United States Court of Appeals for the Federal Circuit

SHOES BY FIREBUG LLC,
Appellant

v.

STRIDE RITE CHILDREN'S GROUP, LLC,
Appellee

2019-1622, 2019-1623

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Nos. IPR2017-01809, IPR2017-01810.

Decided: June 25, 2020

WILLIAM ALCIATI, Gardella Grace PA, Washington, DC, for appellant.

GAETAN GERVILLE-REACHE, Warner Norcross & Judd LLP, Grand Rapids, MI, for appellee. Also represented by ROBERT MICHAEL AZZI.

Before LOURIE, MOORE, and O'MALLEY, *Circuit Judges*.

LOURIE, *Circuit Judge*.

Shoes by Firebug LLC ("Firebug") appeals from two final written decisions of the United States Patent and Trademark Office Patent Trial and Appeal Board ("the Board") holding claims 1–10 of U.S. Patent 8,992,038 ("'038 patent") and claims 1–10 of U.S. Patent 9,301,574 ("'574 patent") unpatentable as obvious. *See Stride Rite Children's Grp., LLC v. Shoes by Firebug LLC*, No. IPR2017-01809, 2019 WL 236242 (P.T.A.B. Jan. 16, 2019) ("*-1809 Decision*"); *Stride Rite Children's Grp., LLC v. Shoes By Firebug LLC*, No. IPR2017-01810, 2019 WL 237069 (P.T.A.B. Jan. 16, 2019) ("*-1810 Decision*"). Because the Board did not err in its conclusion that the claims would have been obvious over the prior art, we affirm.

BACKGROUND

Firebug owns the '038 and '574 patents (collectively the "Firebug patents"), which are generally directed to illumination systems for footwear. '038 patent col. 1 ll. 10–12.[1] According to the patents, while light-up shoes are not new to the footwear industry, there is a wide variety of structural designs for illuminated footwear. In some designs, the light sources are external to the footwear, while in others the lights are integrated into the shoes. The Firebug patents purport to disclose an improved structure for internally illuminated footwear. The patents describe footwear comprising a sole and an upper portion having three layers—a liner, which is the innermost layer, an interfacing layer, and a light-diffusing layer. *Id*. col. 2 l. 45–col. 3 l. 8. The light sources are connected to the interfacing layer between the interfacing layer and the light diffusing layer. *Id*. col. 2 l. 65–col. 3 l. 1. The interfacing layer is a reflective layer that maximizes the amount of light that exits through the light-diffusing layer and is ultimately visible

[1] Because the '038 and '574 patents share a substantially identical written description, all citations are to the '038 patent unless specified otherwise.

to an observer. *Id*. col. 3 ll. 3–5. Claim 1 of the '038 patent is illustrative:

> 1. An internally illuminated *textile* footwear comprises:
>
> *a footwear*;
>
> the footwear comprises a sole and an upper;
>
> an illumination system;
>
> the illumination system comprises a power source and a plurality of illumination sources;
>
> a liner;
>
> a structure;
>
> the structure comprises an interfacing layer and a batting;
>
> the structure being adjacently connected to the upper;
>
> the structure being positioned between the liner and the upper;
>
> the interfacing layer being positioned adjacent to the liner;
>
> the batting being adjacently connected to the interfacing layer opposite the liner;
>
> the interfacing layer being reflective;
>
> the batting being light diffusing;
>
> the plurality of illumination sources being adjacently connected to the interfacing layer;
>
> the plurality of illumination sources being positioned between the interfacing layer and the batting;

> the upper being perimetrically connected to the sole;
>
> the liner being positioned interior to the upper;
>
> the upper being light diffusing;
>
> the illumination system being housed within the footwear;
>
> the plurality of illumination sources emitting light, wherein the light first entering the batting and being diffused by the batting, the light diffused by the batting exits the batting, enters the upper, diffused again by the upper and then exits the upper, the twice diffused light creating a visual impression of internal radiant illumination across an outer surface area of the upper.

'038 patent col. 7 ll. 26–57 (emphasis added).

Claim 1 of the '574 patent recites similar subject matter, with slight differences relevant to this appeal.

> 1. An internally illuminated *textile* footwear comprises:
>
> a sole and an upper;
>
> an illumination system;
>
> the illumination system comprises a power source and a plurality of illumination sources;
>
> a liner;
>
> an interfacing layer;
>
> the interfacing layer being adjacently connected to the upper;
>
> the interfacing layer being positioned between the liner and the upper;

> the plurality of illumination sources being adjacently connected to the interfacing layer;
>
> the plurality of illumination sources being positioned between the interfacing layer and the upper;
>
> the upper being perimetrically connected to the sole;
>
> the liner being positioned interior to the upper;
>
> the upper being a light diffusing section;
>
> the illumination system being housed within *the footwear*; and
>
> the plurality of illumination sources emitting light, wherein the light enters the light diffusing section, then exits the upper as diffused light, creating a visual impression of internal radiant illumination across an outer surface of the upper.

'574 patent col. 9 l. 47–col. 10 l. 5 (emphasis added).

Stride Rite Children's Group, LLC ("Stride Rite") is a competitor to Firebug in the children's footwear market. Firebug asserted the '038 and '574 patents against Stride Rite in the United States District Court for the Eastern District of Texas. *See* Complaint, *Shoes by Firebug LLC v. Stride Rite Children's Grp., LLC*, No. 4:16-cv-00899 (E.D. Tex. Nov. 22, 2016), ECF No. 1. Stride Rite in response filed petitions for *inter partes* review of claims 1–10 of the '038 patent and claims 1–10 of the '574 patent, alleging that the challenged claims would have been obvious over U.S. Patent 5,894,686 ("Parker") in view of U.S. Patent App. Pub. 2011/0271558 ("Rosko") and other references.

Parker teaches a light distribution system for use on the upper portion of a shoe and discloses a layer of woven or non-woven optical fibers disposed on a "back reflector," which reflects light from the optical fibers back through the outer layer of the shoe. Parker, col. 4 ll. 18–34. Rosko

discloses a multi-layered lighting panel for footwear that uses an array of light-emitting diodes disposed in a "light diffuser" for illumination. Rosko ¶ 23. Stride Rite contended that the challenged claims would have been obvious because a skilled artisan would have substituted Parker's fragile optical fiber layer with Rosko's LED-based light diffuser to reduce cost and improve the structural integrity of the footwear.

The Board instituted trial on both petitions and issued a final written decision in each proceeding concluding that the challenged claims are unpatentable as obvious. In both decisions, the Board determined that the preamble of claim 1 of each of the Firebug patents, which is the only independent claim at issue in each IPR, does not limit the challenged claims. *-1809 Decision*, 2019 WL 236242, at *6; *-1810 Decision*, 2019 WL 237069, at *8. The Board concluded that the references otherwise render the challenged claims obvious and the disclosure of the references is not outweighed by Firebug's evidence of secondary considerations of nonobviousness. *-1809 Decision* at *23–24; *-1810 Decision* at *24.

Firebug timely appealed the Board's decisions. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

DISCUSSION

Firebug presents two principal arguments on appeal. First, it argues that the Board erred in determining that the preambles of claim 1 of both the '038 and '574 patents do not limit the claims. Second, it argues that the Board erred in concluding that the challenged claims would have been obvious in light of the prior art and Firebug's evidence of secondary considerations of nonobviousness. We address Firebug's arguments in turn.

I. Claim Construction

"Claim construction is a question of law that may involve underlying factual questions." *Amgen Inc. v. Amneal*

Pharm. LLC, 945 F.3d 1368, 1375 (Fed. Cir. 2020) (citing *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 574 U.S. 318, 332 (2015)). Where, as here, the lower tribunal's construction is based solely on evidence intrinsic to the patent, we review the construction *de novo*. *Shire Dev., LLC v. Watson Pharm., Inc.*, 787 F.3d 1359, 1364 (Fed. Cir. 2015) (citing *Teva*, 574 U.S. at 330–33).

Firebug argues that the Board erred in determining that the preamble of claim 1 of each of the Firebug patents, which recites "[a]n internally illuminated textile footwear comprises," does not limit the claims. Specifically, Firebug argues that the preamble limits the scope of the claims to "textile footwear." According to Firebug, when the preamble's requirement of textile footwear is read together with the claims' limitation that the upper is light diffusing, the claims necessarily require that the light diffusing portion of the upper—that is, the portion of the outermost layer of the footwear that is illuminated—be textile. Firebug argues that neither Parker nor Rosko disclose internally illuminated footwear having a textile light diffusing layer and therefore the references do not render the claims obvious.

Stride Rite responds that the preambles do not limit any of the challenged claims because the bodies of the claims recite structurally complete articles, and the preamble merely states an intended use of the claimed structure. However, according to Stride Rite, even if the preambles do limit the claims to require textile footwear, the Board's claim construction error was harmless because the Board alternatively found that the prior art discloses footwear with a textile upper, and that finding is supported by substantial evidence.

Whether a claim preamble is considered to be a limiting part of the claim matters, inter alia, because, if it is not, the scope of the claim is broader, but the claim is vulnerable to more potentially-invalidating prior art. Here, we agree with Firebug that the preamble of claim 1 of the '574

patent is limiting but conclude that the preamble of claim 1 of the '038 patent is not. However, we agree with Stride Rite that even though the preamble is limiting with respect to the challenged claims of the '574 patent, the Board's alternative determination that the references nevertheless disclose the limitation is supported by substantial evidence. Thus, our conclusion does not upset the Board's overall conclusion of obviousness.

"Whether to treat a preamble as a limitation is a determination 'resolved only on review of the entire[] . . . patent to gain an understanding of what the inventors actually invented and intended to encompass by the claim.'" *Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002) (quoting *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257 (Fed. Cir. 1989)) (alterations in original). "In general, a preamble limits the invention if it recites essential structure or steps, or if it is 'necessary to give life, meaning, and vitality' to the claim." *Id.* (quoting *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999)). "Conversely, a preamble is not limiting 'where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention.'" *Id.* (quoting *Rowe v. Dror*, 112 F.3d 473, 478 (Fed. Cir. 1997)). "No litmus test defines when a preamble limits claim scope," *id.* (citing *Corning Glass*, 868 F.2d at 1257), but "dependence on a particular disputed preamble phrase for antecedent basis may limit claim scope because it indicates a reliance on both the preamble and claim body to define the claimed invention." *Id.* (citing *Bell Commc'ns Research, Inc. v. Vitalink Commc'ns Corp.*, 55 F.3d 615, 620 (Fed. Cir. 1995)).

We conclude that the body of claim 1 of the '038 patent recites a structurally complete invention, and therefore the preamble's recitation of an "internally illuminated textile footwear" is merely an intended purpose that does not limit the claims. Notably, the first limitation of the body of

claim 1 of the '038 patent reintroduces "a footwear" which "comprises a sole and an upper." The preamble, then, cannot be said to provide essential structure or necessary meaning to the claimed invention because the same element—the footwear—is independently recited in the body of the claim. The body does not go on to expressly impose any further limitation on the footwear requiring use of a specific material, nor is a requirement of textile footwear implicitly necessary to the invention. Indeed, the written description itself discloses numerous materials other than textile suitable for footwear manufacture, including "leather, synthetics, [and] plastics." '038 patent col. 1 ll. 18–19.

Firebug argues that the written description treats the use of textile footwear as an important aspect of the disclosure, and therefore the recitation of "textile footwear" in the preamble should be treated as limiting. The written description explains that "[t]he present invention focuses on the adoption and improvement of internally illuminated footwear . . . by providing a light diffusing textile upper." '038 patent col. 1 ll. 37–39. In addition to the general disfavor of importing language from the written description into the claims, *see SuperGuide Corp. v. DirecTV Enters., Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004), we disagree with Firebug that the use of textile footwear is essential to realizing the stated purpose of the invention. Internal illumination is achieved by the multilayer design recited in the claims in which the light sources are integrated into the footwear between the interior interfacing layer and the exterior light diffusing layer. Of course, the light diffusion layer must be light permeable to allow light to escape the footwear, but this suggests that light permeability, not the use of a particular material, is the critical characteristic of the upper.

The written description and the body of claim 1 accord with this understanding. The patent explains that "[t]extile materials . . . are just one possible material type which

can be used for the light diffusing section," '038 patent col. 4 ll. 46–50, and the body of claim 1 requires only that "the upper be[] light diffusing" without limiting the scope of the claim to a particular material. *Id.* col. 7 ll. 49. Accordingly, because the body of claim 1 of the '038 patent recites a structurally complete article and the use of textile material is not otherwise necessary to the claimed invention, we conclude that the preamble of claim 1 does not limit claims 1–10 of the '038 patent.

Unlike claim 1 of the '038 patent, claim 1 of the '574 patent does not reintroduce "footwear" in the body of the claim but instead relies on the instance of "footwear" introduced in the preamble for "antecedent basis." Claim 1 of the '574 patent recites an illumination system comprising "a power source and a plurality of illumination sources." The first and only reference to footwear in the body of claim 1 appears in a limitation describing the configuration of the illumination system ("the illumination system being housed within the footwear") and relies on the footwear recited in the preamble for an antecedent basis for further limitations in the claim. While antecedent basis alone is not determinative of whether a preamble is limiting, use of preamble terms to define positive limitations in the body of claims can evince an inventor's intent that the preamble limit the scope of the claim. That is the case here. Because the claim requires that the illumination system be housed in the textile footwear recited in the preamble, the preamble is essential to understanding the structural limitations of the illumination system. Accordingly, rather than merely reciting an intended purpose of the claimed invention, we conclude that the preamble of claim 1 of the '574 patent limits the scope of claims 1–10 of the '574 patent to require the use of a textile upper.

However, although the Board erred in omitting the preamble from its claim construction of the '574 patent, we conclude that the Board's alternative fact findings that the references disclose the use of textile footwear are supported

by substantial evidence and that the Board's error was therefore harmless. *See In re Watts*, 354 F.3d 1362, 1369 (Fed. Cir. 2004) ("[T]he harmless error rule applies to appeals from the Board.") (citing *In re McDaniel*, 293 F.3d 1379, 1385–86 (Fed. Cir. 2002); *Gechter v. Davidson*, 116 F.3d 1454, 1457 (Fed. Cir. 1997)). The Board noted that although it did not construe the preamble as limiting, Rosko "suggests using a woven, porous material in a light diffusing, internally illuminated part of footwear." *-1810 Decision*, 2019 WL 237069, at *8 n.16. Specifically, Rosko suggests constructing its display panel from a woven, porous material—such as textile—and provides a rationale for doing so: according to Rosko, "[s]uch material would further assist in diffusing light because its porosity would tend to spread, disperse, and diffuse light." Rosko ¶ 22. We note also that the '574 patent itself acknowledges that textiles have been used in the production of footwear "over many decades." '574 patent col. 1 ll. 19–22. The disclosure of Rosko and statements of the '574 patent constitute substantial evidence supporting the Board's determination that the use of a textile light diffusing section would have been obvious. Thus, although we agree with Firebug that the preamble of claim 1 of the '574 patent limits the challenged claims to require textile footwear, we conclude that the Board's ultimate conclusion of obviousness is correct under the proper claim construction and that the Board's error was therefore harmless.

II. 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.* "We review the PTAB's factual findings for substantial evidence and its legal conclusions *de novo*."

Redline Detection, LLC v. Star Envirotech, Inc., 811 F.3d 435, 449 (Fed. Cir. 2015) (citing *Rambus Inc. v. Rea*, 731 F.3d 1248, 1251 (Fed. Cir. 2013)). 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). "If two 'inconsistent conclusions may reasonably be drawn from the evidence in record, the PTAB's decision to favor one conclusion over the other is the epitome of a decision that must be sustained upon review for substantial evidence.'" *Elbit Sys. of Am., LLC v. Thales Visionix, Inc.*, 881 F.3d 1354, 1356 (Fed. Cir. 2018) (quoting *In re Cree, Inc.*, 818 F.3d 694, 701 (Fed. Cir. 2016) (internal brackets omitted)).

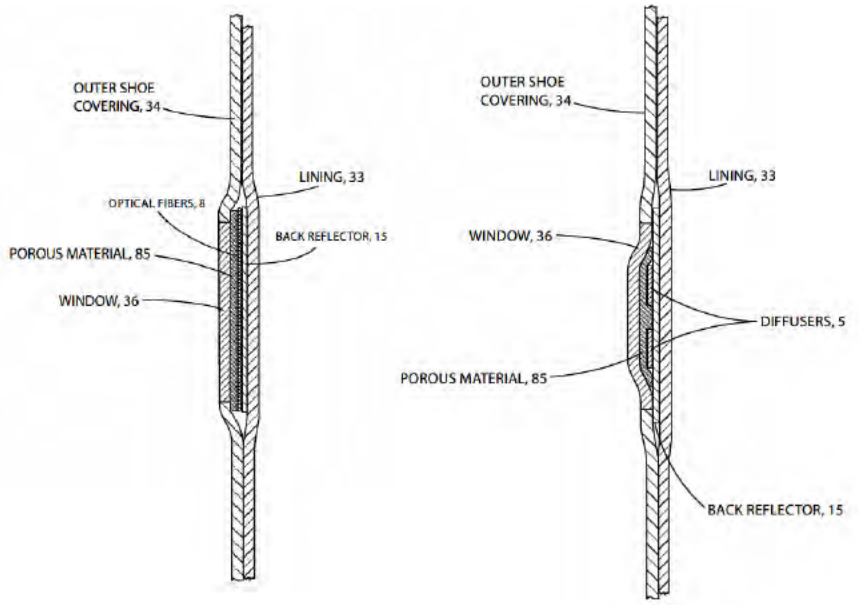
A. "Interfacing layer"

Independent of its claim construction argument, Firebug also challenges the Board's conclusion that the claims otherwise would have been obvious over the references. Specifically, Firebug argues that the combination of Parker and Rosko fails to disclose the claimed interfacing layer because the "back reflector" of Parker is a permanently fixed coating of Parker's optical fibers and would not be retained if the optical fibers were replaced by Rosko's LEDs, as proposed by Stride Rite.

Stride Rite counters that the Board's determination that the combination of Parker and Rosko discloses the interfacing layer is supported by substantial evidence. Stride Rite points to the testimony of its expert, Lenny Holden, that a skilled artisan would have substituted Rosko's LEDs for the optical fibers of Parker, resulting in the claimed structure.

We agree with Stride Rite that the Board's conclusion is supported by substantial evidence. The challenged claims require that the interfacing layer be "adjacently connected" to the light diffusing layer, with the illumination sources positioned between the two layers. '038 patent col. 7 ll. 39–40; '574 patent col. 9 ll. 55–56. Parker's back

reflector is not adjacently connected to a light diffusing layer opposite the illumination source because the optical fibers form a solid layer separating the back reflector from the outer layer of the footwear. To demonstrate that the limitation nonetheless would have been obvious, Stride Rite in its petitions proposed replacing the optical fiber layer of Parker with the light diffusers of Rosko, which use discrete LEDs as a light source. J.A. 2030–32; 2082–84. Stride Rite offered the following illustrations depicting a cross-sectional view of the disclosed structure of Parker and Stride Rite's proposed modifications:



According to Stride Rite, the use of discrete LEDs (denoted as "Diffusers, 5" in the above illustration) would create space between the light sources in which the back reflector (i.e. the interfacing layer) would be "adjacently connected" to the light diffusing layer. In support of its proposed modification, Stride Rite cited to the declaration of Holden, who opined that replacing the optical fibers of Parker with Rosko's LEDs would "increase the durability

of the shoe in Parker and decrease material costs." J.A. 2607 ¶ 87.

In its response, Firebug argued that Parker's back reflector is an optical layer associated with the optical fibers that would have no function in the absence of the optical fibers and that there would be no reason to retain Parker's back reflector because the light diffusers of Rosko already include a reflective sheet. J.A. 2926–27.

After weighing the parties' positions, the Board determined that Stride Rite's proposed combination of Parker and Rosko accounted for the claimed interfacing layer and that Stride Rite had articulated sufficient reasons to combine the known elements in the claimed arrangement. *-1809 Decision*, 2019 WL 236242, at *23; *-1810 Decision*, 2019 WL 237069, at *24.

Firebug argues that we must reverse the Board because its finding is not supported by substantial evidence. We disagree. The Board was presented with two alternative theories as to whether a skilled artisan would or would not have substituted Rosko's LEDs for Parker's optical fibers as proposed by Stride Rite. Our task is not to determine which theory we find more compelling. "[I]t is not for us to second-guess the Board's assessment of the evidence." *Velander v. Garner*, 348 F.3d 1359, 1378 (Fed. Cir. 2003). Rather, the only question before us is whether the conclusion adopted by the Board is supported by substantial evidence. Here, we conclude that it is.

Parker and Rosko both suggest that LEDs would be a suitable alternative for optical fibers. Parker discloses LEDs as one possible light source for its optical fibers, Parker, col. 4 ll. 63–64, while Rosko explains that, although its light source "is typically a light-emitting diode . . . any source of light may be used such as . . . optic fiber." Rosko ¶ 23. And as noted by the Board, Holden explained that at the time of the invention optical fibers were known to be more expensive than LEDs and that the use of LEDs would

result in more durable footwear. As to the back reflector, the Board credited Holden's testimony that a person of skill would have retained the back reflector for use with the substituted LEDs "to maximize the distribution of light." J.A. 2604 ¶ 83. This testimony accords with the disclosure of Parker, which explains that the purpose of the back reflector is to redirect light back through the light source "such that light is emitted from only the front side of the light emitting portion." Parker, col. 4 ll. 30–34. Based on the disclosure of the references and Holden's testimony, we conclude that the Board's determination that a skilled artisan would have been motivated to combine Parker and Rosko in the manner proposed by Stride Rite, and that the combination discloses the claimed limitations of the interfacing layer, is supported by substantial evidence.

None of Firebug's arguments on appeal demonstrate otherwise. First, Firebug argues that, because Parker's back reflector is a coating of the optical fibers, the reflector is coextensive with the light source. Thus, according to Firebug, if the optical fibers were replaced with discrete LEDs, the back reflector would similarly coextend with the LEDs themselves and would not extend beyond or between the light sources to be "adjacently connected" to the light diffusing layer. Appellant's Br. 46–47. Ultimately, Firebug's argument improperly asks us to perform fact-finding. We are not in a position to evaluate the correctness of Firebug's argument, but rather must determine whether the Board's conclusion was supported by the evidence presented. Holden testified that a skilled artisan would have been motivated to retain Parker's back reflector for the reasons discussed above and presented a modified structure in which the back reflector extended beyond and between the individual LEDs. Further, Figure 2 of Parker illustrates the illumination section—including its associated back reflector—extending beyond the viewing window through which reflected light would be visible. In light of this evidence, the Board's determination that a person of skill

would be motivated to retain the back reflector in its general size and shape when Rosko's LEDs are substituted for Parker's optical fibers is not unreasonable.

Second, Firebug argues that the Board improperly disregarded its argument, supported by the declaration of Firebug's owner and the named inventor Roy Smith, that Stride Rite's modified structure would not survive the "lasting" process—the process in which upper material is formed into the shape of a shoe—because the back reflector would be too weak. Appellant's Br. 49–51. On the contrary, the Board considered the argument but found it unpersuasive because it was predicated on Firebug's contention that the reflective layer would be made of a thin layer "such as foil." *-1809 Decision*, 2019 WL 236242, at *18; *-1810 Decision*, 2019 WL 237069, at *18. The Board also discounted Smith's testimony because he "had not experimented with foil, admitted that lasting forces can be applied by hand, and admitted that components that are glued together can survive the lasting process." *Id.* Additionally, Holden testified that Stride Rite's proposed modification would in fact increase the durability of the footwear. J.A. 2607 ¶ 87. The Board was within its discretion to weigh the credibility of expert testimony, *see Yorkey v. Diab*, 601 F.3d 1279, 1284 (Fed. Cir. 2010) (citing *Velander*, 348 F.3d at 1371), and Firebug has not otherwise demonstrated that the Board's determination is unsupported by substantial evidence.

B. Secondary Considerations

Firebug also argues that the Board improperly failed to consider certain portions of Firebug's evidence of secondary considerations of nonobviousness. Specifically, Firebug argues that the Board erred by failing to consider two license agreements that include the '038 and '574 patents as well as the testimony of Ralph Shanks, who negotiated the licenses on behalf of the licensee. According to Firebug, the licenses and associated testimony from Shanks establish a

nexus between Firebug's products and the challenged claims, which the Board otherwise found lacking. Appellant's Br. 57.

Stride Rite responds that even if nexus is presumed between Firebug's products and the challenged claims, the Board's determination that Firebug's evidence of secondary considerations is entitled to little weight is supported by substantial evidence.

We agree with Stride Rite. The agreements presented by Firebug license eight patents, two patent applications, and one trademark to APTC LLC. J.A. 2858–79. Because the licenses include numerous intellectual property rights in addition to the '038 and '574 patents, the agreements on their face do not establish a nexus between the commercial interest in Firebug's products and the claims of the '038 and '574 patents. To remedy this deficiency, Firebug relies on the testimony of Shanks, who negotiated the license on behalf of APTC, that "[i]t was the ability of the Firebug shoes to illuminate from within that served as the primary driver for the license agreement." J.A. 2180 ¶9. However, we need not determine whether the Board erred in determining that Firebug had not established nexus because the Board alternatively found that, even if nexus is presumed, Firebug's evidence of secondary considerations is weak, and that conclusion is supported by substantial evidence.

Before the Board, Firebug primarily argued that evidence of industry praise, commercial success, and copying supports a conclusion of nonobviousness. Firebug's evidence of industry praise rested primarily on declarations from Paul Barcroft, a Firebug salesman and shoe-industry veteran, and Smith, owner of Firebug and named inventor of the challenged patents. The Board struck Barcroft's declaration because he refused to be deposed and determined that Smith's testimony was entitled to little weight because it comprised only characterizations by the inventor of statements of industry reaction allegedly reported to him

by others. *-1809 Decision*, 2019 WL 236242, at *21; *-1810 Decision*, 2019 WL 237069, at *21. Smith also testified that C.P. International, a footwear manufacturer and Firebug licensee, reported $1.3 million in sales of Firebug's products in 2014. The Board similarly discounted the weight given to this evidence because Smith admitted that the figure includes products not covered by the challenged patents. *-1809 Decision* at *22; *-1810 Decision* at *22. Finally, the Board gave little weight to Firebug's proffered evidence of copying because it did not demonstrate that Stride Rite had access to a sample of Firebug's boot that it could reverse engineer. *-1809 Decision* at *23; *-1810 Decision* at *23.

Given the weakness of the evidence considered by the Board, the two license agreements argued by Firebug on appeal have little impact on the overall weighing of secondary considerations. The licenses include trademarks and patents other than the challenged patents, and the only evidence offered by Firebug to tie the agreements to the claimed features is Shanks's testimony of comments allegedly made to him by various industry representatives. Accordingly, we conclude that the license agreements are entitled to limited weight and, weighing Firebug's evidence of secondary considerations of nonobviousness, we discern no error in the Board's ultimate conclusion of obviousness.

CONCLUSION

We have considered Firebug's remaining arguments but find them unpersuasive. For the foregoing reasons, the decisions of the Board are affirmed.

AFFIRMED