NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

REC SOLAR PTE. LTD.,
Appellant

v.

HANWHA SOLUTIONS CORP., HANWHA Q CELLS USA INC.,
Cross-Appellants

2023-1508, 2023-1516

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Nos. IPR2021-00988, IPR2021-00989.

Decided: January 21, 2025

JAMES R. BARNEY, Finnegan, Henderson, Farabow, Garrett & Dunner, LLP, Washington, DC, argued for appellant. Also represented by MAREESA ARNITA FREDERICK, ANTHONY A. HARTMANN, FORREST ALEXANDER JONES, ANDREA GRACE KLOCK MILLS.

MARK D. SELWYN, Wilmer Cutler Pickering Hale and Dorr LLP, Palo Alto, CA, argued for cross-appellants. Also represented by JASON KIPNIS; DAVID LANGDON

CAVANAUGH, NORA N. XU, Washington, DC; ROBERT J. GUNTHER, JR., New York, NY.

Before LOURIE, REYNA, and CUNNINGHAM, *Circuit Judges*.

LOURIE, *Circuit Judge*.

This appeal arises from two final written decisions of the Patent Trial and Appeal Board ("the Board"), which have been consolidated for our review.

REC Solar Pte. Ltd. ("REC") appeals from a final written decision of the Board holding claims 1–6, 11, and 13 of U.S. Patent 10,749,060 ("the '060 patent") unpatentable as obvious. *Hanwha Sols. Corp. v. REC Solar Pte. Ltd.*, IPR2021-00988 (P.T.A.B. Dec. 9, 2022) ("the '988 Decision"), J.A. 1–59.

Hanwha Solutions Corporation and Hanwha Q CELLS USA (collectively, "Hanwha") conditionally cross-appeal from a final written decision of the Board holding that the same claims were not shown to be unpatentable as obvious. *Hanwha Sols. Corp. v. REC Solar Pte. Ltd.*, IPR2021-00989 (P.T.A.B. Dec. 9, 2022) ("the '989 Decision"), J.A. 60–89.

For the following reasons, we *affirm* the Board's '988 Decision. We therefore dismiss the cross-appeal of the '989 Decision as moot because it was conditioned upon a reversal of the '988 Decision. *See* Appellee's Br. 89.

BACKGROUND

REC owns the '060 patent, which generally relates to a solar-cell module comprising multiple solar cells. '060 patent col. 1 ll. 5–6. Specifically, the '060 patent is focused on solving the problem of partial shading in a solar module consisting of half-cut solar cells by dividing the entire solar module in half and arranging the module into units of two strings of series-connected half-cut cells. *Id.* col. 1 l. 23–col. 2 l. 50. In this arrangement, each string is connected

in parallel with both the other string in the other half of that unit and a bypass diode. *Id.*

Hanwha filed two Petitions for *inter partes* review ("IPR") challenging claims 1–6, 11, and 13 of the '060 patent. In the '988 Decision, the Board determined that claims 1–6, 11, and 13 were unpatentable as obvious over the combination of Chinese patent publications CN202585481U ("Huang") and CN102044587A ("Wu"). '988 Decision, J.A. 38. In contrast, the Board in the '989 Decision determined that Hanwha failed to establish that claims 1–6, 11, and 13 were obvious over the combination of U.S. Patent 8,049,096 ("Yagiura") and U.S. Publication 2013/0098423 ("Shimasaki") or the combination of Yagiura, Shimasaki, and Chinese patent publication CN1020224865A ("Yan"). '989 Decision, J.A. 87–88.

Both parties timely appealed, and we have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

DISCUSSION

We need only address the appeal for the '988 Decision. REC first argues that the Board's obviousness determination was flawed because the Board exceeded its authority under the Administrative Procedure Act ("APA"), 5 U.S.C. § 554(b)(3), when it held claims 1–6, 11, and 13 obvious over Huang and Wu based on a new obviousness theory that Hanwha never raised and REC never had the opportunity to rebut. REC contends that the Board's analysis relied on a new theory because it ignored how Hanwha conditioned its obviousness theory on Huang disclosing bypass diodes contained in a junction box. We disagree.

REC's argument mischaracterizes Hanwha's petition and the Board's analysis. Hanwha did not condition its

obviousness argument upon a finding that Huang disclosed bypass diodes in a junction box. Rather, Hanwha's petition plainly alleged that claims 1–6, 11, and 13 were obvious over Huang in view of Wu. Accordingly, Hanwha argued, and the Board agreed, that a person of ordinary skill in the art would have been motivated to modify Huang to implement the multiple junction boxes of Wu to shorten the length of the bus bar, reduce the series resistance, and improve overall output performance as taught by Wu. J.A. 549–551; '988 Decision, J.A. 27, 32. In so finding, the Board stated that "whether or not Huang teaches a diode in a junction box . . . is ultimately not critical to this asserted ground" because Wu provides that missing limitation. *Id.* at 32. The Board therefore acted within its authority under the APA and did not rely on any new obviousness theory.

REC next argues that the Board's obviousness finding regarding dependent claims 5, 6, and 13 was not supported by substantial evidence because combining Huang and Wu does not "naturally result" in the single assembly cross-connector limitation as required by those claims. We disagree.

The Board's obviousness findings were supported by substantial evidence. REC again mischaracterizes the Board's analysis and our precedent by arguing that Hanwha was required to prove this limitation through inherent obviousness since neither Huang nor Wu expressly discloses a central cross-connector as a single assembly. The Board, however, appropriately applied *KSR* in crediting expert testimony that explained why a person of ordinary skill would have found a single assembly cross-connector a "predictable variation" on the prior art. J.A. 36–37; *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007). The Board explained that once Wu's multiple junction boxes are introduced to Huang, the modified cross-connectors terminate at a single bypass diode, and as a result, a person of ordinary skill in the art would have fabricated

the co-located cross-connectors as a single assembly. '988 Decision, J.A. 36. In doing so, the Board credited the testimony of Hanwha's expert, Dr. Kimball, that combining Huang and Wu would lead a skilled artisan to naturally choose to fabricate the cross-connectors as a single assembly. J.A. 35–37; *see, e.g.*, J.A. 4443 ¶ 98. The Board also noted that REC and its expert did not provide sufficient evidence to refute this assertion. J.A. 36–37. Here too, the Board's obviousness findings are supported by substantial evidence.

CONCLUSION

We have considered REC's remaining arguments and find them unpersuasive. For the foregoing reasons, we *affirm*.

AFFIRMED

COSTS

No costs.