UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NICHIA CORPORATION and CREE, INC., Petitioners,

V.

DOCUMENT SECURITY SYSTEMS, INC., Patent Owner

Case IPR2018-01166¹ Patent 7,256,486 B2

PATENT OWNER'S PETITION FOR REVIEW BY THE DIRECTOR

¹ Cree, Inc., who filed a Petition in IPR2019-00506, has been joined as a petitioner in this proceeding. Paper 14.



Patent Owner Document Security Systems, Inc. respectfully requests review by the Director of the Final Written Decision issued by the Board in this matter. Pursuant to the Supreme Court's recent decision in *United States v. Arthrex, Inc.*, 141 S.Ct. 1970 (2021), such review must be conducted by a principal officer properly appointed by the President and confirmed through advice and consent of the Senate. Patent Owner submits that the Board's Final Written Decision (Paper 24, or "FWD") in this matter must be reviewed and rejected because it improperly relies upon a claim construction that is inconsistent with the broadest reasonable interpretation, and improperly combines references without a proper inquiry into the required motivation to combine. Each of these actions by the Board constitutes legal error, and requires that its Final Written Decision of unpatentability be reversed.

I. BACKGROUND

In its Final Written Decision, the Board credited only one of Petitioner's grounds of invalidity in holding challenged claims 1-3 unpatentable², relying on a prior art reference called Nakajima in combination with one of a group of references. FWD, 57-58. The subject patent (the "'486 patent") claimed a new design for LED

² The Board's Final Written decision found that this initial ground also rendered dependent claims 4 and 5 unpatentable, and found claims 4 and 5 unpatentable under a different ground. The Board found that claim 6 was not shown to be unpatentable. FWD, 57-58. To focus the issues here, Patent Owner seeks Director review only with respect to the finding as to claims 1-3, without prejudice to any rights of appeal regarding claims 4 and 5.



devices in which the light emitting diode has a metallized bottom major surface and is mounted on a mounting pad located on a major surface of a substrate, a conductive connecting pad on the other major surface of the substrate, and an electrical interconnect between the mounting pad and the connecting pad on the substrate. Additional dependent claims required the addition of a second metallized top major surface of a light emitting diode connected by a bonding wire to a conductive bonding pad in one major surface of the substrate, with an electrical interconnect in the substrate connecting that bonding pad to a connecting pad on the other major surface of the substrate.

In its Final Written Decision, the Board adopted claim constructions of the terms "major surface" and "metallized . . . major surface." For "major surface" the Board held that the term "includes an outer portion that is greater than the surface area of other surface," and "which need not be substantially planar." FWD, 14-15. For "metallized major surface," the Board held that the term "includes a major surface having metal on at least a portion thereof, which need not necessarily be a 'substantial portion' of the major surface." FWD, 18. The Board applied the broadest reasonable interpretation standard. FWD, 11. The Board relied on these constructions to find that some combination of references would meet the challenged claims.



Following the Final Written Decision, Patent Owner appealed this determination to the Federal Circuit. Following the Federal Circuit's *Arthrex* decision, Patent Owner filed a motion to vacate and remand the Final Written Decision as invalidly issued in conflict with the Appointments Clause. The Federal Circuit denied that motion and briefing on the merits proceeded. Following argument, the Federal Circuit issued an affirmance without opinion. After the Supreme Court's decision in *United States v. Arthrex, Inc.*, 141 S.Ct. 1970 (2021), the Federal Circuit remanded this matter to permit Patent Owner to seek Director review.

II. THE BOARD RELIED ON CLAIM CONSTRUCTIONS INCONSISTENT WITH THE CLAIM LANGUAGE

The claims of the '486 patent make clear that the kind of objects at issue (essentially rectangular solids) have only two major surfaces. For example, claim 1 refers to placing a mounting pad on one major surface of a substrate and locating a connecting pad on "the other" major surface. The language is clear that such objects have only two major surfaces. If one imagines a typical rectangular solid (like a paperback book), the front cover surface would be one major surface and the back cover surface would be the other major surface. The Board's confusing construction states that a major surface is an outer surface that has a greater area than some other unspecified surface, and even states that the major surface need not be a single surface since it does not need to be planar or substantially planar. FWD, 14-15. This



construction is clearly unreasonable in light of the clear usage in the claims themselves. In the example of the paperback book, under the board's construction, the rectangular solid of a paperback book would have four major surfaces (the front cover face, the back cover face, and each of the two longer edges). That construction is plainly inconsistent with the explicit usage in the claims clarifying that an object has two major surfaces (one and "the other"). Further, in stating that a "major surface" need not be planar or substantially planar, the Board effectively wrote the word "surface" out of the claims entirely. Under the Board's construction, the entire surface of a rectangular solid (all six sides) could be considered a major surface since (under the Board's construction) edges are irrelevant to defining a surface. Indeed, the Board applied its construction to find that a group of at least five surfaces in the Weeks reference was a single major surface under its construction. In Figure 4 from Weeks (reproduced below), the Board found that all of the blue portion 20 (including a left horizontal surface, a left upwardly inclined surface, a higher horizontal surface in the middle, a right downwardly inclined surface, and a right horizontal surface) was a single major surface in Weeks. FWD, 34. Under the law, the broadest reasonable interpretation of a claim term must still be reasonable, and the Board's construction completely fails that standard.



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