

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LULULEMON USA INC.,

Petitioner,

v.

NIKE, INC.,

Patent Owner.

Case IPR2024-00159

Patent No. 9,375,046

PATENT OWNER'S RESPONSE UNDER 37 C.F.R. § 42.120

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EXHIBITS

Exhibit No.	Description
2001	File History of U.S. Patent No. 9,375,046 (Excerpted)
2002	02/29/2024 Declaration of Dr. Christopher M. Pastore
2003	lululemon's Responsive Claim Construction Brief (ECF No. 88), <i>Nike, Inc. v. lululemon usa inc.</i> , No. 1:23-cv-00771 (S.D.N.Y.) (Excerpted)
2004	12/10/2023 Markman Hearing Transcript, <i>Nike, Inc. v. lululemon usa inc.</i> , No. 1:23-cv-00771 (S.D.N.Y.) (Excerpted)
2005	Nike's Opening Claim Construction Brief (ECF No. 74), <i>Nike, Inc. v. lululemon usa inc.</i> , No. 1:23-cv-00771 (S.D.N.Y.) (Excerpted)
2006	08/16/2024 Declaration of Dr. Christopher M. Pastore
2007	08/08/2024 Deposition Transcript of Dr. David S. Brookstein

I. INTRODUCTION

Patent Owner Nike, Inc. (“Nike”) submits this Patent Owner Response to lululemon usa inc.’s (“lululemon’s”) Petition challenging the patentability of claims 1–3, 7–9, and 14–20 (the “Challenged Claims”) of U.S. Patent No. 9,375,046 (Ex. 1001; the “’046 Patent”). lululemon has not carried its burden of proving that any Challenged Claim is unpatentable.

The ’046 patent generally relates to articles, e.g., footwear, having a knitted component. The knitted component includes tubular structures and webbed areas disposed in an alternating manner across the component. The ’046 patent has three independent claims—claims 1, 8, and 20. Claims 1 and 20 are directed more generally to an “article,” whereas claim 8 is directed specifically to a footwear “upper.”

lululemon raises three grounds of invalidity against the Challenged Claims. Each ground involves only a single reference. Ground 1 is based on U.S. Patent No. 4,702,091 (Ex. 1005; “Good”). Ground 2 is based on U.S. Patent No. 391,005 (Ex. 1006; “Munsing”). Ground 3 is based on U.S. Pat. Appl. Pub. No. 2014/0130374 (Ex. 1007; “Minami”). Grounds 1 and 2 challenge only the “article” claims; Ground 3 challenges only the “upper” claims. lululemon’s only obviousness assertions are with respect to three dependent claims: claim 3 (Ground 1), and claims 9 and 15 (Ground 3).

In its institution decision, the Board construed the term “tubular structures,” which appears in every independent claim¹, to mean structures having at least a “closed periphery or circumference.” Institution Decision at 8. As the Board preliminarily found, neither Good nor Munsing teach “tubular structures” under this construction. lululemon’s Grounds 1 and 2 fail for this reason alone. Good and Munsing also fail to disclose a “plurality of webbed areas” and a “plurality of tubular structures” extending along a “longitudinal direction,” as recited by dependent claim 2.

lululemon’s Ground 3 fails because Minami fails to disclose two aspects of claim 8. First, Minami does not disclose tubular structures having “a first curved portion with a first curve length” greater than “a second curve length” of “a second curved portion,” as recited in claim 8. Second, Minami fails to disclose “webbed areas configured to move between a neutral position and an extended position,” as recited in claim 8.

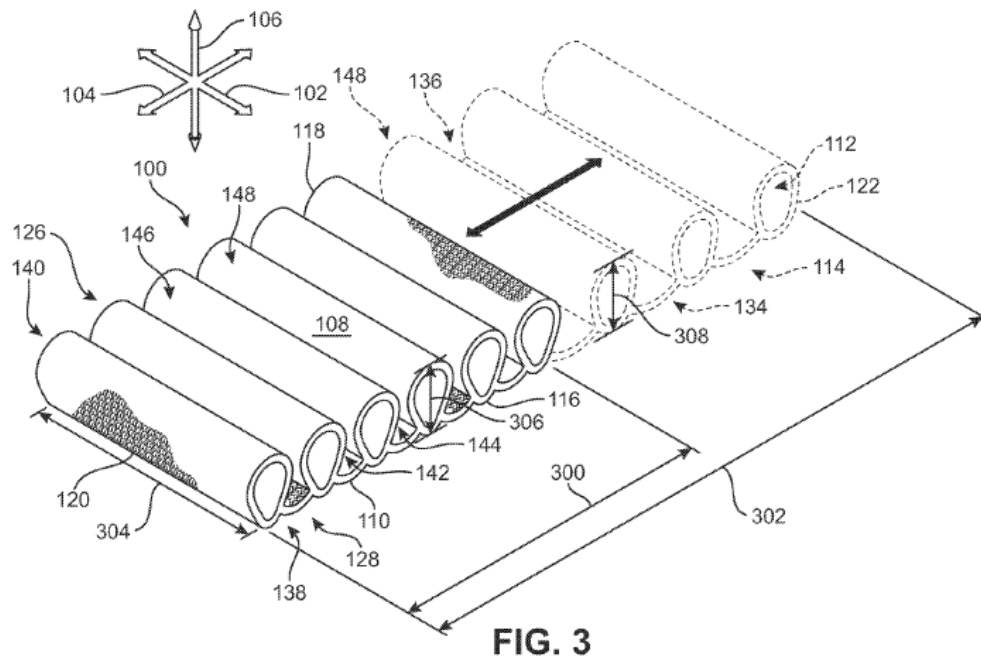
For at least these reasons, lululemon has not carried its burden of proving by a preponderance of the evidence that any Challenged Claim of the ’046 patent is unpatentable.

¹ The parties agree that “tubular rib structures,” recited in claim 8, are equivalent to “tubular structures,” recited in claims 1 and 20. Petition at 15.

II. BACKGROUND

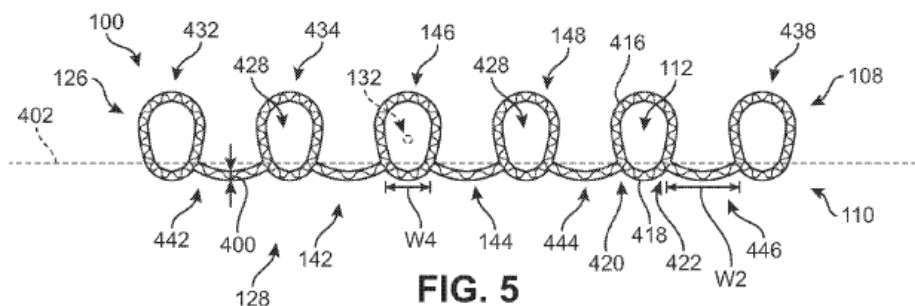
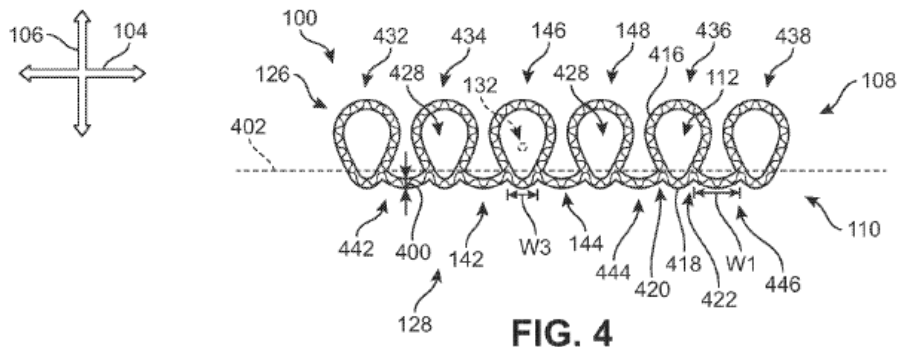
A. '046 Patent

The '046 Patent is directed to articles, e.g., footwear, having knitted components “provided with different structural portions that affect the properties and/or physical characteristics of the knitted component.”² Ex. 1001 at 4:29–55. In certain embodiments, the specification describes that these “different structural portions” include “tubular rib structures” and “webbed areas.” *E.g., id.* at 4:55–61, 7:9–13. Figure 3 of the '046 patent reproduced below is an embodiment of a knitted component including these features.



² The '046 Patent includes claims 1–7, 16–18, and 20 directed to an “article.” Claims 8–15 and 19 are directed more specifically to a footwear “upper.”

In Figure 3, knitted component 100 includes “a plurality of tubular rib structures 126” and “a plurality of webbed areas 128.” *Id.* at 7:9–11. Tubular rib structures 126 are “constructed with two or more co-extensive and overlapping knit layers.” *Id.* at 7:15–17. Webbed areas 128 “extend between” tubular rib structures. *Id.* at 7:56–58. The '046 patent specification describes that webbed areas 128 and tubular rib structures 126 “can flex, deform, or otherwise move as knitted component 100 stretches.” *Id.* at 8:17–20. The “first width 300” portion of Figure 3 depicts knitted component 100 in a “neutral position.” *Id.* at 8:28–33, 8:40–48. The “second width 302” portion depicts knitted component 100 in a stretched or “extended position.” *Id.* Figures 4 and 5 reproduced below show a cross-sectional view of knitted component 100 in neutral and extended positions, respectively.

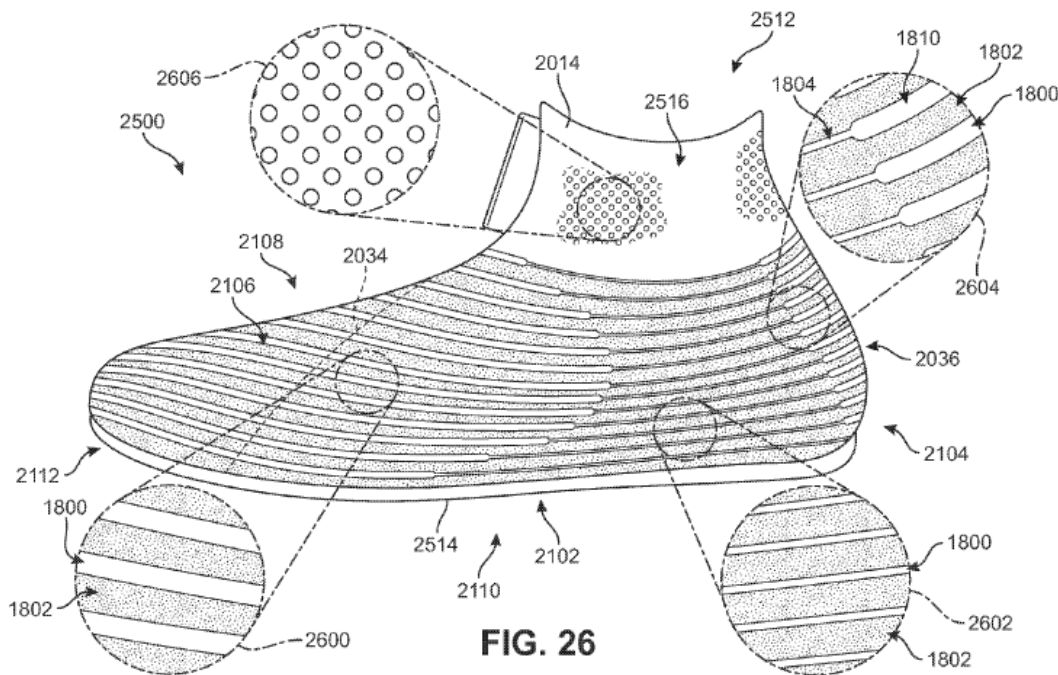


The specification explains that, “[w]hen viewed in cross-section,” tubular rib structures 126 include “first curved portion 416” and “second curved portion 418.” *Id.* at 10:20–23. The first and second curved portion may be knitted together and “disposed opposite” of one another “on the respective top and bottom of tubular knit structures 126.” *Id.* at 10:23–28. In Figures 4 and 5, the first and second curved portions 416 and 418 “meet along a first transition 420 edge.” *Id.* at 10:28–30. The ’046 patent describes that the number of courses of first curved portion 416 and second curved portion 418 may vary such that one portion is longer than the other. *See id.* at 10:50–62. In Figures 4 and 5, for example, first curved portion 416 is substantially longer than second curved portion 418.

The specification further describes that “the arrangement of adjacent tubular rib structures 126” may be such that “webbed areas 128 disposed between” the tubular rib structures are “at least partially obscured from visual observation in the neutral or unstretched position when viewed from top surface 108.” *Id.* at 12:41–46. In other words, as shown in Figure 4, tubular rib structures 146 are “touching or close to each other” such that webbed areas 128 are “not visible.” *Id.* at 12:46–49. And when a stretching force is applied to knitted component 100, as shown in Figure 5, the webbed areas 128 “may then be revealed.” *Id.* at 12:49–56. In some embodiments, the webbed areas may be of “a contrasting type or color of yarn” than the tubular rib structures. *Id.* at 12:56–61. Additionally, in some embodiments, the

webbed areas and tubular rib structures may be formed from different yarns. *Id.* at 18:34–39.

Figure 26 reproduced below shows an embodiment in which tubular rib structures (1802) and webbed areas (1800) are incorporated into footwear.



B. Relevant File History

During prosecution of the '046 Patent, the Examiner issued a non-final office action rejecting claims 1–7 as being anticipated by Kuroda (Ex. 1008), and alternatively rejecting claims 1–4, 6, and 7 as anticipated by Woolley (Ex. 1009). Ex. 2001 [7/20/2015 Non-Final Rejection] at 3–7. The Examiner rejected claims 8–15 as obvious over Dua (Ex. 1010) and Woolley. *Id.* at 7–9. Nike thereafter amended independent claims 1 and 8, adding that “at least one of the webbed areas or tubular

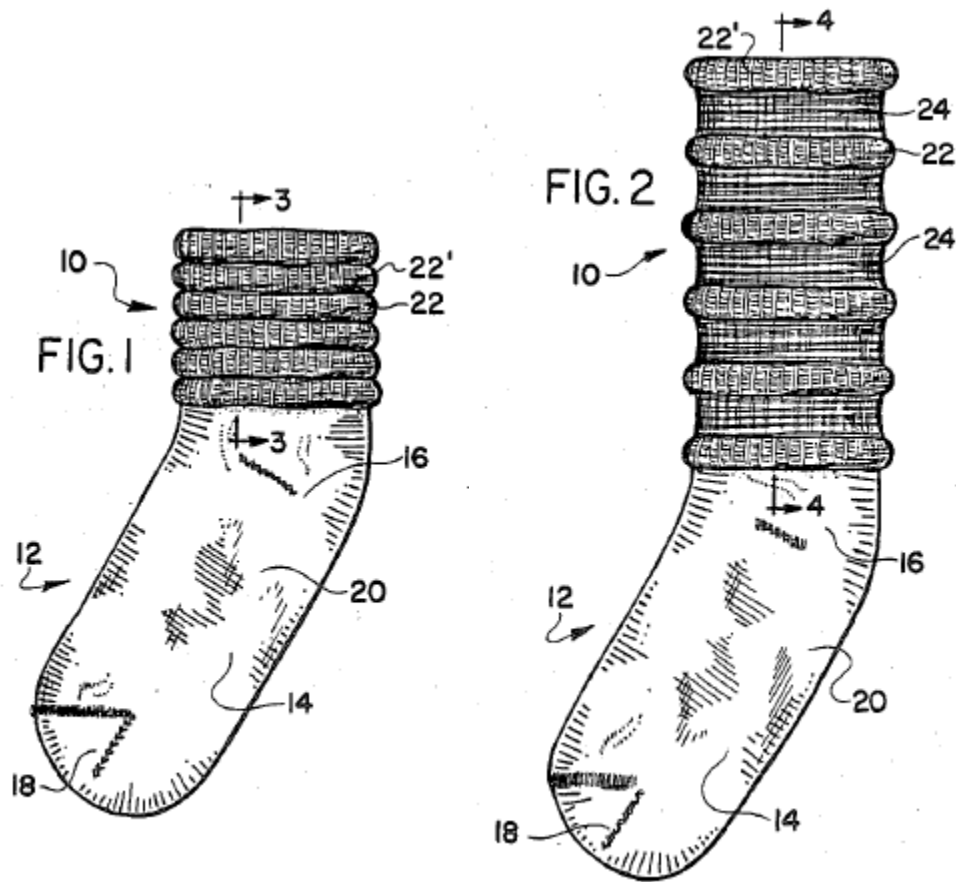
structures is configured to stretch to move the webbed areas to the extended position in response to a force applied to the article.” *Id.* [10/20/15 Claims] at 12, 14.

Nike and the Examiner held an interview to discuss these pending claims in light of Kuroda, Woolley, and Dua. *Id.* [11/12/2015 Remarks] at 22–23. During the interview, the Examiner proposed adding into independent claim 1 that “the first area of the front surface is hidden from visual observation from a first viewing perspective, and in the extended position, the first area of the front surface is revealed for visual observation from the first viewing perspective.” *Id.* The Examiner also proposed adding into independent claim 8 that “a first curved portion with a first curve length extends from the front side of the webbed areas, and a second curved portion with a second curve length extends from the back side of the webbed areas, the first curve length being greater than the second curve length.” *Id.* Nike amended claims 1 and 8 to recite these features, and added independent claim 26 (now claim 20) having similar limitations to claim 1. *Id.* [11/12/15 Claims] at 17, 19, 21. The Examiner then allowed the claims. *Id.* [2/25/16 Notice of Allowability] at 28.

C. Alleged Prior Art References

1. Good

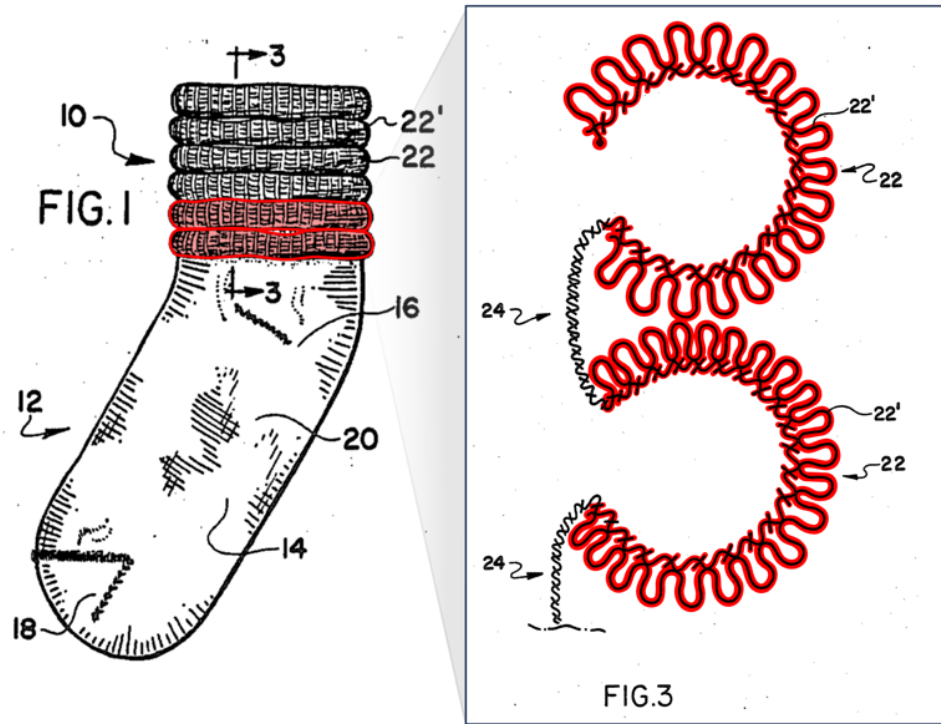
Good (Ex. 1005) is directed to a “tubular circularly-knitted cuff member.” Ex. 1005 at Abstract. Good’s cuff member is embodied in the “anklet-type children’s sock” shown in Figures 1 and 2 below. *Id.* at 3:49–53.



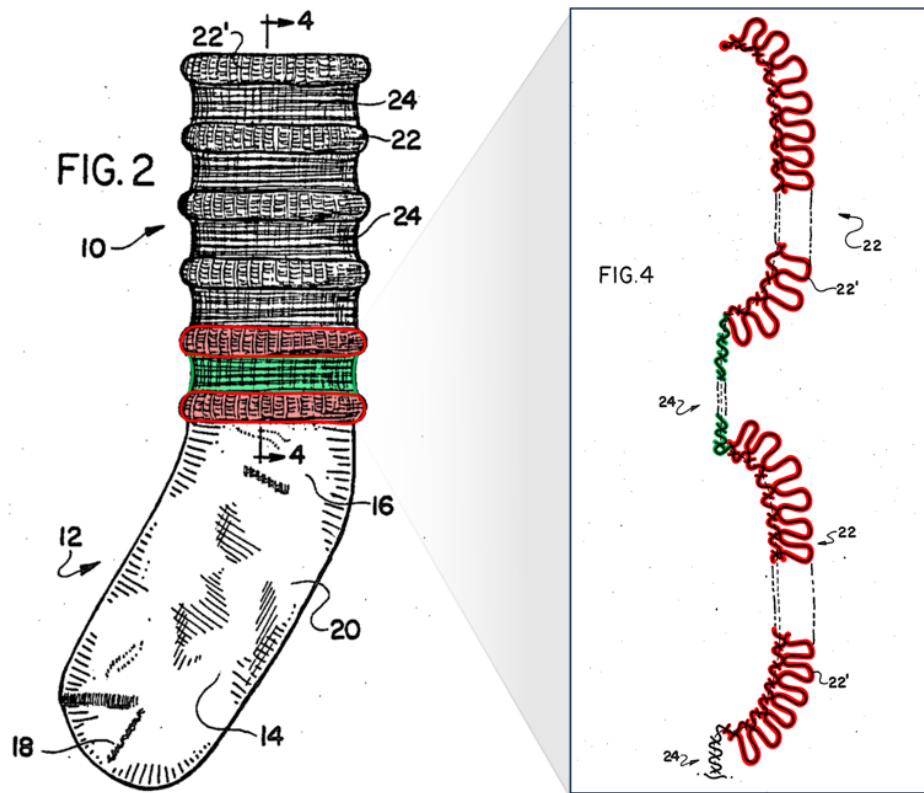
Good describes that “sock 12” includes “several annular circumferentially-extending rib portions 22” and “several annular circumferentially-extending connection portions 24” knit in an “axially alternating arrangement” along cuff member 10. *Id.* at 3:67–4:4. Good further explains that the cuff member 10 is “stretchable axially” from the position shown in Figure 1 (below) to the position shown in Figure 2 (below). *Id.* at 4:8–18.

Good explains that rib portions 22 are “of a terry pile fabric construction” having “a radi[a]lly outwardly rounded terry loop surface 22’.” *Id.* at 4:4–7. A

vertical cross-section of Good’s “relaxed cuff member” taken along line 3–3 in Figure 1 is shown with annotations (red) below.



A vertical cross-section of Good’s “elongated cuff member” taken along line 4–4 in Figure 2 is shown with annotations (red) below.

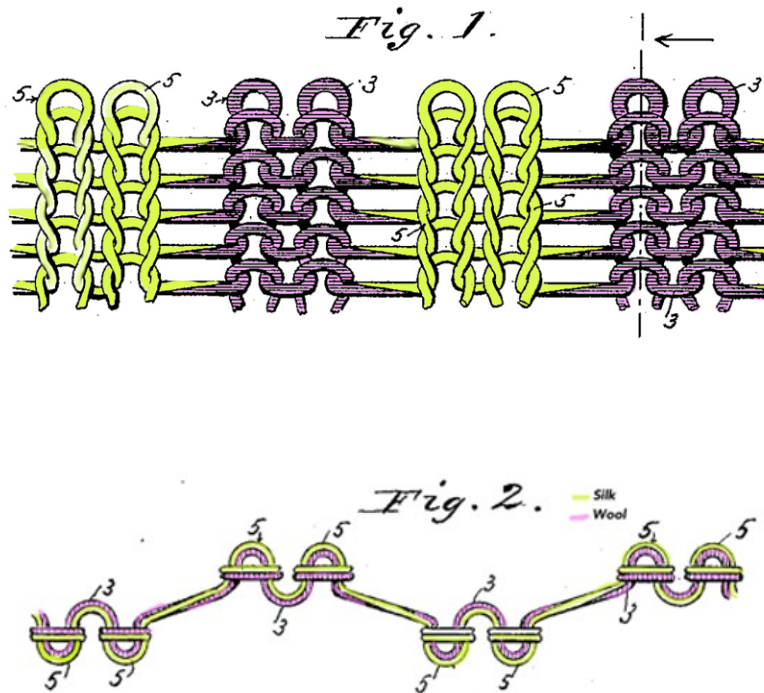


As shown in Figures 3 and 4, Good's rib portions (red) are not closed loop, i.e., closed periphery structures. They are merely C-shaped knitted portions that substantially flatten out when stretched.

2. Munsing

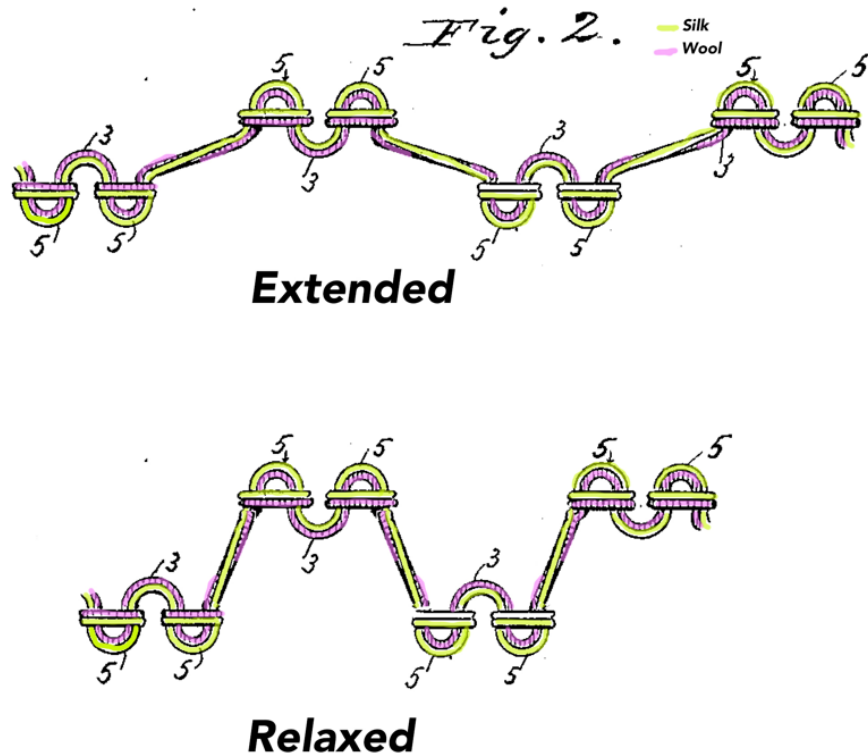
Munsing (Ex. 1006) is a patent from 1888 directed to improving knit fabrics for underwear. Ex. 1006 at 1:7–10. Munsing purports to overcome the difficulties associated with creating underwear that has three desirable qualities: (i) “heavy enough to be sufficiently warm;” (ii) “a fine, attractive and handsomely finished outer surface;” and (iii) “will not irritate the flesh of the wearer.” *Id.* at 1:11–17. Munsing achieves these qualities by knitting a “double-ribbed jersey fabric” formed

from wool and silk. *Id.* at 1:27–44. Figure 1 below shows Munsing’s knitted fabric as viewed from above (a “plan view”). *Id.* at 1:46–50. Figure 2 shows Munsing’s knitted fabric as viewed from the top edge of the fabric. *Id.*



In Figures 1 and 2, the thread shown as “3” is wool (pink), while the thread shown as “5” is silk (green). *Id.* at 1:61–65. Munsing describes that in a “normal condition, the ribs lie close together and the fabric has the appearance of a silk surface.” *Id.* at 1:99–102. Munsing further describes that, when “the fabric is stretched as the garments are worn,” the “uncovered portions of the woolen thread will be exposed.” *Id.* at 2:1–4. In the annotated figures below, Munsing’s Figure 2

(top) is depicted above what Munsing's fabric would look like in the "normal condition" (bottom). Ex. 2006 at ¶37.

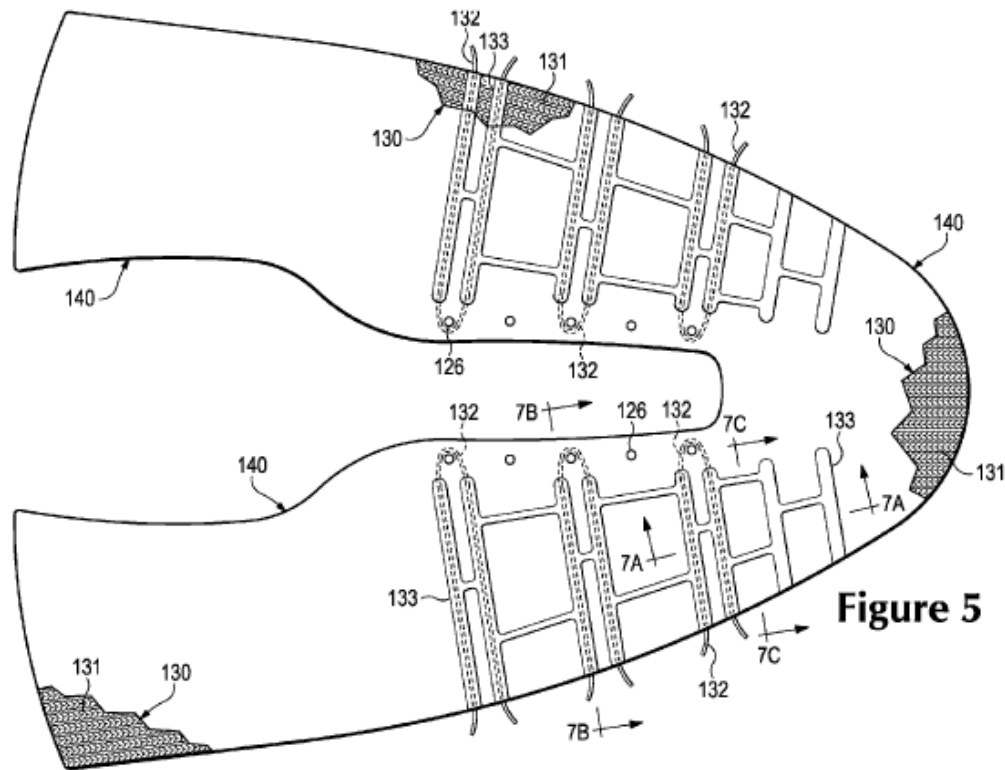


Although Munsing refers to the peaks and valleys of its fabric as "ribs," Munsing's ribs are not tubular rib structures, i.e., they are not shaped like tubes having closed peripheries.

3. Minami

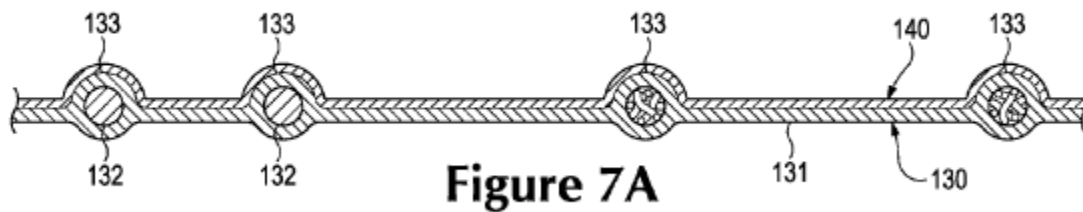
Minami (Ex. 1007) is a patent application publication assigned to Nike. Minami is directed to an article of footwear having an upper including a knitted component. Ex. 1007 at Abstract, [0005]. The knitted component has various structural features, which may include (i) a "skin layer," and (ii) "protruding areas"

that include tubular structures with inlaid strands. *Id.* An embodiment of Minami's upper including these features is shown in Figure 5 below.



In Figure 5, “knitted component 130” has “protruding areas 133” and is covered by “skin layer 140.” *Id.* at [0042], [0061]. Skin layer 140 is designed to “inhibit stretch” and “impart a relatively tight and glove-like fit to upper 120.” *Id.* at [0043]–[0044]. Skin layer 140 may include “polymer sheet, elements of leather or synthetic leather, a woven or non-woven textile, or a metal foil.” *Id.* Minami explains that covering the protruding areas 133 in skin layer 140 enhances ball control in soccer. *Id.* at [0062].

The “primary elements” of Minami’s knitted component 130 are “a knit element 131 and an inlaid strand 132.” *Id.* at [0048]. As shown in Figure 7A below, inlaid strand 132 passes through “various loops” knitted within knit element 131. *Id.* at [0051].



Specifically, knit element 131 “forms two separate and spaced textile layers” that “define a channel or tubular structure” through which inlaid strand 132 passes. *Id.* Minami explains that the inlaid strands 132 impart “stretch-resistance” to the part of the upper where they’re located. *Id.* at [0052].

III. A PERSON OF ORDINARY SKILL IN THE ART

For the purposes of this proceeding, Nike applies lululemon’s proposed level of skill in the art: a POSITA for the ’046 Patent would have had a bachelor’s degree in mechanical engineering, textile engineering, or similar technical degree and at least 3 years of experience working with knitted textiles for use in fabric-based articles, including apparel such as footwear. Petition at 13–14. For individuals with different educational backgrounds, a person could still be of ordinary skill in the art provided that person’s additional experience compensates for any differences in that

person's education as stated above. *Id.*

IV. CLAIM CONSTRUCTION

Claims challenged in *inter partes* review proceedings “shall be construed using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. [§] 282(b).” 37 C.F.R. § 42.100(b). Under this standard, claims “are generally given their ordinary and customary meaning,” as understood by a person of ordinary skill. *Phillips v. AWH Corp.*, 415 F.3d 1303 at 1312–13 (Fed. Cir. 2005) (citation omitted).

In the Institution Decision, the Board declined to decide whether “tubular structures” requires a “hollow” configuration, as lululemon argued. Petition at 15; Institution Decision at 7. The Board need not resolve that question in this proceeding, as lululemon's Grounds 1–3 fail regardless of whether the tubular structures must be hollow. Ex. 2006 at ¶28; *see Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms ... in controversy, and only to the extent necessary to resolve the controversy.’”) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)). The Board did, however, construe “tubular structures” as “at least having a closed periphery or circumference.” Institution Decision at 8.

Apart from three other terms³ for which the parties have agreed to constructions in the parallel district court litigation, Nike contends that no other claim terms require construction. Petition at 17. All other terms and phrases in the '046 patent claims have their ordinary and customary meanings, which are readily apparent, and no further construction is required.

V. LEGAL STANDARDS

Petitioner has “the burden of proving a proposition of unpatentability by a preponderance of the evidence.” 35 U.S.C. § 316(e); *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1375 (Fed. Cir. 2016).

A. Anticipation

Anticipation requires “that a single prior art reference discloses each and every element of a claimed invention.” *Silicon Graphics, Inc. v. ATI Techs., Inc.*, 607 F.3d 784, 796 (Fed. Cir. 2010). A reference must not only explicitly or inherently disclose every claimed element, but those elements must also be arranged within that reference as they are in the claim. *Net MoneyIN, Inc. v. Verisign, Inc.*, 545 F.3d 1359, 1369–71 (Fed. Cir. 2008). Disclosures from multiple, distinct

³ The parties have agreed to constructions for “neutral position,” “extended position,” and “unitary knit construction” in *Nike v. lululemon usa inc.*, No. 2023-cv-00771 (S.D.N.Y.). Petition at 17.

embodiments of a prior art reference cannot be combined to anticipate the challenged claim. *Id.* at 1371. And “differences between the prior art reference and a claimed invention, however slight, invoke the question of obviousness, not anticipation.” *Id.*

B. Obviousness

Obviousness requires that “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made” to a skilled artisan. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). An obviousness determination is based on four inquiries: (1) the scope and content of the prior art; (2) the differences between the claims and the prior art; (3) the level of ordinary skill in the art; and (4) objective indicia of nonobviousness. *Id.* at 406 (citing *Graham v. John Deere Co. Kan. City*, 383 U.S. 1, 17–18 (1996)).

A party alleging obviousness must articulate specific reasoning, and cannot rely on conclusory statements or attorney argument. *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1362–63 (Fed. Cir. 2016); *Facebook, Inc. v. Windy City Innovations, LLC*, 973 F.3d 1321, 1342 (Fed. Cir. 2020) (affirming nonobviousness where petitioner’s challenge was “based on attorney argument rather than evidence in the record”). A party alleging obviousness must also show that a skilled artisan would have “reasonably expected success in achieving that goal,” i.e., the achieving the claimed invention. *Institut Pasteur & Universite Pierre Et Marie Curie v. Focarino*,

738 F.3d 1337, 1346 (Fed. Cir. 2013); *see also Arctic Cat Inc. v. Bombardier Recreational Prods. Inc.*, 876 F.3d 1350, 1360–61 (Fed. Cir. 2017).

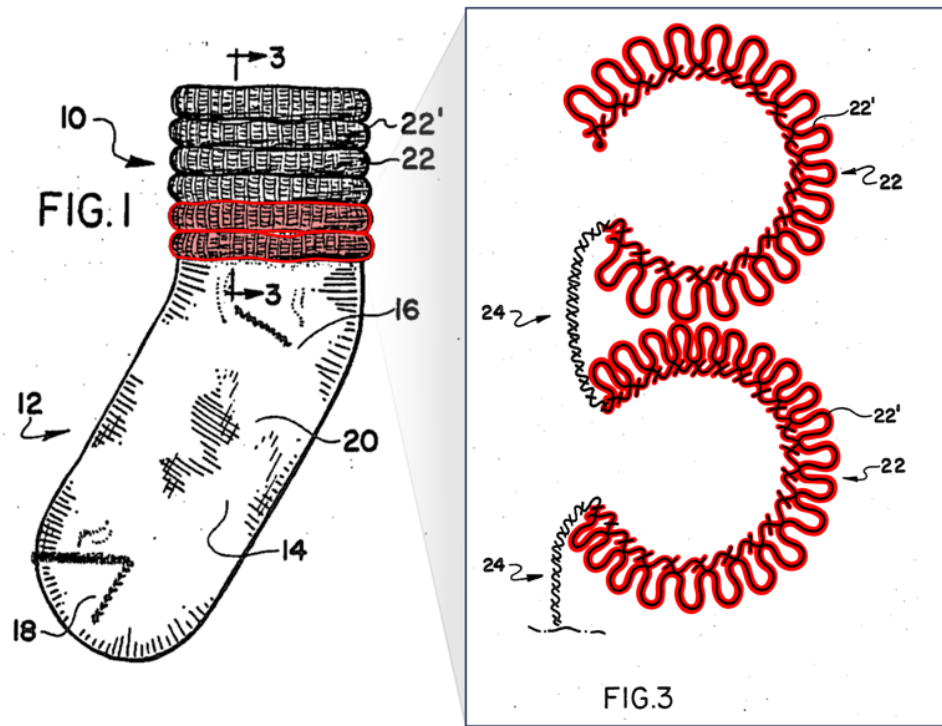
VI. GROUND 1: LULULEMON FAILS TO DEMONSTRATE THAT GOOD ANTICIPATES AND/OR RENDERS OBVIOUS ANY CHALLENGED CLAIM

lululemon’s Ground 1 challenges claims 1–3, 7, 16–18, and 20 as anticipated by Good, and alternatively challenges claim 3 as obvious over Good. In its Institution Decision, the Board agreed with Nike that Good fails to disclose “tubular structures,” as recited in independent claims 1 and 20 and as properly construed. Institution Decision at 9–10. Specifically, the Board found that “[n]owhere does Good disclose that the ends of C-shaped rib 22 meet and remain in a *closed* configuration per our construction.” *Id.* This deficiency alone means Ground 1 fails in its entirety. The Board need not consider lululemon’s Ground 1 further. But in the event that it does, Ground 1 fails for the reasons set forth below.

A. Good does not disclose the “tubular structures” recited in claims 1 and 20

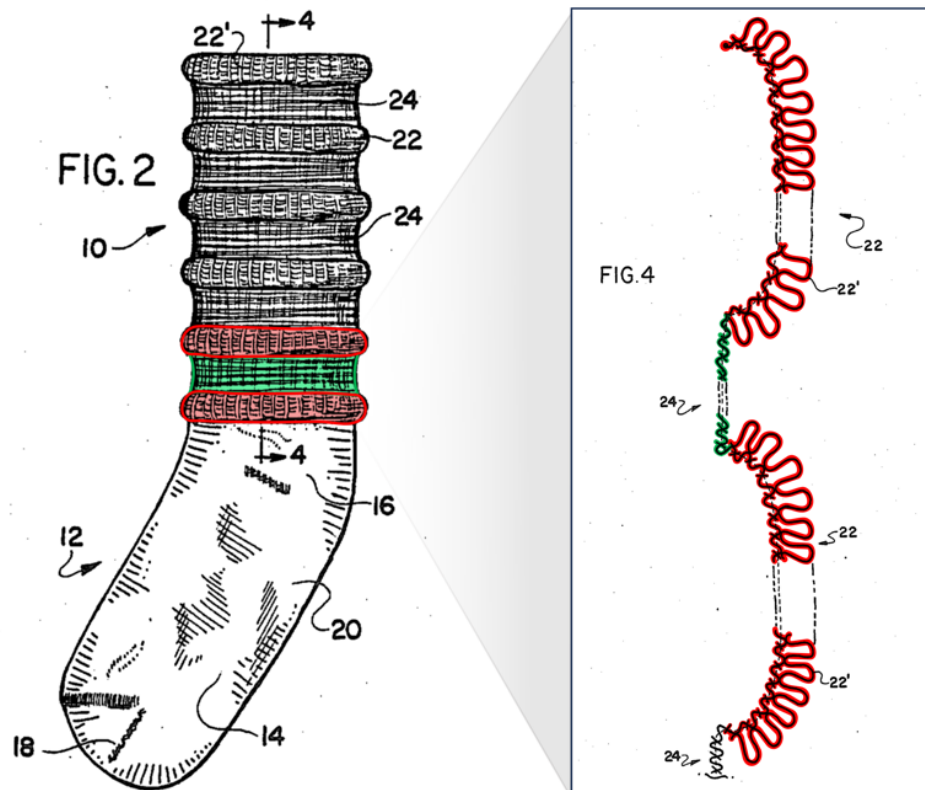
As described above, the Board construed “tubular structures” as “at least having a closed periphery or circumference.” Institution Decision at 8. Under this construction, regardless of whether the claimed “tubular structures” must be “hollow,” “elongated,” or neither—Good does not disclose any “tubular structures.”

Good discloses a sock (12) having an ankle cuff member (10) with ribbed portions (22), as shown in Figure 1 below.

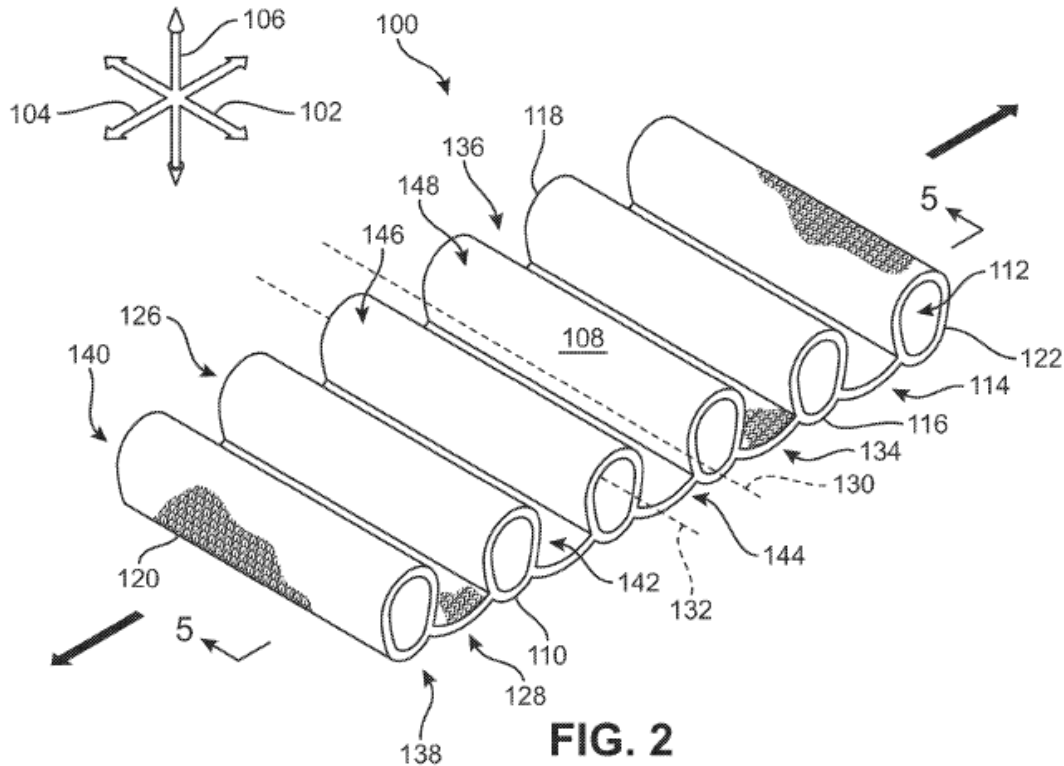


lululemon alleges that Good’s rib portions 22 meet the claimed “tubular structures” because each rib portion has “the shape of a tube, namely an elongate hollow structure.” Petition at 29–30. lululemon further points to the vertical cross-section of the cuff member of Figure 1, shown in Figure 3 (reproduced above), as alleged support. *Id.* at 30. But Good’s “rib portions” (red) are C-shaped knitted portions, not tubular structures. Ex. 2006 at ¶48. When Good’s cuff is stretched—as shown in Figures 2 and 4 below—there is no doubt that Good’s “rib portions” are not tubular

structures. To the contrary, Good's rib portions are essentially linear. *Id.*; see also Ex. 2007 at 48:20–49:5.



In at least this way, Good's “rib portions” are far different from the “tubular structures” recited in the '046 patent. As shown in Figure 2 of the '046 patent, the “tubular structures” retain their closed periphery, “tubular” shape, even when the knitted component is stretched. *Id.* at ¶49.

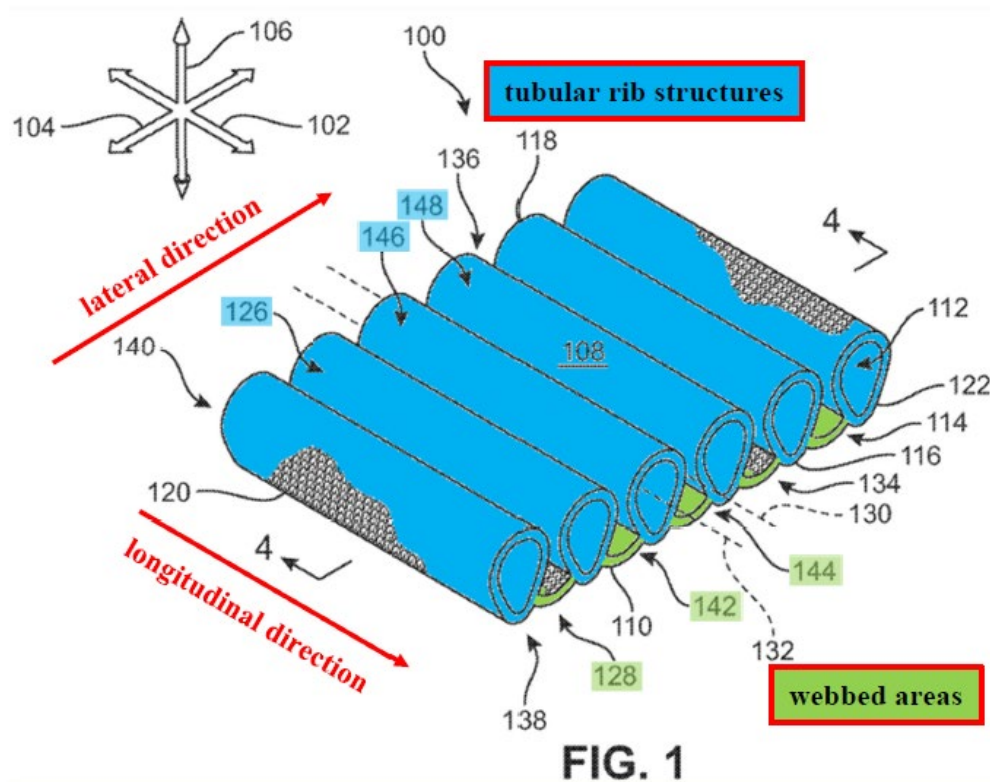


lululemon’s expert, Dr. Brookstein, admits that Good’s “rib portions” do not have closed peripheries. Ex. 1003 at ¶59; Ex. 2007 at 42:24–43:4. The best he can muster is that Good’s rib portions “roll substantially together in a relaxed condition” and “maintain” an “outwardly rolled configuration” in an extended condition. Ex. 1003 at ¶59 (citing Ex. 1005 at 12:34–44, 12:55–59). But portions of a knit element that merely “roll” together are different from “tubular structures.” Ex. 2006 at ¶¶49 Good’s rib portions are not “in the shape of a tube” in either the “relaxed condition” of Figure 3 or the “extended condition” of Figure 4. *See id.*; Ex. 1005 at Figs. 3, 4; Petition at 29–30.

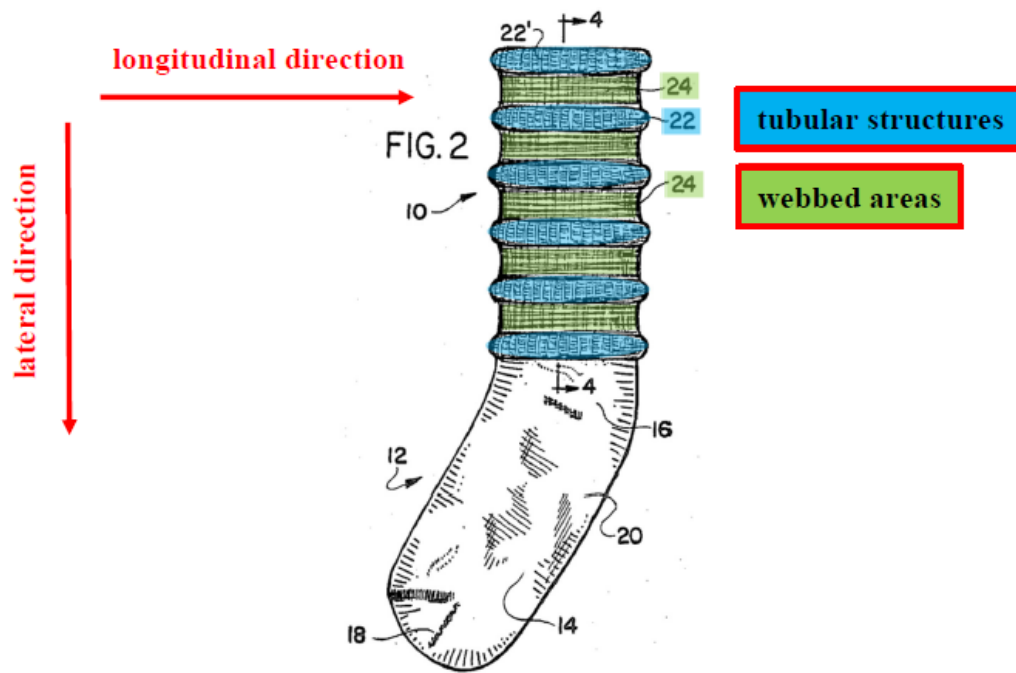
As a result, Good fails to disclose the “tubular structures” recited in independent claims 1 and 20 of the '046 patent. lululemon thus fails to show that Good anticipates and/or renders obvious any challenged claim in Ground 1.

B. Good does not disclose a “plurality of webbed areas” and a “plurality of tubular structures” extending along a “longitudinal direction,” as recited by dependent claim 2

lululemon fails to show that Good discloses a “plurality of webbed areas” and a “plurality of tubular structures” extending along a “longitudinal direction” of the article, as recited by dependent claim 2. Ex. 2006 at ¶51. As purported support for this limitation, lululemon points to Figure 1 of the ’046 patent showing directional axes. *See* Petition at 34; Ex. 1003 at ¶65.



Petition at 34 (lululemon's annotated Figure 1 of '046 patent). lululemon argues that, as shown in Figure 1, “the longitudinal direction 102” is “a direction parallel to the axes of the tubular structures.” *Id.*; Ex. 1003 at ¶¶65. Based on this disclosure, lululemon concludes that Good discloses this limitation. *Id.* at 35; Ex. 1003 at ¶¶64–67. lululemon identifies a purported “longitudinal direction” in Good’s Figure 2.



Petition at 35 (lululemon's annotated Figure 2 of Good). But lululemon’s identification of a “longitudinal direction” in Good doesn’t even comport with its own argument because the “longitudinal direction” is not “parallel to the axes of the tubular structures.” This is because Good’s rib portions 22 are arranged circumferentially around Good’s cuff member. Ex. 2006 at ¶52; Ex. 2007 at 52:24–53:1, 53:9–12, 57:7–11. Good’s rib portions 22 therefore do not have axes parallel

to lululemon’s identified “longitudinal direction.” *Id.*; *see also* Ex. 2007 at 52:3–14. And Good’s rib portions 22 do not extend along a longitudinal direction, which refers to a linear, two-dimensional direction. *Id.*; *see also* Ex. 2007 at 31:17–32:13. Thus, lululemon has not shown that Good’s connecting portions 24 and rib structures 22 extend along a longitudinal direction, as recited by claim 2.

VII. GROUND 2: LULULEMON FAILS TO DEMONSTRATE THAT MUNSING ANTICIPATES ANY CHALLENGED CLAIM

lululemon’s Ground 2 challenges claims 1–3, 7, 17, 18, and 20 as anticipated by Munsing. In its Institution Decision, the Board agreed with Nike that Munsing fails to disclose “tubular structures,” as recited in independent claims 1 and 20 and as properly construed. Institution Decision at 10–12. The Board preliminarily found that “nowhere does Munsing indicate that the rows of stitches or loops form a rib that is tubular-like, let alone one with a closed periphery.” *Id.* The Board also noted that Dr. Brookstein’s declaration testimony doesn’t “offer any help, as it simply parrots the petition.” *Id.* In view of this deficiency, Ground 2 fails in its entirety. The Board need not consider lululemon’s Ground 2 further. But in the event that it does, Ground 2 fails for the reasons set forth below.

A. Munsing does not disclose the “tubular structures” recited in claims 1 and 20

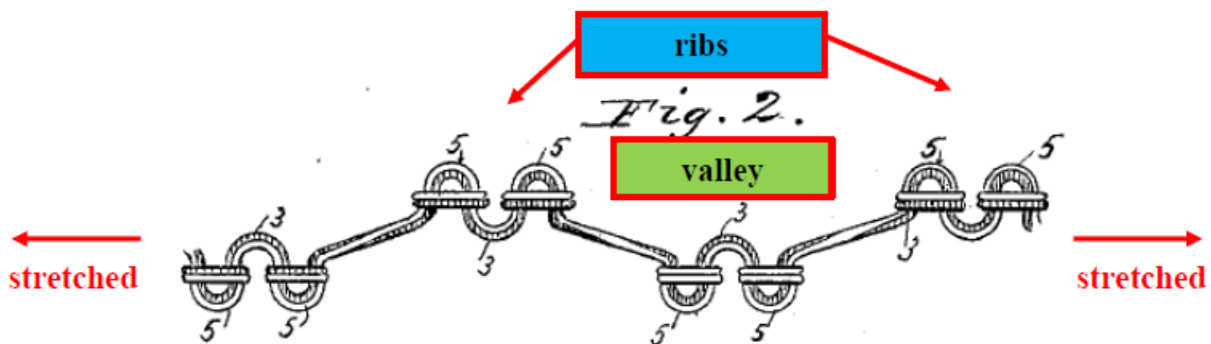
As described above, the Board construed “tubular structures” as “at least having a closed periphery or circumference.” Institution Decision at 8. Under this

construction, regardless of whether the claimed “tubular structures” must be “hollow,” “elongated,” or neither—Munsing does not disclose any “tubular structures.”

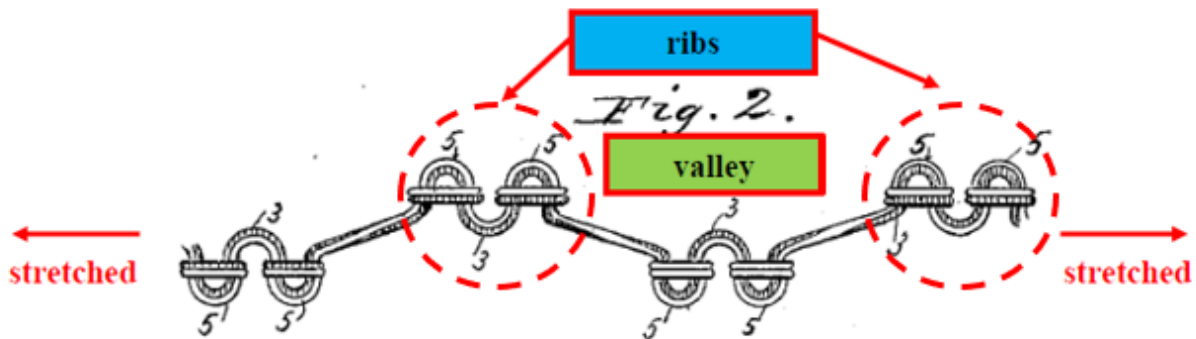
lululemon’s identification of “tubular structures” in Munsing is but a single sentence. Petition at 50; Ex. 2006 at ¶55. lululemon’s Petition explains that the “ribs separating the valleys are tubular structures positioned adjacent to the webbed areas (valleys between ribs).” *Id.* lululemon provides no further explanation as to why Munsing’s ribs meet the “tubular structures” limitation. lululemon cites paragraph 101 of Dr. Brookstein’s declaration as support. *Id.* But Dr. Brookstein merely parrots this same language verbatim. Ex. 1003 at ¶101. As a matter of law, Dr. Brookstein’s conclusory opinions on this point cannot support lululemon’s argument. *See Wasica Fin. GmbH v. Cont’l Auto. Sys., Inc.*, 853 F.3d 1272, 1286 (Fed. Cir. 2017) (holding that Petitioners are required to “identify with particularity the evidence that supports the grounds for the challenge to each claim”); *Xerox Corp. et al. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15–16 (PTAB Aug. 24, 2022) (precedential) (holding expert declaration merely restating conclusory assertions in the petition entitled to little weight).

lululemon’s barebones analysis is telling—because the “ribs” that lululemon identifies in Munsing are far different from the “tubular structures” claimed in the ’046 patent. Ex. 2006 at ¶56. Indeed, lululemon and Dr. Brookstein admit that

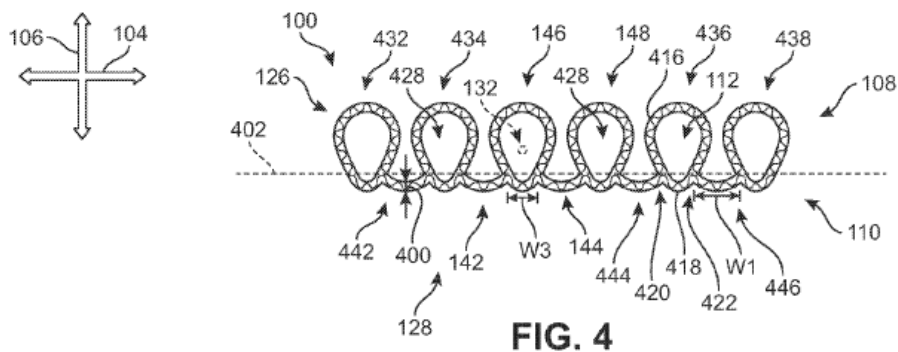
Munsing only discloses non-tubular structures. *See* Petition at 16; Ex. 1003 at ¶40; Ex. 2007 at 40:9–41:11 (Q: So you agree that ... Munsing only discloses a non-tubular rib? A: That’s what I said.). Munsing never depicts how the “ribs” appear on its article of underwear. *See* Ex. 1006 at Figs. 1–6. Munsing only shows the “ribs” on a micro scale. *See id.* at Fig. 2. And at that scale, Munsing’s “ribs” bear no resemblance to the “tubular structures” of the ’046 patent. *See* Ex. 2006 at ¶57. lululemon’s annotated version of Munsing’s Figure 2, which identifies “ribs” and “valleys,” is reproduced below.



Petition at 48. Munsing describes the fabric shown in Figure 2 as a “two-and-two knit fabric”—i.e., a fabric having two-course ribs. Ex. 1006 at 2:45–49. In the below figure, Nike further annotates lululemon’s annotated version of Figure 2 by adding a circle around each two-course rib.



As this figure shows, Munsing’s ribs are not closed-loop structures. Munsing’s two-course ribs have a wavy, or corrugated cross-sectional shape—as opposed to a tubular shape. Ex. 2006 at ¶57. Munsing’s ribs are thus far different from the “tubular structures” recited in the ’046 patent, which are depicted in Figure 4 below.

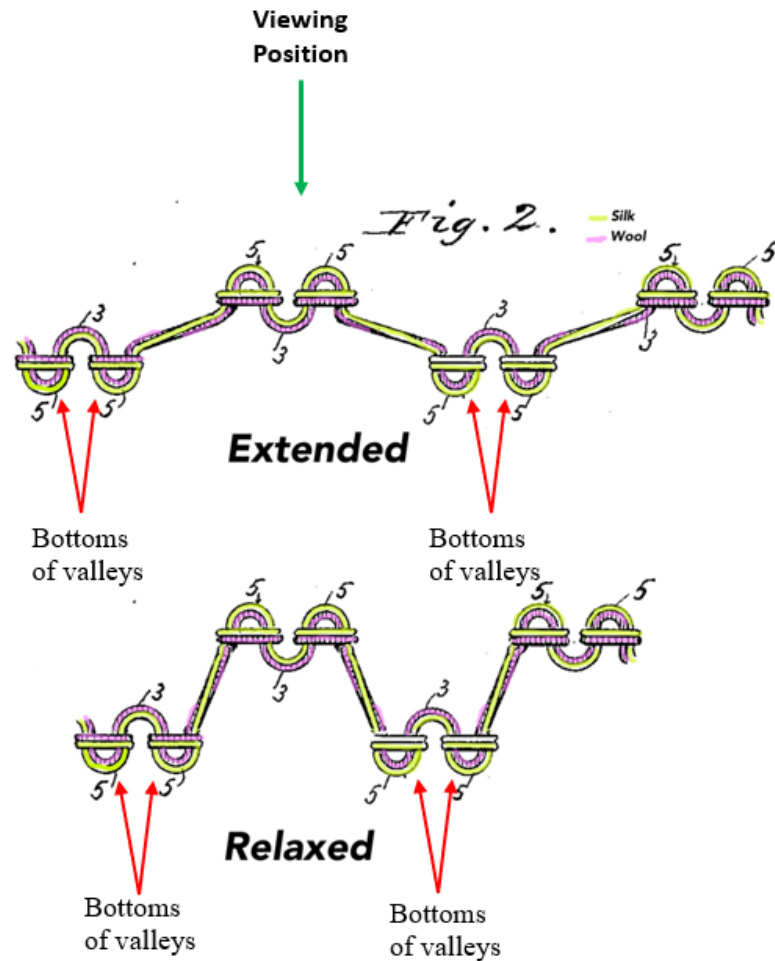


As a result, Munsing fails to disclose the “tubular structures” recited in independent claims 1 and 20 of the ’046 patent. lululemon thus fails to show that Munsing anticipates any challenged claim in Ground 1.

B. lululemon has not shown Munsing discloses that “in the extended position” the “first area of the front surface is revealed for visual observation from the first viewing perspective,” as recited in claim 1

lululemon has not shown that “the first area of the front surface” of the webbed area in Munsing is “revealed for visual observation” in “the extended position,” as recited in claim 1. *See* Petition at 51–53. lululemon only shows that a different area is revealed in the extended position.

In its Petition, lululemon points to “[t]he bottoms of the valleys between the ribs” as being the “first area of the front surface” of the webbed areas. Petition at 51–52. The figures below identify the “bottoms of the valleys” in Munsing’s figure 2, showing both the extended position (top) and relaxed position (bottom).



lululemon then argues that, in the extended position, the “uncovered portions,” i.e., “valleys between the ribs” are “at least partly revealed from the first viewing perspective.” Petition at 52–53. In other words, lululemon is arguing that the *valleys as a whole*—not the *bottom* of the valleys—are “revealed for visual observation” in “the extended position.” lululemon has not even alleged, let alone shown, that the bottoms of the valleys are revealed from the first viewing perspective in an extended position.

As a result, lululemon has not shown that Munsing anticipates any challenged claim in Ground 1.

C. Munsing does not disclose a “plurality of webbed areas” and a “plurality of tubular structures” extending along a “longitudinal direction” and spaced apart in a “lateral direction,” as recited by dependent claim 2

Munsing fails to disclose a “plurality of webbed areas” and a “plurality of tubular structures” extending along a “longitudinal direction” and spaced apart in a “lateral direction” of the article, as recited by dependent claim 2 Ex. 2006 at ¶59. lululemon's Petition includes only conclusory assertions that Munsing discloses these limitations. Petition at 53–54. For purported support, lululemon points only to Figure 1 of Munsing and one sentence in its written description: “When the fabric is stretched as the garments are worn, the uncovered portions of the woolen thread between the ribs will be exposed.” *Id.* (citing Ex. 1006 at 2:1–4, Fig. 1). These portions of Munsing show only that Munsing’s fabric may stretch, but are entirely silent as to longitudinal and lateral directions associated with Munsing’s underwear. This is because—aside from a micro scale depiction of a particular stitch configuration—Munsing never depicts its underwear or the arrangement of its ribs on the underwear. Ex. 2006 at ¶60. Therefore, it is not possible to adjudge any directionality associated with the claimed features. *Id.* Dr. Brookstein adds nothing beyond the Petition arguments. *See* Ex. 1003 at ¶¶107–111. His opinions for this

limitation should be afforded no weight. *See Xerox Corp.*, IPR2022-00624, Paper 9 at 15–16.

For this reason, lululemon has not shown that Munsing anticipates dependent claim 2.

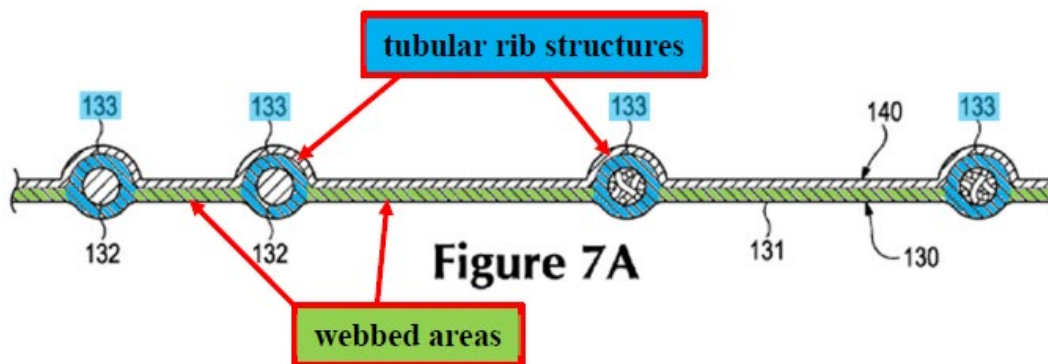
VIII. GROUND 3: LULULEMON FAILS TO DEMONSTRATE THAT MINAMI ANTICIPATES AND/OR RENDERS OBVIOUS ANY CHALLENGED CLAIM

lululemon’s Ground 3 challenges claims 8, 9, 14, 15, and 19 as anticipated by Minami, and alternatively challenges claims 9 and 15 as obvious over Minami. But lululemon fails to show that Minami discloses two limitations in independent claim 8. First, lululemon has not shown that Minami discloses “tubular rib structures” having “a first curved portion” with “a first curve length” that is “greater” than “a second curve length” of “a second curved portion.” Second, lululemon has not shown that Minami discloses “webbed areas” that are “configured to move between a neutral position and an extended position.” For these reasons, lululemon fails to show that Minami anticipates and/or renders obvious any challenged claim in Ground 3.

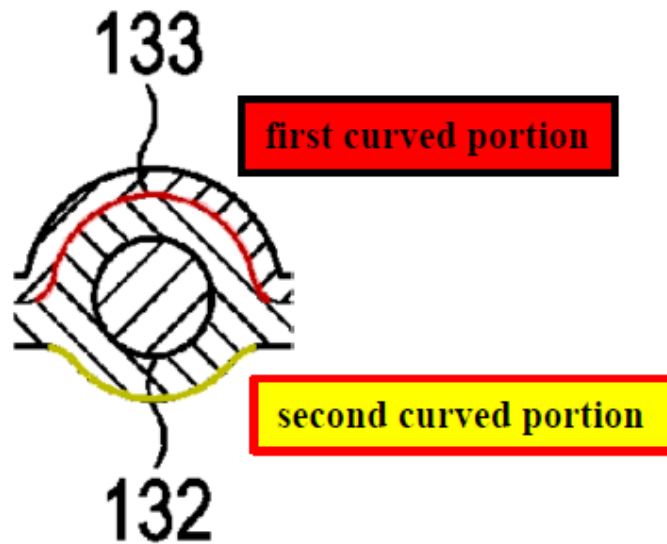
A. Minami does not disclose that “the tubular rib structures have a first curved portion with a first curve length” that is “greater” than “a second curve length” of a “second curved portion,” as recited in claim 8

Minami fails to disclose that “the tubular rib structures have a first curved portion with a first curve length” that is “greater” than “a second curve length” of a “second curved portion,” as recited in claim 8.

lululemon points to Minami’s protruding areas 133, shown in Figure 7A below, as the claimed “tubular rib structures.”



Petition at 60–61. lululemon then zooms in on one protruding area 133 in Figure 7A and identifies the alleged “first curved portion” and “second curved portion” shown below.



lululemon asserts that the “first curved portion” is longer than the “second curved portion.” *See* Petition at 64–65. But Minami’s written specification is entirely silent as to as the lengths of the “first curved portion” and the “second curved portion.” *See generally* Ex. 1007. Indeed, Minami explicitly states that “components in the figures are not necessarily drawn to scale, emphasis instead being placed upon illustrating the principles of the invention.” *Id.* at [0010]. Aside from Figure 7A, lululemon only cites to paragraph 61 of Minami and to Dr. Brookstein’s declaration to support its position. Petition at 64–65 (citing Ex. 1003, ¶¶131–133). But, as Dr. Brookstein admitted, paragraph 61 of Minami doesn’t discuss the lengths of the alleged first and second curved portions. Ex. 2007 at 70:17–71:14. And Dr. Brookstein’s declaration merely parrots the Petition, relying on only Minami’s Figure 7A and paragraph 61. *Id.* at 73:17–21. His conclusory opinions thus provide

no support for lululemon’s argument. *See Xerox Corp.*, IPR2022-00624, Paper 9 at 15–16.

lululemon’s reliance on the relative lengths shown in Figure 7A is improper. The Federal Circuit expressly rejected this precise type of argument in *Hockerson-Halberstadt, Inc. v. Avia Grp. Int’l, Inc.*, 222 F.3d 951 (Fed. Cir. 2000). In *Hockerson-Halberstadt*, appellant HHI argued that the “groove” claimed in the patent-at-issue is wider than the claimed “fins.” *Id.* at 956. For support, HHI noted that “the specification contains figures depicting a groove that is wider than the fins.” *Id.* But the Federal Circuit found HHI’s reliance on the figures “unavailing.” *Id.* The court explained that HHI’s argument “hinges on an inference drawn from certain figures about the quantitative relationship between the respective widths of the groove and fins.” *Id.* But the specification, the court observed, was “devoid of any indication that the proportions of the groove and fins are drawn to scale.” *Id.* And thus HHI “may not” rely on those drawings to show the particular sizes of the groove and fins:

Under our precedent, however, it is well established that patent drawings do not define the precise proportions of the elements and may not be relied on to show particular sizes if the specification is completely silent on the issue. “Absent any written description in the specification of quantitative values, arguments based on measurement of a drawing are of little value.”

Id. (internal citations omitted); *see also In re Olson*, 212 F.2d 590, 592 (CCPA 1954) (“Ordinarily drawings which accompany an application for a patent are merely illustrative of the principles embodied in the alleged invention claimed therein and do not define the precise proportions of elements relied upon.”).

In the wake of *Hockerson-Halberstadt*, the Federal Circuit has consistently found reversible error where courts attempt to “read[] precise proportions into patent drawings which do not expressly provide such proportions.” *E.g., Nystrom v. TREX Co., Inc.*, 424 F.3d 1136, 1149 (Fed. Cir. 2005). In *Plantronics, Inc. v. Aliph, Inc.*, the Federal Circuit went even further: holding that a district court erred by relying on patent drawings as evidence that a particular element was “elongated.” 724 F.3d 1343, 1351 (Fed. Cir. 2013). Citing to *Hockerson-Halberstadt*, the court held that “the figures in the ’453 patent do not evidence actual dimensions of the ‘stabilizer support’ and the ‘concha stabilizer.’” *Id.*

lululemon’s Petition invites an even more egregious error. Not only is Minami “devoid of any indication that the [elements] are drawn to scale”—Minami expressly states that the drawings “*are not*” drawn to scale. Minami makes clear that the figures are intended only to “illustat[e] the principles of the invention.” Ex. 1007 at [0010]. Dr. Brookstein—a prior professor of mechanical drawing—testified that if a drawing is not to scale, “it doesn’t have the same proportion” as what it’s representing. Ex. 2007 at 75:14–76:21. Thus, a POSITA reading Minami’s disclaimer would have

understood that its drawings don't show reliable proportions. In view of Minami's disclosure, lululemon's attempt to rely on Figure 7A "to show the particular sizes" of the "first curved portion" and the "second curved portion" is plainly erroneous under well-established Federal Circuit precedent.

In its Institution Decision, the Board preliminarily opined that *Hockerson-Halberstadt* "stands for the proposition that it is error to rely on patent drawings for 'precise proportions' or 'particular sizes' of elements." Institution Decision at 14. This narrow reading of *Hockerson-Halberstadt* is undermined by the Federal Circuit's subsequent *Plantronics* opinion, which held that courts may not rely on drawings even to determine whether an element is "elongated." But even if *Hockerson-Halberstadt* is read narrowly, lululemon's argument is virtually indistinguishable. Just as the appellant in *Halberstadt* erroneously relied on a drawing to compare the relative size of the claimed "groove" and "fins"—lululemon attempts to rely on Figure 7A to compare the relative size of the claimed "first curved portion" and "second curved portion." Compare *Hockerson-Halberstadt*, 222 F.3d at 956 with Petition at 63–66.

The other decisions cited in the Board's Institution Decision—which predate *Hockerson-Halberstadt* by more than two decades—do not alter this settled precedent. See Institution Decision at 14. In fact, the *Mraz* decision cited by the Board supports Nike's argument. In *Mraz*, the United States Court of Customs and

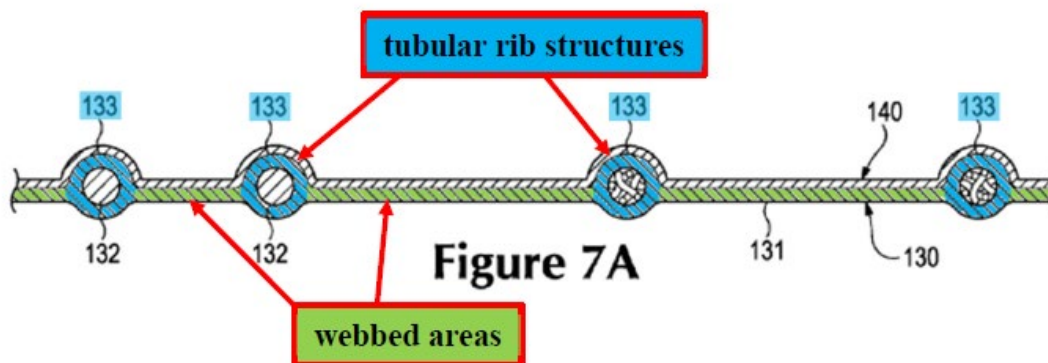
Patent Appeals rejected the appellant’s attempt to rely on a “greatly enlarged section of a small drawing obviously never intended to show the dimensions of anything.” *In re Mraz*, 455 F.2d 1069, 1072 (CCPA 1972). lululemon’s reliance on Figure 7A is no different. lululemon enlarges a small element within Minami’s Figure 7A, focusing on the relative length of two lines that were “never intended to show the dimensions of anything.” *See* Petition at 65; Ex. 2007 at 69:9–70:6 (Q: Why do you include what you call “A magnified annotated excerpt of Minami’s Figure 7A here? A: So I could make a visual observation of it.). The Court’s holding in *Mraz* thus provides further support for the Board to reject lululemon’s reliance on Figure 7A for purposes of showing the relative size of the “first curve length” and “second curve length.” *See Mraz*, 455 F.2d at 1072.

For this reason, lululemon fails to prove by a preponderance of the evidence that Minami anticipates claim 8, and therefore fails to satisfy its burden with respect to any challenged claim in Ground 3.

B. Minami does not disclose “webbed areas” that are “configured to move between a neutral position and an extended position,” as recited in claim 8

lululemon has not shown that Minami discloses “webbed areas” that are “configured to move between a neutral position and an extended position,” as recited in claim 8. Ex. 2006 at ¶62. lululemon's arguments for this limitation fail for two reasons.

First, Minami's knit element is expressly configured *not to stretch*. Ex. 2006 at ¶64. lululemon points to the portions of Minami's knit element 131 that lie between protruding areas 133 as the claimed "webbed areas."

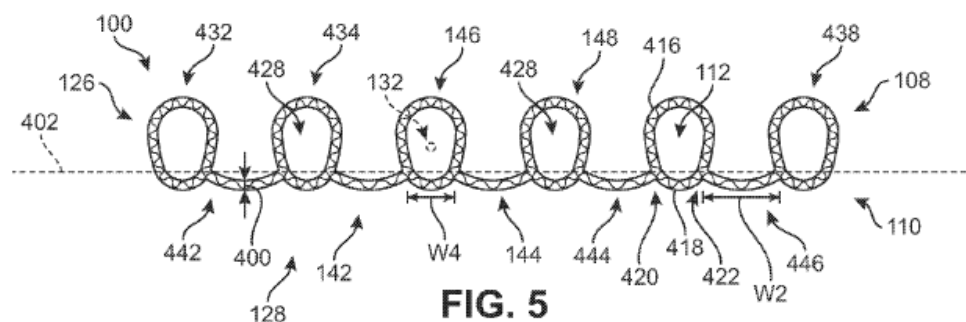
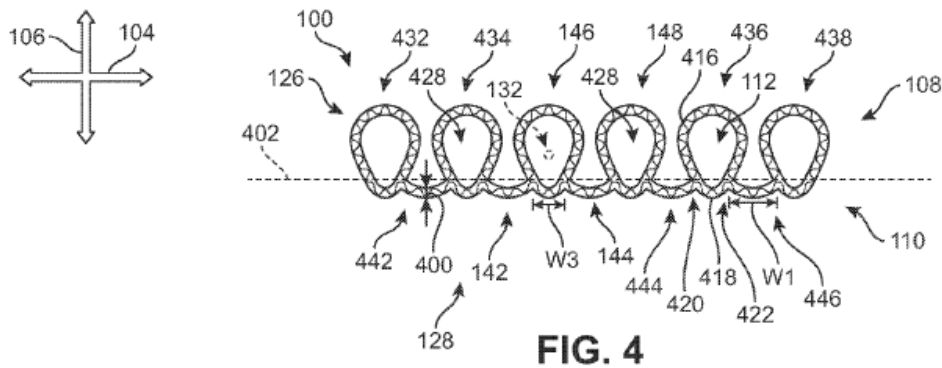


Minami discloses that the knit element 131 of Figure 7A is coated in a "skin layer" that "*inhibit[s] stretch*" and "impart[s] a relatively *tight* and glove-like fit to upper 120." Ex. 1007 at [0044] (emphasis added); Ex. 2006 at ¶64. Minami also discloses that the portions of the upper having inlaid strands 132 (i.e., the portion of the upper depicted in Figure 7A), impart "*stretch-resistance*" to the upper. Ex. 1007 at [0052]; Ex. 2006 at ¶65.

lululemon's cited evidence does not show otherwise. In arguing that Minami's knit element 131 "stretches," lululemon points to Minami's disclosure that "different types of stitches" in knit element 131 "may affect . . . stretch." But this says nothing about whether Minami's knit element 131 is "configured to" stretch. Ex. 2006 at ¶65. To show that Minami's "webbed areas" are "configured to" move between a neutral position and an extended position, lululemon must show that the alleged

webbed areas are *designed to stretch*. See *Aspex Eyewear, Inc. v. Marchon Eyewear, Inc.*, 672 F.3d 1335, 1349 (Fed. Cir. 2012) (holding that “configured to” requires that a structure be “designed ... to accomplish the specified objective, not simply that [it] can be made to serve that purpose”). lululemon has not—and cannot—make that showing in view of express disclosure to the contrary. lululemon’s reliance on Dr. Brookstein’s declaration fails for the same reason: Dr. Brookstein cites to the same paragraphs of Minami and merely opines that knit element 131 “allow[s] for stretching.” Ex. 1003 at ¶134. This is insufficient.

Even if Minami did disclose that knit element 131 was “configured to” stretch (which it doesn’t)—the claims require more. A skilled artisan reading the ’046 patent in 2014 would have understood that the webbed areas must be configured to move between two distinct configurations: the “neutral position” and the “extended position.” Ex. 2006 at ¶66. For example, the ’046 patent specification describes that “webbed areas 128” can be “biased toward the neutral position represented in FIGS. 1 and 4.” Ex. 1001 at 13:19–21; *see also id.* at 24:9–12. And the webbed areas 128 can “respond to a force by moving toward the extended or stretched position represented in FIGS. 2 and 5.” *Id.* at 13:21–24; *see also id.* at 24:9–12; Ex. 2007 at 16:15–17:13, 24:11–15.



lululemon has not identified, nor does Minami disclose, any “extended position” into which the portions between Minami’s protruding areas 133 move. Ex. 2006 at ¶66.

For these reasons, Minami doesn’t anticipate claim 8, and therefore doesn’t anticipate and/or render obvious any challenged claim in Ground 3.

IX. CONCLUSION

For the reasons set forth above, lululemon has failed to prove by a preponderance of the evidence that any of claims 1–3, 7–9, and 14–20 of the ’046 patent are unpatentable. Nike requests that the Board enter a final written decision affirming the patentability of those claims.

Dated: August 16, 2024

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CERTIFICATE OF WORD COUNT

Under the provisions of 37 C.F.R. § 42.24(d), the undersigned hereby certifies that the Microsoft Office word count including all footnotes for the foregoing Patent Owner's Response, excluding the table of contents, table of authorities, certificate of word count, appendix and certificate of service, totals 6,631 words, which is less than the 14,000 words allowed under 37 C.F.R. § 42.24(b)(1).

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CERTIFICATE OF SERVICE

The undersigned hereby certifies service on the Petitioner, pursuant to 37 C.F.R. § 42.6(e) and by agreement of counsel, by electronic (e-mail) delivery of a true copy of the foregoing **PATENT OWNER'S RESPONSE**, which was served on August 16, 2024 to the following Counsel for Petitioner via e-mail:

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