

Patent Owner e-Vision Optics, LLC

U.S. Patent No. 8,708,483
IPR2024-01030

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King & Spalding LLP

IPR2024-01030
e-Vision Optics, LLC EX-2026

Table of Issues

ISSUE	CLAIM(S)	SLIDES
1. Would a POSA implement Spitzer's flex circuit in Petitioner's combinations?	Cl. 3	3-18
2. Does Hattori-912 disclose a "sealed moisture resistant module" attached to the frame?	Cls. 3, 13, 16, 19-37	19-24
3. What is a hermetically sealed moisture-resistant module?	Cl. 13	25-30
4. Does Howell-596 render obvious a wear-resistant module?	Cl. 16	31-33
5. Would a POSA relocate Howell-596's UV detection system behind the ear of the wearer?	Cls. 19-37	34-39

Issue 1: Spitzer's Flex Circuit (Claim 3)

Grounds 5 & 9

Petitioner's Grounds 5 & 9

Grounds	Prior Art	Challenged Claims	Petition
Ground 2	Howell-596, alone	Claims 1-2 (+ other dependents)	Petition, 20-22
Ground 3	Howell-596 + Howell-833	Claims 19 (+ other dependents)	Petition, 30-33
Ground 4	Howell-596 + Howell-833 + Blum-741	Claims 4, 5, 7, 17, 22, 23, 25, 36	Petition, 34-38
Ground 5	Howell-596 + Howell-833 + Blum-741 + Spitzer	Claims 3, 21	Petition, 43-46
Ground 9	Blum-741 + Hattori-912 + Spitzer	Claims 3, 21	Petition, 78

'483 Patent, Claim 3

1. Eyewear comprising:

a frame; and

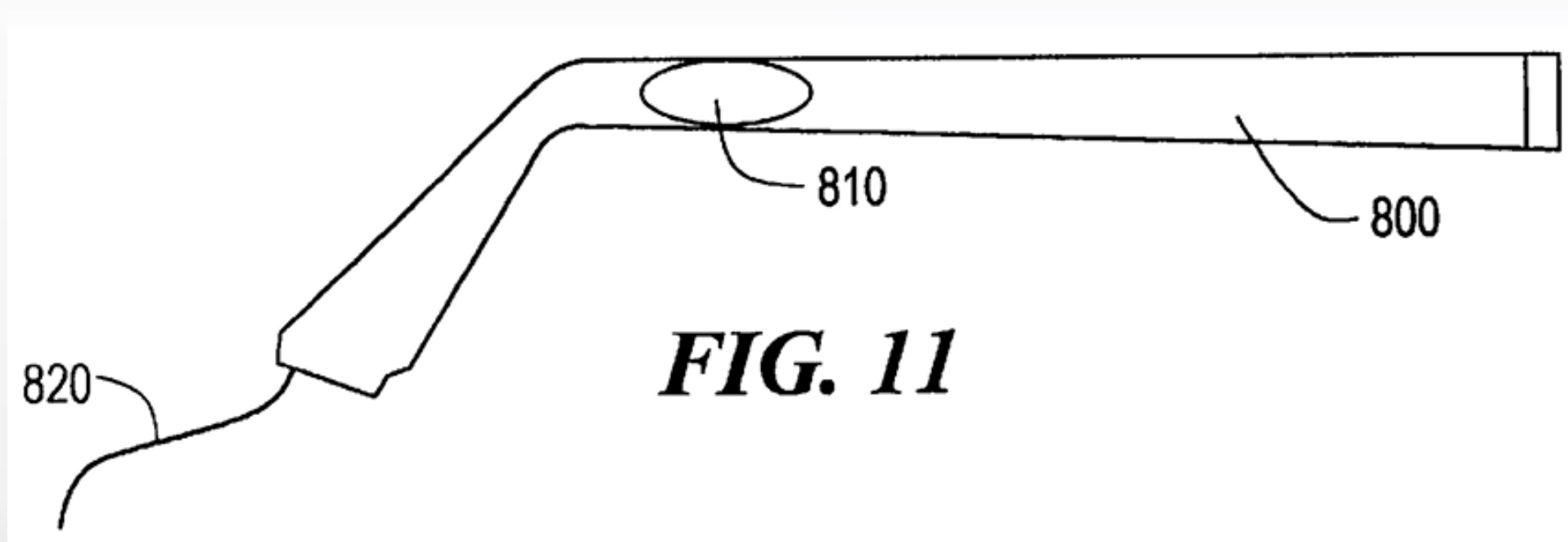
a sealed moisture resistant module attached to the frame, wherein the module comprises within the seal any two of: a switch, a detector, a processor, a power source, a drive circuit, a transmitter, a receiver, a transceiver, and a sensor,

wherein the frame comprises a first temple and a second temple, and wherein the module is disposed within the first temple.

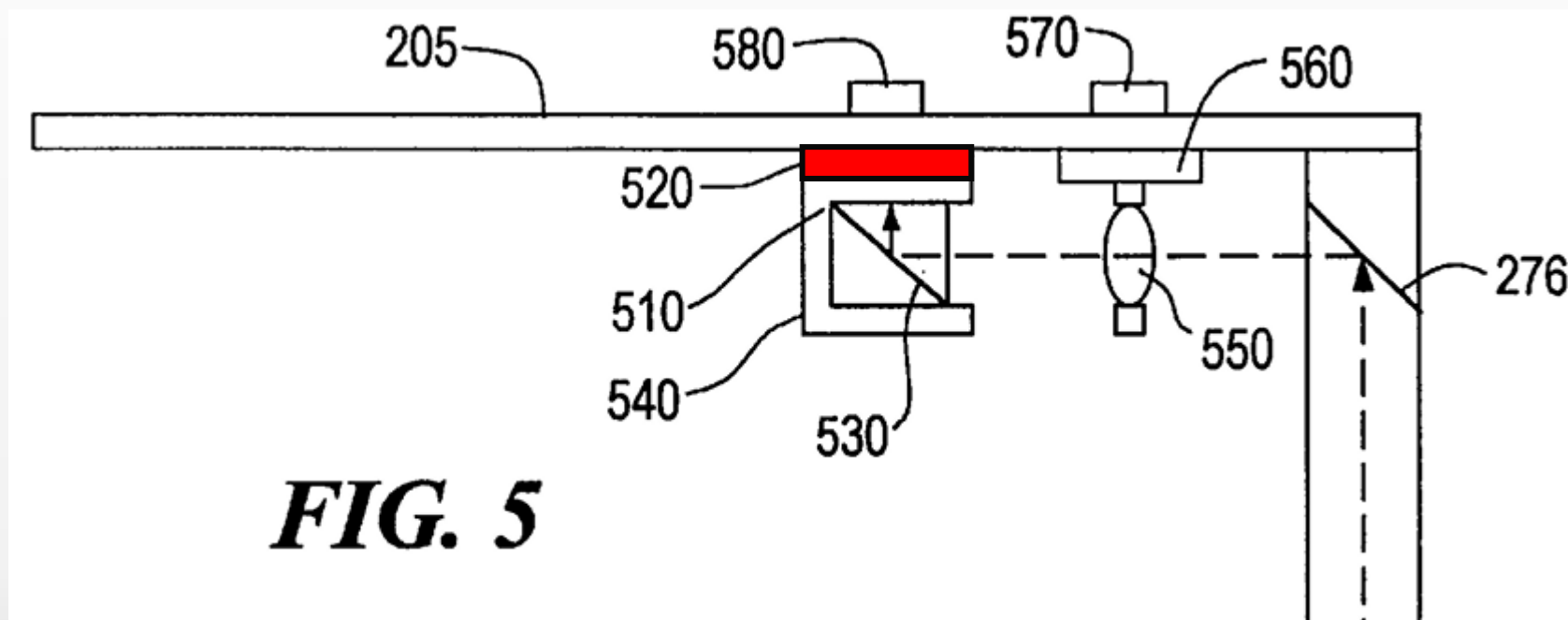
2. The eyewear of claim 1, wherein the module includes an electrical connector configured to connect the any two...with an external device.

3. The eyewear of claim 2, wherein the module is electrically connected to the external device by a flex circuit.

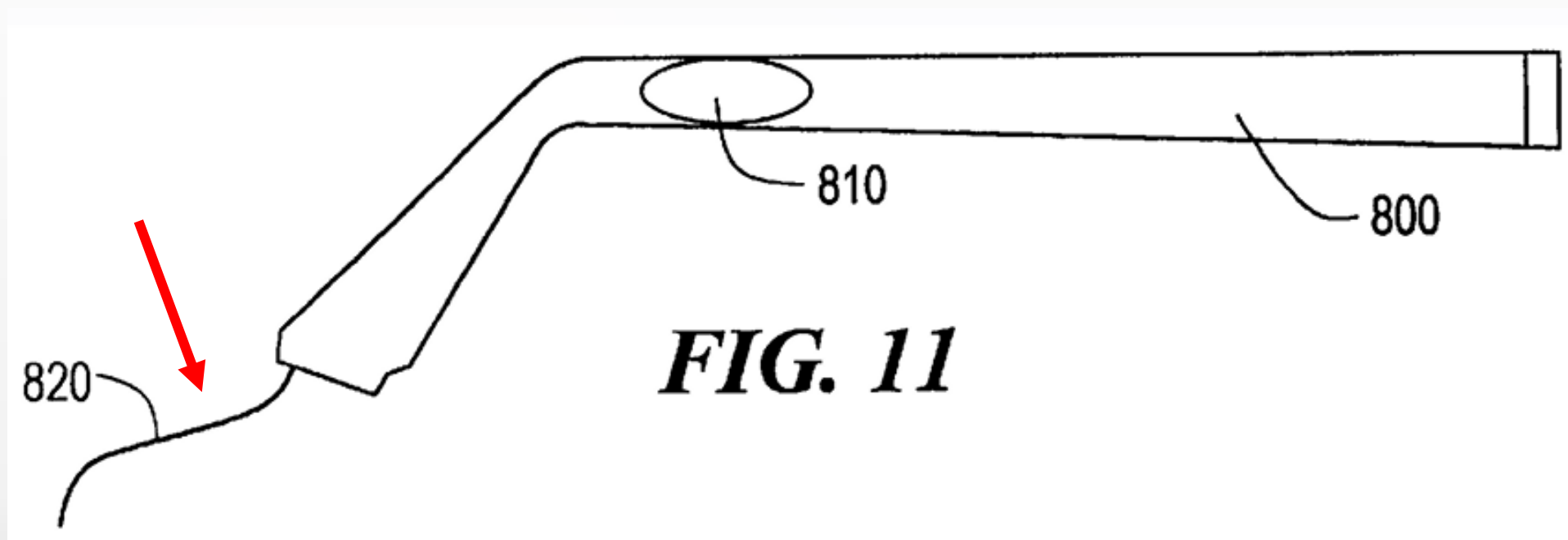
"[A] bone conductivity transducer 810 serving as the speaker may be mounted to the temple 800 of an eyeglass frame so as to be in contact with the skull at a point approximately centered over the ear."



“A[n]...image sensor 510 is mounted to a sliding base 520 in contact, or partially within, or even fully within, eyeglass temple 205. The sliding base is in contact with handle 580...so that the user may slide 580 a short distance.”



“The transducer is in communication with the rest of the system through leads 820 which may extend through a cavity 830 within the temples.”



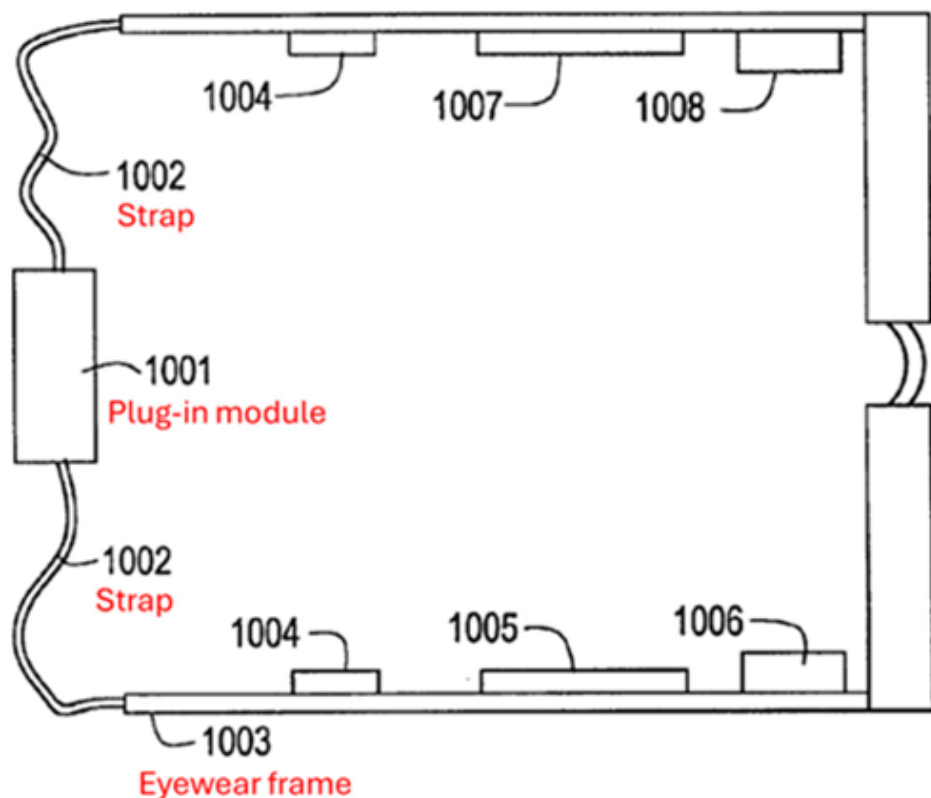
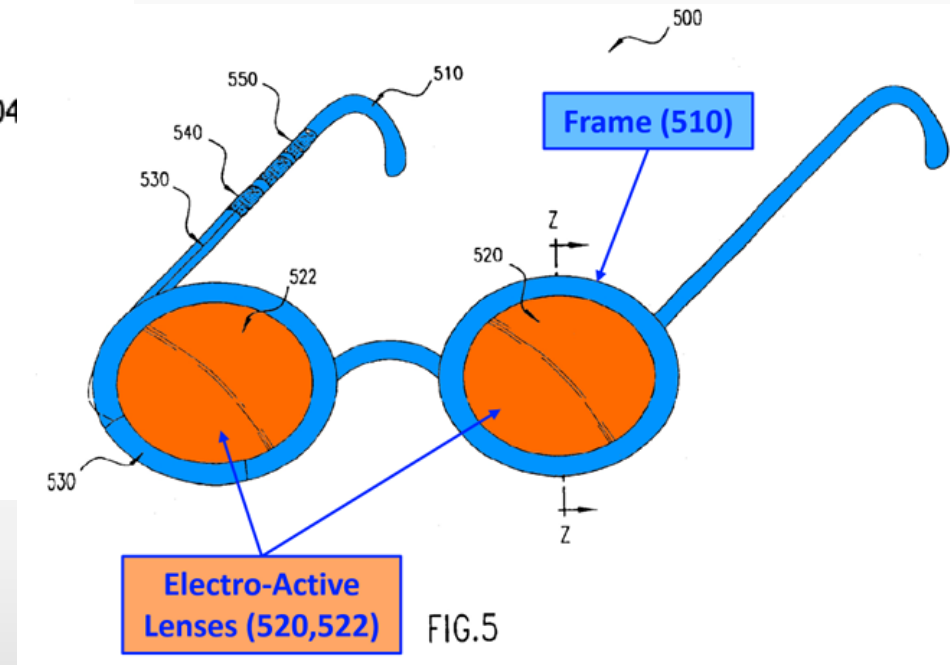
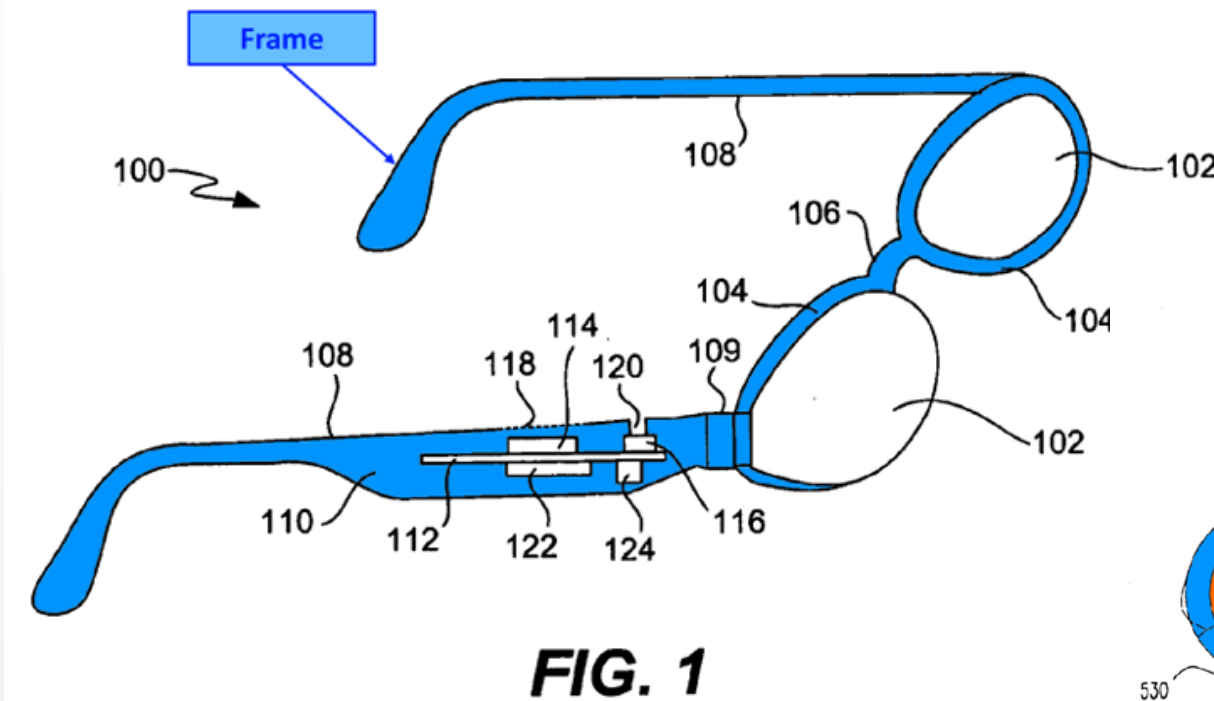


FIG. 20

"The strap may contain within it batteries, electronic circuits, and wires and may also be fitted to hold the glasses in position in the conventional manner. The strap may be flat if it contains Kapton flex circuitry, or it may have a rectangular or other cross section....[T]he strap 1002 may be lengthened so that the plug-in module 1001 can be placed in a pocket or worn on a belt."

Petitioner's Ground 5 combination has no movable components

Howell-596's Frames and Module Housing +
Blum-741's Electro-Active Lenses



No motivation to add Spitzer's flex circuit to Ground 5

Howell-596 + Blum-741 + Spitzer

1. May adjust components w/o lead strain.
2. Lower-profile flat cross-section.
3. Flex circuits well known—therefore, reasonable expectation of success.
4. Known technique to improve similar device in same way.
5. Known technique in device ready for improvement to yield predictable results.

No motivation to add Spitzer's flex circuit to Ground 5

Howell-596 + Blum-741 + Spitzer

✗ May adjust components w/o lead strain.

2. Lower-profile flat cross-section.

3. Flex circuits well known—therefore, reasonable expectation of success.

4. Known technique to improve similar device in same way.

5. Known technique in device ready for improvement to yield predictable results.

No motivation to add Spitzer's flex circuit to Ground 5

Howell-596 + Blum-741 + Spitzer

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✗ Lower-profile flat cross-section.

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 - ✗ Lower-profile flat cross-section.
 - ✗ Flex circuits well known—therefore, reasonable expectation of success.
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 5. Known technique in device ready for improvement to yield predictable results.

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 - ✗ Lower-profile flat cross-section.
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 - ✗ Known technique to improve similar device in same way.
5. Known technique in device ready for improvement to yield predictable results.

No motivation to add Spitzer's flex circuit to Ground 5

Howell-596 + Blum-741 + Spitzer

- ✗ May adjust components w/o lead strain.
- ✗ Lower-profile flat cross-section.
- ✗ Flex circuits well known—therefore, reasonable expectation of success.
- ✗ Known technique to improve similar device in same way.
- ✗ Known technique in device ready for improvement to yield predictable results.

Petitioner's Ground 9 combination has no movable components

Blum-741 Frames + Hattori-912 Assembly

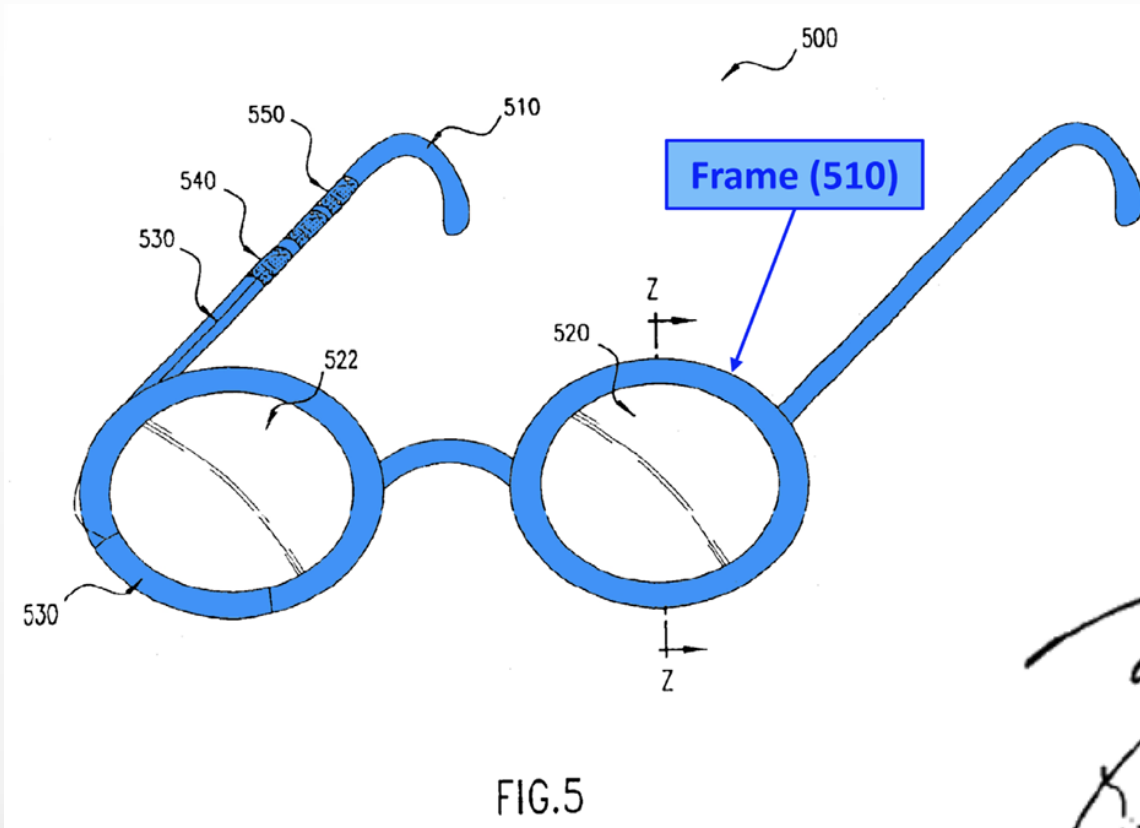
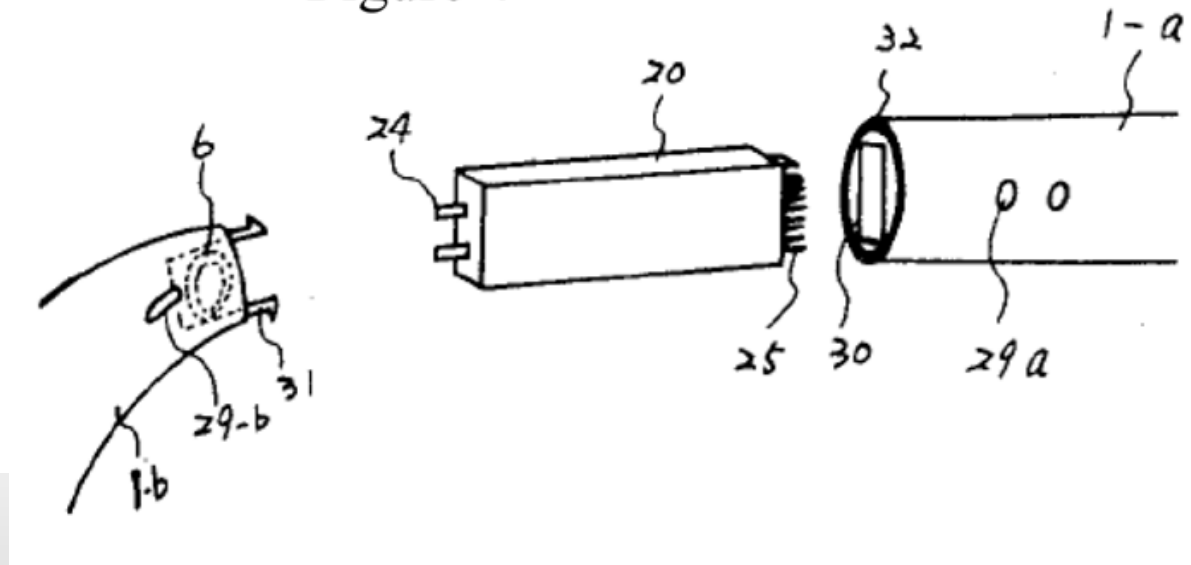


Figure 4



No motivation to add Spitzer's flex circuit to Ground 9

Blum-741 + Hattori-912 + Spitzer

- ✗ May adjust components w/o lead strain.
- ✗ Lower-profile flat cross-section.
- ✗ Flex circuits well known—therefore, reasonable expectation of success.
- ✗ Known technique to improve similar device in same way.
- ✗ Known technique in device ready for improvement to yield predictable results.

Issue 2: Sealed Moisture Resistant Module (Claims 3, 13, 16, 19-37)

Grounds 8 & 9

'483 Patent, Claim 3

1. Eyewear comprising:

a frame; and

a sealed moisture resistant module attached to the frame, wherein the module comprises within the seal any two of...,

wherein the frame comprises a first temple and a second temple, and wherein the module is disposed within the first temple.

2. The eyewear of claim 1, wherein the module includes an electrical connector...

3. The eyewear of claim 2, wherein the module is electrically connected to the external device by a flex circuit.

Grounds 8 & 9

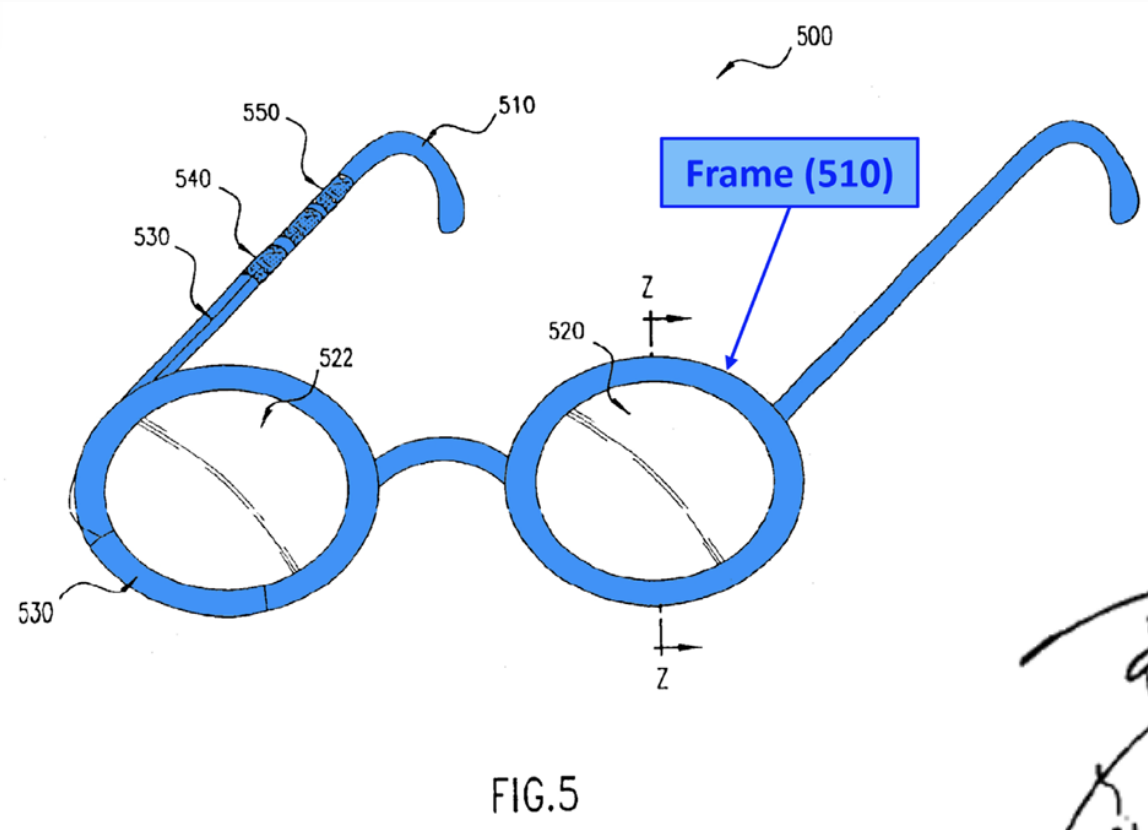
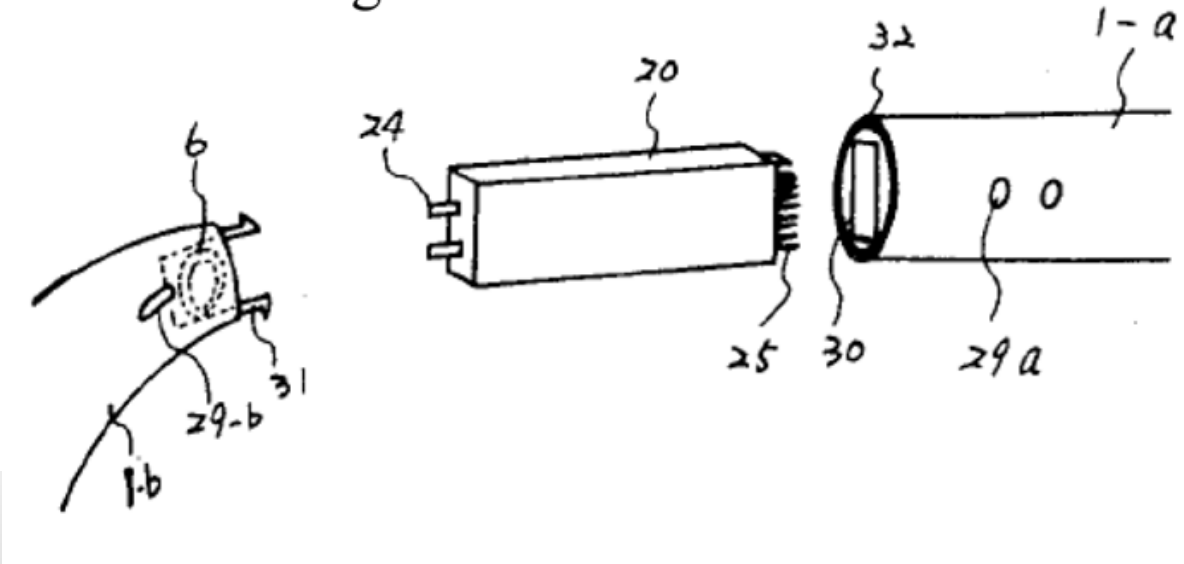
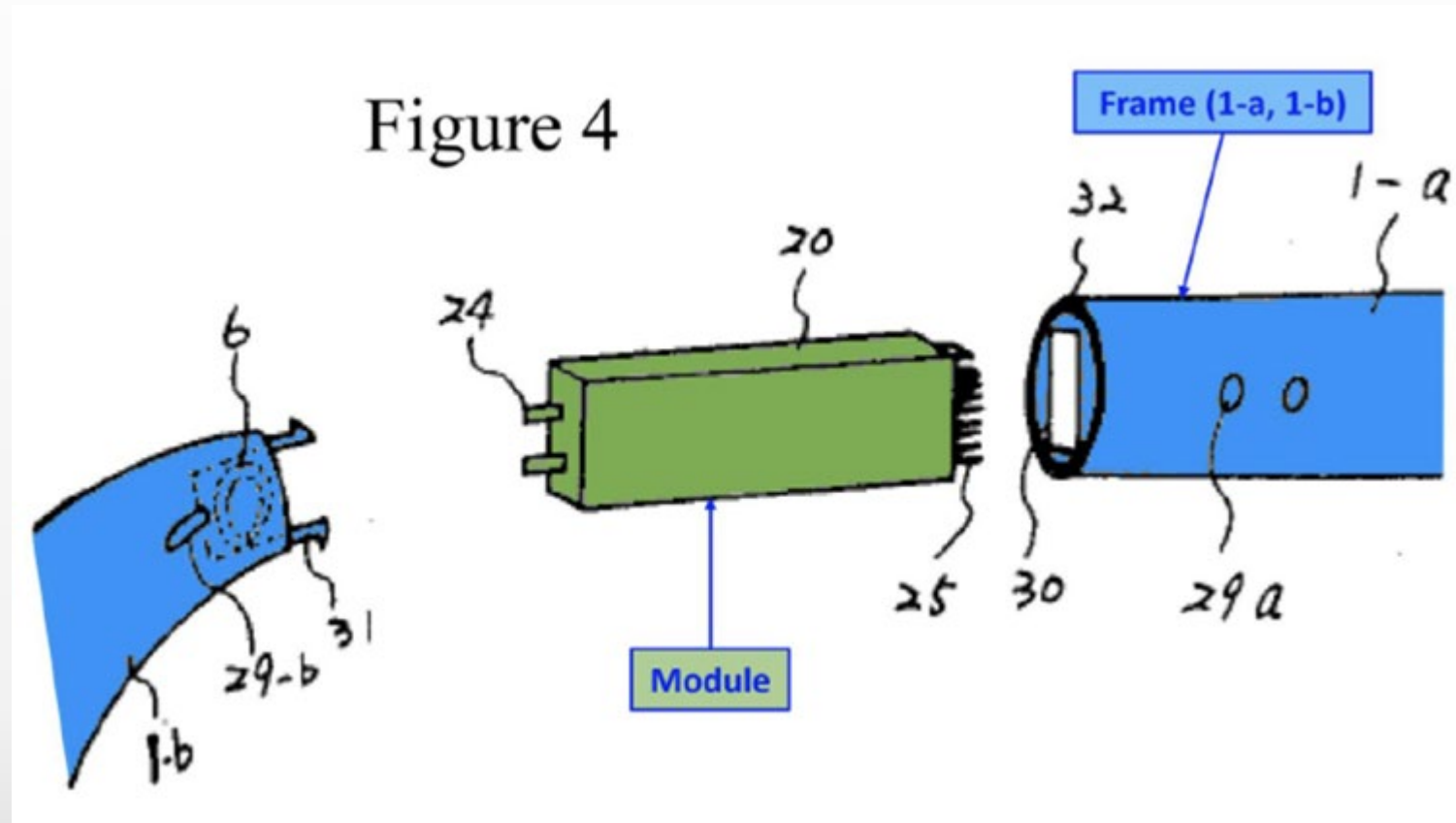


Figure 4



Blum-741 + Hattori-912

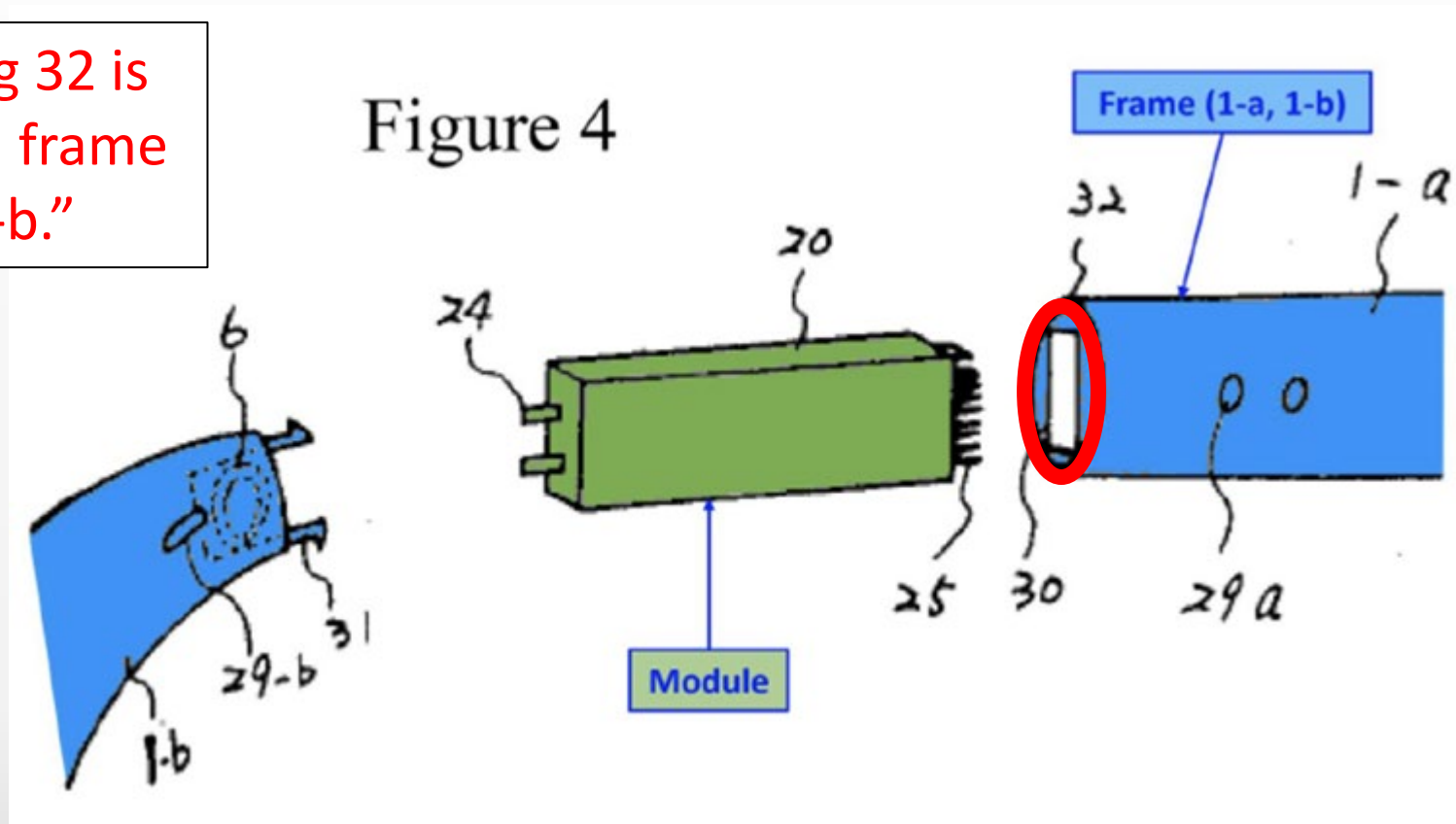
Petitioner: "Hattori-912 discloses a sealed moisture resistant module (contents sealed in the hollow part 30 by waterproof ring 32)."



Blum-741 + Hattori-912

Petitioner: "Hattori-912 discloses a sealed moisture resistant module (contents sealed in the hollow part 30 by waterproof ring 32)."

"Waterproof ring 32 is packed between frame 1-a and frame 1-b."



In this example of embodiment, a metal frame I used as substrate 36, and FET 37, capacitor 38, and resistor 39 or the like may be formed on this substrate 36...resulting in the construction of thin film integrated circuit 40 for driving. Thin film integrated circuit 40 may be covered by protective film 41.

EX-1006 (Hattori-912), 65.

Issue 3: Hermetically Sealed (Claim 13)

Grounds 2 & 8

'483 Patent, Claim 13

1. Eyewear comprising:

a frame; and

a sealed moisture resistant module attached to the frame, wherein the module comprises within the seal any two of....,

wherein the frame comprises a first temple and a second temple, and wherein the module is disposed within the first temple.

13. The eyewear of claim 1, wherein the module is hermetically sealed.

Hermetically Sealed = Airtight

Water-resistant or waterproof ≠ airtight

Paper	“Hermetically sealed” Defined	Pincite
Petition	“Something that is <u>hermetically sealed is sealed so as to be airtight.</u> ”	p. 28
EX-1010	Defining “hermetic seal” as “[a]n airtight seal.”	p. 269
POR	“[A]n airtight seal provides a higher degree of protection than a waterproof seal.”	p. 30
Dr. Oliver EX-2019	“[A] POSITA would have understood that airtight provides a higher degree of protection than waterproof.”	¶¶ 94-97
Reply	“PO ignores that the ’483 patent itself treats hermetically sealing as conventional and <u>equivalent to waterproofing.</u> ”	p. 14

Hermetically Sealed = Airtight

Water-resistant or waterproof ≠ airtight



Dr. James Oliver
Iowa State University

“[W]ater vapor is a constituent of air, so a seal that is airtight would also be watertight. In addition, a POSITA at the time of the '483 patent also understood that water molecules are larger than air molecules. (EX-2022, at 2, 4.) In other words, airtight often requires waterproof but mere disclosure of waterproof, on the other hand, does not teach or suggest airtight.”

EX-2019, ¶95.

Howell-596 Stops At Waterproofing

Ground 2 - claim 13

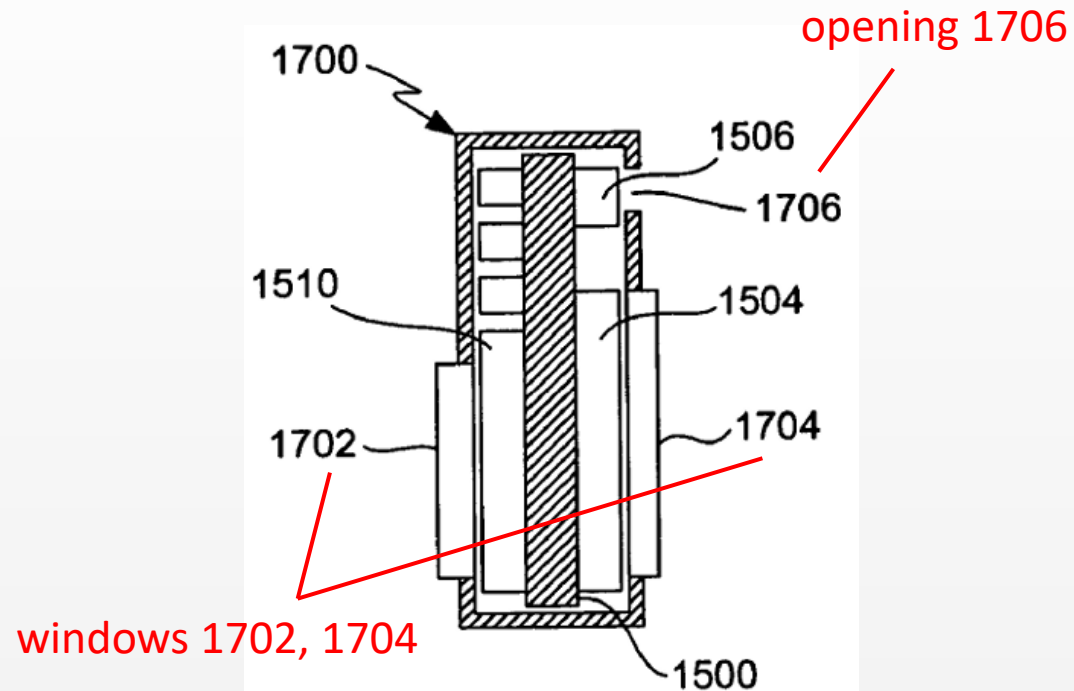


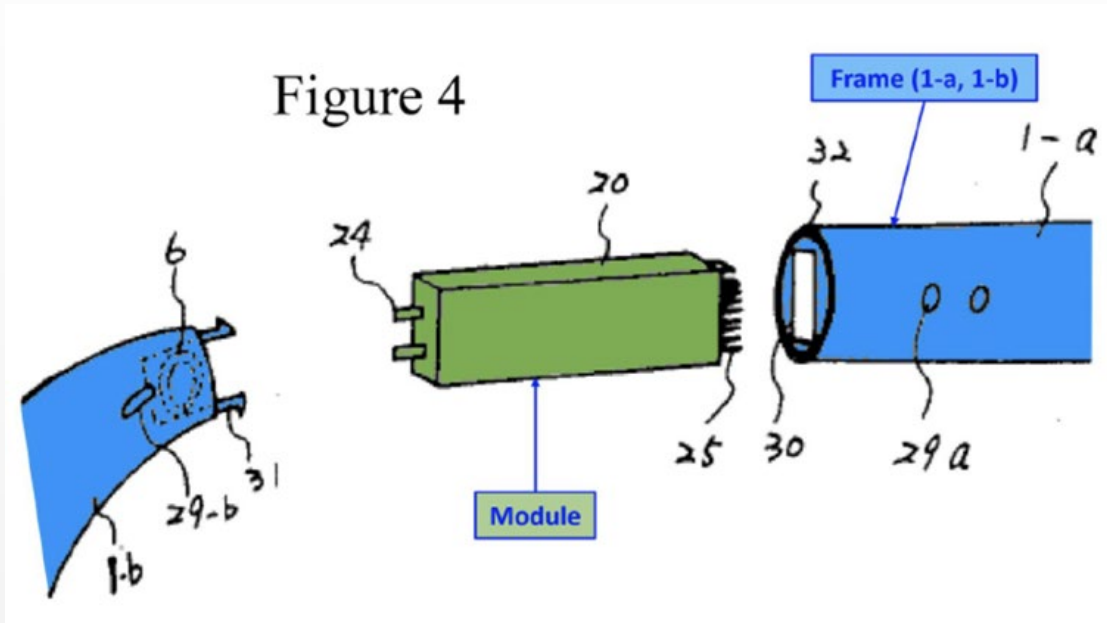
FIG. 17A

“The module housing 1700 can also include an opening 1706 that is positioned proximate to the UV sensor 1506. Still further, although not illustrated in Fig. 17A, the module housing 1700 can further include one or more vents or holes so that air can circulate through the module housing 1700. Alternatively, the module housing 1700 does not include vents or holes, so as to be water-resistant or water-proof.”

Howell-596, ¶194.

Hattori-912 Does Not Disclose A Waterproofed Module, Let Alone A Hermetically Sealed Module

Ground 8 - claim 13



“Something that is hermetically sealed is sealed so as to be air-tight. EX-1002, ¶238 (citing Ex.1010). And something that is sealed with a water-proof ring or coating is also air-tight. *Id.*”

Petition, 75-76.

“Hattori-912 discloses that the module may be coated with ‘protective film 41,’ which a POSITA would have understood to form a water-proof coating on the module. EX-1006, 65; EX-1002, ¶237 (citing EX-1011).”

Petition, 75.

Issue 4: Wear-Resistant Module (Claim 16)

Ground 2

'483 Patent, Claim 16

1. Eyewear comprising:

a frame; and

a sealed moisture resistant module attached to the frame, wherein the module comprises within the seal any two of....,

wherein the frame comprises a first temple and a second temple, and wherein the module is disposed within the first temple.

16. The eyewear of claim 1, wherein the module is substantially wear resistant.

Ground 2

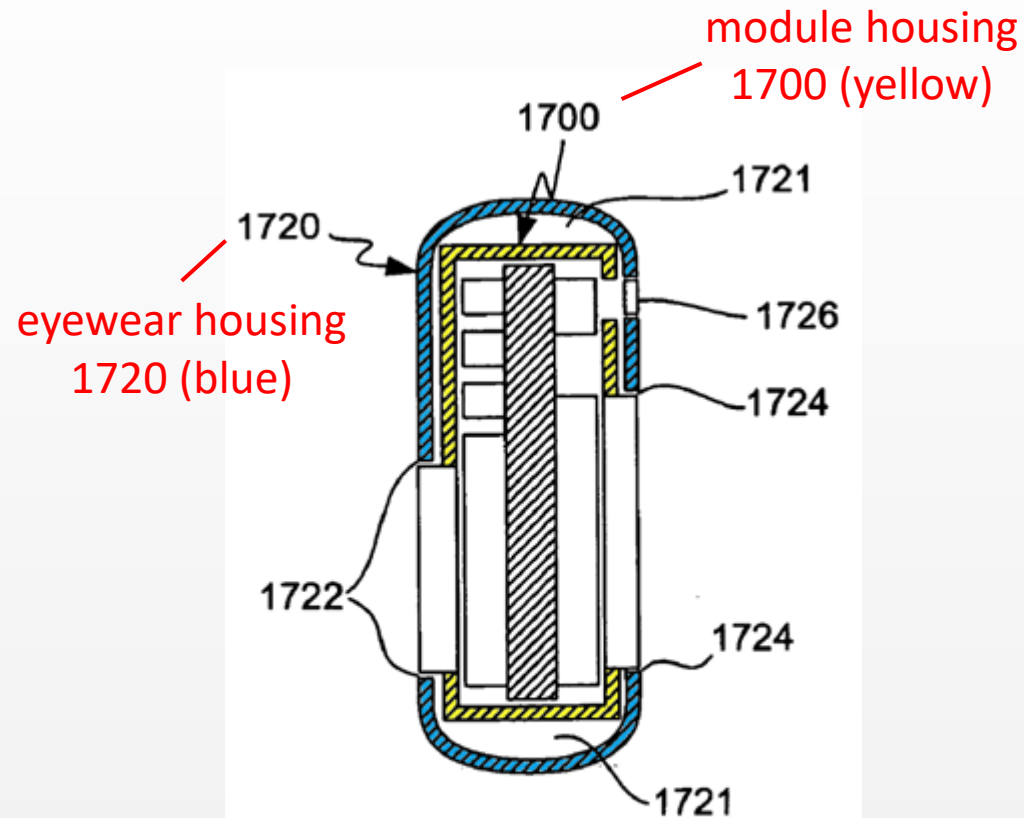


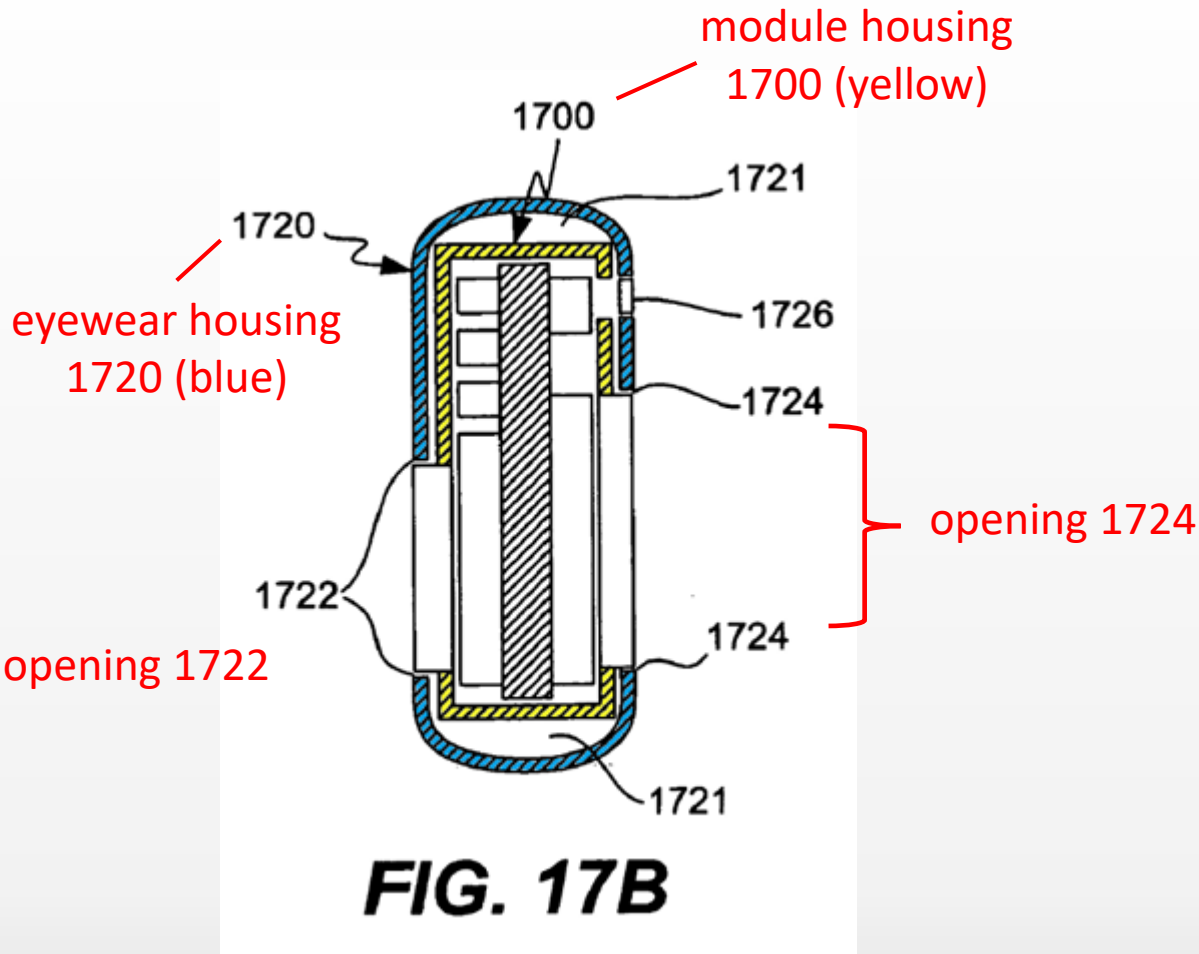
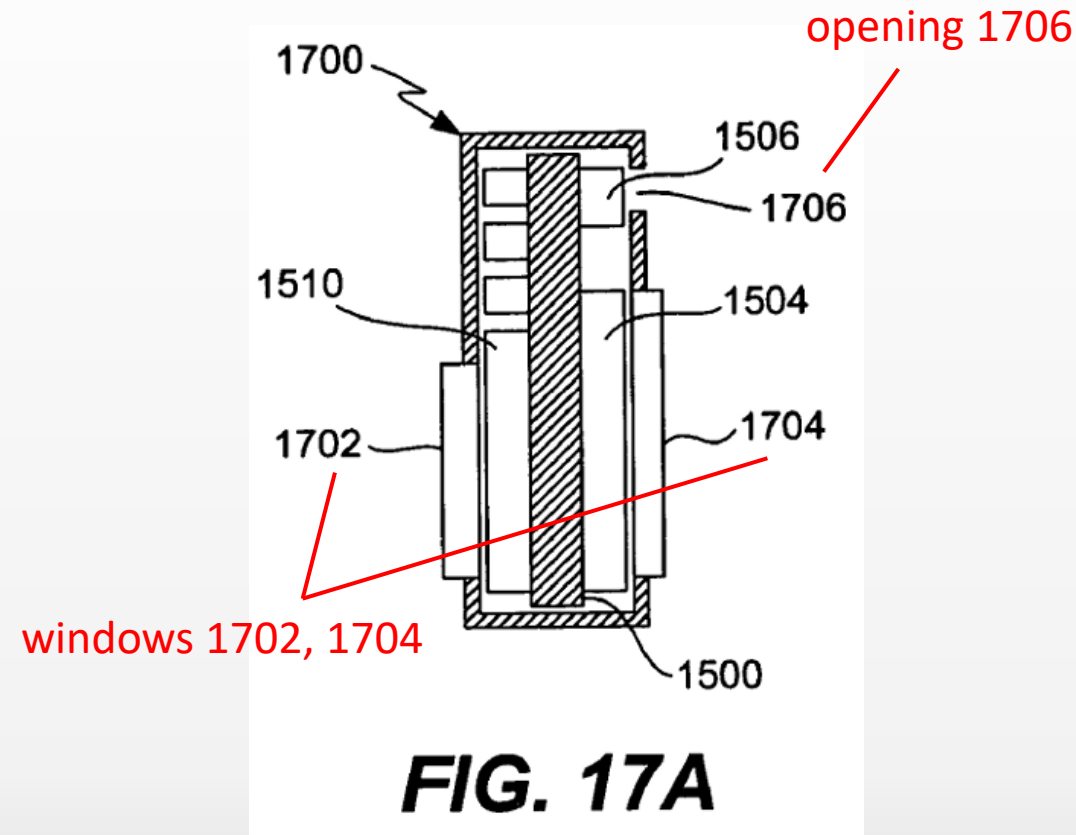
FIG. 17B

Issue 5: Locating the Module Behind the Ear (Claims 19-37)

Ground 3

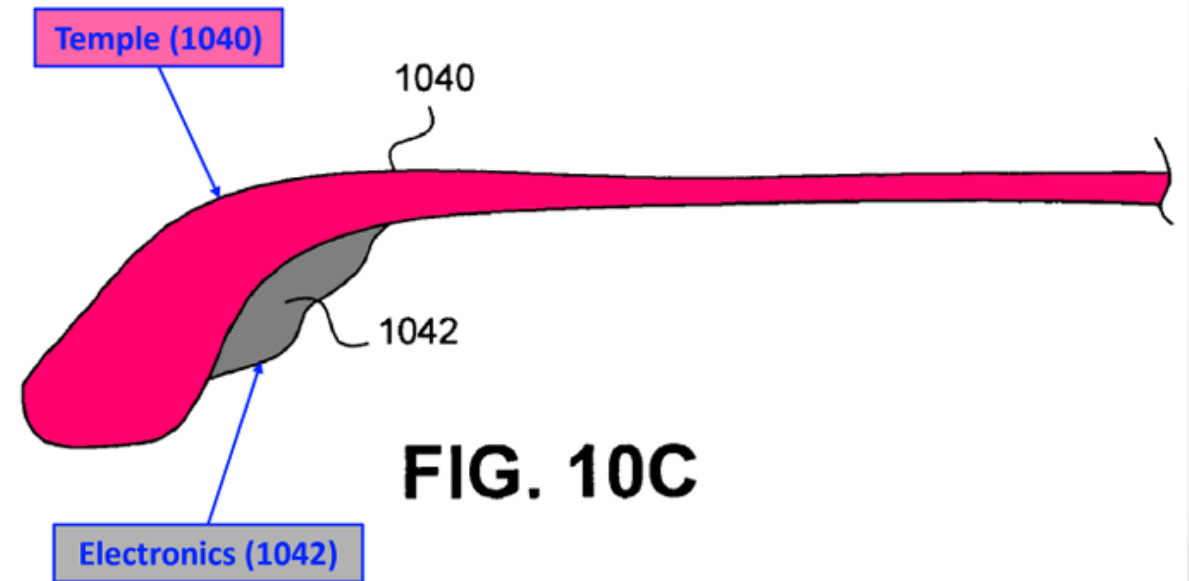
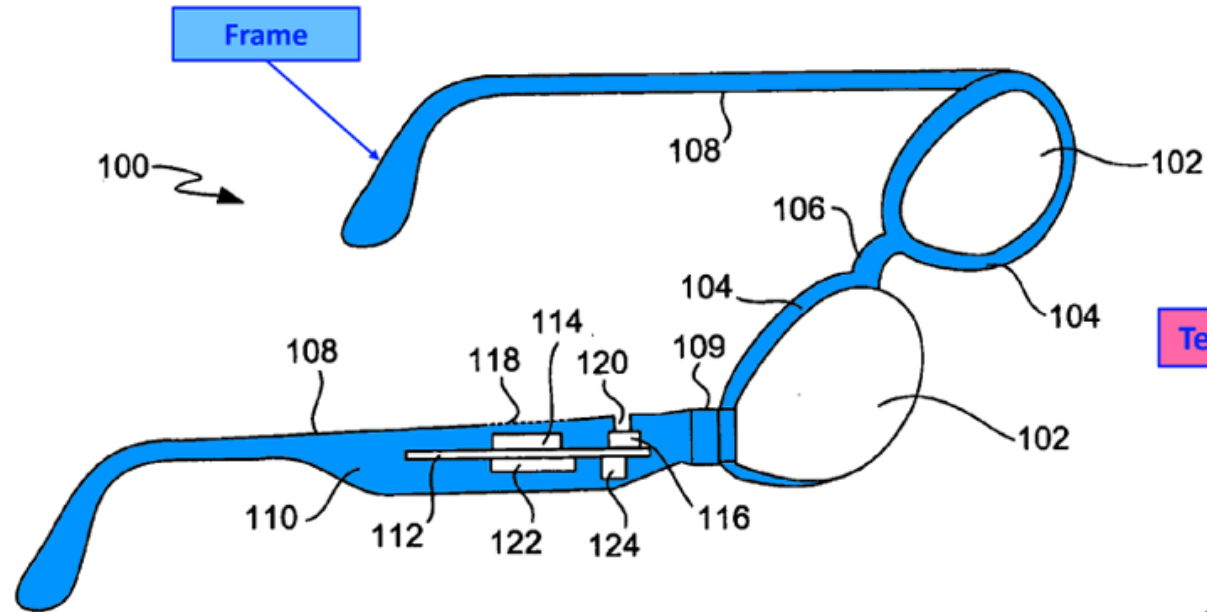
Howell-596's UV Detection System

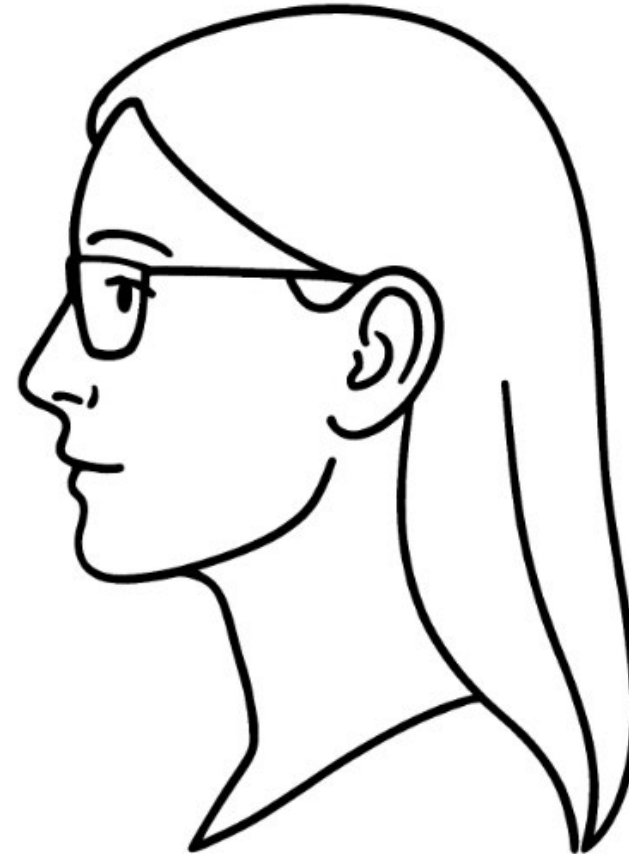
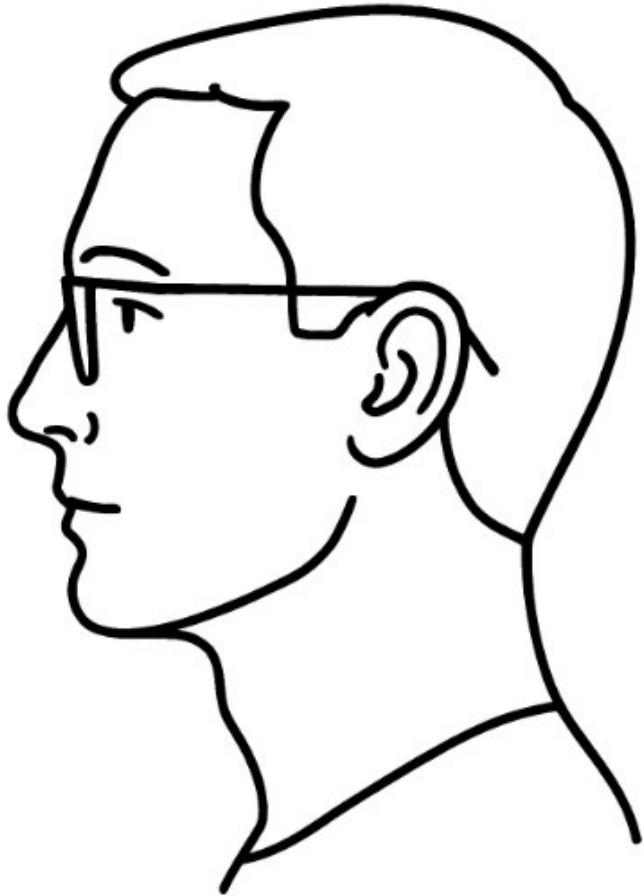
Ground 3



Howell-596 + Howell-833

Ground 3

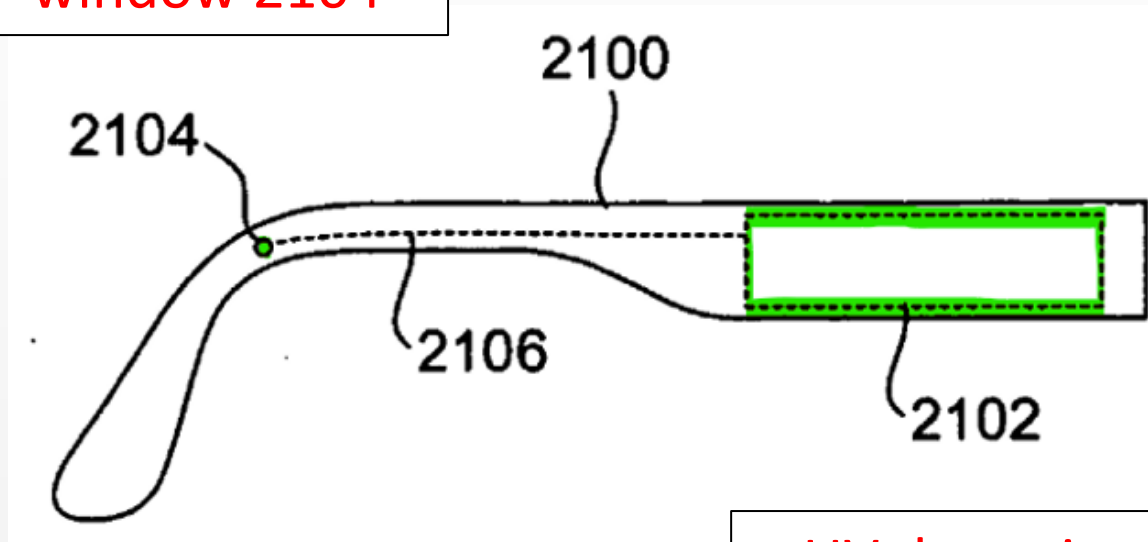




Howell-596 – Figure 21

Ground 3

window 2104



UV detection
system 2102

“The side view of Fig. 21 shows an inner side of the temple 2100, namely, the side of the temple 2100 that faces inward when being worn....

When the temple 2100 of the eyeglass frame is being worn by a user, the optical sensor will be blocked from receiving significant amounts of light, thereby informing the UV detection system 2102 that the eyeglass frame is being worn.”

Howell-596, ¶205.

Howell-833 – Figure 1

Ground 3

