

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NICHIA CORPORATION,
Petitioner,

v.

DOCUMENT SECURITY SYSTEMS, INC.,
Patent Owner.

Case IPR2018-00966
Patent 7,652,297 B2

Before SALLY C. MEDLEY, SCOTT C. MOORE, and
BRENT M. DOUGAL, *Administrative Patent Judges*.

MEDLEY, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

Nichia Corporation (“Petitioner”)¹ filed a Petition for *inter partes* review of claims 1–17 of U.S. Patent No. 7,652,297 B2 (Ex. 1001, “the ’297 patent”). Paper 2 (“Pet.”). Document Security Systems, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 10 (“Prelim. Resp.”). Upon consideration of the Petition, we instituted an *inter partes* review, pursuant to 35 U.S.C. § 314, as to claims 1–17 based on all challenges set forth in the Petition. Paper 14 (“Decision on Institution” or “Dec.”).

Subsequent to institution, Patent Owner filed a Patent Owner Response (Paper 21, “PO Resp.”), Petitioner filed a Reply to Patent Owner’s Response (Paper 24, “Reply”), and Patent Owner filed a Sur-Reply (Paper 26, “Sur-reply”). On July 30, 2019, we held an oral hearing. Paper 32 (“Tr.”).

A. *Related Matters*

The parties indicate that the ’297 patent is the subject of several court proceedings. Pet. 1; Paper 3, 2.

B. *The ’297 Patent*

The specification of the ’297 patent describes a light-emitting device. Ex. 1001, Abstract. Figure 1 is reproduced below:

¹ Petitioner, Nichia Corporation, identifies Nichia America Corporation as a real party-in-interest. Pet. 1.

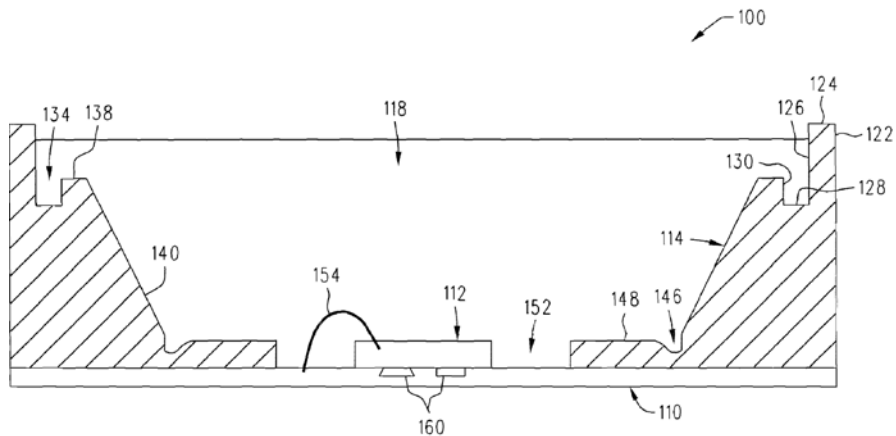


FIG. 1

Figure 1 depicts a side cut away of an embodiment of a light-emitting device.

As seen from the above, light-emitting device 100 includes substrate 110, light emitting diode (LED) 112, and reflector 114. *Id.* at 1:39–41. Cavity 118 is filled with encapsulant. *Id.* at 1:48–50. Reflector 114 has an outer wall 122 with an upper edge 124. *Id.* at 1:59–63. First inner wall 126, first platform 128, and second inner wall 130 form a first notch 134, which extends axially around reflector 114. *Id.* at 2:6–9. First notch 134 serves to hold encapsulant within cavity 118. *Id.* at 2:9–10. A second platform 138 extends from second inner wall 130 to a slanted wall 140. *Id.* at 2:13–15. A second notch 146 is located between slanted wall 140 and a third platform 148 and extends along and around reflector 114. *Id.* at 2:19–21. Second notch 146 may be filled with encapsulant. *Id.* at 2:21–23. Gap 152 exists between reflector 114 and LED 112 and may contain contacts used to supply power to LED 112. *Id.* at 2:33–35. A single wire bond 154 extends between gap 152 and LED 112 and may supply power or signals to LED 112. *Id.* at 2:36–38.

C. Illustrative Claim

Petitioner challenges claims 1–17 of the '297 patent. Claims 1, 10, and 15 are independent claims. Claim 1 is reproduced below.

1. A light emitting device comprising:
 - a substrate;
 - a reflector extending from said substrate, said reflector forming a cavity in conjunction with said substrate;
 - a light emitter located in said cavity; and
 - at least one first notch located in said reflector, said at least one first notch extending substantially axially around said reflector, said at least one first notch being formed by a first wall and a second wall wherein said first wall and said second wall extend substantially perpendicular to said substrate.

Id. at 3:36–47.

D. Asserted Grounds of Unpatentability

We instituted trial based on all asserted grounds of unpatentability under 35 U.S.C.² as follows (Dec. 4–5, 40):

Challenged Claims	35 U.S.C. §	Reference(s)/Basis
1–6	102(e)	Loh '842 ³
1–6, 9	103(a)	Loh '842
7, 8, 10–17	103(a)	Loh '842 and Fujiwara ⁴

² The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), amended 35 U.S.C. §§ 102 and 103. Because the '297 patent has an effective filing date before the effective date of the applicable AIA amendments, we refer to the pre-AIA versions of 35 U.S.C. §§ 102 and 103.

³ U.S. Patent No. 7,939,842 B2, filed Aug. 27, 2007, issued May 10, 2011 (Ex. 1004, “Loh '842”).

⁴ U.S. Patent No. 6,680,568 B2, issued Jan. 20, 2004 (Ex. 1005, “Fujiwara”).

Challenged Claims	35 U.S.C. §	Reference(s)/Basis
7, 8, 10–17	103(a)	Loh '842 and Uraya ⁵
1–6	102(e)	Loh '819 ⁶
1–6, 9	103(a)	Loh '819
1–6, 9	103(a)	Loh '819 and Andrews ⁷
7, 8, 10–17	103(a)	Loh '819 and Fujiwara
7, 8, 10–17	103(a)	Loh '819, Fujiwara, and Andrews
7, 8, 10–17	103(a)	Loh '819 and Uraya
7, 8, 10–17	103(a)	Loh '819, Uraya, and Andrews

II. ANALYSIS

A. Principles of Law

To prevail in its challenge to Patent Owner's claims, Petitioner must demonstrate by a preponderance of the evidence⁸ that the claims are unpatentable. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). To establish anticipation under 35 U.S.C. § 102, each and every element in a claim, arranged as recited in the claim, must be found in a single prior art reference. *See Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir.

⁵ Japanese Patent Application No. 2005-174998, published June 30, 2005 (Ex. 1011, "Uraya").

⁶ U.S. Patent No. 7,960,819 B2, filed July 13, 2006, issued June 14, 2011 (Ex. 1006, "Loh '819").

⁷ U.S. Patent Application Publication No. 2005/0218421 A1, filed Jan. 27, 2005, published Oct. 6, 2005 (Ex. 1007, "Andrews").

⁸ The burden of showing something by a preponderance of the evidence simply requires the trier of fact to believe that the existence of a fact is more probable than its nonexistence before the trier of fact may find in favor of the party who carries the burden. *Concrete Pipe & Prods. of Cal., Inc. v. Constr. Laborers Pension Tr. for S. Cal.*, 508 U.S. 602, 622 (1993).

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