

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

STRIDE RITE CHILDREN'S GROUP, LLC,
Petitioner,

v.

SHOES BY FIREBUG LLC,
Patent Owner.

Case IPR2017-01810
Patent 9,301,574 B2

Before BRYAN F. MOORE, MATTHEW R. CLEMENTS, and
TERRENCE W. McMILLIN, *Administrative Patent Judges*.

McMILLIN, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. §318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

Stride Rite Children’s Group, LLC (“Petitioner”) filed a Petition (Paper 1, “Pet.”) seeking *inter partes* review of claims 1–10 of U.S. Patent No. 9,301,574 B2 (Ex. 1001, “the ’574 patent”). Patent Owner, Shoes by Firebug LLC, filed a Preliminary Response to the Petition. Paper 9 (“Prelim. Resp.”). We instituted this review. Paper 10 (“Inst. Dec.”).

Subsequent to institution, Patent Owner filed a Patent Owner Response. Paper 18 (“Resp.”). Petitioner filed a Reply. Paper 28 (“Reply”). Patent Owner filed a Sur-Reply. Paper 47¹ (“Sur-Reply”). An oral hearing was held on November 7, 2018. Paper 64 (“Tr.”).

This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a). For the reasons that follow, Petitioner has demonstrated by a preponderance of the evidence that claims 1–10 of the ’574 patent are unpatentable.

A. *Related Matters*

The parties inform us that the ’574 patent is the subject of two district court proceedings in the Eastern District of Texas, captioned *Shoes by Firebug LLC v. Stride Rite Children’s Group, LLC*, No. 4:16-cv-00899 (E.D. Tex.) and *Shoes by Firebug LLC v. Target Corp.*, No. 4:17-cv-00612 (E.D. Tex.). Pet. 1; Paper 15, 2.

The ’574 patent is the subject of a reissue application, US Application No. 15/944,288, filed April 3, 2018. Paper 15, 2. Patent Owner filed a

¹ Paper 47 contains redactions. A confidential version of Patent Owner’s Sur-Reply without redactions was filed as Paper 46. Patent Owner filed a Motion to Seal portions of its Sur-Reply. Paper 45. We granted this motion. Paper 65.

Motion to Stay Proceedings in Pending Reissue Application. Paper 16. Petitioner did not file a response to this Motion. An Order granting this motion and staying examination of the reissue application was entered. Paper 23.

Petitioner also filed a petition seeking *inter partes* review of U.S. Patent No. 8,992,038 B2, from which the '574 patent claims priority as a continuation.² Ex. 1001, (63). Pet. 2; *see* Case IPR2017-01809.

B. Pending Motions

1. Petitioner's Motion to Strike the Declaration of Paul Barcroft

Petitioner filed, "Petitioner's Motion to Strike the Declaration of Paul Barcroft." Paper 38. Patent Owner filed a Response in opposition to the motion (Paper 40) and Petitioner filed a Reply in support of the motion (Paper 49). For the reasons stated below, the motion is granted.

The Declaration of Paul Barcroft (Ex. 2003) was filed by Patent Owner in support of the Response and is cited and quoted from repeatedly in the Response. Resp. 2, 15–19, 52–53, 55–58. Patent Owner also cited and quoted from the Barcroft Declaration in its Sur-Reply. Sur-Reply 27.

Mr. Barcroft refused to sit for an in-person deposition and Patent Owner requested that Petitioner's deposition of Mr. Barcroft be conducted by written questions. Ex. 2039 (July 10, 2018, Teleconference Transcript),

² The Petition states, "[t]hough filed and examined as a continuation application, the '574 patent was filed with new matter spanning from 7:23 to 9:41." Pet. 2. Patent Owner does not address this issue, and we need not determine whether the portion Petitioner alleges to be so is new matter, for purposes of determining the issues in this *inter partes* review.

4–6. Petitioner was unwilling to agree to Patent Owner’s proposal to have Mr. Barcroft answer written questions in lieu of an in-person deposition. *Id.* at 6. A teleconference was held with the Board and attorneys for the parties and a transcript of that teleconference was entered into the record. *See id.* The Board denied the request to conduct the deposition by written questions and ordered that “if Patent Owner fails to produce Paul Barcroft for in-person deposition on or before July 26, 2018, Petitioner is authorized to file a motion to strike the deposition of Paul Barcroft and the portions of the Patent Owner Responses that rely thereon.” Paper 24, 4. Mr. Barcroft was not produced for an in-person deposition and this motion was filed. *See* Paper 38, 1.

The right to cross-examine an adversarial witness is a long-standing and vital feature of the law in all cases including administrative actions. *Greene v McElroy*, 360 U.S. 474, 497 (1959). The Supreme Court has held that “[i]n almost every setting where important decisions turn on questions of fact, due process requires an opportunity to confront and cross-examine adverse witnesses.” *Goldberg v. Kelly*, 397 U.S. 254, 269 (1970). The Administrative Procedure Act provides, “[a] party is entitled . . . to conduct such cross-examination as may be required for a full and true disclosure of the facts.” 5 U.S.C. § 556(d). 37 C.F.R. § 42.51(b)(1)(ii) provides for “[c]ross examination of affidavit testimony prepared for this proceeding.”

The only justification provided for the failure to produce Mr. Barcroft for an in-person deposition was that “he is concerned this may be damaging to future career opportunities with respect to Wolverine^[3] and Stride Rite.”

³ Wolverine World Wide, Inc. is Petitioner’s parent company. Pet. 1.

See Paper 24, 2–3. There is no evidence that Mr. Barcroft was threatened by Petitioner or anyone else. Ex. 2039, 11. Patent Owner did not submit any evidence to support its request that Mr. Barcroft’s deposition be limited to written questions. *See generally* Paper 40 (Patent Owner’s Response to Petitioner’s Motion to Strike the Declaration of Paul Barcroft).

As the proponent of the testimony, Patent Owner must make Mr. Barcroft available for cross-examination as a matter of routine discovery. 37 C.F.R. § 42.51. Although Patent Owner offered to make Mr. Barcroft available for written questions, we are not persuaded that Mr. Barcroft’s concerns about future career opportunities justify depriving Petitioner of the opportunity to cross-examine Mr. Barcroft in person. Accordingly, Petitioner’s Motion to Strike the Barcroft Declaration is *granted*. Mr. Barcroft’s declaration testimony is stricken from the record, and we shall accord no weight to the statements and arguments made by Patent Owner in reliance upon Mr. Barcroft’s testimony.

2. Petitioner’s Motion to Exclude

Petitioner filed Petitioner’s Motion to Exclude, directed to portions of Exhibit 2042, the Declaration of Ralph Shanks. Paper 42.⁴ Patent Owner

⁴ Petitioner filed its Motion to Exclude as “Parties and Board Only,” and filed a redacted version (Paper 43), but did not file an accompanying Motion to Seal. Patent Owner filed its Opposition (Paper 53) as “Parties and Board Only,” and filed a redacted version (Paper 54), and filed a Motion to Seal its Opposition (Paper 52). Petitioner filed its Reply in support of its Motion to Exclude as “Parties and Board Only” (Paper 56) and filed a redacted version (Paper 57), but again did not file a Motion to Seal. Petitioner should have filed a Motion to Seal with its Motion to Exclude. However, because it is Patent Owner’s confidential information at stake in Petitioner’s Motion to

filed an opposition to the motion (Paper 53) and Petitioner filed a Reply in support of the motion (Paper 56). As movant, Petitioner has the burden of proof to establish that it is entitled to the requested relief. *See* 37 C.F.R. § 42.20(c). For the reasons stated below, the motion is denied.

Petitioner moves to exclude (1) paragraphs 5–10 of the Declaration of Ralph Shanks (Exhibit 2042) under Federal Rules of Evidence 801 and 802 as containing inadmissible hearsay to which no relevant exception applies (Paper 42, 1–7); and (2) paragraphs 4 and 11 of the Declaration of Ralph Shanks (Exhibit 2042) because they are outside the agreed-upon scope of the Declaration of Ralph Shanks (Paper 42, 7–8).

Patent Owner opposes, arguing that Mr. Shanks’ testimony either (1) is not an out-of-court statement, but merely an observation by Mr. Shanks; or (2) is not offered for the truth of the matter asserted, but as “evidence of industry praise.” Paper 53, 2–8. Patent Owner also argues that Mr. Shanks’ testimony is admissible under the residual hearsay exception. *Id.* at 9–11. With respect to paragraphs 4 and 11, Patent Owner argues that they “are relevant to establish the nexus between the licenses and the claimed features.” *Id.* at 10–11.

In Reply, Petitioner acknowledges that out-of-court statements that show industry praise, such as newspaper articles and press releases, have been deemed admissible in some instances, but argues that those are distinct from Mr. Shanks’ testimony describing allegedly favorable reactions from

Exclude, we address Petitioner’s papers (Papers 42 and 56), as well as Patent Owner’s opposition (Paper 53) in our Decision granting Patent Owner’s Motion to Seal its Opposition (Paper 52). Paper 65.

distributors' representatives. Paper 56, 2. Petitioner also argues that the residual hearsay exception does not apply. *Id.* at 3.

We agree with Petitioner that much of Mr. Shanks' testimony in paragraph 5–10 is hearsay, but we are not persuaded that we should exclude paragraphs 5–10 entirely. We are similarly not persuaded that we should exclude paragraphs 4 and 11 entirely. Rather, it is within our discretion to assign the appropriate weight to be accorded evidence. *See* 37 C.F.R. § 42.65(a); *see also, e.g., Yorkey v. Diab*, 601 F.3d 1279, 1284 (Fed. Cir. 2010) (holding the Board has discretion to give more weight to one item of evidence over another “unless no reasonable trier of fact could have done so”); *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1368 (Fed. Cir. 2004) (“[T]he Board is entitled to weigh the declarations and conclude that the lack of factual corroboration warrants discounting the opinions expressed in the declarations.”); and *Velandar v. Garner*, 348 F.3d 1359, 1371 (Fed. Cir. 2003) (“In giving more weight to prior publications than to subsequent conclusory statements by experts, the Board acted well within [its] discretion.”).

The Board acts as both the gatekeeper of evidence and as the weigher of evidence. Rather than excluding evidence that is allegedly confusing, misleading, untimely, and/or irrelevant, we will simply not rely on it or give it little weight, as appropriate, in our analysis. Similar to a district court in a bench trial, the Board, sitting as a non-jury tribunal with administrative expertise, is well positioned to determine and assign appropriate weight to evidence presented, including giving it no weight. *See, e.g., Donnelly Garment Co. v. NLRB*, 123 F.2d 215, 224 (8th Cir. 1941) (“One who is capable of ruling accurately upon the admissibility of evidence is equally

capable of sifting it accurately after it has been received”). Thus, in this *inter partes* review, the better course is to have a complete record of the evidence to facilitate public access as well as appellate review. Thus, Petitioner’s Motion to Exclude is *denied*.

3. Petitioner’s Motion to Strike Sections II.C and II.D of Patent Owner’s Sur-Reply

Petitioner filed Petitioner’s Motion to Strike Sections II.C and II.D of Patent Owner’s Sur-Reply. Paper 55. Patent Owner filed an opposition to the motion (Paper 58) and Petitioner filed a Reply in support of the motion (Paper 59). For the reasons stated below, the motion is denied.

Petitioner argues that we should strike Section II.C and II.D of Patent Owner’s Sur-Reply because these sections are not responsive to Petitioner’s Reply or to Mr. Holden’s Reply Declaration (Ex. 1018). Paper 55, 1. Specifically, Petitioner argues that Section II.C addresses motivation for replacing Parker’s optical fibers with Rosko’s LED diffusers, which Petitioner did not address in its Reply (*id.* at 1–2) and argues that Section II.D addresses the obviousness of element 1[G]—“the interfacing layer being adjacently connected to the upper”—but cites exclusively to Mr. Holden’s original declaration, not to any portion of Petitioner’s Reply or to Mr. Holden’s Reply declaration (*id.* at 4).

Patent Owner opposes, arguing that the Sur-Reply discusses cross-examination testimony Mr. Holden gave in the deposition following his Reply Declaration. Paper 58, 1. According to Patent Owner, its “argument should not be stricken because Mr. Holden volunteered testimony unhelpful to the Petitioner when asked about a position he took in his Reply

declaration.” *Id.* at 3. According to Patent Owner, striking these sections would be inconsistent with the Trial Practice Guide Update issued in August 2018. *Id.* at 8–10.

Petitioner counters that Patent Owner mischaracterizes Mr. Holden’s testimony, which was not “volunteered.” Paper 59, 1–2.

According to our Trial Practice Guide update, “[s]ur-replies should only respond to arguments made in reply briefs, comment on reply declaration testimony, *or point to cross-examination testimony.*” Trial Practice Guide (*see* 83 Fed. Reg. 39,989 (Aug. 13, 2018); *see also* full text of update at <https://go.usa.gov/xU7GP> (“Trial Practice Guide Update”) (emphasis added). Here, even assuming that Section II.C and II.D do not respond to arguments made in reply briefs, they do “point to cross-examination testimony” and, therefore, are not beyond the scope of a proper sur-reply. As a result, we are not persuaded that it is appropriate, in these circumstances, to strike Section II.C and II.D of Patent Owner’s Sur-Reply. Petitioner’s Motion to Strike Sections II.C and II.D of Patent Owner’s Sur-Reply is *denied*.

C. The ’574 Patent

The ’574 patent is titled, “Internally Illuminated Light Diffusing Footwear.” Ex. 1001, (54). The ’574 patent states, “[t]he present invention relates generally to footwear . . . displaying internally illuminated graphics, designs and logos by diffusion of light from the internal illumination system.” *Id.* at 1:11–15.

The ’574 patent explains that, in recent decades, LED lights have been attached to footwear and exposed to an observer’s eye. *Id.* at 1:27–30. The

patent further indicates that “there are a wide variety [of] applications of illumination systems and constructions of footwear with illumination systems, both integrated and external.” *Id.* at 1:34–38. The ’574 patent describes “a new application of internally illuminated footwear” that provides diffused light from internal illumination sources. *Id.* at 1:40–44. By incorporating impermeable sections, aesthetic designs are created as part of the footwear. *Id.* at 1:44–45. As the patent explains, the “present invention is an internally illuminated footwear with light diffusing layers that results in the visual impression of radiant illumination.” *Id.* at 2:45–48 (referring to Figs. 1–4, 6A–6E, 7–9) (reference numeral removed).

According to the patent, the “invention comprises a footwear 1 and an illumination system 2” that is housed in footwear 1. *Id.* at 2:48–50. Figures 6A, 6B, and 6C of the ’574 patent are reproduced below.



FIG. 6A

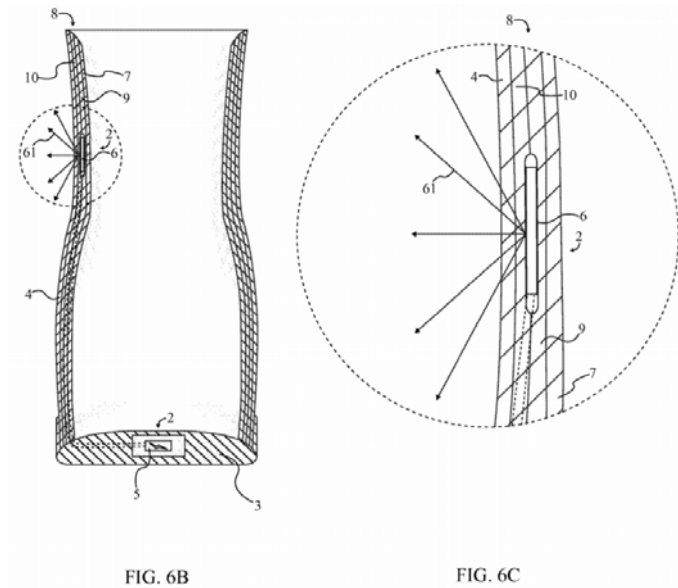


Figure 6A depicts an illustrative embodiment of the invention, Figure 6B depicts a rear, cross-sectional view of the illumination system of the invention, and Figure 6C is a magnified view of the circled structure in Figure 6B. *Id.* at 2:1–8. The detailed description in the Specification states:

The footwear 1 itself comprises a sole 3 and an upper 4, with upper 4 being perimetrically connected to the sole 3. The illumination system 2 comprises a power source 5 and a plurality of illumination sources 6. The plurality of illumination sources 6 are positioned between the liner 7 and upper 4, interior to the footwear 1, thus internally illuminating the footwear 1. The illuminating light 61 itself is represented as arrows, providing a visual example of diffused light.

* * * *

The structure 8 is designed to be adjacently connected to the inner surface of the upper 4, with the structure 8 being resultantly being positioned between the liner 7 and the upper 4. The structure 8 itself comprises an interfacing layer 9 and a batting 10, which enhance the visual aspects of the present invention.

Id. at 2:50–67.

The '574 patent also describes an embodiment that uses a light impermeable section in contrast with a light diffusing section to create an aesthetic design. *Id.* at 3:46–52. An example of a light impermeable section is a leather section that blocks all passage of light and does not diffuse light. *Id.* at 3:42–45. An aesthetic design may be “a shape, a logo, or other visual component” or “could comprise graphics or logos, or even a combination thereof.” *Id.* at 5:7–9, 40–43. The patent provides several examples of how aesthetic designs are produced. *Id.* at 5:23–6:39. For example, an aesthetic design of a heart may be formed by a heart-shaped light diffusing section with the rest of the upper being made from light impermeable material. *Id.* at 5:56–64. In another example, a heart aesthetic design may be produced by a light impermeable stencil layer in the shape of a heart such that the stencil layer blocks light from illumination sources. *Id.* at 6:22–35, Fig. 13. In yet another example, a light-impermeable stencil layer may include aesthetic cuts that traverse through the stencil layer and allow for the passage of light. *Id.* at 6:6–15.

The '574 patent contains 10 claims. Ex. 1001, 9:48–11:4. As noted above, Petitioner challenges all claims. Pet. 1. Sole, independent claim 1 is reproduced below:

1. An internally illuminated textile footwear comprises:
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.

D. The Asserted Grounds of Unpatentability

Petitioner contends that claims 1–10 of the '574 patent are unpatentable under 35 U.S.C. § 103⁵ based on the following grounds. (Pet. 3, 17–46):

⁵ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, 125 Stat. 284, 287–88 (2011), revised 35 U.S.C. § 103, effective March 16, 2013. The application on which the '574 patent issued was filed after March 16, 2013, but the provisional application to which priority is claimed was filed before March 16, 2013. Ex. 1001, (22), (60). Petitioner contends that the AIA amendments apply to the challenged claims. Pet. 3–4. Patent Owner does not contest Petitioner’s position. The changes to § 103 do not affect our decision whether the challenged claims are unpatentable.

References	Claims Challenged
Parker ⁶ and Rosko ⁷	1, 5, 6, 8, and 9
Parker, Rosko, and Guerra ⁸	3, 4, and 10 ⁹
Parker, Rosko, and Dua ¹⁰	2
Parker, Rosko, and Guzman ¹¹	7

The earliest priority date claimed for the '574 patent is December 28, 2012. Ex. 1001, (60). The asserted references were issued or published prior to this date. The asserted references qualify as prior art under 35 U.S.C. § 102(b). Patent Owner presents no evidence or argument challenging the prior art status of the asserted references. *See generally* Resp.

II. ANALYSIS

A. Principles of Law Relating to Unpatentability

A claim is unpatentable under 35 U.S.C. § 103 if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time of the invention to a

⁶ U.S. Patent No. 5,894,696, issued Apr. 20, 1999 (Ex. 1003).

⁷ U.S. Patent Application Publication US 2011/0271558 A1, published Nov. 10, 2011 (Ex. 1004).

⁸ U.S. Patent No. 5,813,148, issued Sept. 29, 1998 (Ex. 1005).

⁹ Petitioner includes claims 8 and 9 in its summary chart (Pet. 3), but does not discuss claims 8 and 9 with regard to this ground (*id.* at 34–42).

¹⁰ U.S. Patent No. 6,910,288 B2, issued June 28, 2005 (Ex. 1007).

¹¹ U.S. Patent Application Publication US 2005/0183294 A1, published Aug. 25, 2005 (Ex. 1006).

person having ordinary skill in the art. *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). Consideration of the Graham factors “helps inform the ultimate obviousness determination.” *Apple v. Samsung Elecs. Co.*, 839 F.3d 1034, 1048 (Fed. Cir. 2016) (en banc), *cert. denied* (Nov. 6, 2017).

“In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)). Petitioner cannot satisfy its burden of proving obviousness by employing “mere conclusory statements.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016). Thus, to prevail in an *inter partes* review, Petitioner must explain how the proposed combinations of prior art would have rendered the challenged claims unpatentable.

We analyze the challenges presented in the Petition in accordance with the above-stated principles.

B. Level of Ordinary Skill

In determining whether an invention would have been obvious at the time it was made, we consider the level of ordinary skill in the pertinent art

at the time of the invention. *Graham*, 383 U.S. at 17. “The importance of resolving the level of ordinary skill in the art lies in the necessity of maintaining objectivity in the obviousness inquiry.” *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991).

With regard to the level of ordinary skill in the art, the Petition states:

A person of ordinary skill in the art (“POSITA”) would have had at least several years’ experience in footwear design with familiarity in the integration of light sources into footwear. A POSITA would also have an understanding of the range of material choices and construction techniques that are used to create the various parts of footwear, as well as their functional requirements and impact on overall footwear appearance.

Pet. 11–12 (citing Ex. 1002 (Holden Decl.) ¶ 12).

Patent Owner does not contest Petitioner’s proffered level of ordinary skill or propose an alternative for the level of ordinary skill in the art. *See generally* Resp. The inventor and Patent Owner’s owner and declarant, Roy Robert Smith III, uses Petitioner’s level of skill in the art in his analysis. Ex. 2001 ¶ 62 (“For the purposes of this declaration, I will apply Mr. Holden’s [Petitioner’s declarant (*see* Exs. 1002, 1008)] proposed standard without prejudice.”) Thus, both parties apply the same level of ordinary skill in the art and there is no dispute between the parties with regard to this issue.

On this record, we determine that the level of ordinary skill in the art proposed by Petitioner is consistent with the challenged patent and the asserted prior art. We, therefore, adopt that level for the purpose of determining whether the challenged claims are unpatentable.

C. Claim Construction

In an *inter partes* review, we interpret claim terms in the challenged patent according to their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *see Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of broadest reasonable construction standard in *inter partes* review).¹² Consistent with the broadest reasonable construction standard, the challenged claims are presumed to be given their ordinary and customary meaning as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

In our Decision on Institution, we construed “adjacently connected to” to mean “next to and contacting,” we determined “aesthetic design” and “aesthetic cut” did not require construction, and we construed “upper” to mean “only the exterior layer(s) of a shoe or boot above the sole.” Inst. Dec. 13–20. Neither party disputes our constructions of “adjacently connected to” or “upper,” or our determination that “aesthetic design” or “aesthetic cut” does not require construction. Resp. 29–30; Reply 4. Having considered the arguments and evidence, we maintain our construction of “adjacently connected to” to mean “next to and contacting,” and we

¹² On October 11, 2018, the USPTO revised its rules to harmonize the Board’s claim construction standard with that used in federal district court. CHANGES TO THE CLAIM CONSTRUCTION STANDARD FOR INTERPRETING CLAIMS IN TRIAL PROCEEDINGS BEFORE THE PATENT TRIAL AND APPEAL BOARD, 83 Fed. Reg. 51340 (Oct. 11, 2018). This rule change, however, applies only to petitions filed after November 13, 2018. The revised claim construction standard therefore does not apply to this proceeding. *Id.*

maintain our construction of “upper” to mean “only the exterior layer(s) of a shoe or boot above the sole.”

Only the following additional terms require explicit construction.

1. Claim Preamble Term “internally illuminated textile footwear”

The preamble of every claim of the ’574 patent recites, “internally illuminated textile footwear.”¹³ Ex. 1001, 9:48–11:4. Petitioner contends, “[t]he foregoing preamble is not limiting as breathing life or meaning into the claims.” Pet. 18. Patent Owner argues, “[t]he preamble’s recitation of an ‘internally illuminated textile footwear’ is limiting and, when taken together with the claim body’s recitation that the ‘light diffusing section’ is of the ‘upper,’ the claims require that the light diffusing section (the portion of the upper that is illuminated) be *textile*.” Resp. 47–48.¹⁴ In the Decision

¹³ We determine that the repetition of the preamble of claim 1 in the dependent claims serves as the reference to a claim previously set forth to satisfy the requirements of U.S.C. § 112. *See* 35 U.S.C. § 112 (“[A] claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed.”).

¹⁴ Patent Owner did not contend that the preamble was limiting or that the claims require that the light diffusing section (the portion of the upper that is illuminated) be textile” in the District Court litigation between the parties. *See generally* Ex. 1016 (Joint Claim Construction and Prehearing Statement). In the litigation, the parties agreed that “light diffusing section” should be construed as “a section that causes light to be spread out and that hides a plurality of illumination sources without blocking all light produced by the plurality of illumination sources.” *Id.* at 5. The District Court adopted this “Agreed Construction.” Ex. 1017 (Claim Construction Memorandum Opinion and Order) at 5–6. Patent Owner’s claim construction argument is inconsistent with the position it took in the litigation. Patent Owner’s proposed construction under the broadest reasonable interpretation standard is narrower than that agreed to by the

instituting this review, the Board concluded that the preambles of the claims were non-limiting and “internally illuminated textile footwear” was not a limitation on the subject matter encompassed by any of the claims of the ’574 patent. Inst. Dec. 15. We have considered our construction again based upon the parties’ post-institution arguments and evidence, and we maintain our conclusion that the preamble is not limiting.

Patent Owner’s argument that the preamble of claim 1 is limiting is not supported by the law. “A preamble does not generally limit the claims.” *Allen Eng’g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1346 (Fed. Cir. 2002) (citation omitted). A preamble may be limiting, however, if the preamble recites essential structure or steps; claims depend on a particular preamble phrase for antecedent basis; the preamble is essential to understand limitations or terms in the claim body; the preamble recites additional structure or steps underscored as important by the specification; or there was clear reliance on the preamble during prosecution to distinguish the claimed invention from the prior art. *Georgetown Rail Equip. Co. v. Holland L.P.*, 867 F.3d 1229, 1236 (Fed. Cir. 2017) (citing *Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002)) (quotation marks omitted). On the other hand, a “preamble is not a claim limitation if the claim body defines a structurally complete invention . . . and uses the preamble only to state a purpose or intended use for the invention.” *Id.* at 1236 (quoting *Rowe v. Dror*, 112 F.3d 473, 478 (Fed. Cir. 1997)) (alteration in original). In this case, none of the circumstances exist which would justify deviation from the general rule that a preamble does not limit the

parties before the District Court.

claim. The bodies of the claims of the '574 patent recite a structurally complete invention and the preambles only state an intended use of the invention.

Patent Owner argues the preamble is limiting because “the preamble is essential to understand limitations or terms in the claim body” and “the term textile as used in the preamble of claim 1, reciting ‘[a]n internally illuminated *textile* footwear,’ is ‘a fundamental characteristic of the claimed invention’ as evidenced throughout the entire patent.” Resp. 48 (citing *Poly-America LP v. GSE lining Technology, Inc.*, 383 F.3d 1303, 1310 (Fed. Cir. 2004)). Therefore, Patent Owner contends the claims of the '574 patent must be construed to “require that the ‘light diffusing section’ (the portion of the upper that is illuminated) be *textile*.” *Id.* at 48–49, *see also id.* at 50–51.¹⁵

Patent Owner’s contention is directly contradicted by the specification of the '574 patent. The '574 patent states, “[*t*]extile materials, examples of which include but are not limited to fabric materials (whether synthetic, a blend of synthetic and natural, or a blend of synthetics) and natur[al] materials, *are just one possible material type which can be used for the light diffusing section 41.*” Ex. 1001, 4:49–53 (emphasis added). Thus, rather

¹⁵ Here, Patent Owner argues based on the description of “one variant of the preferred embodiment” which states, “the light diffusing sections 41 (i.e., a sheer textile) of the upper 4” (Ex. 1001, 3:42–52) that the upper should be construed as being a sheer textile whether or not the preamble is limiting. Resp. 50–51 (“Thus, the upper as recited in claim 1, whether the preamble is given weight or not, should be construed as being a sheer textile since the upper is claimed to be “a light diffusing section.”). We decline to read a limitation from a variant of an embodiment as a limitation on the scope of the claims.

than supporting Patent Owner’s argument, the specification clearly and unambiguously provides that the “light diffusing section” not be limited to textiles.

For these reasons, we conclude that “internally illuminated textile footwear” is not a limitation of the subject matter encompassed by any of the challenged claims (claims 1–10).¹⁶

2. *Claim Body Terms*

“adjacently connected to”

The term “adjacently connected to” appears six times in the claims of the ’547 patent. Claim 1 recites, “the interfacing layer being adjacently connected to the upper” and “the plurality of illumination sources being adjacently connected to the interfacing layer.” Ex. 1001, 9:55–56, 59–60. Claim 2 recites, “the light diffusing layer being adjacently connected to the interfacing layer opposite the liner.” *Id.* at 10:12–13. Claims 3 and 4 recite, “the stencil layer being adjacently connected to the interfacing layer opposite the liner.” *Id.* at 10:22–23, 32–33. Claim 6 recites, “the power source being adjacently connected to the liner.” *Id.* at 10:43–44.

Petitioner contends that the broadest reasonable construction of “adjacently connected to” is “next to and contacting.” Pet. 12–13 (citing Ex.

¹⁶ Although we do not construe the preamble as limiting or construe the claims to require an “internally illuminated textile footwear,” we note that the cited prior art reference, Rosko, suggests using a woven, porous material in a light diffusing, internally illuminated part of footwear. Ex. 1004 ¶ 22 (“any woven or non-woven porous material may be used since such material would assist in diffusing light”), claim 10 (“The article of footwear of claim 5 wherein the porous material is woven”).

1002 (Holden Decl.) ¶¶ 45–47; Ex. 1010 (definition of “adjacent”), Ex. 1011 (definition of “connect”). Mr. Holden’s declaration testimony is supported by the cited dictionary definitions and numerous citations to both textual description and figures disclosed in the Specification. Ex. 1002 ¶¶ 45–47 (quoting Ex. 1001, 7:43–44 (“the light diffusing layer 12 is adjacently connected to the interfacing layer”), 7:51–53 (“a stencil layer 14 can be adjacently connected to the interfacing layer”), 8:25–27 (“structure 8 is designed to be adjacently connected to the inner surface of the muff”), 8:45–46 (“structure 8 is designed to be adjacently connected to the inner surface of the outer layer”), 8:60–62 (“structure 8 is designed to be adjacently connected to the inner surface of the exterior textile layer”), 9:18–19 (“structure 8 is designed to be adjacently connected to the inner surface of the exterior shell”), 9:33–34 (“structure 8 is designed to be adjacently connected to the inner surface of the outer surface”)). The cited examples show the various elements as “next to and contacting,” as Mr. Holden testifies. *See* Ex. 1001, Figs. 5A, 5B, 6B–6E, 12, 13; Ex. 1002 ¶¶ 46–47.

The term “adjacently connected to” is the only term discussed in the section of Patent Owner’s Response specifically directed to claim construction. *See* Resp. 29–30. “Patent Owner acknowledges and concedes that the claim term ‘adjacently connected to’ does not require that the items are glued, stitched or otherwise affixed together.” Resp. 29. Patent Owner also cites to the specification as supporting the proposed construction of “adjacently connected to.” *Id.* (citing Ex. 1001, 3:27–28, 6:55–67). The Response states, “[f]or example, the specification states that ‘the power source 5 is adjacently connected to the liner 7’ and in the described

embodiment the power source is touching but not glued or stitched to the liner.” *Id.*

Accordingly, we maintain our construction of “adjacently connected to” to mean “next to and contacting.”

“upper”

The term “upper” is recited in claims 1, 2, 6, and 8. Ex. 1001, 9:48–10:17, 10:41–46, 10:51–53. Claim 1 recites “a footwear comprises: a sole and an upper.” *Id.* at 9:48–49. Claim 1 further requires the upper to be “perimetrically connected to the sole” and to be light diffusing. *Id.* at 9:63, 10:3. Claim 1 also requires the interfacing layer to be “adjacently connected to the upper” and to be “positioned between the liner and the upper,” and for the illumination sources to be “adjacently connected to the interfacing layer” and to be “positioned between the interfacing layer and the upper.” *Id.* at 9:55–62. Claim 2 requires that an aesthetic cut traverses through the upper. *Id.* at 10:11. Claim 6 recites “the power source being positioned between the liner and the upper.” *Id.* at 10:45–46. Claim 8 recites that “the upper further comprises a light impermeable section.” *Id.* at 10:53.

Petitioner contends, relying on the plain language of the claims, the Holden Declaration, and citations to the Specification, that, in the context of the ’574 patent, “upper” means “only the exterior layer(s) of a shoe or boot above the sole.” Pet. 14–17 (citing Ex. 1002 ¶¶ 53, 55, 56, 58; Ex. 1001, (57) (Abstract), 2:53–55, 2:62–63, 5:46–49, 6:6–8, 6:55–57, 9:64, 9:57–58, Fig. 5B); *see* Ex. 1014 (general purpose dictionary definition of “upper” as “the part of a boot or shoe above the sole”).

Patent Owner takes no position on the construction of “upper.” *See generally* Resp.

Petitioner’s proposed construction is supported by the plain claim language, unambiguous descriptions in the challenged patent, and the Holden Declaration. Accordingly, we maintain our construction of “upper” to mean “only the exterior layer(s) of a shoe or boot above the sole.”

“upper being light diffusing”

This term was not construed in our Decision on Institution. Patent Owner argues that “the phrase ‘upper being light diffusing’ is defined by the specification as a ‘sheer textile’” because “the specification recites ‘the light diffusing sections 41 (i.e., a sheer textile) of the upper 4.’” Resp. 50 (quoting Ex. 1001, 3:48–49). Patent Owner contends that “i.e.,” as used in the quoted portion of the ’574 patent, is definitional. *Id.* Thus, concludes Patent Owner, “the upper as recited in claim 1, whether the preamble is given weight or not, should be construed as being a sheer textile since the upper is claimed to be ‘a light diffusing section.’” *Id.* at 50–51.

Petitioner counters that “i.e.,” is not definitional because the ’574 patent clearly states that textile materials are “just one possible material type” of its light diffusing section. Reply 2 (quoting Ex. 1001, 4:49–53 (“Textile materials, examples of which include but are not limited to fabric materials (whether synthetic, a blend of synthetic and natural, or a blend of synthetics) and nature materials, are *just one possible material type* which can be used for the light diffusing section 41.” (emphasis added)). Thus, Petitioner concludes, the passage relied upon by Patent Owner describes only that embodiment, not all embodiments. *Id.*

Petitioner also argues that Patent Owner’s proposed construction of “the upper being light diffusing” to mean a sheer textile is narrower than the construction of “light diffusing section” (Ex. 1001, claims 1 and 9) to which it agreed in the related district court litigation. Reply 3 (citing Ex. 1016, 5). There, Patent Owner agreed that “light diffusing section” means “a section that causes light to be spread out and that hides a plurality of illumination sources without blocking all light produced by the plurality of illumination sources” (Ex. 1016, 5) and the district court adopted that construction (Ex. 1017, 5–6).

Having considered the parties’ arguments and evidence, we decline to construe “upper being light diffusing” to require that the upper be a sheer textile. As an initial matter, “the upper being light diffusing” cannot be read to require that the *entire* upper be light diffusing because dependent claim 8 depends directly from independent claim 1 and recites that “the upper further comprises a light *impermeable* section.” Ex. 1001, 10:51–53. If the entire upper was “light diffusing,” then none of the upper could comprise “a light *impermeable* section,” as recited in dependent claim 8. Thus, we determine that “the upper being light diffusing” requires only that some *portion* of the upper is light diffusing. Because claim 1 requires only that some *portion* of the upper be “light diffusing,” there is no basis to require the *entire* upper be a sheer textile.

Moreover, we are not persuaded that even the light diffusing *portion* of the upper is required to be a sheer textile. As Petitioner notes, the Specification states expressly that textile materials “are just one possible material type which can be used for the light diffusing section 41.” Ex. 1001, 4:49–53. As a result, the passage relied upon by Patent Owner—“the

light diffusing sections 41 (i.e., a sheer textile) of the upper 4” at lines 44 to 46 of column 3—is better understood to describe only that “variant” described at lines 42 to 64 of column 3, and illustrated at Figure 7.

Finally, our construction is consistent with the parties’ agreement in district court that “light diffusing section” means “a section that causes light to be spread out and that hides a plurality of illumination sources without blocking all light produced by the plurality of illumination sources.” Ex. 1016, 5.

Having considered the parties arguments and evidence, we decline to construe “upper being light diffusing” to mean the entire upper is a sheer textile.

“interfacing layer”

Patent Owner does not argue explicitly for a construction of “interfacing layer,” but distinguishes Parker’s “film, sheet or coating 15” on the grounds that it is “merely an optical layer, not a structural layer.” Resp. 39.

Petitioner counters that Patent Owner (1) offers no explicit construction of “interfacing layer;” (2) “offers no workable definition of ‘structural’ that would distinguish structural interfacing layers from non-structural interfacing layers;” and (3) agreed in district court to a construction of “interfacing layer” that does not require it to be structural. Reply 8–9 (citing Ex. 1016, 5 (“interfacing layer” means “reflective layer to which illumination sources are connected”)). Petitioner also argues that the provisional application to which the ’574 patent claims priority is

inconsistent with the requirement that the “interfacing layer” be structural. *Id.* at 9.

Patent Owner counters that the stipulated construction from district court is not binding on the panel and is not inconsistent with a requirement that the “interfacing layer” be structural. Sur-Reply 19–20. Patent Owner relies upon the disclosure in the Specification that “the interfacing layer 9 [is] used in the art to provide structural reinforcement” and argues that the “interfacing layer” is structural in every embodiment described in the ’574 patent. *Id.* at 20 (quoting Ex. 1001, 3:14–15). Finally, Patent Owner argues that Mr. Smith, the named inventor on the ’574 patent, stated during deposition that the “reflective foil” disclosed in the provisional application is not the “interfacing layer” recited in claim 1. *Id.* at 21–22 (citing Ex. 1022, 106:13–109:17).

As an initial matter, the Specification’s sole use of “structural” does not amount to a definition of “interfacing layer” as structural:

The interfacing layer 9, used in the art to provide *structural* reinforcement, is also beneficial as it adds virtually no bulk or weight to the present invention while reducing the difficulty of and increasing the efficiency of the manufacturing process as it relates to the installation of illumination sources 6.

Ex. 1001, 3:14–19 (emphasis added). This passage merely describes what was already known in the art about the use of interfacing layers to provide structural reinforcement and, in the same passage, describes interfacing layers as “add[ing] virtually no bulk or weight.”

The claims also do not require the “interfacing layer” to be structural. Claim 1 recites a “an interfacing layer” that is “adjacently connected to the

upper” and is “positioned between the liner and the upper.” Ex. 1001, 9:54–58. The dependent claims add additional layers.

Moreover, we agree with Petitioner that Patent Owner has not provided a clear definition of “structural” that would permit us to distinguish a structural “interfacing layer” from a non-structural interfacing layer. Patent Owner appears to use the term to mean a layer that would survive the lasting process, but nothing in the claim requires the claimed “footwear” be made by a lasting process.

Finally, although Patent Owner is correct that the parties’ agreed construction in district court is not binding upon the panel, it is nevertheless informative. By adding a “structural” requirement to the “interfacing layer,” Patent Owner seeks a narrower construction in this proceeding, under the broadest reasonable interpretation standard, than it agreed to in the district court, under a *Phillips*-type¹⁷ construction. Patent Owner does not explain, however, why a narrower construction is warranted under the broadest reasonable interpretation standard than under the district court style claim construction standard. We are not persuaded that a narrower construction is warranted in this proceeding.

For the foregoing reasons, we construe “interfacing layer” to mean “reflective layer to which illumination sources are connected” and we decline to require that it be structural.

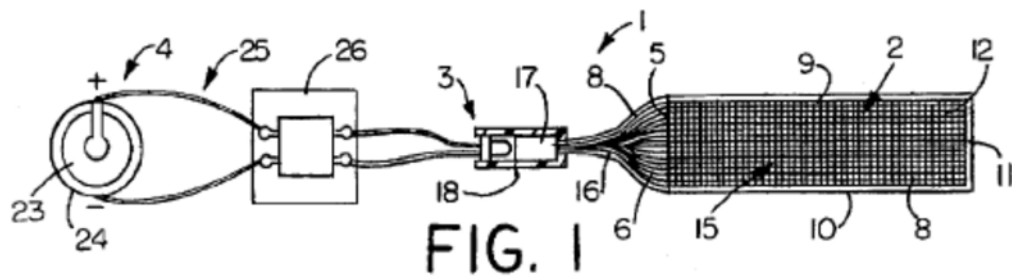
¹⁷ *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc).

E. Obviousness Challenge Based on Parker and Rosko

Petitioner asserts claims 1, 5, 6, 8, and 9 would have been obvious based on a combination of the teachings and suggestions of Parker and Rosko. Pet. 3, 17–33. In support thereof, Petitioner identifies the disclosures in Parker and Rosko alleged to teach the subject matter in claims 1, 5, 6, 8, and 9 and provides an articulated basis with rational underpinnings for combining the teachings of these references. *Id.*

1. Parker (Exhibit 1003)

Parker is a U.S. patent that describes a light distribution system that includes “a light emitting portion, a light source for supplying light to the light emitting portion and a power source for the light source.” Ex. 1003, (57) (Abstract). Parker indicates that the “light emitting portion may be located on an upper portion of a shoe.” *Id.*; *see id.* at 1:6–9 (“This invention relates generally to light distribution systems for distributing light to one or more areas of an object for decorative and/or safety reasons including but not limited to footwear . . .”). Figure 1 is reproduced below.



Parker’s Figure 1 depicts light distribution system 1 that includes light emitting portion 2, light source 3, and power source 4. *Id.* at 3:41–45. Light emitting portion 2 includes “layers of woven or non-woven optical fibers 8 each consisting of . . . optical fiber strands.” *Id.* at 3:51–55. “[A] thin film,

sheet or coating 15 may be applied to one or both sides of the light emitting portion and joined thereto as by heat sealing, ultrasonic welding, laminating, gluing, epoxying or other suitable method.” *Id.* at 4:18–27. “The coating on the back side of the light emitting portion may comprise a back reflector for reflecting light back through the light emitting portion such that light is emitting from only the front side of the light emitting portion.” *Id.* at 4:31–34.

Figure 1 shows power source 4 that powers light source 3, which may be a light emitting diode (LED). *Id.* at 4:63–65, 5:6–7. Figure 1 shows power source 4 is a coin type battery 23 . . . held in place by a battery holder 24,” which is connected to light source 3 by circuitry 25. *Id.* at 5:6–10.

Parker’s Figure 2 is reproduced below.

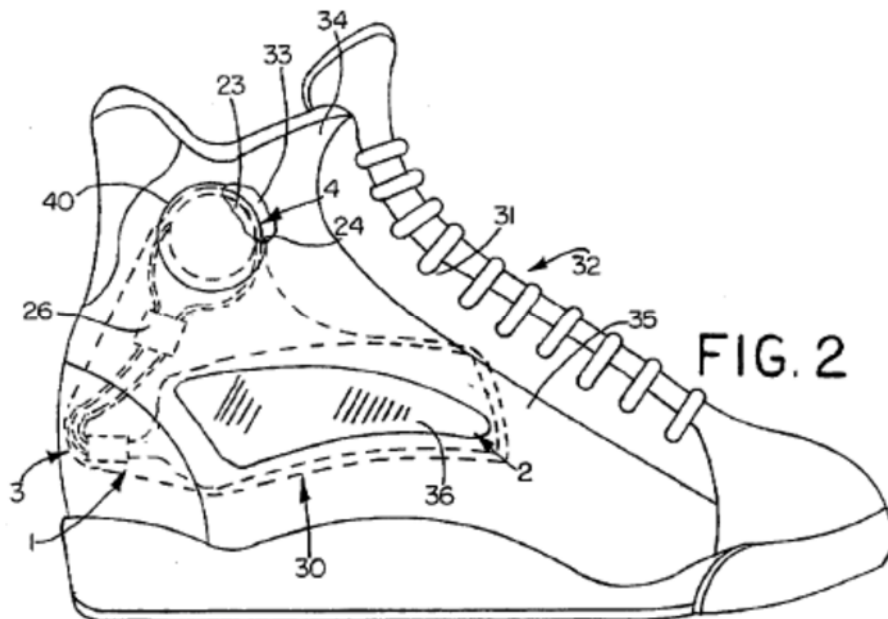


Figure 2 depicts an athletic shoe including the light distribution system of Figure 1. *Id.* at 2:42–44 (identifying shoe as an athletic shoe). In Parker’s Figure 2, athletic shoe 32 has “light distribution system 1 . . . installed in

pocket 30 on or in the upper portion 31.” *Id.* at 5:39–42. “The pocket 30 may be provided between the shoe lining 33 and outer shoe covering 34 at any desired location on the upper portion of the shoe, for example, on a side 35 of the shoe, for receipt of the various components of the light distribution system 1.” *Id.* at 5:42–46. Further regarding the pocket, the patent discloses that, to permit removal and replacement of battery 23, “a zipper, closeable flap or removable cap 40 is desirably provided in the pocket [30] exterior in overlying relation to the battery holder 24.” *Id.* at 5:52–55.

“In the outer surface of the pocket 30 is a window 36 which overlies a sufficient area of the light emitting portion 2 for light emission.” *Id.* at 5:46–48. The window 36 “may be made of a clear or translucent material” and “may be provided with a diffuser or prismatic surface for diffusing or directing the light output from the light emitting portion.” *Id.* at 7:50–54. In addition, “[t]he window 36 may have a logo or other text either printed directly on the window or on an adhesive overlay applied thereto for ease of changing of the text as desired.” *Id.* at 5:48–51.

2. *Rosko (Exhibit 1004)*

Rosko is a U.S. patent application publication titled “Lighted Panel for an Article of Footwear.” Ex. 1004, (54). The abstract describes the invention as “[a] lighted panel in combination with an article of footwear wherein the lighted panel includes a translucent display panel, a foam sheet, at least one primary light diffuser, and a reflective sheet that together act to illuminate, and distribute light uniformly throughout, the translucent display

panel without any concentrated points of light.” *Id.* at (57) (Abstract).

Figure 1 is reproduced below.

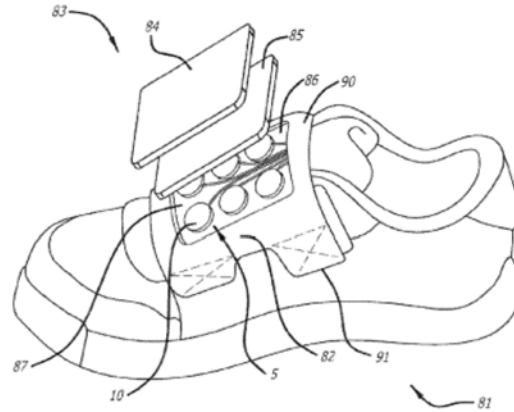


FIG. 1

Rosko’s Figure 1 depicts a shoe 81 having a closure flap 82 combined with a lighted panel 83. *Id.* ¶ 21. “The lighted panel 83 comprises a translucent display panel 84, a foam sheet 85, a reflective sheet 86, and a lighting unit 40.” *Id.* ¶ 22.

Rosko discloses that “[t]he translucent display panel may include any graphic image such as that of a cartoon character, person, animal, inanimate object or the like” or “may be in any shape, where the panel’s shape itself is in the form of a character, person, animal, or object.” *Id.* ¶ 8. Rosko further discloses that “[t]he translucent display panel may also be in the shape of at least one number and/or at least one letter.” *Id.*

3. Analysis of Independent Claim 1

Petitioner provides detailed claim charts, arguments, and evidence showing that the combination of Parker and Rosko teaches or suggests all the limitations recited in claim 1. Pet. 17–28. Petitioner also provides reasons why one of ordinary skill in the art would have been motivated to

combine the relevant teachings and suggestions of Parker and Rosko. *Id.* at 23–24.

a. Uncontested limitations

With regard to the first limitation of claim 1 (Ex. 1001, 9:49), which recites, “a sole and an upper,” Petitioner relies on Parker’s depiction in Figure 2 of an athletic shoe with a sole and an upper and Parker’s teaching of an “outer shoe covering 34.” Pet. 19 (citing Ex. 1003, Fig. 2, 5:43). Patent Owner does not argue this limitation.

With regard to the second limitation of claim 1 (Ex. 1001, 9:50), which recites, “an illumination system,” Petitioner relies on Parker’s teaching of a “light distribution system 1” and Rosko’s teaching of an illumination system and, in particular, a “lighting unit 40.” Pet. 19 (citing Ex. 1003, 3:43–44; Ex. 1004 ¶ 23). Patent Owner does not argue this limitation.

With regard to the third limitation of claim 1 (Ex. 1001, 9:51–52), which recites, “the illumination system comprises a power source and a plurality of illumination sources,” Petitioner relies on Parker’s teaching of a “power source 4” and “light emitting portion 2” which includes “one or more layers of woven or non-woven optical fibers” illuminated by “light source 3” and Rosko’s teaching of a “lighting unit 40” comprised of a “light-emitting diodes” within six “primary light diffusers 15” and “batteries 63.” Pet.19–21 (citing Ex. 1003, Fig. 1, 3:43–44, 3:52–54; Ex. 1004, Figs. 1, 4, ¶¶ 23, 25). Patent Owner does not argue this limitation.

With regard to the fourth limitation of claim 1 (Ex. 1001, 9:53), which recites, “a liner,” Petitioner relies on Parker’s teaching of a “shoe lining 33.”

Pet. 21 (citing Ex. 1003, 5:42–43). Patent Owner does not argue this limitation.

With regard to the tenth limitation of claim 1 (Ex. 1001, 9:63), which recites, “the upper being perimetrically connected to the sole,” Petitioner relies on Parker’s teaching of outer shoe covering 34 being perimetrically connected to the sole of the athletic shoe of Figure 2. Pet. 25 (citing Ex. 1002 ¶ 75). Patent Owner does not argue this limitation.

With regard to the eleventh limitation of claim 1 (Ex. 1001, 9:64), which recites, “the liner being positioned interior to the upper,” Petitioner relies on Parker’s teaching of shoe lining 33 being positioned interior to the outer shoe covering 34. Pet. 26 (citing Ex. 1002 ¶ 71; Ex. 1003, Fig. 2, 5:42–46). Patent Owner does not argue this limitation.

With regard to the twelfth limitation of claim 1 (Ex. 1001, 9:65), which recites, “the upper being a light diffusing section,” Petitioner relies on Parker’s teaching that the window 36 which is part of the exterior layer(s) of the shoe “may be provided with a diffuser . . . for diffusing or directing the light output from the light emitting portion.” Pet. 26–27 (citing Ex. 1002 ¶ 76; Ex. 1003, 5:46–48, 7:51–54). Patent Owner does not argue this limitation.

With regard to the thirteenth limitation of claim 1 (Ex. 1001, 9:66), which recites, “the illumination system being housed within the footwear,” Petitioner relies on Parker’s teaching that light distribution system 1 is housed with the footwear. Pet. 27 (citing Ex. 1002 ¶ 77; Ex. 1003, Fig. 2, 7:15–16). Patent Owner does not argue this limitation.

With regard to the last limitation of claim 1 (Ex. 1001, 10:1–5), which recites, “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,” Petitioner relies on both Parker’s and Rosko’s teaching of diffused light exiting the outer layer(s) of a shoe above the sole. Pet. 27–28 (citing Ex. 1002 ¶¶ 78, 84; Ex. 1003, Fig. 2, 7:51–54; Ex. 1004 ¶ 7). Petitioner cites Parker’s teaching of “diffused light exiting a window 36 ‘made of a . . . translucent material’ or a window 36 ‘provided with a diffuser.’” *Id.* at 28 (citing Ex. 1003, 7:51–53). Petitioner cites Rosko’s teaching “that diffused light ‘emanates from [a] panel in a relatively uniform manner without any concentrated points of light.’” *Id.* (citing Ex. 1004 ¶ 7). Petitioner asserts one of ordinary skill in the art “would appreciate that Parker in view of Rosko would also create a visual impression of internal radiant illumination across an outer surface of the upper.” *Id.* (citing Ex. 1002 ¶ 84). Patent Owner does not argue this limitation.

We previously instructed Patent Owner that “any arguments for patentability not raised in the [Patent Owner Response] will be deemed waived.” Paper 11, 6; *see also* 37 C.F.R. § 42.23(a) (“Any material fact not specifically denied may be considered admitted.”); *In re Nuvasive, Inc.*, 842 F.3d 1376, 1379–1382 (Fed. Cir. 2016) (holding Patent Owner waived an argument addressed in Preliminary Response by not raising the same argument in the Patent Owner Response). Additionally, the Board’s Trial Practice Guide states that the Patent Owner Response “should identify all the involved claims that are believed to be patentable and state the basis for that belief.” Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,766 (Aug. 14, 2012).

With a complete record before us, we note that we have reviewed arguments and evidence advanced by Petitioner to support its unpatentability contentions where Patent Owner chose not to address certain limitations in its Patent Owner Response or Patent Owner Sur-Reply. In this regard, the record now contains persuasive, unrebutted arguments and evidence presented by Petitioner regarding the manner in which the asserted prior art teaches corresponding limitations of the claims against which that prior art is asserted. Based on the preponderance of the evidence before us, we conclude that the prior art identified by Petitioner teaches or suggests all uncontested limitations of the reviewed claims. The limitations that Patent Owner contests in the Patent Owner Response are addressed below.

b. Preamble

Patent Owner argues Petitioner fails to show the cited art teaches or suggests a “textile” footwear, as recited in the preambles. Resp. 47–51; Sur-Reply 16–19. This argument is not persuasive because, as discussed previously, we have not construed the preambles of the claims as limiting. Moreover, in the “Background of the Invention” in the Specification of the ’574 patent, it is acknowledged that, “[f]ootwear has been long produced in various combinations of leather, synthetics, plastics and *textiles*. These various materials have been used and combined together in the production of footwear over the decades” Ex. 1001, 1:19–22 (emphasis added). In addition, based on the Holden Declaration, Petitioner contends, “[t]extile footwear is pervasive in the prior art” and “[t]he use of textile materials in the manufacture of athletic shoes, for example Parker’s athletic shoe 32, would have been obvious to [a] POSITA and well within POSITA’s

technical grasp.” Pet. 18–19 (citing Ex. 1002 ¶¶ 65, 68). Patent Owner’s argument is not persuasive.

c. “interfacing layer”

With regard to the fifth limitation of claim 1 (Ex. 1001, 9:54), which recites, “an interfacing layer,” Petitioner relies on Parker’s teaching of a “back reflector 15.” Pet. 21–22 (citing Ex. 1003, 4:31–33).

With regard to the sixth limitation of claim 1 (Ex. 1001, 9:55–56), which recites, “the interfacing layer being adjacently connected to the upper,” Petitioner relies on “the obvious modification of Parker to substitute its light emitting portion 2 with Rosko’s light diffusers 5, [so that] portions of Parker’s back reflector 15 would be ‘next to and contacting’ the upper of Parker, particularly in areas surrounding Rosko’s light diffusers 5.” Pet. 22–23 (citing Ex. 1002 ¶¶ 80–81.) With regard to combining these teachings, the Petition states:

Parker and Rosko are analogous because they are both directed to lighted footwear. (Ex. 1002 at ¶80). Parker and Rosko both disclose light emitting elements on a reflective backing. Ex. 1003 at 4:30-34; Ex. 1004 at ¶0025). In addition, Rosko characterizes LEDs and optical fibers as known alternatives: “[t]he light source 72 is typically a light-emitting diode although any source of light may be used such as a light bulb, optical fiber, or other source.” (Ex. 1004 at ¶0023) (emphasis added). POSITA would have found it obvious to substitute Parker’s optical fibers 8 with Rosko’s light diffusers 5 (containing LEDs) in order to provide a more robust alternative to Parker’s fragile and wrinkle-prone optical fibers 8 and in order to decrease the material costs of the shoe in Parker, as optical fibers were known to be generally more expensive and less durable than LEDs. (Ex. 1002 at ¶81).

Pet. 23–24.

With regard to the seventh limitation of claim 1 (Ex. 1001, 9:57–58), which recites, “the interfacing layer being positioned between the liner and the upper,” Petitioner relies on Parker’s back reflector 15 being positioned in a pocket “between the shoe lining 33 and outer shoe covering 34.” Pet. 24 (citing Ex. 1003, 5:41–42).

With regard to the eighth limitation of claim 1 (Ex. 1001, 9:59–60), which recites, “the plurality of illumination sources being adjacently connected to the interfacing layer,” Petitioner relies on “Parker’s optical fibers 8, as illumination sources, [that] are next to and contacting Parker’s back reflector 15, which is ‘on the back side of the light emitting portion.’” Pet. 25 (citing Ex. 1003, 4:32).

With regard to the ninth limitation of claim 1 (Ex. 1001, 9:61–62), which recites, “the plurality of illumination sources being positioned between the interfacing layer and the upper,” Petitioner relies on Parker’s teaching that its optical fibers are between the back reflector 15 and outer shoe covering 34 and “[i]n the obvious substitution of Parker’s optical fibers 8 with Rosko’s light diffusers 5, Rosko’s light diffusers 5 are positioned between Parker’s back reflector 15 and outer shoe covering 34.” Pet. 25 (citing Ex. 1002 ¶¶ 74, 80, 81, 83; Ex. 1003, 4:30–34.).

Patent Owner argues that the cited art does not teach an interfacing layer that meets the claim language. *See*, e.g., Resp. 1, 31; Sur-Reply 3–6. Specifically, Patent Owner argues that Rosko already has a reflective layer and Petitioner fails to account for discarding this reflective layer in the asserted combination. *Id.* at 32–35. Petitioner counters that the combination of Parker and Rosko teaches the recited “interfacing layer” under the

construction of that term agreed to by Patent Owner and adopted by the district court. Reply 7–8.

The fact that Rosko also teaches a reflective layer 86 is not relevant and Petitioner need not explain how Rosko’s shoe would be bodily incorporated with Parker’s shoe. “It is well-established that a determination of obviousness based on teachings from multiple references does not require an actual, physical substitution of elements.” *In re Mouttet*, 686 F.3d 1322, 1332 (Fed. Cir. 2012). Similarly, the skilled artisan is “[a] person of ordinary creativity, not an automaton” and “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR*, 550 U.S. at 416, 421; *see also id.* at 417 (“If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability.”). Moreover, there is no evidence in the record that it would have been “uniquely challenging or difficult for one of ordinary skill in the art” to combine the teachings of the references. *See Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007) (citing *KSR*, 550 U.S. at 418).

As asserted by Petitioner in its Reply, we find that both Parker and Rosko teach an interfacing layer. Reply 7. The ’574 patent states: “[t]he interfacing layer is a reflective layer that serves as a connection point for the plurality of illumination sources 6, that are adjacently connected to the interfacing layer 9 opposite the liner 7.” Ex. 1001, 3:1–4. Parker teaches “a thin film, sheet or coating 15 may be applied to one or both sides of the light emitting portion” and that “the coating on the back side of the light emitting portion may comprise a back reflector.” Ex. 1003, 4:22–24, 30–32. Figure 1 of Rosko depicts six light emitting elements 5 connected to reflective sheet

86. *See also* Ex.1004, ¶¶ 21–22. As noted above, Petitioner relies on the teaching of a back reflector in Parker as teaching the claimed interfacing layer. It does not detract, but rather adds to the combination asserted, that Rosko also teaches an interfacing layer. We find that both Parker and Rosko teach an interfacing layer that is reflective and to which illumination sources are connected.

Patent Owner argues the “reflective layer 86” of Rosko does not meet the claim 1’s recitation that “the interfacing layer [is] positioned between the liner and the upper.” Resp. 33. But, as noted above, Petitioner relies on Parker’s back reflector 15 being positioned in a pocket “between the shoe lining 33 and outer shoe covering 34” as teaching this limitation. Pet. 24 (citing Ex. 1003, 5:41–42).

Patent Owner also criticizes Petitioner for allegedly ignoring a “flexible holder 66” shown in Figure 7 of Parker. Resp. 35–38. But, claim 1 is a “comprising” claim in which additional parts may be included as long as the recited limitations are met. Additionally, the embodiment of Parker relied upon by Petitioner (Figs. 1 and 2) does not include the “flexible holder 66.” *See* Pet. 18–28. Petitioner relies upon Parker’s back reflector 15, not Parker’s back side 70 of sealed holder 66. Pet. 21–25. Whereas back reflector 15 is illustrated in Figure 2 and described with respect to that embodiment, back side 70 of sealed holder 66 is illustrated in Figure 7, which shows “another form of light distribution system 65 in accordance with this invention which may be generally the same as the light distribution systems previously described except that the entire light distribution system . . . are contained in a sealed holder 66.” Ex. 1003, 7:20–27. Because Figure 7 shows an alternative embodiment, we are not persuaded that

Petitioner needed to account for back side 70 of sealed holder 66 when relying upon back reflector 15. The teaching of a “flexible holder 66” in Figure 7 of Parker does not detract from or contradict the combination of teachings in Parker and Rosko relied upon by Petitioner.

Patent Owner also argues that Parker’s back reflector 15 is not structural. Resp. 38–39; Sur-Reply 3–6, 22–23. This argument is not persuasive because it is based upon Patent Owner’s proposed claim construction of “interfacing layer,” which we declined to adopt for the reasons discussed above. We are persuaded by Petitioner’s arguments and evidence that back reflector 15 teaches an “interfacing layer,” as we have construed that term.

Patent Owner also argues that Petitioner has not explained (1) why Parker’s back reflector 15 would have been removed from Parker’s optical fibers 8; (2) why Rosko’s diffusers 5 would have been removed from reflective sheet 86; (3) why Parker’s back reflector 15 would have been thickened and extended into the seam between the outer covering 34 and lining 33; and (4) why back reflector 15 would have been attached to outer covering 34 and lining 33. Resp. 40–41. Petitioner counters that the claims do not require attachment of the interfacing layer to the liner. Reply 11. Patent Owner’s arguments are not persuasive because “[t]he test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference. . . . Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art.” *In re Keller*, 642 F.2d 413, 425 (CCPA 1981). “Combining the *teachings* of references does not involve an ability to combine their specific structures.” *In re Nievelt*, 482 F.2d 965,

968 (CCPA 1973). Moreover, Patent Owner’s argument that back reflector 15 would not have been attached to lining 33 is not commensurate with the scope of the claims, which do not require the interfacing layer be attached to the liner.

d. Reason to combine

With regard to motivation to combine, Petitioner contends, “Parker and Rosko are analogous because they are both directed to lighted footwear.” Pet. 23 (citing Ex. 1002 ¶ 80). The Petition states,

[a] POSITA would have found it obvious to substitute Parker’s optical fibers 8 with Rosko’s light diffusers 5 (containing LEDs) in order to provide a more robust alternative to Parker’s fragile and wrinkle-prone optical fibers 8 and in order to decrease the material costs of the shoe in Parker, as optical fibers were known to be generally more expensive and less durable than LEDs. (Ex. 1002 at ¶81). The modification would have been within the technical grasp of [a] POSITA and would have been achieved with a high degree of success because Parker already discloses an LED as the preferred source of light for its optical fibers 8 and because Rosko discloses a circuit for powering multiple LEDs. (Ex. 1002 at ¶82; Ex. 1003 at 4:63-64; Ex. 1004 at FIG. 5).

Pet. 24. Patent Owner argues that the advantages alleged in paragraph 82 of Mr. Holden’s declaration are illusory for two reasons. Resp. 42–47.

First, Patent Owner argues the first reason—bulge prevention—is illusory because “[a] skilled artisan would not glue a layer to a translucent or transparent window 36” for a host of reasons and applying glue only to the periphery “doesn’t change the fact that the remainder of the window can still bulge just as it did before the gluing.” Resp. 42–43. This argument is not persuasive because it is not responsive to Mr. Holden’s testimony. Mr.

Holden does not testify that a layer should be glued. On the contrary, he alludes to “[v]arious means of attachment” disclosed in Parker, including gluing, but also including heat sealing, ultrasonic welding, laminating, epoxying, “or other suitable method.” Ex. 1002 ¶ 83; Ex. 1003, 4:24–25. Thus, even assuming that Patent Owner is correct that a person of ordinary skill in the art would not have glued a layer, we are nevertheless persuaded that a person of ordinary skill in the art knew of other suitable techniques, such as those taught explicitly in the cited portion of Parker.

Second, Patent Owner argues that the second reason—i.e., “in order to maintain the diffusers in alignment with the window 35 and in order to achieve a compact pocket”—was already achieved by the Parker and Rosko open pocket constructions. Resp. 44. Specifically, Patent Owner argues that the structure taught in Rosko already provides a fixed attachment. *Id.* (discussing Rosko’s translucent display panel 84, reflective sheet 86, and recessed area 87). This argument is not persuasive, however, because the proposed combination is not based upon incorporating any of these elements into Parker. Patent Owner also argues that the “modified system (below right) is, if anything, bulkier than Parker’s unmodified design (below left)” and faults Mr. Holden for not explaining how the modified system has improved compactness. *Id.* at 44 (citing Ex. 1002 ¶¶ 79–80). This argument also is not persuasive because Mr. Holden does not testify that the modified design is more compact than Parker’s unmodified design, and obviousness does not require it. Mr. Holden testifies, and we are persuaded, that a person of ordinary skill in the art would have known how to combine, and would have been motivated to combine, Rosko’s batting and diffusers 5 into the structure of Parker in such a way as to maintain a compact pocket. Ex. 1002

¶ 83; *see also id.* at ¶ 88. Patent Owner introduces no evidence to suggest that the proposed modification, even if less compact than Parker’s unmodified design, is nevertheless compact enough to provide a “fixed attachment” as taught in Rosko.

Finally, Patent Owner argues that gluing Parker’s back reflector 15 to the window 36, lining 33, and outer covering 34 would have several disadvantages. Resp. 45–46. Specifically, Patent Owner argues that doing so (1) would be aesthetically unacceptable; (2) would tear during the lasting process if affixed to the upper and lining as proposed by Holden; and (3) would be extremely expensive to produce. *Id.*

We agree with Petitioner that Patent Owner’s arguments are not commensurate with the scope of the claims, which do not require attaching back reflector 15 to the liner. Reply 11. While claim 1 requires that “the interfacing layer being positioned between the liner and the upper,” it does not require the interfacing layer be affixed to the liner.

Similarly, Patent Owner’s argument that gluing is aesthetically unacceptable is not persuasive because Mr. Holden did not rely on gluing and Parker explicitly teaches a number of alternative methods.

Patent Owner’s arguments about the lasting process are not persuasive because they are predicated on Patent Owner’s unsupported contention that Parker’s back reflector 15 is made of “thin reflective layers such as foil” and, as such, would not survive the lasting process. Reply 12. As Petitioner points out, Patent Owner’s declarant admitted that 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.* at 12–14 (citing Ex. 1020, 29:23–25, 55:9–15, 55:23–56:10).

Finally, Patent Owner's argument about expense is not persuasive because, even if true, it does not make the proposed combination non-obvious. The focus of 35 U.S.C. § 103 is on the obviousness of an invention to a person of ordinary skill in the art. *Environmental Design, Ltd. v. Union Oil Co.*, 713 F.2d 693, 697 (Fed. Cir. 1983). "That a given combination would not be made by businessmen for economic reasons does not mean that persons skilled in the art would not make the combination because of some technological incompatibility. Only the latter fact would be relevant." *In re Farrenkopf*, 713 F.2d 714, 718 (Fed. Cir. 1983) (citing *Orthopedic Equipment Co. v. United States*, 702 F.2d 1005, 1013 (Fed. Cir. 1983)).

Patent Owner further criticizes Petitioner's combination as it relates to the "interfacing layer" because "the shoe upper is subjected to extraordinary stresses during the manufacturing process (in particular the lasting process) and during normal wear (such as running)" and "Parker's reflector is an optical, not a structural layer." Resp. 45–46. We are not persuaded by this argument because it is based upon unrecited limitations. First, claim 1 is not limited to any particular method of manufacture or any particular type of footwear (such as, running or athletic shoes). Second, claim 1 does not limit the material from which the upper is manufactured. Evidence submitted by Patent Owner states that footwear is made of molded rubber or plastic and the upper can be made of two or more materials which are stitched to each other. *See* Ex. 2004, 1, 4, 5. Third, as shown in both Parker and Rosko, the parts which function to provide illumination may be added to a pocket or recessed portion of an article of footwear subsequent to

manufacturing and can be placed in a pocket or the tongue to avoid stresses.^{18,19}

Patent Owner argues that Petitioner did not meet its burden because it “provided no real specifics regarding how to produce the proposed combination.” Sur-Reply 6–9. “Critically, it did not disclose the type of material used for the claimed ‘interfacing layer.’” *Id.* at 6. According to Patent Owner, “[t]o establish the requisite reasonable expectation of success, therefore, Petitioner was required to identify the appropriate materials.” *Id.*

Petitioner contends that a person of ordinary skill in the art would have been capable of selecting an appropriate material. Reply 14. Petitioner points out that the level of ordinary skill, which Patent Owner did not contest, includes “understanding of the range of material choices and construction techniques that are used to create the various parts of footwear, as well as their functional requirements.” *Id.* (quoting Inst. Dec. 12). Petitioner is correct that, in our Institution Decision, we determined that “one of ordinary skill in the art relevant to the challenged patent would have had ‘at least several years’ experience in footwear design with familiarity in

¹⁸ The ’574 patent includes an embodiment (depicted in Figure 6D and described at 6:51–7:10) in which the illumination parts (including the illumination sources 6 connected to the interfacing layer 9) are placed in a pocket in the top part of the upper 4 comprising a boot shaft.

¹⁹ Patent Owner also submitted and relied on the Declaration of Ralph Shanks (Ex. 2002). Mr. Shanks has 55 years of experience in footwear design, development, and manufacturing. *Id.* ¶ 2. Mr. Shanks states that mounting LED lighting in the upper of shoes behind a plastic, light diffusing covering such as a window, shield, or patch has had and continues “to have tremendous commercial success worldwide” and is “inexpensive, and suitable for the volume shoe market.” *Id.* ¶ 15.

the integration of light sources into footwear” and “an understanding of the range of material choices and construction techniques that are used to create the various parts of footwear, as well as their functional requirements and impact on overall footwear appearance.” Inst. Dec. 12 (adopting Petitioner’s proposed level of ordinary skill). Patent Owner’s declarant also adopted Mr. Holden’s level of ordinary skill. Ex. 2001 ¶ 62 (“For purposes of this declaration, I will apply Mr. Holden’s proposed standard without prejudice.”). Because the level of ordinary skill in the art includes several years of experience and an understanding of the range of material choices and construction techniques . . . as well as their functional requirements and impact on overall footwear appearance,” we agree with Petitioner that the choice of a suitable material for back reflector 15 would have been within the level of ordinary skill in the art.

Patent Owner argues that Petitioner has failed to articulate a sufficient motivation for replacing Parker’s optical fibers with Rosko’s LED diffusers. Sur-Reply 9–13.

This argument is not persuasive. The Petition states explicitly:

POSITA would have found it obvious to substitute Parker’s optical fibers 8 with Rosko’s light diffusers 5 (containing LEDs) in order to provide a more robust alternative to Parker’s fragile and wrinkle-prone optical fibers 8 and in order to decrease the material costs of the shoe in Parker, as optical fibers were known to be generally more expensive and less durable than LEDs. (Ex. 1002 at ¶81).

Pet. 24. In the cited portion of Mr. Holden’s declaration, he testifies that:

A person of ordinary skill in the art would also have been motivated to incorporate LED lights in place of the optical fibers in Parker in order to decrease material costs of the shoe in Parker. Optical fibers were known by persons of ordinary skill in the art

at the time of the invention to be generally more expensive than an LED light alone. In addition, Parker already discloses an LED as the preferred light source for its optical fibers, and consequently the powering and control of two or more LEDs would have been well within the grasp of a person of ordinary skill in the art. (Parker, 4:63-64).

Ex. 1002 ¶ 81. In the testimony highlighted by Patent Owner in its Sur-Reply (Sur-Reply 10–12), Mr. Holden testifies that a person of ordinary skill in the art would have been able to combine the teachings of the two references in many different ways. That testimony, however, does not contradict Petitioner’s argument, and Mr. Holden’s testimony, that such a substitution was a routine design choice within the level of one of ordinary skill in the art.

Patent Owner’s argument that Holden admitted that there was no motivation to attach Parker’s back reflector 15 to Parker’s outer shoe covering (Sur-Reply 13–16) also is not persuasive. Patent Owner argues that Petitioner’s proposed combination of Parker and Rosko is hindsight because the teachings of the two references could have been combined in a way that back reflector 15 is not “adjacently connected to” the upper. *Id.* According to Patent Owner, “Mr. Holden admitted that the back reflector could be reduced as needed to light the shoe.” *Id.* at 15 (citing Ex. 2043, 85:25–86:9). Thus, concludes Patent Owner, because “either way would have worked for the skilled artisan,” Petitioner’s proposed combination is motivated solely by hindsight. *Id.* at 16.

This argument is not persuasive because it ignores Mr. Holden’s testimony that

A person of ordinary skill in the art would have joined the window 36 and the outer shoe covering 34 to the back reflector

15 and joined the back reflector 15 to the lining 33 in the modified construction in order to achieve a compact pocket, i.e., a "fixed attachment" (Rosko, ¶10025), that does not bulge during flexing of Parker's footwear.

Ex. 1002 ¶ 83. Thus, Mr. Holden has articulated a reason why a person of ordinary skill in the art would have joined back reflector 15 to outer shoe covering 34. Patent Owner challenges the merits of that reason, but that does not make the proposed combination hindsight. Thus, Petitioner has provided "some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR Int'l. Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

e. Objective Indicia of Nonobviousness

Patent Owner argues that there is objective indicia of nonobviousness in the form of industry praise, commercial success, and copying. Resp. 51–59; Sur-Reply 24–28. We find Patent Owner's arguments and evidence purporting to provide objective indicia of nonobviousness suffers from hearsay and other credibility concerns, and is self-contradictory, and the nexus with the challenged claims is weak or non-existent.

i. Law – Objective Indicia of Nonobviousness

Factual inquiries for an obviousness determination include secondary considerations based on objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). Notwithstanding what the teachings of the prior art would have suggested to one of ordinary skill in the art at the time of the invention, the totality of the evidence submitted,

including objective evidence of nonobviousness, may lead to a conclusion that the challenged claims would not have been obvious to one of ordinary skill in the art. *In re Piasecki*, 745 F.2d 1468, 1471–72 (Fed. Cir. 1984).

We note that it is not sufficient that a product or its use merely be within the scope of a claim in order for objective evidence of nonobviousness tied to that product to be given substantial weight. There must also be a causal relationship, termed a “nexus,” between the evidence and the claimed invention. *Merck & Co. v. Teva Pharm. USA, Inc.*, 395 F.3d 1364, 1376 (Fed. Cir. 2005). A nexus is required in order to establish that the evidence relied upon traces its basis to a novel element in the claim, not to something in the prior art. *Institut Pasteur v. Focarino*, 738 F.3d 1337, 1347 (Fed. Cir. 2013). Objective evidence that results from something that is not “both claimed and *novel* in the claim” lacks a nexus to the merits of the invention. *In re Kao*, 639 F.3d 1057, 1068 (Fed. Cir. 2011).

All types of objective evidence of nonobviousness must be shown to have nexus. *In re GPAC Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995) (nexus generally); *In re Huang*, 100 F.3d 135, 140 (Fed. Cir. 1996) (commercial success); *Wm. Wrigley Jr. Co. v. Cadbury Adams USA LLC*, 683 F.3d 1356, 1364 (Fed. Cir. 2012) (copying); *Rambus Inc. v. Rea*, 731 F.3d 1248, 1256 (Fed. Cir. 2013) (long-felt need); *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1328 (Fed. Cir. 2008) (praise). The stronger the showing of nexus, the greater the weight accorded the objective evidence of nonobviousness. *See Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 306 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986).

“Where the allegedly obvious patent claim is a combination of prior art elements, . . . the patent owner can show that it is the claimed

combination as a whole that serves as a nexus for the objective evidence” *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1330 (Fed. Cir. 2016) (citing *Rambus*, 731 F.3d at 1258). “[T]here is a presumption of nexus for objective considerations when the patentee shows that the asserted objective evidence is tied to a specific product and that product is the invention disclosed and claimed in the patent.” *WBIP*, 829 F.3d at 1329. Secondary consideration evidence is accorded less weight for claims that are considerably broader than the particular features in the merits of the claimed invention. *See ClassCo, Inc. v. Apple, Inc.*, 838 F.3d 1214, 1221 (Fed. Circ. 2016).

ii. Industry Praise

With regard to industry praise, Patent Owner primarily relies on statements contained in the Declaration of Paul Barcroft, Exhibit 2003, which, as discussed above, we have stricken and do not consider.²⁰ *See* Resp. 16–19, 52–53. Patent Owner also relies upon the Declaration of Roy

²⁰ Even if accepted as evidence, the Barcroft Declaration does not show “the Firebug shoes embodying the claimed invention took the industry by storm” as argued by Patent Owner. Resp. 52. Although stating that he has been selling “Firebugs” for over a year as an independent sales representative (Ex. 2003 ¶ 2), the only sales that he claims to have made were of “Firebugs sandals” (*id.* ¶¶ 16, 17). Mr. Barcroft testifies, for example, that after “seeing Firebug’s lighted technology internally illuminate the shoe’s upper,” “the demonstration impressed [a buyer] so much that she purchased the Firebugs *sandal* for the entire chain of Kinnucan’s stores.” *Id.* ¶ 17 (emphasis added). Patent Owner acknowledges that its sandals do not embody the claims of the ’574 patent. Resp. 18 (“Firebug’s Katniss, Katrina and Kris models incorporating the ’038 and ’574 patents as well as Firebugs rain boots and sandals incorporating other Firebugs technologies.”).

Robert (“Trae”) Smith III (Ex. 2001)²¹ as providing evidence of industry praise. *See id.* at 19–21, 53–54 (citing Ex. 2001 ¶ 37). According to Mr. Smith:

Reaction from buyers was dramatic. Internally illuminated fur astonished buyers, and predictions of commercial success were unanimous. Buyers from both “big box” stores as well as small independent retailers were surprised and delighted. As reported by Mia’s primary salesperson at the FFANY Shoe Expo, Vance Williamson, many potential buyers, indicating a strong interest in purchasing Firebugs newest technology once the boot’s design moved from prototype to commercial product. They were enthusiastic regarding the breadth of the lighting display, the internal diffused illumination of the fur outer, and the lightweight soft-sided designs supported by the soon-to-be-patent-pending Firebug lighting system technology. Numerous big box retailers collectively representing thousands of store locations, expressed their excitement in now having a product which combined two of their most popular categories of footwear, fur boots and lighted footwear. These major retailers expressed interest in the soon-to-be patent-pending lighting system design, because it supported such a unique internal diffusion of the lighting through the faux fur textile, and it provided support for illumination in a light-weight, soft-sided design. It was this reaction, to this conceptual prototype, that over the next year development of the ‘038 and ‘574 technology was completed.

Ex. 2001 ¶ 37. Even assuming this is admissible, it is self-serving testimony from a highly-interested witness characterizing the reaction of others as reported to him by a non-declarant. We find that Patent Owner has proffered very weak evidence of industry praise.

²¹ Mr. Smith is the owner of Shoes by Firebug LLC, Patent Owner, and the sole inventor of the ’574 patent. Ex. 2001 ¶ 1. As such, he is a highly-interested witness and his testimony is self-serving. Therefore, we accord Mr. Smith’s testimony less weight.

Patent Owner contends that “industry react[ion] . . . is traceable directly to the inventive interfacing layer which is recited in the claims and completely missing from the prior art.” Resp. 31–32; *see also* Sur-Reply 27 (“The ability to light up the shoe from within stems directly from the patented features—most prominently the use of an interfacing layer having illumination sources attached thereto and being adjacently connected to the upper and the lining.”).²² According to Patent Owner, it “has thus made the required showing of nexus here because ‘the marketed product embodies the claimed features, and is coextensive with them,’ such that “nexus is presumed and the burden shift[s to Petitioner] to present evidence to rebut the presumed nexus.” *Id.* at 28 (citing *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1130 (Fed. Cir. 2000)). Petitioner argues that evidence of industry praise should receive little weight because “Patent Owner has not demonstrated that ‘the novel elements in the claim, not prior-art elements, account for the objective evidence of non-obviousness.’” Reply 21 (citing *Gnosis S.p.A., Gnosis Bioresearch S.A., and Gnosis U.S.A., Inc. v. Merck & Cie*, IPR2013-00117, slip op. 31 (PTAB June 20, 2014) (paper 71) (citing *In re Kao*, 639 F.3d 1057, 1068 (Fed. Cir. 2011))). Having reviewed the arguments and evidence, we find no persuasive evidence that any of the alleged industry praise resulted from the

²² Patent Owner abandons its argument that the claims are limited to “internally illuminated *textile* footwear” in attempting to show its faux fur boots are covered by the ’574 patent. *See, e.g.*, Sur-Reply 26–27. According to Patent Owner’s Exhibit 2004 (described in Patent Owner’s Table of Exhibits as “Footwear Definitions, Footwear Distributors and Retailers of America” (Paper 63, 2)), artificial fur is not a textile. Ex. 2004, 11.

claimed features or that any of the products to which the alleged praise was directed incorporated an interfacing layer meeting the limitations of claim 1. Accordingly, we agree with Petitioner that Patent Owner has failed to establish a nexus between the alleged industry praise and the claimed invention.

iii. Commercial Success

Patent Owner asserts the following concerning the commercial success of their lighted boots:

The instant case involves a hardened industry in which “[i]t’s nearly impossible to come up with product that’s different enough that the big box retailers can actually get excited about and want to buy.” (Ex. 2001 ¶¶45; Ex. 2028.) Against that backdrop, it is remarkable that a tiny company like Firebugs would be able to penetrate the market and generate well over one million dollars in sales. (Ex. 2001 ¶48.) Still further, multiple companies were competing for the right to be the exclusive licensee of the technology and Firebugs products. (*Id.* ¶45.) The market’s acute interest in the Firebugs products was created by the claimed layered manufacturing technique, which permits lights to be embedded and hidden within a textile upper. (*Id.* ¶¶36-37; Ex. 2002 ¶13; Ex. 2003 ¶¶10-13, 15, 17.)

Resp. 58; *see also id.* at 20–21 (citing Exs. 2001, 2024, 2028) (repeating same argument).

Petitioner counters that “Patent Owner provides no comparative sales data to provide any meaningful context to these sales figures,” such as “showing that these sales numbers are significant in the footwear industry.” Reply 18 (citing *In re Huang*, 100 F.3d 135 (Fed. Cir. 1996) and *In re Baxter Travenol Labs*, 952 F.2d 388, 392 (Fed. Cir. 1991)). Petitioner also points out that Mr. Smith acknowledged, on cross-examination, that the sales

figures include shoes not embodying the claimed invention. *Id.* at 18 (citing Ex. 1019, 101:12–24). Moreover, Petitioner points out, “there is no evidence that shoes covered by ‘574 Patent were sold by the Patent Owner or its licensees in the years after 2014, undercutting its contention that the claimed invention achieved commercial success.” *Id.* at 18–19.

Even assuming a nexus between the Firebug boot and the challenged claims of the ‘574 patent, Patent Owner’s evidence of commercial success is weak. Patent Owner provides a single sales figure—1.3 million U.S. dollars for the Fall 2014 season. Resp. 20, 54. The only evidence of this figure, however, is the declaration of Mr. Smith. Ex. 2001 ¶ 48. Moreover, this figure includes sales of rain boots not covered by the challenged claims. Ex. 1019, 101:12–24. For this single data point, Patent Owner does not provide any context relative to the industry at large or to competitors within the industry. Patent Owner also does not provide sales data for any time period other than Fall 2014. Patent Owner relies upon Exhibits 2024 and 2028, which are emails from Mr. Vance Williamson. These emails, however, appear to be out-of-court statements by a non-declarant offered for the truth of the matters asserted. Exhibit 2024 is, at least, a contemporaneous email dated February 9, 2014. Exhibit 2028, however, is an email from Mr. Williamson to Mr. Smith dated February 10, 2018, i.e., shortly after institution of this proceeding. We give these emails little weight.

In summary, for the reasons set forth above, we discount heavily the weight to be accorded Exhibits 2001, Exhibits 2024, and 2028. After considering all of Patent Owner’s assertions and evidence in the aggregate, in view of Petitioner’s assertions, we find that Patent Owner has provided very weak evidence of commercial success of their lighted boot.

iv. Copying

Patent Owner asserts that Petitioner copied the “Firebug’s patented layered structure for embedding illumination in textile footwear:”

Petitioner Stride Rite has introduced multiple models of footwear that embody Firebug’s patented layered structure for embedding illumination in textile footwear. (Ex. 2023.) Between Fall of 2013 and early 2015, Shoes by Firebug provided Stride Rite Corporation and parent company Wolverine World Wide with marketing materials, samples, and submissions in an effort to establish a licensing agreement. (Ex. 2001 ¶¶54-57; Ex. 2009; Ex. 2010; Ex. 2012; Ex. 2013.) Despite evidence of interest by Wolverine World Wide, Stride Rite in the end chose to ignore Firebug’s patents, instead proceeding to infringe by copying the patented technology. (Ex. 2001 ¶¶58-61; Ex. 2009; Ex. 2010; Ex. 2019 (January 2016 letter providing notice to Stride Rite of infringement); Ex. 2023 (complaint filed in related litigation) ¶¶13-38.).

Resp. 23; *see also id.* at 57 (repeating same argument).

Petitioner asserts that Patent Owner’s marketing directed to Petitioner and its related companies were unsolicited mass mailings and that there is no evidence of a response or a request for product information. Reply 19–20. Petitioner points out that Patent Owner’s declarant, Mr. Smith, “acknowledged in cross-examination, the YouTube video did not provide the recipient with access to the interior of the fur boot” and that “[n]o physical samples were sent to Wolverine World Wide.” *Id.* at 19 (citing Ex. 1019, 92:13–21, 104:22–105:3; Ex. 2009, 27). Petitioner asserts that “Patent Owner provides no evidence that anyone undertook to replicate, or even examine, this fur boot.” Reply 20. Petitioner also points out that “there is no finding that any of Stride Rite’s products infringe any claim of the ’574

Patent” and “Stride Rite continues to vigorously oppose this allegation in the parallel district court litigation.” *Id.* at 20.

We agree with Petitioner. As an initial matter, Patent Owner provides no persuasive evidence that its product embodies the challenged claims. Patent Owner cites Exhibit 2023, but that is merely the complaint filed by Patent Owner in district court, alleging that Petitioner’s products infringe. Patent Owner also relies upon Mr. Smith’s testimony about Exhibits 2009 (an email), 2010 (an idea submission letter agreement), 2012 (marketing material with images of boots and a URL for “FirebugShoes.com”), and 2013 (an email from Vance Williamson to a striderite.com email address with links to videos on YouTube.com). As Petitioner points out, however, none of this evidence shows that Petitioner had access to boot such that Petitioner could reverse engineer it for copying. And, there is no evidence in the record that any of Petitioner’s products embody any claim of the ’574 patent.

Even assuming that Patent Owner’s sample shoe embodies the challenged claims, Patent Owner has not shown that one of Petitioner’s shoes is substantially similar to Patent Owner’s sample. The evidence cited by Patent Owner consists of correspondence sent by Patent Owner to Petitioner—i.e., Mr. Smith’s testimony about Exhibits 2009 (an email), 2010 (an idea submission letter agreement)—and Patent Owner’s allegations that Petitioner’s products infringe—i.e., Exhibits 2019 (a letter from Patent Owner to Petitioner requesting a patent licensing negotiation) and 2023 (the complaint filed by Patent Owner against Petitioner in district court). None of this establishes, however, that a shoe of Petitioner’s is substantially similar to Patent Owner’s sample.

In summary, we find that Patent Owner has not provided any evidence or analysis to show Petitioner copied the invention claimed in the '574 patent. Accordingly, we find that Patent Owner has proffered very weak evidence of copying.

3. Conclusion Concerning Obviousness of Claim 1

Petitioner's showing that Parker and Rosko teach or suggest each of the limitations of claim 1 is detailed and supported by citations to the record. Petitioner also provides a showing of an articulated basis with rational underpinnings for combining the relevant teachings of the references (*see KSR*, 550 U.S. at 418). Patent Owner's arguments to the contrary are not well-supported or persuasive. Patent Owner's objective evidence of nonobviousness is weak. Based on this record, Petitioner has shown that claim 1 is unpatentable.

4. Dependent Claims 5, 6, 8, and 9

Dependent claim 5 recites, "the power source being housed within the sole." Ex. 1001, 10:38–40. Petitioner states, "Parker discloses a battery that is contained within a 'battery holder . . . mounted in the bottom portion of the shoe'" and "Rosko discloses a shoe 81 as including 'batteries 63 [which] are typically located in the heel portion of the footwear.'" Pet. 28–29 (citing Ex. 1002 ¶ 91; Ex. 1003, 6:51, 7:13–16; Ex. 1004 ¶ 23). Patent Owner does not argue claim 5.

Claim 6 recites, "the power source being adjacently connected to the liner; and the power source being positioned between the liner and the upper." Ex. 1001, 10:41–46. Petitioner relies on Parker's teachings of a

“power source 4” which includes a “coin type battery 23” and a “battery holder 24” which “are next to and contacting the liner 33” and “are also between the liner 33 and the outer shoe covering.” Pet. 29–30 (citing Ex. 1002 ¶ 92; Ex. 1003, Fig. 2, 5:6–8). Figure 2 of Parker is reproduced below.

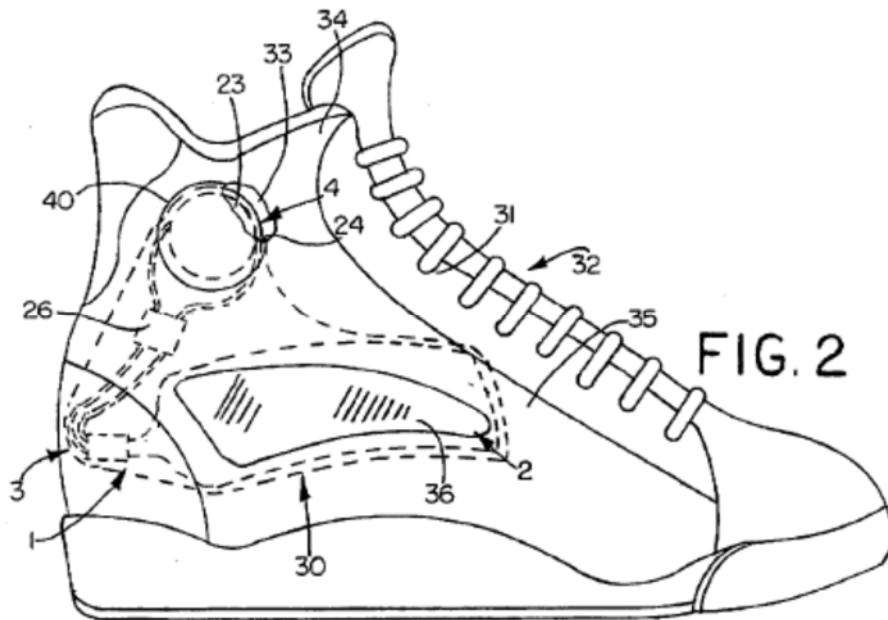


Figure 2 depicts an athletic shoe with a light distribution system. Ex. 1003, 2:43–44. Patent Owner does not argue claim 6.

Claim 8 recites, “the upper further comprises a light impermeable section.” Ex. 1001, 10:51–53. Petitioner relies on Parker’s teaching of an “outer shoe covering 34” that is inherently light impermeable except in the region of the “window 36” of Figure 2 and asserts that “[t]o the extent the outer shoe covering 34 is not inherently light impermeable, it would have been obvious to construct the outer shoe covering 34 from a light impermeable material, for example leather or synthetic leather, as these materials are widely used in athletic shoes for their durability and would desirably delimit light emitted through the window 36.” Pet. 30–31 (citing

Ex. 1002 ¶ 93; Ex. 1003, Fig. 2, 2:42–43, 5:43). Patent Owner does not argue claim 8.

Claim 9 recites, “the light diffusing section being configured as an aesthetic design, wherein the plurality of illumination sources illuminates the aesthetic design; the aesthetic design being delineated by the light impermeable section; and the plurality of illumination sources being overlapped by the light diffusing section.” Ex. 1001, 10:54–62. Petitioner relies on Rosko’s teaching of a “translucent display panel 84” which can be configured as an aesthetic design, for example, a character, person, animal or object, with illumination sources (“light source 72” with “light diffusers 5”) illuminating the aesthetic design and Parker’s teaching of a light diffusing section (“window 36”) that is delineated by a light impermeable section (“outer shoe covering 34”). Pet. 31–33 (citing Ex. 1002 ¶¶ 95–96; Ex. 1003, Fig. 2, 1:20–21; Ex. 1004 ¶ 8). Petitioner asserts both Parker and Rosko teach illumination sources overlapped by a light diffusing section. *Id.* at 33 (citing Ex. 1003, Fig. 2; Ex. 1004, Fig. 1). Patent Owner does not argue claim 9.

5. Conclusion

Based on this record, Petitioner has shown by a preponderance of the evidence that claims 1, 5, 6, 8, and 9 are unpatentable.

F. Obviousness Challenge Based on Parker, Rosko, and Guerra

Petitioner asserts claims 3, 4, and 10 would have been obvious based on a combination of the teachings and suggestions of Parker, Rosko, and Guerra. Pet. 3, 34–42.

1. *Guerra (Exhibit 1005)*

Guerra is a U.S. patent directed to footwear with optical fiber illuminating display areas. Ex. 1005, (54) (Title). Guerra's illuminated display areas provide "emphasis on illuminating certain features of the footwear, such as trademarks, logos, team sports, cartoon characters, and other artistic designs primarily for advertising, decoration and enhancing the visibility of the wearer." *Id.* at (57) (Abstract). Guerra's Figure 1 is reproduced below.

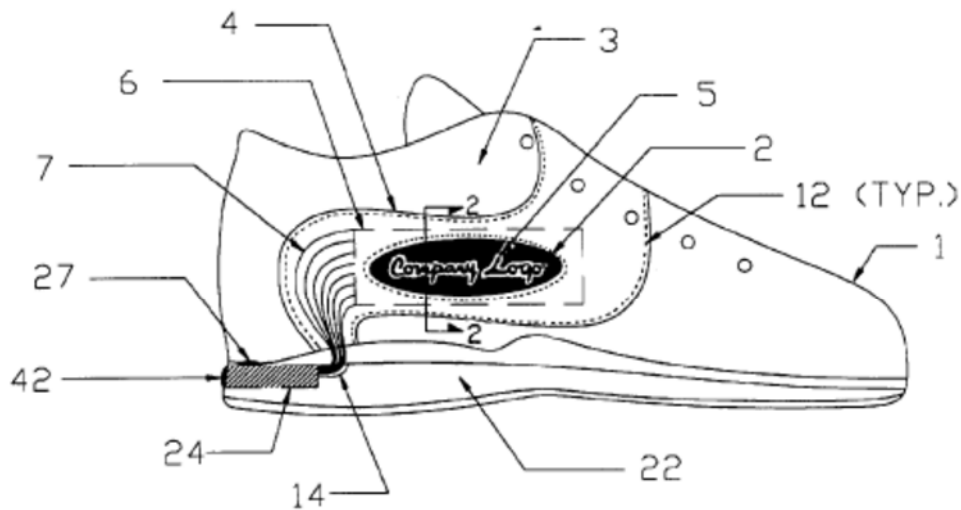


FIG.1

Figure 1 depicts "an athletic shoe 1, showing an optical fiber illuminating display area 2 on the upper portion 3 of the footwear." *Id.* at 6:64–65; *see id.* at 5:26–29. The display area "is decorated with 'Company Logo' 5" that in some embodiments is made by "adding a decorative layer 11 containing this design." *Id.* at 6:65–7:4. "The decorative layer 11 can consist of an opaque material, die-cut with letters, numbers, etc. to make visible the underlying illuminated display areas." *Id.* at 7:4–6. The decorative layer 11

additionally “can consist of a translucent layer of film . . . which can contain a design with opaque/translucent letters, numbers, etc.” *Id.* at 7:7–10. The “decorative layer 11 [can] contain[] a design, such as trademarks, logos, names, numbers, words, cartoons, pictures, etc. to further decorate and embellish the footwear.” *Id.* at 7:42–44. “Another method to further decorate the illuminating display area is by adding an[] opaque film, preferably die-cut with letters, numbers, etc., and placed underneath the clear or translucent layer 11.” *Id.* at 7:52–55.

2. *Analysis of Claims 3, 4, and 10*

Claim 3 recites a “stencil layer [that] comprises an at least one aesthetic cut,” that the stencil layer is light impermeable, and the relationship of the stencil layer to the other components of the footwear. Ex. 1001, 10:18–28. Claim 4 recites the stencil layer is light impermeable and is “configured as an aesthetic design.” *Id.* at 10:29–37.

Petitioner contends that Guerra’s opaque film placed underneath the translucent layer 11 would have conveyed to one of ordinary skill in the art the stencil layer. Pet. 34 (citing Ex. 1002 ¶ 99; Ex.1005, 7:53–55). Petitioner further contends that Guerra’s opaque film die-cut with letters, in the context of Guerra’s additional disclosure that “trademarks, logos, names, numbers, words, cartoons, pictures, etc. . . . further decorate and embellish the footwear,” would have conveyed to one of ordinary skill in the art the recited stencil layer including at least one aesthetic cut. *Id.* at 35. Petitioner contends, with support of the Holden Declaration, that one of ordinary skill in the art “would have been motivated to modify Parker to include Guerra’s opaque film with die-cut letters, such that light[] shines through the die-cut

letters, in order to display the brand origin and enhance the fashion and design detail of Parker’s shoe.” Pet. 34–35 (citing Ex. 1002 ¶ 101).

Petitioner contends “[t]he inclusion of an opaque film with die-letters would have been a known solution to Parker’s goal of providing ‘a logo or text . . . to the window.’” *Id.* at 35 (quoting Ex. 1003, 7:56–57).

With support of the Holden Declaration, Petitioner contends that one of ordinary skill in the art “would have found it obvious to position a die-cut opaque film next to and in contact with the back reflector 15 of Parker opposite the lining 33.” *Id.* at 35–36 (citing Ex. 1002 ¶ 100). Petitioner further contends that Guerra’s opaque film “by definition is light impermeable” and one of ordinary skill in the art “would include illumination sources (light diffusers 5 containing LEDs [as described previously with regard to the combination of Parker and Rosko]) adjacent the die-cut portions of the opaque film” *Id.* at 37 (citing Ex. 1002 ¶¶ 99–100; Ex. 1005, 7:53).

Claim 4 differs from claim 3 in not reciting, “the stencil layer comprises an at least one aesthetic cut” and “the plurality of illumination sources being positioned adjacent to the at least one aesthetic cut” and in reciting “the stencil layer being configured as an aesthetic design, wherein illumination from the plurality of illumination sources delineates the aesthetic design.” Ex. 1001, 10:18–37. Otherwise, claims 3 and 4 use identical language to recite the same limitations. *Id.* Accordingly, Petitioner’s showing with regard to claim 4 is similar to its showing with regard to claim 3. *See* Pet. 34–39. With regard to the limitation in claim 4 that does not appear in claim 3, Petitioner contends, “Guerra’s translucent film with opaque letters is a stencil configured as an aesthetic design” and

“illumination from the diffusers 5 would delineate the aesthetic design, namely the silhouetted opaque letters.” Pet. 39 (citing Ex. 1002 (Holden Decl.) ¶ 102).

Patent Owner disputes Petitioner’s showing with regard to claims 3 and 4 and the limitation in both claims reciting, “a stencil layer being adjacently connected to the interfacing layer opposite the liner.” Resp. 60–61. Specifically, Patent Owner contends that it would be “more appropriate” and “common” to place the stencil on the exterior “due to the unreasonable added time and expense of adding a die-cut opaque film above the diffusers and the likelihood of failure of the connection during the lasting process.” *Id.* (citing Ex. 2001 (Smith Decl.) ¶ 83). Petitioner argues that Patent Owner’s argument is contrary to the express disclosure in Guerra of placing the opaque film beneath a clear or translucent exterior layer. Reply 22–23. Guerra states, “[a]nother method to further decorate the illuminating display area is by adding and [sic] opaque film, preferably die-cut with letters, numbers, etc. and placed underneath the clear or translucent layer.” Ex. 1005, 7: 52–55. We do not find Patent Owner’s argument persuasive in view of the express, contrary teaching in Guerra. We find the preponderance of the evidence supports a conclusion that claims 3 and 4 are unpatentable.

Claim 10 depends from claim 8 and recites, “the light impermeable section being configured as an aesthetic design, wherein illumination from the plurality of illumination sources delineates the aesthetic design; the aesthetic design being delineated by the light diffusing section; and the plurality of illumination sources being overlapped by the light impermeable section.” *Id.* at 10:63–11:4. Petitioner’s showing with regard to claim 10 is

similar to its showing with regard to claims 3 and 4 which recite the same or similar limitations using the same or similar language. Pet. 39–42. Patent Owner does not argue claim 10. We conclude that claim 10 is unpatentable.

G. Obviousness Challenge Based on Parker, Rosko, and Dua

Petitioner asserts claim 2 would have been obvious based on a combination of the teachings and suggestions of Parker, Rosko, and Dua. Pet. 3, 42–44.

1. Dua (Exhibit 1007)

Dua is a U.S. patent directed to “an upper for an article of footwear that includes a textile having fusible filaments or fibers.” Ex. 1007, (57) (Abstract). Dua indicates that “[i]n comparison with unfused areas of the upper, the fused areas may impart properties that include greater stretch-resistance, stability, support, abrasion-resistance, durability, and stiffness, for example.” *Id.* Dua further indicates that additionally “the fused areas generally provide air-permeability without significantly increasing the weight of the footwear.” *Id.*

2. Analysis of Claim 2

Claim 2 depends from claim 1 and recites:

a light diffusing layer;
the light diffusing section being configured as an at least one aesthetic cut;
the at least one aesthetic cut traversing through the upper;
the light diffusing layer being adjacently connected to the interfacing layer opposite the liner;

the light diffusing layer being configured as an aesthetic design;
and
the light diffusing layer being perimetrically aligned with the at
least one aesthetic cut.

Ex. 1001, 10:6–17. Regarding the additional limitations recited in claim 2, Petitioner contends that Parker’s window 36 would have conveyed to one of ordinary skill in the art the recited light diffusing layer. Pet. 43. Petitioner further contends that the combination of Parker’s opening in an outer shoe covering 34, Rosko’s disclosure of a shaped recess for a translucent panel, and Dua’s textile covering of the outer shoe would have conveyed to one of ordinary skill in the art the additional limitations recited in claim 2. *Id.* at 43–44 (citing Ex. 1002 ¶¶ 110, 112–114). With regard to motivation to combine the relevant teachings of the cited references, the Petition states:

POSITA would have been motivated to shape the opening in Parker as an aesthetic cut, in view of Rosko, in order to enhance the commercial appeal of the resulting shoe, for example by shaping the aesthetic cut to be that of a character, person, animal, or object of interest to the intended demographic. (Ex. 1002 at ¶112). POSITA would also have been motivated to construct the outer shoe covering of a textile, as disclosed in Dua, in applications where breathability is desired. (Ex. 1002 at ¶112). In the same manner that air is allowed to partially penetrate a textile outer shoe covering, light is allowed to partially penetrate a textile outer shoe covering. (Ex. 1002 at ¶110). Consequently, the obvious modification of Parker to include a textile outer shoe covering constitutes a light diffusing section of an upper, and the obvious modification of Parker to include an opening therein in the shape of a character, person, animal, or object constitutes an aesthetic cut in a light diffusing section of an upper for a light diffusing layer (window 36). (Ex. 1002 at ¶112). These modifications would have been well within the grasp of POSITA, as evidenced by the teachings of Rosko and Dua. (Ex. 1002 at ¶112).

Id.

Patent Owner argues, “[e]ven if Rosko’s window were shaped ‘in the form of a character, person, animal or object,’” the window 1) is not a textile material as required by the preamble, and 2) in assembly on the outer of the shoe, would lack required structural integrity to survive both manufacturing and daily wear.” Resp. 63. We do not find these arguments persuasive for reasons discussed above with regard to claim 1. Additionally, Dua teaches that it is conventional for a footwear upper to include a textile. Dua states:

Conventional articles of footwear generally include an upper and sole structure attached to the upper. The materials selected for the upper vary significantly between different styles of footwear, but generally include a textile material. Athletic footwear, for example, often includes an upper having textiles that are stitched or adhesively bonded to a thermoset foam layer. Similarly, hiking boots and work boots often include a durable outer shell formed of leather and an inner lining formed of a textile joined with foam materials.

Ex. 1007, 1:13–22. With regard to structural integrity and durability, Dua teaches a composite, textile material for the upper with “increased stretch-resistance, stability, support, abrasion-resistance, durability, and stiffness.”

Id. at 2:46–48.

We find that Petitioner has shown by a preponderance of the evidence that all the limitations of claim 2 are taught or suggested by the cited art and that a motivation to combine the relevant teachings of the cited references existed. We conclude that claim 2 is unpatentable.

H. Obviousness Challenge Based on Parker, Rosko, and Guzman

Petitioner asserts claim 7 would have been obvious based on a combination of the teachings and suggestions of Parker, Rosko, and Guzman. Pet. 3, 44–46. Claim 7 depends from claim 1 and recites, “the plurality of illumination sources being configured into an aesthetic design.” Ex. 1001, 10:47–50.

1. Guzman (Ex. 1006)

Guzman is a U.S. patent application publication that “is directed to an article of footwear having both one or more light sources such as LEDs, and a loudspeaker, which are activated either by a manual switch or an inertia switch.” Ex. 1006, (57) (Abstract). Guzman discloses “an array of LEDs is mounted in a decorative pattern on the upper of the shoe.” *Id.* ¶ 8.

2. Analysis of Claim 7

Petitioner relies on Guzman’s decorative pattern of LEDs for conveying “the plurality of illumination sources being configured into an aesthetic design,” as recited in claim 7. Pet. 45 (citing Ex. 1002 ¶ 117; Ex. 1006 ¶ 8). As shown above with regard to claim 1 from which claim 7 depends, the cited art teaches arranging illumination sources beneath a light diffusing material or a light diffusing window. Petitioner contends, with support of Mr. Holden, that one of ordinary skill in the art “would have been motivated to modify Parker in view of Rosko to enhance the commercial appeal of the resulting shoe by arranging the light diffusers 5 in a ‘decorative pattern’ as disclosed in Guzman.” *Id.* (citing Ex. 1002 ¶ 118).

Patent Owner argues, “although it may be true, as stated by Mr. Holden, that ‘a person of ordinary skill in the art would have found it obvious to arrange LED lights in the outline of a star, a heart, a flower or other shape of general interest of children,’ this does not imply that one of skill in the art would have been motivated to arrange an LED array beneath a diffuse material or even a light diffusing window in an aesthetic pattern.” Resp. 66 (citing Ex. 2001 (Smith Decl.) ¶ 90). Having considered the testimony of both declarants, we consider Mr. Holden’s testimony more credible. Mr. Holden testifies that

[w]ithin the pocket in Parker’s athletic shoe, a person of ordinary skill in the art would have been motivated to arrange the LED lights from Rosko or the LED lights from Guzman in order to enhance the commercial appeal of the resulting shoe. In the case of children being the intended audience, for example, a person of ordinary skill in the art would have found it obvious to arrange LED lights in the outline of a star, a heart, a flower, or other shape of general interest to children. This technique was well within the grasp of a person of skill in the art as evidenced by Guzman, which as noted above discloses “an array of LEDs . . . mounted in a decorative pattern.” (Guzman, ¶0008).

Ex. 1002 ¶ 118. In contrast, Mr. Smith’s testimony at paragraph 90 of his Declaration merely repeats what is in the Petition. In particular, Mr. Smith does not explain why arranging LEDs beneath a diffuse material would have been less obvious than arranging LEDs on a surface, as taught in Guzman. Patent Owner did not dispute the finding, in our Decision on Institution, that a person of ordinary skill in the art would have had “at least several years’ experience in footwear design with familiarity in the integration of light sources into footwear” and “an understanding of the range of material choices and construction techniques that are used to create the various parts

of footwear, as well as their functional requirements and impact on overall footwear appearance.” Inst. Dec. 12. In light of that level of skill in the art, we are persuaded by Petitioner’s arguments and evidence that a person of ordinary skill in the art would have found it obvious to arrange LEDs in a pattern even if those LEDs were positioned between the interfacing layer and the upper, as required by claim 1.

We find the cited art teaches or suggests all the limitations of claim 7 and a motivation to combine the relevant teachings of the cited references existed. We conclude claim 7 is unpatentable.

III. CONCLUSION

For the reasons given, having considered the arguments and evidence presented by the parties, we determine a preponderance of the evidence establishes that claims 1–10 of the ’574 patent are unpatentable.

IV. ORDER

It is

ORDERED that claims 1–10 of the United States Patent No. 9,301,574 are unpatentable;

FURTHER ORDERED that Petitioner’s Motion to Strike the Declaration of Paul Barcroft (Paper 38) is *granted*;

FURTHER ORDERED that Petitioner’s Motion to Exclude (Paper 42) is *denied*;

FURTHER ORDERED that Petitioner’s Motion to Strike Sections II.C and II.D of Patent Owner’s Sur-Reply (Paper 55) is *denied*; and

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FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of this decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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