

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LG DISPLAY, LTD.,
Petitioner,

v.

INNOVATIVE DISPLAY TECHNOLOGIES LLC,
Patent Owner.

Case IPR2014-01095
Patent 8,215,816 B2

Before THOMAS L. GIANNETTI, NEIL T. POWELL, and BEVERLY M.
BUNTING, *Administrative Patent Judges*.

BUNTING, *Administrative Patent Judge*.

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

LG Display Co, Ltd. (“Petitioner”) filed a Petition pursuant to 35 U.S.C. §§ 311–319 to institute an *inter partes* review of claims 1–4 of U.S. Patent No. 8,215,816 B2 (Ex. 1001, “the ’816 patent”). Paper 2 (“Pet.”). Innovative Display Technologies LLC (“Patent Owner”) filed a Preliminary Response on October 16, 2014. See Paper 7 (“Prelim. Resp.”). Applying the standard set forth in 35 U.S.C. § 314(a), which requires demonstration of a reasonable likelihood that Petitioner would prevail with respect to at least one challenged claim, we deny the Petition and decline to institute an *inter partes* review of claims 1–4 of the ’816 patent based on any of the asserted grounds.

I. BACKGROUND

A. The ’816 Patent (Ex. 1001)

The ’816 patent is directed to a light emitting panel assembly having a light emitting panel member with “an input edge that receives light from the light source, and end edge and side edge reflectors” (Ex. 1001, Abstract) as illustrated below in Figure 6.

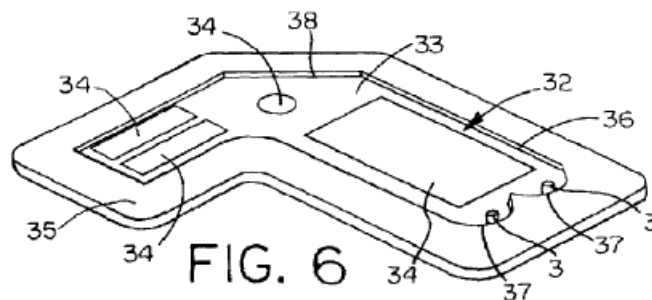


Fig. 6 is a schematic perspective view of a light emitting panel assembly. The light emitting panel assembly 32 includes a panel member 33, one or more light sources 3, and one or more light output areas 34. *Id.* at 6:60–63. The panel member has a greater width than height, and the input edge of the

panel member receives light from the light source more in the width direction as the light enters the panel member. *Id.* at 10:6–9. A secondary reflective or refractive surface 38 may be formed on the panel member. *Id.* Light extracting deformities “may be provided on one or both sides of the panel members or on one or more selected areas on one or both sides of the panel members.” *Id.* at 4:40–43. The panel assembly is received within a recessed portion 36 of a tray 35. *Id.* at 6:63–67.

B. Illustrative Claim

Claim 1 is illustrative of the claims at issue:

1. A light emitting assembly comprising at least one light source, a light emitting panel member having at least one input edge for receiving light from the light source and a light emitting surface, a tray or housing having a cavity or recess in which the panel member is entirely received, wherein the panel member has a pattern of light extracting deformities on or in at least one surface to cause light to be emitted from the light emitting surface of the panel member, end edge reflectors and side edge reflectors, and an additional component overlying the panel member, wherein the panel member has a greater width than height, and the light input edge has a refractive surface that redirects the light output distribution of the light source more in the width direction as the light enters the panel member.

C. Related Proceedings

Patent Owner states that it has asserted infringement by Petitioner of the '816 patent in Delaware Display Group LLC et al. v. LG Electronics Inc. et al., No. 1:13-cv-02109 (D. Del., filed Dec. 31, 2013). Paper 5, 2. In

addition, Patent Owner identifies other proceedings in which it has alleged infringement of the '816 patent. *Id.* at 2–5. Petitioner concurrently filed additional petitions challenging the patentability of the following related patents:

1. IPR2014-01092 (U.S. Patent No. 7,434,974)
2. IPR2014-01094 (U.S. Patent No. 7,404,660)
3. IPR2014-01096 (U.S. Patent No. 7,537,370)
4. IPR2014-01097 (U.S. Patent No. 7,300,194)

D. Claim Construction

The Board interprets claims of an unexpired patent using the broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *see also* Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,766 (Aug. 14, 2012). Petitioner proposes a construction for the term “deformities” appearing in claim 1. Pet. 7– 8. Patent Owner takes no position on claim construction, other than pointing out that the parties agreed to the construction of “deformities” proffered by Petitioner in the district court proceeding. Prelim. Resp. 4; citing Ex. 2002, 7–11.¹

For purposes of this decision, having considered the evidence presented, we see no need to construe expressly “deformities” or any of the other terms in the challenged claims at this time.

¹ The district court construed the phrase “pattern of deformities” and similarly “pattern of light extracting deformities” to mean “random placement patterns and variable patterns.” Ex. 2002, 11.

E. References

Petitioner relies on the following references (Pet. 8–11), the Admitted Prior Art (“APA”) discussed in the ’816 patent (*Id.* at 8–9) and the Declaration of Dr. Michael J. Escuti (Ex. 1004):

References	Patents/Printed Publications	Date	Exhibit
Pristash	US 5,005,108	April 2, 1991	1006
Funamoto	US 5,619,351	April 8, 1997 ²	1007
Gyoko	JP H6-273756	Sept. 30, 1994 ³	1008
Murase	US 5,178,447	Jan. 12, 1993	1011
Tsunoda	JP H6-051130	Feb. 25, 1994 ⁴	1012
Imai	US 5,253,089	Oct. 12, 1993	1015

F. Grounds Asserted

Petitioner challenges claims 1–4 of the ’816 patent on the following grounds. Pet. 10.

References	Basis	Claims Challenged
Pristash, Tsunoda, or in the alternative Imai	§ 103(a)	1–4
Funamoto, Tsunoda, or in the alternative Imai	§ 103(a)	1–4
Gyoko, Tsunoda, or in the alternative Imai	§ 103(a)	1–4
Murase, Tsunoda, or in the alternative Imai	§ 103(a)	1–4

² Petitioner relies on Funamoto’s 35 U.S.C. § 371 date of May 10, 1994. Pet. 9.

³ Gyoko is a Japanese unexamined patent application, and Petitioner relies on the September 30, 1994 application publication date. *Id.* at 10.

⁴ Tsunoda is a Japanese unexamined patent application, and Petitioner relies on the February 25, 1994 publication date. *Id.*

II. ANALYSIS

We now turn to Petitioner's asserted grounds of unpatentability and Patent Owner's arguments in its preliminary response. In the analysis that follows, we may discuss facts as they have been presented thus far in this proceeding. Any inferences or conclusions drawn from those facts are neither final nor dispositive of any issue on which we institute trial.

A. Obviousness Ground Based on Pristash

Petitioner challenges claims 1–4 as unpatentable under 35 U.S.C. § 103(a) based on Pristash and Tsunoda, or in the alternative, Imai. Pet. 12–22.⁵ In support thereof, Petitioner provides claim charts that identify the disclosure in each of Pristash, Tsunoda, and Imai alleged to describe the subject matter in claims 1–4. Petitioner further cites the Declaration of Dr. Escuti in support of the analysis advocated in the Petition. Ex. 1004. Patent Owner counters that Petitioner's reasoning for modifying Pristash using the refractive surface of Tsunoda or Imai are conclusory and devoid of analysis. Prelim. Resp. 5–12.

We have reviewed the parties' contentions and supporting evidence. Given the evidence of record, we are not persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing on its assertion that challenged claims 1–4 are obvious over the combination of Pristash and Tsunoda or Imai. A detailed analysis of our determination follows after a brief overview of Pristash, Tsunoda, and Imai.

⁵ We note that this one ground actually represents two separate grounds, Pristash and Tsunoda, and Pristash and Imai.

1. Overview of Pristash (Ex.1006)

Pristash describes a panel illuminator having “a solid transparent light emitting panel 2 and light source 3 which generates and focuses light, in a predetermined pattern, either directly on a panel input edge 4 or on a transition device 5 which is used to make the transition from the light source 3 target shape to the light emitting panel input edge 4 shape.” Ex. 1006 2:67–3:4, Fig. 1. Disruptions or deformities 16 may be located on the exterior surface of the light emitting panel. *Id.* at 3:29–35. In the embodiment illustrated in Figs. 8–10, light sources 64, 64’ are positioned on each end of the panel. *Id.* at 5:36–40. Pristash discloses different forms of transition devices, and teaches that the transition devices may be separate from the light emitting panel, or “formed as an integral part of the panels.” *Id.* at 8:6–10. While the input and output surfaces of the various transition devices shown are square, round, or rectangular, “they may be elliptical or any shape necessary to fit a particular application.” *Id.* at 7:60–63.

2. Overview of Tsunoda (Ex. 1012)

Tsunoda discloses an optical waveguide having a transparent panel “with a plurality of point light source recesses (1) on one surface, [and] substantially triangular cutouts (2) between the recesses (1) on the side surface” (Ex. 1012, Abstract) as illustrated below in Figure 1.

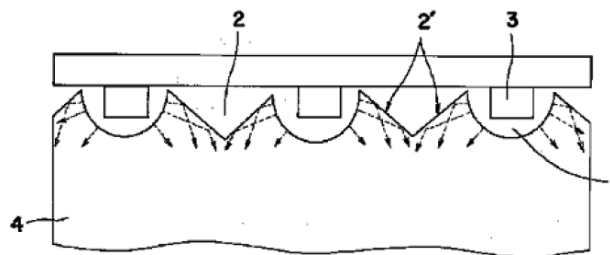


Fig. 1 is a diagram illustrating the optical waveguide.

Light emitted by the point light source enters the optical waveguide through the recesses and is diffused radially. *Id.* ¶ 15. Tsunoda also discloses that the optical waveguide may be placed in a holder 9 as shown in Fig. 10. *Id.* ¶ 27.

3. Overview of Imai (Ex. 1015)

Imai discloses a liquid crystal display unit having an edge-type backlight, and light from the lamp 17 is conducted through the light-conducting plate 30 to the display surface. Ex. 1015, 2:32–38. The light conducting plate has a light receiving end face that is in contact with the light conducting plate 32 in two places 33 (*Id.* at 3:32–39) as shown in Figure 2 below.

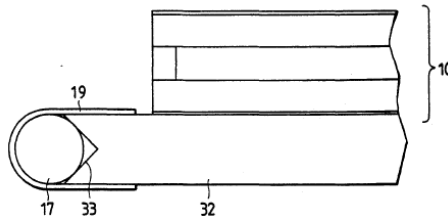


Fig. 2 is a cross-sectional view of the liquid crystal display unit.

4. Discussion of Pristash and Tsunoda

We initially address Petitioner’s argument that “Pristash, in view of Tsunoda, teaches the elements of Claims 1–4 of the ’816 patent.” Pet. 13, citing Ex. 1004 ¶¶ 68–83. To demonstrate how Pristash meets the limitations of claim 1 of the ’816 patent, Petitioner presents annotated Figures 1 and 7 of Pristash. *Id.* at 13–14, citing Ex. 1006, 2:68, 5:6–9, 5:22–33, Figs. 1 and 7. Petitioner asserts that Pristash inherently discloses the tray based on its intended use in applications such as “backlighting of LCDs, task lighting, safety lighting, automotive applications, display lighting, and infrared heating. *Id.* citing Ex. 1004 ¶¶ 74–75. Alternatively, Petitioner

argues that Tsunoda discloses a holder 9 in which the light guide is installed, and that “[i]t would have been obvious to enclose the wave guide 15 of Pristash in the holder 9 of Tsunoda because both disclose the same objective as the ’816 Patent.” *Id.* at 14, citing Ex. 1004 ¶¶ 75–76.

Claim 1 of the ’816 patent recites the limitation of “the light input edge has a refractive surface that redirects the light output distribution of the light source more in the width direction as the light enters the panel member.” Petitioner identifies quotations in Tsunoda that correspond with this claim element in the claim chart (Pet. 19–20) and asserts “[i]t would also have been obvious to include the input edge of Tsunoda with its refractive surface redirecting light more in the width direction as the input edge in Pristash.” *Id.* at 14, citing Ex. 1012 ¶ 15; Ex. 1004 ¶93.

In the Preliminary Response, Patent Owner counters that Tsunoda does not disclose the claim element of “a refractive surface that redirects the light output distribution of the light source more in the width direction.” Prelim. Resp. 7–10. Specifically, Patent Owner asserts “[t]he cited Figure of Tsunoda does not show the height dimension and therefore a comparison of whether light is redirected ‘more in the width direction’ cannot be made”. *Id.* at 8. Notwithstanding this position, Patent Owner also asserts that the cited portion of the Escuti Declaration likewise “offers no rationale for modifying Pristash to include the alleged refractive surface of Tsunoda.” *Id.* at 6.

We agree that Petitioner’s annotations of Figure 1 and cited passages of Pristash in the claim chart demonstrate adequately that Pristash describes the claim element of “the panel member has a greater width than height.” We agree, also, that Petitioner demonstrates sufficiently that Tsunoda

discloses the claim element of the panel member having a light input edge with “a refractive surface that redirects the light output distribution of the light source more in the width direction as the light enters the panel member.” However, we are also persuaded by Patent Owner’s argument that Petitioner does not provide satisfactorily a fact-based rationale to support replacing the input edge of the light emitting assembly of Pristash with the light input edge of Tsunoda. Other than asserting “it would also have been obvious,” Petitioner does not provide a sufficient rationale for combining these references. Pet. 14. We note that Petitioner refers to the declaration of Dr. Escuti in support of its position.⁶ *Id.* However, while Dr. Escuti summarizes his view of the Tsunoda, he fails to proffer any explanation or persuasive evidence demonstrating that it would have been obvious to combine Pristash and Tsunoda. Ex. 1004 ¶ 93, *see* 37 C.F.R. § 42.65(a).

It is not sufficient to demonstrate that each of the components is known. *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007), 550 U.S. at 418 (“a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art”). Petitioner must also explain how a person of

⁶ Petitioner’s extensive reliance throughout the Petition on information not provided expressly, but instead incorporated by reference to the cited paragraphs in the Escuti Declaration, is not in accordance with our rules, and therefore the Declaration is given consideration only to the extent that it provides specifically identified facts or opinions that *support* arguments that are properly presented in the Petition. *See* 37 C.F.R. § § 42.6(a)(3); *see also* Rules of Practice for Trials Before The Patent Trial and Appeal Board and Judicial Review of Patent Trial and Appeal Board Decisions; Final Rule, 77 Fed. Reg. 48,612, 48,617 (Aug. 14, 2012) (prohibition against incorporation by reference is to eliminate abuses that arise from incorporation).

ordinary skill in the art would combine those embodiments and why such a person would be motivated to do so. *In re Chaganti*, 2014, WL 274514, *4 (Fed. Cir. 2014) (“It is not enough to say that . . . to do so would ‘have been obvious to one of ordinary skill.’ Such circular reasoning is not sufficient—more is needed to sustain an obviousness rejection.”).

Here, Pristash discloses a transition member 5 that already refracts light from the light source more in the width direction before the light reaches the panel input edge 4. Neither Petitioner nor Dr. Escuti explain why a person of ordinary skill in the art would have replaced the panel input edge of Pristash with the panel input edge of Tsunoda in order to refract light more in the width direction or why such a person would be motivated to do so when the transition member already refracts light more in the width direction. Accordingly, on the record before us, we are not persuaded that Petitioner has provided an adequately articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *See KSR*, 550 U.S. 418 (2007) (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

5. *Discussion of Pristash and Imai*

Alternatively, Petitioner argues “[t]o the extent the width direction is construed as being the opposite direction, this limitation is still obvious in view of Imai, which discloses a refractive surface for directing light in the direction opposite to that in Tsunoda.” *Id.* at 14–15, citing Ex. 1015 ¶ 2:32–39, Fig. 2; Ex. 1004 ¶ 136. Petitioner’s arguments fail for the same reasons given with respect to the proposed combination of Pristash and Tsunoda. Other than stating “it is still obvious” Petitioner does explain why a person of ordinary skill in the art would have replaced the panel input edge

of Pristash with the panel input edge of Imai in order to refract light more in the width direction, or why such a person would be motivated to do so given that the transition member already refracts light more in the width direction.

6. *Dependent claims 2–4*

Petitioner argues that “[t]he tray of Tsunoda also has end and side edge reflectors (Claim 3)” and that “[i]t would have been obvious to include these in place of the end and side edge reflectors on the panel member of Pristash (Claim 2)” Pet. 14, citing Ex. 1012 ¶ 27; Ex. 1004 ¶ 228. By virtue of their dependency, claims 2–4 incorporate the same limitations as their underlying base claim. For the same reasons discussed above, our determination concerning the insufficiency of Petitioner’s evidence with respect to “the light input edge has a refractive surface that redirects the light output distribution of the light source more in the width direction as the light enters the panel member” limitation of independent claim 1, also applies to the claims that depend from claim 1.

7. *Summary*

Accordingly, on the record before us, the information presented in the Petition does not demonstrate a reasonable likelihood that Petitioner would prevail with respect to its contention that claims 1–4 are unpatentable under 35 U.S.C. § 103(a) based on Pristash and Tsunoda, or in the alternative, Pristash and Imai.

B. Obviousness Ground Based On Funamoto

Next, Petitioner contends that claims 1–4 are unpatentable under 35 U.S.C. § 103(a) based on Funamoto and Tsunoda, or in the alternative,

Imai.⁷ Pet. 22–33. In support thereof, Petitioner provides claim charts that identify the disclosure in each of Funamoto, Tsunoda, and Imai alleged to describe the subject matter in claims 1–4. *Id.* at 26–33. Petitioner further cites to the Declaration of Dr. Escuti in support of the analysis advocated in the Petition. Ex. 1004. Patent Owner responds that Funamoto does not disclose a light emitting panel member and asserts that Petitioner’s reasoning for modifying Funamoto using the refractive surface of either Tsunoda or Imai is conclusory and devoid of analysis. Prelim. Resp. 12–24.

We have reviewed the parties’ contentions and supporting evidence. Given the evidence of record, we are not persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing on its assertion that challenged claims 1–4 are obvious over the combination of Funamoto and Tsunoda, or Funamoto and Imai. A detailed analysis of our determination follows after a brief overview of Funamoto.

1. *Funamoto Overview (Ex. 1007)*

Funamoto discloses an illumination device 60 for providing backlight in a liquid crystal display. Ex. 1007, Abstract. Referring to Figures 13–15, Funamoto discloses a U-shaped light fluorescent light source 62 positioned next to edges 41a, 41c and 41d of a polarizer 61 having a diffusion pattern 52. *Id.* at 13:39–51, 14:27–41, Fig. 15. According to Funamoto, the polarizer is a transparent material having a critical angle of 45° or less. *Id.* at 6:49–58, Fig. 17. Funamoto also discloses that the illumination device is installed in a lower case 3, and that the lower case may be utilized as a

⁷ We note that this one ground actually represents two separate grounds, Funamoto and Tsunoda, and Funamoto and Imai.

reflector. *Id.* at 5:47–51, 5:51–67, 7:11–15. Diffusion sheet 26 and prism sheet 27 are positioned over the polarizer. *Id.* at 13:47–65, Fig. 14.

2. Discussion of Funamoto and Tsunoda

Petitioner annotated Figures 2, 14, and 15 of Funamoto to show how the panel member, light source, deformities, end and side edge reflectors, tray, and “at least one other part” claim elements of the ’816 patent are met by Funamoto. *Id.* at 23–24. Acknowledging that “it is not immediately clear that the polarizer is a light emitting panel member,” Petitioner refers to a divisional patent claiming priority to Funamoto, U.S. Patent No. 6,108,060 (“the ’060 patent) to establish that the polarizer of Funamoto is a panel member. *Id.* at 23–24, citing Ex. 1016, 6:31–33; Ex. 1004 ¶ 120. Relying on the testimony of its Declarant, Dr. Escuti, Petitioner points to similar sentences in Funamoto and the ’060 patent, with the term “polarizer” replaced by “light guide plate” and concludes “the ‘polarizer’ of Funamoto is the same as the light emitting panel member of the ’816 patent because the light polarizer has a light entrance surface and a light emitting surface, as is clear from the assembly structure and the function of the polarizer.” *Id.* at 23, citing Ex. 1004 ¶ 120.

Patent Owner counters that Petitioner has not demonstrated sufficiently that the polarizer of Funamoto is a light emitting panel member because Petitioner “does not allege the teachings of Funamoto would lead one of ordinary skill in the art to understand term ‘polarizer’ differently from its ordinary meaning”; “importing of the language from the ’060 patent disregards the plain language in Funamoto”; and as a term of art, “[i]t is unlikely that the meanings of the term ‘polarizer’ and phrase ‘light guide

plate’ would be confused or used in error by one of ordinary skill in the art.” Prelim. Resp. 14–15.

We are not persuaded that Petitioner has provided a sufficient rationale for the Board to consider the “child patent,” which issued in August 2000, long after the effective filing date of the ’816 patent. We note further that the change in language from “polarizer” to “light guide plate” is not clear proof that they are the same thing, for it could have resulted from a desire to broaden the description in the disclosure. We are, however, more convinced by the description of the light panel in the Specification of the ’816 patent: “[a] transparent light emitting material of any suitable type . . . may be used for the light emitting panels.” Ex. 1001, 4:10–12. This description, which would encompass a polarizer, persuades us that Petitioner has demonstrated sufficiently that the polarizer in Funamoto meets the light emitting panel limitation in the claims.

As to the combination of Funamoto with Tsunoda, Petitioner argues “it would also have been obvious to include the input edge of Tsunoda with its refractive surface redirecting light more in the width direction as the input edge in Funamoto.” Pet. 25, citing Ex. 1004 ¶ 130.⁸ Nonetheless, we are persuaded by Patent Owner’s argument that Petitioner does not provide satisfactorily a persuasive fact-based analysis to support modifying the input edge of Funamoto using the input edge of Tsunoda. Prelim. Resp. 12. Further, we agree with Patent Owner that “[t]he Petition and Escuti fail to explain why the technical solution for point light sources in Tsunoda would be helpful in the fluorescent-based device of Funamoto, and fail to explain that the two references are even compatible to combine.” *Id.* at 13.

⁸ The cited paragraph to the Escuti Declaration appears to be in error.

Accordingly, on the record before us, we are not persuaded that Petitioner has provided an articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *See KSR*, 550 U.S. 418 (2007) (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

3. *Discussion of Funamoto and Imai*

Petitioner also argues in the alternative, “[t]o the extent the width direction is construed as being the opposite direction, this limitation is still obvious in view of Imai, which discloses a refractive surface for directing light in the direction opposite to that in Tsunoda.” *Id.* at 25, citing Ex. 1012 ¶ 2:32–39, Fig. 2; Ex. 1004 ¶ 96. Having considered Petitioner’s arguments concerning the combination of Funamoto and Imai, we are not persuaded that Petitioner has demonstrated a reasonable likelihood that it would prevail in demonstrating obviousness of the challenged claim. Other than stating “this limitation is still obvious,” Petitioner does explain sufficiently why a person of ordinary skill in the art would have modified the input edge of Funamoto using the input edge of Imai in order to refract light more in the width direction or why such a person would be motivated to do.

4. *Dependent claims 2–4*

Having considered Petitioner’s arguments concerning dependent claims 2–4, we are not persuaded that Petitioner has demonstrated a reasonable likelihood that it would prevail in demonstrating obviousness of these claims. By virtue of their dependency, claims 2–4 incorporate the same limitations as their underlying base claim. For the same reasons provided with respect to independent claim 1, our determination concerning the insufficiency of Petitioner’s articulated reasoning with some rational underpinning to support the legal conclusion of obviousness concerning the

input edge limitation also applies to claims 2–4. As such, we exercise our discretion and do not address Petitioner’s argument that the substitution of one or more LEDs as required by claim 4, would have been an obvious based on the disclosure in Funamoto or Tsunoda. Pet. 25, citing Ex. 1004 ¶¶ 154-155.

5. Summary

Accordingly, on the record before us, the information presented in the Petition does not demonstrate a reasonable likelihood that Petitioner would prevail with respect to its contention that claims 1–4 are unpatentable under 35 U.S.C. § 103(a) based on Funamoto and Tsunoda, or in the alternative, Funamoto and Imai.

C. Obviousness Ground Based on Gyoko

Petitioner contends that claims 1–4 are unpatentable under 35 U.S.C. § 103(a) based on Gyoko and Tsunoda, or in the alternative, Imai.⁹ Pet. 33–42. In support thereof, Petitioner provides claim charts that identify the disclosure in each of Gyoko, Tsunoda, and Imai alleged to describe the subject matter in claims 1–4. *Id.* Petitioner further cites the Declaration of Dr. Escuti in support of the analysis advocated in the Petition. Ex. 1004. Patent Owner contends that Petitioner’s reasoning for modifying Gyoko using the refractive surface of either Tsunoda or Imai is conclusory and devoid of analysis. Prelim. Resp. 24–27.

We have reviewed the parties’ contentions and supporting evidence. Given the evidence of record, we are not persuaded that Petitioner has

⁹ We note that this one ground actually represents two separate grounds, Gyoko and Tsunoda, and Gyoko and Imai.

demonstrated a reasonable likelihood of prevailing on its assertion that challenged claims 1–4 are obvious over the combination of Gyoko and Tsunoda or Gyoko and Imai. A detailed analysis of our determination follows after a brief overview of Gyoko.

1. Gyoko Overview (Ex. 1008)

Gyoko discloses an illuminating device 11 having a rectangular light guide body 13 with a light emitting surface 13a in a lamp case 12, a pair of fluorescent lamps 4a, 4b (Ex. 1008 ¶ 17) as shown below in Figure 1.

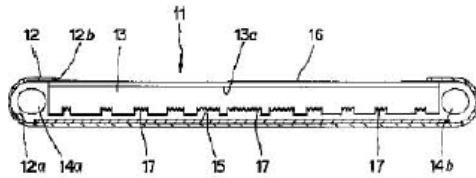


Figure 1 is cross-sectional view of the illuminating device. An inner surface of the lamp case is formed as a reflecting surface, the top surface includes an opening 12b, and a lower reflecting sheet 15 is disposed on an inner bottom surface. *Id.* ¶ 18. A plurality of rough surface reflecting portions 17 having a dot shape are formed on an outer bottom surface of the light guide body. *Id.* ¶ 19.

2. Discussion of Gyoko and Tsunoda

Petitioner annotated Figure 1 of Gyoko to illustrate how Gyoko meets the limitations of claims 1–4 of the '816 patent. Pet. 34. Relying on Tsunoda, Petitioner asserts it would also have been obvious to include the input edge with refractive surface redirecting light more in the width direction as the input edge in Gyoko. *Id.* at 34-35, citing Ex. 1012 ¶ 15; Ex. 1004 ¶ 215.

We agree with Patent Owner that Petitioner does not provide satisfactorily a persuasive fact-based analysis to support modifying the input

edge of Gyoko using the input edge of Tsunoda. Prelim. Resp. 24–26. Patent Owner’s argument that “[t]he Petition and Escuti fail to explain why the technical solution for point light sources would be helpful in a fluorescent-based device or that it’s even compatible to combine the two references” is convincing. *Id.* at 26. Accordingly, on the record before us, we are not persuaded that Petitioner has provided an articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *See KSR*, 550 U.S. 418 (2007) (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

3. Discussion of Gyoko and Imai

Petitioner again argues in the alternative, “[t]o the extent the width direction is construed as being the opposite direction, this limitation is still obvious in view of Imai, which discloses a refractive surface for directing light in the direction opposite to that in Tsunoda.” *Id.* at 35, citing Ex. 1015 ¶ 2:32–39, Fig. 2; Ex. 1004 ¶ 136. Having considered Petitioner’s arguments concerning the combination of Gyoko and Imai, we are not persuaded that Petitioner has demonstrated a reasonable likelihood that it would prevail in demonstrating obviousness of the challenged claim. Other than stating “this limitation is still obvious,” Petitioner does explain adequately why a person of ordinary skill in the art would have modified the input edge of Gyoko using the input edge of Imai in order to refract light more in the width direction or why such a person would be motivated to do.

4. Dependent Claims 2–4

Petitioner’s arguments concerning dependent claims 2–4 do not persuade us sufficiently that Petitioner has demonstrated a reasonable likelihood that it would prevail in demonstrating obviousness of the

challenged claims. By virtue of their dependency, claims 2–4 incorporate the same limitations as their underlying base claim. For the same reasons provided with respect to independent claim 1, our determination concerning the insufficiency of Petitioner’s articulated reasoning with some rational underpinning to support the legal conclusion of obviousness concerning input edge limitation of claim 1, also applies to claims 2–4. As such, we exercise our discretion and do not address Petitioner’s argument that “it would have been obvious to include the LEDs of Tsunoda in Gyoko given Gyoko’s objective of higher efficiency and reducing output loss.” Pet. 35, citing Ex. 1012 ¶¶ 25, 33, 40; Ex. 1004 ¶¶ 153–159.

5. Summary

Accordingly, on the record before us, the information presented in the Petition does not demonstrate a reasonable likelihood that Petitioner would prevail with respect to its contention that claims 1–4 are unpatentable under 35 U.S.C. § 103(a) based on Gyoko and Tsunoda, or in the alternative, Gyoko and Imai.

D. Obvious Ground Based on Murase

Petitioner contends that claims 1–4 are unpatentable under 35 U.S.C. § 103(a) based on Murase and Tsunoda, or in the alternative, Imai.¹⁰ Pet. 42–50. In support thereof, Petitioner provides claim charts that identify the disclosure in each of Murase, Tsunoda and Imai alleged to describe the subject matter in claims 1–4. *Id.* Petitioner further cites the Declaration of Dr. Escuti in support of the analysis advocated in the Petition. Ex. 1004.

¹⁰ We note that this one ground actually represents two separate grounds, Murase and Tsunoda, and Murase and Imai.

Patent Owner contends that Petitioner’s reasoning for modifying Murase using the refractive surface of either Tsunoda or Imai is conclusory and devoid of analysis. Prelim. Resp. 31–37.

We have reviewed the parties’ contentions and supporting evidence. Given the evidence of record, we are not persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing on its assertion that challenged claims 1–4 are obvious over the combination of Murase and Tsunoda or Murase and Imai. A detailed analysis of our determination follows after a brief overview of Murase.

1. Murase Overview (Ex. 1011)

Murase discloses an edge light panel 9 having a transparent resin substrate 10 having an irregular reflection surface 11 with a mesh pattern formed thereon (Ex. 1011, Abstract) as illustrated in Figure 3 below.

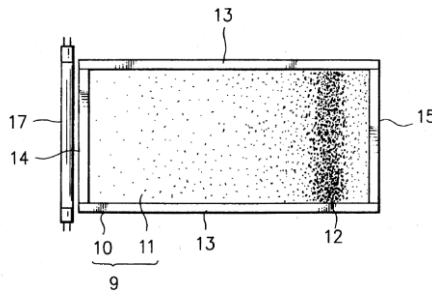


Figure 3 is a front view of an edge lit panel.

A primary light source 17 positioned adjacent the panel is a “slender and durable 12 V cold cathode ray tube.” *Id.* at 4:44–47.

2. Discussion of Murase and Tsunoda

Petitioner presents annotated Figures 1 and 3 of Murase to illustrate how Murase meets the limitations of claims 1–4 of the ’816 patent. Pet. 43. Relying on Tsunoda, Petitioner asserts “[i]t would have been obvious to include the input edge or Tsunoda with its refractive surface redirecting light

more in the width direction as the input edge in *Pristash* (emphasis added).” *Id.* at 44, citing Ex. 1012 ¶ 15; Ex. 1004 ¶ 93. We agree with Patent Owner that Petitioner does not provide satisfactorily a persuasive fact-based analysis to support modifying the input edge of *Murase* using the input edge of Tsunoda. Prelim. Resp. 31–33. Patent Owner’s argument that “[t]he Petition and Escuti fail to explain why the technical solution for point light sources would be helpful in a fluorescent-based device or that it’s even compatible to combine the two references” is convincing. *Id.* at 32. Accordingly, on the record before us, we are not persuaded that Petitioner has provided an articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *See KSR*, 550 U.S. 418 (2007) (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

3. Discussion of *Murase* and *Imai*

Petitioner again argues in the alternative, “[t]o the extent the width direction is construed as being the opposite direction, this limitation is still obvious in view of *Imai*, which discloses a refractive surface for directing light in the direction opposite to that in Tsunoda.” Pet. 44, citing Ex. 1015 ¶ 2:32–39, Fig. 2; Ex. 1004 ¶ 136. Having considered Petitioner’s arguments concerning the combination of *Murase* and *Imai*, we are not persuaded that Petitioner has demonstrated a reasonable likelihood that it would prevail in demonstrating obviousness of the challenged claim. Other than stating “this limitation is still obvious,” Petitioner does explain adequately why a person of ordinary skill in the art would have modified the input edge of *Murase* using the input edge of *Imai* in order to refract light more in the width direction or why such a person would be motivated to do.

4. Dependent Claims 2–4

Petitioner’s arguments concerning dependent claims 2–4 do not persuade us sufficiently that Petitioner has demonstrated a reasonable likelihood that it would prevail in demonstrating obviousness of the challenged claims. By virtue of their dependency, claims 2–4 incorporate the same limitations as their underlying base claim. For the same reasons provided with respect to independent claim 1, our determination concerning the insufficiency of Petitioner’s articulated reasoning with some rational underpinning to support the legal conclusion of obviousness concerning input edge limitation of claim 1, also applies to claims 2–4. As such, we exercise our discretion and do not consider Petitioner’s argument that it would have been obvious to combine the Tsunoda’s LED light source with Murase, “given Murase’s [objective sic] similar objective of uniformity of brightness.” Pet. 44, citing Ex. 1012 ¶¶ 25, 33, 40; Ex. 1004 ¶¶ 231–235.

5. Summary

Accordingly, on the record before us, the information presented in the Petition does not demonstrate a reasonable likelihood that Petitioner would prevail with respect to its contention that claims 1–4 are unpatentable under 35 U.S.C. § 103(a) based on Murase and Tsunoda, or in the alternative, Murase and Imai.

E. *35 U.S.C. § 312(a)(2) and 35 U.S.C. § 315(b)*

Patent Owner proffers arguments asserting that the Petition is time-barred under 35 U.S.C. § 315(b) because the Petitioner failed to name two other parties as real parties-in-interest, i.e. LG Electronics Inc., and LG Electronics U.S.A., Inc. Prelim. Resp. 37–39.

Because we determine that the information presented in the Petition does not demonstrate a reasonable likelihood that Petitioner would prevail with respect to at least one of the challenged claims, we exercise our discretion and do not address Patent Owner's assertions that the Petition is time-barred under 35 U.S.C. § 315(b) based on real party-in-interest.

III. SUMMARY

For the foregoing reasons, we conclude that Petitioner has not demonstrated a reasonable likelihood that at least one challenged claim is unpatentable based on the asserted grounds. We, therefore, do not institute an *inter partes* review on any of the asserted grounds as to any of the challenged claims.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that an *inter partes* review as to claims 1–4 of the '816 patent is DENIED.

Case IPR2014-01095
Patent 8,215,816 B2

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