

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VIZIO, INC.,
Petitioner

v.

NICHIA CORPORATION,
Patent Owner

Case IPR2017-00552
Patent 7,901,959 B2

Before BRIAN J. McNAMARA, STACEY G. WHITE, and
NABEEL U. KHAN, *Administrative Patent Judges*.

KHAN, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
37 C.F.R. § 42.108

INTRODUCTION

A. Background

Vizio, Inc. (“Petitioner”) filed a Petition (Paper 2, “Pet.”) to institute an *inter partes* review of claims 1, 3–5, 7–9, 11–13, and 15–20 (the “challenged claims”) of U.S. Patent No. 7,901,959 (Exhibit 1001, the “’959 Patent”). Nichia Corporation (“Patent Owner”) timely filed a Preliminary Response. Paper 8 (“Prelim. Resp.”). We have authority under 37 C.F.R. § 42.4(a) and 35 U.S.C. § 314, which provides that an *inter partes* review may not be instituted unless the information presented in the Petition “shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” Having considered the arguments and the associated evidence presented in the Petition and the Preliminary Response, for the reasons described below, we deny Petitioner’s request to institute *inter partes* review of claims 1, 3–5, 7–9, 11–13, and 15–20.

B. Related Proceedings

Petitioner states the ’959 Patent is asserted in *Nichia Corp. v. VIZIO, Inc.*, C.A. No. 8:16-cv-545 (C.D. Cal.) (“District Court Case”). Petitioner also states that U.S. Patent Nos. 5,998,925 and 7,531,960, which are in the same family as the ’959 Patent, are asserted in *Nichia Corp. v. Everlight Americas, Inc.*, Case No 12-11758 (E.D. Mich.). Pet. 5. In addition, Petitioner has filed, concurrent with the present Petition, petitions for *inter partes* review of U.S. Patent Nos. 7,915,631 (IPR2017-00551); 7,855,092 (IPR2017-00556); and 8,309,375 (IPR2017-00558); which are in the same family as the ’959 Patent.

C. The '959 Patent

The '959 Patent generally relates to light emitting diodes used in devices such as LED displays, back light sources, traffic signals, illuminating switches and indicators. More particularly, the '959 Patent relates to light emitting diodes containing a light emitting component and a phosphor, where the phosphor absorbs part of the light emitted from the light emitting component at one wavelength and emits light at a different wavelength for the purpose of making a light source for white light. See Ex. 1001 Abstract; 1:25–32.

The '959 Patent explains that light emitting diodes previously have been used to emit white light by arranging red, blue, and green light emitting components closely together and mixing the light emitted by them. *Id.* at 1:48–54. This arrangement has several drawbacks stemming from variations in tone, luminance, power requirements, and other factors of the various light emitting components. *Id.* at 1:54–62. To address the problems caused by variations in different components, some light emitting diodes use only one kind of light emitting component that emits light of one color (such as blue light), and a fluorescent material that absorbs some of this light and emits light of a different color (such as yellow). When the light emitted by the light emitting component is mixed with the light emitted by the fluorescent material, the result is white light. *Id.* at 2:23–29.

The '959 Patent further explains that exposure to high intensity light and high temperatures can deteriorate the fluorescent material, leading to color tone deviation, darkening of the fluorescent material, and increasing absorption of light. *Id.* at 2:30–59. Additionally, exposure to moisture from the outside or during the production process can accelerate the deterioration

of the fluorescent material. *Id.* at 2:60–64. Further, the '959 Patent explains that a fluorescent material that absorbs light of a short wavelength and emits light of a long wavelength has higher efficiency than a fluorescent material that absorbs light of a long wavelength and emits light of a short wavelength. Thus, a light emitting component that emits light in the wavelength range of 400 to 530 nm and a phosphor with a main emission wavelength that is longer than the main emission peak of the light emitting component is preferable. *Id.* at 4:51–56; 6:27–41.

To accomplish the goals and address the concerns described above, embodiments of the '959 Patent use a light emitting component that can emit light with high luminance at the appropriate wavelength range, and a fluorescent material with excellent resistance to high intensity light that can absorb part of the light emitted by the light emitting component and emit light at a longer wavelength. One embodiment of the light emitting diode of the '959 Patent is illustrated in Figure 1, reproduced below with annotations indicating the elements corresponding to some of the features discussed herein.

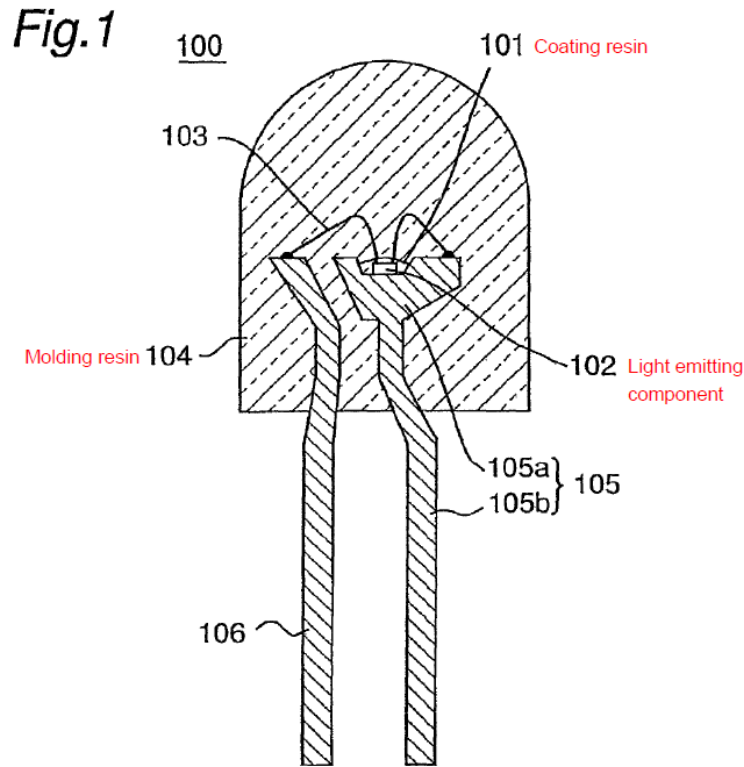


Figure 1, with annotations showing a lead type light emitting diode according to one embodiment of the '959 Patent.

The embodiment depicted in Figure 1 employs an LED chip mounted in a cup of the light emitting diode. *Id.* at 5:40–42. The LED chip comprises a nitride compound semiconductor capable of emitting blue light of short wavelength. *Id.* at 5:49–50; 9:31–37. The cup is filled with a transparent coating material which is then covered by a molding material. *Id.* at 5:43–46. The coating material and molding material may be different materials, or they may be made of the same material. *Id.* at 17:4–11. The fluorescent material may be contained in the coating material or molding material or both. *Id.* at 15:15–20; 16:64–17:4. To provide resistance to high light intensity and heat this fluorescent material comprises a garnet phosphor activated with cerium with at least one element selected from a group

consisting of Y, Lu, Sc, La, Gd, and Sm and at least one other element selected from a group consisting of Al, Ga, and In. *Id.* at 3:38–44; 10:8–25. Further, to address concerns about exposure to moisture, the concentration of the phosphor can be varied so that the concentration increases from the surface of the coating or molding material toward the light emitting component. *Id.* at 10:45–51. Such a distribution of phosphor concentration can be achieved by selecting or controlling the material which contains the phosphor. *Id.* at 10:57–60.

D. Illustrative Claim

Of the challenged claims, claims 1 and 9 are independent claims. Claims 3–5, 7, and 8 depend from claim 1, and claims 11–13 and 15–20 depend from claim 9.

Claim 1, reproduced below, is illustrative:

1. A liquid crystal display comprising:
 - a back light having a light emitting diode;
 - a liquid crystal injected between glass substrates; and
 - a color filter,wherein said light emitting diode comprising:
 - an LED chip,
 - a transparent material covering said LED chip, and
 - a phosphor contained in said transparent material and absorbing a part of light emitted by said LED chip and emitting light of wavelength different from that of the absorbed light,wherein said LED chip emits light having a spectrum with a peak in the range from 420 to 490 nm, said phosphor emits light having a spectrum with a peak in the range from 530 to 570 nm and a tail continuing beyond 700 nm, and said spectrum of the light emitted from said phosphor and said spectrum of the light emitted

from said LED chip overlap with each other to make a continuous combined spectrum,

wherein a concentration of said phosphor in the vicinity of said LED chip is larger than a concentration of said phosphor in the vicinity of the surface of said transparent material.

E. Prior Art Relied Upon

Petitioner relies upon the following references:

Designation	Reference	Date	Ex. No.
Baretz	U.S. Patent No. 6,600,175	July 29, 2003	Ex. 1004
Matoba	JP Patent Pub. No. H7-99345	Apr. 11, 1995	Ex. 1005
Pinnow	U.S. Patent No. 3,699,478	Oct. 17, 1972	Ex. 1006
O'Mara	W. O'Mara, <i>Liquid Crystal Flat Panel Displays: Manufacturing Science & Technology</i> , Van Nostrand Reinhold	Feb. 7, 1994	Ex. 1009

F. Asserted Grounds of Unpatentability

Petitioner challenges claims 1, 3–5, 7–9, 11–13, and 15–20 of the '959 Patent on the following grounds:

Ground	Basis	Challenged Claims	References
1	§ 103	1, 3–5, 7, 8, 17, 18	Baretz, O'Mara, and Pinnow
2	§ 103	1, 3–5, 7, 8, 17, 18	Baretz, O'Mara, Pinnow, and Matoba
3	§ 103	9, 11–13, 15, 16, 19, 20	Baretz and Pinnow
4	§ 103	9, 11–13, 15, 16, 19, 20	Baretz, Pinnow, and Matoba

G. Claim Interpretation

As stated in our Order entered on April 6, 2017, recognizing that the '959 Patent is likely to expire during this *inter partes* review, we apply a district court-type claim construction in this proceeding. Paper 7. Neither

Petitioner nor Patent Owner proposes explicit constructions for any claim term.

Petitioner states that for purposes of this review, all terms should be interpreted “according to their plain and ordinary meaning consistent with the ’959 specification.” Pet. 13. Patent Owner states, however, that “Petitioner relies on an implicit construction of ‘transparent material’ that is unreasonable and plainly wrong.” Prelim. Resp. 21. According to Patent Owner, “Petitioner implicitly construes ‘transparent material’ to mean any or all of the transparent materials that may be included in a device, completely ignoring the fact that the ‘transparent material’ of the claims is the material that *contains the phosphor*.” Prelim. Resp. 23. Patent Owner argues that “[a] proper construction . . . would at least recognize that ‘a transparent material,’ as required by claim 1, is a unitary material that is transparent (e.g. a resin), which, as further required by the claim, contains the phosphor.” Prelim. Resp. 23.

Thus, even though neither party explicitly proposes constructions for any claim terms, there is an apparent dispute regarding the scope of at least the term “transparent material.” For the reasons stated below, we decline to address the claim construction dispute between the parties as it is not necessary to our decision with respect to this Petition. *See Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011) (“[C]laim terms need only be construed ‘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)).

ANALYSIS

A. *Real Parties in Interest*

Petitioner identifies only itself as the Real Party in Interest under 37 C.F.R. § 42.8(b)(1). Patent Owner argues “[t]he facts presently available to Nichia suggest that TCL Multimedia Technology Holdings Ltd. and its subsidiary, TTE Technology, Inc. (together “TCL”), may also be real-parties-in-interest.” Prelim. Resp. 7. Patent Owner sued TCL in Delaware and, according to Patent Owner, TCL engaged as its litigation counsel the same law firm and lead trial counsel as the Petitioner has in its District Court Case. As further evidence, Patent Owner provides a discovery response from TCL stating that communications between TCL and third parties concerning the preparation and/or filing of this Petition were covered by “the joint defense privilege and common interest doctrine,” which, according to Patent Owner, indicates TCL’s counsel was communicating with third parties “likely including Petitioner’s counsel, concerning the preparation and filing of the Petition” Prelim. Resp. 8–9.

A petition for *inter partes* review may be considered only if, among other requirements, “the petition identifies all real parties in interest.” 35 U.S.C. § 312(a)(2). The Trial Practice Guide provides guidance regarding the factors we consider in determining whether a party is a real party-in-interest. For example, “[a] common consideration is whether the non-party exercised or could have exercised control over a party’s participation in a proceeding.” Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,759 (Aug. 14, 2012) (“Trial Practice Guide”). Other considerations may include whether the non-party is funding or directing the proceeding. *Id.* at 48,760.

We are unpersuaded that Petitioner has failed to identify all real parties-in-interest in this proceeding. Although Patent Owner correctly notes that Petitioner has the burden to establish it has complied with the requirement to identify all real parties-in-interest, there is no persuasive evidence in this case that Petitioner has not done so. For example, the fact that Petitioner and TCL may be part of the same joint defense group, or that Petitioner and TCL have a common interest with respect to issues regarding validity of the '959 Patent, does not demonstrate that TCL has the ability to control this Petition or is directing or funding the present proceeding. A non-party is not necessarily a real party-in-interest by virtue of its status as a co-defendant or co-member of a joint defense group with a petitioner. See Trial Practice Guide at 48,760; *see also, Petroleum Geo-Servs. Inc. v. WesternGeco LLC*, Case IPR2014-00687, slip op. at 16 (PTAB Dec. 15, 2014) (Paper 33) (holding petitioner and non-party's shared interest in invalidating patent at issue, "collaborat[ion] together, and invo[cation of the] common interest privilege with respect to sharing potentially invalidating prior art references" was insufficient to render non-party a real party in interest). Moreover, although Petitioner and TCL may share common litigation counsel, Petitioner is represented by different counsel in this proceeding.

We, therefore, decline to deny the Petition for failure to comply with the requirement of 35 U.S.C. § 312(a)(2) for instituting an *inter partes* review.

*B. Patent Owner's Arguments Raising Issues under 35 U.S.C.
§ 325(d)*

Patent Owner argues the Board should deny institution of *inter partes* review because the same or substantially the same prior art or arguments previously were presented during prosecution of the '959 Patent. Prelim Resp. 11–15. Patent Owner points out that Baretz, Pinnow, and Matoba were all cited in Information Disclosure Statements before the Examiner and while, O'Mara itself was not before the Examiner, Patent Owner argues that it is substantially similar to a reference that was before the Examiner. Prelim. Resp. 13–14.

We note that 35 U.S.C. § 325(d) includes permissive language regarding the Board's discretion with respect to institution of *inter partes* review and does not require the Board to decline institution. 35 U.S.C. § 325(d) (“the Director *may* take into account whether, and reject the petition or request because, the same or substantially the same prior art or arguments previously were presented to the Office”) (emphasis added). Although Baretz, Pinnow, and Matoba were listed on Information Disclosure Statements submitted to the Examiner during prosecution of the '959 Patent, the references were not applied against the claims of the '959 Patent and there is no evidence that the Examiner considered the particular disclosures cited by Petitioner in the Petition or addressed arguments similar to those Petitioner now presents before the Board.

Having considered Patent Owner's arguments and the particular facts and circumstances of the instant proceeding, we are not persuaded that it is appropriate to exercise our discretion to deny the Petition under 35 U.S.C. § 325(d).

C. Summary of Prior Art

1. Overview of Baretz

Baretz relates generally to a light emitting assembly comprising a solid state device, such as a semiconductor light emitting diode, and a luminophoric medium, such as phosphor. Ex. 1004, 7:8–18. The light emitting diode emits light at a relatively shorter wavelength, such as monochromatic blue or ultraviolet light, and the luminophoric medium absorbs the shorter wavelength light, down-converts it to yield longer wavelength light that appears as white light. *Id.* at 7:13–27.

Baretz's light emitting assembly is depicted in Figure 1, reproduced below with annotations.

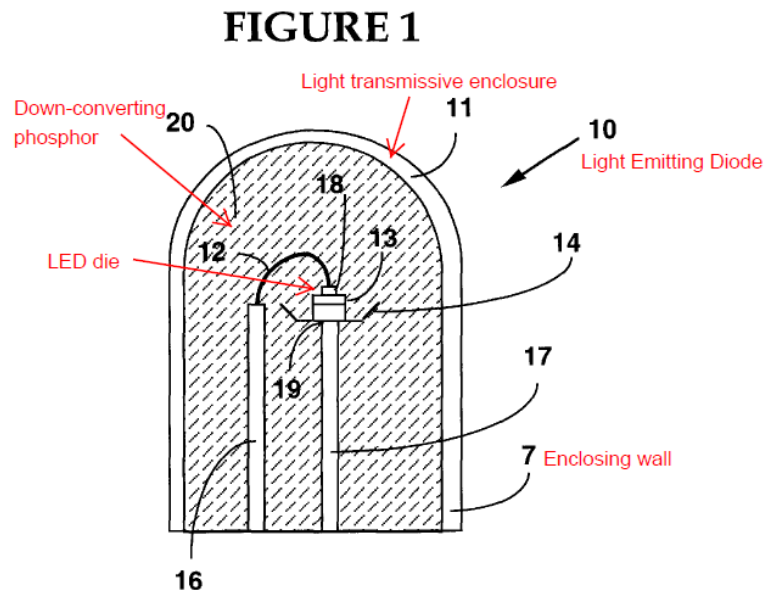


Figure 1 of Baretz, with added annotations identifying features discussed herein, depicting white light emitting diode assembly according to one embodiment of Baretz.

Baretz's light emitting assembly comprises an enclosing wall (7) defining a light transmissive enclosure (11) that may be formed of any

suitable light transmissive material, such as translucent polymer or glass. *Id.* at 8:60–64. The light transmissive enclosure houses a light emitting diode die (13) which emits blue or UV light. *Id.* at 8:64–9:4, 9:10–13. The enclosure (11) is filled with a down-converting medium (20) such as fluorester and/or phosphor that down-converts the light emitted by the LED to a longer wavelength so that light output appears to be white light. *Id.* at 9:4–9.

2. Overview of O'Mara

O'Mara is a textbook titled “Liquid Crystal Flat Panel Displays” that “describes the construction, operation, and manufacturing of flat panel displays” Ex. 1009, xiv. Chapter 1 describes the basic technology involved in flat panel displays and Chapter 2 describes the display manufacturing process. As part of the general background on flat panel displays discussed in these two chapters, O'Mara describes that a common arrangement is to have two parallel glass plates with the space between filled with liquid crystal polymer. *Id.* at 14. Figure 1-6 of O'Mara illustrates this arrangement and is reproduced below.

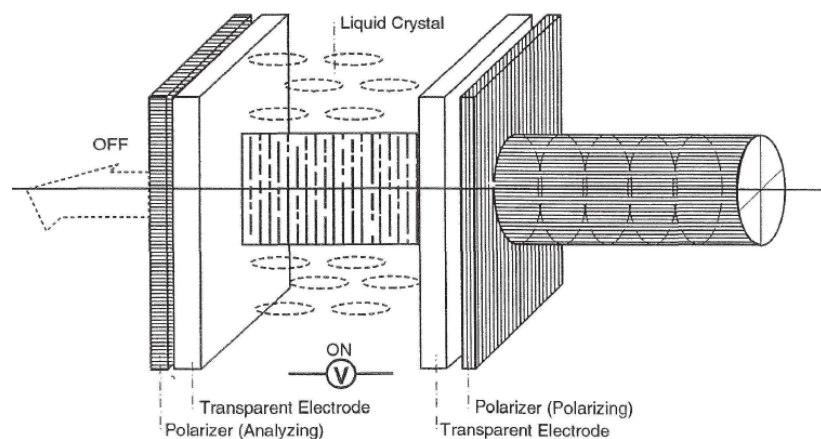


Figure 1-6 illustrating two glass plates with the space between filled with liquid crystal polymer.

In providing further background on flat panel displays, O'Mara further describes that color filters have been used with LCD screens since the mid 1980s. *Id.* at 118. O'Mara explains that red, green, and blue (RGB) color filters on the outer glass plate of computer displays or televisions provide full color displays. *Id.* at 21.

3. Overview of Pinnow

Pinnow generally relates to projection laser display systems that produce black and white images. Ex. 1006, 1:5–7. The system includes a laser that emits light at a shorter wavelength and a phosphorescent screen of cerium-activated garnet that, when energized by the laser, emits light at a longer wavelength than the laser light. *Id.* at 1:33–43. Figure 2 of Pinnow illustrates an embodiment of the laser display system and is reproduced below.

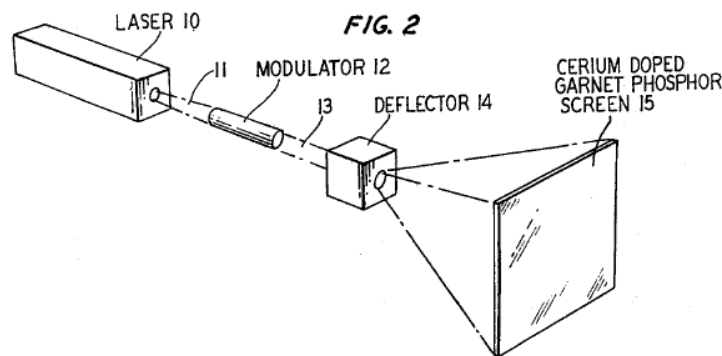


Figure 2 of Pinnow depicting an embodiment of
Pinnow's laser display system

Pinnow discloses that the laser may be an argon-ion laser which emits light at 4,880 Å (488 nm) or a cadmium-ion laser that emits light at 4,416 Å (442 nm). *Id.* at 1:44–47; 2:19–26. Pinnow further discloses that the cerium-activated phosphor emits light centering about 5,500 Å (550 nm).

Id. at 1:47–48; 2:12–16. Figure 1 of Pinnow, below, illustrates a plot of the emission spectra of the laser and phosphorescent screen.

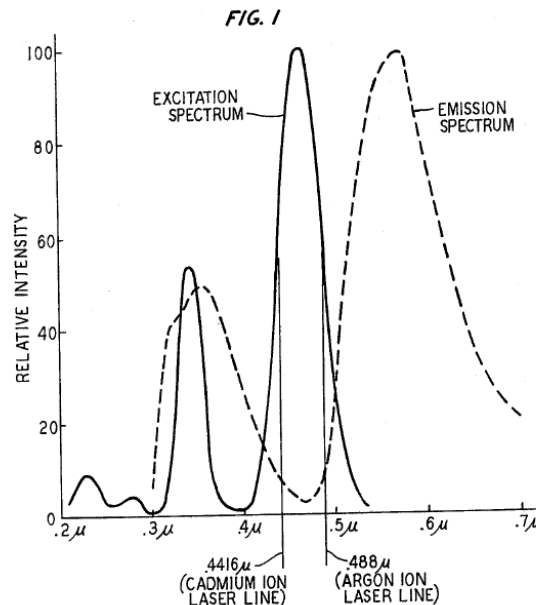


Figure 1 of Pinnow depicting the emission spectra of the laser and of the phosphorescent screen.

4. Overview of Matoba

Matoba relates generally to an LED that absorbs and converts a wavelength of light emitted by a light-emitting chip. Ex. 1005 ¶ 1. The LED includes a light-emitting chip that is disposed of in a cup and is sealed by a first resin that fills the inside of the cup and a second resin that encloses the first resin. *Id.* ¶ 6. The first resin contains a fluorescent substance that converts the wavelength of light emitted by the light-emitting chip. *Id.* ¶ 9. The second resin may be made of the same material as the first resin, but may not contain any fluorescent material. *Id.*

The Figure below illustrates an embodiment of Matoba's LED with added annotations indicating which elements correspond to certain features that were discussed above.

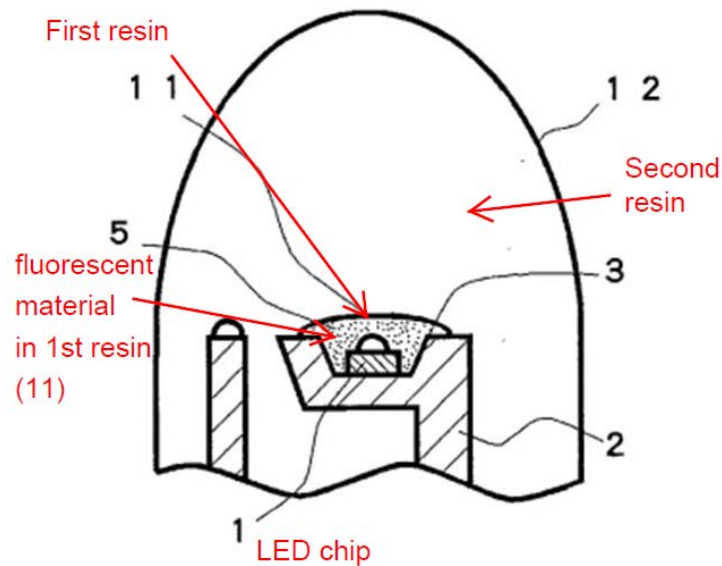


Figure 1 of Matoba illustrating an embodiment of Matoba's LED.

D. Analysis of Obviousness under Grounds 1 and 3 (Baretz, O'Mara, and Pinnow)

Petitioner contends claims 1, 3–5, 7–8, and 17–18 would have been obvious over Baretz, O'Mara, and Pinnow. Pet. 6. Petitioner additionally contends claims 9, 11–13, 15, 16, 19, and 20 would have been obvious over Baretz and Pinnow. *Id.* For the reasons that follow, we are not satisfied that the Petition provides adequate explanation or is appropriately precise and specific in articulating the basis of the proposed grounds to establish a reasonable likelihood that the references teach the limitations of the challenged claims.

1. Whether Petitioner Has Complied with 35 U.S.C. § 312(a)(3) and 37 C.F.R. § 42.22(a)(2)

Under 35 U.S.C. § 312(a)(3), a petition for *inter partes* review “may be considered only if . . . the petition identifies, in writing and with particularity, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the

challenge to each claim.” Similarly, 37 C.F.R. § 42.22(a)(2) states that a petition “*must include . . . [a] full statement of the reasons for the relief requested, including a detailed explanation of the significance of the evidence.*” 37 C.F.R. § 42.22(a)(2) (emphases added).

Petitioner’s claim chart for claim 1 spans twenty-two pages and consists of block quotes from the prior art references purporting to show where claim 1’s limitations are taught by the prior art references. These quotes largely are unaccompanied by requisite explanation of how the cited portions teach or disclose the claim limitations or of their significance to the analysis. Moreover, Dr. Paul Prucnal’s declaration largely consists of statements that a particular prior art reference discloses a particular limitation followed by a string citation of the same quotes that appear in Petitioner’s claim charts for that limitation. *See e.g.*, Ex. 1003 ¶¶ 119–126. For most limitations, Dr. Prucnal does not provide further explanation not already contained in the claim charts.

a. Phosphor Absorbing a Part of Light Emitted by the LED

For example, claim 1 recites “a phosphor contained in said transparent material and absorbing *a part of* light emitted by said LED chip and emitting light of wavelength different from that of the absorbed light.” Claim 9 recites the same limitation. Petitioner’s claim chart for this limitation consists of twelve block quotes from Baretz and a citation of Figure 1 of Baretz. These quotes describe that a luminophoric medium such as a fluorescers or phosphors absorb monochromatic blue or UV radiation output from an LED and then down convert the blue or UV radiation to a broad spectrum of frequencies which appear white. *See* Pet. 44–45 (citing *e.g.* Ex. 1004, Abstract, 7:19–27, 9:4–9). None of these quotes, however, appear

to address whether the phosphor absorbs *part of* the light emitted by the LED, as opposed to all of it, and no explanation is provided by Petitioner that would help determine whether one of ordinary skill in the art would understand such a teaching from the cited portions of Baretz. We instead must glean from the quotes that Petitioner believes this limitation to be taught or suggested by Baretz’s statement that the “output of the LED is absorbed.” See Pet. 44–45. Petitioner also does not engage in any explicit claim construction that could demonstrate that the cited portions of Baretz are encompassed by the claim limitation.

The portion of Dr. Prucnal’s declaration addressing this limitation also does not explain whether, and how, Baretz discloses that the down-converting phosphor absorbs *part of* the light emitted by Baretz’s LED. See Ex. 1003 ¶¶ 135–138. Indeed, Dr. Prucnal states only that “[t]he fluorescer(s) and phosphor(s) of Baretz *absorb light* emitted from the LED chip, and through down-conversion, emit light of wavelength different from that of the absorbed light” without addressing the “part of” language contained in the claim. Ex. 1003 ¶ 136 (emphasis added).

Petitioner has not demonstrated with reasonable likelihood that Baretz teaches a phosphor that absorbs “part of” the light emitted by the LED as required by independent claims 1 and 9.

b. Concentration of Said Phosphor In The Vicinity Of Said LED Chip Is Larger Than a Concentration of Said Phosphor In The Vicinity Of the Surface of Said Transparent Material

As another example, claims 1 and 9 recite “wherein a concentration of said phosphor in the vicinity of said LED chip is larger than a concentration of said phosphor in the vicinity of the surface of said transparent material,” (“the concentration limitation”). Petitioner cites to Baretz as teaching this

limitation. Pet. 52–54. Petitioner’s claim chart again contains only a set of quotes from Baretz and an annotated version of Figure 1. *Id.* We are not able to discern, however, from these quotes alone or from the annotated Figure 1, what region of Baretz’s LED Petitioner identifies as the vicinity of the surface of said transparent material and, the evidence showing that the concentration of phosphor in this region is less than the concentration of phosphor in the vicinity of Baretz’s LED chip. Instead, Petitioner states in conclusory manner that the “concentration of the phosphor in the vicinity of the surface of enclosure 11 is zero.” Pet. 56 (citing Ex. 1004, 8:60–66). While Baretz does state the LED “assembly comprises an enclosing wall 7 defining a light-transmissive enclosure 11 having an interior volume therewithin . . . [t]he enclosure [being] filled with a suitable down-converting material 20” (Ex. 1004, 8:60–9:5) it does not identify portions of this LED assembly that either do not contain phosphor or contain phosphor at a lower concentration than contained in the interior volume of enclosure 11. Petitioner does not provide any explanation of the cited portions of Baretz that would help identify these parts of the LED assembly, nor does Petitioner explicitly provide such an identification. For example, Petitioner does not explicitly identify the enclosing wall 7 as containing zero phosphor.

Dr. Prucnal’s declaration similarly states that the “concentration of phosphor in the vicinity of the surface of enclosure 11 is zero” (Ex. 1003 ¶ 159) but, like Petitioner’s claim charts, does not explicitly identify the part of Baretz’s LED assembly that satisfies this limitation, nor does it explain how one of ordinary skill in the art would understand the cited portions of Baretz to teach or suggest this limitation.

Petitioner has not demonstrated with reasonable likelihood that Baretz teaches the concentration limitation as recited in independent claims 1 and 9.

2. Whether Pinnow Is Analogous to the '959 Patent

As a prerequisite to our analysis of the obviousness challenges, we must first determine whether the asserted art is such that it may be properly considered under 35 U.S.C. § 103. *In re Clay*, 966 F.2d 656, 658 (Fed. Cir. 1992). Patent Owner argues Pinnow is not analogous art. According to Patent Owner, Pinnow is not in the same field of endeavor as the '959 Patent because “Pinnow was focused on a projection display system, not an LED light source. . . . Stated another way, Pinnow does not teach a white laser, but only a white image. In contrast, the light source—the white LED—is the primary focus of the Nichia invention.” Prelim. Resp. 41–42. Similarly, according to Patent Owner Pinnow is not reasonably pertinent to the problems faced by the inventors of the '959 patent because “Pinnow is not pertinent to the entire problem faced by the inventors of the '959 patent and, in fact, does not address or even mention a single one of the problems they faced and overcame.” Prelim. Resp. 45.

“Two separate tests define the scope of analogous prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor’s endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved.” *In re Klein*, 647 F.3d 1343, 1348 (Fed. Cir. 2011). “A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor’s endeavor, it is one which, because of the matter with which it deals,

logically would have commended itself to an inventor's attention in considering his problem." *Id.*

The '959 Patent describes its field of invention as relating to "a light emitting diode used in LED display, back light source, traffic signal, railway signal, illuminating switch, indicator, etc." Ex. 1001, 1:26–28. Pinnow, on the other hand, describes its field of invention as "concerned with projection display systems and is primarily concerned with those producing black and white images." Ex. 1006, 1:5–7. It is, therefore, not immediately apparent that Pinnow is in the same field of endeavor as the '959 Patent. Petitioner, however, does not provide an analysis of why the '959 Patent and Pinnow would be analogous under either prong of the test. No analysis is provided as to why Pinnow would be in the same field of endeavor under the first prong of the test. Nor does Petitioner provide sufficient analysis under the second prong of the test to explain why Pinnow is reasonably pertinent to the particular problem with which the inventors of the '959 Patent were involved.

Petitioner does argue that Pinnow concerns "converting light from monochromatic light sources (*e.g.*, LEDs and lasers) to white light using phosphor," but this is in the context of whether one of ordinary skill would have combined Baretz with Pinnow, not whether Pinnow is analogous to the '959 Patent. Pet. 29–30. Further, "converting light from a monochromatic light source" does not relate to a field of invention. Additionally, Petitioner does not explain why, even if both the '959 Patent and Pinnow discuss converting light from a monochromatic light source using phosphor, Pinnow would have commended itself to the attention of the inventors of the '959

Patent. Thus, on the record before us, we are not persuaded Petitioner has established Pinnow as analogous art.

Accordingly, we are not persuaded Petitioner has demonstrated a reasonable likelihood that the combination of Baretz, O'Mara, and Pinnow teaches the limitations of claims 1, 3–5, 7–8, and 17–18. Similarly, we are not persuaded Petitioner has demonstrated a reasonable likelihood that the combination of Baretz and Pinnow teaches the limitations of claims 9, 11–13, 15, 16, 19, and 20.

E. Analysis of Obviousness under Grounds 2 and 4 (Baretz, O'Mara, Pinnow and Matoba)

Petitioner contends claims 1, 3–5, 7–8, and 17–18 would have been obvious over Baretz, O'Mara, Pinnow, and Matoba. Pet. 6. Petitioner additionally contends claims 9, 11–13, 15, 16, 19, and 20 are obvious over Baretz, Pinnow, and Matoba. *Id.* In presenting these challenges, Petitioner relies on the same claim charts and evidence as relied upon under Grounds 1 and 3, except that Petitioner relies upon Matoba as teaching the concentration limitation rather than relying on Baretz alone. *See* Pet. 54–57, 70–71.

Accordingly, for the reasons discussed above with respect to the “phosphor . . . absorbing *a part of* light emitted by said LED chip” limitation and to Pinnow being non-analogous art, Petitioner has not established a reasonable likelihood of success at trial on its challenges under Grounds 2 and 4 of claims 1, 3–5, 7, 8, 17, and 18 and claims 9, 11–13, 15, 16, 19, and 20, respectively.

ORDER

For the reasons given, it is:

ORDERED that no *inter partes* review shall be instituted.

IPR2017-00552
Patent 7,901,959 B2

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