set of integrated media enhancements, wherein an information is provided on the lens, an eye sensor coupled to the frame member, the eye sensor activating the circuitry responsive to eye motion of a user, and;  
circuitry within the frame member for enhancing the use of the eyewear; wherein the circuitry includes voice recognition when a speaker is recognized, wherein the eyewear can be utilized in a client server system to allow for the display of certain information, or wherein the eyewear includes a pushbutton system for control, or wherein the circuitry can provide any of texts, email; multimedia information; caller id.

**22.** Eyewear comprising:  
a frame member;  
a lens;  
a binocular mechanism;  
circuitry within the frame member and coupled to the binocular mechanism for enhancing the use of the eyewear;  
and  
an eye sensor coupled to the frame member, the eye sensor activating the circuitry responsive to eye motion of a user.

*'929 patent (Ex. 1001), 6:18-8:11*

# Claim 1

1. Eyewear comprising:  
a frame member;  
a lens;  
circuitry within the frame member for enhancing the use of  
the eyewear; and  
an eye sensor coupled to the frame member, the eye sensor  
activating the circuitry responsive to eye motion of a  
user; wherein an information bar is provided on the lens.

*'929 patent (Ex. 1001), 5:57-64*

# Claim 1: Eye Sensor Limitation

an eye sensor coupled to the frame member, the eye sensor activating the circuitry responsive to eye motion of a user

# Claim 1: Eye Sensor Limitation

an eye sensor coupled to the frame member, the eye sensor activating the circuitry responsive to eye motion of a user

within the device. The circuitry **106** in the device could be, for example, eye sensors which could be pressure sensors, capacitive sensors or some other type of sensor for allowing the eyes to direct the activities. Eye movement sensors, for example, could be used to activate and control the binocular glasses. Similarly, a digital camera could be put on the glasses that would allow the same kinds of technology to take pictures by the person directly.

*'929 patent (Ex. 1001), 3:20-27*

# Claim 1: Eye Sensor Limitation

an eye sensor coupled to the frame member, the eye sensor activating the circuitry responsive to eye motion of a user

within the device. The circuitry **106** in the device could be, for example, eye sensors which could be pressure sensors, capacitive sensors or some other type of sensor for allowing the eyes to direct the activities. Eye movement sensors, for example, could be used to activate and control the binocular glasses. Similarly, a digital camera could be put on the glasses that would allow the same kinds of technology to take pictures by the person directly.

*'929 patent (Ex. 1001), 3:20-27*

Also, in a preferred embodiment a method for sensing and controlling the digital media could be implemented in a variety of ways. For example, an activity of the eye itself would control the activity of the media focal. So, for example, if the idea was to zoom the image, the eye would blink twice. It would also be possible to detect facial and eye movements (squinting, for example), as well as changes in the pupil and iris.

*'929 patent (Ex. 1001), 3:36-43*

# Claim Interpretation

“the eye sensor activating the circuitry responsive to eye motion of a user”

|                                         | Petitioner’s Position                                                       | Patent Owner’s Position                                                                                                                                                                                                       |
|-----------------------------------------|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Construction                            | Plain and ordinary meaning                                                  | Plain and ordinary meaning                                                                                                                                                                                                    |
| What is the plain and ordinary meaning? | the eye sensor activating the circuitry in response to eye motion of a user | <ul style="list-style-type: none"><li>• To react or answer quickly</li><li>• Temporal immediacy and action, cause and effect</li><li>• The eye sensor activates the circuitry in reaction to motion of a user’s eye</li></ul> |

# District Court: Plain and Ordinary Meaning (As Proposed by Patent Owner)

| Claim Term:                                                                                                          | Construction:              |
|----------------------------------------------------------------------------------------------------------------------|----------------------------|
| the eye sensor activating<br>the circuitry responsive to<br>eye motion of a user<br><br>( '929 Patent: claims 7, 10) | Plain and ordinary meaning |

*Ex. 1015, 1*

# Patent Owner Confirms: Plain and Ordinary Meaning

The Board should adopt the construction of the term “the eye sensor activating the circuitry responsive to eye motion of a user” entered by the district court because it was determined after a full briefing by the same parties to the present proceeding under the same standard used for claim

constructions by the Board. Furthermore, this term, as used in the '929

patent, is readily understandable and does not require further interpretation.

*See Phillips*, 415 F.3d at 1314. The patentee did not provide the term any

special meaning in the specification. Magic Leap “does not believe any claim construction is necessary.” Pet. at 4.

Accordingly, there is no clear reason to depart from the plain and ordinary meaning of this term. *Ancora Technologies Inc. v. Apple Inc.*, 744 F.3d 732,

734 (Fed. Cir. 2014) (“A claim term should be given its ordinary meaning in

*Prelim. Response (Paper 9), 5*

# Patent Owner Confirms: Plain and Ordinary Meaning

words. *See Phillips*, 415 F.3d at 1314. Magic Leap does not allege that this term has a special meaning in the art—indeed, Magic Leap offers no construction at all for the term, *see* Pet. at 4—and the patentee did not provide the term any other or exceptional meaning in the specification of the '929 patent. Accordingly, there is no reason to depart from this plain and ordinary meaning of the disputed term. *Ancora Technologies Inc. v. Apple Inc.*, 744 F.3d 732, 734 (Fed. Cir. 2014) (“A claim term should be given its ordinary meaning in the pertinent context, unless the patentee has made clear its adoption of a different definition or otherwise disclaimed that meaning.”).

*Response (Paper 12), 8*

# No Construction / Plain and Ordinary Meaning

## Decision on Institution



Based on the arguments and evidence presented at this stage of the proceeding, we determine no explicit construction of any claim term is needed for purposes of this Decision. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’”) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

proceeding. *See* Pet. 3–5. Thus, the present record does not present any claim construction disputes for us to resolve in the context of considering Petitioner’s unpatentability contentions (particularly, obviousness over Mann ’895 and Perner, discussed below). Further, we do not discern any need to construe the “eye sensor” limitation in order to decide whether to institute review as to those contentions.

*DI (Paper 10), 14-15*

# Eye Sensor Limitation: Patent Owner's Redefinition

be activated *in reaction to* eye motion, for that is what the word “responsive” means. To be *responsive to something* is to react or answer quickly in relation to that something. It implies that someone or something reacts or adapts appropriately or in a specific way when influenced or affected by a particular stimulus, situation, or input. This notion of temporal immediacy and action, cause and effect if you will, is inherent in the term. Thus, the “plain and ordinary” meaning of the limitation at issue is that the eye sensor activates the circuitry in reaction to motion of a user’s eye.

The Board should adopt this plain and ordinary construction of the term because not only would it be consistent with the District Court’s determination that the plain and ordinary meaning should be used, it also fully comports with the way in which the term is used in the ’929 patent and the application of widely accepted meanings of commonly understood words. *See Phillips*, 415 F.3d at 1314. Magic Leap does not allege that this

*Response (Paper 12), 8*

# Dr. LaViola: A POSITA Would Not Apply Patent Owner's Redefinition



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Institute for Simulation and Training

42. Patent Owner argues that Mann/Pemer does not meet the eye sensor limitation when Patent Owner's narrow definition of the eye sensor limitation is applied. (Response at 15-22.) As explained above, it is my view that the Patent Owner's definition of the eye sensor limitation (in particular the limitation "responsive to") is inconsistent with the plain and ordinary meaning of that term to the POSITA; Patent Owner's definition thus does not apply. The POSITA would understand an eye sensor activating circuitry "responsive to" the eye motion to simply mean an eye sensor activating the circuitry in response to the eye motion.

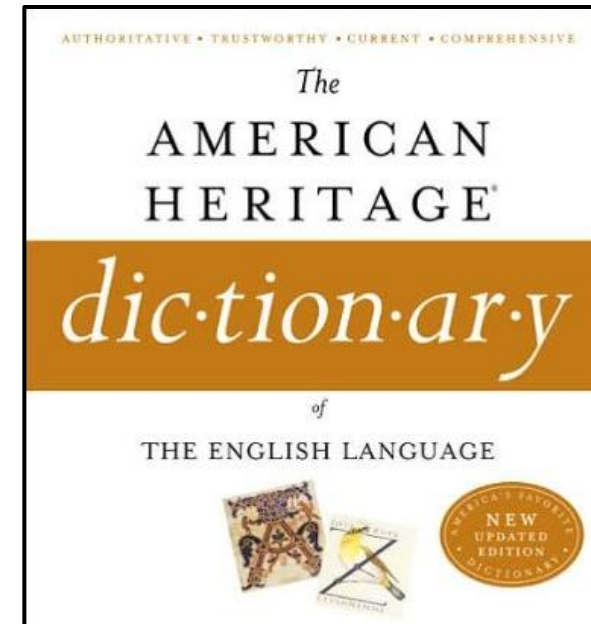
*Suppl. LaViola Dec. (Ex. 1016), ¶ 42*

# “responsive to”



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**re•spon•sive** (rĭ-spŏn'sĭv) *adj.* **1.** Answering or replying; responding. **2.** Readily reacting to suggestions, influences, appeals, or efforts: *a responsive student*. **3.** Containing or using responses: *responsive reading; responsive liturgy*. —**re•spon'sive•ly** *adv.* —**re•spon'sive•ness** *n.*

Suppl. LaViola Dec. (Ex. 1016), ¶ ¶ 25-39; Ex. 1018, 3

## “responsive to”

### Patent Owner:

“By specifying that an eye sensor activates circuitry ‘responsive to’ eye motion, the challenged claims specify that such circuitry must be activated *in reaction to* the eye motion.”

*Sur-reply (Paper 14), 2*

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# “responsive to”

## Patent Owner:

“By specifying that an eye sensor activates circuitry ‘responsive to’ eye motion, the challenged claims specify that such circuitry must be activated *in reaction to* the eye motion.”

*Sur-reply (Paper 14), 2*

**The POSITA would understand that one can be responsive to multiple events in sequence.**



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34. In my view, the dictionary definitions do not support restricting the plain and ordinary meaning of “responsive to” as suggested by Patent Owner. To the contrary, they indicate that the plain and ordinary meaning of the term is not restricted in such a manner.

35. For example, Patent Owner’s suggested definitions of “responsive to” as requiring “a reaction to that other,” or as requiring “temporal immediacy and action, cause and effect,” are not found in the dictionary. (Response at 8, 19, 20; EX-1017 at 1935; EX-1018 at 1486.) While the Heritage Dictionary includes a

*Suppl. LaViola Dec. (Ex. 1016), ¶¶ 34-35*

# “responsive to”

## Patent Owner:

“By specifying that an eye sensor activates circuitry ‘responsive to’ eye motion, the challenged claims specify that such circuitry must be activated *in reaction to* the eye motion.”

*Sur-reply (Paper 14), 2*

**Even if “responsive to” includes Patent Owner’s understanding of “in reaction to,” nothing *limits* “responsive to” to that particular definition.**



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action, cause and effect,” are not found in the dictionary. (Response at 8, 19, 20; EX-1017 at 1935; EX-1018 at 1486.) While the Heritage Dictionary includes a definition that includes “readily reacting,” the POSITA would not limit the plain and ordinary meaning of “responsive to,” in the context of the ’929 Patent, to that particular meaning—or to having any particular temporal requirement—for the reasons described above with respect to that definition. (EX-1018 at 1486.)

*Suppl. LaViola Dec. (Ex. 1016), ¶ 35*

## “responsive to”

### Patent Owner:

“While it is true that other things have to happen prior to that image comparison, that does not make the outcome of the image comparison ‘responsive to’ those prior activities. Responsiveness requires temporal immediacy and action (i.e. cause and effect).”

*Response (Paper 12), 20*

---

# “responsive to”

## Patent Owner:

“While it is true that other things have to happen prior to that image comparison, that does not make the outcome of the image comparison ‘responsive to’ those prior activities. Responsiveness requires temporal immediacy and action (i.e. cause and effect).”

*Response (Paper 12), 20*

**No evidence supports that the eye sensor *cannot* respond to events prompted by the eye motion.**



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45. To the extent Patent Owner contends that the eye sensor cannot be responsive to events that are prompted by the eye motion, this does not comport with the plain and ordinary meaning of “responsive to.” The POSITA would recognize, by plain meaning of “responsive to”, that one can be responsive to

*Suppl. LaViola Dec. (Ex. 1016), ¶ 45*

# “responsive to”

## Patent Owner:

“While it is true that other things have to happen prior to that image comparison, that does not make the outcome of the image comparison ‘responsive to’ those prior activities. Responsiveness requires temporal immediacy and action (i.e. cause and effect).”

*Response (Paper 12), 20*

**The POSITA would understand that one can be responsive to multiple events in sequence.**



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multiple events, including multiple events in sequence. For example, in plain usage, a car is responsive to a user stepping on the accelerator pedal, even though the pedal movement has to trigger a sequence of additional events (e.g., turning a pivot, pulling a throttle wire, widening an air intake valve) before the car will accelerate. In plain usage, the car is responsive to the movement of the accelerator pedal, and it is also responsive to the additional events that follow the movement of the accelerator pedal.

*Suppl. LaViola Dec. (Ex. 1016), ¶ 45*

## “responsive to”

### Patent Owner:

“Rather than ... being *responsive to eye motion of a user*, as required by the challenged claims, the iris feature detector ... actually ***causes*** *eye motion of a user*.”

*Response (Paper 12), 16; Sur-reply (Paper 14), 9*

---

# “responsive to”

## Patent Owner:

“Rather than ... being *responsive to eye motion of a user*, as required by the challenged claims, the iris feature detector ... actually ***causes*** *eye motion of a user*.”

*Response (Paper 12), 16; Sur-reply (Paper 14), 9*

**No evidence supports that the eye sensor *cannot* respond to events prompted by the eye motion.**



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43. To the extent Patent Owner contends that being “responsive to” eye motion excludes eye sensors that also cause the eye motion, it is my view that the claims have no such limitation. (DI at 22-24.) Applying the plain and ordinary meaning of “responsive to,” the POSITA would understand that a sensor (*e.g.*, a blood pressure monitoring cuff that compresses the user’s artery to stop blood flow) can cause a thing to happen, and also be responsive to that same thing.

*Suppl. LaViola Dec. (Ex. 1016), ¶ 43*

# “responsive to”

Patent Owner:

“Rather than ... being *responsive to eye motion of a user*, as required by the challenged claims, the iris feature detector ... actually ***causes*** *eye motion of a user*.”

*Response (Paper 12), 16; Sur-reply (Paper 14), 9*

**No evidence supports that the eye sensor *cannot* respond to events prompted by the eye motion.**

Decision on  
Institution



Based on the present record, nothing more appears to be required by claim 1. Patent Owner’s present opposition appears to be premised on an overly narrow claim construction, whereby claim 1 would require some sort of passive monitoring of the eye by the eyewear circuitry, thereby excluding Perner’s circuitry because it uses light sources 112 and 114 to cause movement of the eye. We do not discern such a limitation in the language of claim 1. To the extent Patent Owner opts to maintain this argument in the review instituted by this Decision, we encourage Patent Owner to support its position with a clear articulation of Patent Owner’s view of the claim scope in this regard.

*DI (Paper 10), 24*

# “responsive to”

## Patent Owner:

“Rather than ... being *responsive to eye motion of a user*, as required by the challenged claims, the iris feature detector ... actually ***causes*** *eye motion of a user*.”

*Response (Paper 12), 16; Sur-reply (Paper 14), 9*

**The POSITA would understand that a sensor can cause, and also respond to, the same thing.**



**Joseph J. LaViola Jr.**

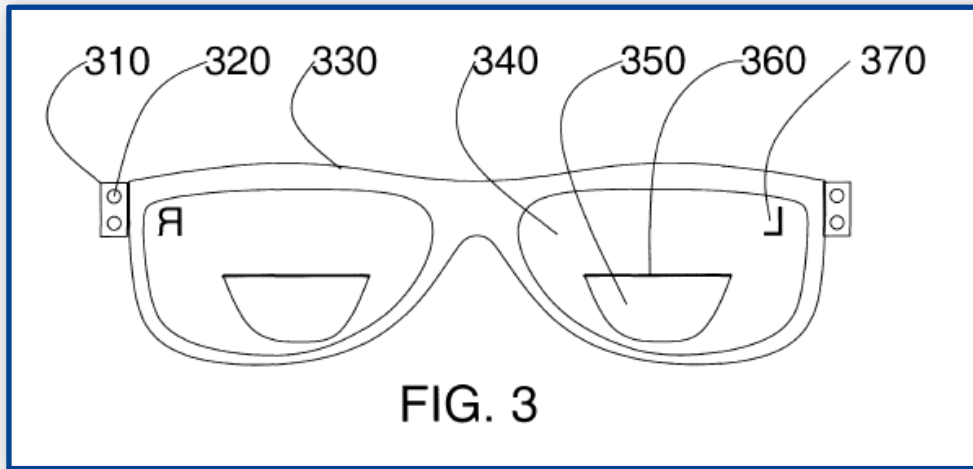
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43. To the extent Patent Owner contends that being “responsive to” eye motion excludes eye sensors that also cause the eye motion, it is my view that the claims have no such limitation. (DI at 22-24.) Applying the plain and ordinary meaning of “responsive to,” the POSITA would understand that a sensor (*e.g.*, a blood pressure monitoring cuff that compresses the user’s artery to stop blood flow) can cause a thing to happen, and also be responsive to that same thing.

*Suppl. LaViola Dec. (Ex. 1016), ¶ 43*

# **Mann '895 / Pemer**

# Mann '895

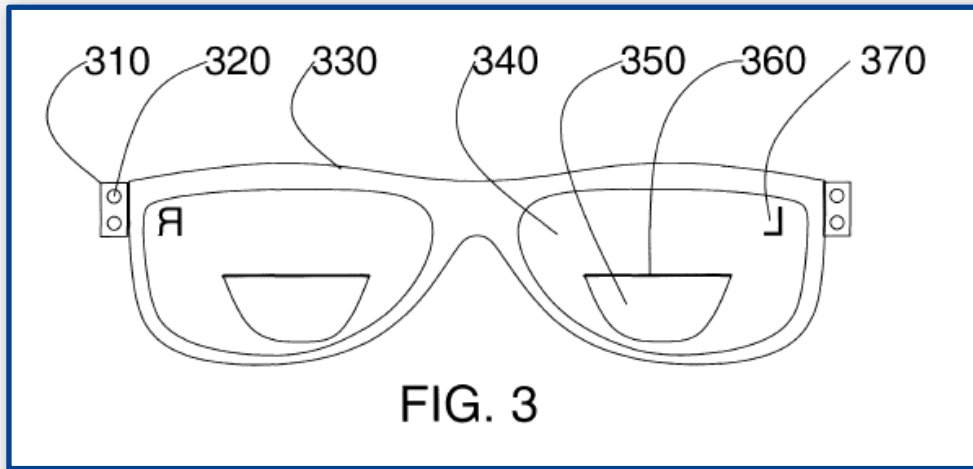


Ex. 1005, Fig. 3

**“[A] wearable eyeglass based device** allowing the wearer to view data, such as from the screen of a wearable computer (wearcomp) system but where the device appears to others to be simply a pair of ordinary eyeglasses.” (Ex. 1005, 4.)

**“[T]he computer may be built into the eyeglass frames.** Other devices in the eyeglasses such as a microphone, speakers, indicator lights, cameras, etc., allow the eyeglasses to function as a telephone, videophone, pocket organizer, personal safety device, or the like.” (Ex. 1005, 10.)

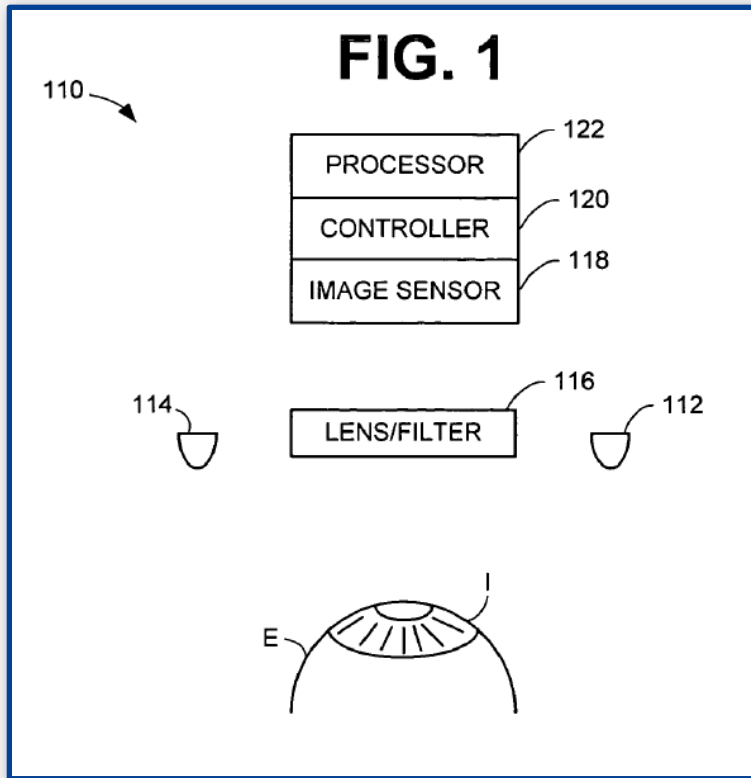
# Mann '895



**“A sight license may be downloaded over the network to enable the eyeglasses to operate.** For example, a retinal or **iris scanner in the eyeglasses** may license the eyeglasses to provide sight to the wearer, but not to others who might steal the eyeglasses.” (Ex. 1005, 11.)

*Ex. 1005, Fig. 3*

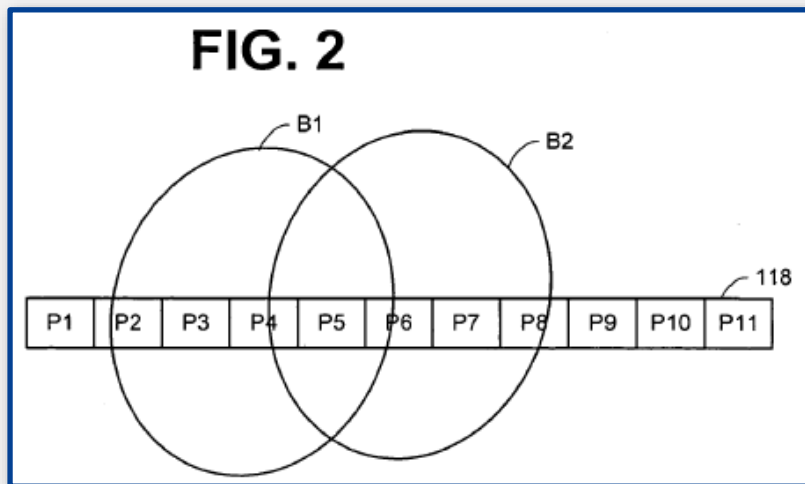
# Pemer



Ex. 1006, Fig. 1

“**[A]n iris feature detector** includes a reflexive eye movement source; a multiple image sensor; a controller, and a processor. The controller causes the eye movement source to **cause rapid eye motion, and the sensor to capture first and second iris images** over a time interval in which only an iris can move in the first and second images.” (Ex. 1006, [0006].)

# Pemer



*Ex. 1006, Fig. 2*

“The processor 122 can search through the database and attempt to find a reference pattern that matches the **just-acquired edge pattern**. A match could be used to identify or authenticate the subject.” (Ex. 1006, [0026].)

# Mann '895 + Perner

## Mann '895

*“A sight license may be downloaded over the network to enable the eyeglasses to operate. For example, a retinal or **iris scanner in the eyeglasses** may license the eyeglasses to **provide sight to the wearer, but not to others who might steal the eyeglasses.**”*

*Ex. 1005, 11*



## Perner

*“[Conventional] **iris scanners** tend to be expensive ... It is desirable to improve the performance and reduce the cost of detecting iris features. It is also desirable to reduce the time and complexity of using detected iris features for **identification and authentication.**”*

*Ex. 1006, [0003]-[0004]*

# Mann '895 + Perner Meets the Claim Limitations

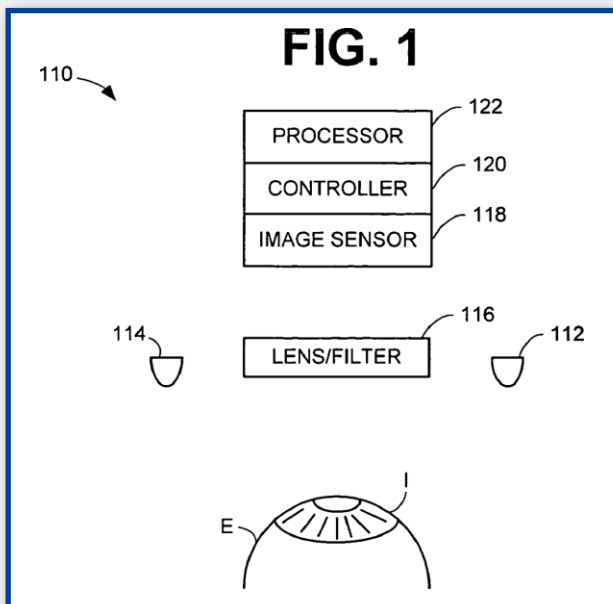
1. Eyewear comprising:  
a frame member;  
a lens;  
circuitry within the frame member for enhancing the use of  
the eyewear; and  
an eye sensor coupled to the frame member, the eye sensor  
activating the circuitry responsive to eye motion of a  
user; wherein an information bar is provided on the lens.

'929 patent (Ex. 1001), 5:57-64

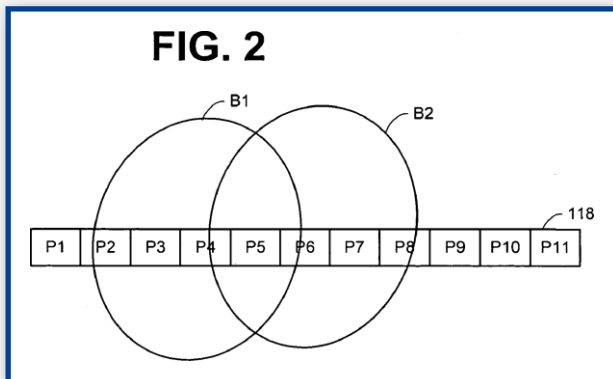
- “... a pair of eyeglasses, having temple side pieces of frame 100 with frames that support eyeglass lenses 100L.” (Ex. 1005, 8)
- “[T]he computer may be built into the eyeglass frames. Other devices in the eyeglasses such as a microphone, speakers, indicator lights, cameras, etc., allow the eyeglasses to function as a telephone, videophone, pocket organizer, personal safety device, or the like.” (Ex. 1005, 10)
- “[A] retinal or iris scanner in the eyeglasses may license the eyeglasses to provide sight to the wearer, but not to others who might steal the eyeglasses.” (Ex. 1005, 11)
- “[A]n iris feature detector ... causes the eye movement source to cause rapid eye motion, and the sensor to capture first and second iris images over a time interval in which only an iris can move in the first and second images.” (Ex. 1006, [0006])
- “[A]n information display having the appearance of ordinary eyeglasses.” (Ex. 1005, 7)

# “responsive to eye motion of a user”

Mann '895 + Perner



*Ex. 1006, Fig. 1*

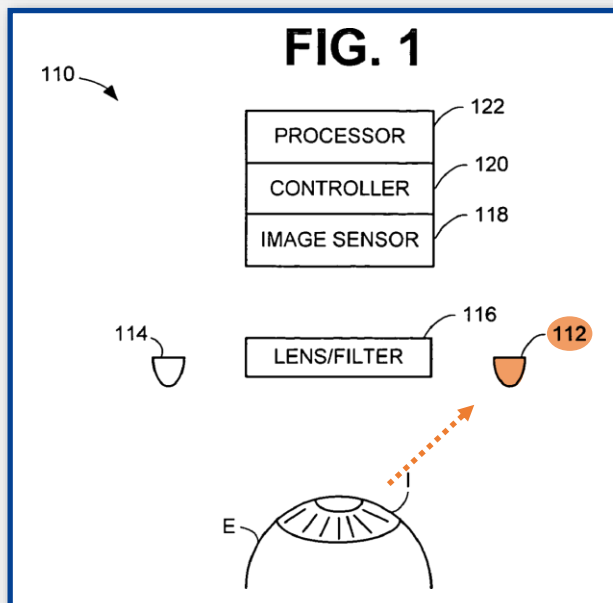


*Ex. 1006, Fig. 2*

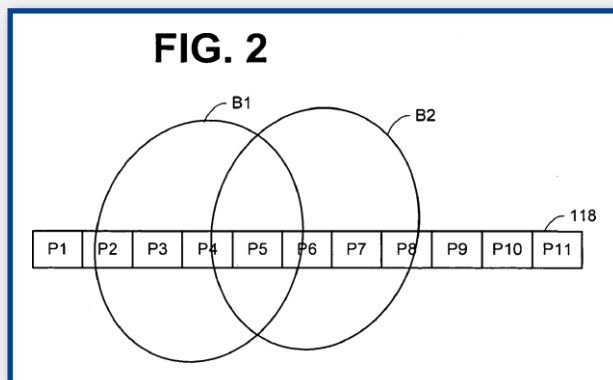
# “responsive to eye motion of a user”

## Mann '895 + Perner

1. The eye sensor stimulates eye motion to a first eye movement source.



Ex. 1006, Fig. 1



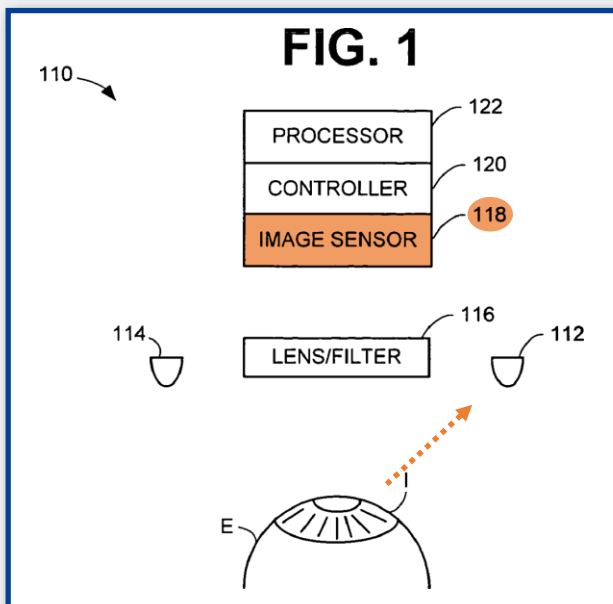
Ex. 1006, Fig. 2

Ex. 1006, [0006], [0029]-[0030], Fig. 3

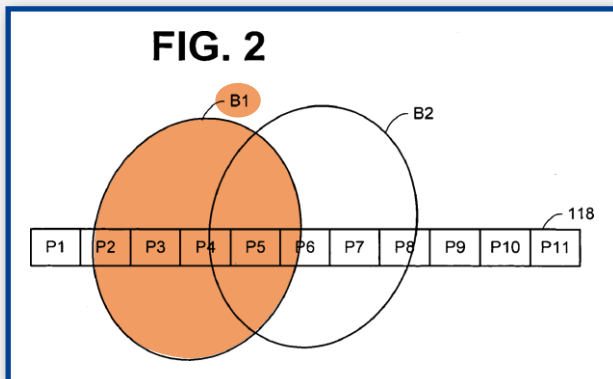
# “responsive to eye motion of a user”

## Mann '895 + Perner

1. The eye sensor stimulates eye motion to a first eye movement source.
2. The eye sensor captures a first image of the eye.



Ex. 1006, Fig. 1



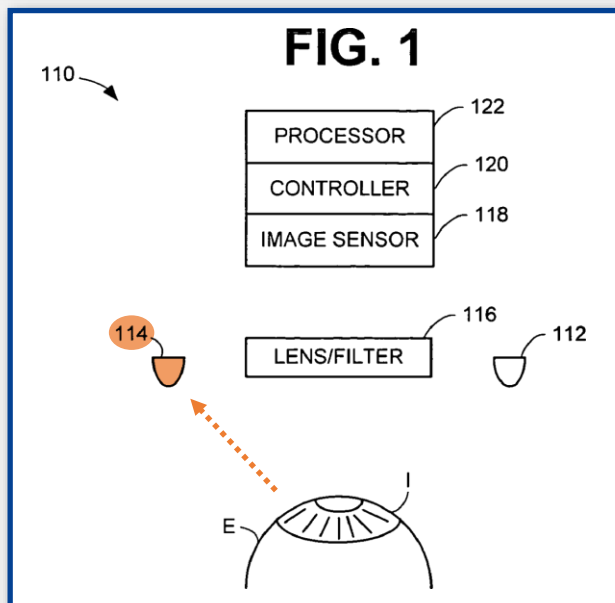
Ex. 1006, Fig. 2

Ex. 1006, [0006], [0029]-[0030], Fig. 3

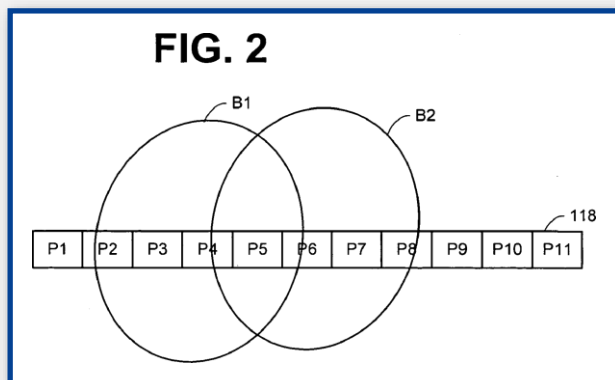
# “responsive to eye motion of a user”

## Mann '895 + Perner

1. The eye sensor stimulates eye motion to a first eye movement source.
2. The eye sensor captures a first image of the eye.
3. The eye sensor stimulates eye motion to a second eye movement source.



*Ex. 1006, Fig. 1*



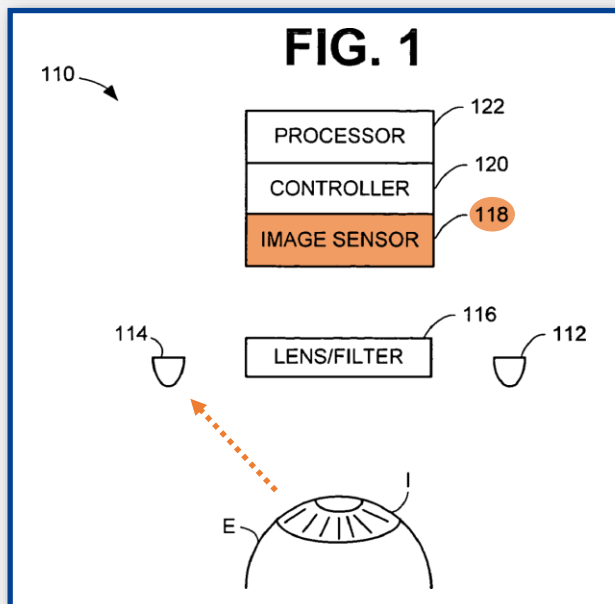
*Ex. 1006, Fig. 2*

*Ex. 1006, [0006], [0029]-[0030], Fig. 3*

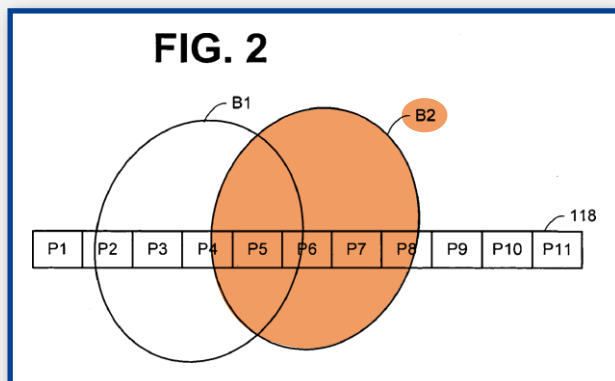
# “responsive to eye motion of a user”

## Mann '895 + Perner

1. The eye sensor stimulates eye motion to a first eye movement source.
2. The eye sensor captures a first image of the eye.
3. The eye sensor stimulates eye motion to a second eye movement source.
4. The eye sensor captures a second image of the eye.



Ex. 1006, Fig. 1

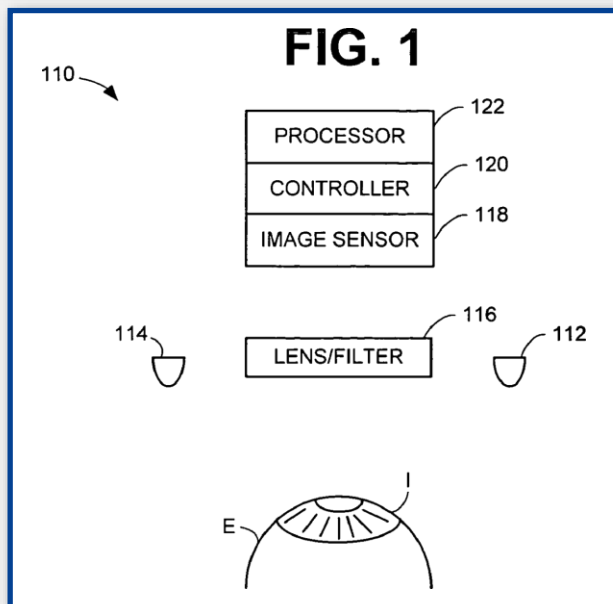


Ex. 1006, Fig. 2

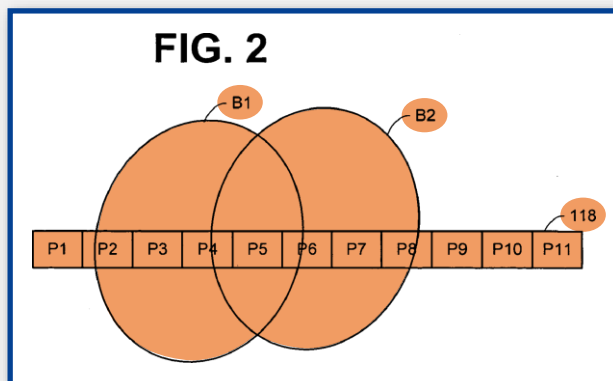
Ex. 1006, [0006], [0029]-[0030], Fig. 3

# “responsive to eye motion of a user”

## Mann '895 + Perner



Ex. 1006, Fig. 1



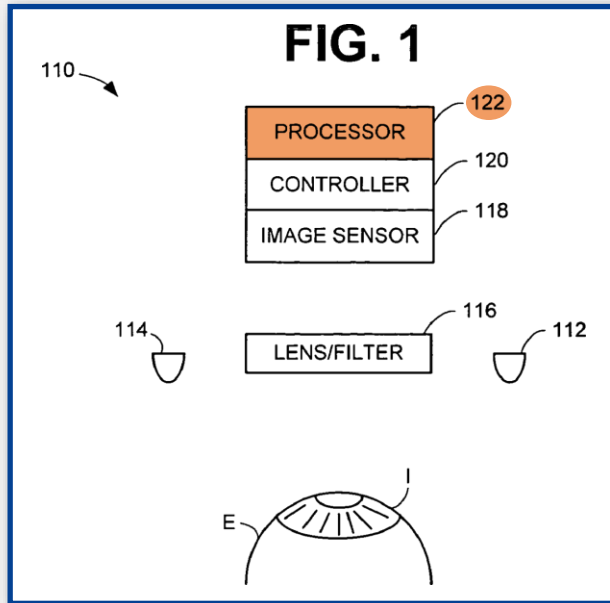
Ex. 1006, Fig. 2

1. The eye sensor stimulates eye motion to a first eye movement source.
2. The eye sensor captures a first image of the eye.
3. The eye sensor stimulates eye motion to a second eye movement source.
4. The eye sensor captures a second image of the eye.
5. The first and second images form a unique edge pattern.

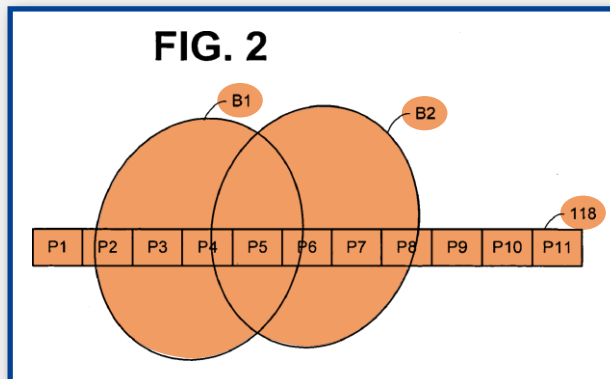
Ex. 1006, [0006], [0029]-[0030], Fig. 3

# “responsive to eye motion of a user”

## Mann '895 + Perner



Ex. 1006, Fig. 1



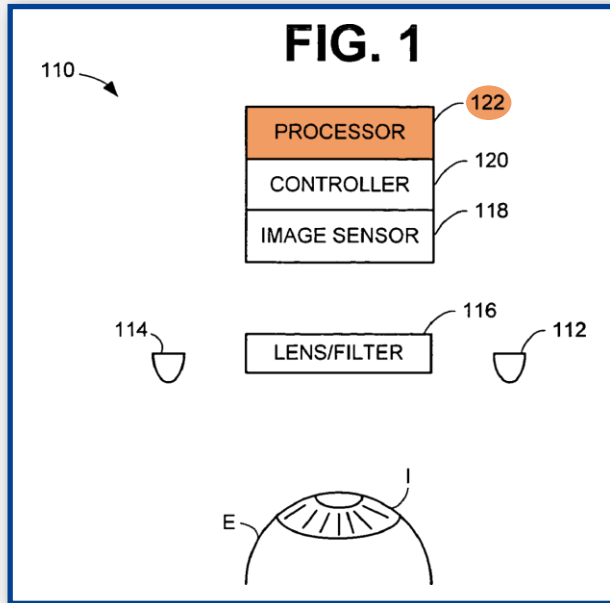
Ex. 1006, Fig. 2

1. The eye sensor stimulates eye motion to a first eye movement source.
2. The eye sensor captures a first image of the eye.
3. The eye sensor stimulates eye motion to a second eye movement source.
4. The eye sensor captures a second image of the eye.
5. The first and second images form a unique edge pattern.
6. The eye sensor notifies its processor to compare the “just-acquired” edge pattern to a database to authenticate the user.

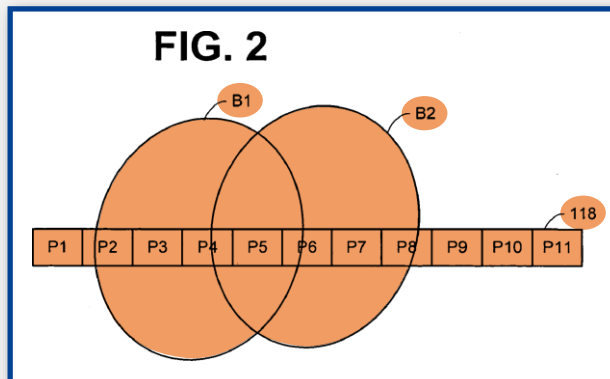
Ex. 1006, [0006], [0029]-[0030], Fig. 3

# “responsive to eye motion of a user”

## Mann '895 + Perner



Ex. 1006, Fig. 1



Ex. 1006, Fig. 2

1. The eye sensor stimulates eye motion to a first eye movement source.
2. The eye sensor captures a first image of the eye.
3. The eye sensor stimulates eye motion to a second eye movement source.
4. The eye sensor captures a second image of the eye.
5. The first and second images form a unique edge pattern.
6. The eye sensor notifies its processor to compare the “just-acquired” edge pattern to a database to authenticate the user.
7. The sight license is granted to the authenticated user.

Ex. 1006, [0006], [0029]-[0030], Fig. 3

# “responsive to eye motion of a user” Is Met Even Under Patent Owner’s Narrowed Redefinition

There is a *direct, responsive connection* between the eye motion and the sight license.



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50. Thus, contrary to how Patent Owner envisions it, in the combination of Mann '895 and Perner, there is a *direct responsive connection* between the eye motion and the granting of privileges (i.e., activating the sight license), at least by the eye sensor notifying (328) its processor to search for an edge pattern match in the database once the eye motion has concluded. Moreover, as explained above, the eye sensor “matches the *just-acquired* edge pattern” in the database to grant the privileges, thus reacting quickly to the eye motion to activate the sight license. (*Id.* at [0026] (emphasis added).) This advances a key advantage of Perner: “faster processing for identification and authentication.” (*Id.* at [0025].) The eye sensor limitation is met at least by the above process.

*Suppl. LaViola Dec. (Ex. 1016), ¶ 50*

# “responsive to eye motion of a user” Is Met Even Under Patent Owner’s Narrowed Redefinition

There is a *direct, responsive connection* between the eye motion and the sight license.

Eye sensor stimulates eye motion



Eye sensor responds to the eye motion by acquiring edge pattern



Eye sensor matches the “just-acquired” edge pattern to a database



Sight license activated based on the database match

*Ex. 1006, [0006], [0029]-[0030], Fig. 3*

# “responsive to eye motion of a user” Is Met Even Under Patent Owner’s Narrowed Redefinition

The eye sensor acts with “*temporal immediacy and action, cause and effect.*”



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52. For example, Patent Owner’s “temporal immediacy and action, cause and effect” is demonstrated by the relationship described above between the eye motion, and the eye sensor’s granting of privileges based on the “just acquired” edge pattern of the eye motion, in the combination of ’Mann 895 and Perner. For example, as described above, the eye sensor demonstrates temporal immediacy by matching an edge pattern “just acquired” from the eye motion to grant the privileges, thus acting to activate the sight license. (*Id.* at [0026].) The eye motion is a cause of the effect: the granting of the sight license.

*Suppl. LaViola Dec. (Ex. 1016), ¶ 52*

# “responsive to eye motion of a user” Is Met Even Under Patent Owner’s Narrowed Redefinition

The eye sensor acts with “*temporal immediacy and action, cause and effect.*”



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53. Moreover, in my view, there are advantages in usability, security, and privacy for biometric authentication systems, such as Mann/Pemer, to respond immediately to biometric input. For example, when authenticating a user to grant permissions based on biometric data, system usability is improved by avoiding unnecessary delays in extending privileges to legitimate users. In addition, storing sensitive biometric data (such as a user’s unique eye motion data) in memory for longer than necessary can increase the risk of the data being compromised, posing unnecessary security and privacy concerns. The Mann/Pemer system would respond immediately to the user’s eye motion by granting permissions, as described above, in order to realize these advantages.

Suppl. LaViola Dec. (Ex. 1016), ¶ 53

# “responsive to eye motion of a user” Is Met Even Under Patent Owner’s Narrowed Redefinition

The eye sensor *responds specifically* to the eye motion, by using the eye motion to capture the unique edge pattern and determine whether to grant privileges.



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55. Further, the eye sensor does not merely “rel[y] upon eye motion” (*Id.* at 18), but *responds* specifically to the eye motion by capturing the unique edge pattern from the eye motion, and using that edge pattern to determine whether or not to grant privileges. Similarly, the eye sensor “react[s] or adapt[s]” to the eye motion “in a way that acknowledges that thing’s presence or influence” (*Id.* at 21) at least by capturing and processing images of the eye motion, and using the eye motion images to determine whether or not to grant privileges. And the relationship between the eye motion and the granting of privileges is “dynamic” (*Id.* at 21) at least in that the eye sensor detects, and responds to, the movements of the eye as it shifts its fixation from a first light source (312) to a second light source (320). (EX-1006 at [0030]-[0035], Figs. 3-4.)

*Suppl. LaViola Dec. (Ex. 1016), ¶ 55*

# “responsive to eye motion of a user” Is Met Even Under Patent Owner’s Narrowed Redefinition

The eye sensor reacts to the eye motion in a way that is dynamic.



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55. Further, the eye sensor does not merely “rel[y] upon eye motion” (*Id.* at 18), but *responds* specifically to the eye motion by capturing the unique edge pattern from the eye motion, and using that edge pattern to determine whether or not to grant privileges. Similarly, the eye sensor “react[s] or adapt[s]” to the eye motion “in a way that acknowledges that thing’s presence or influence” (*Id.* at 21) at least by capturing and processing images of the eye motion, and using the eye motion images to determine whether or not to grant privileges. And the relationship between the eye motion and the granting of privileges is “dynamic” (*Id.* at 21) at least in that the eye sensor detects, and responds to, the movements of the eye as it shifts its fixation from a first light source (312) to a second light source (320). (EX-1006 at [0030]-[0035], Figs. 3-4.)

*Suppl. LaViola Dec. (Ex. 1016), ¶ 55*

**Certificate of Service (37 C.F.R. § 42.6(e)(4))**

I hereby certify that the attached PETITIONER'S DEMONSTRATIVES were served via e-mail (by agreement) to the following counsel of record for the Patent Owner on April 29, 2024, and filed via the P-TACTS system as of the date below:

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Dated: May 2, 2024

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