

NOTE: This disposition is nonprecedential.

**United States Court of Appeals
for the Federal Circuit**

SYNQOR, INC.,
Appellant

v.

VICOR CORPORATION,
Appellee

2021-2211

Appeal from the United States Patent and Trademark
Office, Patent Trial and Appeal Board in No. 95/001,861.

Decided: January 18, 2023

STEVEN J. HOROWITZ, Sidley Austin LLP, Chicago, IL,
argued for appellant. Also represented by THOMAS D. REIN,
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MATTHEW A. SMITH, Smith Baluch LLP, Washington,
DC, argued for appellee. Also represented by ELIZABETH A.
LAUGHTON.

Before MOORE, *Chief Judge*, TARANTO and CHEN, *Circuit
Judges*.

CHEN, *Circuit Judge*.

In 2017, we affirmed-in-part, vacated-in-part, and remanded the Patent Trial and Appeal Board’s (Board) decision in an *inter partes* reexamination of U.S. Patent No. 8,023,290 (’290 patent). *Vicor Corp. v. SynQor, Inc.*, 869 F.3d 1309, 1312 (Fed. Cir. 2017) (*SynQor III*). On remand, the Board held all of the ’290 patent’s claims unpatentable under 35 U.S.C § 103 over two different combinations of references. Because the Board’s fact findings are supported by substantial evidence and its unpatentability determination is correct as to the second combination of references, we *affirm*.

BACKGROUND

The ’290 patent is entitled “High Efficiency Power Converter” and claims a system for DC-DC power conversion—i.e., converting a direct current (DC) source from one voltage level to another. ’290 patent col. 17 l. 9 – col. 18 l. 35. The ’290 patent is part of a patent family owned by SynQor, Inc. (SynQor) involving DC-DC conversion, and we have previously discussed that technology in *SynQor III*. See 869 F.3d at 1312–15. The ’290 patent family describes a “two-stage architecture” for DC-DC converters, which SynQor refers to as “Intermediate Bus Architecture” (IBA). *Id.* at 1314. The ’290 patent claims a particular type of IBA converter implemented using switching regulators. *Id.*; ’290 patent col. 17 ll. 26–30.

In *SynQor III*, we reviewed the Board’s decision affirming an examiner’s reexamination decision withdrawing six proposed rejections of the ’290 patent and vacated and remanded with respect to four proposed rejections: (i) two rejections based on a combination of JP ’446¹ and Steigerwald ’539² (Rejections III and IV), and (ii) two rejections

¹ Japanese Patent App. Pub. No. H05-64446.

² U.S. Patent No. 5,274,539.

based on a combination of Steigerwald '090³ and Pressman⁴ (Rejections V and VI). 869 F.3d at 1320–24. We instructed the Board to consider SynQor's secondary considerations evidence for nonobviousness in light of a previous SynQor decision by our court that held that claims of a SynQor patent related to the '290 patent and directed to "IBA's basic arrangement" were anticipated. *Id.* at 1322 (citing *Vicor Corp. v. SynQor, Inc.*, 603 F. App'x 969, 975 (Fed. Cir. 2015) (*SynQor II*)). More specifically, we instructed the Board to consider whether SynQor's secondary considerations evidence "is attributable to IBA—as anticipated in *SynQor II*—or to other features in the SynQor Patents' claims." *Id.* We observed that *SynQor II* might be "particularly relevant for the proposed rejections . . . given SynQor's almost singular focus on IBA as a general concept in its prior arguments before the Board on the [secondary considerations] evidence." *Id.*

On remand, the Board reversed the examiner's withdrawal decision, found no nexus between SynQor's secondary considerations evidence and the claims of the '290 patent, and entered new grounds of rejection for claims 1–15 based on proposed Rejections III–VI. J.A. 17246–48, J.A. 17253–56. In view of the new rejections, SynQor requested that the examiner reopen prosecution. J.A. 17357–419. After considering SynQor and Vicor Corp.'s (Vicor) remarks regarding *inter alia* obviousness, the examiner maintained the Board's obviousness rejections of claims 1–15 based on Rejections III–VI. J.A. 17954.

The Board subsequently affirmed the examiner's determination as to claims 1–15, finding that the prior art references set forth in Rejections III–VI taught all the limitations of the claims and that a skilled artisan would

³ U.S. Patent No. 5,377,090.

⁴ Abraham I. Pressman, *Switching and Linear Power Supply, Power Converter Design* (1977).

have been motivated to combine the references. J.A. 52–67, 71–87, 91–96. After reconsidering the secondary considerations evidence in view of SynQor’s additional remarks, the Board nonetheless found no nexus between such evidence and the claimed invention. J.A. 67–71, 87–90. Accordingly, the Board found that Vicor’s evidence of obviousness outweighed SynQor’s evidence of nonobviousness. J.A. 71, 90.

SynQor timely appealed the Board’s decision. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

DISCUSSION

We review the Board’s ultimate obviousness determination de novo and its underlying factual findings for substantial evidence. *PersonalWeb Techs., LLC v. Apple, Inc.*, 917 F.3d 1376, 1381 (Fed. Cir. 2019) (citation omitted).

Relevant here, factual findings underlying an obviousness determination include: (1) whether a skilled artisan would have been motivated to modify the teachings of a reference, and (2) whether there is a nexus between secondary considerations of nonobviousness and the claimed invention. *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1327, 1331–32 (Fed. Cir. 2016). A patentee may establish nexus by showing that the secondary considerations evidence is a “direct result of the unique characteristics of the claimed invention.” *Fox Factory, Inc. v. SRAM, LLC*, 944 F.3d 1366, 1373–74 (Fed. Cir. 2019) (quoting *In re Huang*, 100 F.3d 135, 140 (Fed. Cir. 1996)). For patents claiming combinations of prior art features, a patentee must show that the secondary considerations evidence is “attributable to the claimed *combination* of [prior art features], as opposed to, for example, prior art features in isolation or unclaimed features.” *Id.* at 1378 (citing *Ethicon Endo-Surgery, Inc. v. Covidien LP*, 812 F.3d 1023, 1034 (Fed. Cir. 2016)).

SynQor argues the Board: (1) erred in declining to apply issue preclusion to Rejections III and IV, Appellant’s

Br. 29–40; (2) improperly relied on conclusory assertions regarding the knowledge of a skilled artisan as to Rejections III and IV, *id.* 41–54; (3) failed to articulate a motivation to combine for Rejections V and VI, *id.* 54–66; and (4) erred in evaluating the secondary considerations evidence, *id.* 66–74. We disagree with SynQor as to its third and fourth arguments regarding Rejections V and VI and secondary considerations. Because our decision on these arguments resolves the parties’ dispute as to claims 1–15, we do not address SynQor’s remaining arguments.

I. Rejections V and VI: Obviousness over Steigerwald ’090 and Pressman

The Board found, and SynQor does not challenge, that: (1) Steigerwald ’090 discloses each limitation of claim 1, except that it discloses “series regulators” instead of the claimed “switching regulators,” and (2) Pressman discloses the missing “switching regulators.” J.A. 76, 79. The Board determined that a skilled artisan would have been motivated to modify Steigerwald ’090’s circuit using Pressman’s switching regulators for certain circuit outputs—the non-pulsed bias voltage outputs “used for control and receive functions.” J.A. 79–80, 87; *see also id.* 79–86. The Board reasoned that using switching regulators for the non-pulsed bias voltage outputs would “improve efficiency as taught by Pressman” “relative to linear [i.e., series⁵]

⁵ The Board’s opinion uses the terms “linear regulators” and “series regulators” interchangeably. *Compare* J.A. 64 (referring to Steigerwald ’090’s regulators 50, 51, 60, and 61 as “linear regulators”), *with* J.A. 76, 79 (referring to Steigerwald ’090’s regulators 50, 51, 60, and 61 as “series regulators”). To the extent the Board’s opinion refers to linear regulators, we understand it to refer to Steigerwald ’090’s series regulators.

regulators when used in Steigerwald '090's configuration." J.A. 79–81, 86. Substantial evidence supports this finding.

Specifically, the Board's finding is supported by Pressman itself and by the testimony of Dr. Vinciarelli, Vicor's expert. Pressman discloses a circuit that uses a "switching postregulator." Pressman at 82–83, Fig. 3–4B. Pressman teaches that this circuit can "generate a multiplicity of different output voltages *at high efficiency*" due to "the use of switching postregulators" and that this efficiency could not be achieved with "series-pass postregulators." Pressman at 83 (emphasis added). Dr. Vinciarelli, in turn, explains that Pressman's series-pass regulators are "equivalent to" Steigerwald '090's series regulators. J.A. 17753–54 ¶ 8. Thus, Pressman provides an express motivation to combine the two references by teaching that its switching regulators, which can be used in place of Steigerwald's '090 series regulators, improve efficiency.

SynQor makes four arguments on appeal, but two are unpersuasive and two are forfeited. First, SynQor argues that the Board's analysis failed to explain why a skilled artisan would have been motivated to select Steigerwald '090 and Pressman for combination. Appellant's Br. 55–56, 58–61, 64–66 (citing *WBIP*, 829 F.3d at 1337). But it is undisputed that (1) the claims and Steigerwald '090 are analogous art, both directed to two-stage DC-DC converters, and (2) Pressman discloses a benefit to using switching regulators in a two-stage DC-DC converter circuit—such as those disclosed in Steigerwald '090—to improve efficiency. As such, the Board articulated a valid motivation to combine, and no further explanation is required. *See Polaris Indus., Inc. v. Arctic Cat, Inc.*, 882 F.3d 1056, 1070–71 (Fed. Cir. 2018) (citing *WBIP*, 829 F.3d at 1337).

Second, SynQor argues that adding switching regulators to the non-pulsed bias voltage outputs would not improve the efficiency of Steigerwald '090's circuit because bias voltages draw almost no power. Appellant's Br. 63–64

(citing J.A. 17489–90 ¶¶ 31–32). We have reviewed SynQor’s cited expert testimony, but find little support for SynQor’s attorney argument. *See* J.A. 17489–90 ¶¶ 31–32.

SynQor’s remaining two arguments were not presented to the Board: (1) skilled artisans would not have been motivated to select Steigerwald ’090’s circuit for modification because two-stage architectures had been discredited, Appellant’s Br. 57–58; and (2) Pressman teaches away from using a two-stage architecture, *id.* 61–62, 65. SynQor forfeited these arguments by not first raising them to the Board, and we decline to address these fact-bound contentions in the first instance. *See In re Google Tech. Holdings LLC*, 980 F.3d 858, 863 (Fed. Cir. 2020) (explaining that an argument not presented to the tribunal under review is forfeited absent exceptional circumstances).

Accordingly, substantial evidence supports the Board’s finding that a skilled artisan would have been motivated to combine Steigerwald ’090 and Pressman.

II. Secondary Considerations

We agree with the Board that SynQor’s secondary considerations evidence is not tied to the claimed combination of features in the ’290 patent—i.e., an IBA converter using switching regulators. Instead that evidence is associated with IBA without any requirement for switching regulators.⁶ The Board relied on SynQor’s expert, Dr. Schlecht,

⁶ The record shows that SynQor’s understanding of “IBA” does not require using *switching* regulators, given that it refers to “IBA” to describe its patent claims across multiple patents collectively, including claims that do not recite switching regulators. *See, e.g.,* J.A. 1199–1200, 1212, 1242 (discussing secondary considerations evidence related to the ’290 patent and U.S. Patent Nos. 7,072,190 and 7,272,021), 18052 (“[A]ll the ’290 Patent claims require

who testified that certain indicia of secondary considerations—e.g., commercial success, skepticism, widespread adoption, and industry praise—were due to aspects of IBA unrelated to switching regulators. See Declaration of Martin F. Schlecht, Sc.D., filed May 2, 2012 in Reexamination Control No. 95/001,861, ¶¶ 59, 61, 63, 109, 112, 114; J.A. 88 (citing J.A. 17246–47). We agree with the Board’s assessment that Dr. Schlecht’s testimony only ties the secondary considerations evidence to IBA converters without any discussion as to the significance of switching regulators, and thus there is no nexus.

SynQor’s arguments fail because it has not shown that its relied-on success, skepticism, adoption, or praise, etc., were a “direct result of the unique characteristics of the claimed invention”—in this case, were “attributable to the claimed *combination* of [prior art features], as opposed to, for example, prior art features in isolation or unclaimed features.” *Fox Factory*, 944 F.3d at 1373–74, 1378 (citation omitted). We do not discern any showing by SynQor on appeal before this court or in the Board proceeding that there was a nexus between its secondary considerations evidence and the claimed combination of features in the ’290 patent—i.e., an IBA converter using switching regulators. See Appellant’s Br. 68–74; J.A. 17416–19, 18050–53.⁷ The

the regulation stages to be switching regulators whereas the anticipated ’190 Patent claims and ’021 Patent claims are more broadly worded to allow all types of non-isolating regulation stages.”).

⁷ Before the Board, SynQor argued that it was entitled to a presumption of nexus, but it does not argue this now on appeal. J.A. 17417–18, 18052–53. Relatedly, SynQor argues for the first time in its reply brief that its secondary considerations evidence was “reasonably commensurate” with the claims of the ’290 patent. Appellant’s

only evidence before the Board was that the secondary considerations evidence was tied to aspects of IBA unrelated to switching regulators.

CONCLUSION

We have considered SynQor's remaining arguments and find them unpersuasive. For the foregoing reasons, substantial evidence supports the Board's fact findings that a skilled artisan would have been motivated to combine Steigerwald '090 and Pressman and SynQor's secondary considerations evidence lacks an adequate nexus with the '290 patent claims. We therefore *affirm* the Board's decision.

AFFIRMED

Reply Br. 31. SynQor did not make either of these arguments in its opening brief, and thus these arguments are waived. *See SmithKline Beecham Corp. v. Apotex Corp.*, 439 F.3d 1312, 1319 (Fed. Cir. 2006) (“[A]rguments not raised in the opening brief are waived.”).