

NOTE: This disposition is nonprecedential.

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

FOX FACTORY, INC.,
Appellant

v.

SRAM, LLC,
Appellee

2019-1544

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2017-01440.

Decided: May 18, 2020

ERIK R. PUKNYS, Finnegan, Henderson, Farabow, Garrett & Dunner, LLP, Palo Alto, CA, for appellant. Also represented by ARPITA BHATTACHARYYA, ROBERT F. MCCAULEY; JOSHUA GOLDBERG, DANIEL FRANCIS KLODOWSKI, Washington, DC.

RICHARD BENNETT WALSH, JR., Lewis Rice LLC, St. Louis, MO, for appellee. Also represented by MICHAEL HENRY DURBIN, MICHAEL JOHN HICKEY.

Before LOURIE, MAYER, and WALLACH, *Circuit Judges*.

LOURIE, *Circuit Judge*.

Fox Factory, Inc., appeals from a final written decision of the Patent Trial and Appeal Board (the “Board”), holding claims 1–26 of U.S. Patent 9,291,250 (the “250 patent”) not unpatentable as obvious. *Fox Factory, Inc. v. SRAM, LLC*, No. IPR2017-01440, (P.T.A.B. Dec. 6, 2018), Paper 62 (“*Decision*”). Because the Board’s fact findings are supported by substantial evidence and its conclusion of nonobviousness is correct, we *affirm*.

BACKGROUND

The parties to this appeal, Fox Factory and SRAM, LLC, are competitors in the bicycle market. Over the past decade, SRAM has introduced several improvements in bicycle design that have enabled it to market bicycles with a solitary chainring (the “X-Sync chainring”), a set-up previously thought to be too arduous for all but a few bicyclists. The solitary chainring set-up does not require the roller chain to switch between chainrings when the rider shifts gears, so the chainring can be optimized to fit snugly into the roller chain. In particular, a conventional roller chain has chain links that are alternately narrow and wide, so SRAM designed a chainring to have a standard set of teeth and a widened set to fit into the link spaces. SRAM’s X-Sync chainring has been extensively praised for its chain retention even in trying conditions. J.A. 5682–83.

SRAM has received numerous patents for its inventions relating to bicycles. The ’250 patent discloses that the standard bicycle chain has alternating inner and outer links, and the outer links have a much wider space in the center. Yet conventional chainrings have teeth that are the same size; thus, the teeth fit too loosely into the outer link spaces. The ’250 patent proposes a single chainring with alternating teeth, one conventional set that fits the inner

chain links and one widened set that fits the outer chain links—specifically disclosing that the widened set should fill 75% or more of the width of the outer chain links. Claim 1 is illustrative:

1. A bicycle chainring of a bicycle crankset for engagement with a drive chain, comprising:

a plurality of teeth extending from a periphery of the chainring wherein roots of the plurality of teeth are disposed adjacent the periphery of the chainring;

the plurality of teeth including a first group of teeth and a second group of teeth, each of the first group of teeth wider than each of the second group of teeth; and

at least some of the second group of teeth arranged alternately and adjacently between the first group of teeth,

wherein the drive chain is a roller drive chain including alternating outer and inner chain links defining outer and inner link spaces, respectively;

wherein each of the first group of teeth is sized and shaped to fit within one of the outer link spaces and each of the second group of teeth is sized and shaped to fit within one of the inner link spaces; and

wherein a maximum axial width about halfway between a root circle and a top land of the first group of teeth fills at least 80 percent of an axial distance defined by the outer link spaces.

'250 patent col. 6 l. 50—col. 7 l. 4.

SRAM asserted the '250 patent, along with its parent, U.S. Patent 9,182,027 (the "027 patent"), against Fox Factory and its subsidiary, Race Face Performance Products, in the United States District Court for the Northern District of Illinois. *See SRAM, LLC v. Race Face Performance*

Prods., No. 1-15-cv-11362 (N.D. Ill. Dec. 17, 2015), ECF No. 1; *SRAM, LLC v. Race Face Performance Prods.*, No. 1-16-cv-05262 (N.D. Ill. Dec. 17, 2015), ECF No. 1. The '027 patent also claims a bicycle chainring where every other tooth is widened, but the claims do not specify the degree to which these teeth are widened, and they also require the teeth to be offset.

Fox Factory petitioned for *inter partes* review of the '250 and '027 patents on the ground of obviousness. In the '250 patent IPR, Fox Factory cited a Japanese patent publication, JP S56-42489 ("Shimano"), and U.S. Patent 3,375,022 ("Hattan"). Shimano was laid open in 1981 and teaches a bicycle chainring with widened teeth to fit into the outer chain links of a conventional roller chain. J.A. 951–52. Hattan describes an elliptical chainring and discloses that the chainring's teeth should fill between 74.6% and 96% of the inner chain link space. *Id.* col. 7 ll. 52–65. Fox Factory contended that the '250 patent claims would have been obvious because a skilled artisan would have seen the utility in designing a chainring with widened teeth to improve chain retention, as taught by Shimano, and he would have looked to Hattan's teaching that the chainring teeth should fill between 74.6% and 96% of the chain link space.

In the '027 patent IPR, the Board held the challenged claims not unpatentable as obvious. *Fox Factory, Inc. v. SRAM, LLC*, 2018 WL 1889561, at *21 (P.T.A.B. Apr. 18, 2018). We vacated the Board's decision because it applied the wrong legal standard for evaluating the relevance of secondary considerations to obviousness. *Fox Factory, Inc. v. SRAM, LLC*, 944 F.3d 1366, 1373–78 (Fed. Cir. 2019). We noted the inconsistency of SRAM's arguing, in the '027 and '250 patent IPRs, for the nonobviousness of each patent based upon the same secondary considerations evidence. *See id.* at 1378 ("The same evidence of secondary considerations cannot be presumed to be attributable to two different combinations of features." (citing *Therasense*,

Inc. v. Becton, Dickinson & Co., 593 F.3d 1289, 1299 (Fed. Cir. 2010)).

Meanwhile, in the '250 patent IPR, the Board rejected Fox Factory's obviousness challenge, finding the claimed invention's "axial fill limitation"—that the widened teeth "fill[] at least 80 percent of [the width of] the outer link spaces" *at the midpoint of the tooth*—unmet by any of Fox Factory's evidence. The Board found instead that Hattan only taught filling between 74.6% and 96% of the width at the bottom of the tooth. *Decision*, slip op. at 34. The Board then found, after a thorough review of SRAM's evidence of secondary considerations, that SRAM's showing rebutted Fox Factory's argument that a skilled artisan nevertheless would have found it obvious to modify the chainring's teeth to meet the axial fill limitation. *Id.*, slip op. at 68–71.

Fox Factory timely appealed. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(4)(A).

DISCUSSION

We review the Board's legal determinations *de novo*, *In re Elsner*, 381 F.3d 1125, 1127 (Fed. Cir. 2004), but we review the Board's factual findings underlying those determinations for substantial evidence, *In re Gartside*, 203 F.3d 1305, 1316 (Fed. Cir. 2000). A finding is supported by substantial evidence if a reasonable mind might accept the evidence as adequate to support the finding. *Consol. Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938).

The sole issue presented in this appeal is obviousness. Obviousness is a question of law that "lends itself to several basic factual inquiries," *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966) (citing *Great Atl. & Pac. Tea Co. v. Supermarket Equip. Corp.*, 340 U.S. 147, 155 (1950)), including the scope and content of the prior art, the level of ordinary skill in the art, differences between the prior art and the claimed invention, and any relevant secondary considerations. *Id.* The Supreme Court has held 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.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). Instead, there must have been “an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *Id.* at 417–18. Such a reason exists if the claimed invention “simply arranges old elements with each performing the same function it had been known to perform’ and yields no more than one would expect from such an arrangement.” *Id.* (quoting *Sakraida v. Ag-Pro, Inc.*, 425 U.S. 273, 285 (1976)).

Fox Factory argues that the Board’s conclusion of non-obviousness is in error because the only difference between the prior art and the claimed invention is the degree to which the widened teeth should fill the outer chain link spaces, measured halfway up the tooth. Fox Factory further maintains that the Board misapplied our precedent on secondary considerations, erroneously granting SRAM a presumption of nexus between the claimed invention and evidence of the success of the X-Sync chainring. In particular, Fox Factory argues that various unclaimed aspects of the X-Sync chainring, such as its tall, asymmetric, and hooked teeth, were the real driver of its success.

SRAM responds that Fox Factory failed to provide any prior art that rendered the axial fill limitation obvious to a skilled artisan. It further contends that the Board correctly credited its evidence of secondary considerations because it found that the X-Sync chainring’s widened teeth were responsible for its success, and that is the novel feature of the claimed chainring.

We agree with SRAM. While Fox Factory is correct that “a mere change in proportion . . . involve[s] no more than mechanical skill,” rather than the level of invention required by 35 U.S.C. § 103, *Powers-Kennedy Contracting Corp. v. Conveying Co.*, 282 U.S. 175, 185 (1930), the Board

found that SRAM's optimization of the X-Sync chainring's teeth, as claimed in the '250 patent, displayed significant invention. It based its conclusion on secondary considerations that strongly indicated that the X-Sync chainring's success surprised skilled artisans. *Decision*, slip op. at 51–59 (discussing industry skepticism and subsequent praise, and long-felt need to solve chain retention problem); see also J.A. 5682 (awarding “Innovation of the Year” to SRAM for the X-Sync chainring and noting that “the entire concept can be related in a single phrase—[t]he chainring's teeth are shaped to match the widths of the chain links”). The Board did not err in concluding that such evidence defeated SRAM's contention of routine optimization.

We further reject Fox Factory's argument that our previous decision on the '027 patent necessarily requires vacatur here. In that case, this court held that the Board misapplied the legal requirement, incumbent upon patent owners, of showing a nexus between evidence of secondary considerations and the obviousness of the claims of that patent—in particular, the requirement that the product from which the secondary considerations arose is “co-extensive” with the claimed invention. *Fox Factory*, 944 F.3d at 1373–78. Contrary to the Board's view, we reaffirmed in that case that a product is not coextensive with a claimed invention simply because it falls within the scope of the claim.

In this IPR, SRAM argued to the Board that the >80% gap-filling aspect of the X-Sync chainring was crucial to its success. Given that concession, we concluded in our previous *Fox Factory* opinion—on the '027 patent—that no reasonable factfinder could decide that the X-Sync chainring was coextensive with a claim that made no mention of that feature. *Id.* at 1374 (“[B]ecause the independent claims of the '027 patent do not recite this >80% gap filling feature, the independent claims are not coextensive with the X-Sync chainrings.”). Thus, we vacated the Board's decision in the '027 patent IPR and remanded for the Board to

address obviousness consistent with the law we have set forth on the presumption of nexus. *Id.* at 1380.

But the critical facts differ in this case—most obviously in that the '250 patent claims recite the >80% axial fill limitation. The unclaimed features that Fox Factory alleges contributed to the X-Sync chainring's success—the general concept of narrow-wide teeth that existed in the art and the hooks and protrusions of the teeth on the X-Sync chainring—are to some extent incorporated into the >80% axial fill limitation. *See, e.g., Decision*, slip op. at 43–44, 54. Fox Factory also does not attach any particular significance to the teeth offset feature claimed in the '027 patent, and the record does not reflect that it was significant.

We conclude that, whether or not the Board properly allocated the burden of showing or rebutting nexus, substantial evidence supports its findings on secondary considerations, particularly the skepticism and later praise of industry and long-felt need. We also conclude that substantial evidence supports the Board's determination of nexus, based on its finding that the X-Sync chainring's success is largely due to its teeth profile, which is “essentially the claimed invention,” *see Fox Factory*, 944 F.3d at 1374, of the '250 patent. On this record, it makes no difference that the patent owner chose to claim those innovations in terms of how much of the outer chain link space is filled by the widened teeth. In view of the Board's findings on secondary considerations, we agree with its conclusion that the '250 patent claims would not have been obvious.

CONCLUSION

We have considered the parties' remaining arguments but find them unpersuasive. For the foregoing reasons, the decision of the Board is

AFFIRMED