

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UNDER ARMOUR, INC.

Petitioner

v.

ATHALONZ, LLC

Patent Owner

Case IPR2024-00640
U.S. Patent 11,510,456

PATENT OWNER'S RESPONSE

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	BACKGROUND	2
A.	Overview of the '456 Patent.....	2
B.	The Claims of the '456 Patent.....	5
C.	Overview of Petitioner's Prior Art.....	7
1.	Overview of Umezawa (EX1006)	7
2.	Overview of Norton (EX1007)	9
3.	Overview of Won (EX1005).....	11
4.	Overview of Talarico '911 (EX1008).....	12
III.	PRIORITY DATE OF THE '456 PATENT	13
IV.	LEVEL OF ORDINARY SKILL	13
V.	RELATED MATTERS	14
VI.	CLAIM CONSTRUCTION	15
A.	“Gradient Compression Factor”	15
B.	“Heel Platform Having A First Height That Is Substantially Uniform From An Inner Edge Of The Sole Section To An Outer Edge Of The Sole Section”	15
C.	“First Material” And “Second Material”.....	16
D.	“Inner Edge” / “Outer Edge”.....	21
VII.	PETITIONER HAS NOT PROVEN THAT ANY CHALLENGED CLAIM IS UNPATENTABLE	21
A.	Petitioner's Unpatentability Contentions As To Claims 1-5, 7, And 9 (Grounds 2-6) Fail Because Are All Premised On	

Petitioner’s Incorrect Construction Of “First Material” And “Second Material”	21
B. All Grounds Fail Because Mr. Delgatty’s Unreliable Opinions Are Entitled to Little Weight.....	27
C. Claims 10, 11, 15, And 17 Are Not Obvious In View Of Won (Ground 1)	32
1. Won Does Not Disclose A “Forefront Platform” Having Multiple Levels Of Compression As Required By Limitation [10.4]	32
2. Won Does Not Disclose “A Heel Platform Having A First Height That Is Substantial Uniform From An Inner Edge Of The Sole Section To An Outer Edge” (Limitation [10.3])	36
D. Claims 1-5, 7, 9, 12-14 Are Not Obvious Over Won In View Of Norton (Ground 2).....	37
1. Won Does Not Disclose “The Forefoot Platform Is Constructed Of A Second Material Having A Gradient Compression Factor” And Petitioner’s Proposed Combination With Norton Fails As A Matter Of Law (Limitation [1.4])	37
2. Petitioner’s Claim 5 Arguments Are Untenable	41
E. Claims 1-5, 7, 9, 12-14 Are Not Obvious Over Won In View Of Talarico ’911 (Ground 3)	42
1. Won In View Of Talarico ’911 Does Not Render Obvious A Forefoot Platform “Constructed Of A Second Material Having A Gradient Compression Factor” (Limitation [1.4])	42
F. T Claims 1-5, 7, 9-15, and 17 Are Not Obvious Based on Umezawa (Ground 4).....	44
1. Umezawa Does Not Disclose “A Forefoot Platform Juxtaposed To The Heel Platform, Wherein The Forefoot	

Platform Is Constructed Of A Second Material Having A <i>Gradient Compression Factor</i> ” (Limitation [1.4] Or A Greater “Level Of Compression” “Proximal To An Inner Edge” Than “Proximal To An Outer Edge” (Limitation [10.4]).....	44
2. Umezawa Does Not Disclose A “Heel Platform Having A Height That Is Substantially Uniform From An Inner Edge Of The Sole Section To An Outer Edge Of The Sole Section”	51
G. The Petition Fails To Demonstrate That Claims 1-5, 7, 9-15, 17 Are Obvious Based On Norton (Ground 5).	54
1. Ground 3 Is Unsustainable Under The Correct Construction Of “Second Material” (Limitation [1.4])	54
2. Norton Does Not Discloses A Heel Platform Having A Substantially Uniform Height From An Inner Edge To An Outer Edge (Limitations [1.3] And [10.3]).....	58
H. Claims 1-5, 7, 9-15, 17 Are Not Obvious Over Talarico ’911 (Ground 6).	62
1. Talarico ’911 Does Not Disclose Or Renders Obvious A Forefoot Platform “Constructed Of A Second Material Having A Gradient Compression Factor” (Limitation [1.4]).....	63
2. The Petition fails to show that Talarico ’911 discloses a heel platform having a substantially uniform height from an inner edge to an outer edge (limitations [1.3] and [10.3]).....	63
VIII. SECONDARY CONSIDERATIONS OF NON-OBVIOUSNESS	64
A. Petitioner’s Expert Failed to Consider Any Evidence of Secondary Considerations.	65
B. Long-Felt, Unmet Need.....	66
C. Copying	67

D. Conclusion.....70

IX. CONCLUSION.....70

PATENT OWNER'S EXHIBIT LIST

Exhibit	Description
2001	Docket Control Order (Dkt. 35) in <i>Athalonz LLC v. Under Armour, Inc.</i> , No. 2:23-cv-00193-JRG (E.D. Tex.)
2002	United States District Court Judicial Case Profiles, as of December 2023
2003	Under Armour's Invalidity Contentions in <i>Athalonz LLC v. Under Armour, Inc.</i> , No. 2:23-cv-00193-JRG (E.D. Tex.)
2004	Exhibit N ('768 Patent Invalidity Chart Based on Won) to Under Armour's Invalidity Contentions in <i>Athalonz LLC v. Under Armour, Inc.</i> , No. 2:23-cv-00193-JRG (E.D. Tex.)
2005	Exhibit O ('768 Patent Invalidity Chart Based on Umezawa) to Under Armour's Invalidity Contentions in <i>Athalonz LLC v. Under Armour, Inc.</i> , No. 2:23-cv-00193-JRG (E.D. Tex.)
2006	Exhibit P ('768 Patent Invalidity Chart Based on Norton) to Under Armour's Invalidity Contentions in <i>Athalonz LLC v. Under Armour, Inc.</i> , No. 2:23-cv-00193-JRG (E.D. Tex.)
2007	Exhibit U ('768 Patent Obviousness Chart) to Under Armour's Invalidity Contentions in <i>Athalonz LLC v. Under Armour, Inc.</i> , No. 2:23-cv-00193-JRG (E.D. Tex.)
2008	U.S. Patent 11,375,768 to Adair et al. (the '768 Patent)
2009	Declaration of Mr. Timothy Markison in Support of Patent Owner's Response Regarding U.S. Patent No. 11,510,456
2010	CV of Mr. Timothy Markison
2011	Transcript of the 12/19/24 Deposition of Mr. Grant Delgatty in IPR2024-00636, IPR2024-00637, IPR2024-00638, IPR2024-00639, and IPR2024-00640
2012	Excerpts from Holt, Serway & Faughin, Physics (1st ed. 2002)

2013	Presentation Titled “Athletic Positioning Shoe: Presentation to Under Armour, August 22, 2013”
2014	Under Armour Responsive Claim Construction Brief, <i>Athalonz LLC v. Under Armour, Inc.</i> , No. 2:23-cv-00193-JRG (E.D. Tex.)
2015	Excerpts from <i>Merriam-Webster’s Ninth New Collegiate Dictionary</i> (9 th Ed., 1988) (definition of “surface”)
2020	Illustration, “Foot Supination and Pronation”

Athalonz, LLC (“Athalonz” or “Patent Owner”) submits this Patent Owner’s Response to the Petition of Under Armour, Inc. (“UA” or “Petitioner”) seeking *inter partes* review (“IPR”) of U.S. Patent No. 11,510,456 (“the ’456 patent”), and to the Board’s September 11, 2024 Institution Decision (Paper 8) (“ID”).

I. INTRODUCTION

The Petition fails to show that any claim of the ’456 patent is unpatentable for three reasons. *First*, the Petition is based on an incorrect, overbroad construction of “first material” and “second material.” Claims 1-5, 7, and 9 of the ’456 patent (which are challenged by Grounds 2-6) require a “first material” and “second material.” The Board, Petitioner, and Petitioner’s expert all agree that those claims accordingly require that the first and second materials are “different in some manner.” *See* ID at 7-8 (“[W]e see no reason to disturb the parties’ apparent agreement that the ‘first’ and ‘second’ materials, as claimed, are indeed different in some manner.”). Yet, inexplicably, the Petition relies on a different, broader (and incorrect) construction: that the claimed first and second materials can be the same material. The Petition does not address the claims with the proper construction at all. Petitioner has thus failed to prove—indeed even to allege—that Claims 1-5, 7, and 9 are patentable *under the correct construction*.

Second, each ground in the Petition relies on testimony from Petitioner’s expert, Mr. Delgatty, stating that multiple key limitations missing from the prior art

are nevertheless obvious because they were allegedly part of *conventional* shoe design. Mr. Delgatty’s opinions are unsupported, manifestly unreliable, and amount to no more than impermissible hindsight—they cannot be used for Petitioner to “find” limitations that are otherwise missing from the prior art.

Third, even putting aside these deficiencies, Petitioner’s asserted hodgepodge of prior art references fail to disclose or render obvious several claim elements. Petitioner has thus failed to prove by a preponderance of the evidence that any claim is unpatentable.

II. BACKGROUND

A. Overview of the ’456 Patent

The ’456 patent is directed toward novel athletic shoes. *See* EX1001. The patent recognizes that the prior art offered “a wide variety of shoes” on the market, each with different designs and styles depending on their use. *Id.*, 1:48-50. For example, different types of shoes (for example, “tennis shoes, golf shoes, running shoes, cross training shoes, hiking shoes, basketball shoes, etcetera”) generally had their own “particular sole pattern, a sole design, an insole design, and upper shoe portion design.” *Id.*, 1:54-57. However, these prior art athletic shoes were limited in how effective their designs were for athletic performance. For example, the patent recognizes that prior art baseball cleats were typically designed only to “facilitate[] better traction in grass and/or dirt while playing baseball.” *Id.*, 1:65-66. As such,

these prior art shoes consisted of either a “relatively flat platform for the foot within the baseball spikes,” or sometimes offered a “heel portion of the shoe” “higher than the toe portion of the shoe.” *Id.*, 1:66-2:4.

The novel athletic shoe claimed in the '456 patent improved on the prior art by generally claiming a shoe in which the heel section is constructed of a first material and has a substantially uniform height around its perimeter and the forefoot is constructed of a second material that has a gradient compression factor.

Figure 8 is an isometric diagram of one embodiment of the shoe described in the '456 patent, which shows the heel platform with a substantially uniform height around its perimeter:

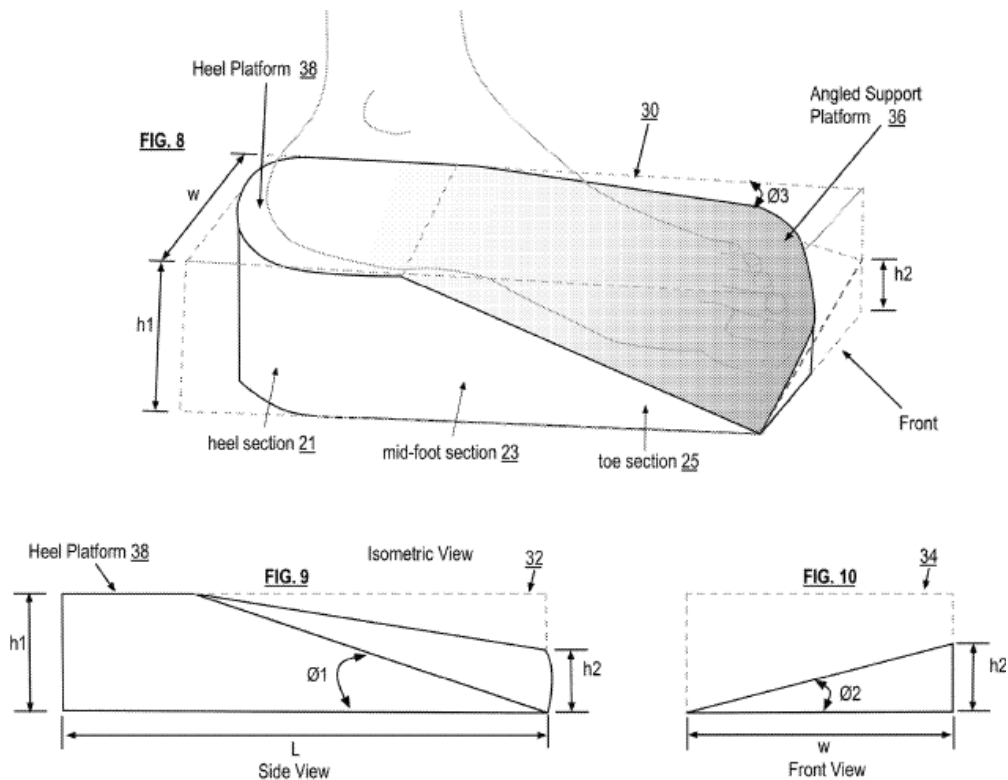


Figure 20 is one of many other illustrations, which illustrates a heel platform 38 with a substantially uniform height around its perimeter, as well as a forefoot platform (i.e., the angled support platform 36).

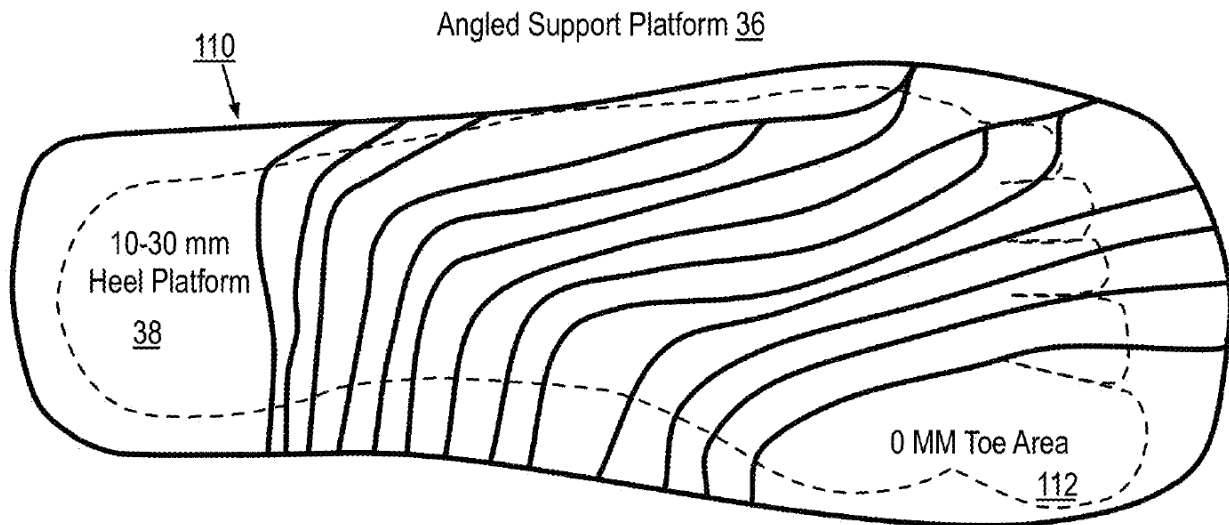


FIG. 20

Figure 93 is a diagram of one embodiment of the shoe described in the '456 patent with a second material that has a gradient compression factor, as described in the '456 patent:

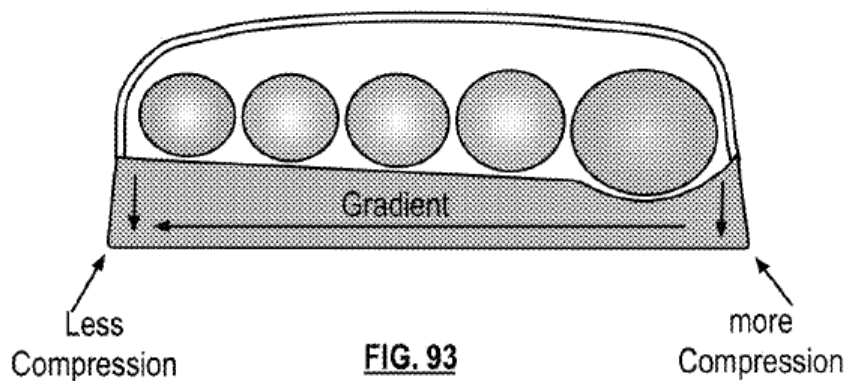


FIG. 93

Shoes with soles that implement the gradient compression factor as described and claimed in the '456 patent place the foot in an athletic position that is optimal for many sports and athletic endeavors. EX2009 ¶87. This innovative design thus provided substantial advantages over prior art athletic shoes. *Id.*

B. The Claims of the '456 Patent

Exemplary independent claim 1 of the '456 patent is shown below. For convenience, Patent Owner includes the limitation labelling convention used in the Petition.

1. [1.0] An athletic shoe comprises:

[1.1] an upper section; and

[1.2] a sole section coupled to the upper section, wherein the sole section includes:

[1.3] a heel platform having a first height that is substantial uniform from an inner edge of the sole section to an outer edge of the sole section, wherein the heel platform is constructed of a first material; and

[1.4] a forefoot platform juxtaposed to the heel platform, wherein the forefoot platform is constructed of a second material having a gradient compression factor, wherein when the athletic shoe is worn by an

athlete and weight of the athlete is applied to the athletic shoe, the second material compresses to a first level near an outer edge of the sole section and the second material compresses to a second level near an inner edge of the sole section, wherein the second level of compression is greater than the first level of compression.

EX1001, claim 1. Petitioner also challenges dependent claims 2-5, 7, and 9, which depend from claim 1.

Challenged independent claim 10, is set forth below:

10. [10.0] An athletic shoe comprises:

[10.1] an upper section; and

[10.2] a sole section coupled to the upper section, wherein the sole section includes:

[10.3] a heel platform having a first height that is substantial uniform from an inner edge of the sole section to an outer edge of the sole section, wherein the heel platform is constructed of a first material; and

[10.4] a forefoot platform juxtaposed to the heel platform, wherein the forefoot platform is constructed to have a first level of compression proximal to the outer edge of the shoe and a second level of compression proximal to an inner edge of the shoe, wherein the

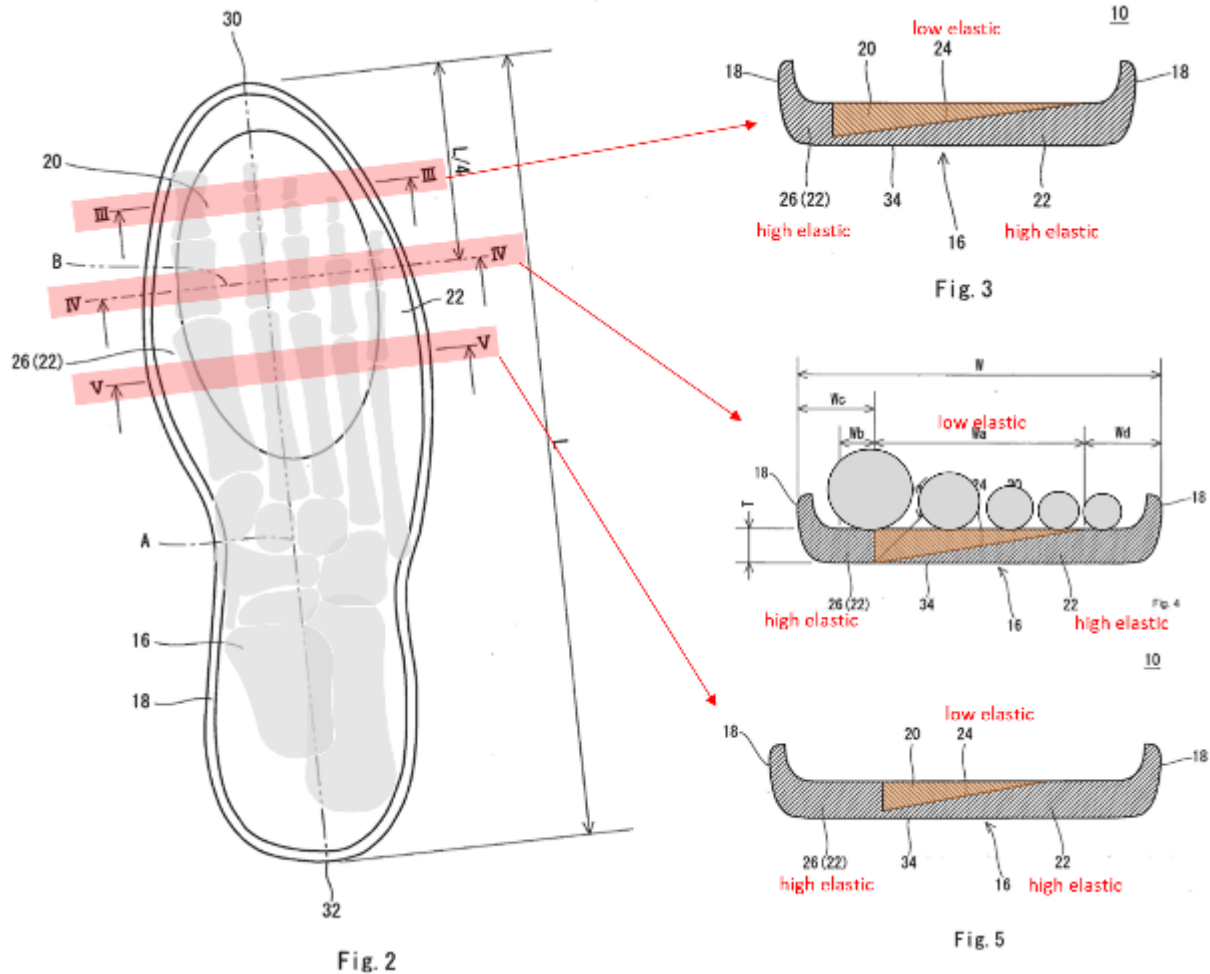
second level of compression is greater than the first level of compression.

Petitioner also challenges dependent claims 11-15, 17, which add additional limitations.

C. Overview of Petitioner's Prior Art

1. Overview of Umezawa (EX1006)

U.S. Patent Application No. 11/505,338 to Umezawa ("Umezawa") discloses a midsole section for an athletic shoe that "has a low elastic part 20, a high elastic part 22 and an inclined surface 24." EX1006, Abstract. Umezawa teaches that the bulk of the midsole section (on both the inner and outer sides of the midsole) is constructed of "high elastic part 22," while a central area in the forefoot includes varying amounts of "low elastic part 20," as Fig. 2 below demonstrates.



EX1006, Figs 2-5 (combined and annotated); EX2009, ¶114.

Looking at a cross-section view of the forefoot section from the lateral (outside) edge to the medial (inside) edge, this configuration results in (1) a region of “high elastic part 22” (shown above in Figures 3-5 as crossed hatched sections) that extends from the lateral side inward for a substantial distance, (2) a central region that includes some “low elastic part 20” (shown in figures 3-5 as orange sections), and (3) yet another substantial region of “high elastic part 22,” which Umezawa refers to as ‘inner high elastic part 26,’ that extends to the medial edge.

EX1006, ¶0037 (“A high elastic part 22 which is located to the inside of the low elastic part 20 is hereinafter referred to as ‘inner high elastic part 26.’”); EX2009, ¶116.

Notably, the level of compression at and near the inner edge of the sole is the same as the level of compression at and near the outer edge of the sole, because they are both constructed of “high elastic part 22” (the cross hatched sections of Figures 3-5, above). *Id.* ¶ 0037. Consequently, there is no net change in compressibility between the inner and outer edges of the sole at all. EX2009 ¶¶115-118. Accordingly, in Umezawa the second material is not “increasingly less compressible from the inner edge to the outer edge of the forefoot platform” (as required by Petitioner’s own construction of “gradient compression factor”).

Additionally, all cross-sectional views in Umezawa are of the forefoot, not the heel platform, as shown in Figs. 2-5 above. Umezawa does not describe the height of the heel platform, much less disclose that it is substantially uniform in height. EX2009 ¶224.

2. Overview of Norton (EX1007)

U.S. Patent No. 7,464,428 to Norton (“Norton”) is directed to a “sole element” and related methods of manufacture that, according to Norton, improve upon prior art sole designs composed of multiple materials. *See, e.g.*, EX1007, 3:9-15. (“***One aspect of one embodiment of the present invention is to not use two different***

materials with different densities to create the density variation over the sole element and to connect these materials subsequently, but *to use a single material* being supplied as a preform and having a thickness distribution that is transformed by pressure forming into the desired density distribution.”¹ 1:22-2:67 (identifying prior art references that disclose multi-material designs and explaining how they “have a severe disadvantage”); EX2009, ¶¶119-120. Petitioner acknowledges that “Norton teaches a single-material sole.” Pet., 49.

At base, Norton discloses a single-material sole *element* that is consistent between the heel and forefoot—it does not disclose that the sole element is a different material in the forefoot than in the heel. EX2009 ¶¶121-123. Moreover, Norton discloses that the sole element is used for a midsole and does not suggest the composition of the other parts of the sole (*i.e.*, the insole and outsole), and there is thus no suggestion that the forefoot and the heel would be composed of different materials for those elements either. EX2009 ¶¶230-249. Norton was before the examiner during prosecution of the application that issued as the ’456 patent. Pet., 18.

¹ All emphasis supplied unless otherwise noted.

3. Overview of Won (EX1005)

U.S. Patent No. 6,158,151 to Won (“Won”) discloses “golf shoes.” EX1005, Title; Abstract. Won is largely concerned with the height relationship between the heel and toe of golf shoes, and proposes that “the toe portion (34) is tilted upward 1-5° from the horizontal line” while “the heel portion is tilted downward -7-7 ° from the horizontal line” *Id.*, 4:40-44. Apart from this discussion of tilt angles, Won is silent as to the structure and dimensions of the sole, and it says nothing about the materials used to construct the sole. EX2009 ¶138.

Petitioner focuses on a single paragraph in Won disclosing a distinct embodiment pertaining to spikes sitting on the “surface of [the] sole” (and, notably, not the sole material itself). *Id.*, 4:46-58 (“The inside surface is soft surfaced and outside surface is hard surfaced, both of which are made from elastic materials.”); EX2009 ¶139. This is shown in Figure 5 below.

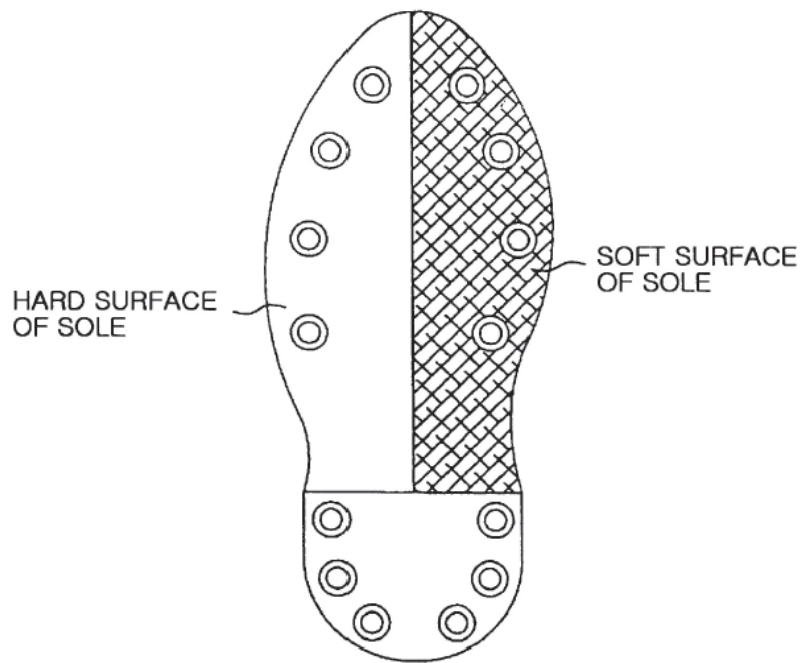


FIG. 5

EX1005, Fig. 5. According to Won, “the spikes fitted on the part of the soft surface are pressed down because they are fixed on soft surface,” while “spikes formed on the hard surface remain the same position so that the sole is tilted toward the soft surface.” EX1005, 4:52-57.

4. Overview of Talarico '911 (EX1008)

U.S. Patent No. 4,642,911 to Talarico (“Talarico '911”) discloses “Dual-Compression Forefoot Compensated Footwear.” EX1008, Title; Abstract. Talarico '911 discloses a dual-material sole unit designed to prevent excess pronation or supination. EX1008, 10:19-29. Talarico is directed only to the forefoot portions of the footwear, and thus does not disclose the elements of the '456 patent concerning

the heel. EX2009 ¶145. Talarico '911 was considered during prosecution of the '456 patent, and the claims were found patentable over it.

III. PRIORITY DATE OF THE '456 PATENT

The '456 patent claims priority to, *inter alia*, U.S. Provisional Patent Application No. 61/450,485, filed on March 8, 2011. Patent Owner does not dispute, for purposes of this Patent Owner Response, that all of Petitioner's prior art pre-dates the priority date of the '456 patent.

IV. LEVEL OF ORDINARY SKILL

Petitioner asserts that a POSITA would have (1) at least a B.S. or equivalent degree related to industrial or product design and at least two years' experience designing or developing athletic shoes; or (2) at least five years designing or developing athletic shoes. Pet., 17-18. For purposes of this proceeding, Patent Owner does not dispute Petitioner's level of ordinary skill.

Here, Patent Owner's expert is the inventor of the '456 patent² and the CEO of Athalonz, Mr. Timothy Markison. As set forth in his declaration, Mr. Markison began designing and developing athletic shoes shortly before the priority date of the

² Petitioner's expert failed to consider the education level of the inventor in analyzing the level of skill in the art, EX2011, 23:7-26:18, and had no opinion on whether the inventor here should be considered a POSITA, *id.*, 27:9-19.

patent. EX2009 ¶¶17-25, 29, 42-43. His current knowledge and experience, which includes 13 years of designing and developing athletic shoes that embody the patent at issue here, far exceeds the proposed level of ordinary skill in the art. *Id.* ¶¶43-44. Moreover, given his familiarity with the technology at issue, Mr. Markison can readily understand and apply this level of ordinary skill at the time of the invention. EX2009 ¶44; *see Osseo Imaging, LLC v. Planmeca USA Inc.*, 116 F.4th 1335, 1341 (Fed. Cir. 2024) (“an expert can acquire the necessary skill level later and develop an understanding of what a person of ordinary skill knew at the time of the invention.”). Based on Mr. Markison’s duties as a registered patent attorney and licensed attorney, he can offer good faith and objective opinions on the issues in this proceeding. EX2009 ¶¶11-13, 26-30.

V. RELATED MATTERS

Patent Owner is presently asserting the ’456 patent in the following district court action: *Athalonz, LLC v. Under Armour, Inc.*, No. 2:23-cv-00193 (E.D. Tex.).

Petitioner has also filed four other petitions for *inter partes* review on the four other patents asserted in the district court action: IPR2024-00639, IPR2024-00636, IPR2024-00637, IPR2024-00638.

VI. CLAIM CONSTRUCTION

A. “Gradient Compression Factor”

Petitioner asserts that “a POSITA would understand that a forefoot platform constructed of a second material having a ‘**gradient compression factor**’ would become ‘increasingly less compressible’ from the inner edge to the outer edge of the forefoot platform.” Pet., 14-15. Patent Owner does not agree that this construction in its entirety is correct, in part because it is inconsistent with the plain meaning of “gradient.” See EX2009, ¶92. However, Patent Owner does not object to adoption of Petitioner’s construction in the proceeding *for the limited purpose of evaluating the unpatentability theories set forth in the Petition*, because—as explained below—Petitioner’s patentability theories fail even if its own proffered construction is adopted. *Accord Promptu Sys. Corp. v. Comcast Corp.*, 92 F.4th 1372, 1380 (Fed. Cir. 2024) (“[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.” (quoting *Vivid Technologies, Inc. v. American Science & Engineering, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

B. “Heel Platform Having A First Height That Is Substantially Uniform From An Inner Edge Of The Sole Section To An Outer Edge Of The Sole Section”

For purposes of the Petition, Petitioner construes this term “to mean the perimeter of the portion of the shoe where the heel of the foot sits, not the outer-most perimeter of the shoe” and “construe[s] this limitation to include a heel platform that

includes some degree of curvature and height change from its inner edge to its outer edge, and from the front to the rear.”³ Pet., 15-16. For purposes of evaluating Petitioner’s unpatentability theories in this proceeding, Patent Owner does not object to use of this construction in this proceeding.

C. “First Material” And “Second Material”

In the Institution Decision, the Board correctly determined that “the ‘first’ and ‘second’ materials, as claimed, are indeed *different in some manner*.” ID, 8. The Board should not disturb its construction of “first material” and “second material.”

As the Board noted in the Institution Decision, “the terms ‘first’ and ‘second’ are conventionally used in patent claims to distinguish between different elements.” ID at 12-13 (quoting *Gillette Co. v. Energizer Holdings, Inc.*, 405 F.3d 1367, 1373 (Fed. Cir. 2005) for its statement that “[t]he terms ‘first, second, and third’ are terms to distinguish different elements of the claim.”); *see also 3M Innovative Props. Co. v. Avery Dennison Corp.*, 350 F.3d 1365, 1371 (Fed. Cir. 2003) (“first” and “second” sidewall surfaces are different surfaces (citation omitted)); *Springs Window*

³ Petitioner contends that in so doing it is applying an interpretation Patent Owner implicitly used in District Court. Patent Owner does not agree with this characterization but it is immaterial to adjudication of the Petition.

Fashions LP v. Novo Indus., L.P., 323 F.3d 989, 992 (Fed. Cir. 2003) (“first” and “second” opposed ends are different ends).

Petitioner has come forward with no intrinsic evidence justifying its expansive construction under which two separately claimed “material[s]” can be the same (the “Same Material Construction”). Underscoring its lack of support, Petitioner relegated its adoption of the Same Material Construction to a footnote (outside the claim construction section of the Petition), the entirety of which is below:

While claim 10 recites that the heel platform is constructed of a “first material” and the forefoot platform of a “second material,” Athalonz ***suggests that they can be the same material***, *see, e.g.* Ex. 1012, pp. 30-44, accusing shoes with the heel platform and forefoot platform constructed of the same material(s) as infringing claim 1. Without conceding alternative arguments, ***Under Armour applies Athalonz’s apparent construction***. NEC, IPR2019-01123, pp. 12-14.

Pet., 27 n. 1.⁴

⁴ Presumably, Petitioner’s reference to “claim 10” is a typographical error and was intended to refer to “claim 1,” since claim 10 does not include the “first material” and “second material” limitations.

Petitioner’s statement is notable. Petitioner explicitly adopts and applies the Same Material Construction, but does not attempt to support it with any relevant evidence—it even implicitly acknowledges that it is incorrect. Instead, Petitioner’s sole justification for the Same Material Construction is its incorrect assertion that “Athalonz contends [the first and second materials] can be the same material” in the district court litigation. *Id.* Petitioner’s argument is both factually and legally baseless. Athalonz never advocated for the Same Material Construction in district court, either expressly or impliedly. Patent Owner’s infringement contentions clearly show the heel platform and the forefoot platform have different material compositions. *Compare* EX1012, Ex. E, 38 *with id.*, 52 (showing a different ratio of orange and white material). Indeed, ***it was Under Armour, not Athalonz***, that proffered the Same Material Construction in district court; Athalonz opposed it in district court, just as it has in this proceeding. EX2014, 15 (“Thus, the first and second materials should be construed to be either the same or different materials.”). In any event, Patent Owner’s infringement contentions are irrelevant because they are not evidence of the proper claim construction of first and second material. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005); *Ferguson Beauregard/Logic Controls, Div. of Dover Res., Inc. v. Mega Sys., LLC*, 350 F.3d 1327, 1340 (Fed. Cir. 2003); *NeoMagic Corp. v. Trident Microsystems, Inc.*, 287 F.3d 1062, 1074 (Fed. Cir. 2002).

Simply put, there is no evidence of record suggesting that the “first material” and “second material” refer to anything but two distinct materials that differ from each other in some way—as the Board already correctly concluded in its Institution Decision. Accordingly, the Board should adhere to its initial construction and interpret the “first material” and “second material” limitations as being directed to different materials.

Nor can Petitioner be heard to add new arguments or evidence in its Reply. Petitioner affirmatively offered a construction for the “first material” and “second material” limitations.⁵ It of course knew of its own proposed construction, and it was obligated to include in the Petition the evidence and arguments it intended to rely upon in support of that construction. Patent Trial and Appeal Board Consolidated Trial Practice Guide (“CTPG”) at 44 (Nov. 2019) (“If a petitioner

⁵ In the Institution Decision, the Board refers to Petitioner’s Same Material Construction as an “alternative construction.” ID, 7-8. Patent Owner understand this to refer to the fact that Petitioner’s Same Material Construction is “alternative” to Patent Owner’s correct construction, not that Petitioner has proposed two, “alternative” constructions. Petitioner’s Same Material Construction is not an “alternative construction”—it is the *only* construction that Petitioner offered for these terms and is the only construction it applied in the Petition. Pet., 27 n. 1.

believes that a claim term requires an express construction, the petitioner *must* include a statement identifying a proposed construction of the particular term and where the intrinsic and/or extrinsic evidence supports that meaning.”).

While the Board has stated that “the parties are free to explore this issue further at trial” (ID, 8), the parameters of the “trial” are defined by the contents of the Petition. While Petitioner may “explore” this issue based on what is in the Petition (*i.e.*, its argument that the construction is warranted by Patent Owner’s infringement contentions), Petitioner cannot now add new evidence or argument as that would impermissibly expand the scope of the trial). Petitioner had the opportunity and obligation to include its evidence or argument in the Petition but made the strategic decision to address the issue only in passing in a footnote—Petitioner cannot reverse that decision now. *See NXP B.V. et al. v. Bell Semiconductor, LLC*, IPR2021-00967, Paper 32 (October 6, 2022) at 33-34 (holding that Petitioner’s claim construction position is “untimely and forfeited” because “Petitioner presents a new claim construction argument...that departs from the approach taken in the Petition and does not fairly respond to the Patent Owner’s Response or the Institution Decision.”); CTPG at 45 (“The petitioner may respond to any such new claim construction issues raised by the patent owner [in its reply], but cannot raise new claim construction issues that were not previously raised in its petition.”), 74 (“‘Respond,’ in the context of 37 C.F.R. § 42.23(b), does not mean

proceed in a new direction with a new approach as compared to the positions taken in a prior filing.”).

D. “Inner Edge” / “Outer Edge”

Consistent with Petitioner’s interpretation of “inner edge” and “outer edge,” these terms refer to “edges of the portion of the shoe where the foot sits” is consistent with how a POSITA would understand those terms in light of the specification. EX2009 ¶¶106-110. As Mr. Markison explains, the ’456 patent consistently illustrates the inner and outer edges of the shoe in terms of how the shoe places the wearer in an athletic position, which requires reference to how the foot engages with the foot assembly. *Id.* In light of the specification, the “inner” and “outer edges” in the claims do not refer to the edges of the exterior of the shoe. *Id.*

VII. PETITIONER HAS NOT PROVEN THAT ANY CHALLENGED CLAIM IS UNPATENTABLE

A. Petitioner’s Unpatentability Contentions As To Claims 1-5, 7, And 9 (Grounds 2-6) Fail Because Are All Premised On Petitioner’s Incorrect Construction Of “First Material” And “Second Material”

Petitioner’s contentions in Grounds 2-6⁶ that claims 1-5, 7, and 9 are unpatentable fail for a simple threshold reason: Petitioner applies the wrong

⁶ Ground 1 only challenges claims 10, 11, 15, 17. Those claims do not recite both a first and second material.

construction. For each of Grounds 2-6, Petitioner applies a construction of “first material” and “second material” in which they can both be the same exact material (the Same Material Construction). In contrast, the Petition does not map the prior art to the claim limitations under the undisputedly correct construction, in which the two claimed materials are different in some manner. And having failed to address the correct construction in the Petition, Petitioner cannot fix its fatal defect now.

The Petition’s obviousness theories fail as a matter of law. As the Board and Federal Circuit have long recognized, Petitioner bears “the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *United Microelectronics Corp. v. Lone Star Silicon Innovations LLC*, IPR2017-01513, Paper 10 at 12 (PTAB May 22, 2018) (quoting *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016)); *see also* 35 U.S.C. § 312(a)(3) (stating that IPR petitions must identify “with particularity...the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each”)). Consistent with that burden, Petitioner is obligated to identify in the Petition “[h]ow [each] challenged claim is to be construed” and “[h]ow the **construed claim** is unpatentable.” 37 CFR § 42.104(b)(3)-(4); *see also* TPG at 44.

Here, Petitioner provided an express construction of “first material” and “second material” and justified that construction solely based on (misinterpreted)

extrinsic evidence.⁷ Pet., 27 n.1. It then applied that express Same Material Construction throughout the Petition and declined to include any contentions based on an alternative construction. That express construction, however, is wrong—for all the reasons set forth above, in Petitioner’s POPR, and the Institution Decision. Consequently, the Petition—like others the Board has found deficient when based on an improper claim construction—“does not articulate a basis for review that is tethered adequately to the correct construction of the [“first material” and “second material”] term[s].” *United Microelectronics Corp. v. Lone Star Silicon Innovations LLC*, IPR2017-01513, Paper 8 at 16 (PTAB January 31, 2018); *Samsung Electronics America, Inc. et al. v. Cobblestone Wireless, LLC*, IPR2024-00319, Paper 16 at 23 (June 24, 2024) (“Because Petitioner’s obviousness showing is based on a construction that lacks sufficient support, Petitioner has not demonstrated a

⁷ The Same Material Construction is not an alternative or backup construction—it is the **only** construction that Petitioner and its expert adopted and used. *Id.*; EX1002 p. 41 n.1; EX2011, 65:15-18 (“I wasn’t asked to determine what the claim construction should be, so I applied what the terms were that were given to me.”); 67:16-21 (agreeing that Petition applied construction under which “the first material and the second material can be the same”).

reasonable likelihood that limitation [1.5] is disclosed by or would have been obvious over Sesia.”).

Petitioner’s attempts to map the prior art to the claims confirm as much. Critically, Petitioner never attempts to explain—for any relevant ground—how the prior art disclosures it relies on for the “second material” (of which the forefoot platform “is constructed”) show that the “second material” is different from the “first material” (of which the heel platform “is constructed”). *See e.g.*, Petition, 33-35 (Petitioner’s Ground 2 contentions for limitation [1.4]); 39-42 (Petitioner’s Ground 3 contentions for limitation [1.4]); 48-51 (Petitioner’s Ground 4 contentions for limitation [1.4]), 59-60 (Petitioner’s Ground 5 contentions for limitation [1.4]), and 68-69 (Petitioner’s Ground 6 contentions for limitation [1.4]. Simply put, ***Petitioner never once argues that any of its proposed unpatentability grounds disclose the claimed “second material” under the correct construction,*** which requires Petitioner to show that the “second material” is different from the first material.

Petitioner cannot cure this fundamental, material defect through new reply arguments. It is beyond well-settled that the Petitioner’s contentions as set forth in the Petition define the scope of an IPR patentability challenge. *See, e.g. Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1367 (Fed. Cir. 2016) (“It is of the utmost importance that petitioners in the IPR proceedings adhere to the requirement that the initial petition identify with particularity the evidence that

supports the grounds for the challenge to each claim.” (citation omitted)); *Netflix, Inc. v. DivX, LLC*, 84 F.4th 1371, 1377 (Fed. Cir. 2023) (“We have likewise reprimanded the Board for finding a claim unpatentable based on theories not presented in the petition.”); *SAS Inst., Inc. v. Iancu*, 584 U.S. 357, 367 (2018) (“The statute tells us that the petitioner’s contentions, not the Director’s discretion, define the scope of the litigation all the way from institution through to conclusion.”). Here, Petitioner presented no unpatentability theory alleging that the prior art discloses or renders obvious the claimed heel platform being constructed of one material, and the claimed forefoot platform being constructed of another—as the content of the Petition, the sworn declaration of Petitioner’s expert, and Petitioner’s expert’s deposition testimony all attest.

Whether Petitioner *could* have made obviousness arguments under the correct construction is irrelevant. As the Board has recognized, “it is not our role to examine the prior art advanced by Petitioner and fill the gaps in Petitioner’s reasoning and factual assertions.” *Google LLC et al. v. Headwater Research LLC*, IPR2024-00944, Paper 17 at 23 (December 4, 2024); *see also In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016) (“[W]e find no support for the PTO’s position that the Board is free to adopt arguments on behalf of petitioners that could have been, but were not, raised by the petitioner during an IPR.”); *Netflix, Inc. v. DivX, LLC*, 84 F.4th 1371, 1377 (Fed. Cir. 2023) (“We have likewise

reprimanded the Board for finding a claim unpatentable based on theories not presented in the petition.”); *Facebook, Inc. et al. v. Uniloc USA, Inc. et al.*, IPR2017-01523 Paper 7 at 16 (December 4, 2017) (“[W]e must evaluate the Petition’s arguments as presented.”).

This is not a situation, moreover, where Petitioner had no notice of the correct construction or otherwise lacked an opportunity to advance unpatentability theories based on that construction. To the contrary, Petitioner recognized the issue and apparently understood that under a plain meaning interpretation of “first material” and “second material,” the two materials must be different. *See* Pet. 27, n.1; ID, 8 (recognizing “the parties’ apparent agreement” as to the plain meaning of the terms). Nonetheless, Petitioner chose to expressly ground all relevant unpatentability contentions in the Petition on a construction that even Petitioner apparently recognized was overbroad. Under these circumstances, permitting Petitioner to proceed with obviousness theories under a new construction it consciously declined to use in the Petition would be tantamount to allowing it to add new *prima facie* obviousness grounds—an outcome that precedent forecloses. *See Corephotonics, Ltd. v. Apple Inc.*, 84 F.4th 990, 1002 (Fed. Cir. 2023) (emphasizing that “the expedited nature of IPRs bring with it an obligation for petitioners to make their case in their petition to institute” and that, consequently, “the Board is not permitted to entertain shifting arguments but must, instead, reject any entirely new theory of

prima facie obviousness absent from the petition” (cleaned up)); *Samsung*, IPR2024-00319, Paper 16 at 23 (“*Where a petitioner specifically relies on a particular construction of a claim term in order to demonstrate unpatentability*, particularly a construction different from the ordinary meaning, *that claim construction is part of the unpatentability analysis*, and the petitioner must provide a sufficient basis to support that construction.”).

Accordingly, since Petitioner’s contentions as to claims 1-5, 7, and 9 (in Grounds 2-6) include no contention that any prior art reference discloses the claimed “first material” and “second material” under the correct construction of those terms (which requires them to be different materials), those contentions fail as a matter of law.

B. All Grounds Fail Because Mr. Delgatty’s Unreliable Opinions Are Entitled to Little Weight

Recognizing that the asserted prior art does not in fact disclose all limitations of the challenged claims, each ground attempts to fill the gaps in the prior art’s disclosure using Mr. Delgatty’s opinions as to what a POSITA would understand about *conventional shoes*. *See, e.g.*, Pet., 24 (relied on for Grounds 1-3), 47-48 (Ground 4), 57 (Ground 5), 66 (Ground 6). Mr. Delgatty claims that “[a] POSITA would understand that shoes in general, including athletic shoes and golf shoes, have several traits and features that are ‘conventional’ or ‘standard.’” Ex.1002 ¶ 55.

According to Mr. Delgatty, “[t]hese conventional design traits include a heel platform that is substantially uniform in height from its inner edge to its outer edge”

Id. These opinions regarding alleged conventionality provide the linchpin for all of Petitioner’s obviousness grounds—however they are unsound, lack factual support, and are internally inconsistent. EX2009, ¶¶ 146-158, 160-172.

The bulk of Mr. Delgatty’s purported evidence consists of nothing more than pictures of the outside of shoes. EX1002, ¶¶55-57. The defects in Mr. Delgatty’s methodology are apparent at the outset from what is missing from his declaration—any *measurements* of even a single prior art shoe showing that the shoe had a heel platform with a substantially uniform height from inner to outer edge. Mr. Delgatty admitted as much in his deposition. EX2011, 32:19-22 (“And you don’t have any measurements of any of the components of the physical shoes that are in this section either. Correct? A. That’s correct.”); EX2009, ¶¶162-163. Presumably, if these design features were “conventional” and “standard” as Mr. Delgatty claims, it would have been trivially easy for him to provide measurements showing their presence in multiple prior art shoes. Tellingly, Mr. Delgatty provided none.

Instead, Mr. Delgatty’s methodology is based on the assumption that the *outward* visual appearance of the sole of an athletic shoe is a reliable indicator of the structure and dimensions of the sole on the *inside* of the shoe. But Mr. Delgatty

does not even attempt to justify this logical leap and, as Althalonz’s expert Mr. Markison explains, this inference is in fact wholly unreasonable. EX2009 ¶164.

Shoe designers routinely include both decorative and functional features in the outsoles of shoes that are not reflected in the interior structure—accordingly outsole characteristics cannot be relied upon as evidence of insole structure. EX2009, ¶164. Indeed, the very images that Mr. Delgatty cites depict a wide variety of outsole designs with varying heights and thicknesses, and thus undermine any notion that exterior images of athletic shoes can be reliably used to prove the technical characteristics of the sole platforms on the inside of the shoe. EX2009 ¶170. Remarkably Mr. Delgatty admitted as much during his deposition, testifying that “typical athletic shoes have lots of variability on what that [exterior] top silhouette line would look like. *It has no bearing on where the actual foot sits inside the shoe* where the top of the midsole would be.” EX2011, 37:3-13; *see also id.*, 35:5-21 (testifying with respect to an image of one of the Vans shoes in his declaration that “the height of the sidewall of the midsole, [] *isn’t representing where the heel would be actually seated in the shoe*”); *see also id.*, 35:22-36. Thus by Mr. Delgatty’s own admission the images of shoe exteriors he relies upon have “no bearing on where the actual foot sits inside the shoe.” Both experts thus agree that shoe exterior images cannot serve as evidence of their interior characteristics and dimensions. EX2009 ¶164.

Mr. Delgatty also cites design patents that show various sole designs as evidence of that claimed features were conventional. EX1002, ¶¶58, 60. But neither patent clearly discloses that the heel platforms have substantially uniform height heels from inner to outer edge, nor does Mr. Delgatty explain how the figures allegedly disclose these features. *Id.* Further, the front page of these patents—which Mr. Delgatty omits from his declaration—show that they are directed to “the ornamental design for a shoe **outsole**” (D275,146) and the “ornamental design for a golf shoe **bottom**” (D310,294), respectively—not to the “sole” of any shoe as Mr. Delgatty suggests. EX1002, ¶¶58, 60; EX2009, ¶¶150-157. Further, Mr. Delgatty provides no basis for assuming that a POSITA would understand “conventional” soles generally to have the same traits as these design patents. EX2009, ¶168. This is particularly true given that Mr. Delgatty’s own evidence and opinions demonstrate that significant numbers of shoes at issue in this proceeding do **not** have those traits. Tellingly, Mr. Delgatty does not rely on *any* of the shoes he uses as examples of “conventional” designs as prior art for obviousness purposes. EX2009, ¶170

Finally, Mr. Delgatty’s opinions also lack credibility and are entitled to little weight. Mr. Delgatty has a demonstrated willingness to take internally inconsistent and contradictory positions regarding the disclosures of the prior art. For example, in the parallel -640 IPR proceeding, he asserted that “Umezawa also discloses that the **novel midsole has a consistent thickness throughout**, which includes the heel

platform, as shown in Figs. 2-4.” IPR2024-00639, EX1002, ¶43; EX2011, 113:8-10 (agreeing that “Umezawa’s midsole has a consistent thickness throughout”). Later in the same declaration, however, he asserts that Umezawa “would teach and or suggest to a POSITA that *the sole is thicker at a position proximal to the front edge of the heel platform than at the toe portion.*” IPR2024-00639, EX1002, ¶75. These assertions about what Umezawa discloses are irreconcilable—it simply cannot be true that Umezawa’s midsole has both “consistent thickness throughout” and is thicker proximal to the heel than at the toe. EX2009 ¶172. Plainly, Mr. Delgatty is willing to say whatever is needed to contort the prior art to match the challenged claim limitations, regardless of internal consistency. Such “conclusory and unsupported” opinions that lack any genuine “supporting evidence” or “technical reasoning” are “entitled to little weight.” *Xerox Corp. v. Bytemark, Inc.*, No. IPR2022-00624, 2022 WL 3648989, at *6 (P.T.A.B. Aug. 24, 2022).

Mr. Delgatty’s opinions also lack credibility because he routinely parrots the language of the Petitioner verbatim—even including the same typographical errors. *Compare, e.g.,* Pet. 27 n.1 *with* EX1002, 41 n.1.

Since all unpatentability grounds in the Petition rely heavily on Mr. Delgatty’s opinions regarding what was “conventional” and “standard” in order fill gaps in the prior art, as well as for alleged motivations to combine, the unreliability and internally contradictory nature of his opinions is fatal to all of Petitioner’s grounds.

**C. Claims 10, 11, 15, And 17 Are Not Obvious In View Of Won
(Ground 1)**

**1. Won Does Not Disclose A “Forefront Platform” Having
Multiple Levels Of Compression As Required By Limitation
[10.4]**

Petitioner’s reliance on Won to supply this limitation fails for multiple reasons. *First*, the single paragraph and figure in Won that Petitioner relies upon are not directed to a “forefoot platform” at all. To the contrary, those disclosures are directed to an exterior “surface” at the bottom of the golf shoe, to which the spikes are affixed. *See* EX1005 at 4:45-49 (In yet another embodiment of the present invention as shown in FIG. 5, the golf shoes can be formed such that the inside *surface* and outside *surface* separated by a central longitudinal axis of the sole (or mid sole) are different from each other. The inside *surface* is soft surface and outside *surface* hard surface, both of which are made from elastic materials.”); Fig. 5 (below).

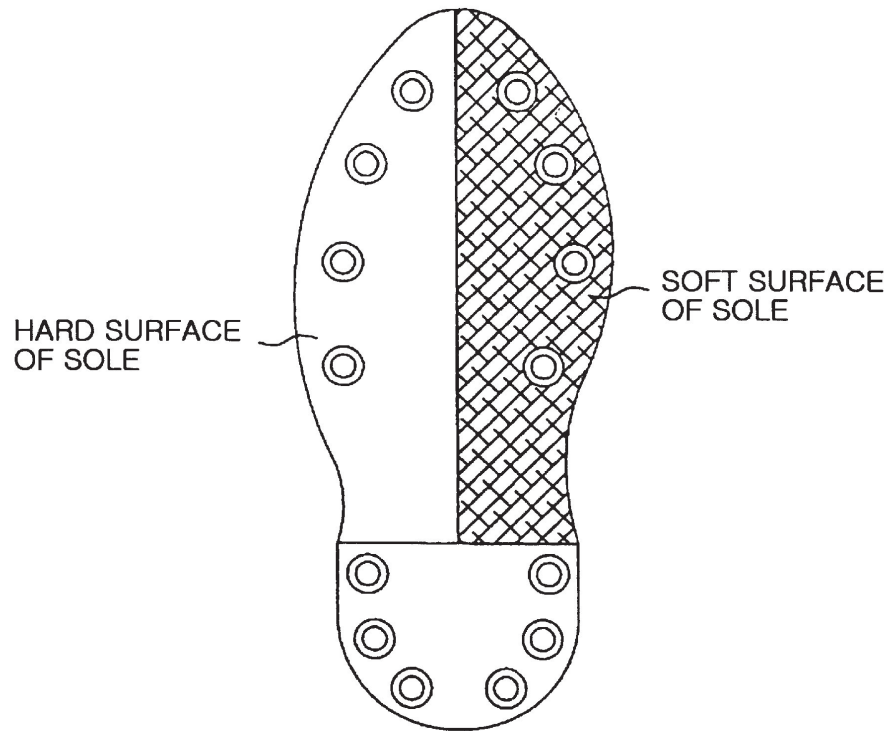


FIG. 5

During his deposition, moreover, Mr. Delgatty agreed that these “surfaces” were features of the “*outsole*” to which “the spikes are fixed.” EX2011, 116:19-117:13. As Mr. Markison explains, this exterior surface of the sole of the shoe is not itself a “forefoot platform”—it is only the surface that has no appreciable thickness. EX2009, ¶¶173-174. Petitioner’s own contentions are consistent with this understanding of the forefoot platform. For example, with other prior art references Petitioner never maps the forefoot platform to the exterior surface of the sole or the outsole.

This is no surprise because Won's figures depict the lower surface of the shoe as having negligible thickness. *See* Figs. 2-4, EX2009, ¶¶173-174. That is entirely consistent with a POSITA's understanding of the plain meaning of "surface"—a "surface" is the effectively two-dimensional "exterior or upper boundary of an object." EX2009 ¶174 (citing EX2015). The compressibility or lack thereof of the exterior surface of the shoe is fundamentally irrelevant to the claim limitation in question, which is directed to the "forefoot platform."

Second, Won does not disclose that the forefoot platform of the disclosed shoes compresses in any meaningful way. To the contrary, Won never mentions compression or compressibility of the forefoot section. EX2009 ¶¶139, 174, 179. Instead, Won contemplates that as a result of a bifurcation of the shoe's ***exterior surface*** into "soft" and hard" sections, the "spikes fitted on the part of the soft surface are pressed down" while "spikes formed on the hard surface remain the same position so that the sole is tilted toward the soft part." EX1005, 4:46-57; EX2009 ¶139. It is thus the purported ability of the "soft material" to better transmit downward force to the spikes and drive them farther in to the ground that produces the claimed result: "that the sole is tilted toward the soft surface." EX2009 ¶139.

Finally, as Mr. Markison explains, a POSITA would not view Won's disclosure as enabling because it is fundamentally wrong and baseless. The point of Won is the purported ability of the "soft material" to better transmit downward force

to the spikes and drive them farther in to the ground that produces the claimed result: “that the sole is tilted toward the soft surface.” EX2009, ¶¶139-144. But in reality, if Won’s soft material had an appreciable thickness, it would absorb more weight force than a hard material of appreciable thickness. By absorbing more weight force, there is less weight force to push the spikes into the ground. Thus, the spikes on the hard material side would be pushed further into the ground than on the softer material side. This is the opposite of the desired effect of Won. EX2009, ¶¶140-145, 252. Thus, Won is wrong about its purported effect, and the actual effect is obviously undesirable. For these reasons a POSITA would not view Won as a credible reference. EX2009, ¶¶140-145.

In any event, the mechanism Won teaches is fundamentally different from the claimed “forefoot platform” of the ’456 patent. While the claimed invention uses differences in relative compressibility *of the forefoot platform* to alter the ***orientation of the foot within the shoe***, Won contemplates that its bifurcated *external surface* will affect transmission of force to the spikes, thus ***altering the orientation of the entire shoe relative to the ground***. EX2009 ¶139. No compression of the forefoot section is disclosed or contemplated.

2. Won Does Not Disclose “A Heel Platform Having A First Height That Is Substantial Uniform From An Inner Edge Of The Sole Section To An Outer Edge” (Limitation [10.3])

For this limitation, Petitioner first points to “Figures 2, 6, and 7” as purportedly “show[ing] a uniform height heel section.” Pet., 23. But these oversimplified figures only show the heel platform from one side, and do not show that the heel platform is of a uniform height at both the inner and outer edge. EX2009 ¶¶175-176. And similarly, Figure 5 shows the heel platform from below. No figure shows a heel platform with a uniform height throughout. *Id.*

Petitioner next tries to leverage Won’s statement that “[i]t is preferred that said heel portion is tilted -5-5° and more preferable, substantially 0°” (EX1005, 2:51-53) into a disclosure of a heel platform with uniform height. Pet., 23. But Won *does not* disclose that the “‘heel portion is ... substantially 0 degrees’ *from rear to front*,” as Petitioner claims. Pet., 23 (citing EX1005, 2:51-53). Instead, this and related disclosures in Won all relate to the angle between the heel and the toe, not the height of the sides of the heel platform. *Id.*, 2:54-57. EX2009, ¶176.

Petitioner next argues that this element would be obvious to a POSITA based on its understanding of “a ‘conventional’ golf shoe.” Pet., 24. This argument is based exclusively on Mr. Delgatty’s unreliable opinions and thus fails, as discussed above. *See supra* § VII.B.

D. Claims 1-5, 7, 9, 12-14 Are Not Obvious Over Won In View Of Norton (Ground 2).

Ground 2 relies upon Ground 1's analysis to supply limitation [1.3] and thus also independently fails for the reasons discussed in the preceding ground pertaining to limitation [1.3]

1. Won Does Not Disclose “The Forefoot Platform Is Constructed Of A Second Material Having A Gradient Compression Factor” And Petitioner’s Proposed Combination With Norton Fails As A Matter Of Law (Limitation [1.4])

The Petition does not show that Won in view of Norton render obvious a forefoot platform “*constructed of a second material having a gradient compression factor.*” Petitioner acknowledges that Won does not disclose a forefoot platform having a gradient compression factor and proposes a combination with Norton to supply the missing limitation. Pet., 27. According to Petitioner, “[i]t would [] be obvious to make the forefoot platform of Won become ‘increasingly less compressible’ as you move from its inner edge to its outer edge in view of Norton, which expressly discloses this limitation and how it improves upon the dual-material design of Won.” *Id.*, 32. This combination fails for multiple reasons.

First, as explained above (*supra* § 7.A) this argument fails as a matter of law because the Petition includes no argument that a POSITA would find it obvious to add Norton’s single-material sole having a varying density distribution to Won’s shoe *as a second material* distinct from the material in the heel platform. Indeed,

Petitioner’s obviousness theory is predicated on replacing Won’s entire “sole or midsole” with Norton’s single material sole element—not just the forefoot portion. Pet., 30 (“Won’s multi-material *sole or midsole could easily be replaced* with a single material sole element as disclosed in Norton...Norton identified similar dual-material soles like that disclosed in Won, and suggested its manufacturing technique would be suitable to replace *such a sole with one made from a single material.*”).

Of note, the Board in the ID⁸ credited Petitioner with an “implied argument that the proposed combination would have had different materials for Norton’s sole element that Petitioner proposes to use in Won’s forefoot and the ‘conventional’ heel disclosed in Won.” IPR2024-00639 ID, 37-38. No such argument is present or even suggested in this Petition or the IPR2024-00640 Petition, and such an argument cannot be crafted on Petitioner’s behalf. *See* Section VII.A (citing cases emphasizing the impropriety of adjudicating unpatentability arguments not made in the Petition).

Nor does the Board’s “implied argument” make sense in light of Petitioner’s actual arguments. To the contrary, Petitioner’s proposed Norton-Won combination is expressly predicated on the argument that a POSITA would credit Norton’s

⁸ The Board’s statements come from the Institution Decision in IPR2024-00639, which the Board incorporated into its Institution Decision in IPR2024-00640 by reference. *See* ID, 12.

teaching that a “single material sole” overcomes the “severe disadvantage” associated with connecting two different materials of different densities together.” Pet. 28-29 (citing EX1007, 1:63-2:50, 2:54-67, 3:9-24, Figs 11A-11C); EX1002, ¶73 (verbatim copy of petition). Under the Board’s “implied” obviousness theory, however, these very same disadvantages “associated with connecting two different materials” would be present at the junction of the forefoot and heel platforms (because the forefoot and heel platforms would be made of different materials). It cannot be credibly argued that a POSITA would have been motivated to combine Norton and Won based on Norton’s teachings regarding the disadvantages of a multi-material sole and would implement that teaching in the forefoot platform, only to ignore that teaching as to the heel platform. EX2009 ¶¶199-203. The Board’s “implied” (*i.e.*, waived) obviousness theory would thus result in the very disadvantageous multi-material design that the combination is purportedly intended to prevent. This is a “strong” indicator of non-obviousness. *Depuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1326 (Fed. Cir. 2009) (“An inference of nonobviousness is especially strong where the prior art’s teachings undermine the very reason being proffered as to why a person of ordinary skill would have combined the known elements”).

Second, Petitioner’s theory would not be reasonably expected to succeed because it fails to grapple with the reality that—as explained above—the Won

disclosure that Petitioner relies concerns the outer *surface*, not the sole. EX2009 ¶204. Viewed in this context, the Petition’s argument that “Won’s multi-material sole or midsole could easily be replaced with a single material sole element as disclosed in Norton” (Pet., 30) makes no sense. The “sole element” in Norton (an interior component of the shoe) cannot be used to replace either an exterior surface or, as Mr. Delgatty referred to it, an “outsole” (an external component of the shoe). EX2011, 117:7-10; EX2009, ¶206. Petitioner and Mr. Delgatty make no effort to explain how a POSITA could reasonably expect success in replacing Won’s exterior “surface” with Norton’s interior “sole element”—particularly since Norton expressly distinguishes interior “sole element” from the “outsole” (EX1007, 5:60-63). Could Norton’s compressible “sole element” be durable enough to serve as an exterior surface of a shoe? How could Won’s spikes be attached to Norton’s “sole element”? How would use of Norton’s sole element impact the distribution of downward force from the foot and thus affect the extent to which spikes are driven to the ground—which is Won’s ultimate mechanism for generating tilt? Petitioner does not even attempt to answer these essential questions, EX2009 ¶207, and thus has failed to show that the combination could be reasonably expected to succeed.

In sum, Won in view of Norton does not render obvious this element.

2. Petitioner's Claim 5 Arguments Are Untenable

The Board need not reach claim 5 in view of the numerous deficiencies in Petitioner's claim 1 unpatentability theories. Patent Owner addresses claim 5 separately however because it is illustrative of the brazen contradictions with which the Petition is rife. Claim 5 expressly requires that the "second material" of the forefoot platform comprise "a *plurality* of material configured to provide a shape of forefoot platform and to provide the compression gradient factor." As discussed above, however, Norton only discloses the use of a single material sole element. This use of a single material as opposed to multiple materials is Norton's central claimed advantage over the prior art. EX.1007, 2:54-64 (explaining the "severe disadvantages" of prior art multi-material configurations); 3:9-13 ("One aspect of one embodiment of the present invention is to not use two different materials...but to use a single material"); EX2009 ¶199-203. Remarkably, Petitioner itself repeatedly made these very same points about Norton's disclosure of a single-material solution—when expedient for other obviousness arguments. Pet., 28 ("Norton identifies several prior art shoes having varied compression soles that consist of two materials...and suggests several advantages that its single-material sole provides...*Norton teaches a single-material sole to overcome these problems*").

Notwithstanding these affirmative admissions regarding Norton’s single material sole, for claim 5 Petitioner argues—in a single conclusory sentence—that “[i]t would have been an obvious design choice to use either one or a plurality of materials to achieve the benefits gradient compression.” Pet., 35. In other words, having predicated its Won-Norton combination on the theory that POSITA would look to Norton to remedy the “severe disadvantages” of Won’s multi-material design, for claim 5 Petitioner blithely asserts that it also would have been obvious to revert back to the multi-material design the combination was premised on avoiding in the first place. Petitioner’s claim 5 obviousness theory thus not only fails on the merits, it underscores the hindsight-driven and often inconsistent nature of Petitioner’s analysis of the prior art for claim 1 and throughout the Petition.

E. Claims 1-5, 7, 9, 12-14 Are Not Obvious Over Won In View Of Talarico ’911 (Ground 3)

Ground 3 relies upon Ground 1’s analysis to supply limitation [1.3] and thus also independently fails for the reasons discussed in the preceding ground pertaining to limitation [1.3]

1. Won In View Of Talarico ’911 Does Not Render Obvious A Forefoot Platform “Constructed Of A Second Material Having A Gradient Compression Factor” (Limitation [1.4])

This proposed combination fails for many of the same reasons as Ground 2 does for this limitation. *First*, Petitioner does not argue that it would be obvious to incorporate Talarico ’911’s forefoot element to Won’s shoe *as a second material*,

different from the material in the heel platform. Indeed, the Petition never identifies any material that makes up Won's heel platform at all, much less explains how any such material is different from the forefoot material that would result from the proposed combination with Talarico '911. Just as with the Norton-Won combination, "it is not the Board's] role to examine the prior art advanced by Petitioner and fill the gaps in Petitioner's reasoning and factual assertions." *Google LLC et al. v. Headwater Research LLC*, IPR2024-00944, Paper 17 at 23 (December 4, 2024). The Petition does not argue that argument that it would be obvious to incorporate Talarico '911's forefoot element to Won's shoe ***as a second material*** and such an argument cannot be read into the Petition, as the Board did in the parallel IPR2024-00640 proceeding. *See* IPR2024-00640 ID, 44.

Second, as with the Won-Norton combination, Petitioner does not explain how a POSITA could reasonably expect success in using Talarico '911's sole to replace Won's outer surface with affixed spikes. As with the preceding Norton combination, Petitioner never addresses key technical questions that a POSITA would view as essential to determining the operability of the resulting shoe and thus whether the combination would have a reasonable expectation of success. *Supra* § VII.E.1; EX2009 ¶¶ 211-213. Petitioner's Won-Talarico '911 combination ignores the entire principle of operation of Won—transmission of downward force to spikes to generate tilt—and does even attempt to explain how the principle would be either

retained or modified in the Won-Talarico '911 combination. Mr. Delgatty's supporting declaration is no better—its conclusory reasonable expectation of success section is a verbatim copy of the Petition. Such opinions cannot support an obviousness finding. *See TQ Delta, LLC v. Cisco Sys.*, 942 F.3d 1352, 1358 (Fed. Cir. 2019) (“Conclusory expert testimony does not qualify as substantial evidence.”).

F. T Claims 1-5, 7, 9-15, and 17 Are Not Obvious Based on Umezawa (Ground 4)

In addition to the global deficiencies described above, Petitioner's Umezawa grounds should be rejected for the independent reasons below.

1. Umezawa Does Not Disclose “A Forefoot Platform Juxtaposed To The Heel Platform, Wherein The Forefoot Platform Is Constructed Of A Second Material Having A Gradient Compression Factor” (Limitation [1.4) Or A Greater “Level Of Compression” “Proximal To An Inner Edge” Than “Proximal To An Outer Edge” (Limitation [10.4])

As discussed above, Petitioner fails to demonstrate that Umezawa discloses a forefoot platform “constructed of a second material,” under the proper construction of “second material.” *Supra* §7.A. Petitioner's Umezawa grounds also fail to show that Umezawa discloses “a second material having a *gradient compression factor*.”

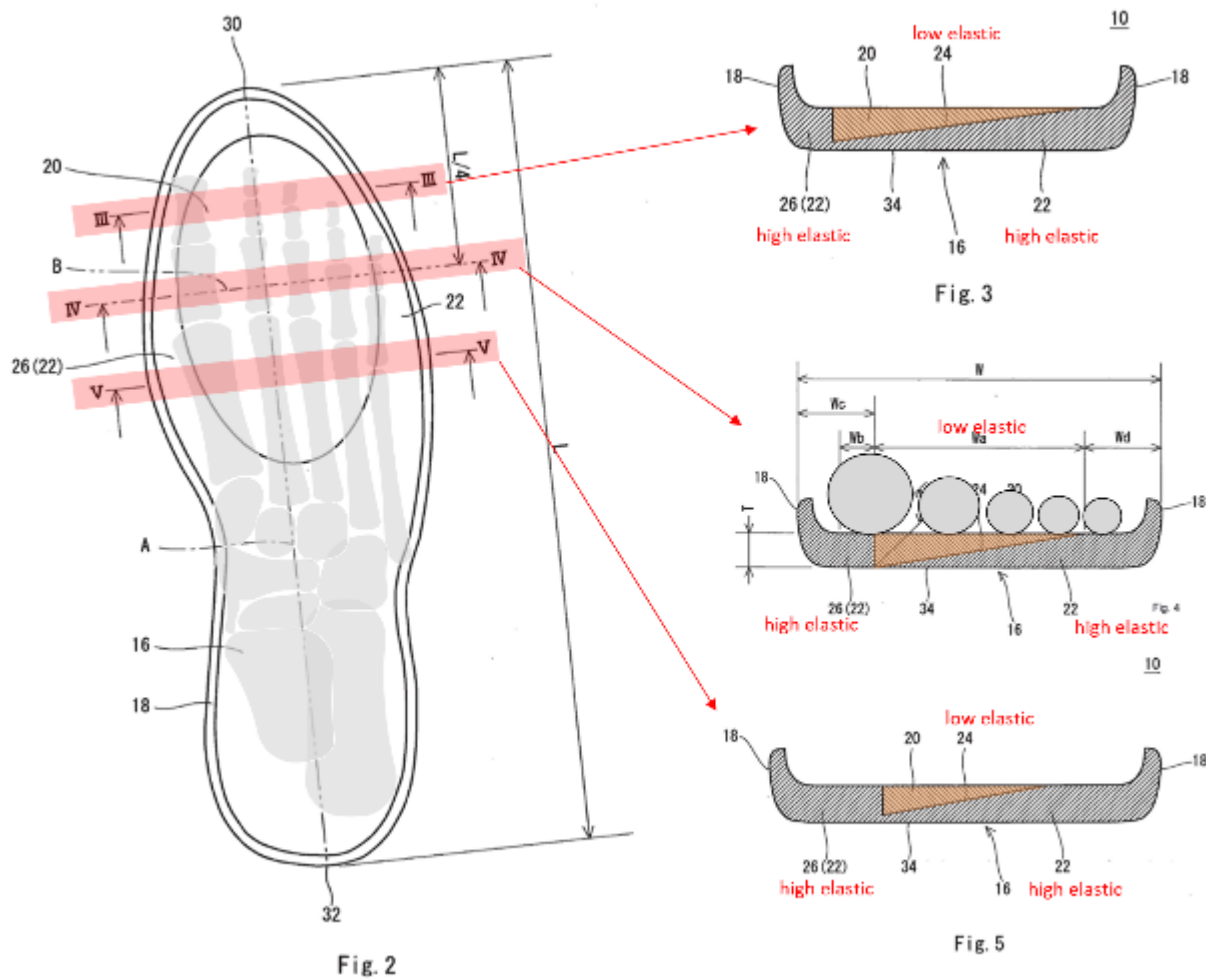
Petitioner proposes that “a forefoot platform constructed of a second material having a ‘gradient compression factor’ would become ‘*increasingly less compressible*’ from the inner edge to the outer edge of the forefoot platform.” Pet.,

14-15. Umezawa's forefoot platform plainly does not disclose this limitation under Petitioner's proposed construction.

This is because Umezawa's proposed midsole is constructed of the less compressible "high elastic part 22,"⁹ which Umezawa refers to as "inner high elastic part 26" when on the interior of the shoe, at and near *both* the inner and outer edges of the midsole, and for a substantial distance around the inner and outer edges. *Id.*, ¶0037 ("The high elastic part 22 is also located to the inside of the low elastic part 20. A high elastic part 22 which is located to the inside of the low elastic part 20 is hereinafter referred to as 'inner high elastic part 26'."); Abstract ("An inner high elastic part 26 is located to the inside of a low elastic part 20."); *see also id.*, ¶¶0061 ("The high elastic part 56 is located to the outside of the inclined surface 58. An inner high elastic part 60 is located to the inside of the low elastic part 54."), 0063, 0065, 0068, 0072, 0077, 0078 ("The high elastic part includes an inner high elastic part."), 0083; ¶¶114-118, 181-189. This less compressible high elastic part 22

⁹ Umezawa's "high elastic" part 22, is less compressible than "low elastic part 20," because Umezawa uses "high elastic" as a shorthand for "high elastic modulus." EX1006 ¶ 36. Materials with a high elastic modulus are less compressible. EX2001 ¶113.

(including the “inner high elastic part 26”) is shaded in gray in the figures on the right below.



EX1006, Fig. 2-6 (combined and annotation added); EX2009, ¶¶215-216. And Figures 4 and 5 depict embodiments with even larger regions that are made of “high elastic part 22,” with a commensurately smaller inner zone containing “low elastic part 20.”

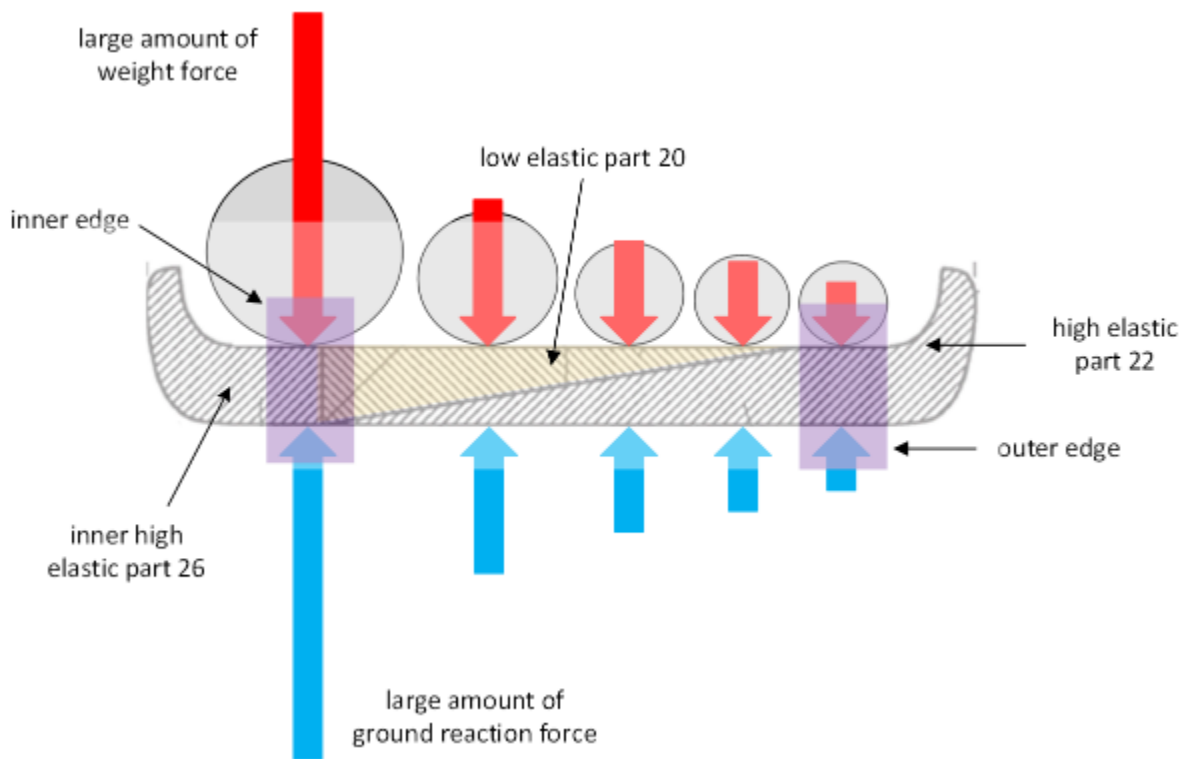
The specification explains that the “width of a flat top surface of the inner high elastic part 26” is preferably at least 3mm (and most preferably at least 10mm)

but less than 25mm, so that “sufficient force is transferred from the foot to the ground.” *Id.*, ¶0049. Thus, Umezawa discloses that between 3mm to 25mm of sole material at and adjacent to the inner edge of the sole section is “high elastic,” with the same compressibility as the “high elastic” material at the outer edge of the sole section. *Id.*; *see also id.* ¶¶0037, 0050. Accordingly, rather than being “increasingly less compressible” from the inner edge to the outer edge as Petitioner’s construction requires, the level of compression at the inner and outer edges of Umezawa’s forefoot section is *the same*—because they are both made of “high elastic part 22.” EX2009, ¶219.

This configuration is not limited to the preferred embodiment. To the contrary, although Umezawa discloses variations to the shape and composition of areas of the midsole that include “low elastic part 20,” every embodiment retains the configuration in which the area of increased compressibility is surrounded by—including at the inner and outer edges—wide swathes of less compressible “high elastic part 22.” *See, e.g.*, EX1006 at Figs 2-5 (referring to the “inner high elastic part 26” as “26 (22)), Figs. 8-15 (similarly showing that the outer edge and inner edge are made of the same material, with the same compressibility, *e.g.*, “60 (56)” and “56”) ¶¶0037 (“The high elastic part 22 is also located to the inside of the low elastic part 20.”), 61 (“The high elastic part 56 is located to the outside of the inclined

surface 58. An inner high elastic part 60 is located to the inside of the low elastic part 54.”); EX2009 ¶117.

This inner zone of less compressibility is a core part of Umezawa’s disclosed design. EX2009 ¶¶116-118. As Umezawa explains, “[e]ven if the body weight of a golf player is applied to the bottom part 6, the inner high elastic part 26 is not deformed so much” such that “[a] large amount of force is transferred from the foot to the ground through this inner high elastic part 26.” EX1006, ¶0039; *id.* ¶0062 (“The inner high elastic part 60 does not absorb much of the force transferred from a foot to the ground.”). Consequently, “[t]his inner high elastic part 26 contributes to generation of great head speed.” *Id.* This concept is demonstrated in the figure below.



As Mr. Markison explains, the existence of this less compressible inner zone is thus crucial to Umezawa’s claimed utility. EX2009, ¶¶219-223. Accordingly, Umezawa not only does not disclose progressively decreasing compressibility (from the inside edge to the outside), it teaches away from it.

Umezawa thus plainly does not disclose a “compression gradient factor” under Petitioner’s proposed construction because Umezawa’s insole does *not* become increasingly less compressible from the inner edge of the forefoot platform to the outer edge. Instead, in Umezawa (moving from inside to outside) compressibility (1) remains at a constant low level throughout the significant area comprising inner high elastic part 26, (2) dramatically *increases* at the junction

between “inner high elastic part 26” and “low elastic part 20”, and (3) finally returns (at “high elastic part 22”) to the *same* low level of compressibility that it started at. EX2009 ¶222. Petitioner has thus failed to show that Umezawa discloses a “forefoot platform [that] is constructed of a second material having a gradient compression factor” even under its own proffered construction of that term.

The Board need proceed no further since Petitioner has offered no unpatentability theories under any other construction. *See supra* § VII.A (citing cases holding that Board is limited to considering the unpatentability theories set forth in the Petition). Even if the Board were to consider a plain meaning construction, however, the result would be no different. Whatever the outer limits of the plain meaning of “gradient compression factor” may be in the context of the ’456 patent—and the Board need not and thus should not decide that issue—it plainly does not encompass what Umezawa discloses: a material with *no net change in compressibility* between the inner and outer edge of the forefoot platform. EX2009 ¶¶92, 222. Petitioner asserts that “the plain meaning of the term ‘gradient’” is “*“change in the value of a quantity (such as temperature, pressure, or concentration) with change in a given variable and esp. per unit distance in a specified direction.”*” Pet., 15 (quoting EX1019). Umezawa’s forefoot platform, which has no net change in compressibility from the inside to outside, and also includes points where

compressibility markedly *increases* when moving from the inner part of the sole to the outer, does not meet the claim language under any reasonable interpretation.

The foregoing evidence also establishes Umezawa does not disclose limitation [10.4]. That limitation requires the forefront platform to be constructed such that a “level of compression proximal to an inner edge of the shoe” is greater than a level of compression “proximal to the outer edge of the shoe.” As explained above, however, Umezawa discloses that the levels of compression “proximal to” the inner and outer edges of the shoe are exactly the same. Umezawa does not satisfy this limitation. EX2009 ¶222.

Accordingly, Ground 4 fails for this independent reason.

2. Umezawa Does Not Disclose A “Heel Platform Having A Height That Is Substantially Uniform From An Inner Edge Of The Sole Section To An Outer Edge Of The Sole Section”

The Petition points to no express disclosure in Umezawa of a heel platform with a substantially uniform height from inner to outer edge, and none is present in the reference. EX2009 ¶224. Instead, Petitioner and Mr. Delgatty rely on imprecise annotations of and extrapolations from schematic diagrams. Pet, 47-48; Ex.1002, p.62-64. As Mr. Markison explains, however, Petitioner’s annotations are inaccurate and internally inconsistent, and reliance on rough, non-scale schematic diagrams as

evidence of dimensions like heel height is technically unsound. EX2009 ¶¶224-229, 265.

Petitioner’s attempt to fill this gap based on how a POSITA would interpret generic statements in paragraph 32 (*see* Pet. at 46-48) is unavailing. Paragraph 32 says nothing about the height and dimensions of the heel platform—it simply states that the “material and structure” of the “upper,” “insole,” and “outsole” are “equal to known” ones. EX1006, ¶ 32; *see also* EX2009, ¶229. As Mr. Markison explains, nothing in this generic language would convey anything about heel platform height (EX2009, ¶229), and Petitioner’s only evidence for its position is the contradictory and unreliable testimony of Mr. Delgatty that such features were conventional. *See supra* §7.B.

Petitioner’s theory amounts to precisely the type of “common sense”-based obviousness analysis the Federal Circuit long has warned against, particularly when used to supply limitations that are missing from the prior art. *See Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1362 (“[O]ur cases repeatedly warn that references to ‘common sense’—whether to supply a motivation to combine or a missing limitation—cannot be used as a wholesale substitute for reasoned analysis and evidentiary support, especially when dealing with a limitation missing from the prior art references specified.”); *In re Zurko*, 258 F.3d 1379, 1385 (Fed. Cir. 2001). What Petitioner is really doing is making an inherency argument—that Umezawa’s

references to “known” structures in paragraph 32 inherently amount to a disclosure of the claimed heel platform—while attempting to bypass the “high standard” that inherency requires. *See Par Pharm., Inc. v. TWi Pharms., Inc.*, 773 F.3d 1186, 1195-96 (Fed. Cir. 2014) (“A party must, therefore, meet a high standard in order to rely on inherency to establish the existence of a claim limitation in the prior art in an obviousness analysis—*the limitation at issue necessarily must be present*, or the natural result of the combination of elements explicitly disclosed by the prior art.”).

Here, Petitioner has not even attempted to argue that the claimed heel platform is necessarily present in Umezawa’s disclosure. Instead, Petitioner attempts to read the claimed heel platform into Umezawa based on Mr. Delgatty’s unreliable opinions as to how POSITA would “understand” Umezawa’s vague, generic references to “known” components. Pet. at 46-47. But as discussed above, Mr. Delgatty has not established that it was conventional to use heel platforms that have uniform height from the inner to outer edge, and in fact a wide variety of design choices were available. EX2009 ¶229.

Petitioner next contends that Umezawa’s “novel midsole has a platform 16 with a consistent thickness throughout” and extrapolates from that allegation that the heel platform must have substantially uniform height because “the base [16] includes the heel platform.” Pet., 47. This argument is wrong on the merits (*see* EX2009, ¶229) and flies in the face of Petitioner’s later contentions in IPR2024-00639, where

Petitioner and its expert repeatedly alleged that Umezawa’s midsole is thicker near the heel than at the toe. *See, e.g.*, IPR2024-00639, Pet., 28 (“Umezawa teaches and/or suggests a forefoot platform wherein, at the outer edge, the thickness at a position proximal to the heel platform is greater than the thickness at the toe portion.”); IPR2024-00639, EX1002, ¶75 (Umezawa “would teach and or suggest to a POSITA that the sole is thicker at a position proximal to the front edge of the heel platform than at the toe portion.”). Petitioner’s internally contradictory attempt to fill the obvious gaps in Umezawa’s disclosure through the knowledge of a POSITA lacks the rigor of either an inherency analysis or a true obviousness analysis and should be rejected.

Ground Four thus fails because Petitioner has neither established that Umezawa discloses the claimed heel platform, nor shown that it is obvious.

G. The Petition Fails To Demonstrate That Claims 1-5, 7, 9-15, 17 Are Obvious Based On Norton (Ground 5).

1. Ground 3 Is Unsustainable Under The Correct Construction Of “Second Material” (Limitation [1.4])

All grounds fail for failing to provide contentions under the correct construction of “first material” and “second material” as set forth above. *Supra*, § 7.A. Ground 5 has an additional flaw: Petitioner and its expert repeatedly emphasized and relied on Norton’s disclosure of a sole element compromised of a “single material,” and further argued that this single-material “sole element”

included the heel portion of the shoe. *See, e.g.*, Pet., 10 (“Norton invented a method of providing a variably density *sole using only a single material*”); 11 (“The sole element has a consistent thickness throughout, *including the heel section.*”); 28 (“Norton teaches a *single-material sole* to overcome these problems [with multi-material soles]”); EX1002, ¶73 (“Norton teaches a *single-material sole* to overcome these problems [with multi-material soles]”). Petitioner’s Norton-based grounds thus presume that Norton’s single-material sole element encompass the entire sole, including the heel.

Further, Petitioner averred that Norton’s “single-material sole” was necessary to “overcome” the “‘severe disadvantage’ associated with connecting two different materials of different densities together, which ‘requires not only increased labor consumption but also leads to interconnection problems, since the two materials with different densities have to be compatible with each other.’” Pet., 28-29 (quoting EX1007, 2:54-67, 3:9-24); EX1002, ¶73 (same). Thus, Petitioner has affirmatively undermined any theory that Norton could satisfy the claims under the correct construction. No obviousness theory is viable under these circumstances. *See Spine, Inc.*, 567 F.3d at 1326.

Notwithstanding the foregoing defects in the Petition, in the IPR2024-00639 Institution Decision (the reasoning of which the Board indicated it applied in its

Institution Decision in this proceeding) the Board stated the following with respect to Petitioner's Norton contentions:

Because Norton describes using its sole element as part of a sole, and not as the entire sole, Petitioner sufficiently shows at this preliminary stage that Norton discloses the recited forefoot platform made of a second material with a gradient compression factor.” *See* Pet. 38. Also, on the preliminary record, using Norton's sole element in a shoe sole does not appear to be a teaching away, because Norton describes using a single material for the sole element, not an entire sole. Ex. 1006, 3:9–15, 4:59–62.

IPR2024-00639 ID, 31.

Patent Owner respectfully contends that this analysis is flawed for multiple reasons. First and most importantly, it is directed to an argument Petitioner never made—in either IPR2024-00639 or IPR2024-00640. Petitioner never advanced an argument that this limitation was satisfied under any interpretation of “second material” that requires the heel platform material to be different from the forefoot platform—on the cited page 38 of the Petition or anywhere else. Nor did Petitioner articulate any theory that a POSITA would understand Norton to have disclosed a forefoot platform made of a second material based on an argument that “Norton describes using a single material for the sole element, not an entire sole.”

This should end the inquiry. It is not the Board's role to identify and develop arguments that a Petitioner might have but did not include in the Petition; instead its role is limited to "evaluating the Petition's arguments as presented." *Facebook*, IPR2017-01523 Paper 7 at 16; *see also supra* § VII.A (citing cases for same proposition). Petitioner never proffered any unpatentability ground based on Norton's heel material being different from the forefoot material and it cannot do so now.

Further, the Board's preliminary suggestion in the Institution Decision that Norton does not "teach[] away" from the claimed invention under the correct construction is incorrect. As explained above, even Petitioner agrees that Norton teaches a single-material sole and that it expressly criticizes multi-material sole designs. Pet., 28-29; EX1002, ¶73. Nothing in the portions of Norton the Board cited in the IPR2024-00639 Institution Decision is to the contrary. EX2009, ¶¶181-200. Nor does the fact that Norton contemplated the "possib[ility]" that the invention might be "only used in the heel and/or in parts of the forefoot" meaningfully impact the teaching-away analysis. EX1007, 5:62-67. Norton makes clear that the invention is "typically formed as a midsole" and expressly and repeatedly criticizes the "severe disadvantage" of a host of prior art multi-material soles cited in the specification. *Id.*, 2:54-64, 5:60-63. Further, Norton expressly identifies use of "a single material" as advantageous because it eliminates "all subsequent problems of the

interconnection of different sole elements.” *Id.* 3:9-24. This repeated criticism of multi-material soles and praise of single-material soles is quintessential teaching away from a multi-material design, regardless of whether the second material is in the heel or forefoot. *See Arctic Cat Inc. v. Bombardier Rec. Prods.*, 876 F.3d 1350, 1360 (Fed. Cir. 2017) (“Prior art teaches away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.”(citation omitted)); *see also* EX2009, ¶¶230-249.

For all the foregoing reasons, Petitioner’s contention that Norton discloses the claimed “second material” fails.

2. Norton Does Not Discloses A Heel Platform Having A Substantially Uniform Height From An Inner Edge To An Outer Edge (Limitations [1.3] And [10.3])

The Petition’s principal argument that Norton itself discloses this element is Norton’s disclosure of Figures 4A and 4B (shown below). Pet., 56-57.

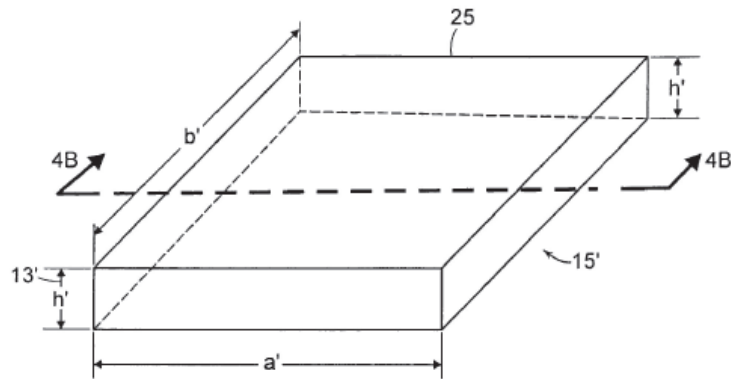


FIG. 4A

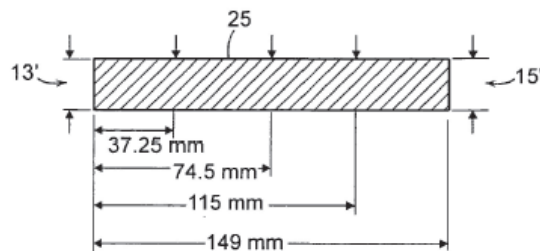


FIG. 4B

Figures 4A and 4B depict the sole element (i.e., the midsole of a sole) but they do not depict the other parts of a heel portion. EX2009 ¶256. Further, they do not depict the outsole and insole, components of the heel platform that Norton explains are “typically” provided. *Id.*, 5:60-63. Thus a POSITA would not understand the depiction of the consistently thick “sole element” shown in Figures 4A and 4B as a disclosure of an entire heel platform of substantially uniform height. EX2009 ¶256.

Further, Petitioner once again attempts to gap-fill based on a POSITA’s alleged understanding of “a typical athletic shoe.” Pet., 57. This argument hinges

entirely on Mr. Delgatty’s opinions regarding “conventional” athletic shoes that are unsupported, conclusory, and internally contradictory for all the reasons discussed above. *See* Pet., 57 (citing EX1002 ¶¶ 55-61); *supra* §7B. Notably Petitioner does not argue in this section that modifying Norton to include a heel platform with a substantially uniform height would be obvious—Petitioner instead argues that a POSITA would understand that Norton actually discloses such a platform because it implicitly invokes “conventional” shoe design. Pet., 57. Petitioner’s argument amount to precisely the type of hindsight-based “read[ing] in” of limitations into the prior art that the Board and Courts have warned against. *Apple, Inc. v. Mullen Indus. LLC*, No. IPR2023-00087, 2023 WL 5103997, at *8 (P.T.A.B. May 3, 2023).

Finally, Petitioner argues that another reference, Giese, is incorporated by reference into Norton and “discloses several shoe embodiments wherein the heel platform is substantially uniform in height around its perimeter.” Pet., 58. This argument is both legally and factually deficient. As to the law, Petitioner’s cherry picking of disclosures from Giese without performing an obviousness analysis is improper. *In re Stepan Co.*, 868 F.3d 1342, 1346 n.1 (Fed. Cir. 2017) (“Whether a rejection is based on combining disclosures from multiple references, combining multiple embodiments from a single reference, or selecting from large lists of elements in a single reference, ***there must be a motivation to make the combination and a reasonable expectation that such a combination would be successful,***

otherwise a skilled artisan would not arrive at the claimed combination.”); *Abiomed, Inc. v. Maquet Cardiovascular, LLC*, IPR2017-01204, -01205, Paper 8 at 8-12 (P.T.A.B. Oct. 23, 2017). Petitioner was obligated to provide a motivation to combine and analysis showing a reasonable expectation of success, but provided none.

Further, Norton discusses Giese purely as an example of a prior art “sole unit with different parts made out of substances with different elastic properties”—the type of multi-material sole that Norton teaches away from and purports to improve upon. EX1007, 1:63-2:7. Nothing in Norton states or suggests to a POSITA that it would be beneficial to combine Giese’s teachings about heel structure or anything else with those of Norton. EX2009 ¶261. To the contrary, Norton teaches away from such a combination by highlighting the “severe disadvantages[s]” of prior art references like Giese. EX1007, 2:54-63; EX2009, ¶261. Further, Petitioner treats all heel platforms as wholly interchangeable when, in fact, a POSITA would understand that integrating a wholly different heel into a shoe is not straightforward. EX2009, ¶¶239-240. Petitioner’s Giese combination fails as a matter of law.

Even if there were a motivation to combine Norton and Giese, Petitioner does not show how Giese’s “heel platform” is substantially uniform in height from inner to outer edge. None of the identified figures explicitly show that the heels are substantially uniform from inner to outer edge. EX1010, Figs. 5, 39, 51; EX2009,

¶262. If anything, the figures show possible deviations from a uniform height, and Petitioner does not even attempt to show why these are not “substantial.” EX1010, Figs. 5, 39, 51; Pet., 57-58. Petitioner cites to its expert declaration, but the cited portion parrots the Petition verbatim, without more, and can thus be disregarded. *Xerox Corp.*, No. IPR2022-00624, at *6.

Petitioner also points to Giese’s statement that “historically, shoe bottoms [] consisted primarily of flat surfaces on both their top and bottom.” Pet., 58 (quoting EX1010, 1:10-27), EX1002, IX.E.d. (same). But this statement only concerns “shoe bottoms,” and in any event ignores Giese’s immediately following statement that “[e]ventually, it became known to contour the top surface of the unit bottom to provide a heel cup and slight arch” which the made “the shoe more comfortable” in comparison to “a flat surface.” EX1010, 1:22-27; EX2009 ¶262.

In sum, Petitioner has not shown that Norton discloses or renders obvious limitations [1.3] or [10.3].

H. Claims 1-5, 7, 9-15, 17 Are Not Obvious Over Talarico ’911 (Ground 6).

As an initial matter, Talarico ’911 was considered by the examiner and the claims were found patentable over it. The examiner statements in a Notice of Allowance in the ’768 patent prosecution that Petitioner relies upon (Pet., 13) are not probative of unpatentability—plainly the examiner did not understand Talarico

'911 to disclose the claimed subject matter, or the claims would not have been allowed.

1. Talarico '911 Does Not Disclose Or Renders Obvious A Forefoot Platform “Constructed Of A Second Material Having A Gradient Compression Factor” (Limitation [1.4]).

As discussed above (*supra* §7.A) Petitioner does not argue that Talarico '911 discloses this limitation *under the correct construction*. Indeed, Petitioner never identifies the “first material” of which the heel platform is constructed, much less shows how it is different from the “second material” of which the forefoot platform is constructed.

2. The Petition fails to show that Talarico '911 discloses a heel platform having a substantially uniform height from an inner edge to an outer edge (limitations [1.3] and [10.3])

Petitioner's contentions as to Talarico '911's alleged disclosure of the claimed heel platform follow a familiar pattern of internal contradictions and improper gap-filling. Petitioner first cites disparate portions of Talarico that show only that various portions of the midsole have consistent thickness. Pet, 65-66. None of these citations discloses or is probative of an entire heel platform with a substantially uniform height from an inner to an outer edge. EX2009, ¶264.

Next, Petitioner pivots to an acknowledgment that Talarico's invention “was directed only to the forefoot portions of the footwear,” and proposes that a POSITA would find the limitation based on an alleged understanding that “a typical athletic

shoe has a heel platform that is consistent in height throughout.” Pet., 66. This argument fails both because it relies on Mr. Delgatty’s flawed opinions regarding “typical” shoes, and because its an obviousness argument without an obviousness analysis.

VIII. SECONDARY CONSIDERATIONS OF NON-OBVIOUSNESS

For the reasons given above, the challenged claims of the ’456 Patent are not obvious over the prior art on which Petitioner relies. However, in addition to those arguments, secondary considerations of nonobvious, discussed further below, also demonstrate that the challenged claims are not obvious.

The objective evidence of nonobviousness includes, among other factors, long felt but unsolved need, skepticism by others, and industry praise. *See, e.g., In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998). Secondary considerations may be accorded substantial weight when there is a “nexus between the evidence and the merits of the claimed invention.” *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1246 (Fed. Cir. 2010) (citations omitted). “A patent owner is entitled to a presumption of nexus when it shows that the asserted objective evidence is tied to a specific product that embodies the claimed features, and is coextensive with them.” *Volvo Penta of the Ams., LLC v. Brunswick Corp.*, 81 F.4th 1202, 1210 (Fed. Cir. 2023) (internal quotation marks and citation omitted).

As discussed below, the requisite nexus exists here, owing to the legally and factually sufficient connection between the evidence of non-obviousness and the patented invention. *See Demaco Corp. v. F. Von Langsdorff Licesning Ltd.*, 851 F.2d 1378, 1392 (Fed. Cir. 1988).

A. Petitioner’s Expert Failed to Consider Any Evidence of Secondary Considerations.

Secondary considerations of nonobviousness must be considered in every case where present. *Apple Inc. v. Samsung Elecs. Co., Ltd.*, 839 F.3d 1034, 1048 (Fed. Cir. 2016) (en banc) (citations omitted). This requirement arises from the fact that every factor “helps inform the ultimate obviousness determination.” *Id.* (citations omitted). Secondary considerations may be the most probative evidence of nonobviousness. *Crocs, Inc. v. ITC*, 598 F.3d 1294, 1310 (Fed. Cir. 2010).

Mr. Delgatty did not perform any analysis of any of the secondary considerations. In fact, at his deposition, Mr. Delgatty admitted that his declaration acknowledged that secondary considerations were “something you’re supposed to consider for obviousness.” EX2011, 117:14-118:2. He even read descriptions of several of the factors which were *included in his declaration*. *Id.*, 120:17-121:21. Yet, when asked whether he applied any secondary considerations or even analyze whether any evidence of secondary considerations existed, he replied, “I didn’t apply any.” *Id.*, 121:17-122:1. Mr. Delgatty’s stunted obviousness analysis is infirm for

his failure to perform any assessment of the secondary considerations of nonobviousness.

As discussed below, numerous secondary considerations weigh heavily in favor of a finding that the invention embodied in the '456 Patent was *not* obvious.

B. Long-Felt, Unmet Need

Petitioner's prior art references show that the footwear industry has long been working on footwear designs intended to improve athletic performance, without achieving the success of the patented invention. Athletic shoes that incorporate the concepts of references like Won, Umezawa, Talarico '911, and Norton are not prevalent in the market, if they even exist at all. EX2009 ¶¶269-270. Petitioner's expert, Mr. Delgatty, admitted in his deposition that he was unaware of any products in the market that embody the concepts of any of the prior art asserted against these claims. EX2011, 123:8-124:6. This suggests that the concepts disclosed in these patents have not been accepted as solving the problem of the need for putting athletes into a better athletic position.

The combination of the long recognition of the problem years prior to the filing of the '456 Patent and the lack of solutions in the market in the intervening time period indicates that there was a long-felt and unmet until the '456 Patent was filed.

C. Copying

There is substantial evidence that Under Armour, the Petitioner here, copied Athalonz's patented technology claimed in the '456 patent. EX2009 ¶272. In August 2013, Athalonz (then known as Ad-Mark Athletic Ventures) met with personnel from Under Armour and gave a detailed presentation about the company, its products, and its patents. *See* EX2013; EX2000 ¶¶273-274. The presentation included detailed figures straight from the patents, and described in detail why the concept of "athletic positioning" claimed in the '456 patent was important for improving athletic performance. EX2009 ¶274. Indeed, Athalonz presented specific concepts and figures that were part of the patent applications that became the '456 patent, including its figures disclosing athletic positioning:

Creating A Solution

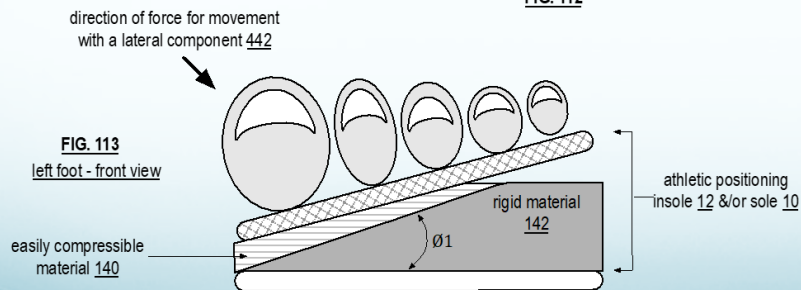
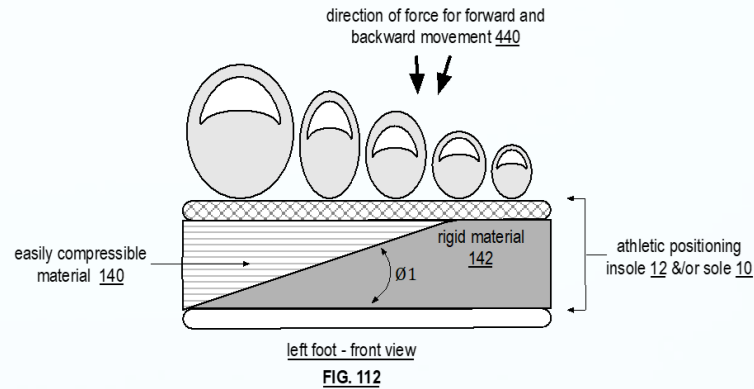
- We created a sole and/or an insole that provides:
 - a linear heel section that is higher than the toe section (i.e., downward slope from heel to toe); and
 - The inner edge of the ball of the foot and/or big toe portion of the toe section is lower than the outer edge of the toe section (i.e., inward slope from outside edge of front foot area to inside edge of front foot area);
- **Our Athletic Positioning Concept gives the athlete the optimal foot positioning for an optimal Athletic Start;**

AdMark Athletic Ventures Confidential Information

13

EX2012, 13.

Normal to athletic positioning



AdMark Athletic Ventures Confidential Information

68

Id., 68. And Athalonz offered Under Armour the opportunity to acquire or license Athalonz's technology. *Id.*, 47-49; EX2009 ¶275.

Under Armour continued to engage with Athalonz after the presentation, including receiving physical sample products of the Athalonz shoes in 2014 to test internally before deciding whether to license or partner with Athalonz on its technology. *Id.* ¶276-277. However, Under Armour eventually stopped responding to Athalonz, and instead proceeded to release infringing products that copied the

athletic positioning claimed in the '456 patent. *Id.*, ¶276-277; EX1009. Under Armour's copying is strong evidence of secondary considerations of nonobviousness. EX2009 ¶278.

D. Conclusion

The above secondary considerations are further evidence that the challenged claims of the '456 patent are not obvious over the prior art cited by Petitioner

IX. CONCLUSION

For the reasons stated above, the Board should find that Petitioner failed to carry its burden of proving unpatentability as to all grounds in the Petition.

Dated: January 3, 2025

/Michael Matulewicz-Crowley/
Michael Matulewicz-Crowley
Counsel for Patent Owner

CERTIFICATE OF COMPLIANCE

The undersigned hereby certifies that Patent Owner's Response (the "POR") consists of 13,829 words, excluding the table of contents, certificate of service, this certificate of compliance, or table of exhibits. The POR complies with the type-volume limitation of 14,000 words as mandated in 37 C.F.R. § 42.24. In preparing this certificate, counsel has relied on the word count of the word-processing system used to prepare this paper (Microsoft Word).

Dated: January 3, 2025

/Michael Matulewicz-Crowley/
Michael Matulewicz-Crowley
Counsel for Patent Owner

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6, the undersigned certifies that on January 3, 2025
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