

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NEW BALANCE ATHLETICS, INC.,
Petitioner,

v.

NIKE, INC.,
Patent Owner

Case IPR2025-00020
Patent 8,898,932

**PETITION FOR *INTER PARTES* REVIEW OF
U.S. PATENT NO. 8,898,932**

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1004	Curriculum Vitae of Ann Williams
1005	Declaration of Jaap Schut, Ph.D.
1006	Curriculum Vitae of Jaap Schut, Ph.D.
1007	U.S. Patent Application Publication 2010/0313447 to Becker, et al.
1008	U.S. Patent No. 170,332 to Bibbins
1009	U.S. Patent No. 2,213,545 to Chace, et al.
1010	U.S. Patent Application Publication No. 2011/0088285A1 to Dojan, et al.
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1016	Clarks Limited, MANUAL OF SHOEMAKING (5th ed. 1980)
1017	Youn Hee Jeon, et al., <i>The Mechanical Properties and Abrasion Behavior of Warp Knitted Fabrics for Footwear</i> , 4 FIBERS AND POLYMERS 4, 151-155 (Dec. 5, 2003)
1018	Nirupama Pundir, FASHION TECHNOLOGY: TODAY AND TOMORROW (2008)
1019	Wiah Wardiningsih, Study of Comfort Properties of Natural and Synthetic Knitted Fabrics in Different Blend Ratios for Winter

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1021	Elena Onofrei, <i>The Properties of Knitted Fabrics for Bio-Functional Textiles</i> , BUL. INST. POLIT. IAȘI, t. LVI (LX) f.2, (2010)
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1026	Charles A. Harper, et al., PLASTICS MATERIALS AND PROCESSES, A CONCISE ENCYCLOPEDIA (2003)
1027	<i>In the Matter of Certain Knitted Footwear</i> , Investigation No. 337-TA-1289, Updated Joint Claim Construction Chart (ITC, May 24, 2022)
1028	Excerpts of M.L. Berins, SPI PLASTICS ENGINEERING HANDBOOK OF THE SOCIETY OF THE PLASTICS INDUSTRY, INC. (1991)
1029	American & Efird, <i>Footwear Glossary Shoe Styles</i> , available at https://www.amefird.com/wp-content/uploads/2010/01/1Footwear-Glossary-Shoe-Styles-06-13-08.pdf (2008)
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1031	U.S. Patent No. 2,147,197 to Glidden
1032	U.S. Patent Application Publication 2005/0262739 to McDonald et al.

Petitioner New Balance Athletics, Inc. (“New Balance”) requests *inter partes* review (“IPR”) of claims 11-15 (the “challenged claims”) of U.S. Patent No. 8,898,932 (“the ’932 patent,” EX1001).

I. INTRODUCTION

The challenged claims of the ’932 patent are directed to an article of footwear with a knitted upper, covering a portion of the foot and the ankle of the wearer, with a skin layer thermally bonded to the knitted component. Before the ’932 patent, each element of the challenged claims was widely used in the shoemaking industry. Shoes have been constructed with knitted fabrics configured to cover both the foot and the ankle of the wearer for decades. Shoes have also included the combination of a knitted upper and a protective or decorative outer layer long prior to the ’932 patent. Additionally, thermal bonding has been commonly used in the shoemaking industry to affix these types of layers. The challenged claims are directed to nothing more than the predictable results of combining elements routinely used in the footwear industry. As explained below, the prior art as of November 15, 2012, disclosed or rendered obvious each element or combination of elements in the challenged claims. New Balance, therefore, requests that the Board institute this proceeding and find all challenged claims of the ’932 patent unpatentable as obvious in light of the prior art discussed below.

II. TECHNICAL BACKGROUND

A. Textiles in Footwear

Footwear development and manufacturing is a well-developed industry. Since at least the early 1900s, the footwear industry has been developing methods to make shoes easier to manufacture, more comfortable for the wearer, and more durable. *See generally* EX1016. One way to combine comfort and durability in shoes is to employ layers of material to serve different purposes in the shoe. *See* EX1003, ¶ 37; EX1013, 2:4-6; EX1010, [0004]. The layers allow for the inside of the shoe that is closest to the wearer’s foot to be comfortable and also allows for at least portions of the exterior of the shoe to be durable and withstand wear. *See* EX1003, ¶¶ 36-37.

Various textile materials can be used to manufacture a shoe, including woven and knitted constructions. EX1013, 1:21-25; EX1003, ¶¶ 35-36. Knitted fabrics—those fashioned by intermeshing loops of yarn in successive rows—have, in particular, been widely used in the footwear industry. EX1019, 37; EX1018, 80. Knitted materials have many advantages, including the ability to provide a greater freedom of movement to the wearer and the ability to maintain comfort while the wearer moves. EX1019, 40; EX1003, ¶ 36. Further, knitted fabrics advantageously provide a “more natural stretch to the fabric,” (EX1018, 80) and exceptional

“moisture permeability, air permeability, [and] attractive [] appearance and appropriateness for [the] foot” (EX1017, 151).

Knit materials have been extensively used to make shoe uppers—the portion of the shoe above the sole. Knit uppers have often been coupled with an additional exterior layer to provide stability, durability, and weatherproofing. For example, U.S. Patent No. 170,332 to Bibbins (“Bibbins”) (EX1008), which issued on November 23, 1875, discloses a method of making an article of footwear that combines a water-proof shoe and a stocking. EX1008, 1:9-10, Fig. 1-2. Bibbins explains that the stocking portion of the shoe “extends above the shoe a proper distance, to fit the ankle and leg,” and that such stocking may be attached to the rubber shoe in “any suitable manner.” *Id.*, 1:24-27, 1:37-39.

B. Methods of Attaching Layers of Material

Attaching or joining layers of additional materials to the upper portion of the shoe can provide functional benefits, like structural support or abrasion resistance, or can be done for design purposes. EX1010, [0004]; EX1003, ¶ 37. Layering materials in footwear has been common practice long before the ’932 patent. For example, U.S. Patent No. 2,213,545 to Chace (“Chace”) (EX1009), which issued on September 3, 1940, discloses a method for manufacturing an article of footwear by attaching rubber trim to “fabric shoe uppers.” EX1009, 1:1-3. Chace explains that

the fabric upper and rubber sheet are attached by applying light pressure to the layers under high temperatures to cause the layers to mold. *Id.*, 1:44-55, Fig. 1-2.

By 2012, the most common methods for joining two layers of materials were: adhesive and solvent bonding, sewing, and thermal bonding. EX1005, ¶¶ 20-30; EX1003, ¶ 38.

1. Adhesive and Solvent Bonding

Adhesive bonding involves joining two substrates together by applying a third substance, such as resin, in a liquid state, which hardens after applied and joins the two substrates together. EX1005, ¶ 21. This method, however, has several disadvantages, including environmental, health, and safety concerns. *Id.*

Solvent binding requires applying a solvent to the substrates, causing each surface to dissolve as the solvent evaporates. EX1005, ¶ 22. After the solvent has evaporated, the surfaces are brought together under pressure to form the bond. *Id.* Due to the rapid rate at which the solvent evaporates, this method is known for providing strong bonds quickly. *Id.*

2. Sewing

Sewing uses thread to join two materials. EX1005, ¶ 23. While this method results in adequate strength and elasticity, the method also has multiple disadvantages, such as discontinuous joints and perforated seams. *Id.* Further, sewing requires extensive time and skilled machinery to complete. *Id.*

3. Thermal Welding or Bonding

Thermal welding or bonding is used to join thermoplastics through the application of heat to a thermoplastic substrate. EX1005, ¶¶ 24-25. Thermoplastic materials can include “polyester, nylon, polypropylene, acrylics, TPEs, ionomers (e.g. Surlyn, a MAA-Ethylene copolymer), and EVA foam (ethylene vinyl acetate, sometimes referred to as Phylon),” among others. *Id.* Thermoplastic materials have a relatively low melting point. When heated, thermoplastics soften such that they can be molded. Upon cooling thermoplastics harden but retain their molecular structure. *Id.*

There are two types of thermal welding or bonding: direct heat and indirect heat. *Id.*, ¶ 26. Direct heat welding, or thermal bonding, is one of the most commonly used bonding techniques in the nonwoven textile industry. *Id.*, ¶ 29. Thermal bonding involves applying heat directly, using soldering guns, hot irons, or hot plates, to the surface of the thermoplastic substrate, which causes the surfaces to soften and bond to one another. *Id.* Once the surfaces are softened, they are clamped together while the bond sets. *Id.* Thermal bonding has been known to be advantageous because it requires lower energy consumption and higher production rate. *Id.*, ¶ 30. It also provides fast and easy bonds up to 100% stronger than the strength of the parent plastic. *Id.*, ¶ 29

Indirect thermal welding uses a form of energy other than thermal, typically in the form of friction, high-frequency electrical fields, electromagnetic fields, or ultrasonic vibration. *Id.*, ¶ 27. In this technique, the indirect energy applied heats the thermoplastic material surfaces. *Id.* Indirect thermal welding is efficient and forms stress free bonds of higher strength than those made by direct thermal welding techniques. *Id.* One form of indirect thermal welding is high-frequency radio welding, or dielectric welding. *Id.*, ¶ 28. High-frequency radio welding uses radio waves to heat the surface of the thermoplastic material surfaces, causing the surfaces to melt and producing a weld upon cooling. *Id.* This type of welding has been used in the assembly of footwear. *Id.*; EX1011, 3:24-29.

III. THE '932 PATENT

The '932 patent is titled Article of Footwear Incorporating a Knitted Component. EX1001. The '932 patent was filed on May 9, 2014, and claims priority to an application filed on November 15, 2012. For purposes of this Petition, New Balance does not challenge that the '932 is entitled to its earliest filing date. The '932 patent is assigned to Nike, Inc. (“Nike”).

A. Specification

The '932 patent states that the disclosed “articles of footwear generally include two primary elements, an upper and a sole structure.” EX1001, 1:20-21. Further, the '932 patent explains that in conventional articles of footwear the upper

“forms a void on the interior of the footwear for comfortably and securely receiving a foot,” (*id.*, 1:21-23) and the sole structure may “include a sockliner positioned within the void . . . to enhance footwear comfort” (*id.*, 1:34-36). The ’932 patent also explains that “[v]arious materials are conventionally utilized in manufacturing the upper” and that the “upper of athletic footwear, for example, may be formed from multiple material elements” selected based upon “various properties, including stretch-resistance, wear-resistance, flexibility, air-permeability, compressibility, and moisture-wicking.” *Id.*, 1:53-58.

As shown in Figure 12, the disclosed footwear includes a sole structure 110 and upper 120. Upper 120 includes foot region 106 that “covers at least a portion of a foot of a wearer and includes a foot part of a knitted component,” (*id.*, 2:37-39), as well as ankle region 107 that “covers at least a portion of an ankle of the wearer and includes an ankle part of the knitted component” (*id.*, 2:39-41).

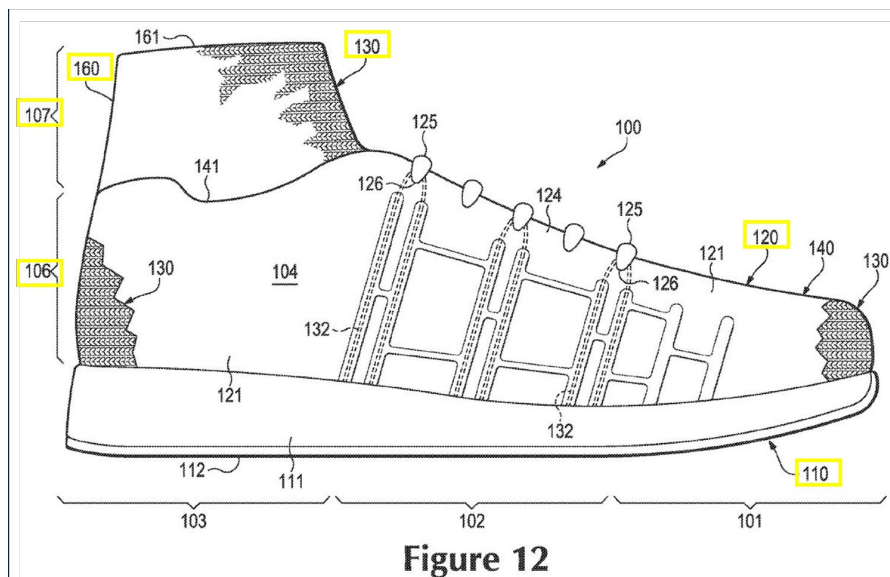


Figure 12

Id., Fig. 12 (annotated).

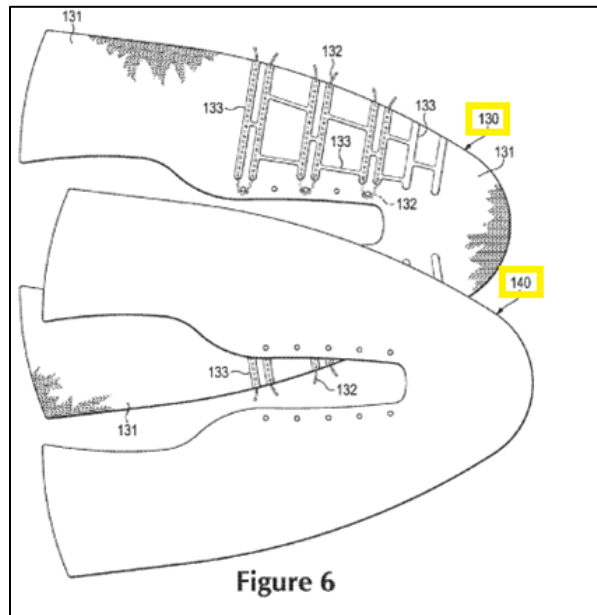
Figure 12 also shows “a knitted component” 130 which “extends throughout upper 120 and forms a majority of interior surface 122, thereby defining a portion of the void within upper 120.” *Id.*, 6:39-41. The ’932 patent defines the “knitted component” as being formed of “unitary knit construction.” *Id.*, 6:45-48. That is, the knitted component is formed as a one-piece element through a knitting process reducing the need for significant additional manufacturing steps. *Id.* The ’932 patent explains that unitary knit constructions are not necessarily seamless in nature, but may include a seam formed by joining the edges together. *Id.*, 6:51-56.

The ’932 patent further describes “[k]nitted component 130 includes a plurality of protruding areas 133 that extend outward and away from the void within upper 120.” *Id.*, 9:61-63. The ’932 patent explains that “[p]rotruding areas 133 form bulges, protrusions, bumps, or other outwardly-extending portions in knitted component.” *Id.*, 9:63-65. “[T]he combination of protruding areas 133 and skin layer 140 may provide enhanced control of a ball during the sport of soccer.” *Id.*, 10:19-24.

The ’932 patent explains that in some conventional articles of footwear “such as basketball footwear and boots, the upper may extend upward and around the ankle to provide support or protection.” *Id.*, 1:39-42. Figure 12 (above) further discloses ankle cuff 160 which is “located in ankle region 107 and forms an ankle part of

knitted compound 130.” *Id.*, 14:45-46. “In many configurations of footwear 100, ankle region 107 corresponds with portions of upper 120 that are intended to cover and extend above lateral malleolus and medial malleolus.” *Id.*, 14:41-44. The ankle cuff 160 in the ankle region 107 may be formed to have stretch properties while “foot region 106 of upper 120 may stretch to a lesser degree to provide support for the foot and limit movement of the foot relative to sole structure 120.” *Id.*, 15:1-7.

The ’932 patent also discloses “a skin layer may be secured to the knitted component.” *Id.*, 2:22-23. “Various materials may be utilized to form skin layer 140, including a polymer sheet, elements of leather or synthetic leather, a woven or non-woven textile, or a metal foil.” *Id.*, 5:66-6:2. The “[s]kin layer 140 lays adjacent to knitted component 130 and is secured to an exterior of knitted component 130, thereby forming a majority or a relatively large portion of exterior surface 121.” *Id.*, 5:63-66, Fig. 6. But, the skin layer need not cover the entire exterior of the upper. *Id.*, 9:36-38, 18:13-14; 18:20-21; 17:61-63.



Id., Fig. 6 (annotated).

“[E]ach section of skin layer 140 may have different properties ... [and] may be spaced from each other to expose a portion of knitted component 130.” *Id.*, 18:13-14, 18:20-21. These sections may also be composed of differing materials “and positioned in separate areas of knitted component 130.” *Id.*, 9:39-45. “That is, a portion of skin layer 140 formed from one material may be bonded to one area of knitted component 130, and another portion of skin layer 140 formed from another material may be bonded to a different area of knitted component 130.” *Id.*, 9:41-45. The ’932 patent discloses that a “variety of processes may be utilized to join knitted component 130 and skin layer 140.” *Id.*, 11:51-53. “In some configurations, skin layer 140 may be formed from a thermoplastic polymer material, which may be welded or thermal bonded to knitted component 130.” *Id.*, 11:52-54.

B. Claims

The '932 patent includes 20 claims, but only claims 11-15 are challenged here.

Claims 11-15 are reproduced below (with labels added for reference).

Claim 11	
11.pre	An article of footwear having an upper and a sole structure secured to the upper, the upper comprising:
11.a	a knitted component that includes (a) a foot part for covering at least a portion of a foot of a wearer and (b) an ankle part for covering at least a portion of an ankle of the wearer,
11.b	the foot part and the ankle part being formed of unitary knit construction; and
11.c	a skin layer that is thermally bonded to the knitted component
11.d	the skin layer covering at least a portion of the foot part of the knitted component and forming a portion of an exterior surface of the upper, the skin layer being absent from the ankle part of the knitted component.
Claim 12	
12	The article of footwear recited in claim 11, wherein the foot part of the knitted component is in a foot region of the upper and the ankle part of the knitted component is in an ankle region of the upper, the foot region having less stretch than the ankle region.
Claim 13	
13	The article of footwear recited in claim 11, wherein the ankle part of the knitted component forms (a) another portion of the exterior

	surface of the upper and (b) a portion of an interior surface of the upper.
Claim 14	
14	The article of footwear recited in claim 11, wherein the ankle part of the knitted component has a continuous structure for extending entirely around the ankle of the wearer.
Claim 15	
15	The article of footwear recited in claim 11, wherein the foot part of the knitted component defines a plurality of protruding areas that extend outward and away from a void within the upper for receiving the foot of the wearer.

C. Prosecution History

The examiner issued one substantive office action during prosecution of the '932 patent. EX1002, 2014-07-24 Non-Final Rejection Office Action, 1. As relevant to this petition, claims 11-15 were rejected as anticipated by U.S. Patent No. 2,147,197 to Glidden ("Glidden") (EX1031). *Id.*, 2. Glidden discloses an article of footwear with knitted upper with a rubber outer portion. EX1031, 1:3-17. Glidden explains that the rubber portion "may be cemented to the textile upper over all or a part of their contacting surface." *Id.*, 2:20-22. In response to the office action, Nike amended independent claim 11 to include a "thermal bonding" limitation. EX1002, 2014-08-27 Amendment, 5. The Examiner subsequently issued a Notice of Allowance. *Id.*, 2014-09-15 Notice of Allowance, 1.

IV. LEVEL OF ORDINARY SKILL

A hypothetical POSA relevant to the '932 patent would have had at least a bachelor's degree in design, footwear design, textile design and technology, or a similar technical degree with at least 3 years of experience working with knitted textiles for use in fabric-based articles, including apparel such as footwear. EX1003, ¶ 25. They would have worked with team members including those with knowledge and experience in garment manufacturing. *Id.* The team would have included individuals with a bachelor's degree in chemical engineering, textile engineering, mechanical engineering, or a similar degree and at least 3 years of experience working with different methods of applications for securing material to knitted textiles, including footwear. *Id.* 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.*

This Petition does not turn on this specific definition of the level of ordinary skill. The claims would have been obvious from the perspective of any reasonable definition of a POSA.

V. CLAIM CONSTRUCTION

Nike previously asserted the '932 patent against adidas AG, adidas North America, Inc., adidas America, Inc., and adidas International Trading AG

(collectively, “adidas”) in a proceeding before the International Trade Commission (hereinafter “adidas ITC”). Nike agreed to the constructions of the following claims of the ’932 patent:

Term	Construction
unitary knit construction	“formed as a one-piece element through a knitting process.”
thermally bonded	“a securing technique between two elements that involves a softening or melting of a thermoplastic polymer material within at least one of the elements such that the materials of the elements are secured to each other when cooled“

Not only did Nike agree to the above constructions, these constructions are taken directly from the specification of the ’932 patent. For example, the specification defines “unitary knit construction” when it states:

As utilized herein, a knitted component (e.g., a knitted component 130) is defined as being formed of ‘unitary knit construction’ when formed as a one-piece element through a knitting process.

EX1001, 6:45-48.

Likewise, “thermally bonded” is defined by the specification of the ’932 patent when it states:

As utilized herein, the term ‘thermal bonding’ or variants thereof is defined as a securing technique between two elements that involves a softening or melting of a thermoplastic polymer material within at least one of the elements such that the materials of the elements are secured to each other when cooled.

Id., 11:60-65. In addition, the ’932 patent describes heating either one or both of the knitted component and skin layer to a temperature that facilitates bonding. *Id.*, 12:64-13:4. Therefore, the Board should construe these claims in the same manner as the parties in the ITC action. Petitioner used the constructions above for purposes of this petition.

New Balance submits that the Board need not specially construe any other claim terms. *Toyota Motor Corp. v. Cellport Sys., Inc.*, IPR2015-00633, Paper No. 11, 16 (P.T.A.B. Aug. 14, 2015); *see also Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (“[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.”); *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017); EX1003, ¶ 57.

VI. OVERVIEW OF CHALLENGE AND PRECISE RELIEF REQUESTED

New Balance requests institution of IPR based on the following grounds:

Ground	Reference(s)	Basis	Challenged Claims
1	Becker in combination with Dojan	§ 103	11-15
2	Becker in combination with Wildeman	§ 103	11-14
3	Farys in combination with knowledge of a POSA	§ 103	11-14

Becker (EX1007), Dojan (EX1010), Wildeman (EX1013), and Farys (EX1011) are all analogous art to the subject matter of the '932 patent because they are all from the “same field of endeavor”—manufacturing footwear. EX1003, ¶ 24; *see Unwired Planet, LLC v. Google Inc.*, 841 F.3d 995, 1000-01 (Fed. Cir. 2016); *Netflix, Inc. v. DivX, LLC*, 80 F.4th 1352, 1359 (Fed. Cir. 2023) (“We determine the field of endeavor by reference to explanations of the invention’s subject matter in the patent application, including the embodiment, function, and structure of the claimed invention.”); *In re Deminski*, 796 F.2d 436, 442 (Fed. Cir. 1986).

This Petition is supported by the declaration of Ann Williams, (EX1003), an expert in the field of textile and footwear design, (EX1004). This Petition is further supported by the declaration of Jaap Schut, Ph.D., (EX1005), an expert in the field of materials science, (EX1006).

Pursuant to 37 C.F.R. § 42.104, New Balance certifies that the '932 patent is available for IPR and it is not barred or estopped from requesting IPR on the identified grounds.

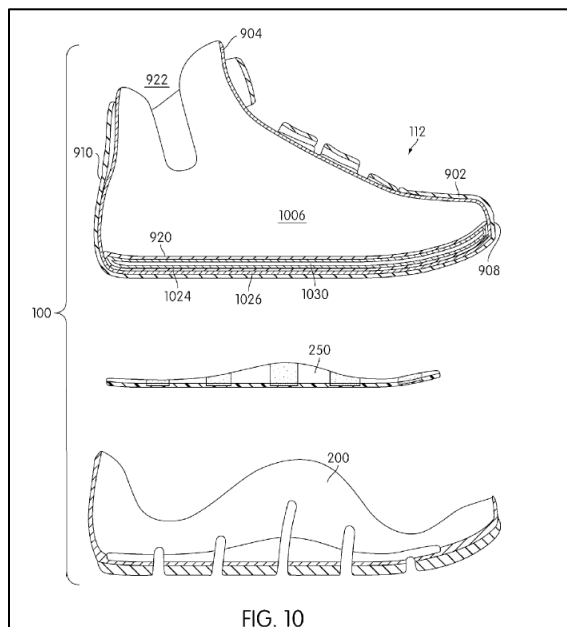
VII. GROUND 1: BECKER IN COMBINATION WITH DOJAN RENDER CLAIMS 11-15 OBVIOUS

“A patent is obvious if 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 person having ordinary skill in the art to which said subject matter pertains.” *Arendi S.A.R.L. v. Apple, Inc.*, 832 F.3d 1355, 1361 (Fed. Cir. 2016) (internal quotations omitted). Here, a POSA would have understood that Becker discloses or teaches all elements of the challenged claims except the limitation that the skin layer is thermally bonded to the knitted component. A POSA, however, would have been motivated to use the well-known method of thermal bonding, disclosed in Dojan, to attach the layers in Becker, rendering the challenged claims unpatentable.

A. Becker (EX1007)

U.S. Patent Application Publication 2010/0313447 to Becker, et al. (“Becker”), EX1007, was published on December 16, 2010. EX1003, ¶ 59.

Becker is directed “generally to footwear,” and in particular, “an article of footwear with a lightweight and flexible outer member.” EX1007, [0003]; EX1003, ¶ 60. As shown in Figure 10, Becker discloses footwear 100 with a sole affixed to upper 112. EX1007, [0053]; EX1003, ¶ 61. The upper 112 may be constructed from any material that is durable and flexible, such as natural and synthetic fabrics and leathers. EX1007, [0049], EX1003, ¶ 64. Such durable and flexible materials allow the upper to provide the necessary support to the wearer while still accommodating the wearer’s foot in a comfortable fashion. *Id.*



EX1007, Fig. 10.

The upper 112 further comprises a “multilayered configuration,” which includes an “outer lining 902 and inner lining 904,” along with equipment for tightening the opening around the ankle, such as an ankle strap. EX1007, [0053] [0081], EX1003, ¶¶ 61-63. Becker discloses that the inner lining 904 is constructed to cover the wearer’s foot, once the foot enters the opening of the upper. Specifically, the inner lining 904 may be configured as “a sock-like bootie,” “made of any fabric,” such as “soft and flexible material commonly used in ‘booties’ found within articles of footwear.” EX1007, [0080], EX1003, ¶ 62. Further, the outer lining 902 may supply further support or reinforce the inner lining 904, such that the wearer’s foot is better protected. EX1007, [0081], EX1003, ¶ 63. Becker discloses that the outer lining can be made of any of the various materials commonly used in footwear uppers and may even be made of the thermoplastic ethylene vinyl acetate (EVA), which is also referred to as phylon. *Id.*; EX1005, ¶ 43.

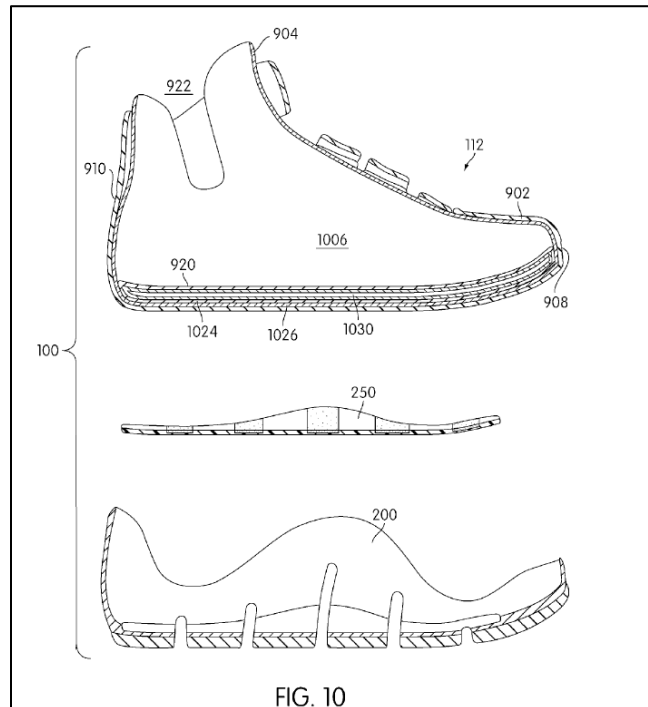
B. Independent Claim 11

1. Preamble

The preamble of claim 11 recites “[a]n article of footwear having an upper and a sole structure secured to the upper.” While Petitioner does not concede that the preamble is limiting, Becker discloses the preamble of claim 11.

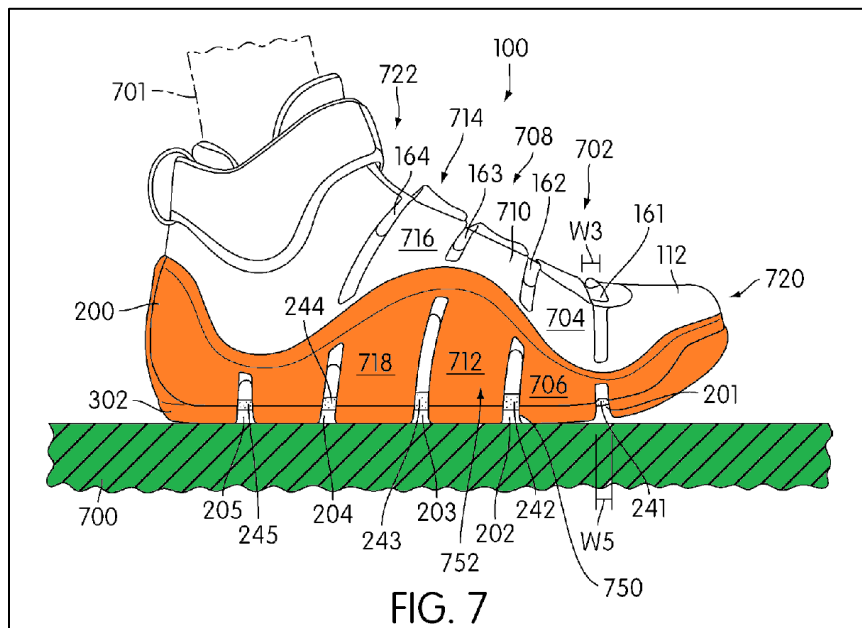
Becker discloses “an article of footwear with a lightweight and flexible outer member.” EX1007, [0003]. Becker discloses that “upper 112 includes outer lining

902 and inner lining 904.” *Id.*, [0080]. Becker further discloses that “outer member 200 may also be fixed directly to outer lining 902,” preferably using glue or another type of adhesive. *Id.*, [0085]; EX1003, ¶ 92. As shown in Figure 10, outer member 200 extends along the bottom of the shoe, and includes the sole.



EX1007, Fig. 10.

This understanding is confirmed in Figure 7 where Becker demonstrates that outer member 200 (highlighted in orange below) makes contact with the ground (highlighted in green below). EX1007, [0070], Fig. 7; EX1003; ¶ 93. Specifically, Becker explains that the configuration in Figure 7 “may represent the orientation of article of footwear 100 just after a wearer has stepped down on the ground surface 700.” EX1007, [0070]; EX1003, ¶ 94.



Id., Fig. 7 (annotated); see *In re Conte*, 36 Fed. Appx. 446, 451 (Fed. Cir. 2002) (affirming the Board’s determination that disclosure of claimed elements in figure of prior art patent was sufficient to show that claimed element was disclosed in the prior art).

Accordingly, a POSA would have understood that Becker discloses an article of footwear with a sole secured to an upper, as recited in the preamble of claim 11. EX1007, Fig. 10 (depicting outer member 200); EX1003, ¶ 92.

2. Limitation 11.a

Limitation 11.a provides that the upper comprises “a knitted component that includes (a) a foot part for covering at least a portion of a foot of a wearer and (b) an ankle part for covering at least a portion of an ankle of the wearer.” Becker discloses all elements of limitation 11.a. EX1003, ¶¶ 96-100.

i. **“the upper comprising: a knitted component that includes (a) a foot part for covering at least a portion of a foot of a wearer”**

Becker discloses an upper lining configured as a “bootie” that is designed to wrap around the foot, much like a sock. EX1007, [0078], [0080]. Becker further discloses that the bootie-like inner lining is designed to “accommodate a user’s foot.” *Id.*, [0049], [0078], [0080]; EX1003, ¶ 96. A POSA would have understood that Becker’s disclosure of “accommodating” and “wrap around” the foot to mean that the bootie-like inner lining would cover the foot of the wearer. EX1003, ¶ 96; *see IXI IP, LLC v. Samsung Elecs. Co., Ltd.*, 903 F.3d 1257, 1263 (Fed. Cir. 2018) (affirming Board’s determination that prior art disclosed claimed elements based on a POSA’s reading and understanding of the prior art patent). This is in line with the description in the ’932 patent, which explains that in conventional articles of footwear the upper “forms a void on the interior of the footwear for comfortably and securely receiving a foot.” EX1001, 1:21-23.

A POSA would have also understood that Becker’s disclosures include inner linings made from a knitted fabric. EX1003, ¶ 97. Becker discloses that the inner lining “is made of soft and flexible material that helps provide comfort,” and may be made from any natural or synthetic materials, including those soft and flexible materials commonly used in “booties” found in footwear. EX1007, [0080]; EX1003, ¶ 97. A POSA would have known that knitted fabrics were often used in footwear—

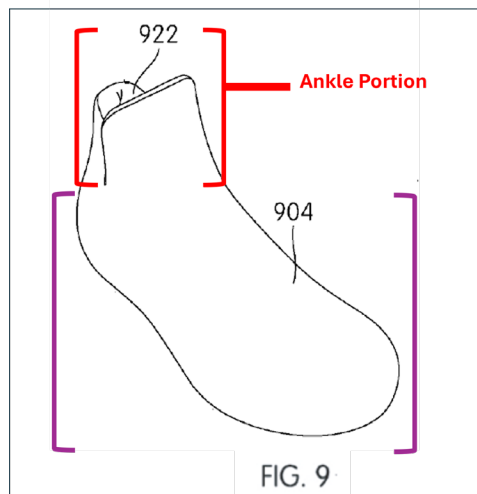
particularly for the construction of “booties” or socks. EX1003, ¶ 97; *see also supra* Section II.A. Thus, Becker’s disclosure of an inner lining made from any material commonly used for booties would include knitted materials. EX1003, ¶¶ 98-99, EX1007, [0080].

Additionally, a POSA would have been specifically motivated to use a knitted fabric for Becker’s inner lining, with a reasonable expectation of success. EX1003, ¶ 99. A POSA would have been aware that knitted fabrics were commonly used in footwear and were known for their many advantages, such as air and moisture permeability, attractive look, and appropriateness for the foot of the wearer. EX1003, ¶¶ 98-99. For example, Dojan discloses a warp knit liner used for its “numerous advantages,” such as its ability to “reduce weight and to facilitate ventilation of the shoe interior.” EX1010, [0087], EX1003, ¶ 98. As Dr. Williams explains, use of a knitted fabric for Becker’s inner lining would have also allowed for the desired flexibility to provide comfort while wrapping around the wearer’s foot. EX1003, ¶¶ 97-99, EX1007, [0080], *see Duramed Pharms., Inc. v. Watson Labs., Inc.*, 413 Fed. App’x 289, 296 (Fed. Cir. 2011) (“[s]ince a determination of obviousness is made from the vantage point of a legal construct, a hypothetical person having ordinary skill in the pertinent art, a person of extraordinary skill may opine on the knowledge of this hypothetical person.”) (internal citation omitted).

Accordingly, a POSA would have understood that Becker, either alone or in combination with Dojan, discloses or teaches a knitted upper that includes a foot part for covering at least a portion of a foot of a wearer. EX1003, ¶ 100.

ii. **“(b) an ankle part for covering at least a portion of an ankle of the wearer”**

Becker discloses an article of footwear comprising an upper that covers at least a portion of the ankle. EX1007, [0053]; EX1003, ¶¶ 101-102. Figures 9 and 10 portray a boot with an upper that covers the foot and ankle. EX1007, [0048], Figs. 9, 10; EX1003, ¶ 101-104; *see In re Conte*, 36 Fed. Appx. at 451 (affirming the Board’s determination that disclosure of claimed elements in figure of prior art patent was sufficient to show that patent was obvious over the prior art). In Figure 9, shown below, the ankle portion is noted in red and the foot portion, in purple. EX1003, ¶ 101-104. Such an embodiment would cover at least a portion of the ankle of the wearer. *Id.*; EX1029, 1 (“Boot: Any footwear that rises to the ankle or higher, can be casual or dressy, practical or fashionable.”). As “[c]ommon sense has long been recognized to inform the analysis of obviousness,” it would have been obvious to a POSA that the embodiment disclosed in Figures 9 and 10 of Becker would cover at least a portion of the ankle of a wearer. *See Perfect Web Techs., Inc. v. InfoUSA, Inc.*, 587 F.3d 1324, 1328 (Fed. Cir. 2009).



EX1007, Fig. 9 (annotated).

Moreover, Becker discloses that the upper preferably comprises elements for tightening the opening around the ankle.¹ EX1007, [0053], EX1003, ¶ 103. A

¹ While Becker describes the ankle straps only in relation to the embodiment described at paragraph [0053], the ankle straps are also shown in the embodiment illustrated in Figure 10. The discussion of the ankle strap in Becker aligns with limitation 11.a. Even if these disclosures are in different embodiments within Becker, however, a POSA would have understood how to combine elements from either embodiment to arrive at the claimed limitation and would have been motivated to do so. *See Bos. Sci. Scimed, Inc. v. Cordis Corp.*, 554 F.3d 982, 991 (Fed. Cir. 2009) (“Combining two embodiments disclosed adjacent to each other in a prior art patent does not require a leap of inventiveness.”).

POSA would have understood that to allow for tightening around the ankle, the upper must necessarily cover at least a portion of the ankle. EX1003, ¶ 103; *Perfect Web*, 587 F.3d at 1328 (“[c]ommon sense has long been recognized to inform the analysis of obviousness.”).

A POSA would have understood, therefore, that the upper disclosed by Becker covers at least a portion of the ankle. EX1003, ¶¶ 104-105.

* * *

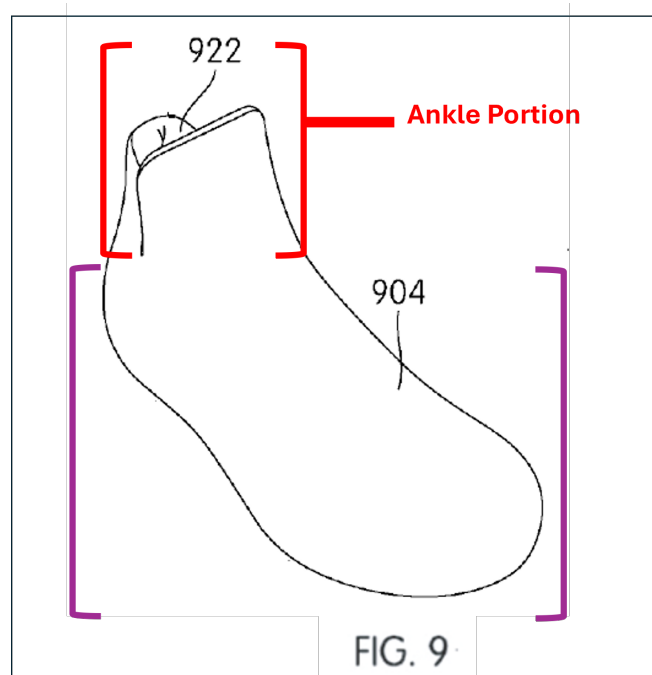
Accordingly, Becker discloses all elements of limitation 11.a.

3. Limitation 11.b

Limitation 11.b requires “the foot part and the ankle part being formed of unitary knit construction.” As explained above, “unitary knit construction” means “formed as a one-piece element through a knitting process.” EX1027, 1; *see supra* Section V.

As described above (*supra* Section VII.B.2.i), a POSA would have understood Becker to disclose that the inner lining could be made of a knitted fabric, or alternatively, a POSA would have been motivated to use a knitted fabric based on, for example Dojan. EX1003, ¶ 107. Becker’s upper includes an inner lining configured as a “sock-like bootie that wraps around the wearer’s foot.” EX1007, [0080], EX1003, ¶ 107. A POSA would have understood the “sock-like bootie” to be configured like a traditional sock, *i.e.*, formed from a single knitted textile.

EX1003, ¶ 107; *see Duramed*, 413 Fed. App’x at 296; *Koninklijke Philips N.V. v. Google LLC*, 948 F.3d 1330, 1337 (Fed. Cir. 2020). Figure 9 in Becker confirms that understanding because it shows the foot portion and ankle portion of the inner lining as a single unit.



EX1007, Fig. 9 (annotated).

Further, a POSA would have been motivated to use a unitary construction for Becker’s “sock-like” lining because of its many advantages, including improved comfort and fit for the wearer, due to fewer seams being used in a unitary construction. EX1003, ¶ 108. A POSA would have also been motivated to use a unitary construction because using fewer seams requires less manufacturing work

and would have had a reasonable expectation of success in using a unitary construction. *Id.*

Accordingly, Becker discloses or teaches all of the elements of limitation 11.b. *Id.*, ¶ 109.

4. Limitation 11.c

Limitation 11.c recites “a skin layer that is thermally bonded to the knitted component.” The ’932 patent explains that the skin layer “is secured to an exterior of knitted component 130” and is “utilized to reinforce areas of upper 120.” EX1001, 5:63-64, 6:18-19. As discussed above, in a prior proceeding between Nike and adidas before the ITC (*see supra* Section V), the parties agreed that thermally bonded means “a securing technique between two elements that involves a softening or melting of a thermoplastic polymer material within at least one of the elements such that the materials of the elements are secured to each other when cooled,” which is also supported by the patent specification EX1027, 2; *see supra* Section V.

Becker explains that the disclosed outer lining covers the inner lining and may provide additional support or reinforcement, like the “skin layer” of the ’932 patent. EX1007, [0081]; EX1003, ¶ 112. The outer lining is made of a material more durable than the inner lining and could be made from any material commonly used in footwear, including natural or synthetic fabrics, leather, or even phylon (the thermoplastic known as EVA). EX1007, [0049], [0081], EX1003, ¶¶ 112-113.

Becker describes the outer lining as being both durable and flexible. EX1007, [0081], EX1003, ¶ 112. Becker explains that this configuration may “reinforce inner lining 904.” EX1007, [0081]. This aligns with the description of a “skin layer” in the ’932 patent. EX1003, ¶ 112; *see Duramed*, 413 Fed. App’x at 296; *Koninklijke*, 948 F.3d at 1337.

A POSA would have been aware that there were several ways to attach the outer lining to the inner lining to achieve the multi-layered upper disclosed in Becker. EX1005, ¶¶ 20-30. Thermal bonding was a well-known method of attaching layers of non-woven textile materials. EX1005, ¶ 30, ¶¶ 31-41; EX1023 at 2489. A POSA would have understood that using thermal bonding could be used to secure the layers of the upper disclosed in Becker. EX1005, ¶ 44. Thermal bonding was known to provide “fast, relatively easy, and economical bonds that are generally 80-100 percent the strength of the parent plastic.” EX1026, 554; EX1005, ¶ 29.

A POSA would have been specifically motivated to use thermal bonding over other methods of adhesion such as stitching or adhesive bonding because of the advantages it would provide. EX1005, ¶¶ 27-30, 45; EX1003, ¶ 115. As Dr. Schut explains, a POSA would have been aware of the advantages of thermal bonding, including time, efficiency, and decreased environmental damage and health concerns. *Id.*, ¶¶ 44-45. For example, Dojan discloses a method of thermally

bonding the upper of a shoe to an external skin layer whereby thermoplastic polyurethane (“TPU”) is used as either the skin layer or the substrate. EX1010, [0004], Table 3; EX1005, ¶¶ 32-35. When thermoplastic material is used as the skin layer or substrate, one may “rely on melting of the skin and/or substrate layers themselves to achieve bonding.” EX1010, [0035], EX1005, ¶ 32. Dojan describes various thermal bonding techniques to attach the skin layer to the upper, but explains that in each disclosed embodiment the thermoplastic is melted to adhere the skin layer to the upper. EX1010, [0035], [0043], [0054]; EX1005, ¶¶ 33-35. Dojan teaches that using a thermoplastic as the skin layer requires less material and is more efficient. EX1010, [0035], EX1005, ¶ 45.

Becker also discloses that the outer lining can be made of phylon, otherwise known as ethylene vinyl acetate, a known thermoplastic material that can be attached using thermal bonding. EX1007, [0081], EX1005, ¶¶ 25, 43. Accordingly, making the shoes described in Becker, a POSA would have been motivated to use thermal bonding to affix the disclosed thermoplastic outer lining to the inner lining, based on the advantages of thermal bonding and the disclosures in Becker. EX1005, ¶ 45; EX1003, ¶ 114. A POSA would have also had a reasonable expectation of success in using the thermal bonding methods to attach the layers in Becker based on the teachings of Dojan. EX1005, ¶ 45; *see Intelligent Bio-Systems, Inc. v. Illumina*

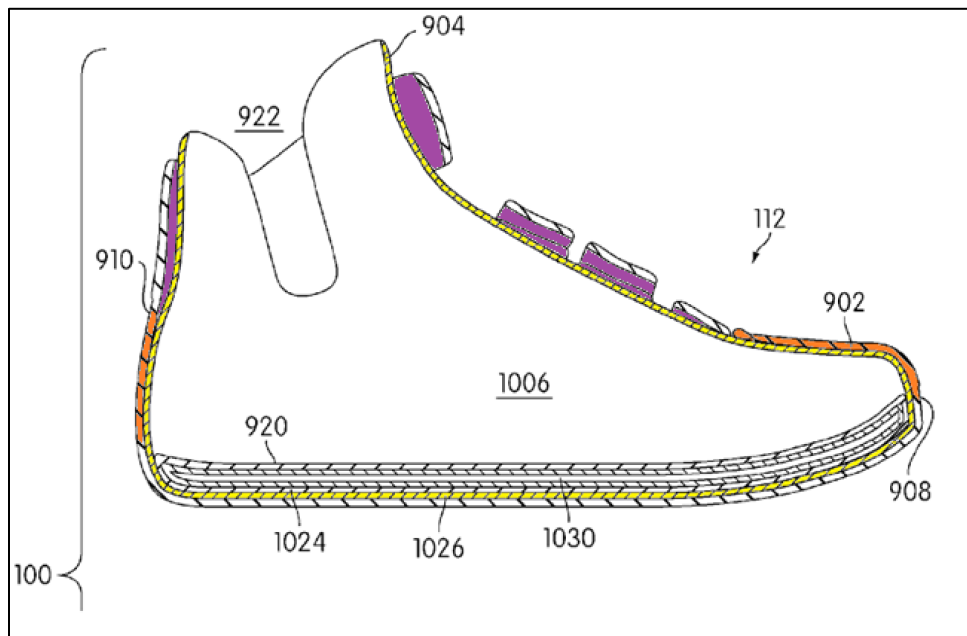
Cambridge Ltd., 821 F.3d 1359, 1365 (Fed. Cir. 2016); *KSR Intl’l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007).

As a result, Becker, in combination with Dojan, renders obvious limitation 11.c. EX1003, ¶ 116.

5. Limitation 11.d

Limitation 11.d recites “the skin layer covering at least a portion of the foot part of the knitted component and forming a portion of an exterior surface of the upper, the skin layer being absent from the ankle part of the knitted component.” The ’932 patent explains that the skin layer need not cover the entire exterior of the upper, stating that “[e]ach section of skin layer 140 may have different properties ... [and] may be spaced from each other to expose a portion of the knitted component 130.” EX1001, 18:13-14, 18:20-21.

Becker discloses that the outer lining covers a portion of the foot portion of the upper. EX1007, Fig. 10; EX1003, ¶ 118. As previously explained (*supra* Section VII.B.4), the outer lining is akin to a “skin” as it is made of a more durable material than the inner lining and is used to reinforce the inner lining. As shown in Figure 10, the outer lining—highlighted in orange—is adhered to the inner lining and covers at least a portion of the foot part of the shoe.

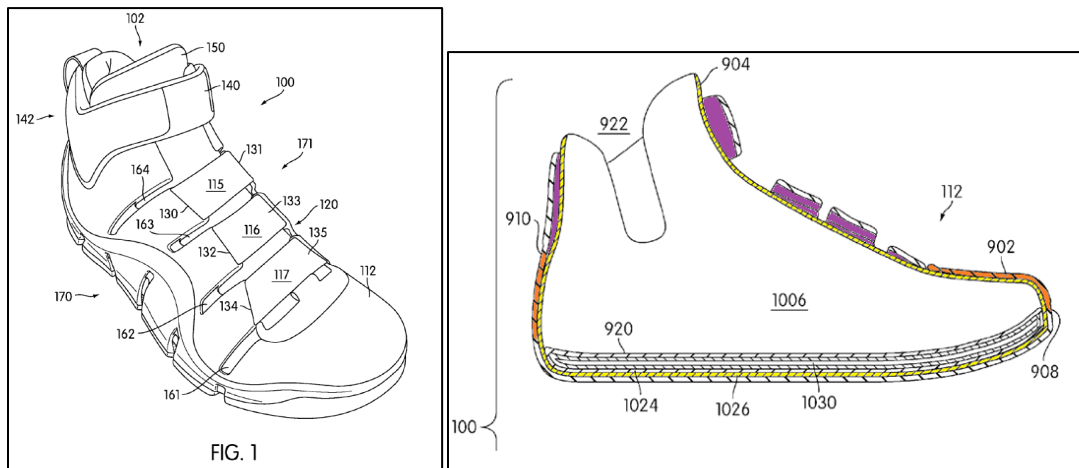


EX1007, Fig. 10 (annotated).

Figure 10 further shows that the outer lining does not cover the ankle portion of the shoe. EX1003, ¶ 119. As shown in Figure 10 above, the inner lining—highlighted in yellow—extends further up to cover the ankle portion, whereas the outer lining—highlighted in orange—is not bound to inner lining 904 around the ankle. *Id.*

In addition, Figures 1 and 10 (below) show that the ankle portion includes an ankle strap, configured to wrap around the ankle and allow for tightening. A POSA would have understood that the ankle strap would be configured to move independently of the inner lining and would not be adhered to the inner lining entirely around the ankle, as doing so would thwart the ankle strap's intended function—allowing for different degrees of tightness around the ankle. EX1007,

[0051]; EX1003, ¶¶ 120-121. As shown by the highlighting in Figure 10 below, the ankle strap is not part of the skin layer because it is not attached to the knitted component. EX1003, ¶ 121 (“A POSA would have understood Figure 10 to show that the area around the ankle includes a gap between the outer lining and inner lining 904. This gap is shown in purple in the figure below.”)



EX1007, Figs. 1 and 10 (annotated).

A POSA would have further understood that the stiffer, more durable outer lining material would not be applied to the ankle portion, as it would restrict the mobility of the ankle and would not allow for tightening. EX1003, ¶ 122. A POSA would therefore have known the importance of having the outer lining not be adhered to cover the ankle. *Id.*; see *Duramed*, 413 Fed. App’x at 296; *Koninklijke*, 948 F.3d at 1337. Additionally, the design of having the inner lining extend up above the outer lining was known to a POSA. EX1003, ¶ 123.

Alternatively, a POSA would have considered removing the ankle strap of Becker. EX1003, ¶ 123. A POSA would have been motivated to remove the ankle strap to allow for greater mobility of the ankle. *Id.* Indeed Becker teaches that “[a]lthough three flexible straps at the instep and one ankle strap are shown in this preferred embodiment, in other embodiments any number of straps or other fasteners may be used.” EX1007, [0055]. Therefore a POSA would have had a reasonable expectation of success in removing the ankle strap. EX1003, ¶ 123.

Thus, Becker teaches or discloses all elements of limitation 11.d. EX1003, ¶ 124.

* * *

Claim 11 therefore would have been obvious in light of Becker in combination with Dojan for at least the reasons explained above. EX1003, ¶¶ 91-125.

C. Claim 12

Claim 12 depends from claim 11 and recites: “wherein the foot part of the knitted component is in a foot region of the upper and the ankle part of the knitted component is in an ankle region of the upper, the foot region having less stretch than the ankle region.” The ’932 patent explains that, in part, “the presence of . . . skin layer 140 in foot region 106 may limit stretch in foot region 106.” EX1001, 15:12-14. The disclosed skin layer is “secured throughout knitted component 130” and

may “cover[] substantially all of knitted component 130,” but that it not cover the entire exterior of the upper. *Id.*, 9:36-38, 18:13-14, 18:20-21; 17:61-63.

As explained in Section VII.B.4-5, Becker discloses footwear comprising a foot region that is covered by an outer lining, which is akin to a skin layer, and an ankle region that is not covered by said outer lining. Becker further explains that while the inner lining is made from a “soft and flexible material,” which can include knitted fabrics, the outer lining is made of a more durable material. EX1007, [0080], [0081]; EX1003, ¶ 127; *see supra* Section VII.B.4. Becker also discloses that this durable outer lining provides additional support and protection to the foot. EX1007, [0081].

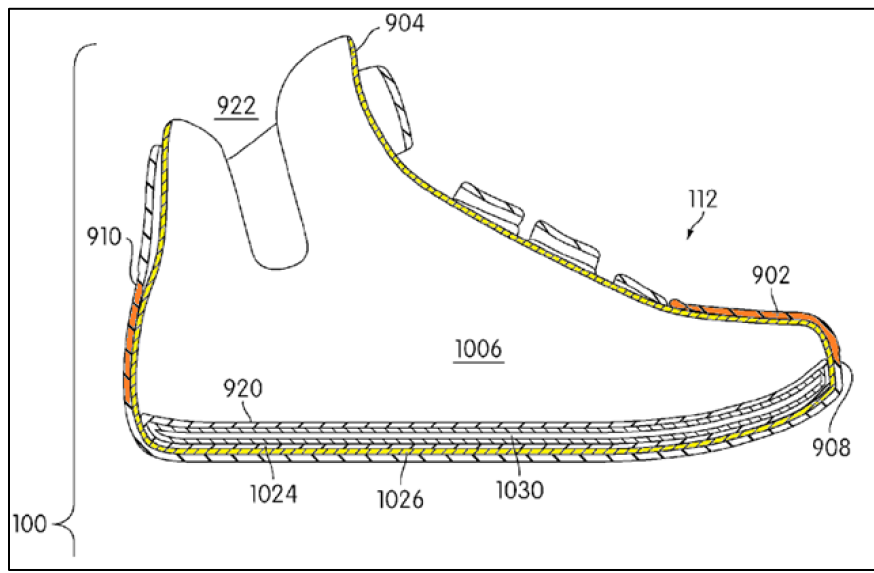
A POSA would have understood that the durable outer lining created a firm covering of the inner lining and would limit the stretch of the inner lining where the two are bound. EX1003, ¶ 127. A POSA would have understood the ankle portion, which is comprised of only the inner lining, to necessarily have more stretch and flexibility than the foot portion, which is in part covered by, and bound to, the more durable outer lining. For instance, a POSA would have understood that Becker’s preferred outer lining (phylon) is a plastic that would have less stretch than a knitted fabric and would limit the stretch of a material to which it was bonded. EX1005, ¶¶ 25, 43; EX1003, ¶ 127; *see Duramed*, 413 Fed. App’x at 296; *Koninklijke*, 948 F.3d at 1337.

Accordingly, claim 12 would have been obvious in light of Becker in combination with Dojan. EX1003, ¶¶ 126-128.

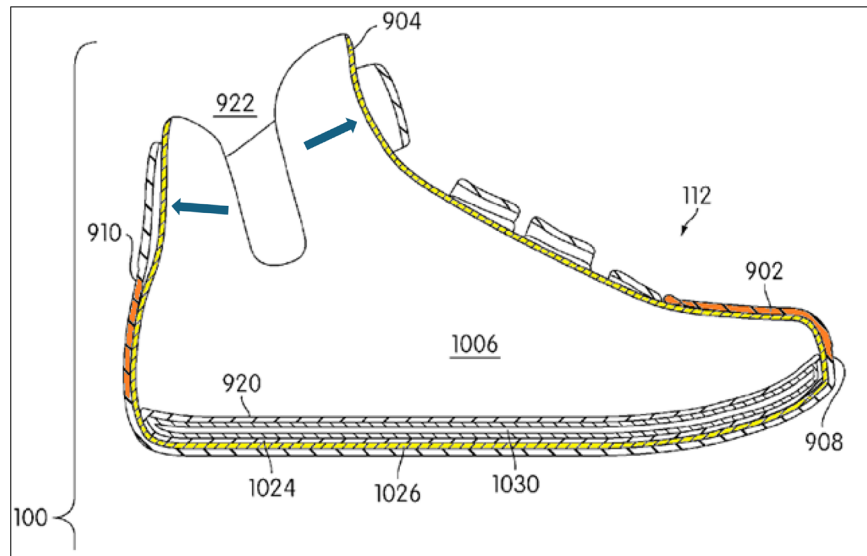
D. Claim 13

Claim 13 depends from claim 11 and recites: “wherein the ankle part of the knitted component forms (a) another portion of the exterior surface of the upper and (b) a portion of the interior surface of the upper.”

As explained in Section VII.B.5 above, Becker discloses footwear with an outer lining that does not cover the ankle portion. Becker also does not describe other layers of material on the exterior or interior of the inner lining around the ankle. EX1003, ¶ 130. A POSA would have understood that Becker therefore necessarily discloses that the portion of the inner lining covering the ankle comprises both the interior surface and a portion of the exterior surface of the upper. *Id.* This is illustrated by Figure 10. A POSA would have understood Figure 10 to show that the inner lining (yellow) forms a portion of both the exterior surface of the upper and a portion of the interior surface of the upper. *Id.*; see *Duramed*, 413 Fed. App’x at 296; *Koninklijke*, 948 F.3d at 1337.



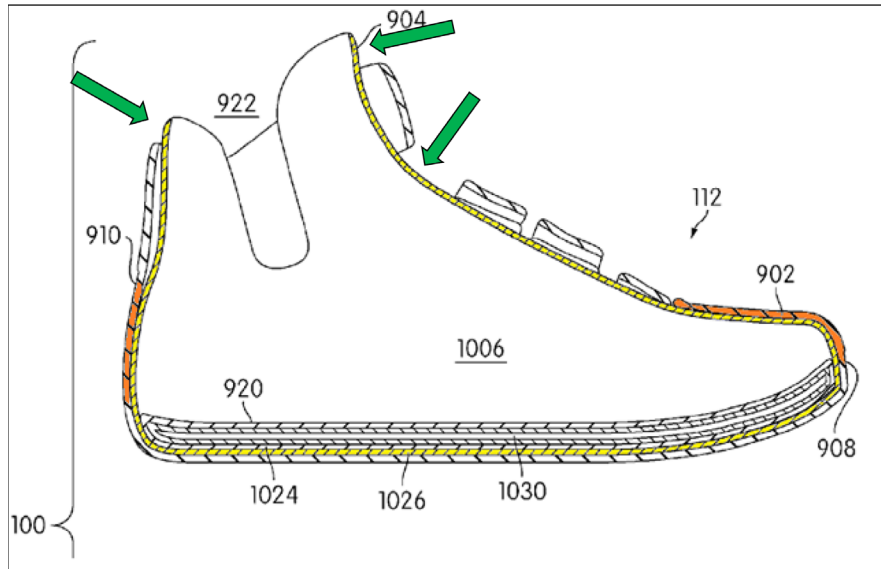
EX1007, Fig. 10 (annotated). Particularly, a POSA would have understood Figure 10 to depict the inner lining making up a portion of the interior surface, as shown by the blue arrows below, including the area covering the heel and the front of the foot of the wearer. EX1003, ¶ 130.



EX1007, Fig. 10 (annotated). Further, a POSA would have understood Figure 10 to depict the inner lining making up a portion of the exterior surface, as shown by the

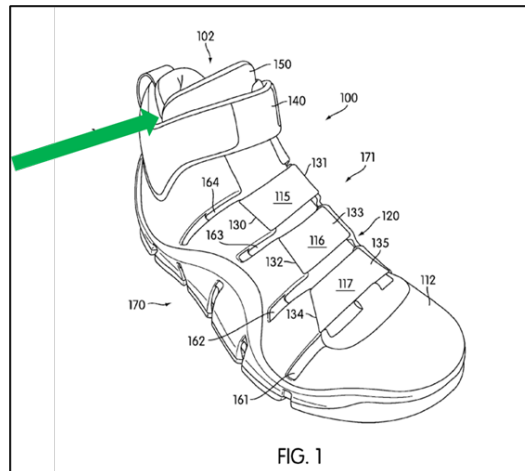
green arrows below, including the exterior surface at the top edge of the upper.

EX1003, ¶ 131.



EX1007, Fig. 10 (annotated).

In addition, a POSA would have further understood Figure 1 to depict the inner lining covering the ankle to make up both the exterior surface and the interior surface of the upper. EX1003, ¶¶ 132-133. As shown in the annotated Figure 1 below, the portion of the inner lining comprising the exterior surface is highlighted by the green arrow.



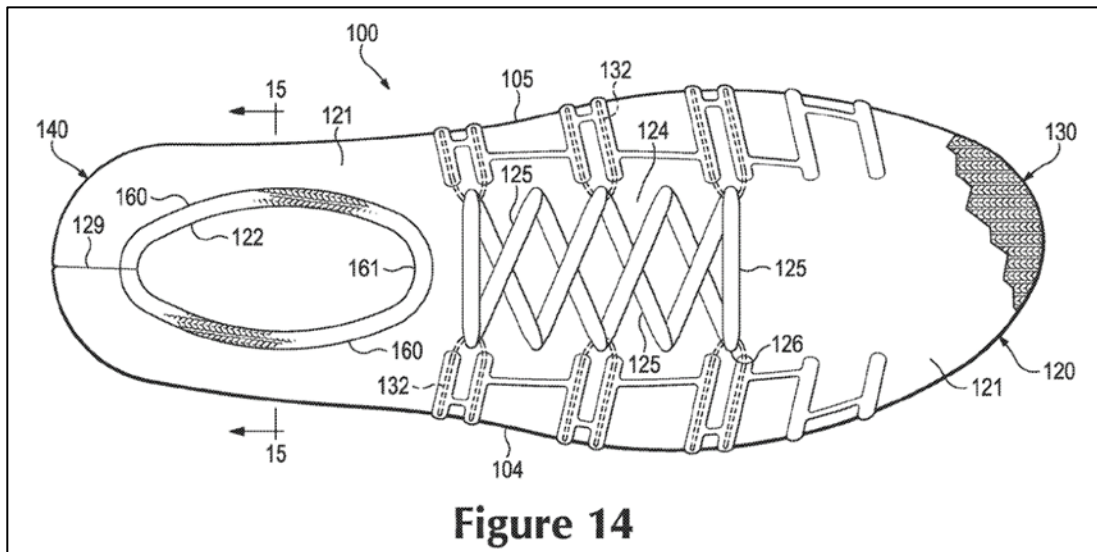
EX1007, Fig. 1 (annotated).

Therefore, claim 13 would have been obvious in light of Becker in combination with Dojan. EX1003, ¶ 134.

E. Claim 14

Claim 14 depends from claim 11 and recites: “wherein the ankle part of the knitted component has a continuous structure for extending entirely around the ankle of the wearer.” The figures in the ’932 patent present embodiments with two types of ankle configurations. The ankle shown in Figure 3 is made up of separate pieces that overlap to form the ankle opening; the ankle shown in Figure 14 is made from a single piece that forms the ankle opening. In discussing the embodiment shown in Figure 14, the ’932 patent further states that “[a]lthough seam 129 may be present in ankle cuff 160, the ankle part of knitted component 130 has a continuous structure for extending entirely around the ankle of the wearer.” EX1001, 14:55-67. The ’932 patent explains that the continuous opening need not be circular, but includes any

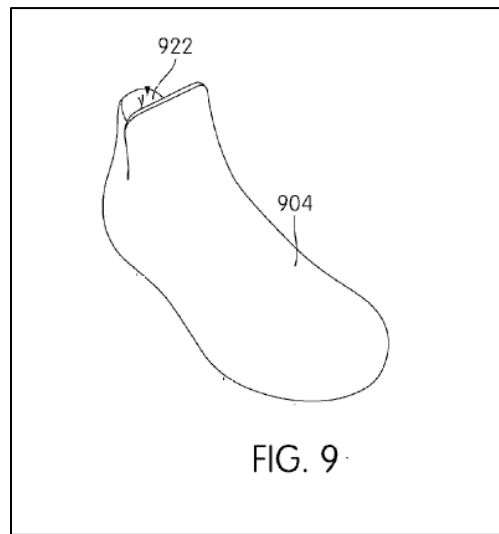
shape that is continuous and able to receive a foot. *Id.*, 14:58-61 (“[A]nkle cuff 160 forms a circular, oval, or otherwise continuous and rounded opening 161 that provides access to the void within upper 120.”).



EX1007, Fig. 14. A POSA would have understood the “continuous structure for extending entirely around the ankle of the wearer” of claim 14 to be directed to an ankle cuff where a single piece forms the ankle opening, such as that shown in Figure 14. EX1003, ¶ 136.

As described in Section VII.B.2.i above, Becker discloses an inner lining, structured as a “sock-like bootie.” EX1007, [0080], Fig. 9. Based on these disclosures, a POSA would have understood that the ankle portion of the inner lining to extend entirely around the ankle in a continuous structure, like a sock. EX1003, ¶ 137. The ankle opening in Becker encircles the ankle in a non-circular, continuous fashion, as shown in Figure 9, below. EX1007, Fig. 9. A POSA would have

understood the “sock-like bootie” to cover the ankle much like a traditional sock, in that the wearer of the shoe disclosed by Becker would put his or her foot into the opening of the inner lining and into the open cavity where the inner lining would then cover the wearer’s foot like a sock. EX1003, ¶ 137; *see Duramed*, 413 Fed. App’x at 296; *Koninklijke*, 948 F.3d at 1337.



EX1007, Fig. 9. This is in line with the way the '932 patent describes the “ankle cuff configuration.” EX1001, 14:58-14:62 (“Referring to the top plan view of FIG. 14, ankle cuff 160 forms a circular, oval, or otherwise continuous and rounded opening 161 that provides access to the void within upper 120. Opening 161 may have relatively large dimensions that allow the foot to pass through and into the void.”); EX1003, ¶ 138.

As explained in Section VII.B.3 above, a POSA would have understood that an inner lining that extends continuously around the ankle of the wearer would

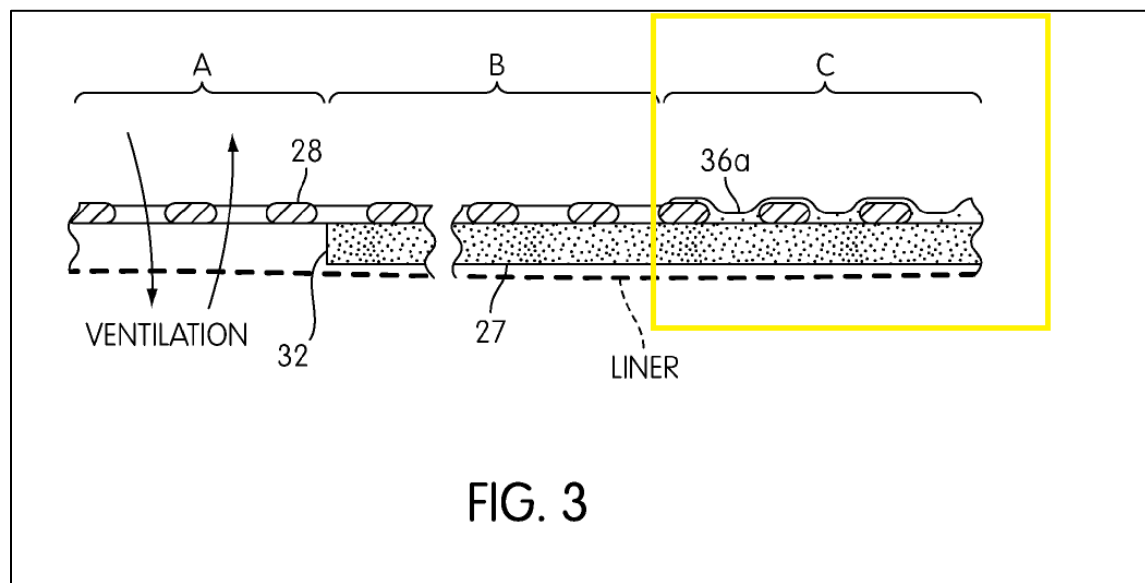
include fewer seams and therefore would generally be more comfortable, provide a good fit for the wearer, and require less manufacturing work. EX1003, ¶ 139. A POSA would have therefore accounted for these considerations and sought to design a continuous structure that would extend around the ankle of the wearer. *Id.*

Accordingly, claim 14 would have been obvious in light of Becker in combination with Dojan. *Id.*, ¶ 140.

F. Claim 15

Claim 15 depends from claim 11 and recites: “wherein the foot part of the knitted component defines a plurality of protruding areas that extend outward and away from a void within the upper for receiving the foot of the wearer.” The ’932 patent describes protruding areas as forming “bulges, protrusions, bumps, or other outwardly-extending portions in knitted component 130.” EX1001, 9:63-65.

Dojan discloses protruding areas that extend outward and away from the inner lining of the shoe formed by applying a skin material to the mesh material. EX1010, [0042], [0024] (Dojan discloses that “the layer of skin material conforms to the mesh material of layer 28 so as to reveal a surface texture having a contour corresponding to that of the mesh material.”); EX1003, ¶¶ 142-143.



EX1010, Figure 3 (annotated).

In designing the shoe disclosed in Becker, a POSA would have been motivated to maximize comfort which includes ensuring enough ventilation to prevent moisture accumulation around the wearer's foot. EX1003, ¶ 144. A POSA would have understood that using mesh knit fabric such as the material disclosed in Dojan permits increased ventilation. *Id.* A POSA, therefore, would have been motivated to use a mesh like that in Dojan to increase the ventilation and comfort of the shoe. *Id.*

In manufacturing the shoe, a POSA would have been motivated to thermally bond the outer lining to the mesh knit fabric of the inner lining such that it takes on the texture of the mesh, as disclosed in Dojan. *Id.*, ¶ 145. A POSA would have been motivated to allow the skin to take on the texture of the mesh because it allows “a

potential purchaser of [the] shoe [to be] made aware of the structure of shoe []” which increases a purchaser’s understanding of the shoe and potentially bolsters sales. EX1010, [0038]; EX1003, ¶ 145. Moreover, Dojan teaches that the “conformal nature of the contact between a skin material panel and underlying mesh and substrate layer materials helps to increase the bonded surface areas and overall material strength” which a POSA would know improves the performance and longevity of the shoe. EX1010, [0038]; see also EX1005, ¶ 37; EX1003, 145. Based on these advantages, a POSA would have been motivated to design the shoe in Becker to use a mesh layer as the knitted component and apply the skin layer with thermal bonding such that the skin layer conforms to the texture of the mesh. EX1003, ¶¶ 144-146. A POSA would have had a reasonable expectation of success making a shoe with a mesh and skin layer in light of Dojan’s disclosure. *Id.* A POSA would have had a reasonable expectation of success in forming the protruding areas in Becker given that Dojan teaches forming such protrusions with a knitted inner lining and outer lining (or skin layer)—as is disclosed in Becker. *Id.* The resulting upper would necessarily include the protruding areas like those disclosed in Dojan. *Id.*, ¶ 146.

Accordingly, claim 15 would have been obvious in light of Becker in combination with Dojan. *Id.*, ¶ 147.

**VIII. GROUND 2: BECKER IN COMBINATION WITH WILDEMAN
RENDER CLAIMS 11-14 OBVIOUS**

“A patent is obvious if 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 person having ordinary skill in the art to which said subject matter pertains.” *Arendi*, 832 F.3d at 1361 (internal quotations omitted). Here, a POSA would have understood that Becker discloses or teaches all elements of the challenged claims except the limitation that the skin layer is thermally bonded to the knitted component. A POSA, however, would have been motivated to use the well-known method of thermal bonding, disclosed in Wildeman, to attach the layers in Becker, rendering the challenged claims unpatentable. EX1003, ¶ 148.

A. Claim 11

Becker, in combination with Wildeman, discloses all elements of claim 11.

1. Preamble

While Petitioner does not concede that the preamble is limiting, Becker discloses all the elements of the preamble of claim 11 for the same reasons as explained in Section VII. EX1003, ¶ 149.

2. **Limitation 11.a**

- i. **“the upper comprising: a knitted component that includes (a) a foot part for covering at least a portion of a foot of a wearer and”**

For the same reasons as explained in Section VII.B.2.i, above, Becker discloses an upper that comprises “a knitted component that includes (a) a foot part for covering at least a portion of a foot of a wearer.”

From the disclosures in Wildeman, a POSA would be further motivated to use a knitted material for the inner lining of Becker. EX1003, ¶ 151. Wildeman discloses methods for manufacturing footwear with an upper comprising a “multi-layer composite construction,” which includes a textile material affixed to a second layer. EX1013, 2:4-6. Wildeman further discloses that “[m]ost athletic footwear is produced with textile materials,” which include “knitted constructions.” *Id.*, 1:20-22. Wildeman further discloses that the base textile 32 of the claimed article of footwear may be made of “a woven fabric [or] a knit fabric.” *Id.*, 5:5-8. Wildeman explicitly explains that the disclosed process for attaching the layers to generate a multi-layer upper can be completed with knit fabrics. *Id.*, 5:5-8. A POSA would have understood that Wildeman’s process for manufacturing uppers would provide numerous benefits, such as reduction of waste due to the ability to recycle the unused materials. *Id.*, 3:21-24; EX1003, ¶ 151. Accordingly, a POSA would have been motivated to use a knitted fabric for Becker’s inner lining and would have had a

reasonable expectation of success, based on Wildeman’s disclosures. EX1003, ¶ 151; *see Intelligent Bio-Systems*, 821 F.3d at 1365; *KSR Intl’l*, 550 U.S. at 421.

ii. **“(b)” an ankle part for covering at least a portion of an ankle of the wearer”**

For the same reasons as explained in Section VII.B.2.ii above, Becker discloses “a ankle part for covering at least a portion of an ankle of the wearer.” EX1003, ¶ 152.

3. **Limitation 11.b**

For the same reasons as explained in Section Section VII.B.3 above, Becker discloses “the foot part and the ankle part being formed of unitary knit construction.” EX1003, ¶ 154.

4. **Limitation 11.c**

Limitation 11.c requires “a skin layer that is thermally bonded to the knitted component.” The ’932 patent explains that the skin layer “is secured to an exterior of knitted component 130” and “may also be utilized to reinforce areas of upper 120.” EX1001, 5:63-64, 6:18-19. As explained in the ’932 patent, and agreed to by Nike (*see supra* Section V), thermally bonded means “a securing technique between two elements that involves a softening or melting of a thermoplastic polymer material within at least one of the elements such that the materials of the elements are secured to each other when cooled.” EX1027; *see supra* Section V.

For the same reasons as explained in Section VII.B.4 above, Becker discloses an upper with an outer lining attached to a knitted inner lining, and a POSA would have been aware of several techniques to attach the outer lining to the inner lining. EX1003, ¶ 158. The POSA considering making the shoes of Becker would have been motivated to use thermal bonding to attach the layers based on the disclosures of Wildeman. EX1005, ¶¶ 38-41, 46; EX1003, ¶ 159.

Thermal bonding was a well-known method of attaching layers of non-woven textile materials. EX1005 ¶ 42; EX1023 at 2489. A POSA would have predicted that using thermal bonding would secure the layers of the upper disclosed in Becker as thermal bonding was known to provide “fast, relatively easy, and economical bonds that are generally 80-100 percent the strength of the parent plastic.” EX1026, 554; EX1005, ¶¶ 29, 45. This known method of thermal bonding is disclosed in Wildeman as a way to attach two layers of textile materials in the manufacture and assembly of shoes. EX1013, 1:12-15. Wildeman states that its claimed invention provides “materials, equipment and processes which permit [use of] a hot melt (thermoplastic) coating” to attach layers of textile material. *Id.*, 2:30-32; EX1005, ¶¶ 39-41. Wildeman discloses that one aspect of its invention involves a base textile with a “hot melt (thermoplastic) coating” applied to it. *Id.* 3:4-6. (“According to one aspect of the invention a system of a polymeric fibrous base textile with a chemically compatible hot melt coating disposed in a disperse arrangement across the base

textile is provided.”). Wildeman explains that “the hot melt coating may be melt bonded to a second surface material thereby establishing a bond between the base textile and second surface material.” *Id.*, 3:6-10. Wildeman explains that its disclosed method provides numerous benefits, such as allowing for unused portions of the thermoplastic coated textile to be recycled back into a useable fiber. *Id.*, 2:30-3:2. A POSA would have understood that reduction of waste through recycling unused material would be a significant benefit in manufacturing. EX1005, ¶ 46. Becker also discloses that the outer lining can be made of phylon, otherwise known as ethylene vinyl acetate, a known thermoplastic material that can be attached using thermal bonding. EX1007, [0081], EX1005, ¶ 47. As a result, a POSA would have been motivated to use thermal bonding to affix the outer lining to the inner lining of Becker. EX1005, ¶¶ 46-47. A POSA would have had a reasonable expectation of success in using thermal bonding to attach Becker’s outer lining to its inner lining due to Wildeman’s disclosure of using thermoplastic as the hot melt coating to thermally bond the textile layers and Becker’s explanation that the skin layer may be made of phylon, a thermoplastic. *Id.*; see *Intelligent Bio-Systems*, 821 F.3d at 1365; *KSR Intl’l*, 550 U.S. at 421.

Accordingly, limitation 11.c would have been obvious in light of Becker and Wildeman. EX1003, ¶ 160.

5. Limitation 11.d

For the same reasons as explained in Section VII.B.5 above, Becker discloses “the skin layer covering at least a portion of the foot part of the knitted component and forming a portion of an exterior surface of the upper, the skin layer being absent from the ankle part of the knitted component. EX1003, ¶ 162.

* * *

As a result, claim 11 would have been obvious in light of Becker, in combination with Wildeman. EX1003, ¶ 163.

B. Claim 12

Claim 12 depends from claim 11 and recites: “wherein the foot part of the knitted component is in a foot region of the upper and the ankle part of the knitted component is in an ankle region of the upper, the foot region having less stretch than the ankle region.”

For the same reasons as explained in Section VII.C above, claim 12 would have been obvious in light of Becker in combination with Wildeman. EX1003, ¶ 165.

C. Claim 13

Claim 13 depends from claim 11 and recites: “wherein the ankle part of the knitted component forms (a) another portion of the exterior surface of the upper and (b) a portion of the interior surface of the upper.”

For the same reasons as explained in Section VII.D above, claim 13 would have been obvious in light of Becker in combination with Wildeman. EX1003, ¶ 167.

D. Claim 14

Claim 14 depends from claim 11 and recites: “wherein the ankle part of the knitted component has a continuous structure for extending entirely around the ankle of the wearer.

For the same reasons as explained in Section VII.E above, claim 14 would have been obvious in light of Becker in combination with Wildeman. EX1003, ¶ 169.

**IX. GROUND 3: FARYS AND THE KNOWLEDGE OF A POSA
RENDER CLAIMS 11-14 OBVIOUS**

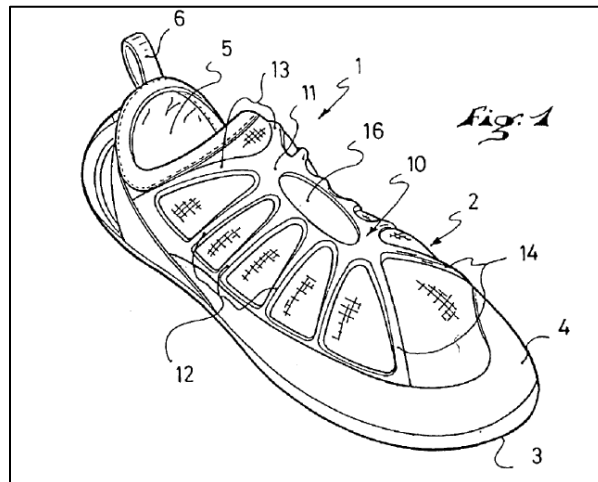
“A patent is obvious if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *Arendi*, 832 F.3d at 1361 (internal quotations omitted). Here, a POSA would understand that Farys discloses or teaches all elements of the challenged claims. In particular, a POSA would understand the method disclosed in Farys to attach the tightening system, which acts as a skin layer,

to the disclosed LYCRA upper to be a type of indirect thermal welding rendering the challenged claims unpatentable.

A. Farys (EX1011)

U.S. Patent No. 6,862,820 to Farys, et al. (“Farys”), EX1011, was issued on March 8, 2010. EX1003, ¶¶ 77-80.

Farys discloses “an article of footwear, particularly of the shoe type,” that has a sole and upper that is at least partially elastic. EX1011, Abstract, 1:14-17, *see also* Fig. 1 (shown below).



According to Farys the disclosed shoe is designed for sporting activities, including climbing, dancing, water sports, and fighting sports. *Id.*, 1:14-17. Farys explains that the upper is made from “a completely elastic yet light material, such as LYCRA or neoprene.” *Id.*, 2:39-40, Fig. 2. Additionally, Farys discloses that the upper includes an elastic tightening system. *Id.*, 3:9-10, Fig. 4. The elastic tightening system is affixed to the upper by any known technique, such as glueing,

sealing, molding, or stitching. *Id.*, 3:10-13. Farys explains that the tightening system can also be affixed to the upper through high frequency sealing, which allows for the use of transparent rubber as the assembly is done without glue. *Id.*, 3:26-29.

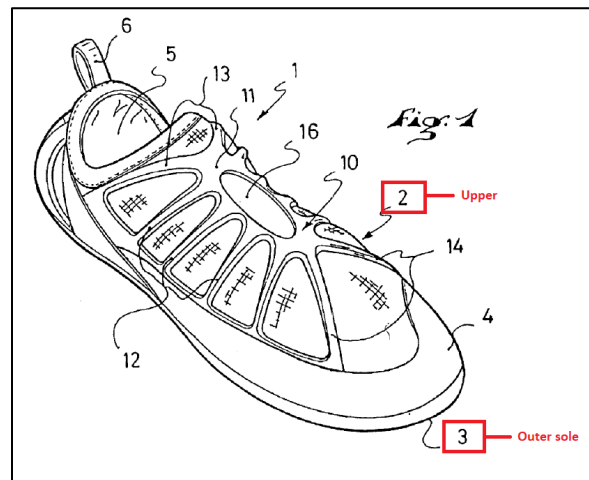
B. Independent Claim 11

Farys, with the knowledge of a POSA, discloses all elements of claim 11. EX1003, ¶ 170.

1. Preamble

The preamble of claim 11 recites “[a]n article of footwear having an upper and a sole structure secured to the upper.” While Petitioner does not concede that the preamble is limiting, Farys discloses the preamble of claim 11.

Farys recites a shoe with a sole and upper. Figure 1 portrays the upper 2 and outer soul 3. EX1003, ¶ 172.



EX1011, Fig. 1 (annotated).

Accordingly, Farys discloses all elements of the preamble. EX1003, ¶ 173.

2. **Limitation 11.a**

- i. **“the upper comprising: a knitted component that includes (a) a foot part for covering at least a portion of a foot of a wearer and”**

Farys discloses a shoe with an upper that is made from lightweight and elastic material to wrap around the foot. EX1011, 2:39-40. Specifically, Farys explains that the upper is “made preferably from completely elastic, yet lightweight, material, such as LYRCA.” *Id.* A POSA would have understood that LYCRA is a yarn used in knitted fabrics and therefore would have understood Farys’ upper to preferably include a knit component. EX1003, ¶ 174; *see* EX1021 at 77 (“The yarns used for knitting the fabrics were . . . Lycra 70D. Adding Lycra to a fabric gives it stretch and recovery and these properties are important particularly in active sportswear and outdoor activities where body flexing and stretching occur.”); *see also* EX1020 at 287 (“Here, Lycra polyester air-covered yarn is knitted into single jersey fabric and their properties have been tested on this knitted structure.”). Therefore, a POSA would have understood that Farys’s upper to be a “knitted component.” EX1003, ¶ 174.

Even if, however, Farys’s disclosure did not call out Lycra knit as a preferred embodiment, a POSA would have separately been motivated to use a knit fabric to accomplish the purpose of Farys’s upper due to the known advantages of knit materials EX1003, ¶ 175. A POSA would have known about the numerous

advantages to knitted fabrics. *Id.*, ¶¶ 36-37. For example, knitted fabrics have excellent moisture and air permeability and an attractive appearance while also possessing high stretch and recovery. *Id.* (citing EX1017, EX1019). Knitted fabrics are also known to provide more freedom of movement and shape retention for the shoe. *Id.*

Further, Farys explains that the upper is “closed.” EX1011, 2:30-33. Farys discloses that the upper guarantees a complete hold of the foot, while remaining lightweight and flexible. EX1011, 1:19-22, 1:48-49. A POSA would have understood a “closed” upper to mean that the upper covers the foot of the wearer. EX1003, ¶ 176. A POSA would have also understood that by guaranteeing a complete hold of the foot, the upper must necessarily cover at least a portion of the wearer’s foot. *Id.*. This is in line with the ’932 patent description, which explains the upper “forms a void on the interior of the footwear for comfortably and securely receiving a foot.” EX1001, 1:21-23; *see also Duramed*, 413 Fed. App’x at 296.

Accordingly, Farys, alone or in combination with the knowledge of a POSA, discloses or teaches an upper with a knitted component that covers at least a portion of the foot of the wearer. EX1003, ¶ 177.

ii. **“(b) an ankle part for covering at least a portion of an ankle of the wearer”**

Farys discloses that the upper may be “mid-high” and that such an upper would cover the malleoli without hindering the mobility of the ankle. EX1011, 2:34-39 (“The upper 2 is low, meaning that it extends below the malleoli so as not to hinder the ankle articulation. As the case may be, the upper 2 could also be mid-high, i.e., covering the malleoli without nevertheless hindering the mobility of the ankle.”). As the ’932 patent states, the malleoli are the bony protrusions on either side of the ankle. EX1001, 14:37-39 (“the lateral malleolus and the medial malleolus (i.e., the bony prominences on each side of the ankle) of the wearer.”). A POSA, therefore, would have understood the “mid-high” embodiment disclosed in Farys to cover at least a portion of the wearer’s ankle. EX1003, ¶ 178.

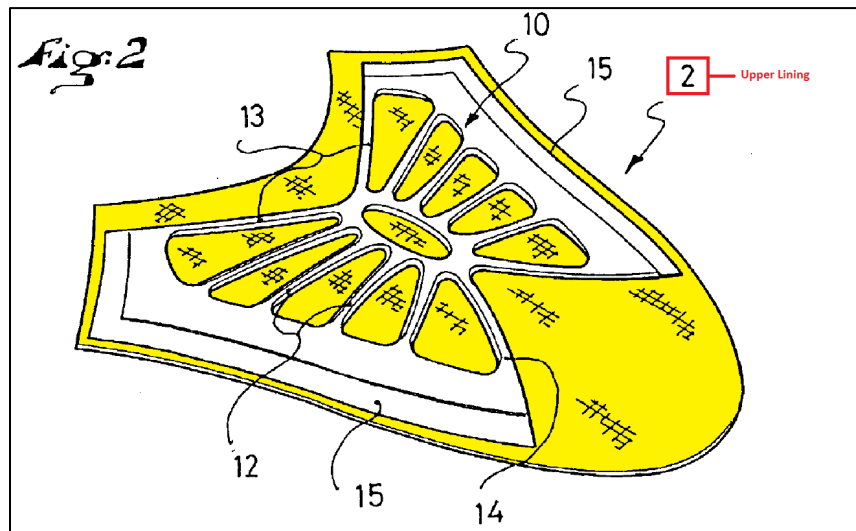
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Therefore, Farys teaches or discloses all of the elements of limitations 11.a. *Id.*, ¶ 179.

3. **Limitation 11.b**

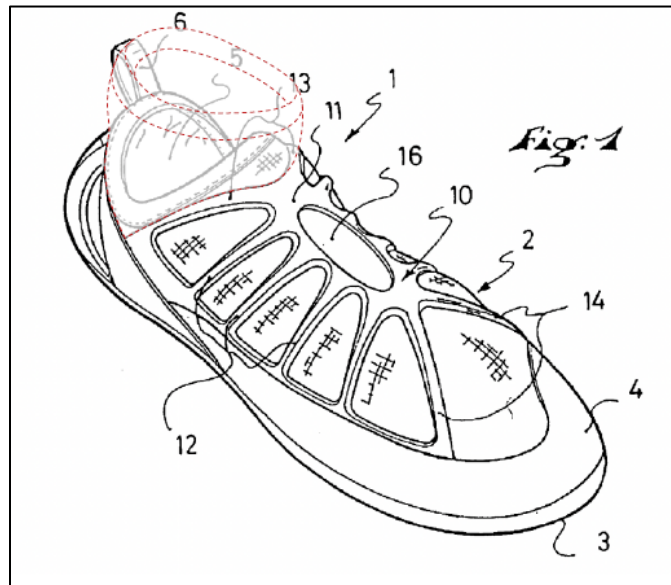
Limitation 11.b recites “the foot part and the ankle part being formed of unitary knit construction.” As explained above, “unitary knit construction” means “formed as a one-piece element through a knitting process.” EX1027, 1; *see supra* Section V.

Farys discloses that the claimed shoe is manufactured by attaching an outer lining “to a precut form of the upper.” EX1011, 3:16-23. Figure 2 shows the “precut form of the upper” (highlighted in yellow in the annotated figure below) as one sheet, preferably made from LYCRA knit. *Id.*, 2:39-40; see *In re Conte*, 36 Fed. Appx. at 451 (affirming the Board’s determination that disclosure of claimed elements in figure of prior art patent was sufficient to show that patent was obvious over the prior art). A POSA would have understood that Farys’s “precut form” of a LYCRA material would be made of a unitary construction because knitted fabrics are most efficiently made as a single piece of textile that are constructed of strands of yarn looped together. EX1003, ¶¶ 181-182. Moreover, a POSA would know that a unitary knit construction is preferred as it increases the comfort to the wearer due to fewer seams near the foot. *Id.*, ¶ 182.



EX1011, Fig. 2 (annotated).

As explained in Section IX.B.2 above, Farys discloses a “mid-high” upper that covers portions of the ankle of a wearer and would necessarily comprise both a foot part and ankle part. EX1003, ¶¶ 176, 178 . Farys also discloses that the “mid-high” upper would be made of a “completely elastic yet lightweight material,” such as LYCRA. EX1011, 2:39-40. As discussed above, a POSA would have understood that LYCRA is a knitted material. EX1003, ¶¶ 174-175 . Therefore, a POSA would have understood that Farys’s mid-high upper would be made in the same manner as shown in Figure 1—as a single piece of knitted fabric—except with additional material in the portion that would cover the wearer’s ankle. *Id.*, ¶ 183.



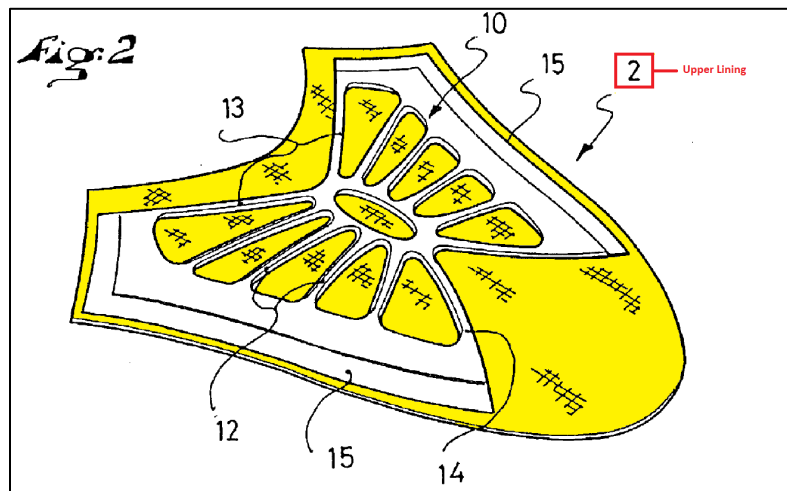
EX1011, Fig. 1 (modified).

A POSA would have understood Farys to disclose an upper with a foot part and an ankle part made of a unitary knit construction. EX1003, ¶¶ 183-184.

4. Limitation 11.c

Limitation 11.c recites “a skin layer that is thermally bonded to the knitted component.” As explained above, the ’932 patent explains that the skin layer “may also be utilized to reinforce areas of upper 120,” and that “[e]ach section of skin layer 140 may have different properties ... [and] may be spaced from each other to expose a portion of the knitted component 130.” EX1001, 5:63-64, 6:18-19, 18:13-14, 18:20-21.

Farys discloses an article of footwear with an elastic tightening system that is connected to the upper, where “the elastic tightening system [] is affixed flat to a precut form of the upper[.]” EX1011, 3:17-19. A POSA would have understood the elastic tightening system to be the “skin.” EX1003, ¶ 187. The tightening system acts as a skin in that it is “assumes the shape of the foot [and] is important for a good feel, contact, and maximum perceptions, i.e., sensory feed-back regardless of the type of sport practiced.” EX1011, 1:28-31. Much like that of the skin layer of the ’932 patent, the elastic tightening system is secured to the knitted portion of the upper. EX1003, ¶ 187. Further, similar to the skin layer of the ’932 patent, the elastic tightening system can be used to “take into account the morphological differences” in wearers’ feet. *Id.*



EX1011, Fig. 2 (annotated).

Further, Farys discloses that the elastic tightening system may be affixed to the upper through a variety of techniques. EX1011, 3:24-27. Farys specifically discloses that one of those techniques is high frequency sealing. *Id.* A POSA would have understood that high frequency sealing is an indirect thermal bonding technique “where a form of energy other than thermal is applied.” EX1005, ¶¶ 27-28, 48-49. A POSA would have understood that the energy applied heats the thermoplastic material, causing the materials to soften or melt, and produce a weld when cooled. *Id.* A POSA would have been familiar with the use of high frequency sealing as it was known in the footwear industry as a method of assembling shoes. *Id.*; EX1016, 157. A POSA would have therefore understood Farys to disclose a skin that is thermally bonded to the upper.

A POSA would have separately been motivated to use high frequency sealing to affix the elastic tightening system to the upper, as a POSA would have been aware

of the benefits, such as time, efficiency, and lower environmental burden. EX1005, ¶¶ 27, 49 ; EX1003, ¶ 188; *see Intelligent Bio-Systems*, 821 F.3d at 1365; *KSR Intl'l*, 550 U.S. at 421. Farys specifically explains that the advantage of the high frequency sealing is that it can be done without any glue. EX1005, ¶ 49.

Accordingly, Farys teaches a skin layer that is thermally bonded to a knitted upper. EX1003, ¶ 189.

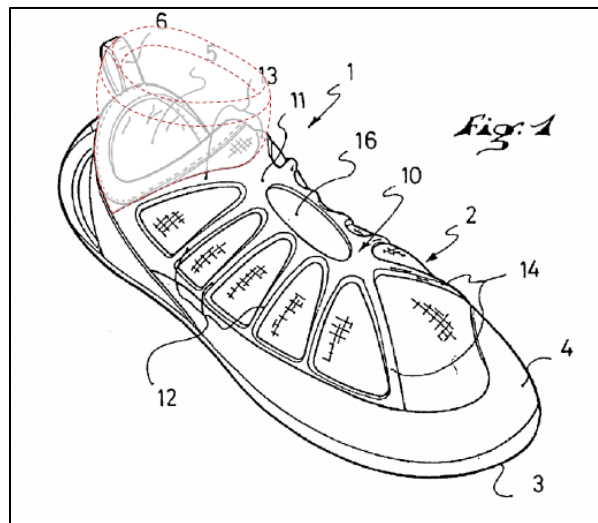
5. Limitation 11.d

Limitation 11.d requires “the skin layer covering at least a portion of the foot part of the knitted component and forming a portion of an exterior surface of the upper, the skin layer being absent from the ankle part of the knitted component.” As noted above, the ’932 patent describes that the skin layer need not cover the entirety of the upper. *See supra* VII.B.5.

Farys discloses that the elastic tightening system extends over the entire foot area. EX1011, 1:56-59. Farys further discloses that said tightening system is attached directly to the upper. EX1011, 3:17-19. A POSA would have understood that because the elastic tightening system is attached directly to the upper, it would necessarily make up at least portions of the exterior surface of the upper. EX1003, ¶ 191.

Farys explains that the “mid-high” upper embodiment would cover the ankle bone without impeding the mobility of the ankle. EX1011, 2:34-39. (“As the case

may be, the upper 2 could also be mid-high, i.e, covering the malleoli without nevertheless hindering the mobility of the ankle.”); EX1003, ¶ 192. A POSA would have understood that, to avoid impeding the mobility of the ankle, the elastic tightening system of Farys’s “mid-high” upper would not extend up the ankle portion. EX1003, ¶ 193. A POSA would have also known that the elastic tightening system was used to tighten and secure the shoe to the foot of the wearer and would thus restrict some degree of movement. *Id.*; see *Duramed*, 413 Fed. App’x at 296; *Koninklijke*, 948 F.3d at 1337. Accordingly, a POSA would have been motivated to refrain from adding the tightening system to the ankle portion to keep the stretch and mobility provided by the knitted component, so as not to impede the mobility of the ankle. EX1003, ¶ 193; see *Intelligent Bio-Systems*, 821 F.3d at 1365; *KSR*, 550 U.S. at 421. Moreover, the design of having the knitted component extend beyond the outer lining was known to a POSA. EX1003, ¶ 193.



EX1011, Fig. 1 (modified).

Therefore, Farys discloses all elements of limitation 11.d. EX1003, ¶ 194.

* * *

As a result, claim 11 would have been obvious in light of Farys and the knowledge of a POSA. *Id.*, ¶ 195.

C. Claim 12

Claim 12 depends from claim 11 and recites: “wherein the foot part of the knitted component is in a foot region of the upper and the ankle part of the knitted component is in an ankle region of the upper, the foot region having less stretch than the ankle region.” The ’932 patent explains that, in part, “the presence of . . . skin layer 140 in foot region 106 may limit stretch in foot region 106.” EX1001, 15:12-14. The disclosed skin layer is “secured throughout knitted component 130” and may “cover[] substantially all of knitted component 130,” but that it need not cover the entire exterior of the upper. *Id.*, 9:36-38, 18:13-14, 18:20-21.

A POSA would have understood that Farys’s upper includes a foot region with less stretch than that of the ankle region. EX1003, ¶ 197. Farys discloses an elastic tightening system welded to the knitted component in the foot region, thereby limiting its stretch. EX1011, 1:56-59. Farys further explains that the elastic tightening system “extends almost over the entire volume of the foot.” *Id.* As explained in Section IX.B.5 above, a POSA would have been motivated to make the

“mid-high” upper disclosed in Farys with an elastic tightening system that does not extend up to cover the ankle region. EX1003, ¶ 197. A POSA would have therefore understood that the foot region with the tightening system adhered to it, would necessarily have less stretch than that of the ankle region, which has no tightening system welded to it. *Id.*, ¶ 198. Farys’ confirms this by teaching that the “mid-high” upper covers the ankle bone without impeding the mobility of the ankle. EX1011, 2:34-38. A POSA would have thus understood Farys to disclose an upper comprising an ankle region with more stretch than the foot region. EX1003, ¶ 198; *see Duramed*, 413 Fed. App’x at 296; *Koninklijke*, 948 F.3d at 1337.

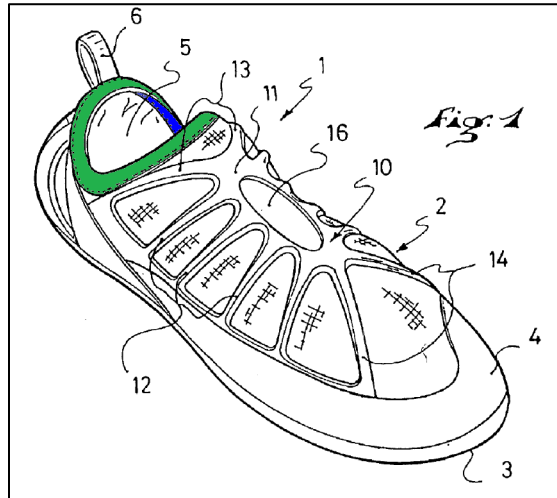
Accordingly, all elements of claim 12 would have been obvious in light of Farys and the knowledge of a POSA. EX1003, ¶ 199.

D. Claim 13

Claims 13 depends from claim 11 and recites: “wherein the ankle part of the knitted component forms (a) another portion of the exterior surface of the upper and (b) a portion of an interior surface of the upper.”

As explained in Section IX.B.5 above, a POSA would have understood that the “mid-high” upper disclosed Farys would not have a tightening system covering the ankle region. Further, a POSA would have understood that the ankle portion of the upper disclosed by Farys would make up both a portion of the exterior surface of the knitted upper and a portion of the interior surface of the knitted upper.

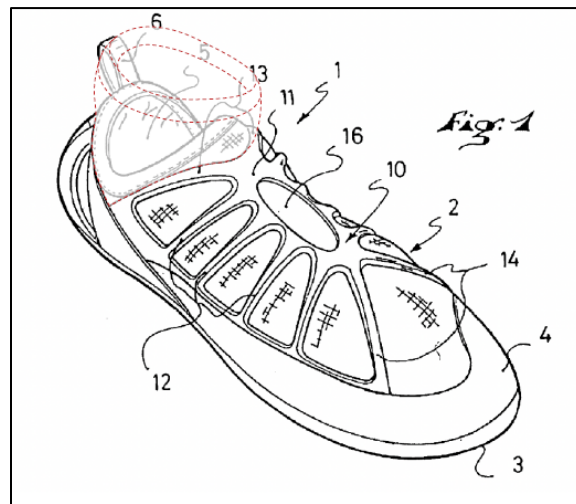
EX1003, ¶ 201; *see Duramed*, 413 Fed. App'x at 296. Figure 1 depicts such an upper, as it shows that the portion of the upper covering the ankle region comprises the knitted component without the elastic tightening system and includes both an exterior surface (green) and an interior surface (blue).



EX1011, Fig. 1 (annotated).

A POSA would also understand that the “mid-high” upper disclosed in Farys would be structured in a similar fashion as Figure 1 and would necessarily have additional knitted material that extends up to cover the ankle region. EX1003, ¶ 201; *see Duramed*, 413 Fed. App'x at 296. The “mid-high” upper also would not include the tightening system, thereby resulting in the ankle region of the knitted upper forming both an exterior surface and an interior surface of the upper. EX1003, ¶ 201. Modified Figure 1 below shows this embodiment. A POSA would have understood Farys to mean that the mid-high upper embodiment has the LYCRA

knitted component extend up the ankle and that the knitted component forms both the interior and exterior part of the ankle. EX1003, ¶ 201. As shown below in modified Figure 1, the modified ankle (red dotted lines) makes up both the interior surface and exterior surface. *Id.* In addition, Farys does not disclose other layers of material on the exterior or interior of the inner lining. *Id.*



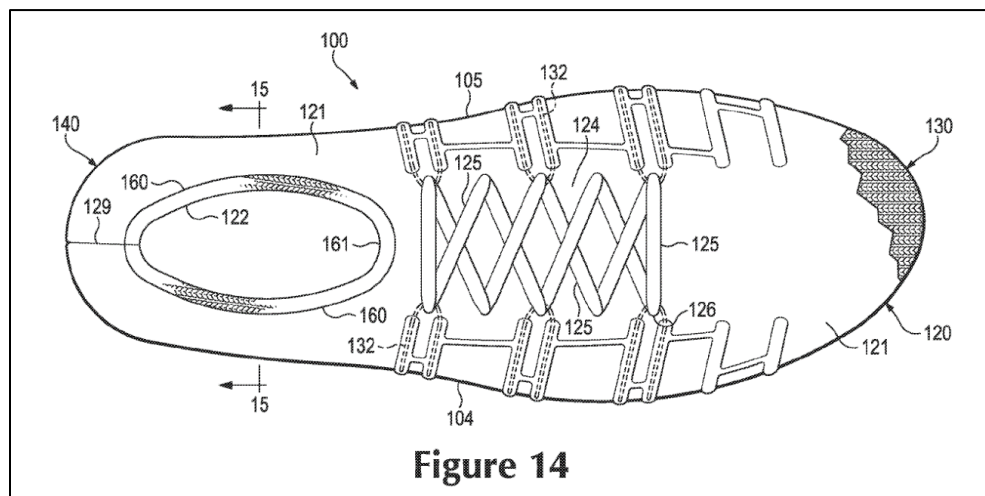
EX1011, Fig. 1 (modified).

Therefore, all elements of claim 13 would have been obvious in light of Farys and the knowledge of a POSA. EX1003, ¶ 202.

E. Claim 14

Claim 14 depends from claim 11 and recites: “wherein the ankle part of the knitted component has a continuous structure for extending entirely around the ankle of the wearer. As explained above, the figures in the ’932 patent present embodiments with two types of ankle configurations. The ankle shown in Figure 3 is made up of separate pieces that overlap to form the ankle opening; the ankle shown

in Figure 14 is made from a single piece that forms the ankle opening. In discussing the embodiment shown in Figure 14, the '932 patent further states that “[a]lthough seam 129 may be present in ankle cuff 160, the ankle part of knitted component 130 has a continuous structure for extending entirely around the ankle of the wearer.” EX1001, 14:55-67.

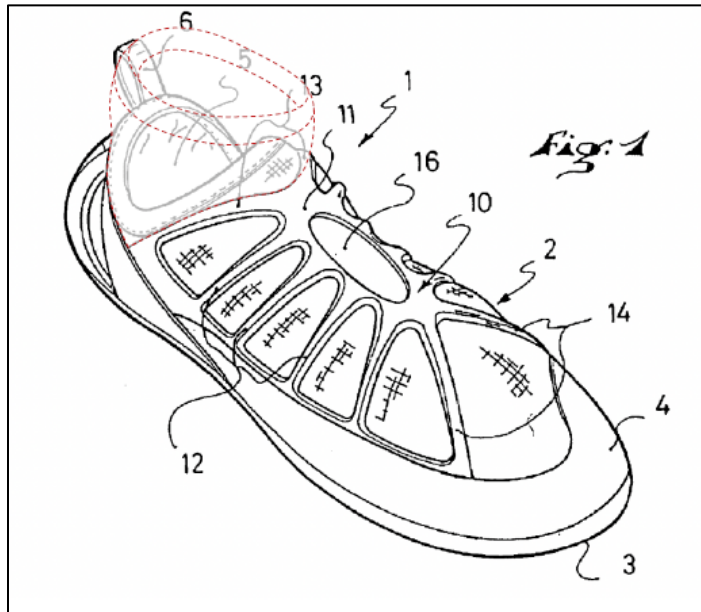


EX1007, Fig. 14. A POSA would have understood the “continuous structure for extending entirely around the ankle of the wearer” of claim 14 to be directed to an ankle cuff where a single piece forms the ankle opening, such as that shown in Figure 14. EX1003, ¶ 204.

A POSA would have understood the knitted upper of Farys to extend entirely around the ankle of the wearer. *Id.*, ¶ 205. Figure 1 depicts a low upper with a regions that encircles the ankle in a continuous structure. A POSA would have understood that Farys’s “mid-high” upper would have extended further up on the

ankle as depicted in modified Figure 1 (below), as a continuous structure extending entirely around the ankle of the wearer in the same way as shown in Figure 1.

EX1003, ¶ 205; *see Duramed*, 413 Fed. App'x at 296.



EX1011, Fig. 1 (modified).

As a result, all elements of claim 13 would have been obvious in light of Farys and the knowledge of a POSA. EX1003, ¶ 206.

X. NO SECONDARY CONSIDERATIONS

Petitioner is unaware of any secondary considerations that may support the patentability of the Challenged Claims. EX1003, ¶¶ 207-208.

XI. THE BOARD SHOULD NOT EXERCISE DISCRETION TO DENY INSTITUTION

A. The Board Should Not Decline Institution Pursuant to 35 U.S.C. § 325(d)

The Board may “reject the petition [where] the same or substantially the same prior art or arguments previously were presented to the Office.” 35 U.S.C. § 325(d). The Board has articulated a framework to guide its analysis under § 325(d). *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper No. 8, 17-18 (P.T.A.B. Dec. 15, 2017) (precedential). This framework has been consolidated into two questions: (1) whether “the same or substantially the same art or arguments previously were presented to the Office” and if so, (2) whether the “petitioner has demonstrated a material error by the Office.” *Advanced Bionics, LLC v. Med-El Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper No. 6, 10 (P.T.A.B. Feb. 13, 2020) (precedential). Here, the framework favors institution.

Dojan (EX1010) is the only reference discussed in this Petition that was cited during prosecution of the ’932 patent. The Patent Office, however, did not meaningfully address Dojan during prosecution, as the Patent Office never relied on Dojan as the basis for any claim rejection during prosecution and never considered the prior art combinations or arguments set forth herein.

Further, the Patent Office has not considered the same or substantially the same arguments during prosecution. As originally drafted, the claims of the ’932

patent did not include the “thermal bonding” limitation. EX1002, 2014-05-09, Claims. In a non-final rejection, the patent office found that, as drafted, claims 11-15 were invalid as anticipated by Glidden, as Glidden discloses a shoe with a knit upper, comprising a foot region, ankle region, and skin layer. *Id.*, 2014-07-24, Non-Final Rejection, 2. Further, Glidden discloses that the ankle portion has a greater degree of stretch. *Id.* Applicant overcame the non-final objection by adding the “thermal bonding” limitation to claims 11-15. *Id.*, 2014-08-27, Amendment, 5. The Notice of Allowance was issued after the amendments were made without further examination. *Id.*, 2014-09-15 Notice of Allowance, 1.

Dojan is cited herein to show that a POSA would have been familiar with thermal bonding and would have been motivated use thermal bonding to attach layers to shoe uppers. Patent Owner added the “thermal bonding” limitation to the claims of the ’932 patent to overcome a non-final rejection, but there is no evidence that the Patent Office meaningfully considered the thermal bonding aspects of Dojan during prosecution. The Board has “consistently held that a reference that was neither applied against the claims nor discussed by the Examiner does not weigh in favor of exercising . . . discretion under § 325(d).” *Bowtech v. MCP IP, LLC*, IPR2019-00379, Paper 14, 18 (P.T.A.B. July 3, 2019) (quotations omitted).

Therefore, the Board should not decline institution pursuant to § 325(d).

B. The Board Should Not Decline Institution Pursuant to 35 U.S.C. § 314(a)

This is the only petition challenging the '932 patent. The '932 patent is currently being asserted in a pending district court action, but this parallel litigation should not prevent institution here. To determine if parallel litigation warrants discretionary denial, the Board considers the *Fintiv* factors. *See Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper No. 11, 6 (P.T.A.B. Mar. 20, 2020) (precedential). *Fintiv* factors 2, 3, 4, and 6 all strongly favor institution.²

Factors 2 (timing of district court trial) and 3 (investment in the district court litigation) favor institution because the litigation against New Balance is in its very early stages. The court recently issued a schedule, which set a Markman hearing for June 20, 2025. *See Nike, Inc. v. New Balance Athletics, Inc.*, C.A. No. 1-23-cv-12666, Dkt. No. 23 (D. Mass.). A trial date has not been set, and the court has not considered any substantive issues related to the '932 patent. The average median time to trial in the District of Massachusetts, where litigation is pending against New Balance, is 31.4 months. EX1030. Assuming this case follows the expected timeline, a trial may be scheduled in mid to late 2026, which is after a Final Written Decision would be due in this proceeding.

² *Fintiv* factors 1 and 5 do not outweigh the remaining factors here.

Factor 4 (overlap of issues raised in Petition and district court action) favors institution. Given the estoppel provisions of § 315(e)(2), if the Board institutes this Petition and it proceeds to a Final Written Decision, that decision will most likely issue before trial and will estop Petitioner from raising in the District Court Action “any ground that the petitioner raised or reasonably could have raised” in this proceeding. Thus, there is no risk of overlapping and conflicting findings. *Google LLC v. Wildseed Mobile, LLC*, IPR2023-00247, 2023 WL 3846399, at *11 (P.T.A.B. June 6, 2023).

Factor 6 (other considerations) strongly favors institution because this Petition raises a compelling case of unpatentability for all Challenged Claims. Patent Owner obtained the challenged claims by adding a single limitation requiring thermal bonding, but as explained above, the prior art taught that thermal bonding was a well-known and widely used process before November 2012. Per the Director’s June 21, 2022, Memorandum on the “Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation” (“Guidance Memorandum”), even if other *Fintiv* factors favor denial, which they do not here, the compelling merits of this case “demonstrate[] that the [Board] should not discretionarily deny institution under *Fintiv*.” Guidance Memorandum, 5.; *see Commscope Techs. LLC v. Dali Wireless, Inc.*, IPR2022-01242, Paper No. 23, 4 (P.T.A.B. Feb. 27, 2023) (“The patent system and the public benefit from instituting

challenged claims where there is a showing of unpatentability by compelling merits.”).

Therefore, the Board should institute this Petition.

XII. CONCLUSION

New Balance respectfully requests that the Board institute an IPR and cancel claims 11-15 of the '932 patent.

XIII. MANDATORY NOTICES

A. Real Parties-in-Interest (37 C.F.R. § 42.8(b)(1))

The only real party-in-interest is New Balance Athletics Inc.

B. Related Matters (37 C.F.R. § 42.8(b)(2))

Nike is asserting the '932 patent against New Balance in *Nike, Inc. v. New Balance Athletics, Inc.*, C.A. No. 1-23-cv-12666 (D. Mass.). Nike has also asserted the '932 patent against adidas AG in C.A. No. 3:21-cv-1780 (D. Ore.). Adidas AG has not had any involvement in the present Petition.

C. Identification of Counsel (37 C.F.R. § 42.8(b)(3)) and Service Information (37 C.F.R. § 42.8(b)(4))

New Balance designates the following lead and backup counsel:

Lead Counsel	Backup Counsel
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IPR Petition – Patent 8,898,932
New Balance Athletics, Inc. v. Nike, Inc.

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Service on New Balance may be made by First-Class mail or hand delivery to
Goodwin Procter LLP, 620 Eighth Avenue, New York, NY 10018. New Balance

IPR Petition – Patent 8,898,932
New Balance Athletics, Inc. v. Nike, Inc.

also consents to and prefers electronic service by emailing counsel of record at the
above email addresses and DG-NB-NIKE@goodwinlaw.com.

Dated: November 5, 2024 By: /Linnea Cipriano/
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Lead Counsel for Petitioner

APPENDIX 1

Listing of Claims from U.S. 8,898,932	
Claim 11	
11.pre	An article of footwear having an upper and a sole structure secured to the upper, the upper comprising:
11.a	a knitted component that includes (a) a foot part for covering at least a portion of a foot of a wearer and (b) an ankle part for covering at least a portion of an ankle of the wearer
11.b	the foot part and the ankle part being formed of unitary knit construction; and
11.c	a skin layer that is thermally bonded to the knitted component
11.d	the skin layer covering at least a portion of the foot part of the knitted component and forming a portion of an exterior surface of the upper, the skin layer being absent from the ankle part of the knitted component.
Claim 12	
12	The article of footwear recited in claim 11, wherein the foot part of the knitted component is in a foot region of the upper and the ankle part of the knitted component is in an ankle region of the upper, the foot region having less stretch than the ankle region.
Claim 13	
13	The article of footwear recited in claim 11, wherein the ankle part of the knitted component forms (a) another portion of the exterior surface of the upper and (b) a portion of an interior surface of the upper
Claim 14	
14	The article of footwear recited in claim 11, wherein the ankle part of the knitted component has a continuous structure for extending entirely around the ankle of the wearer.

Listing of Claims from U.S. 8,898,932	
Claim 15	
15	The article of footwear recited in claim 11, wherein the foot part of the knitted component defines a plurality of protruding areas that extend outward and away from a void within the upper for receiving the foot of the wearer.

CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), the undersigned certifies that this PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,898,932 contains 13,991 words according to the word-processing program used to prepare this paper. The foregoing word count complies with the 14,000-word type-volume limit specified by 37 C.F.R. § 42.24(a)(1).

Dated: November 5, 2024

By: /Linnea Cipriano/
Linnea Cipriano (Reg. No. 67,729)

Lead Counsel for Petitioner

CERTIFICATE OF SERVICE

The undersigned hereby certifies that on the date below a copy of this PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,898,932, PETITIONER’S POWER OF ATTORNEY, AND EXHIBITS 1001-1032, were served by Federal Express next business day on the Patent Owner at the correspondence address of record for the subject patent as follows:

78342 - SHOOK, HARDY & BACON LLP/NIKE, INC.
2555 Grand Boulevard
Kansas City, MO 64108

A courtesy copy has been sent by electronic mail on this day to Patent Owner’s counsel of record in the matter identified in Section XIII.B of the Petition as follows:

Christopher J. Renk
ARNOLD & PORTER KAYE SCHOLER LLP
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Chicago, Illinois 60602-4231
chris.renk@arnoldporter.com

Dated: November 5, 2024

By: /Linnea Cipriano/
Linnea Cipriano (Reg. No. 67,729)

Lead Counsel for Petitioner