

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PUMA NORTH AMERICA, INC.,
Petitioner,

v.

NIKE, INC.,
Patent Owner.

Case IPR2019-01059
U.S. Patent No. 9,375,046

**DECLARATION OF JOE NAPURANO IN SUPPORT OF
PATENT OWNER NIKE, INC.'S PRELIMINARY RESPONSE TO
PETITIONER PUMA NORTH AMERICA, INC.'S PETITION FOR *INTER*
PARTES REVIEW OF U.S. PATENT NO. 9,375,046**

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lululemon Ex. 1023
IPR2024-00159

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I, Joe Napurano, declare as follows:

I. Introduction

1. I have been retained by Nike (“Patent Owner”) as an independent expert in this *inter partes* review (“IPR”) proceeding before the Patent Trial and Appeal Board (“PTAB”), which I understand involves U.S. Patent No. 9,375,046 (the “’046 patent”). My employer, Akilez Design Consultants, is compensated for my time spent in working on issues in this case at a rate of \$300 per hour. Akilez is also compensated for my expenses in relation to this matter. No part of my compensation is dependent on the outcome of this proceeding, and I have no other interest in this proceeding.

2. I understand that this proceeding involves the ’046 patent. I further understand that the Petitioner PUMA North America, Inc. (“Petitioner”) raises two grounds in the Petition for *Inter Partes* Review. I understand the raised grounds relate to the following reference:

Ex. 1004	U.S. Patent Pub. No. 2014/0310984 (“Tamm”)
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3. I have been asked to provide my opinions in response to the Petition’s assertion that claims 1, 2, 17, and 18 in the ’046 patent are anticipated by Tamm and/or claims 1, 2, 17, and 18 would have been obvious to a person of ordinary skill

in the art (“POSITA”) at the time of invention in view of Tamm and the knowledge of a POSITA. My opinions are set forth below.

II. Summary of Opinions

4. It is my opinion that the challenged claims 1, 2, 17, and 18 of the ’046 patent are not anticipated by Tamm.

5. It is my opinion that the challenged claims 1, 2, 17, and 18 of the ’046 patent would not have been obvious to a POSITA at the time of the invention over Tamm in view of the knowledge of a POSITA.

6. It is my opinion that the anticipation and obviousness analyses of Petitioner and Petitioner’s expert, Mr. Steszyn, are flawed.

III. Qualifications

7. I have been directly involved in the footwear industry since 1989. I have experience in designing for a wide range of consumer goods and footwear programs.

8. My expertise in footwear comes from my education, industry experience and my role as an educator. My work experience includes, but is not limited to, design, project management, working with professional athletes on new footwear, working on programs for users with special needs, last development, pilot 3D footwear projects, footwear technology development, materials, computer aided design processes, market research, development, manufacturing processes, working

with intellectual properties, licensing, and teaching college level design studios at The Rhode Island School of Design and Wentworth Institute of Technology.

9. I graduated from the Industrial Design Department with a BFA in 1988 from the Rhode Island School of Design. I have continued training in various CAD programs over the past nearly 30 years, including but not limited to: Adobe Illustrator, Adobe PhotoShop, Autocad, Alias, Freeform, Strim and Rhino.

10. From 1997 to present I have worked at Akilez Design Consultants specializing in footwear. My work is focused on providing full design services. Programs often include: research, concept generation, presentations, material development, upper technical specifications, control drawings for molds and tooling, and oversight needed to bring product up to confirmation.

11. I have designed product and other work for Reebok, Saucony, Fila, New Balance, Puma, Converse, Timberland, Ryka, K Swiss, Teva, Caterpillar, Dr Martens, Vasily - Orthaheel, Spring Boost, Spira, DC, And 1, Via Spiga, Taryn Rose, Etienne Aigner, Asgi, Eurowellness Balance, Ecco, Anne Klein II, Tahari, Ellen Tracy, Champion, Payless, Sperry, Speedo, Dunham, Merrell, Adrienne Vittadini, MBT, Vans, Circa Joan & David, Nautica, Rockport, Nfinity, Heelys, Bangs Footwear, Bata, Dr. Andrew Weil Footwear, Dr. Scholls, Aravon, Klogs, Cape Cod Shoe Supply Co., Bridgestone, Wilson, Max Studio, Vibram, Safety 1st -

Dorel Juvenile Group, Tumi, Travelchair, Licensed programs for MLB, NBA, Matel, Marvel, Disney, Playskool, and Lucasfilm.

12. From 1991 to 1994 I was Director of Design and Product Development at Ryka and was responsible for research design and development of all new programs. I designed presentations, development trips and worked with all technical aspects of lightweight athletic footwear.

13. My work at Reebok as a full time Senior Designer (later as a consultant) involved working on classic athletic footwear, molded sandal projects, programs for sponsored athletes including Shaquille O Neal, Sean Kemp, Alan Iverson, Nicole Vaidisova, Arantxa Sanchez Vicario and others, work for the 1996 Atlanta Summer Olympics, training the design staff in computer aided programs and piloting a variety of CAD related and 3D proprietary processes.

14. I have been an Adjunct Professor at Wentworth Institute of Technology since 2012 and an Adjunct Professor at the Rhode Island School of Design since 2013. I teach required studios in Industrial Design, Footwear Design Studios and other elective studios within the Industrial Design departments. I teach Continuing Ed studios as well as Executive Ed studios at RISD since 2016. I have also been a panelist and guest at Massachusetts Institute of Technology on several occasions for their Product Design and Development and IDM programs.

15. I am the named sole inventor on U.S. Patent No. 7,155,782, as well as named on U.S. Patent No. 8,925,219. I am also a listed designer on U.S. Design Patent Nos. D386,291 and D683,113.

16. My curriculum vitae is attached as Exhibit A. It includes a listing of all publications I have authored or co-authored during my career.

17. I am not an attorney and offer no legal opinions. In the course of my work as a designer and working with or managing teams of engineers, designers and product developers I have gained an understanding of the training, knowledge, skills and abilities of a person skilled in the art of sports product innovation, engineering, design and development, and I use this understanding to form my opinions in this proceeding.

IV. Relevant Legal Principles

18. I understand that, in this *inter partes* review, Petitioner has the burden of proving that each challenged claim is unpatentable by a preponderance of the evidence. I understand that to find anticipation, each and every limitation recited in a claim must be found in one item of prior art, either expressly or inherently, and arranged in the item of prior art in the same way as it is claimed. I understand that a single prior art reference sufficiently describes a claimed invention if one skilled in the art could take the description of the invention in the prior art reference and

combine it with his own knowledge of the particular art and from this combination be put in possession of the claimed invention.

19. I understand that a patent claim is unpatentable if, at the time of the invention, it would have been obvious to a POSITA to combine the teachings of the prior art to yield the patent claim. I also understand that it is not required (although it is acceptable) that each element/limitation of a patent claim be found in a single reference in order to find a patent claim obvious. Rather, for a patent claim to be found obvious, all the elements/limitations of the patent claim must be found in teachings of one or more references that could be combined by a POSITA with a reasonable expectation of success. I understand that a proper analysis of whether an invention is unpatentable for obviousness includes a review of the scope and content of the prior art, the differences between the patent claims at issue and the prior art, the level of ordinary skill in the field of the invention at the time of the invention, and other objective considerations.

20. I understand that a showing of obviousness requires some articulated reasoning with a rational underpinning to support the combination of the references. I understand that in consideration of the issue of obviousness it is important to identify whether a reason existed at the time of the invention that would have led a POSITA to combine elements of the references in a way that yielded the claimed invention.

21. I understand that a claim may be considered unpatentable for obviousness for various reasons. I have been informed that the following exemplary rationales may support a finding of obviousness:

- combining prior art elements according to known methods to yield predictable results;
- simply substituting one known element for another to obtain predictable results;
- use of a known technique to improve similar devices in the same way;
- applying a known technique to a known device ready for improvement to yield predictable results;
- choosing from a finite number of identified, predictable solutions with a reasonable expectation of success;
- known work in a field that prompts variations in the work in the same or a different field that leads to predictable results; and
- some teaching, suggestion, or motivation in the prior art that would have led a POSITA to modify a prior art reference or combine multiple prior art references or teachings to arrive at the claimed invention.

22. I understand that various objective or “real world” factors may be indicative of non-obviousness. I understand that such factors include:

- the commercial success of the claimed invention;
- the existence of a long-felt, unresolved need for a solution to the problem solved by the claimed invention;
- failed attempts to solve the problem solved by the claimed invention;
- copying of the claimed invention;
- unexpected results of the claimed invention;
- praise for the claimed invention by others in the relevant field; and
- willingness of others to accept a license under the patent because of the merits of the claimed invention.

V. Materials Considered

23. All of my opinions are based on my knowledge and professional judgment, and the following documents that I considered:

- Petitioner's Petition for *Inter Partes* Review of U.S. Patent No. 9,375,046 in IPR2019-01059;
- Exhibits 1001 through 1006 in IPR2019-01059 (for the '046 patent);
- Nike, Inc.'s Opening Claim Construction Brief, Case 1:18-cv-10876-LTS Document 100 Filed June 28, 2019; and
- Supplemental Joint Statement of the Number of Claims and Terms to be Construed, Case 1:18-cv-10876-LTS Document 106 Filed July 30, 2019.

VI. Person of Ordinary Skill in the Art

24. Petitioner asserts that a POSITA relevant to the '046 patent “would have had at least three years of experience in knitted footwear development design [sic] in an industrial context with a focus on footwear.” (Petition at 6.)

25. For purposes of this declaration only, I am accepting Petitioner’s description of a POSITA.

26. I possess more than the Petitioner’s proposed level of ordinary skill in the art. I have more than three years of experience in the knitted footwear design and development in an industrial context.

VII. The '046 Patent

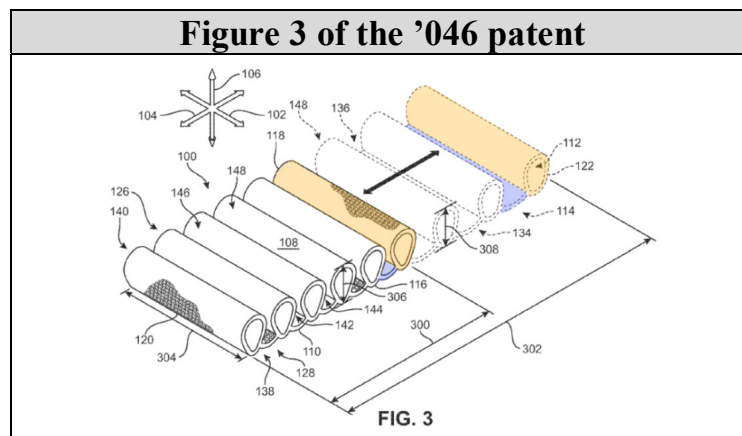
A. Description of the '046 Patent

27. I understand that the Patent Owner has included a description of the '046 patent in its Opening Claim Construction Brief in the District Court Litigation, which is reproduced below. I have reviewed and agree with the description.

28. The invention of the '046 patent relates to articles incorporating knitted components. (Ex. 1001, 1:20-22.) The articles include knitted webbed areas that move between a neutral position and an extended position and knitted tubular structures that are adjacent to the webbed areas. (*Id.*, 32:40-59.) When in the neutral position, a first area of the front surface of the webbed areas is hidden from visual

observation. (*Id.*) When in the extended position, the first area of the front surface is revealed for visual observation. (*Id.*)

29. Figure 3 of the patent, reproduced below with highlighting, is an example embodiment of the invention where the article is shown in a neutral position with solid lines and in an extended position with broken lines. (*Id.*, 3:23-26.) In this example, one of the knitted webbed areas is highlighted in blue and one of the knitted tubular structures is highlighted in orange, in both the neutral and extended positions. (*Id.*, 8:40-46.)



B. Prosecution History & Claims

30. The Patent Owner has provided me with a description of the prosecution history and claims of the '046 patent, which is reproduced below. I have reviewed Ex. 1002 and the provided description of the prosecution history and agree with the description.

31. The application as initially filed contained claims 1-20. (Ex. 1002, at 182-187.) The Examiner objected to the claims under 35 U.S.C. § 121 finding claims 1-15 recited footwear whereas claims 16-20 recited a method of knitting. (*Id.* at 674-675.) Patent Owner responded to the restriction requirement by electing claims 1-15 and cancelling claims 16-20. (*Id.* at 685-686.)

32. The Examiner issued a Non-final Office Action rejecting claims 1-15. (*Id.* at 695.) The Examiner rejected claims 1-7 as anticipated by U.S. Patent No. 5,118,569 (“Kuroda”). (*Id.* at 696-698.) In particular, the Examiner relied on Figure 18 in Kuroda as disclosing a unitary knit construction (13) including a plurality of webbed areas (19) that would stretch between two positions and tubular rib structures (16) formed from overlapping knit layers (17 and 18) where the rib structures are adjacent the webbed areas. (*Id.* at 696.)

33. The Examiner rejected claims 1-4, 6 and 7 as anticipated by U.S. Patent No. 3,307,379 (Woolley). (Ex. 1002, at 698-699.) In particular, the Examiner relied on Figures 1 and 2 in Woolley as teaching a unitary knit construction including a plurality of webbed areas (W) configured to move between two positions that included tubular rib structures formed of two overlapping layers. (*Id.* at 698-700.)

34. The Examiner rejected claims 8-15 under 35 U.S.C. §103 as being unpatentable over U.S. Publ. Appl. 2010/0154256 (“Dua”) in view of Woolley. (*Id.* at 700.) In particular, the Examiner found that Dua taught an article of footwear

including a sole (20) and upper (30) including a unitary knit component (40) including tubular rib structures (42) with webbed areas between the ribs. (*Id.* at 701.) The Examiner found the tubular rib and webbed areas inherently included a plurality of courses formed from a yarn and that the webbed areas are configured to move, or stretch, between two positions in response to an applied force. (*Id.*) The Examiner relied on Woolley to disclose a tubular rib including two yarns in the web and rib areas. (*Id.*)

35. In response, the Patent Owner filed an amendment and remarks (Ex. 1002, at 734-742.) The Patent Owner argued that Kuroda did not disclose “the recited ‘plurality of webbed areas,’ nor an article with webbed areas and tubular structures ‘wherein . . . the webbed areas or tubular structures . . . stretch to move the webbed areas to the extended position in response to a force applied to the article.’” (*Id.* at 740.) The Patent Owner also argued that neither Woolley nor Dua discloses a “plurality of webbed areas.” (*Id.* at 740-741.) Finally, Patent Owner argued that the combination of Dua and Woolley also did not disclose the limitation of claim 8 requiring “at least one of the webbed areas and tubular rib structures . . . stretch from a neutral position to the extended position in response to a force applied to the upper.” (*Id.* at 741.)

36. The Patent Owner next conducted an interview (Ex. 1002, at 753) with the Examiner and then submitted a Supplemental Amendment. (*Id.* at 747-752.) Of

relevance here, the Patent Owner amended claim 1 to add limitations requiring: that the “webbed areas hav[e] a front surface” and that “wherein in the neutral position, a first area of the front surface is hidden from visual observation from a first viewing perspective, and wherein in the extended position, the first are of the front surface of is revealed for visual observation from the first viewing perspective.” (*Id.* at 748.)

37. Following the Supplemental Amendment, the Examiner issued a Notice of Allowance. (*Id.* at 921.)

38. The challenged claims as issued in the '046 Patent read as follows:

Claim Element	Claim Language
1[a]	An article comprising: a plurality of webbed areas that include a plurality of courses formed from a first yarn, the webbed areas having a front surface,
1[b]	the webbed areas configured to move between a neutral position and an extended position,
1[c]	the webbed areas being biased to move toward the neutral position and
1[d]	a plurality of tubular structures that are adjacent to the webbed areas, the tubular structures including a plurality of courses;
1[e]	wherein at least one of the webbed areas or tubular structures is configured to stretch to move the webbed areas to the extended position in response to a force applied to the article
1[f]	wherein in the neutral position, a first area of the front surface is hidden from visual observation from a first viewing perspective, and
1[g]	wherein in the extended position, the first area of the front surface is revealed for visual observation from the first viewing perspective.
2[a]	2. The article of claim 1, wherein the article is associated with a longitudinal direction and a lateral direction;
2[b]	wherein the plurality of webbed areas and the plurality of tubular structures extend along the longitudinal direction,
2[c]	wherein the plurality of webbed areas and the plurality of tubular structures are spaced apart in the lateral direction, and

2[d]	wherein the article is configured to stretch in the lateral direction between the neutral position and the stretched position, the article biased toward the neutral position.
17	The article of claim 1, wherein the article includes a knitted component, the knitted component comprising the plurality of webbed areas and the plurality of tubular structures.
18	The article of claim 17, wherein the knitted component is formed of unitary knit construction.

VIII. Claim Construction

39. I understand that Petitioner alleges in its Petition that four claim terms in the '046 patent need to be construed. (Petition at 8-18.)

40. I also understand that the parties reached agreement on the meaning of certain of the terms. Supplemental Joint Statement of the Number of Claims and Terms to be Construed, Case 1:18-cv-10876-LTS Document 106 Filed July 30, 2019.

A. “Webbed Areas”

41. The Petitioner has proposed that the claim limitation “webbed area” should be construed to mean “a ‘knit base.’” (Petition at 13.)

42. I disagree with Petitioner’s proposed claim construction. The term “webbed area” should be construed to have its plain and ordinary. I have reviewed the '046 Patent and it does not define “webbed area.” “Webbed area” is also not a technical term with a special meaning in the art of footwear. Instead, “webbed area”

is a phrase made up of two commonly used words—“webbed” and “area”—which are well understood.

43. I note that claim 1 does not specify that the article must be knit, but that claim 17 recited a limitation that the article includes a “knitted component comprising the plurality of webbed areas and the plurality of tubular structures.” Similarly, claim 18 recites that the “knitted component” of claim 17 “is formed as a unitary knit construction.” (Ex. 1001, 34:47-52.) The addition of limitations referring to “knit” in claims 17 and 18 implies that a “webbed area” does not need to be “knit.”

B. “Tubular Structure”

44. The Petitioner has proposed that the claim limitation “tubular structure” should be “given its plain and ordinary meaning, (*i.e.* ‘tube shaped structure’).” (Petition at 13.)

45. I agree with Petitioner that “tubular structure” should be construed to have its plain and ordinary meaning. Both “tubular” and “structure” are commonly used words with commonly understood meanings.

46. I disagree, however, with Petitioner that “tubular” means “tube shaped.” A structure can be “tubular” without having a tube shape. For example, a structure may be tube-like but not have a tube shape.

C. “Course”

47. The parties have agreed that “course” means “row of loops.” (Supplemental Joint Claim Construction Statement, Case 1:18-cv-10876-LTS Document 106, at 7.)

D. “Neutral Position/Extended Position”

48. The parties have agreed that “neutral position” means “position in the absence of applied force.” (Supplemental Joint Claim Construction Statement, Case 1:18-cv-10876-LTS Document 106, at 7.)

49. The parties have agreed that “extended position” means “position in response to applied force.” (Supplemental Joint Claim Construction Statement, Case 1:18-cv-10876-LTS Document 106, at 8.)

IX. Analysis of Alleged Anticipation by Tamm

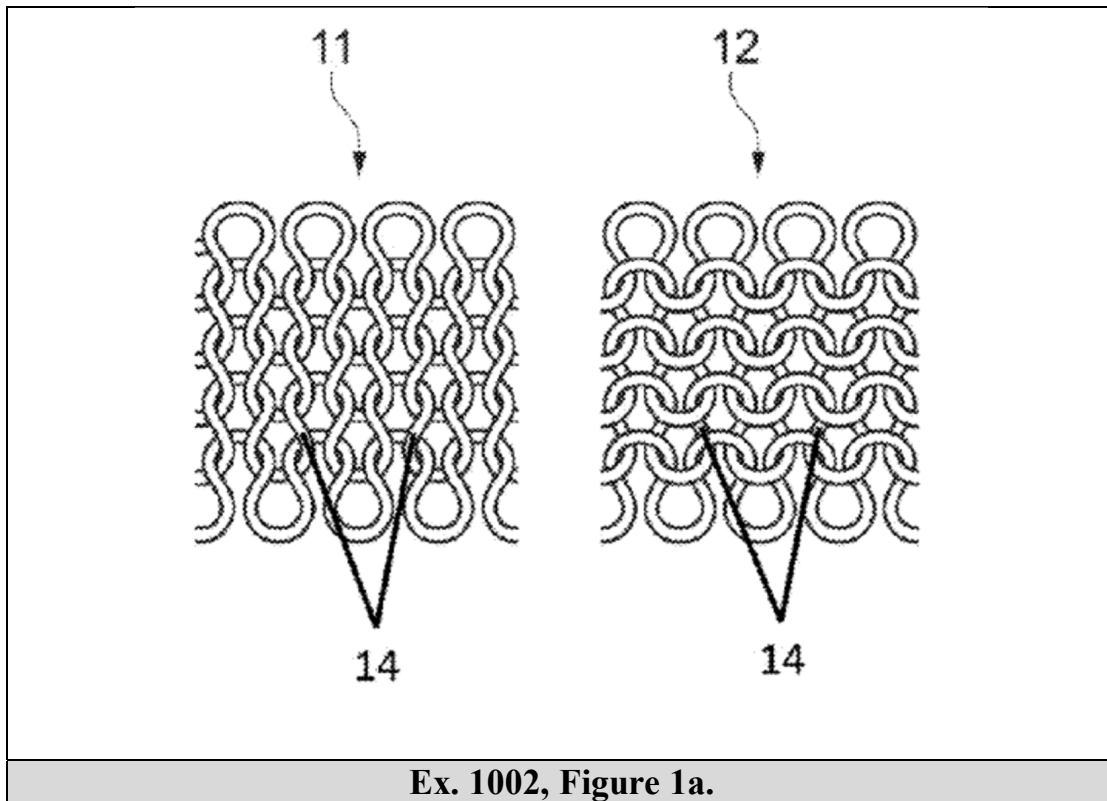
A. Challenged Claims 1, 2, 17 and 18 Are Not Anticipated by Tamm

50. The Petitioner has challenged claims 1, 2, 17 and 18 of the ’046 patent as anticipated by Tamm. (Petition at 23-53.) I disagree, as explained in detail below.

1. Element [1d] “a Plurality of Tubular Structures that are Adjacent to the Webbed Areas, the Tubular Structures Including a Plurality of Courses”

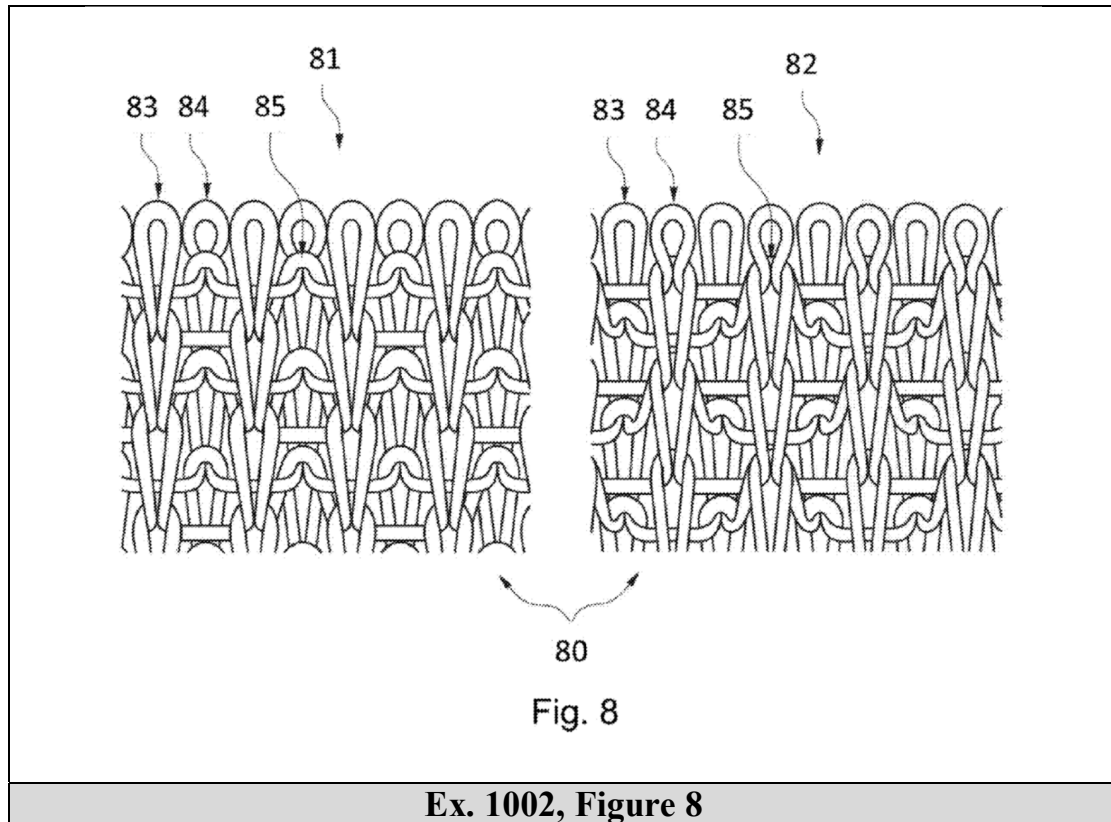
51. I disagree with Petitioner’s and Mr. Steszyn’s conclusion that Tamm discloses “a plurality of tubular structures that are adjacent to the webbed areas, the tubular structures including a plurality of courses.”

52. Tamm discloses flat knitwear comprised of layers. (Ex. 1003, at ¶¶ 0082-0083, 0093-0095, 0100, 0174.) For example, Tamm discusses how a flat-knitting machine may be used to create “a one-layered weft-knitted fabric . . . when stitches generated on the first row of needles are enmeshed with the stitches generated on the second row of needles.” (*Id.* at ¶ 0082) An example of a one-layered weft knitted fabric is depicted as items 11 and 12 in Figure 1a of Tamm:



53. A two-layered knitwear may be formed “when stitches generated on the first row of needles are not or only selectively enmeshed with the stitches generated on the second row of needles and/or if they are merely enmeshed at the end of the

weft-knitted fabric.” (Ex. 1003, at ¶ 0082.) Figure 8 depicts an example of a two-layered weft-knitted fabric:

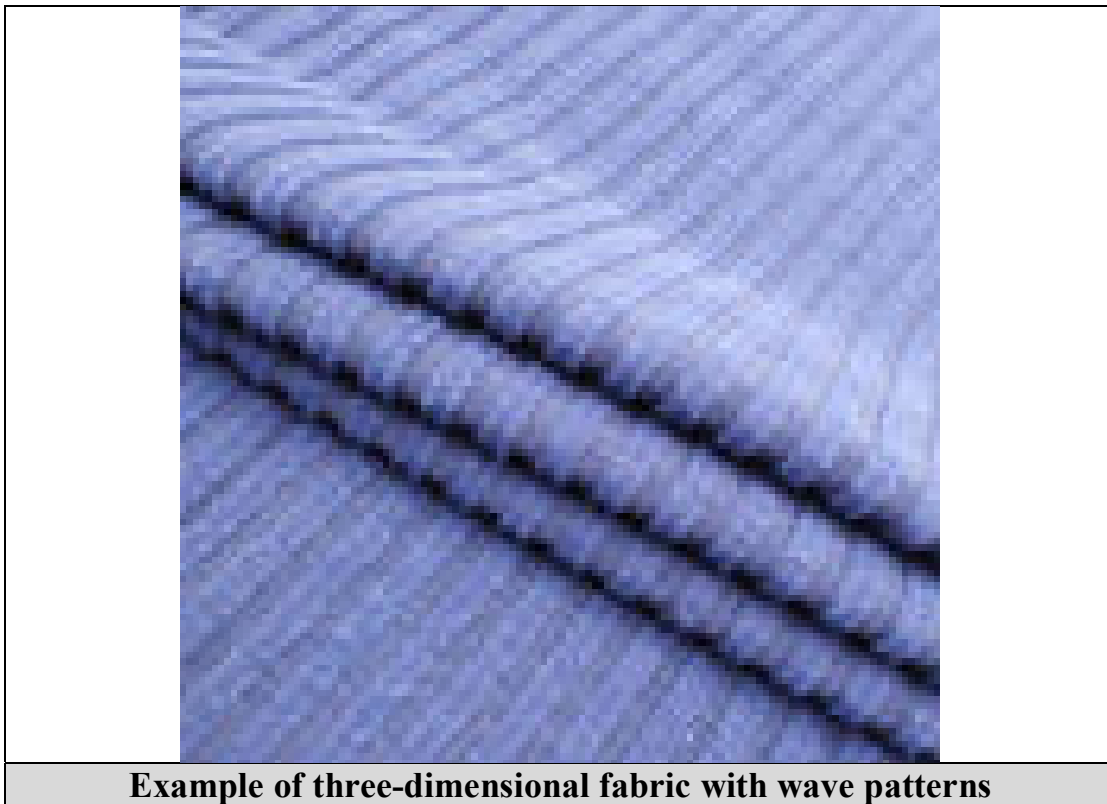


The two-layered knitwear includes a layer of yarn 83 and a weft-knitted layer of monofilament 84 which are connected by stitches 85. (*Id.*, at ¶¶ 0174, 0175.)

54. The knitwear examples in Figures 1a and Figure 8 are generally flat and considered two-dimensional by a POSITA even though the surface of the fabric will have some variations in the thickness of the knitwear.

55. Tamm discusses three-dimensional knitwear which may be manufactured by “varying the number of stitches or the direction of the wales by

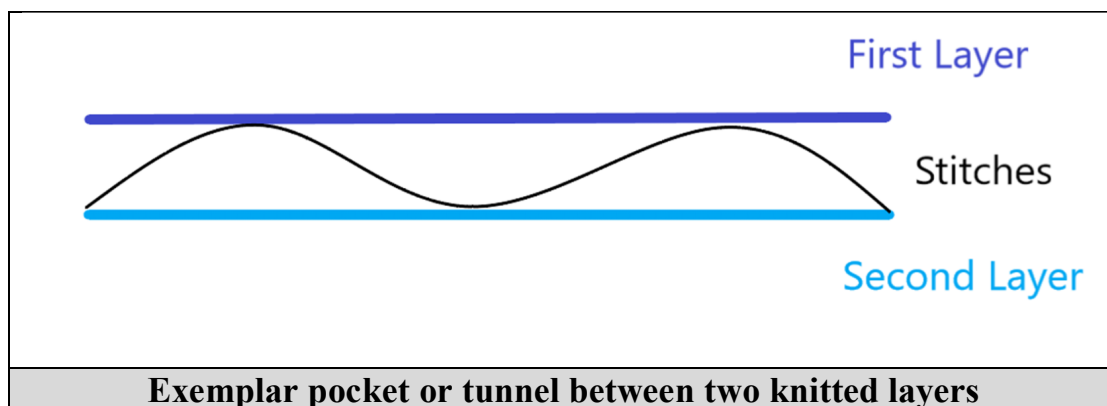
partial courses being formed.” (*Id.* at ¶ 0088.) Using this technique allows stitching to occur only in part of the fabric in order to create surface variations, such as bulges. (*Id.*) Varying the number of stitches may also form ribs or waves in certain areas due to an accumulation of stitches in a particular area. (*Id.* at ¶ 0101.) A varied surface thickness may also be achieved by varying the stitch type (e.g. tighter or wider) of each layer or using a different yarn. (*Id.*) Below is an example of a three-dimensional, weft-knitted fabric having a ribbed pattern:



Example of three-dimensional fabric with wave patterns

A POSITA would understand that the discussion of three-dimensional knitwear in Tamm refers to knitwear with a surface features, such as waves, ribs, bulges, etc.

56. Tamm also discloses “other multi-layered constructions” that may “include pockets or tunnels” where two knitted layers are “connected to each other only in certain areas so that a hollow space is created.” (Ex. 1003, at ¶ 0100.) A distance or space between the layers may be created by selectively connecting the two layers by an additional yarn or thread. (*Id.* at ¶¶ 0082, 0083.) The “pockets” described by Tamm are similar to a pocket on a pair of jeans where only the outside portions of the pocket are sewn to the jean with the top portion of the pocket not sewn. The “tunnels” in Tamm are similar to a belt loop on a pair of jeans where the ends of the loop are sewn to the jean with the remaining portions not attached to the jean. The difference is jeans use separate pieces of fabric sewn together whereas the Tamm “pockets” or “tunnels” result from the knitting of two-layers. A rudimentary example of two layers (dark blue layer and light blue layer) that are connected only at certain portions by stitches to create “hollow spaces” is shown below:



The spaces between the layers of corrugated cardboard is another example of a space formed between two layers of material that is similar to what Tamm refers to as “pockets” or “tunnels.”

57. I disagree with Petitioner’s and Mr. Steszyn’s position that the “second partial areas” 92a-92e of Figure 9 and element 122 of Figure 12 “are tube shaped structures” that meet the “plurality of tubular structures” limitation in claim 1 of the ‘046 Patent. (Petition, at 30-31; Ex. 1005, at ¶¶ 0078, 0080.)

58. Petitioner states that the “second partial areas of Tamm are tube shaped structures because Tamm discloses that they ‘may include pockets or tunnels, in which two textile layers . . . are connected to each other only in certain areas so that a hollow space is created.’” (Petition, at 31-32.) Petitioner cites paragraph 0100 in Tamm, but paragraph 0100 does not refer to the “second partial areas” having pockets or tunnels. Paragraph 0100 refers generically to “other multilayered constructions.” (Ex. 1003, at ¶ 0100.)

59. Petitioner also cites paragraphs 0191-0206 and 0221 in Tamm which describe Figures 9 and 12. I have reviewed these paragraphs and nowhere is the “second partial area” described as a pocket, tunnel, or a tube shaped structure. I also find nothing in Tamm describing the “second partial area” as having a shape like the Greek letter omega.

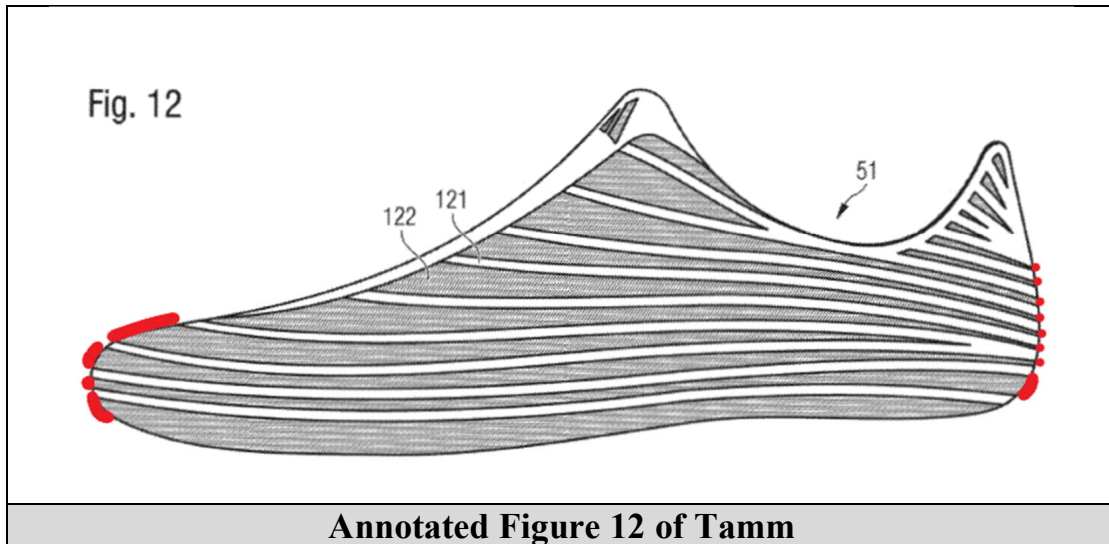
60. A POSITA would not conclude that the “second partial area” includes “pockets or tubes” because none of the portions of Tamm Petitioner relies on describe the “second partial area” as a pocket or tube.

61. A POSITA would understand that Figures 9 and 12 depict a two-dimensional flat-knitted component with first partial areas that stretch more than the second partial areas. (Ex. 1003, at ¶¶ 0011, 0047.) The first partial area stretches more because it is made from a first yarn that stretches more. (*Id.* at ¶ 0192.) The second area is made from a second yarn. (*Id.* at ¶ 0192.) The “first partial area” and the “second partial area” are also described as a “mesh structure,” which indicates to a POSITA that the areas are two-dimensional like the textiles shown in Figure 8 of Tamm, and not a tube structure. (*Id.* at ¶¶ 0192, 0208, 0209.) Also, neither the “first partial area” nor the “second partial area” are described as having a multi-layer construction. (*See id.* at ¶¶ 0191-0206 and 0221.)

62. A POSITA would expect a cross-sectional view of the Figures 9 and 12 or discussion describing the component if it were something other than two-dimensional. Tamm does not contain any cross-sectional view of Figures 9 or 12.

63. If the second partial areas depicted in Figure 12 were tube shaped structures and “raised above” the first partial areas as Petitioner asserts (Petition at 38), that would be evident from the Figure 12. A POSITA would expect to see protrusions or bumps on element 122 in the heel and toe area of the Figure 12

showing that the second partial areas are “raised above” the first partial areas, such as the red areas in the annotation below:

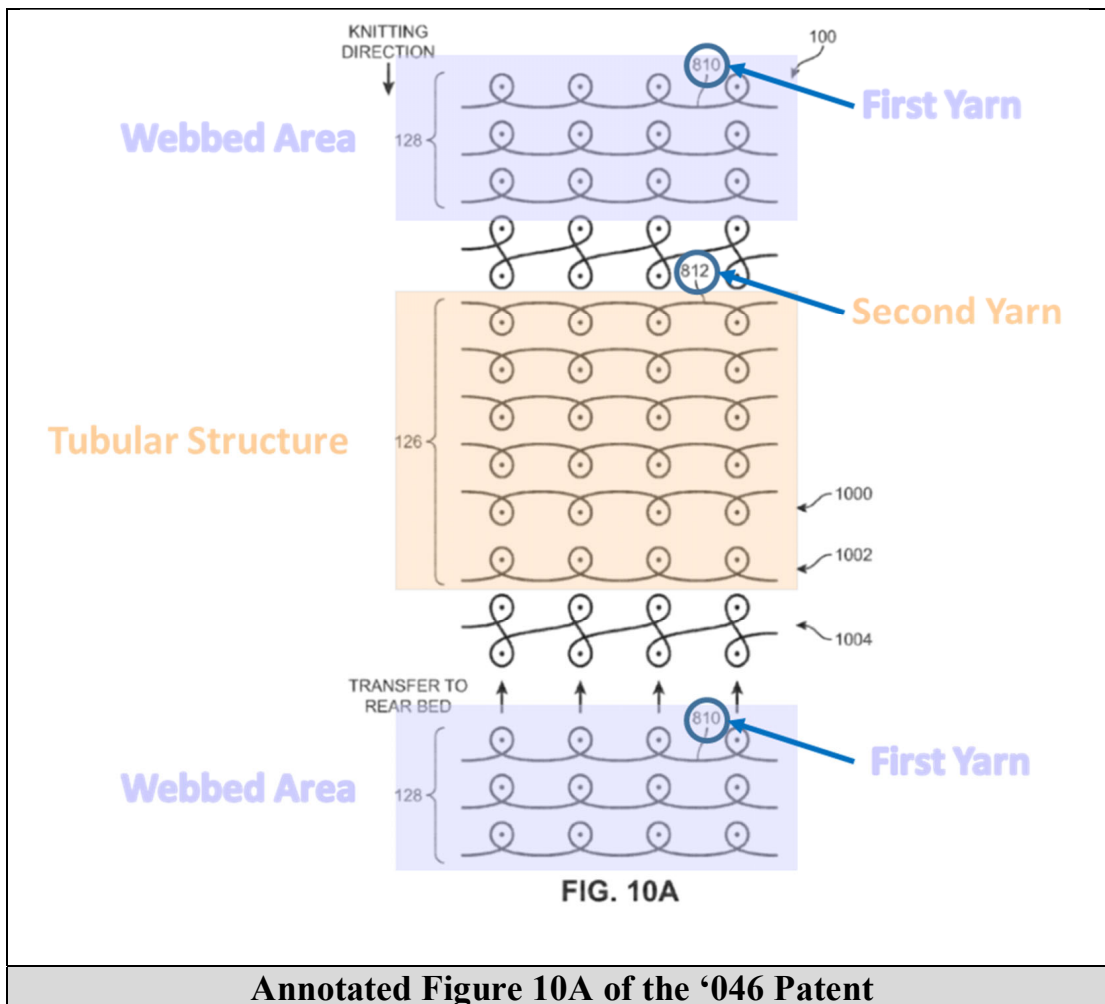


But, Figure 12 does not show any bumps or protrusion which prevents a POSITA from concluding that the second partial area is “raised above” the first partial area or a “tube shaped structure.”

64. I also disagree with Petitioner’s and Mr. Steszyn’s contention that the “pockets” or “tunnels” described in Tamm are the same as the “tubular structures” recited in the ‘046 Patent. As I already discussed, the “pockets” or “tunnels” are simply spaces formed between two-layers in a flat knit textile. (Ex. 1003, at ¶ 0100.)

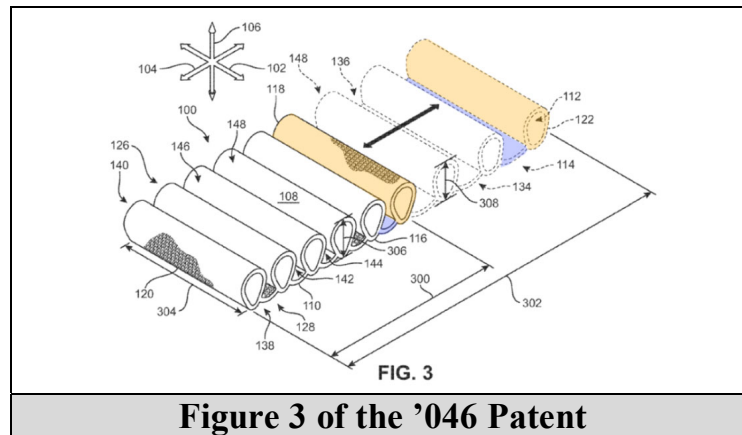
65. The “plurality of tubular structures” of the ‘046 Patent are not simply spaces formed between two-layers of a knit. The “tubular structure” in the ‘046 Patent is described as a structure created during the knitting process from a single yarn. (Ex. 1001, 19:51-20:15; Figure 10A.) In one embodiment, the ‘046 Patent

describes the “webbed areas” as formed from a first yarn 810 “followed by tubular rib structure 126 being formed from second yarn 812.” (Ex. 1001, 19:51-20:15; Figure 10A.) Figure 10A is a knitting diagram that depicts a preferred embodiment knitting process to form a “webbed area” (purple) from one yarn and to form a “tubular structure” (orange) from a different, second yarn:



In this example, each component (the webbed area and tubular structure) is formed separately and then connected to one another by a stitch course. (*Id.* at Fig. 10A,

20:5-15) (“After course 1002 completes the formation of tubular rib structure 126, another course 1004 may be formed . . . By using a stitch as course 1004 . . . second yarn 812 forming tubular rib structure 126 can be prepared to be associated with additional courses forming another webbed area 128 with first yarn 810 . . .”) Figure 3 from the ‘046 Patent shows an example “tubular structures” with adjacent “webbed areas” resulting from the knitting process described in Figure 10A:



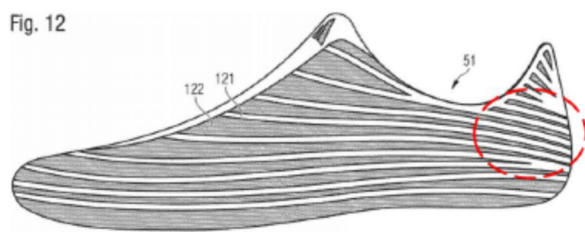
The “tubular structures” in the ‘046 Patent are not spaces between two layers, but a sculptural element which may be formed by a single yarn. This is a key difference between the “pockets” and “tunnels” in Tamm which are simply spaces between two layers.

66. For these reasons, it is my opinion that Tamm does not disclose “a plurality of tubular structures that are adjacent to the webbed areas, the tubular structures including a plurality of courses.”

2. Element [1f] “Wherein in the Neutral Position, a First Area of the Front Surface is Hidden From Visual Observation From a First Viewing Perspective”

67. I disagree with Petitioner’s and Mr. Steszyn’s conclusion that Tamm discloses the limitation “wherein in the neutral position, a first area of the front surface is hidden from visual observation from a first viewing perspective.”

68. Petitioner asserts that the “second partial areas” are “raised above” the first partial areas and that “some tube shapes (e.g.: Ω) form an undercut when affixed to a surface, such that they necessarily hide a portion of the surface where the two structures are in close proximity.” (Petition, at 38.) Petitioner points to the “circled area” in Figure 12 as an example of a location where the tube shape would allegedly hide a portion of the surface of the first partial area. (Petition, at 39.) I have reproduced below Figure 12 with the circled area added by Petitioner:

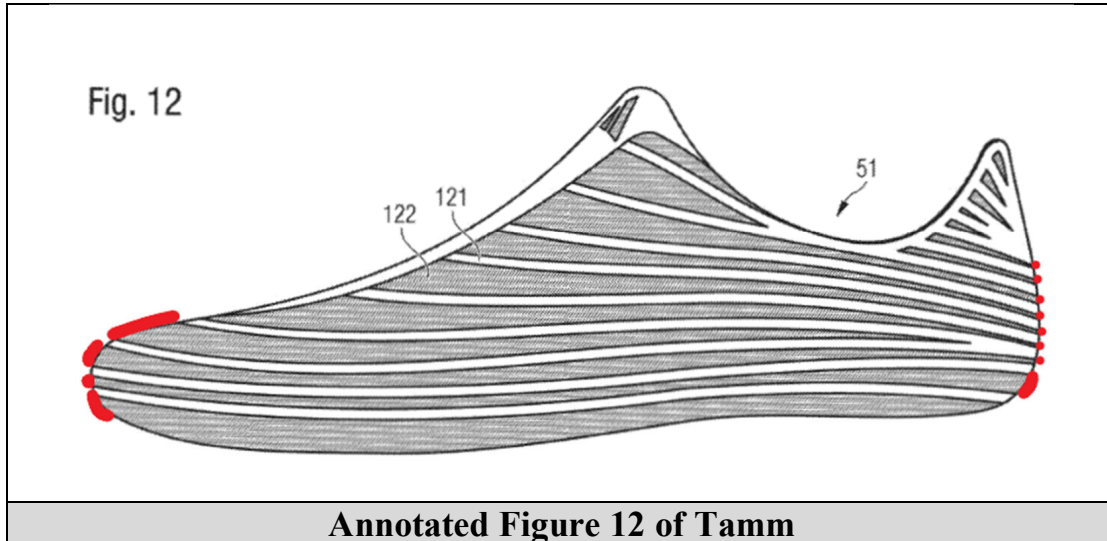


(Petition, at 38.)

69. Their conclusions that this “hidden” limitation is met are based on a belief that the “second partial areas” in Figures 9 and 12 of Tamm are tube shaped structures that are “raised above” the “first partial areas.” (Petition at 38-39, Ex. 1005,

at ¶¶ 90-91.) As explained above, Tamm does not disclose that the “second partial areas” are tube shaped structures or that they are raised above the “first partial area.” Again, the Tamm publication does not describe the “second partial area” as a pocket, tunnel, or tube shaped structure. The “pockets” or “tunnels” in Tamm are simply spaces between two layers. (Ex. 1003, at ¶ 0100.)

70. Tamm also does not describe the “second partial areas” as raised or depict them as raised in Figure 12. A POSITA would expect to see protrusions or bumps on element 122 in the heel and toe area of the Figure 12 showing that the second partial areas are “raised above” the first partial areas, such as the red areas in the annotation below:



But, Figure 12 does not show any bumps or protrusion which prevents a POSITA from concluding that the second partial are is “raised above” the first partial area or a “tube shaped structure.”

71. Tamm also does not mention that the “second partial area” hides a portion of a “first partial area” when the “first partial areas” are in a relaxed, or neutral position. None of the paragraphs cited in Tamm contain any mention of any “second partial area” hiding or covering a portion of any first partial area. (See Ex. 1003, ¶¶ 191-209, 221.) Tamm only describes the two areas as adjacent one another. (Ex. 1003, ¶ 0191.)

3. Element [1g] “Wherein in the Extended Position, the First Area of the Front Surface is Revealed From Visual Observation From a First Viewing Perspective”

72. I disagree with Petitioner’s and Mr. Steszyn’s conclusion that Tamm discloses the limitation “wherein in the extended position, the first area of the front surface is revealed from visual observation from a first viewing perspective.”

73. Their opinions are based on the incorrect belief that the “second partial areas” in Tamm are opaque, tube shaped structures, that are raised above the “first partial areas.” I disagree with their beliefs because Tamm does not disclose these structures, the arrangement of structures, or the hidden/reveal features recited in claim 1. More specifically, Tamm does not disclose a “plurality of tubular structures that are adjacent webbed areas,” as discussed with respect to limitation 1[d].

74. Again, Tamm makes no mention of a “second partial area” that hides a portion of a “first partial area” when the “first partial area” is in a relaxed, or neutral position. Similarly, Tamm makes no mention of a “second partial area” that reveals

a portion of a “first partial area” when the “first partial area” is in an extended position.

75. Tamm does not disclose the “peek-a-boo” effect recited in this limitation.

76. Because numerous limitations in claim 1 are not disclosed in Tamm, Tamm does not anticipate claim 1.

4. Claims 2, 17 and 18 Depend From Claim 1 and are Not Anticipated

77. I disagree with Petitioner’s and Mr. Steszyn’s conclusion that claims 2, 17 and 18 are anticipated by Tamm. Each of these claims depend from claim 1 and Tamm does not disclose all the limitations of claim 1 as discussed above. Therefore, Tamm cannot anticipate claims 2, 17 and 18.

B. Challenged Claims 1, 2, 17 and 18 Would Not Have Been Obvious Over Tamm in View of and Knowledge of a POSITA

78. The Petitioner has challenged claims 1, 2, 17 and 18 patent as obvious over Tamm in view of knowledge of a POSITA. (Petition at 53-64.) I disagree as explained in detail below.

1. Element [1d] “a Plurality of Tubular Structures that are Adjacent to the Webbed Areas, the Tubular Structures Including a Plurality of Courses”

79. As discussed above, this limitation is not expressly taught in Tamm. Petitioner does not rely on knowledge of a POSITA to provide this structural limitation either.

2. Petitioner Does Not Explain Why a POSITA Would Choose to Use the Hidden/Reveal Feature of Claim Elements [1f] and [1g] to Modify Tamm

80. I disagree with Petitioners conclusion that a POSITA would make the suggested modifications of Tamm in view of knowledge of a POSITA.

81. I disagree that “A person of ordinary skill in the art would be highly motivated to design an article with such a visual effect in order to generate visual appeal while minimizing manufacturing costs.” (Petition at 58, 62.) Tamm discloses one-piece knitting techniques that result in components having one, two or more layers. (Ex. 1003, at ¶¶ 0082, 0093-0095, 0100, 174.) Each layer is essentially flat, but may have surface features such as bulges, waves, or ribs added by varying the number of stitches. (*Id.*, at ¶¶ 0088, 0101.) Figures 9 and 12 of Tamm disclose a flat-knit, two-dimensional as I discussed earlier. Adding a sculptural component, such as a “tubular structure,” to the flat-knit upper in Tamm would increase the manufacturing costs and complexity. The increased cost, development time and

complexity would deter a POSITA from adding “tubular structures adjacent webbed areas” to Tamm.

82. I also disagree with Petitioner’s suggestion that a POSITA would add a “tubular structure” to improve the “visual appeal” of Tamm. Petitioner states that “assigning specific areas of color to partial areas is very attractive as it incorporates an additional aesthetic feature with no additional process, no additional labor, and therefore little cost implication.” (Petition, at 59.) Tamm suggests these very changes. (Ex. 1003, ¶ 0111) (“Colored areas with several colors may be created by using a different thread”) Tamm suggest other ways to alter the “visual appeal” of its shoe, by using different colored yarns, different sized mesh opening, different types of knitting, contours, curves, waves, ribs, bulges. (Ex. 1003, ¶¶ 0099, 0101, 0103, 0111, 0112.) A POSITA would likely choose an visual effect amongst those disclosed in Tamm which can be more readily implemented and more cost effectively than adding “tubular structures” or the hide/reveal feature disclosed in the ‘046 patent.

83. Petitioner also suggest that minimizing waste material and easing recyclability would motivate a POSITA to modify Tamm in view of the knowledge of a POSITA. (Petition, at 59.) I disagree. Tamm minimizes waste material by utilizing a one-piece knitting process. This benefit is already found in the Figure 9 and Figure 12 upper disclosed in Tamm. Adding the structural tube would require

more material and add material costs, which a POSITA would seek to avoid. Tamm also suggested making the knitted component out of a recyclable material so that it may be directed to compostable waste whereas the insole could be recycled. (Ex. 1003, at ¶ 0127.) Tamm already has the benefits that Petitioner asserts would motivate a POSITA to modify Tamm. Making the suggested modification provides no additional benefit, and would increase costs and manufacturing complexity.

84. Because Tamm does not disclose all limitations in claims 1, 2, 17 and 18 and because a POSITA would not be motivated to make the proposed modifications to Tamm in view of the knowledge of a POSITA, it is my opinion that claims 1, 2, 17 and 18 would not have been obvious at the time of invention.

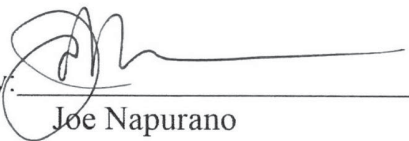
X. Conclusion

85. In summary, as explained above, it is my opinion that that the challenged claims 1, 2, 17 and 18 of the '046 patent are not anticipated by Tamm and challenged claims 1, 2, 17 and 18 patent would not have been obvious to a POSITA at the time of the invention in view of Tamm and knowledge of a POSITA.

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I declare that all statements made herein of my knowledge are true, and that all statements made on information and belief are believed to be true, and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Dated: 9/5/19

By: 
Joe Napurano