
**INNOVATIVE DISPLAY TECHNOLOGIES LLC's
EXHIBIT 2001**

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MERCEDES-BENZ USA, LLC and
MERCEDES-BENZ U.S. INTERNATIONAL, INC.,
Petitioners,

v.

INNOVATIVE DISPLAY TECHNOLOGIES LLC,
Patent Owner.

Case IPR2015-00368
U.S. Patent No. 7,434,974

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LG DISPLAY CO, LTD.,
Petitioner,

v.

INNOVATIVE DISPLAY TECHNOLOGIES LLC,
Patent Owner.

Case IPR2014-01092
Patent 7,434,974

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

GIANNETTI, *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, 3–5, 7–11, 13, and 17 of U.S. Patent No. 7,434,974 (“the ’974 patent”). Paper 2 (“Pet.”). Innovative Display Technologies LLC (“Patent Owner”) filed a Preliminary Response. 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, 3–5, 7–11, 13, and 17.

I. BACKGROUND

A. The ’974 patent (*Ex. 1001*)

The ’974 patent is entitled “Light Emitting Panel Assemblies.” The Abstract describes the subject matter as follows:

Light emitting panel assembly includes a light emitting panel member received in a cavity or recess in a tray or housing. The panel member has a pattern of light extracting deformities on or in at least one surface of the panel member to cause light received from at least one LED light source positioned near or against the light entrance surface of the panel member to be emitted from a light emitting surface of the panel member. The tray or housing acts as an end edge and/or side edge reflector for the panel member to reflect light that would otherwise exit the panel member through the end edge and/or side edge back into the panel member for causing additional light to be emitted from the panel member.

Ex. 1001, Abstract.

B. Illustrative Claim

Claim 1 is illustrative of the claims at issue:

1. A light emitting panel assembly comprising
at least a light emitting panel member having a light
entrance surface and a light emitting surface,
at least one LED light source positioned near or against
the light entrance surface, and
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, and the tray or housing includes end walls and side
walls that act as end edge reflectors and side edge reflectors for
the panel member to reflect light that would otherwise exit the
panel member through an end edge and/or side edge back into
the panel member and toward the pattern of light extracting
deformities for causing additional light to be emitted from the
light emitting surface of the panel member,
wherein the tray or housing provides structural support to
the panel member and has posts, tabs, or other structural
features that provide a mount for mounting of the assembly into
a larger assembly or device.

C. Related Proceedings

Patent Owner states that it has asserted infringement by Petitioner of the '974 patent in the following proceeding: Delaware Display Group LLC et al. v. LG Electronics Inc. et al., No. 1:13-cv-02109 (D. Del., filed Dec. 31, 2013). Paper 4.

Patent Owner identifies numerous other proceedings in which it has alleged infringement of the '974 patent. *See* Paper 4 for a listing.

In addition, there are four other pending requests for inter partes review by Petitioner for patents related to the '974 patent. Those are as follows:

1. IPR2014-01094 (U.S. Patent No. 7,404,660);
2. IPR2014-01095 (U.S. Patent No. 8,215,816);
3. IPR2014-01096 (U.S. Patent No. 7,537,370); and
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).

The only claim term for which Petitioner proposes a construction is the term “deformities,” appearing in all challenged claims. Petitioner asserts that the '974 patent “expressly defines” the term to mean “any change in the shape or geometry of a surface and/or coating or surface treatment that causes a portion of light to be emitted.” Pet. 8 (citing '974 patent, Ex. 1001, col. 4, ll. 36–40). Patent Owner takes no position on claim construction. Prelim. Resp. 7. Patent Owner points out, however, that the construction of “deformities” proffered by Petitioner was agreed to and adopted by the district court. *Id.*

We have considered Petitioner’s construction of “deformities” and determined that at this stage it should be adopted here.

We have further determined that, except as may be indicated in the discussion below, the remaining terms should be given their plain and ordinary meaning.

E. References

Petitioner relies on the following references¹:

Funamoto	US 5,619,351	May 10, 1994	Ex. 1007
Tsuchiyama	US 5,548,271	Jun. 24, 1994	Ex. 1008
Nakayama	US 5,654,779	Dec. 29, 1994	Ex. 1009

Petitioner also states that it is relying on Admitted Prior Art (“APA”) from the ’974 patent specification. Pet. 9; Ex. 1001, col. 2, ll. 58-65. Petitioner also relies on a Declaration from Michael J. Escuti, Ph.D. (“Escuti Decl.”). Ex. 1004.

F. Grounds Asserted

Petitioner challenges claims 1, 3–5, 7–11, 13, and 17 of ’974 patent on the following grounds.

References	Basis	Claims Challenged
Funamoto	§ 103(a)	1, 3–5, 7–11, and 13
Tsuchiyama and Funamoto	§ 103(a)	1, 3–5, 7–8, 10–11, and 13
Funamoto and Nakayama	§ 103(a)	13 and 17

II. ANALYSIS

A. Asserted Grounds Based On Funamoto Alone

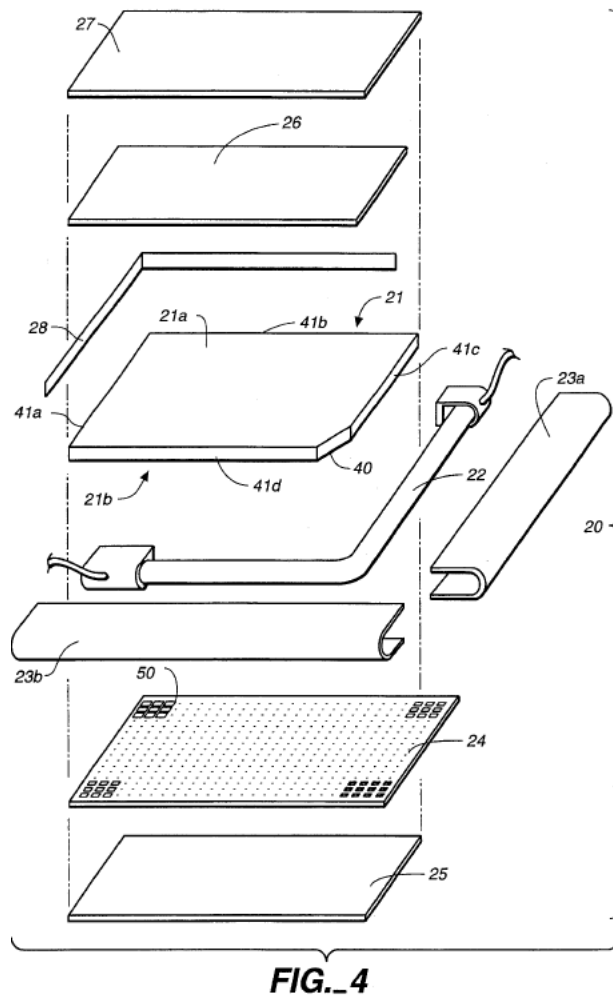
(Claims 1, 3–5, 7–11, and 13)

¹ The references are ordered by exhibit number with effective dates asserted by Petitioner.

Petitioner contends that these claims are obvious over Funamoto under 35 U.S.C. § 103(a). Pet. 11–25. For the reasons that follow, we are not persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing on this ground.

1. Funamoto Overview

This patent describes a surface-type illumination device for providing backlight in a liquid crystal display. Ex. 1007, Abstract. As disclosed, the device makes use of a fluorescent tube and polarizer. This is illustrated in Figure 4 of Funamoto, reproduced here:



In the above Figure 4, polarizer 21 and fluorescent light 22 are shown. Ex. 1001, col. 6, ll. 32–48. Funamoto’s objectives include providing a surface-type illumination device that displays a brightness higher than conventional illumination devices without increasing the number of driver circuits, and restricting heat radiation. *Id.* col. 2, ll. 10–14.

2. Discussion

Petitioner’s discussion of Funamoto acknowledges that Funamoto does not “explicitly” disclose use of an LED light source, a requirement of claim 1 and all other challenged claims. Pet. 13. Petitioner contends, instead, that a person of ordinary skill “would easily substitute an LED for the fluorescent light source disclosed.” *Id.* (citing Escuti Decl. ¶¶76–78).

Patent Owner disagrees, pointing out that “Funamoto explicitly states that a fluorescent light source is required.” Prelim Resp. 13. Patent Owner cites to a discussion in Funamoto of the requirement of a “high output fluorescent light in the illumination device” to achieve sufficient brightness for the intended application. *Id.* (citing Ex. 1007, col. 1, ll. 41–42).

Patent Owner contends that Petitioner fails to consider Funamoto “as [a] whole.” *Id.* at 13–14. Specifically, Patent Owner points out that to reduce temperature variations without increasing the number of driver circuits, Funamoto teaches using a single L or U-shaped fluorescent light source instead of a straight fluorescent light source. *Id.* Patent Owner contends that Petitioner has not shown how the “generic” substitution of LEDs for the fluorescent tube would meet the objectives of Funamoto discussed *supra*. *Id.* at 14.

We agree with Patent Owner that Petitioner has not demonstrated a reasonable likelihood of prevailing in showing obviousness of the challenged claims over Funamoto. In *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007), the Supreme Court warned that “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.” *Id.* at 418.

Rather, the Court stated:

[I]t can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements *in the way the claimed new invention does* . . . because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known.

Id. at 418–419 (emphasis added); *see also id.* at 418 (requiring a determination of “whether there was an apparent reason to combine the known elements *in the fashion claimed* by the patent at issue”) (emphasis added).

Moreover, when evaluating claims for obviousness, “the prior art as a whole must be considered. The teachings are to be viewed as they would have been viewed by one of ordinary skill.” *In re Hedges*, 783 F.2d 1038, 1041 (Fed. Cir. 1986). Accordingly, “[i]t is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.” *Id.* (quoting *In re Wesslau*, 353 F.2d 238, 241 (CCPA 1965)).

We are, therefore, not persuaded by Petitioner’s argument that a person of ordinary skill “would easily substitute an LED” for the fluorescent light tube in Funamoto. Petitioner does not provide a convincing rationale for making the substitution. *See KSR*, 550 U.S. at 417 (Obviousness showing requires “some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). Furthermore, the argument ignores Funamoto’s stated requirement of a high output fluorescent light in the disclosed device. *See discussion supra*.

Patent Owner presents two additional reasons why the challenged claims are not obvious over Funamoto. First is that Funamoto’s polarizer is not a “light emitting panel member” as recited in the claims. Prelim. Resp. 10–12. Second is the argument that the recitation in the claim 1 of “posts, tabs, or other structural features” is not met by Funamoto. According to Patent Owner, the structural features identified by Petitioner as meeting this limitation do not result in mounting the tray assembly into a larger assembly, as is called for in the claim. *Id.* at 15.

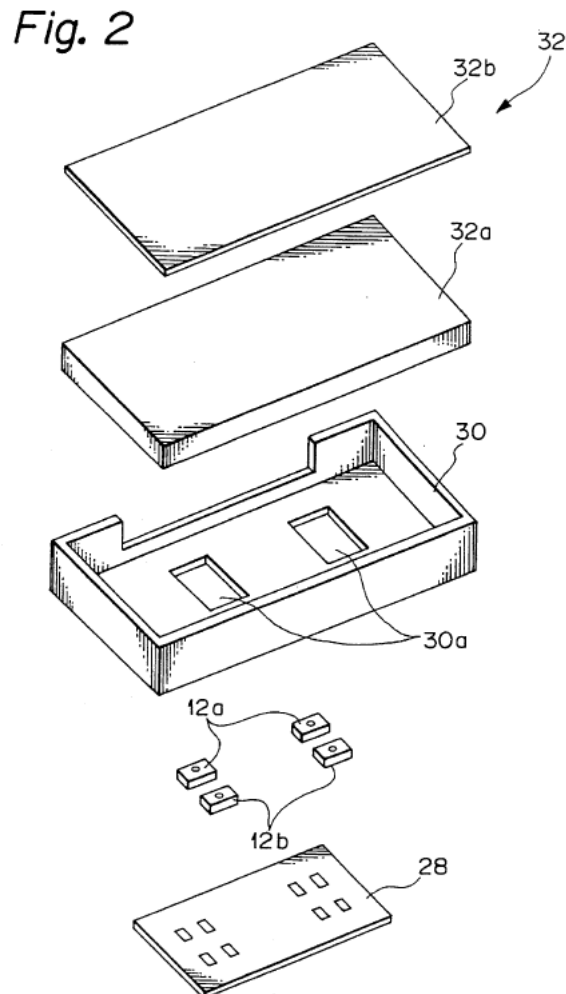
Because of our determination that Petitioner has failed to show that the use of LEDs in Funamoto would have been obvious, we do not reach those additional arguments.

*B. Asserted Grounds Based On Tsuchiyama and Funamoto
(Claims 1, 3–5, 7–8, 10–11, and 13)*

Petitioner contends that these claims are obvious over Tsuchiyama and Funamoto under 35 U.S.C. § 103(a). Pet. 26–40. For the reasons that follow, we are not persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing on this ground.

1. Tsuchiyama Overview

This patent describes a miniature data display radio pager having a liquid crystal display (LCD). Ex. 1008, col. 1, ll. 4–7. The display is provided with a backlight for illuminating the LCD. *Id.* The structure includes a backlight, backlight LEDs, alert LEDs, and a light conducting plate. *Id.* col. 2, ll. 29–40. This is illustrated by Figure 2 of Tsuchiyama, reproduced here:



In Figure 2 above, backlight 32, backlight LEDs 12a, alert LEDs 12b, and light conducting plate 32a are shown. Tsuchiyama describes a structure that addresses a problem arising when the alert LEDs are placed next to the LCD display. *Id.* col. 1, ll. 39–50. This arrangement requires increasing the dimensions of the pager and prevents miniaturization. *Id.* Tsuchiyama avoids this problem by positioning the alert LEDs in the LCD display instead of next to the display. *Id.* col. 3, ll. 21–30.

2. Discussion

Petitioner acknowledges that Tsuchiyama does not “explicitly disclose the panel member having a pattern of light extracting deformities.” Pet. 29. To meet this claim element, Petitioner contends that “[a] person of ordinary skill in the art would have been motivated to combine the teachings of Tsuchiyama with the teachings of Funamoto because they are both directed to a thinner and smaller device, including thinner and smaller LCD devices.” Pet. 28. Petitioner further contends that “[a] person of ordinary skill in the art would have been motivated to combine the assembly of Tsuchiyama with the deformities of Funamoto because the deformities are used to control characteristics of the light, including output, uniformity, etc.” *Id.* at 29.

Patent Owner responds that Petitioner’s statement as to why Tsuchiyaman and Funaamoto should be combined “is conclusory and unsupported by sufficient evidence and analysis.” Prelim. Resp. 21. Patent Owner asserts that the problem solved by Tsuchiyama (locating the alert LED in the backlight of a pager) is unrelated to the technical problems addressed by Funamoto (*see* discussion *supra*).

As discussed above, in determining obviousness, the prior art as a whole must be considered. Furthermore, a sufficient rationale for combining

the references must be articulated. Petitioner's argument, that the teachings of Tsuchiyama and Funamoto can be combined because they are both directed to thinner, smaller devices, is not convincing. The deformities missing from Tsuchiyama but present in Funamoto are used to effect control of characteristics of the light, not miniaturization of the device. Thus, we are not convinced by Petitioner's rationale for making the combination.

Alternatively, Patent Owner contends that the Tsuchiyama/Funamoto combination is lacking the "posts, tabs, or other structural features" recited in the claims. Prelim. Resp. 23. We agree with Patent Owner that Petitioner's argument is unavailing because Patent Owner has not identified sufficiently the "larger assembly or device" called for in the claims.

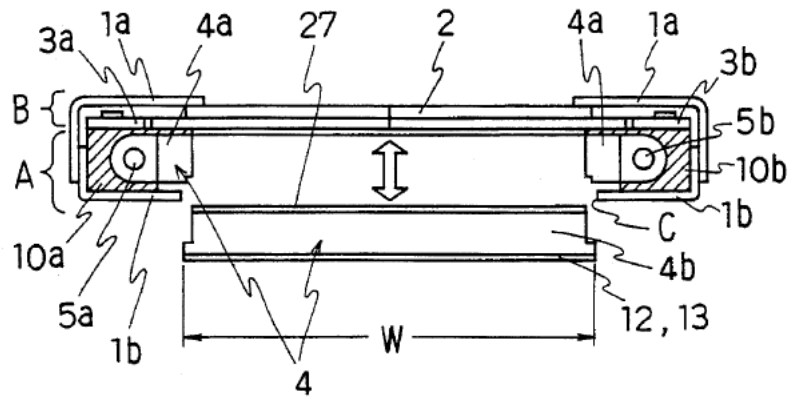
*C. Asserted Grounds Based on Funamoto and Nakayama
(Claims 13 and 17)*

Petitioner contends that these independent claims are obvious over Funamoto and Nakayama under 35 U.S.C. § 103(a). Pet. 40–51. For the reasons that follow, we are not persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing on this ground.

1. Nakayama Overview

This patent describes a liquid crystal display device that includes a light emitting panel assembly. Figure 1a of Nakayama follows:

FIG. 1a



In Figure 1a above, frame 1a and 1b, display panel 2, light panel 4, lamps 5a and 5b, and lamp holders 10a and 10b are shown.

2. Discussion

Petitioner contends that Funamoto and Nakayama, together, disclose all elements of claims 13 and 17 of the '974 patent. Pet. 40. Petitioner further contends that “[a] person of ordinary skill in the art would have been motivated to combine the teachings of Funamoto and Nakayama because the patents were directed to the same goals.” *Id.*

Patent Owner disputes this rationale. Prelim. Resp. 27-28. According to Patent Owner, Petitioner’s allegations are “contradictory,” and the Petition describes “two different and unrelated technical problems and objectives for Funamoto and Nakayama.” *Id.* at 28. We are persuaded by Patent Owner’s argument that Petitioner has not provided a sufficient rationale for combining the two references. As noted above, Funamoto is directed to providing a surface-type illumination device that displays a

brightness higher than conventional illumination devices without increasing the number of driver circuits, and restricting heat radiation. *Id.* col. 2, ll. 10–14. As described by Petitioner, “Nakayama is directed to an LCD device where part of the light guiding board can be removed without varying the outer dimensions and thickness of the device.” Pet. 40. We agree with Patent Owner that these are two very different goals, and that Petitioner has failed to provide a sufficient rationale for combining Funamoto and Nakayama.

Claims 13 and 17 each recite “at least one LED light source.” As noted above, Funamoto does not disclose an LED light source. Furthermore, we concluded above that Petitioner has not made a sufficient showing that it would have been obvious to substitute an LED light source for Funamoto’s fluorescent tubes. We agree with Patent Owner that for this additional reason, Petitioner’s obviousness argument directed to claims 13 and 17 is not persuasive. Prelim. Resp. 28–30, 33–34.

III. SUMMARY

The information presented does not show that there is a reasonable likelihood that Petitioner will prevail on any of the following challenges to patentability of the ’974 patent:

- A. Obviousness of claims 1, 3–5, 7 and 13 over Funamoto;
- B. Obviousness of claims 1, 3–5, 7–8, 10–11, and 13 over Tsuchiyama and Funamoto; and
- C. Obviousness of claims 13 and 17 over Nakayama.

IV. ORDER

It is, therefore,

ORDERED that the Petition is *denied* as to all challenged claims, and no trial is instituted.

Case IPR2014-01092

Patent 7,434,974

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