

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LUXOTTICA OF AMERICA INC.,

Petitioner,

v.

E-VISION OPTICS, LLC,

Patent Owner.

Case No. IPR2024-01069

Patent No. 10,613,355

PATENT OWNER'S SUR-REPLY TO PETITIONER'S REPLY

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EXHIBIT LIST

Exhibit	Description
2001	U.S. Patent 4,254,451 (Cochran)
2002	U.S. Patent Pub. 2005/0230596 (Howell-596)
2003	U.S. Patent Publication 2011/0013136 (Archambeau-136)
2004	Declaration of Dr. James H. Oliver (Oliver Decl.)
2005	Curriculum Vitae of Dr. James H. Oliver
2006	Khandpur, R., <i>Printed Circuit Boards</i> (McGraw-Hill Professional, 2006)
2007	J.F. Humphries, <i>Conformal Coating of Printed Circuit Boards</i> , Electrolube, Articles-7, 2009, pp. 1–6

I. INTRODUCTION

Petitioner has not met its burden to prove, by a preponderance of the evidence, that the challenged claims of the '355 patent are unpatentable.

Petitioner's reply recycles the laundry list of flawed obviousness theories from the petition, but does not remedy a deficiency common to all grounds: Petitioner's failure to demonstrate that a POSITA would have combined teachings of the various references in the manner Petitioner proposes.

First, with respect to independent claim 14 (and its dependent claims), all of Petitioner's proposed combinations fail because each either eliminates the required capacitive touch switch or relies on non-analogous art—Eichelberger and/or Sikonowiz. After Patent Owner—and the Board—pointed out that Petitioner's ground 4 and 5 combinations would have eliminated the capacitive touch switch, Petitioner now pivots in its reply and attempts to rely on a new combination with multiple types of switches. But even this new combination fails, because Howell-719 does not disclose eyewear with multiple *types* of switches that operate together.

Second, with respect to independent claim 1 (and its dependent claims), grounds 1 and 6 are improperly based on non-analogous art—Sikonowiz—which, even if combined as proposed by Petitioner, would result in an inoperable combination. Sikonowiz is not in the same field of endeavor or reasonably pertinent to the problem addressed by the claimed invention for many reasons, including that a POSITA would

immediately dismiss its 1981 discussion of conformal coatings for bulky, cumbersome integrated circuit chips as outdated and irrelevant to the small-form-factor, sophisticated circuit designs demanded by consumer electronics eyewear. Notwithstanding, the combination would be inoperable because coating a speaker (Howell-719) or a capacitive switch (Eichelberger) would be undesirable.

Third, with respect to independent claim 13, grounds 1, 3, 6, and 7 all fail to disclose a “method of manufacturing eyewear.” Howell-719 includes no enabling disclosure of the recited method. And while Blum-130 discloses three embodiments (FIGS. 4, 6, and 27), none teaches manufacturing eyewear. A POSITA could not have inferred nonexistent manufacturing steps from images of a final, finished pair of glasses such as those shown in FIG. 1 of Howell-719.

Finally, Petitioner wrongly describes its expert's opinions as “unrebutted” (Reply, 1), despite that Dr. Oliver thoroughly refuted these opinions at length in his own detailed declaration. (*See generally* EX-2004.) “[A] tribunal is not required to accept expert testimony simply because...the declarant was not deposed.” *Belden Inc. v. Berk-Tek LLC*, No. 2014-1676, 2014-1677, slip op. at *12 (Fed. Cir. Apr. 17, 2015) (citing *Applied Med. Res. Corp. v. U.S. Surgical Corp.*, 147 F.3d 1374, 1379 (Fed. Cir. 1998)) (affirming a PTAB's rejection of expert testimony as “conclusory” and “not supported,” even without cross-examination).

II. CLAIM 14 IS PATENTABLE

Claim 14 requires both a capacitive touch switch and at least one of an accelerometer or gyroscope. But as Patent Owner explained in its response, none of Petitioner's four grounds establishes that a POSITA would have been motivated to create the claimed eyewear, which must include both controls.

A. Grounds 4 and 5: Claim 14 Is Patentable Over Howell-719, Sikonowiz, and Howell-158

For both grounds 4 and 5, Petitioner originally proposed *substituting* either Howell-158's accelerometer (ground 4) or Blum-130's gyroscope (ground 5) for Howell-719's "capacitive effect" sensor. (Pet., 44-47.) But as the Board correctly recognized in its institution decision in relation to ground 5, Petitioner's combination replaced Howell-719's switch with a different component. (Institution Decision, 29-30.) The Board's reasoning equally applies to ground 4 at least because Petitioner relies on the same rationale of *substituting* for Howell-719's capacitive effect sensor. (Pet., 44-47.) As such, neither combination includes the two different controls required by claim 14.

With respect to ground 4, claim 14 is patentable at least because Petitioner's combination effectively removes and replaces Howell-719's "capacitive effect" sensor with Howell-158's "accelerometer." (See Pet., 42-48 ("[i]ncorporating Howell-158's accelerometer-based 'being worn' detector thus represents using *a simple substitution*

of one known alternative (accelerometer-based 'being worn' detector) for another, similar component (magnetic-based 'ready to be worn' detector) with predictable results.”)) If a POSITA were to make the ground 4 combination, at least claim element 14[d] would be missing.

In its reply, Petitioner pivots to Howell-719's discussion of “two switches” to argue that Howell-719 discloses a separate “ready to be worn” detector and “capacitive touch switch.” (Paper 24, “Reply,” 14-15 (*citing* EX-1004, ¶¶81-82).) Problematically for Petitioner, Howell-719 does not disclose employing “two switches” *of different types*. Rather, Howell-719 describes various alternative implementations of a single switch 28. (EX-1004, ¶¶36, 76-84.) For example, in one Howell-719 embodiment, switch 28 may be implemented as a hall effect sensor (*id.*, ¶81), and in other embodiments, switch 28 may be implemented using “capacitance” (*id.*). (*See also* EX-1004, FIG. 4 (showing different activation forces for the switch).) If Petitioner substitutes the ready-to-be-worn magnetic detector (i.e., the Howell-719 “switch”) with an accelerometer variety, there is no disclosure or suggestion in Howell-719 of another switch of a different type. (*See generally* Howell-719.) Because Howell-719 does not disclose two switches of different types performing different operations, Petitioner cannot credibly allege that Howell-719's switch 28 also satisfies element 14[d]—the claimed “capacitive touch switch.” Thus, because Petitioner substitutes

switch 28 for an accelerometer in an attempt to satisfy element 14[b], Petitioner cannot use switch 28 to also satisfy element 14[d].

Petitioner's reliance in the reply on Howell-719's "two switches" does not change this result. (Reply, 15.) At Howell-719 ¶74, cited by Petitioner in the reply, "two switches" are disclosed for glasses having two speakers, e.g., so that each speaker may be controlled by its own switch. (*Id.*, 15 (*citing* EX-1004, ¶74.) But Howell-719 does not disclose or suggest that the two related switches could be of a different type (e.g., capacitive effect and magnetic-based), and Petitioner has not provided a motivation for incorporating different switch *types* for each respective speaker. Indeed, it would be impractical and confusing to implement eyewear having a first switch type (e.g., capacitive effect) for operating a left speaker, while also having a second switch type (e.g., magnetic-based) for operating a right speaker. (*See* EX-2004, ¶¶64, 65.) And regardless, Howell-719 does not disclose or suggest the two-switch, two-function eyewear postulated by Petitioner.

At Howell-719 ¶93, also cited by Petitioner in the reply, again Howell-719 discloses "two switches" of the same type: a mechanical switch. (*Id.*, 15 (*citing* EX-1004, ¶93.) Not only does Howell-719 not show switches of different types, the discussion at Howell-719 ¶93 describes features for tactilely distinguishing between

mechanical switches. (EX-1004, ¶93.) Howell-719 does not describe features for tactilely distinguishing between two different types of switches. (*Id.*)

For example, Howell-719 describes designing mechanical switches that “take[] into consideration perception.” (*Id.*) According to Howell-719, “[p]ushing the rough surface” implies incrementing one step and *pushing the smooth surface* implies decrementing one step.” (*Id.* (emphasis added).) A POSITA would not understand this teaching to apply to switches that do not require the mechanical manipulations outlined in Howell-791’s ¶93 because it is those manipulations that allow a user to perceive each mechanical switch. (*Id.*) Therefore, a POSITA would understand Howell-719 ¶93 as relevant only to the implementation of tactile features for two *mechanical switches*. As such, Howell-719 does not disclose or suggest implementing two switches of different types.

Accordingly, if a POSITA were to attempt Petitioner’s proposed ground 4 combination, there would be no basis for the combination to have the second, “capacitive effect” switch of a different type. Howell-719’s single switch is substituted for an accelerometer, and Howell-719 does not describe operating the accelerometer (Howell-719’s switch, per Petitioner) with another switch of a different type. And it would not be obvious to add a second switch of a different type to Howell-719 because Howell-719 discloses no reason to deprecate the functionality of its eyewear by adding

unnecessary switches of different types. (*See KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (obviousness determination considers “whether there was an apparent reason to combine the known elements in the fashion claimed”).)

With respect to ground 5, claim 14 is patentable at least because Petitioner's combination effectively removes and replaces Howell-719's “capacitive effect” sensor with Blum-130's “gyroscope.” (*See Pet.*, 42-48 (“[i]ncorporating Blum-130's accelerometer- or gyroscope-based switch controls into Howell-719 represents using a simple substitution of one known alternative (accelerometer/gyroscope-based motion detector allowing for head movement to activate switch) for a component (physical switches).”) If a POSITA were to make the ground 5 combination, at least claim element 14[d] would not be satisfied.

In its reply, Petitioner fails to address the Board's recognition of the apparent lack of a “capacitive touch switch” in the ground 5 combination. (Institution Decision, Paper 11, 29-30.) Petitioner's ground 5 suffers from the same fundamental problem as ground 4 in that it swaps a component of Howell-719 (the “physical switch”) with a component of Blum-130 (the “gyroscope”). (*See id.*)

Petitioner's reply does not resolve this deficiency in its proposed combination. Instead, Petitioner muddies the water by suggesting a capacitive touch switch is somehow not a “physical switch.” (Reply, 16-17.) Petitioner's suggestion is

contradicted by Howell-719, which describes the switch 28 (i.e., a physical switch) as being activatable by a change of capacitance, in one embodiment. (EX-1004, ¶¶28, 82.). Moreover, Petitioner's reply mischaracterizes Dr. Feland's testimony as supposedly supporting the notion that a capacitive touch switch is not a physical switch. (Reply, 16-17 (*citing* EX-1002, ¶69).) But Dr. Feland did not comment on whether a capacitive touch switch is a "physical switch," and instead merely distinguished a capacitive touch switch from a mechanical one. (*See* EX-1002, ¶69.) But both capacitive touch switches and mechanical switches are "physical switches," as they both include physical or tangible components.

Contrary to Petitioner's unsupported suggestion, Howell-719 discloses a "capacitive effect" switch as one of many possible options for its single physical switch. If Petitioner's proposed combination elects to substitute out this physical—capacitive effect—switch and replace it with Blum-130's gyroscope, then nothing remains in the proposed combination to disclose or suggest the claimed "capacitive touch switch." Howell-719 discloses or suggests no other "physical switches" that could satisfy element 14[d], and so the Board should find claim 14 patentable over ground.

B. Ground 6: Claim 14 Is Patentable Over Blum-130, Sikonowiz, and Howell-719

Claim 14 is patentable over ground 6 at least because Petitioner's motivation to combine is based only on conclusory statements by Petitioner's expert.

In its reply, Petitioner again points to the conclusory statements of Dr. Feland. Petitioner does not dispute that its alleged motivation to add the Howell-719 capacitive effect switch to Blum-130 is based on an essentially *identical paragraph* in Dr. Feland's testimony. (*Compare* Pet., 54 with EX-1002, ¶148.) Petitioner's expert merely repeats the same conclusory statements found in the petition. Dr. Feland's testimony is therefore insufficient to support Petitioner's motivation to combine allegations. *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15 (PTAB Aug. 24, 2022) (precedential) (finding an expert's declaration that "merely repeats" conclusory assertions without additional supporting evidence or any technical reasoning is "entitled to little weight," particularly where the testimony is offered to supply a limitation missing from the prior art); 37 C.F.R. § 42.65(a)).

Petitioner's conclusory basis for combining prior art teachings lacks specificity. Petitioner fails to articulate an adequate motivation to combine the capacitive effect switch of Howell-719 with Blum-130; thus, the proposed ground 6 combination rests on little more than hindsight bias. (*Compare* Pet., 54 with EX-1002, ¶148.) And Petitioner cannot use claim 14 itself as guidepost. Petitioner must put forward some

“explanation as to how or why the references would be combined to arrive at the claimed invention...[otherwise] hindsight bias [becomes] the thread that stitches together prior art patches into something that is the claimed invention.” *Metalcraft of Mayville, Inc. v. The Toro Co.*, 848 F.3d 1358, 1367 (Fed. Cir. 2017) (citation omitted).

Moreover, in the reply, Petitioner now pivots from its original contention in its petition of Blum-130's “change [of] the lenses' focal distance,” (Pet., 54) and now relies on a purported “simplest embodiment” in Blum-130 where “the electro-active lenses are either on or off.” (Reply, 19 (*citing* EX-1006, 28:40-41.)) Petitioner's pivot fails because the cited portion of Blum-130 describes a mechanical, movable switch with different physical positions inapposite to that of a touch switch. (*See* EX-1006, 28:37-58.) In this purported simplest embodiment, Blum-130 requires “two switch *positions*.” (*Id.*, 28:38-39 (emphasis added).) Blum-130 describes a first, (or “off”) position, a second (or “on”) position. (*Id.*, 28: 37-58.) Therefore, not only would implementation of Blum-130's “variable focal length” control using a capacitive effect switch not be attempted due to the requirement for “continuous variance” adjustment, as demonstrated in the POR at pages 29 and 30, the implementation of the “simplest embodiment” Blum-130 switch using a capacitive effect switch would also not be attempted, as now proposed in the reply. (Reply, 19.) Even in its “simplest embodiment,” Blum-130 requires movement between “switch positions,” and a

POSITA would understand that a capacitive effect switch would be inappropriate for such application because it does not operate in this manner.

Petitioner has not put forth an adequate motivation to combine, and thus the Board should find claim 14 patentable over ground 6.

C. Ground 7: Claim 14 Is Patentable Over Blum-130, Sikonowiz, and Eichelberger

Claim 14 is patentable over ground 7 at least because Petitioner's combination relies on non-analogous art: Eichelberger. Eichelberger fails both prongs of the analogous art standard. *See Sanofi-Aventis Deutschland GmbH v. Mylan Pharm. Inc.*, 66 F.4th 1373, 1377 (Fed. Cir. 2023).

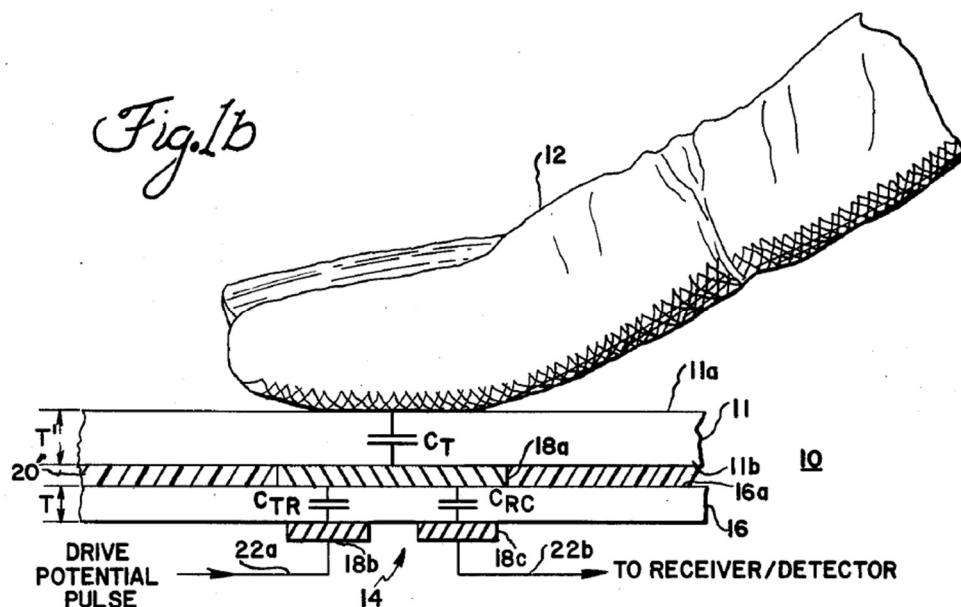
First, Eichelberger is not from the same field of endeavor as the claimed invention. The challenged patent, including the “function[] and structure of the claimed invention” informs the applicable field of endeavor. *Airbus S.A.S. v. Firepass Corp.*, 941 F.3d 1374, 1380 (Fed. Cir. 2019) (*citing In re Bigio*, 381 F.3d, 1320, 1325 (Fed. Cir. 2004) with approval). The Federal Circuit considers a holistic analysis whereby by “the factfinder must consider each reference’s disclosure in view of the ‘the reality of the circumstances’” and “weigh those circumstances from the vantage point of the common sense likely to be exerted by one of ordinary skill in the art.” *Id.*

Petitioner's reply alleges that the '355 patent “is not limited to eyewear” but rather addresses the whole field of “consumer electronics.” (Reply, 20.) Here,

Petitioner merely casts a wide, nebulous net in order to loop in as many tangential prior art documents as possible. This ignores the “reality of circumstances” that each of the '355 patent's claims, figures, background and detailed description directly concerns, enables, and describes “eyewear,” and specifically “electronic eyewear.” (EX-1001, cls. 1, 13, 14; FIGS. 1-27, 2:18-35, 6:66-28:63.) The inventor would thus have understood the relevant field to be eyewear, and not some undefined concept of any device sold to a consumer that uses electricity. Petitioner does not dispute that Eichelberger includes no specific disclosure of eyewear or how to apply its teachings specifically to eyewear. As such, Eichelberger does not address the same field of endeavor as the invention, and so Eichelberger fails prong 1 of the analogous art standard.

Second, Eichelberger is not reasonably pertinent to the problem faced by the inventor. Petitioner accuses Patent Owner of an overly narrow field that “conflates the alleged ‘field’ with the problem the '355 patent seeks to solve.” (Reply, 22.) But Patent Owner's framing of the problem in terms of eyewear does not “exclude any reference outside of that field.” (*Id.*, citing *Donner Tech., LLC v. Pro Stage Gear, LLC*, 979 F.3d 1353, 1360-61 (Fed. Cir. 2020).) Rather, other non-eyewear references could conceivably be applicable to the problem faced by the inventor—“moisture proof eyewear”—but only if such reference “logically would have commanded itself to [the]

inventor's attention in considering his problem." *In re Klein*, 647 F.3d 1343, 1348 (Fed. Cir. 2011). Here, Eichelberger would not have commanded itself to the inventor's attention. As one example, the inventor would have understood that Eichelberger's teaching of large format switches (up to a "one-half inch square") and rudimentary designs from the early 1980s, such as that shown in Eichelberger FIG. 1b, would have likely been inapplicable to demands of complex, moisture-proof eyewear.



(EX-1010, FIG. 1b.) A POSITA would have understood that Eichelberger's teachings were inappropriate for eyewear, and Petitioner has not established an adequate basis to find otherwise.

Moreover, even if a POSITA were to employ non-analogous art, there would still be no motivation to combine a capacitive touch switch with the Blum-130 eyewear. For example, and as demonstrated herein in relation to ground 6, a POSITA

would not have found a capacitive switch operable in Blum-130 for many reasons, including that such capacitive switch would be an inappropriate mechanism by which to implement the “continuous variance” functionality or the on/off moveable “switch positions” required by Blum-130. (§ II.B, *supra*; EX-1006, 28:37-58.)

Accordingly, Eichelberger is non-analogous art and a POSITA would have lacked the motivation to combine the prior art teachings.

III. CLAIM 1 IS PATENTABLE

A. Ground 1: Claim 1 Is Patentable Over Howell-719 and Sikonowiz

Petitioner's ground 1 argument for claim 1 rests on three faulty positions articulated again in its reply. (Reply, 1-9). Claim 1 (and its dependents) are patentable over ground 1 because Petitioner has not shown motivation to combine Howell-719 and Sikonowiz.

First, Petitioner's reply attempts to map Sikonowiz as analogous art to the '355 patent. (Reply, 2-5.) However, Sikonowiz fails both prongs of the analogous art test. Sikonowiz is neither from the same field of endeavor as the claimed invention nor “reasonably pertinent to the particular problem with which the inventor is involved.” *Sanofi-Aventis*, 66 F.4th at 1377 (*citing In re Bigio*, 381 F.3d at 1325, with approval.)

Sikonowiz is not from the same field of endeavor because it does not concern eyewear. The challenged patent, including the “function[] and structure of the claimed invention” informs the applicable field of endeavor. *Airbus S.A.S.*, 941 F.3d at 1380

(citing *In re Bigio*, 381 F.3d at 1325 with approval).) Every sentence of the background of the '355 patent describes eyewear. (EX-1001, 2:18-35.) The drawings and the detailed description of the '355 patent further ground the '355 patent in eyewear. (E.g., EX-1001, FIGS. 1-27 (showing structural components and/or functional relationships of electronic eyewear).) The '355 patent claims also each recite “eyewear.” (EX-1001, cls. 1, 13, 14.)

Petitioner advances a field so broad and nebulous as to encompass all “consumer electronics.” (Reply, 3.) Common sense—the standard employed by Petitioner in the reply—dictates that the field of endeavor cannot be so large. The '355 patent background, detailed description, drawings and claims all pertain to eyewear, and so Petitioner's assertion is without merit.

Petitioner casts a wide net in an attempt to draw in Sikonowiz. (Reply, 2-4.) But a POSITA would not understand the field of the invention to encompass the entire field of consumer electronics, when the claimed invention is specific to electronic eyewear. *In re Bigio* provides an illustrative guidepost, in which the Federal Circuit found “toothbrushes” as belonging to the same field as “hairbrushes.” *In re Bigio*, 381 F.3d at 1326-1327. Here, Sikonowiz is not directed to eyewear at all, and therefore, Sikonowiz does not fall into the same field as the '355 patent.

Sikonowiz is also not reasonably pertinent to the problem faced by the inventor. For example, “references are ‘reasonably pertinent’ only if ‘a person of ordinary skill would reasonably have consulted those references and applied their teachings in seeking a solution to the problem that the inventor was attempting to solve.’” *Airbus*, 941 F.3d at 1383 (citing *In re GPAC Inc.*, 57 F.3d 1573, 1578 (Fed. Cir. 1995) with approval).

A general-purpose textbook concerning the assembly of large-format integrated circuit “chips” from the early 1980s would not have been at the inventor’s logical command. The ’355 patent concerns electronic eyewear “more robust in all environments including those whereby there is an abundance of moisture present.” (EX-1001, 2:29-32.) The inventor’s problem was inextricably linked to eyewear: how to make it more robust, and how to prevent liquid *encountered during its wear*.

Sikonowiz would not have logically commanded itself to the inventor’s attention because the inventor sought to solve the problem of more robust eyewear, and Sikonowiz fails to discuss or contemplate techniques suitable for eyewear. Instead, the inventor would have read Sikonowiz for what it is: a “how-to” guide for assembling the types of large format integrated circuits found in electronic devices of the 1980s. For example, FIG. 9-4 of Sikonowiz shows the types of “integrated circuits” available for design and creation:

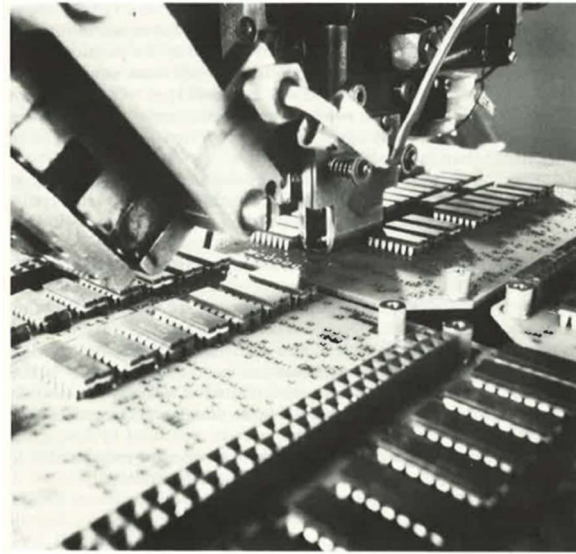


Fig. 9-4. Automatic DIP-insertion head. (Courtesy Computervision Corp., Bedford, Mass.)

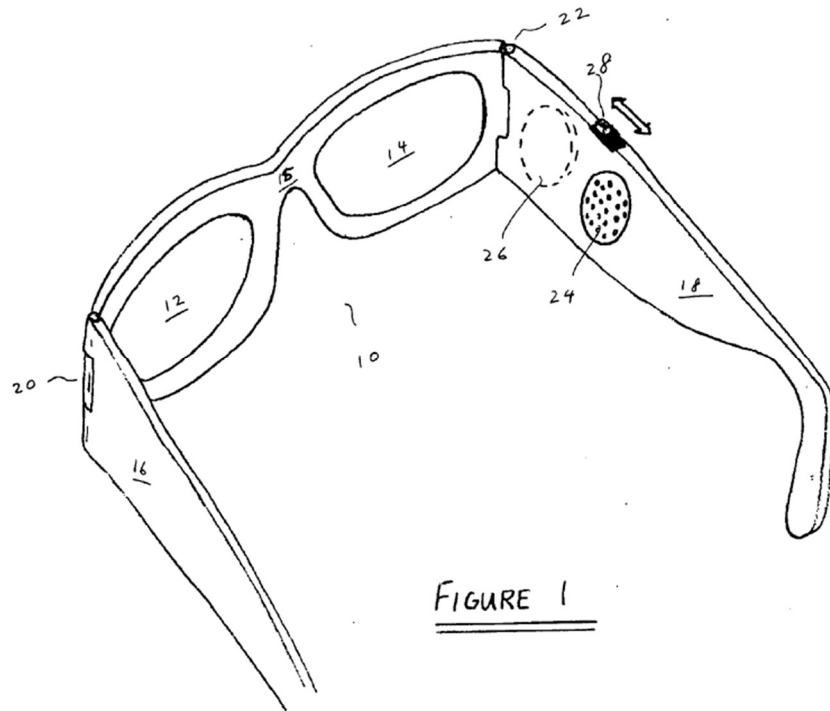
(EX-1005, 12.)

The inventor would have understood that the types of integrated circuits designed and created in Sikonowiz were not appropriate for eyewear. Even Petitioner acknowledges the evolution and change in technology over the decades. (Pet., 3-11.) Instead, the inventor would have understood the techniques of Sikonowiz, including the conformal coating, as having relevance to the technology actually described in Sikonowiz (e.g., those chips shown in Sikonowiz FIG. 9-4) as opposed to applying to technology (electronic eyewear) never disclosed or contemplated by Sikonowiz. (See *generally* EX-1005.) Applying Petitioner's appeal to "common sense," the '355 patent inventor's common sense would weigh against Sikonowiz because it discussed technology radically different than that needed for robust eyewear. (See EX-1001, 2:18-35; EX-2004, ¶¶92-95.) For at least these reasons, Sikonowiz is not reasonably

pertinent, and thus fails prong two, and is therefore non-analogous art to the '355 patent.

Second, Petitioner's combination would be an inoperable system in which the speaker of Howell-719 would be fully coated in a restrictive conformal coating that would undoubtedly impair speaker performance. Seeing such drawbacks, a POSITA would not attempt it and thus would not have the requisite motivation to combine.

In its reply, Petitioner argues that its combination would not result in the conformal coating covering Howell-719's speaker based on the words "can be," i.e., because "the electronics *can be* on a printed circuit board." (Reply, 6; EX-1004, ¶50.) Petitioner fails to note that the phrase "can be" appears at least 169 times in Howell-719. So, by the same logic, many of the central features and functions of Howell-719 would also be merely possible alternatives. Moreover, if the Howell-719 speaker 24 were not a component of, or otherwise connected to, the circuit board, it would serve no purpose:



(EX-1004, FIG. 1.) The speaker 24 must be connected to the circuit board in some manner to function as described in Howell-719.

Thus, if a POSITA were to apply a conformal coating to the circuitry of Howell-719, Sikonowiz would direct the POSITA to cover “the components mounted on [circuit board] as well.” (EX-1005, 21.) And as Patent Owner explained in its response, “applying a conformal layer to the PCB with those components would have adversely impacted the speaker’s functionality.” (Paper 18, “POR,” 34-35 (*citing* EX-2004, ¶101).) Accordingly, a POSITA would not have undertaken the path proposed by Petitioner precisely because the combination of Howell-719 and Sikonowiz would have impaired performance.

Petitioner asserts that “*Patent Owner’s expert, Dr. Feland*, confirmed that a POSITA, prior to 2006, would have known that the speaker should not be coated. Ex. 1034, 41:9-18.” (Reply, 7 (emphasis added).) Assuming Petitioner refers to the deposition of Dr. Oliver (which is exhibit EX-1034), Dr. Oliver supports the notion that a POSITA would understand coatings to impair performance. (See EX-1034, 41:9-18.) Dr. Oliver testifies that it is “exactly my opinion” in response to the question: “[w]ould a POSITA have known prior to 2006 that applying a conformal layer on a speak would have adversely impacted the speaker’s functionality.” (*Id.*) Because a POSITA would have known about the drawbacks and reduced performance, the POSITA would have never made the combination, and thus the requisite motivation to combine Howell-719 and Sikonowiz did not exist. (EX-2004, ¶¶101, 102.)

Further, Petitioner alleges that Patent Owner treats the POSITA as a “mere automaton.” (Reply, 7.) But Patent Owner simply proposes that a POSITA would read Sikonowiz for what it is. And Sikonowiz teaches uniformly coating all components associated with the circuit board. (EX-1005, 21.) Petitioner’s reliance on Dr. Feland’s testimony that a POSITA would have known to ““stop off” certain areas from conformal coating or solder” cannot rewrite Sikonowiz’s disclosure. (Reply, 6 (*citing* EX-1002, ¶135).) First, Sikonowiz never discloses or suggests masking its conformal coating. For this reason alone, a POSITA would not understand Sikonowiz to teach

masking any components during the conformal coating process. Second, while Sikonowiz does discuss a temporary “solder mask,” this discussion is limited to soldering, and regardless, the only masking Sikonowiz discloses is of the “printed circuit wiring,” to facilitate electrical connections to and from the board. (*See* EX-1005, 18-19; *see, also*, EX-1002, ¶135 (“[E]dge connector strips should be left uncoated to permit electrical contact with off-board components.”).)

Even if a POSITA were to apply the solder masking concepts of Sikonowiz to conformal coatings, at most, this would mean that the connector strips remain uncoated. (*See* EX-1005, 18, 19.) But a speaker and its associated movable components are not connector strips, and so a POSITA would read Sikonowiz as coating the speaker. And because coating the entire speaker and diaphragm would lead to decreased, and even inoperable performance, the proposed combination would never be attempted. (EX-2004, ¶¶100-102.)

Third, a POSITA would not have applied Sinkonowiz's conformal coating to capacitor components in Petitioner's combination because doing so would have resulted in an inoperable system in which the “capacitive touch switch” was fully coated with a conformal layer. (EX-2004, ¶¶105, 106.)

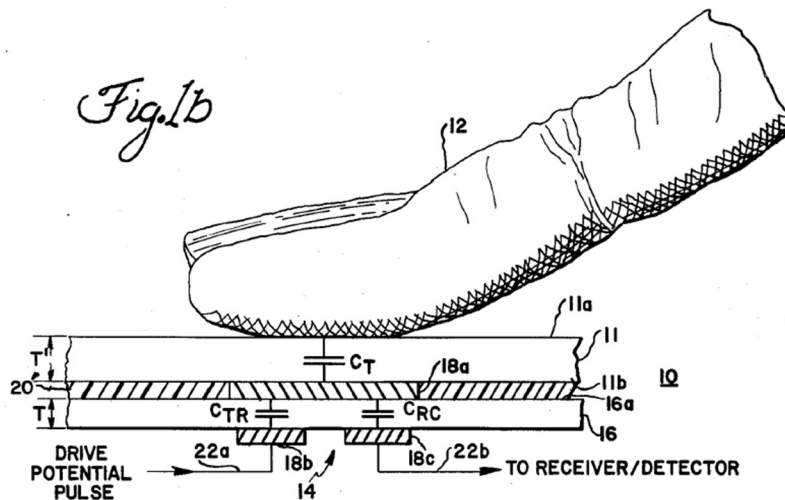
Petitioner sidesteps Patent Owner's argument that a POSITA would not be motivated to reduce the performance of the Howell-719 “capacitive effect” switch.

(Reply, 7-8.) For example, Petitioner cites Dr. Feland's declaration (at ¶¶ 95, 114, 138) in support of the proposition that a conformal coating "allow[s] the sensor to function." (Reply, 8.) But the cited paragraphs do not address the *functionality* of a capacitive touch switch covered in a conformal coating. (EX-1002, ¶¶95, 114, 138.)

In contrast, Dr. Oliver testified that "applying a conformal layer to a capacitive touch switch would deprecate the performance of the switch given that it is based on a capacitance change when touched." (EX-2004, ¶106.) A conformal coating, like any material, includes a dielectric property, and thus logically, if the capacitive touch switch is coated in such material, its performance will change based in part on said dielectric property. (*See id.*) A POSITA would not have applied a conformal coating to a capacitor as suggested by Sikonowiz, and Petitioner's reply does not demonstrate otherwise.

Were a POSITA to cover Howell-719's capacitive effect—i.e., ready to be worn—sensor with a conformal coating, depreciated performance would result, in part because "high dielectric constant[s] can produce stray unwanted capacitance effects between surface tracks that run close and parallel to one another – this can alter the tuned characteristics of the circuit." (EX-2007, 5; *see, also* POR, 36.) A POSITA would appreciate these and other drawbacks and thus not attempt the combination. (EX-2004, ¶¶105, 106.)

Petitioner responds by again citing Howell-719's permissive language "can be."
(Reply, 7.) Not only does Petitioner's argument fail semantically, but it is also inconsistent with the technical operation of a capacitive effective switch, which requires some form of a circuit to trigger a switching operation, as shown in EX-1010:



(EX-1010, FIG. 21b.) FIG. 1b shows electrodes (18a, 18b, 18c) connected to, and as components of, a circuit. (*Id.*, FIG. 1b, 3:59-4:4; 3:43-58 (emphasis added).) Petitioner's argument is inconsistent with the technical requirement of connecting electrodes in a circuit because it states that Howell-719's capacitive touch switch is not connected to the "PCB." (Reply, 7.) If the capacitive effect sensor of Howell-719 is not connected to a board or circuit, then it is not clear how the sensor could operate. (See EX-1010, 3:43-4:4.)

Finally, Petitioner's ground 2 (for dependent claim 4) relies on Petitioner's ground 1 arguments for independent claim 1. (Pet., 35-37.) Because ground 1 fails, ground 2 fails for at least the same reason.

B. Ground 6: Claim 1 Is Patentable Over Blum-130 and Sikonowiz

Patent Owner respectfully requests the Board find claim 1 patentable over ground 6 for at least two reasons: (i) Sikonowiz is non-analogous art; and (ii) combining Sikonowiz's teachings with those of Blum-130 would result in an inoperable system and would not be attempted.

Sikonowiz is non-analogous art to the claimed invention, as demonstrated above and in the POR. *See* § III.A, *supra*. For this reason alone, Petitioner's ground 6 fails.

Even if a POSITA were to apply the non-analogous teachings of Sikonowiz to Blum-130, the result would be an inoperative electroactive eyewear system, and as such, a POSITA would not have attempted the combination.

In its reply, Petitioner does not dispute that covering the Blum-130 controller with a conformal coating would "prevent an electrical connection to the controller necessary to reprogram it." (*See generally* Reply; POR, 38.) Instead, Petitioner's reply merely states that Blum-130 also discloses a controller "that is not reprogrammed, but instead replaced." (Reply, 10 (*citing* EX-1006, 6:32-47).) But a conformal coating could prevent or hinder the operation of such a "replaceable" Blum-130 controller as well, for example, due the inherent difficulty of removing a coated component from a

circuit board. (*See* EX-1005, 21-22.) Not only would the conformal coating hinder replacement, but chemical stripping or burning are often required to remove such coatings, limiting the ability of the combined system to be maintained or otherwise repaired. (*See id.*)

In either case, covering the Blum-130 controller in a conformal coating would be problematic, leading to reduced performance that a POSITA would avoid. In its reply, Petitioner repeats its assertion that Patent Owner treats a POSITA as an automaton. (Reply, 11.) But as discussed in relation to ground 1, rather than an automaton, Patent Owner proposes only that the POSITA would be guided by the teachings of the prior art. (§ III.A, *supra*.) Sikonowiz describes a “solder mask,” not a mask for conformal coating. (EX-1005, 18, 19.) A POSITA would not understand these solder mask concepts to apply to masking a conformal coating. (*See id.*, pp. 18-22.) But even if the POSITA did apply Sikonowiz’s solder-masking concepts to conformal coatings, Sikonowiz teaches masking off the “edge connector strips,” as also recognized by Dr. Feland. (*Id.*; EX-1002, ¶135.) Masking edge connector strips would not prevent coating the on-board capacitive switch.

Accordingly, there is no motivation to combine Sikonowiz with Blum-130 at least because the result would be an inoperable combination.

IV. CLAIM 13 IS PATENTABLE

Independent claim 13 is patentable over grounds 1, 3, 6, and 7 for the same reasons set forth above in relation to independent claim 1. Independent claim 13 is also patentable over grounds 1, 3, 6, and 7 because neither Howell-719 nor Blum-130 discloses a method of manufacturing eyewear.

Petitioner argues that both Howell-719 and Blum-130 disclose methods of manufacturing final products merely because each document uses the word “method,” for example, in Howell-719’s title and in a boilerplate sentence (“The invention can be implemented in numerous ways including, a method, system, device, apparatus, and a computer readable medium.”) at the end of its “Summary of the Invention.” (EX-1004, ¶18); Reply, 12-13.) But prior art must “enable one of ordinary skill in the art to make the invention without undue experimentation” to support a determination of unpatentability. *Impax Labs., Inc. v. Aventis Pharms. Inc.*, 545 F.3d 1312, 1314-15 (Fed. Cir. 2008) (citing *Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1336 (Fed. Cir. 2008) with approval); *see also In re Payne*, 606 F.2d 303, 314-15 (C.C.P.A. 1979).

The mere mention of a “method” is not sufficient to establish that Howell-719 or Blum-130 discloses the claimed method of manufacture.

A. Grounds 1 and 3: Claim 13 Is Patentable Over Howell-719, Sikonowiz, and Eichelberger

Petitioner relies on Howell-719 (in ground 1) as allegedly disclosing all active method steps except “depositing,” for which Petitioner relies on Sikonowiz. (Reply, 32-35.) Petitioner further relies on Howell-719 (in ground 3) for allegedly disclosing claim 13’s method of manufacturing and “coupling” steps. (Reply, 38-42.)

Despite Petitioner’s heavy reliance on Howell-719, Petitioner’s reply cites only boilerplate sentences at the end of Howell-719’s “Summary of the Invention” and “Detailed Description” as allegedly disclosing a method: “[t]he invention can be implemented in numerous ways including, a method, system, device, apparatus, and a computer readable medium” and “[i]n other instances, well-known methods, procedures, components, and circuitry have not been described in detail to avoid unnecessarily obscuring aspects of the present invention.” (Reply, 12-13; EX-1004, ¶¶18, 111.)

Howell-719 does not disclose the “method” steps of claim 13, and therefore grounds 1 and 3 do not render obvious independent claim 13.

B. Grounds 6 and 7: Claim 13 Is Patentable Over Blum-130, Sikonowiz, and Howell-719 or Eichelberger

Petitioner’s reliance on Blum-130 is similarly unavailing. Petitioner relies on Blum-130 (in ground 6) for allegedly disclosing all active method steps, except for “depositing,” for which Petitioner relies on Sikonowiz. (Reply, 60-61.) Petitioner

further relies on Blum-130 (in ground 7) for allegedly disclosing claim 13's method of manufacturing and "coupling" steps. (Reply, 66-68.)

Petitioner's reply cites only Blum-130's title and unspecified "method steps such as attachment methods" in support of Petitioner's argument that Blum-130 renders obvious the claimed method steps. (Reply, 13.) Blum-130 discloses three (3) methods—in each of FIGS. 4, 6, and 27—but none of these methods discloses the claimed *method of manufacturing*.

Accordingly, Blum-130 does not disclose the "method" steps of claim 13, and therefore grounds 6 and 7 do not render obvious independent claim 13.

V. CONCLUSION

For the above reasons, the Board should issue a Final Written Decision finding the challenged claims patentable over the grounds in the petition.

Respectfully submitted,

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Date: August 4, 2025

CERTIFICATION OF WORD COUNT

The undersigned hereby certifies that the portions of the above-captioned **PATENT OWNER'S SUR-REPLY TO PETITIONER'S REPLY** specified in 37 C.F.R. § 42.24 have 5,570 words, in compliance with the 5,600 word limit set forth in 37 C.F.R. § 42.24. This word count was prepared using Microsoft Word 365 v.2022.

Date: August 4, 2025 August 4, 2025
submitted,

Respectfully

KING & SPALDING LLP

BY: /Brian Eutermoser/

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that the foregoing **PATENT OWNER'S SUR-REPLY TO PETITIONER'S REPLY** were served by filing this document through the Patent Trial and Appeal Case Tracking System (P-TACTS), as well as by delivering a copy via electronic mail on August 4, 2025, in their entirety on the following:

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