UNITED STATES PATENT AND TRADEMARK OFFICE

_____

BEFORE THE PATENT TRIAL AND APPEAL BOARD

_____

SKECHERS U.S.A., INC.,
"Petitioner"

v.

FAST IP, LLC,
"Patent Owner"

_____
IPR2026-00343
U.S. Patent No. 11,871,811

Title:
Rapid-Entry Footwear Having A Stabilizer and An Elastic Element

_____

CORRECTED PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 11,871,811

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CLAIM LISTING

Claim Element	LIMITATION
1[pre]	A rapid-entry shoe comprising:
1[a]	a sole portion;
1[b]	an upper coupled to the sole portion and including a rear portion, a side portion, and a forward portion, the upper defining a foot opening;
1[c]	a stabilizer defining a unitary structure extending from the sole portion toward a rear portion of the foot opening; and
1[d]	a plurality of elastic elements positioned forward of the rear portion of the upper, the plurality of elastic elements operable to enlarge the foot opening when expanded and operable to reduce the foot opening when contracted,
1[e]	wherein the plurality of elastic elements includes at least a first elastic element and a second elastic element, the first and second elastic elements being separated by a non-elastic portion of the upper.
2	The rapid-entry shoe of claim 1, wherein the first elastic element is positioned at the side portion of the upper and the second elastic element is positioned at a forward portion of the upper.
3	The rapid-entry shoe of claim 1, wherein the first elastic portion defines a portion of the foot opening.
4	The rapid-entry shoe of claim 1, wherein the first elastic element defines at least a portion of the upper.
5	The rapid-entry shoe of claim 1, wherein the second elastic element extends across a vamp of the upper.
6	The rapid-entry shoe of claim 1, wherein the second elastic element is spaced from the foot opening.
7	The rapid-entry shoe of claim 1, wherein the elastic element includes third elastic element, wherein the side portion includes a lateral side portion and a medial side portion, and wherein the first elastic element is positioned on the lateral side portion and the third elastic element is positioned on the medial side portion.
8	The rapid-entry shoe of claim 1, wherein at least one of the plurality of elastic elements includes a 2-way stretch.
9	The rapid-entry shoe of claim 1, wherein at least one of the plurality of elastic elements includes a 4-way stretch.

Claim Element	LIMITATION
10[pre]	A rapid-entry shoe comprising:
10[a]	a sole portion;
10[b]	an upper coupled to the sole portion and including a rear portion, a side portion, and a forward portion, the upper defining a foot opening;
10[c]	a stabilizer defining a unitary structure extending from the sole portion toward a rear portion of the foot opening; and
10[d]	a plurality of elastic elements positioned along at least a portion of the upper, the elastic element configured to facilitate at least one of flexion and pivoting of the forward portion of the upper relative to the sole portion,
10[e]	wherein the plurality of elastic elements includes a first elastic element defining a first longitudinal axis and a second elastic element defining a second longitudinal axis, wherein the first longitudinal axis defines a first angle relative to a vertical axis and the second longitudinal axis defines a second angle relative to the vertical axis, wherein the first angle and the second angle are different.
11	The rapid-entry shoe of claim 10, wherein the plurality of elastic elements includes a longitudinal axis that conforms to a shape of a curvature of at least a portion of the upper.
12	The rapid-entry shoe of claim 10, wherein at least a portion of the plurality of elastic elements define at least a portion of the side portion of the upper.

EXHIBIT LIST

EX NO.	DOCUMENT
EX1001	U.S. Patent No. 11,871,811 (the "'811 patent")
EX1002	Excerpted File History of the '811 Patent
EX1003	Declaration of Angus Wardlaw
EX1004	Japan Utility Model Registration No. 3153220
EX1005	English Translation of Japan Utility Model Registration No. 3153220 ("Kim")
EX1006	Translator Certification for Kim
EX1007	U.S. Patent No. 11,166,517 B2 ("Hoying")
EX1008	U.S. Patent No. 9,756,903 B1 ("Koo")
EX1009	J. Sparkes Hall, The Book of the Feet (1847)
EX1010	U.S. Patent No. 287,312 ("Packard")
EX1011	Victorian Shoes in the Making, Victorian Passage, https://www.victorianpassage.com/2008/12/victorian_shoes_in_the_making/
EX1012	William A. Rossi, The Complete Footwear Dictionary, KRIEGLER PUBLISHING COMPANY, (2000)
EX1013	Mafzal Ahmed, Improvement of Productivity in Garment Assembly Section by Using Work Aids, INTL. J. SCI. & ENG. RSCH., 9:12 (2018).
EX1014	U.S. Patent No. 2,275,248 ("Cloutier")
EX1015	Japanese Patent No. 3,094,168
EX1016	English Translation of Japanese Patent No. 3,094,168 ("Higuchi")
EX1017	Translator Certification for Higuchi
EX1018	U.S. Patent Application No. 2017/280,816 ("Lyden")
EX1019	U.S. Patent No. 9,538,798 ("Toronjo")
EX1020	U.S. Patent Application No. 2014/283,410 ("Marvin")
EX1021	U.S. Patent Application No. 2019/082,789
EX1022	U.S. Patent No. 11,350,700 ("Smith")

EX NO.	DOCUMENT
EX1023	U.S. Patent No. 10,759,096
EX1024	Wade Motawi, *Shoe Material Design Guide* (2017)
EX1025	Publication of Patent App. No. DE 10-2017-223-737.6 (Hoying priority document, published in German)
EX1026	Certified copy of Patent App. No. DE 10-2017-223-737.6 (Hoying priority document, in English as originally filed)
EX1027	Certificate of Correction of the ’811 Patent
EX1028	[PROTECTIVE ORDER MATERIAL – FILING PARTY & BOARD] Search Disclosure Declaration of Aron Berger with Attachment A

Skechers U.S.A., Inc. ("Petitioner" or "Skechers") respectfully requests *inter partes* review of claims 1-10 and 11-12 of U.S. Patent No. 11,871,811 ("the '811 patent") (EX1001) pursuant to 35 U.S.C. §§ 311-19 and 37 C.F.R. §§ 42.1 *et* seq.

I. INTRODUCTION

The '811 patent is owned by FAST IP, LLC ("FAST IP"), a non-practicing patent monetization entity. FAST IP has asserted the '811 patent against Skechers in the Eastern District of Texas, in which it joined as plaintiffs a related shoe seller and a licensee of the patent. Dkt. 44, No. 2:25-cv-00744-JRG (E.D. Tex.).

Skechers, which is headquartered in California, has been a leader in the footwear industry for over thirty years. FAST IP and the other plaintiffs in the underlying litigation were all created within the last ten years. Nonetheless, the '811 patent purports to claim shoe designs that have been in the public domain for at least decades, if not centuries. Moreover, despite seeking to accuse more than two thousand Skechers shoe models of infringing the patent, plaintiffs contend that they themselves have never practiced the patent. *Id.*, Dkt. 52 at 2.

The '811 patent issued on January 16, 2024, and purports to claim priority to a provisional application dated July 29, 2019. This recent patent is a brazen attempt to monopolize historical designs that date back to the Civil War era and earlier. Claim 1 of the '811 patent recites elements common to nearly every shoe, such as "a sole," "an upper," "a foot opening," a "stabilizer," and "elastic elements." As

explained below, these elements were present in well-known shoes dating back to at least the 1800s. *See, e.g.*, EX1009, EX1010, EX1011.

Central to this Petition, all of the elements discussed above are also disclosed in a 2009 Japanese Utility Model Registration No. 3153220 to Seji Kim ("Kim"), which anticipates at least claims 1-4, 7-10, and 12 of the '811 patent. Likewise, the three remaining challenged claims, including dependent claims 5-6 and 11, merely attempt to claim obvious variations that have long been well-known in the art.

None of these references were brought to the attention of the Patent Office during the original prosecution, in which all claims issued without a single prior art rejection. For these and other reasons presented more fully below, the Board should institute IPR based on the Grounds presented herein.

II. MANDATORY NOTICES

A. Notice of Real Party-In-Interest (37 C.F.R. § 42.8(b)(1))

The real party-in-interest for this Petition is Skechers U.S.A., Inc.

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

The '811 patent is asserted in the pending litigation *Hands Free Labs Licensing LLC v. Skechers U.S.A. Inc.*, Case No. 2:25-cv-00744-JRG (E.D. Tex.). To Petitioner's knowledge, there are no other pending judicial or administrative matters regarding the '811 patent.

C. Designation of Lead And Back-Up Counsel (37 C.F.R. § 42.8(b)(3))

Lead Counsel: Samuel K. Lu (Reg. No. 40,707)

Backup Counsel: Benjamin Hattenbach (Reg. No. 41,820)

Backup Counsel: Ian Washburn (*pro hac vice* to be requested)

Backup Counsel: Christopher Abernethy (*pro hac vice* to be requested)

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Backup Counsel: Aron Berger (*pro hac vice* to be requested)

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D. Service Information (37 C.F.R. § 42.8(b)(4))

Please address all correspondence to lead counsel at the address above. Petitioner consents to email service at: SkechersHFLIPRs@irell.com.

E. Fees

The Office is authorized to charge Deposit Account No. 09-0946 for any fees required.

F. Grounds for Standing

Petitioner certifies that the ’811 patent is eligible for IPR and that Petitioner is not barred or estopped from requesting this IPR.

III. BACKGROUND

A. Overview of the ’811 Patent

The ’811 patent issued recently, on January 16, 2024, and claims a priority date of July 29, 2019. EX1001, 1. Titled “Rapid-Entry Footwear Having A Stabilizer And An Elastic Element,” *id.*, it is directed to “[a] rapid-entry shoe having an elastic element to enlarge a foot opening of the rapid-entry shoe and also having a stabilizer to prevent a rear portion of the rapid-entry shoe from collapsing downward,” *id.*, Abstract.

A side-view of an embodiment that the ’811 patent describes and claims, having an elastic element 110 and stabilizer 150, is shown below:

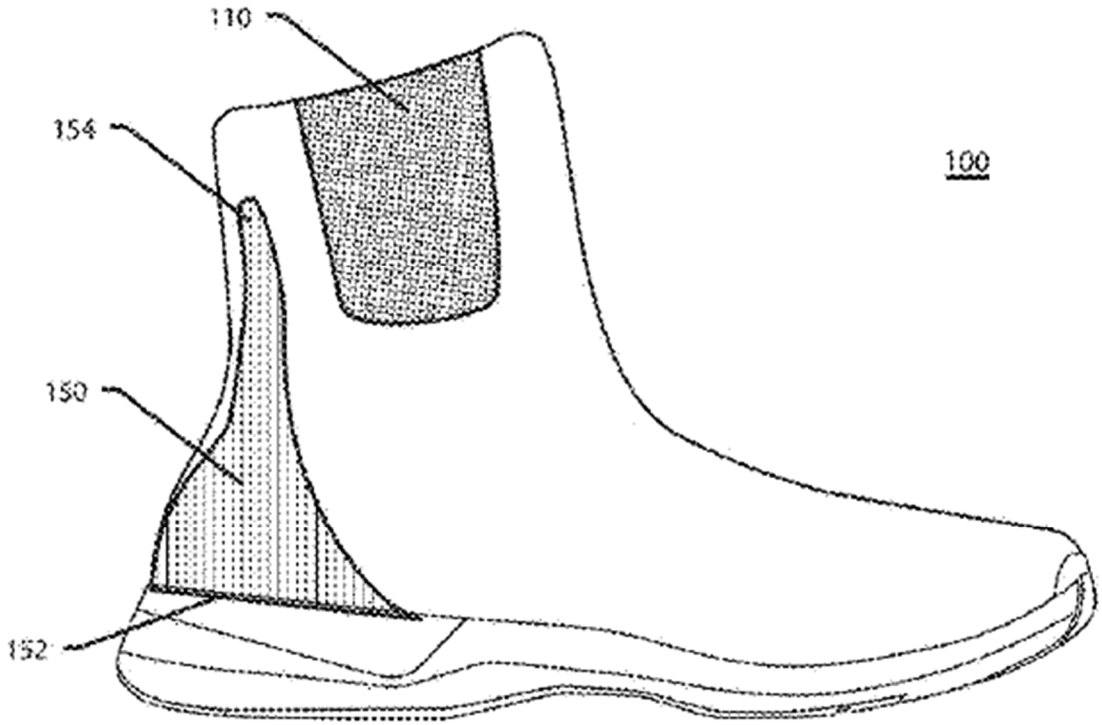


FIG. 1A

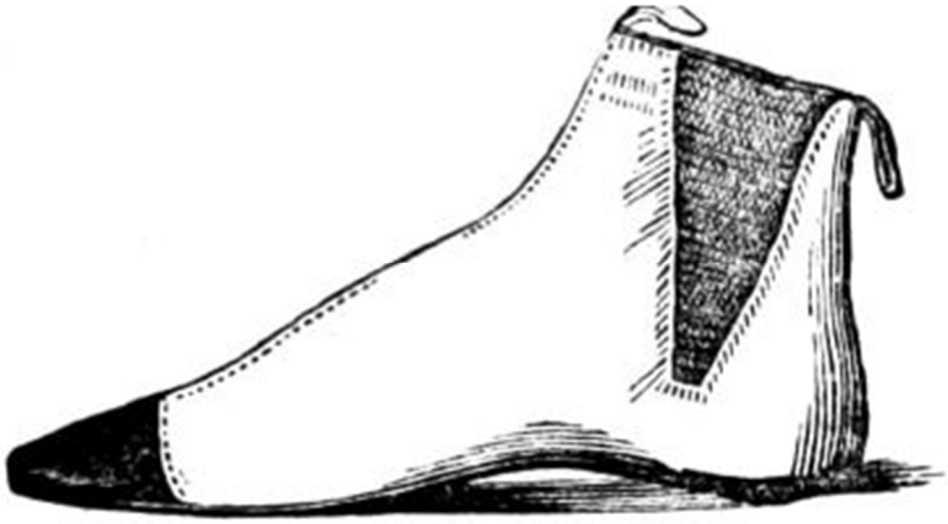
Id., Fig. 1A.

The ’811 patent states that the “stabilizer 150 can be comprised of a stiff, rigid or semi-rigid material.” EX1001, 6:21-22. It further provides that, “[i]n accordance with some embodiments, a stabilizer is configured to prevent the rear portion of the rapid-entry shoe from one or more of collapsing downward, flexing rearward and pivoting rearward.” *Id.*, 1:64-67.

The patent also states, “[i]n accordance with some embodiments, the rapid-entry shoe comprises an elastic element disposed at the side portion” and that “expansion or deformation of an elastic element enlarges a foot opening of the rapid-entry shoe, and contraction of an elastic element reduces the foot opening of the rapid entry shoe.” *Id.*, 1:44-55.

B. Brief Description of the Technology

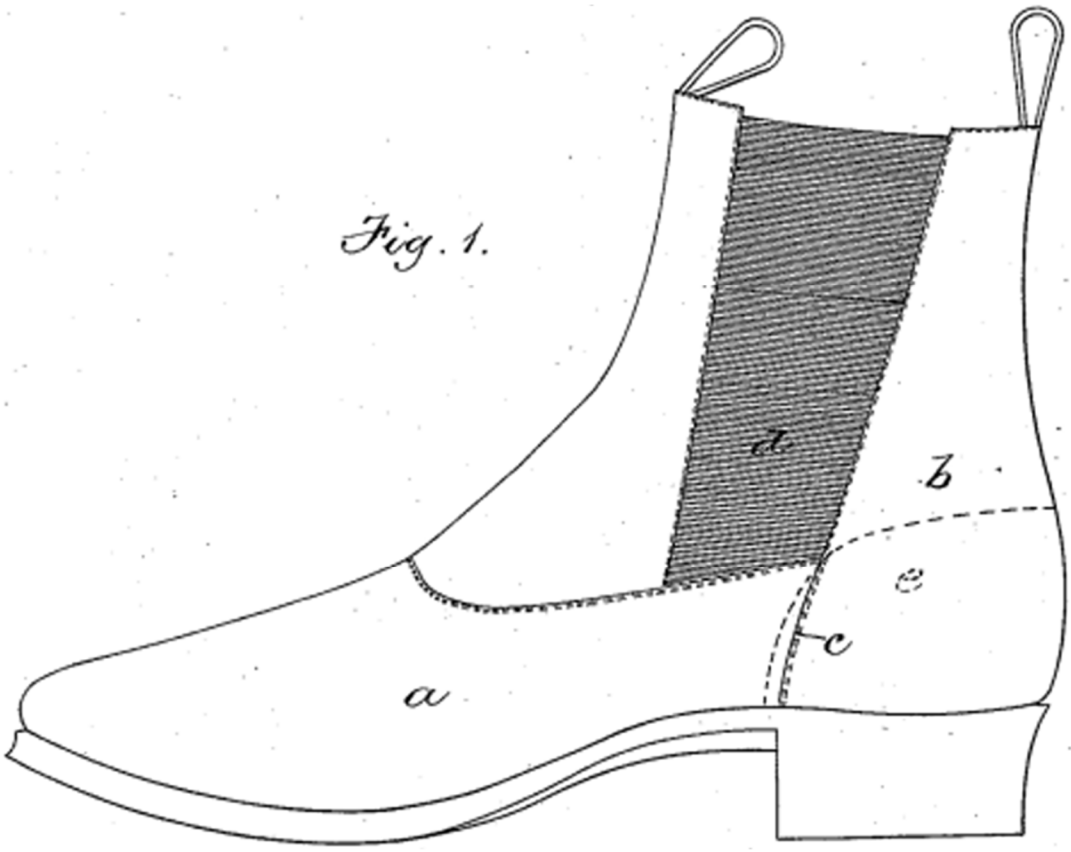
Rapid-entry footwear of the type described and claimed in the ’811 patent has existed since at least the mid-1800s. For example, in 1847, J. Sparkes Hall published his designs for an “elastic boot,” commonly known today as the “Chelsea boot,” which features two elastic elements that allow the boot to be put “on and [taken] off in an instant.” EX1009, 136-37.



Id., 126 (describing materials with which "the boot would go on and off, and yet not so soft and yielding as that it would not return again to its original form.").

Victorian era shoes also commonly featured a "heel stiffener" or "stiffening" configured to prevent downward collapse of the heel. *See* EX1011, 3 ("[A] a dampened piece of leather, half spherical in shape, called a counter, or stiffening, is inserted at the heel between the outside and lining."); *id.*, 1 (referring to a "heel stiffening"); EX1009, 88 (discussing "stiffenings"). Such heel "stiffenings" could be made of leather, or alternatively a "steel shank" could be used "to assist in keeping the shank of the shoe in desired shape." EX1011, 3.

Thus, the core elements claimed in the '811 patent—the "elastic element" and "stabilizer"—have been known in the art for centuries. In fact, both were described in U.S. Patent No. 287,312 ("Congress-Gaiter"), which issued in 1883.



EX1010, Fig. 1; *id.*, 1:12-31 (discussing "*d* the elastic gorings" and "the stiff counter or heel-stiffener *e*").

C. Prosecution History

The application leading to the '811 patent (no. 18/371,413) received one Office Action. EX1002, 13-22. Claim 6, its dependent claims 7-14, and claim 17 (depending from claim 15) faced only a double patenting rejection. The Applicant canceled claims 1-5 and 17, and amended claim 15 to incorporate the limitations of claim 17. *Id.*, 5-8. This left claims subject only to the double patenting rejection, which the Applicant obviated with a terminal disclaimer. *Id.*, 10. The Examiner then issued a Notice of Allowance, providing no reasons for allowance. *Id.*, 1-3.

IV. LEVEL OF ORDINARY SKILL IN THE ART

The '811 patent relates to an article of footwear that allows for rapid entry of a foot using a stabilizer component. EX1001, Abstract. A person of ordinary skill in the art ("POSITA") in the field of the '811 patent in July 2019 would have had a bachelor's degree in engineering and at least a few years of experience in designing and manufacturing shoes, or equivalent academic and work experience. A POSITA would have at least a general understanding of construction processes and materials used to manufacture footwear. EX1003, ¶16.

This Petition does not turn on the definition of ordinary skill in the art. The challenged claims are invalid under any reasonable definition of a POSITA.

V. CLAIM CONSTRUCTION

Petitioner respectfully submits that none of the issues presented in this Petition require any claim term to be construed.

VI. CHALLENGE AND RELIEF REQUESTED

Pursuant to 37 C.F.R. § 42.22(a)(1) and §§ 42.104(b)(1)-(2), Petitioner challenges claims 1-10 and 11-12 of the '811 patent on the grounds identified below.

A. Prior Art Patents and Printed Publications

The following references are pertinent to the grounds of unpatentability explained below:[1]

[1] Petitioner also cites to EX1009-EX1026 to support the grounds in this Petition. These exhibits are all prior art to the '811 patent under at least one of 35

1. Seiji Kim, *Shoe*, Japan Utility Model Registration No. 3153220 (issued Aug. 27, 2009) (EX1005) ("**Kim**").

2. Brian Hoying, et al., *Method For Manufacturing A Shoe Upper*, U.S. Patent No. 11,166,517 B2 (foreign priority Dec. 22, 2017; filed Dec. 21, 2018; issued Nov. 9, 2021) (EX1007) ("**Hoying**").

3. John C. S. Koo, *Shoe Having Elastic Tongue-Securing Straps*, U.S. Patent No. 9,756,903 B1 (issued Sept. 12, 2017) (EX1008) ("**Koo**").

Kim and Koo were published over a year before the '811 patent's July 29, 2019 earliest claimed priority date and thus are prior art under 35 U.S.C. § 102(a)(1).

Hoying is prior art under 35 U.S.C. § 102(a)(2). Hoying issued on November 9, 2021 from an application that was effectively filed, under 35 U.S.C. § 102(d)(2), as of the December 22, 2017 filing date of foreign priority document DE 10-2017-223-737.6 (EX1025, EX1026),[2] and at least as of its US filing date of December 21, 2018, which predate the '811 patent's July 29, 2019 earliest claimed priority date. Hoying satisfies the ministerial requirements for claiming priority to DE 10-2017-223-737.6 because it properly claims its benefit, was filed within twelve months

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U.S.C. §§ 102(a)(1) and (2). The authenticity and public availability of EX1009-EX1026 is supported by copyright notices, library date stamps, volume date labels, and/or other contemporaneous evidence of public distribution.

[2] EX1026 is a certified copy of DE 10-2017-223-737.6, in English as filed, which was submitted to the PTO with the US application. EX1025 is the German publication thereof, which is cited herein only for its field codes.

thereof, and names the same inventors. *See* EX1007, codes (22), (30), (71), (72); EX1025, codes (22), (71), (72). Hoying satisfies the substantive requirements for claiming priority because its relevant subject matter is fully supported by DE 10-2017-223-737.6, as shown by the figures and written descriptions in both documents, as well as parallel citations herein to EX1007 and EX1026 when citing Hoying.

B. Grounds For Challenge

Skechers requests cancellation of claims 1-10 and 11-12 of the '811 patent as unpatentable under 35 U.S.C. §§ 102 and 103. The asserted grounds are:

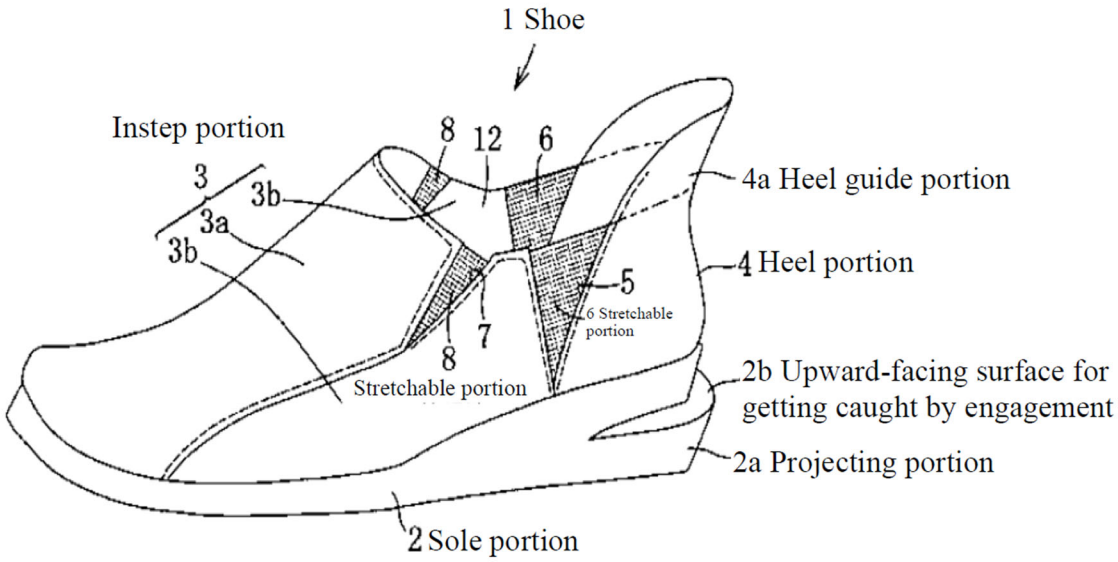
- **Ground 1:** Claims 1-4, 7-10 and 12 are anticipated by **Kim**
- **Ground 2:** Claims 8 and 9 are obvious over **Kim** in view of **Hoying**
- **Ground 3:** Claims 2, 5, 6 and 11 are obvious over **Kim** in view of **Koo**

VII. OVERVIEW OF THE PRIOR ART

A. Overview of Kim (EX1005)

Kim discloses "shoe[s] that can be easily put on and taken off by people who cannot bend down, such as elderly people, physically disabled people and pregnant women." Kim, Abstract. Kim's shoe designs include "a heel guide portion 41," "a projecting portion 2a formed at the rear of the sole portion 2 to make it easy to take off the shoe 1," and "stretchable portions 6, 8 composed of a stretchable woven fabric member." *Id.*

[FIG. 1]



Kim, Fig. 1; *see also id.*, Figs. 3-7.

Kim's "heel portion and the heel guide portion are composed of a hard-core material, a soft skin material covering the outside of the core material, and a soft lining material covering the inside of the core material." Kim, ¶10. "[W]hen putting on the shoe, the user first inserts, starting from the toes, the foot into the shoe, and then pushes the heel of the foot into the inside of the heel portion while sliding it along the heel guide portion." *Id.*, ¶8. The "hard core material" of the heel guide is provided "so a sufficient strength can be ensured in the heel portion and the heel guide portion, and the heel portion and heel guide portion can be prevented from losing their shape." *Id.*, ¶17.

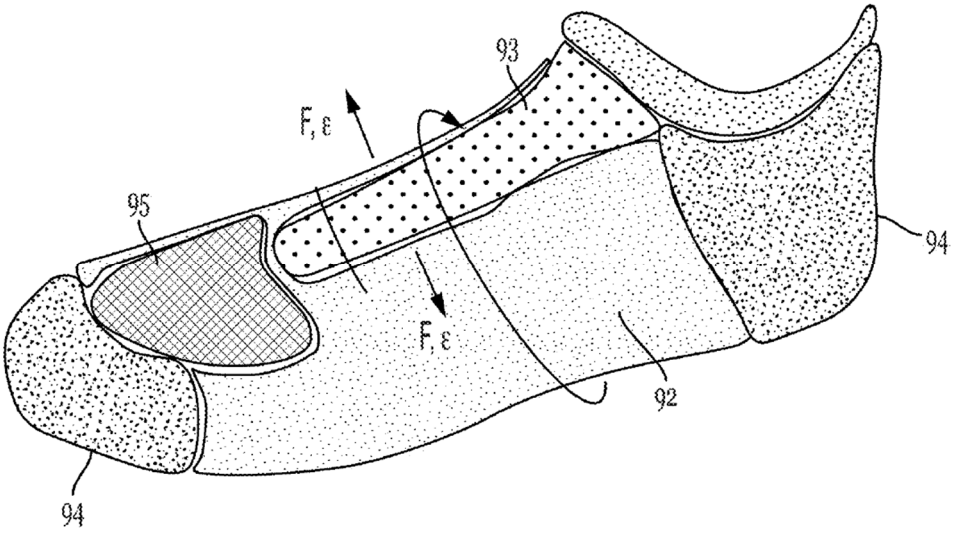
Kim discloses that its "stretchable portions are composed of a stretchable woven fabric," "a highly-flexible leather," or "synthetic leather and a stretchable

gathered rubber." *Id.*, ¶¶11, 37-38. The stretchable portions are provided so "the shoe opening 12 expands when the shoe 1E is put on or taken off, and the shoe 1E can be easily put on or taken off." *Id.*, ¶37; *see id.*, ¶25 ("[T]he shoe opening 12 expands when the two pairs of stretchable portions 6, 8 stretches.").

Kim likewise discloses that, "[w]hen shoes are taken off, using one foot to press the projecting portion of the other shoe and lifting up the other foot allows the other shoe to be taken off from the heel of the other foot." Kim, ¶8. "At this time, since the one pair of stretchable portions stretches, the opening of the shoe expands, allowing the shoe to be easily taken off." *Id.*

B. Overview of Hoying (EX1007)

Hoying discloses a "method of manufacturing a shoe upper" with "at least one stretchable portion on the shoe upper." EX1007, Abstract; EX1026, p.2.



EX1007, Fig. 10A; *see* EX1026, p.123 (Fig. 10A). As Hoying explains, "Zone 93 of the illustrative example shown in Fig. 10A provides an elastic zone. This zone

may allow for easy access of the foot to the shoe." EX1007, 41:52-54; EX1026, p.66. Hoying explicitly teaches that "2-way or 4-way stretch" elastic may be used. EX1007, 7:46-51; EX1026, p.14. Hoying's teachings are not limited to particular shoes and "may be used for the manufacture of shoe uppers in general." EX1007, 7:23-29; EX1026, p.13.

C. Overview of Koo (EX1008)

Koo discloses various embodiments of shoes with elastic elements that extend across the front of the shoe, including elastic web, laces, or straps:

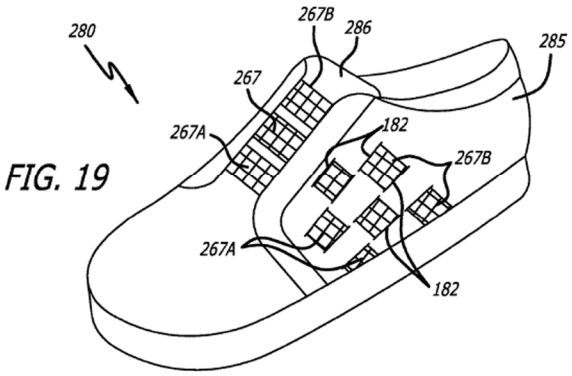


FIG. 19

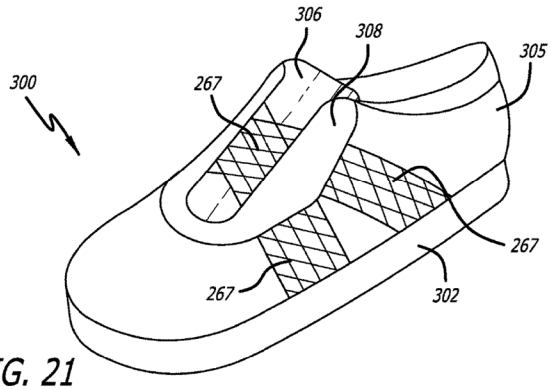


FIG. 21

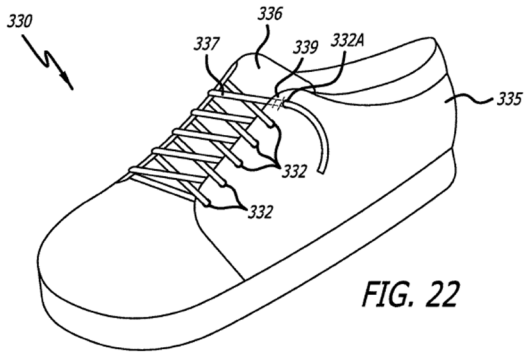


FIG. 22

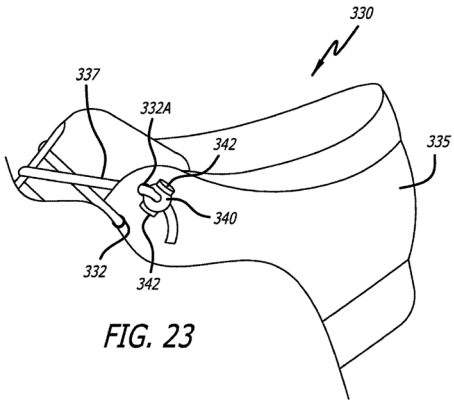


FIG. 23

Koo, Figs. 19, 21-23. Koo explains that the "plurality of elastic straps secure the shoe's tongue to other portions of the shoe's structure, thereby facilitating ease-of-

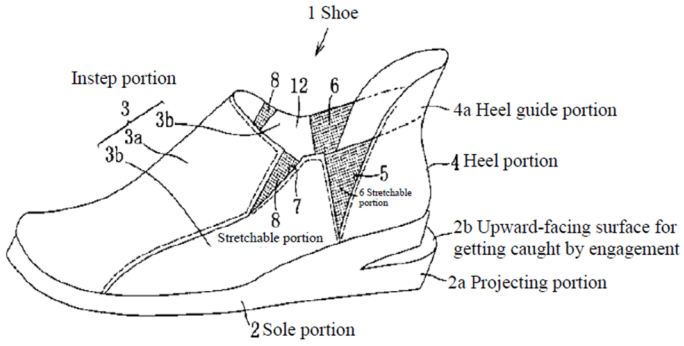
use." *Id.*, 1:19-31. Koo teaches that "the present invention can be used in conjunction with any other kind of shoe or other item of footwear." *Id.*, 3:20-22.

VIII. DETAILED EXPLANATION OF THE GROUNDS FOR UNPATENTABILITY

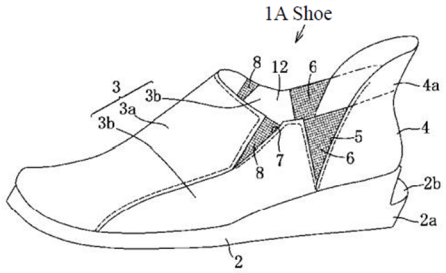
A. GROUND 1: Claims 1-4, 7-10 and 12 Are Anticipated By Kim

Kim discloses six "examples" of rapid-entry shoes, which Kim depicts in Figures 1 and 3-7, respectively:

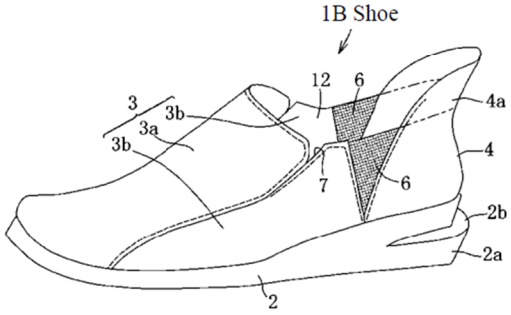
[FIG. 1]



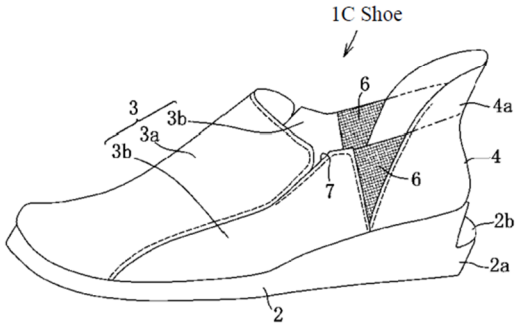
[FIG. 3]



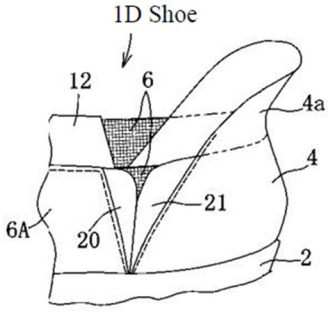
[FIG. 4]



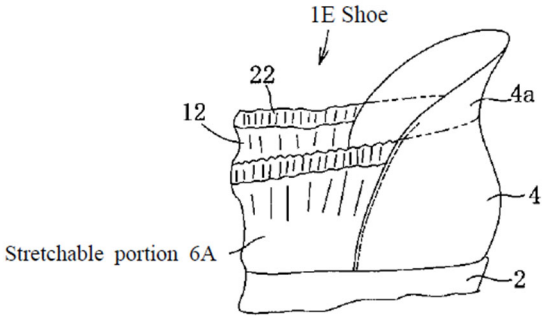
[FIG. 5]



[FIG. 6]



[FIG. 7]



Here, the only relevant differences between Kim's examples are the "stretchable portions," which slightly differ across examples. Kim's six examples each individually anticipate one or more claims of the '811 patent, as follows:

'811 Patent	**Kim Examples That Individually Anticipate**	
Claims 1 and 3-4	Figures 1 and 3-7	(Examples 1-6)
Claims 2, 7, 10, and 12	Figures 1 and 3	(Examples 1-2)
Claim 8	Figure 7	(Example 6)
Claim 9	Figures 1 and 3-6	(Examples 1-5)

i. Claim 1

All six of Kim's examples (Figures 1 and 3-7) individually anticipate claim 1.

- ***1[pre]: "A rapid-entry shoe comprising:"***

To the extent the preamble is limiting, Kim discloses "a rapid-entry shoe" in all six examples. Kim, Abstract. Kim describes the problem addressed: "To provide a shoe that can be easily put on and taken off by people who cannot bend down, such as elderly people, physically disabled people and pregnant women." Kim, Abstract. All six examples are rapid-entry shoes. *See id.*, Figs. 1 & 3-7.

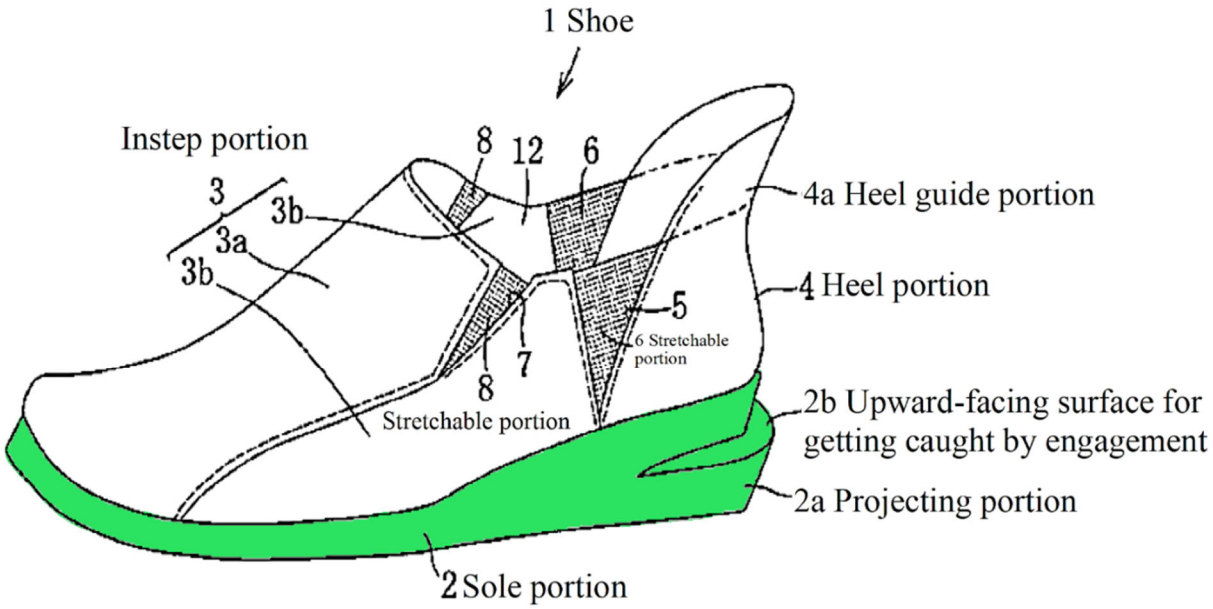
Kim's rapid-entry designs may be applied to various shoe types: "In addition to leather shoes, it can be applied to various types of shoes such as boots, sneakers, synthetic leather shoes, cloth shoes, and sandals with heels." *Id.* ¶4. The '811 patent likewise states that its "rapid-entry shoe" designs may be applied to various shoe

types: "As used herein, a 'rapid-entry shoe' refers to an athleisure shoe, a casual shoe, a formal shoe, a dress shoe, a heel, a sports/athletic shoe …, a walking shoe, a sandal, a boot, or other suitable type of shoe." EX1001, 4:12-20.

- ***1[a]: "a sole portion;"***

Kim discloses "a sole portion" in all six examples. *See* Kim, Figs. 1, 3-7; Cl.1 ("A shoe having a sole portion"); *id.*, ¶¶7, 22-24 ("shoe 1 includes a sole portion"). For example, Figures 1 and 3-7 include "2 Sole portion," which Petitioner has annotated with green color in Figure 1 below:

[FIG. 1]



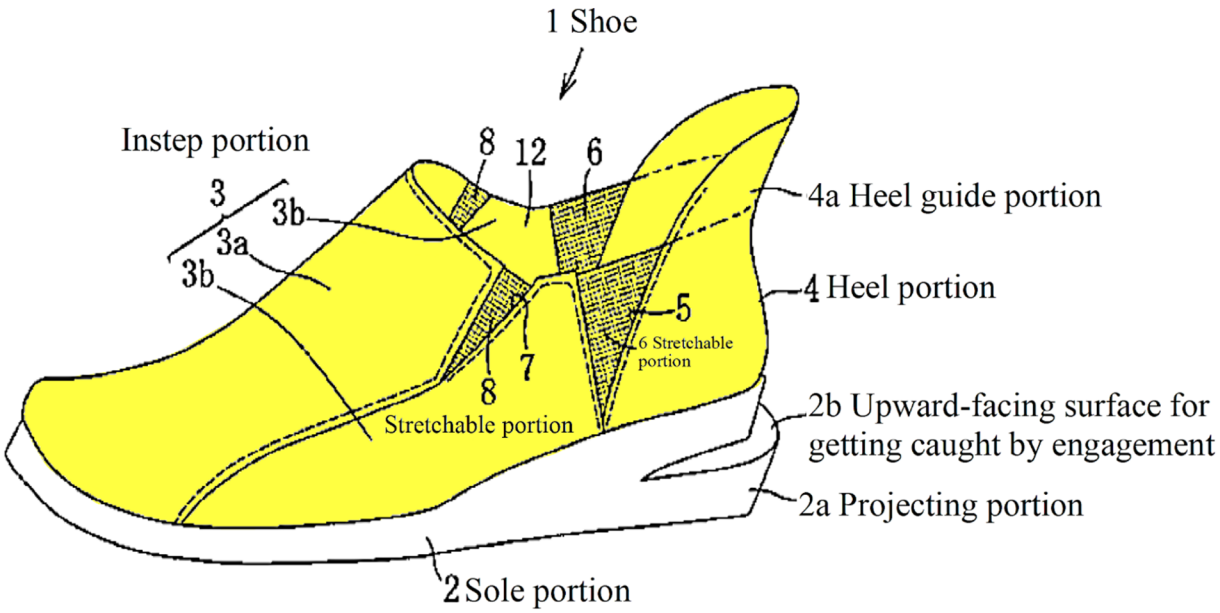
Kim, Fig. 1 (annotated with color); *see also id.*, Figs. 3-7.

- ***1[b]: "an upper coupled to the sole portion and including a rear portion, a side portion, and a forward portion, the upper defining a foot opening;"***

Kim discloses element 1[b] in all six examples. *See* Kim, Figs. 1, 3-7.

First, Kim's six examples each include "an upper coupled to the sole portion." The upper is shown in yellow in Figure 1 annotated by Petitioner below. EX1003, ¶22.[3] As shown, the upper is coupled to the "2 Sole portion":

[FIG. 1]



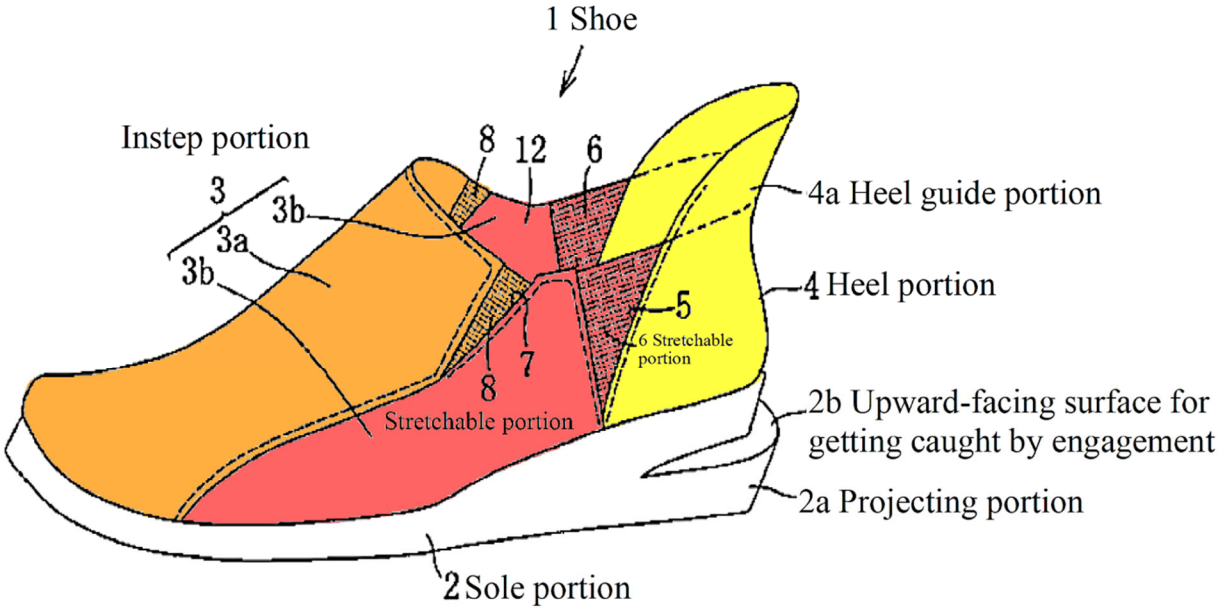
Kim, Fig. 1 (annotated with color); *see also id.*, Figs. 3-7.

Second, the upper "includ[es] a rear portion, a side portion, and a forward portion" as recited in element 1[b]. For example, the upper includes a rear portion

[3] *See also, e.g.*, EX1012, 7 ("upper" includes "[a]ll the parts or sections (vamp, quarters, linings, etc.) above the shoe's sole that are stitched or otherwise joined together to become a unit, and then attached to the insole and outsole.").

("4 heel portion"), a side portion ("instep portion … 3b"), and a forward portion ("instep portion ... 3a"). *Id.*, Fig. 1; *see also id.*, Figs. 3-7. Petitioner has annotated the forward, side, and rear portions below in orange, red, and yellow respectively:

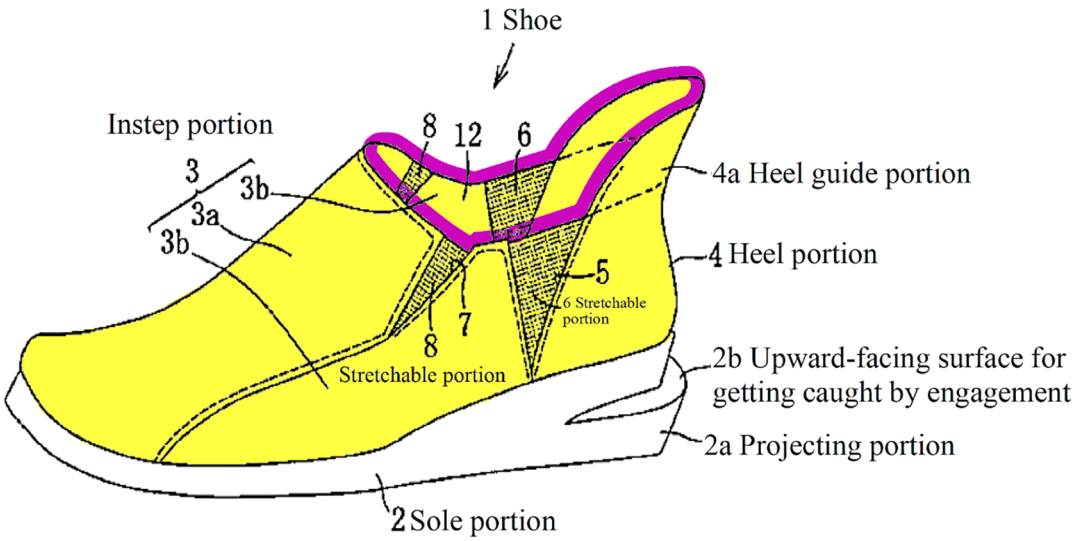
[FIG. 1]



Kim, Fig. 1 (annotated with color); *see also id.*, Figs. 3-5.

Third, the upper in all six examples is an "upper defining a foot opening" as recited in element 1[b]. For example, as Kim explains: "The instep portion 3, the two pairs of stretchable portions 6, 8, and the upper end portion of the heel guide portion 4a form a shoe opening 12." Kim, ¶25. For example, annotated Figure 1 below shows the upper (yellow) defining a foot opening (outlined in pink):

[FIG. 1]

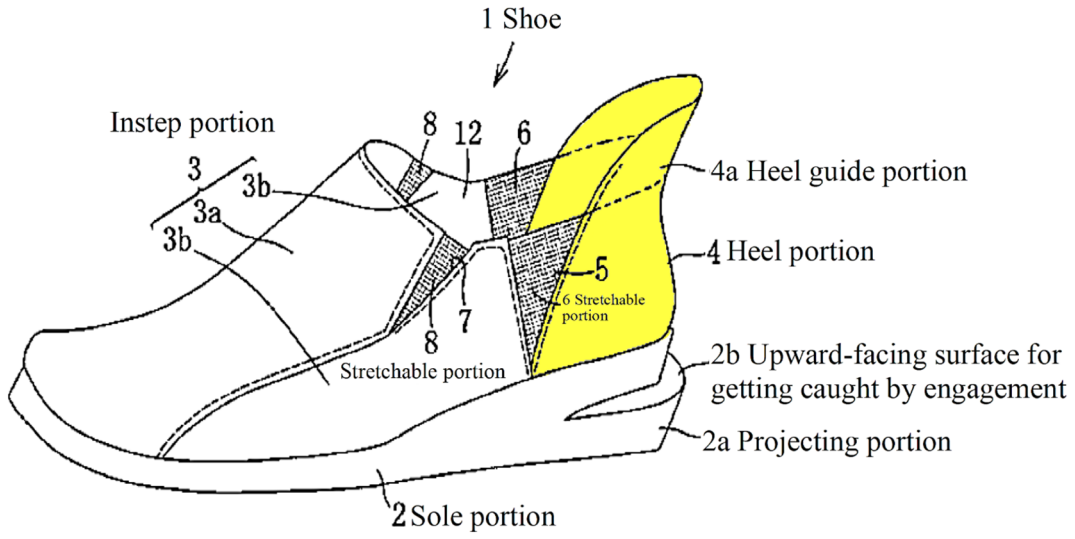


Kim, Fig. 1 (annotated with color); *see also id.*, Figs. 3-5.

- ***1[c]: "a stabilizer defining a unitary structure extending from the sole portion toward a rear portion of the foot opening; and"***

Kim discloses element 1[c] in all six examples. For example, each includes "4 Heel portion" (including "4a Heel guide portion"), annotated in yellow below:

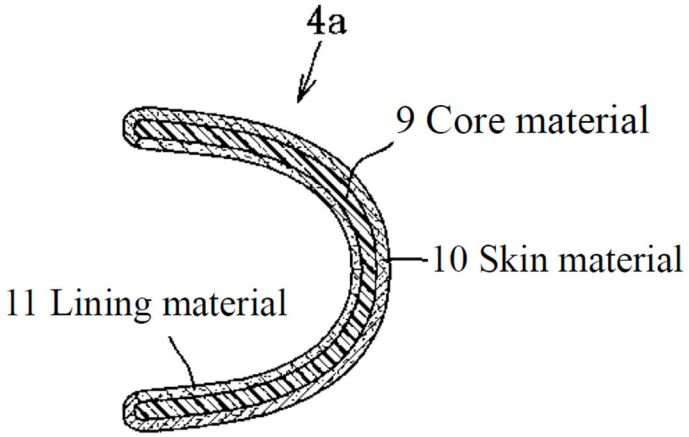
[FIG. 1]



Kim, Fig. 1 (annotated with color); *see also id.*, Figs. 3-7.

First, the "4 Heel portion" is "a stabilizer defining a unitary structure" as recited in element 1[c]. The '811 patent states "the stabilizer 150 can be comprised of a stiff, rigid or semi-rigid material" and, "when a foot is inserted, the stabilizer 150 is configured to prevent the rear portion of the rapid-entry shoe 100 from one or more of collapsing downward, flexing rearward and pivoting rearward, relative to the sole portion." EX1001, 6:21-30. Kim similarly discloses that "the heel portion and the heel guide portion are comprised of a hard core material." Kim, ¶3; *see also id.*, ¶¶10, 17, 27, 31. Kim further explains that this "hard core material" is provided "so a sufficient strength can be ensured in the heel portion and the heel guide portion, and the heel portion and the heel guide portion can be prevented from losing their shape." *Id.*, ¶17. Kim shows a cross-section of the heel portion in Figure 2, which includes "9 Core material":

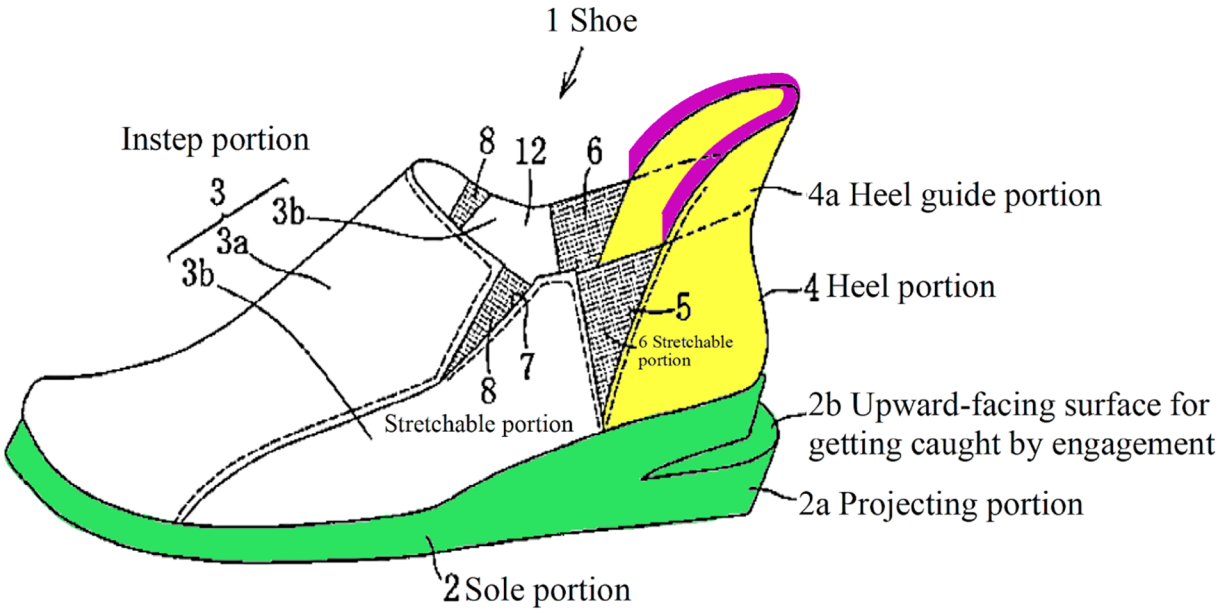
[FIG. 2]



Kim, Fig. 2. Kim describes "hard core material 9" as being "made of a synthetic resin material including a hot melt material, a counter material or the like." *Id.*, ¶27.

Second, the "4 Heel portion" in each example is "extending from the sole portion toward a rear portion of the foot opening" as recited in element 1[c]. As shown in annotated Figure 1 below, "4 Heel portion" (yellow) extends from "2 Sole portion" (green) toward a rear of the foot opening (pink) defined by "4a Heel guide portion" of the "4 Heel portion":

[FIG. 1]



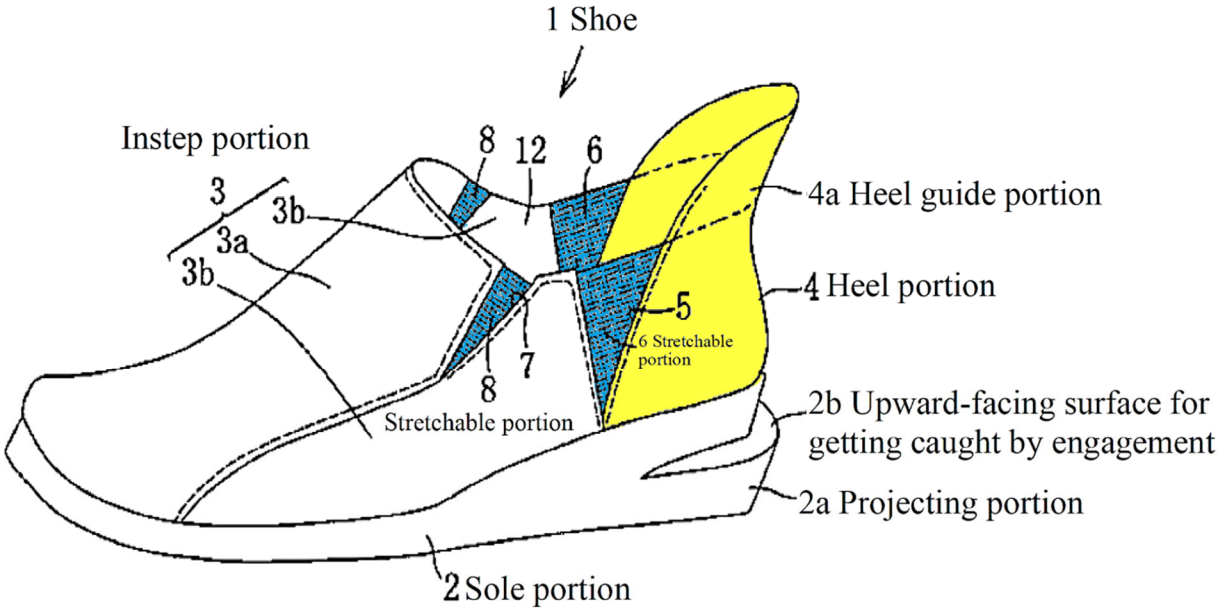
Kim, Fig. 1 (annotated with color); *see also id.*, Figs. 3-7.

- ***1[d]: "a plurality of elastic elements positioned forward of the rear portion of the upper, the plurality of elastic elements operable to enlarge the foot opening when expanded and operable to reduce the foot opening when contracted,"***

Kim discloses element 1[d] in all six examples.

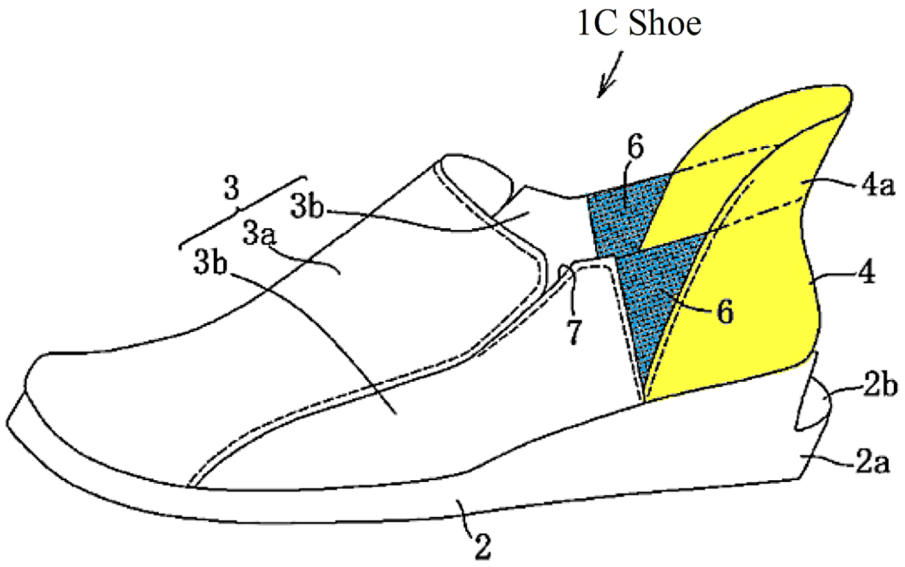
First, Kim's six examples each include "a plurality of elastic elements positioned forward of the rear portion of the upper." Petitioner has annotated example Figures 1, 5 and 7 below to show the elastic elements (blue), including the "6 Stretchable portion[s]" (in the first five examples), "8 Stretchable portion[s]" (Figure 1 and 3 examples), and "Stretchable portion[s] 6A" (Figure 7 example), all positioned forward of the rear portion of the upper (yellow):

[FIG. 1]



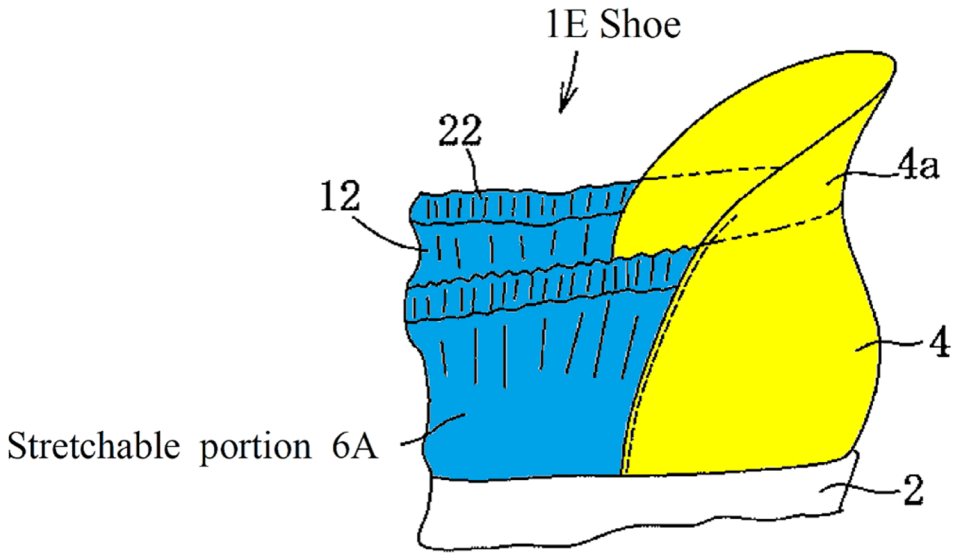
Kim, Fig. 1 (annotated with color); *see also id.*, Fig. 3.

[FIG. 5]



Id., Fig. 5 (annotated with color); *see also id.*, Figs. 3-4, 6.

[FIG. 7]



Id., Fig. 7 (annotated with color).

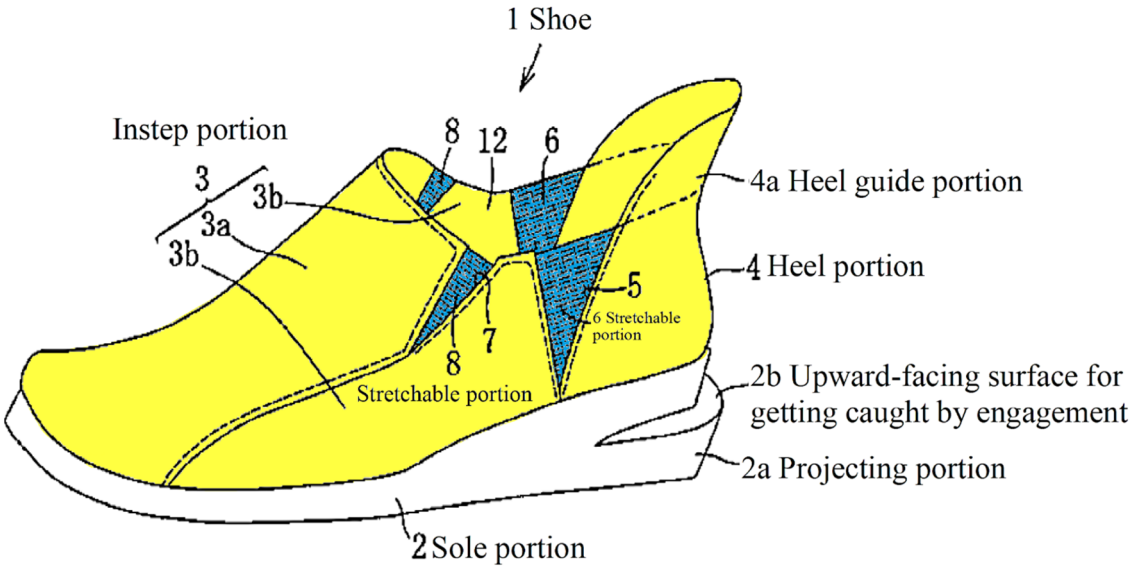
Second, in all six examples, "the plurality of elastic elements [are] operable to enlarge the foot opening when expanded and operable to reduce the foot opening

when contracted" as recited in element 1[d]. Kim explains that the stretchable portions "are included … so when the shoes are put on or taken off, the one pair of stretchable portions stretches, and thereby the opening of the shoe expands." *Id.*, ¶15; *see also id.*, ¶25 ("[T]he shoe opening 12 expands when the two pairs of stretchable portions 6, 8 stretches."), ¶37 ("[T]he shoe opening 12 expands when the shoe 1E is put on or taken off."). A POSITA would have also understood from these disclosures that, because elastic contracts to its original shape after being expanded, Kim's stretchable portions are likewise "operable to reduce the foot opening when contracted" as recited in element 1[d]. EX1003, ¶24.

- ***1[e]: "wherein the plurality of elastic elements includes at least a first elastic element and a second elastic element, the first and second elastic elements being separated by a non-elastic portion of the upper."***

Third, in all six examples, "the plurality of elastic elements includes at least a first elastic element and a second elastic element, the first and second elastic elements being separated by a non-elastic portion of the upper" as recited in element 1[d]. For example, as shown in Figure 1, Kim discloses this element in multiple independently sufficient ways, including: (i) the two "6 Stretchable portion[s]" are separated from each other by at least the non-elastic "4 Heel portion"; (ii) the two "6 Stretchable portion[s]" are separated from the two "8 Stretchable portion[s]" by the non-elastic "Instep portion[s] … 3b"; and (iii) the two "8 Stretchable portion[s]" are separated from each other by the non-elastic "Instep portion … 3a":

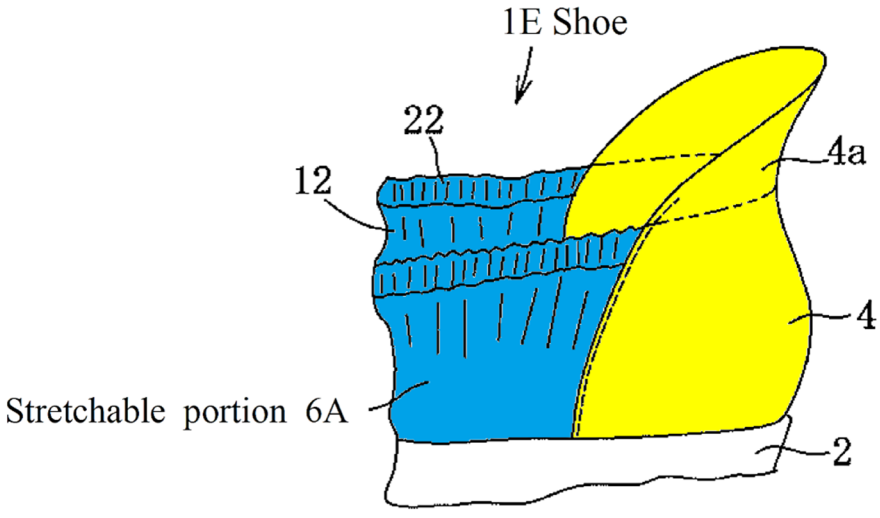
[FIG. 1]



Kim, Fig. 1 (annotated with color); *see also id.*, Figs. 3 (same as Fig. 1), 4-6 (same "6 Stretchable portion[s]").

Similarly, in Kim's Figure 7 example, the two "Stretchable portion[s] 6A" are separated by the non-elastic "4 Heel portion":

[FIG. 7]



Id., Fig. 7 (annotated with color).

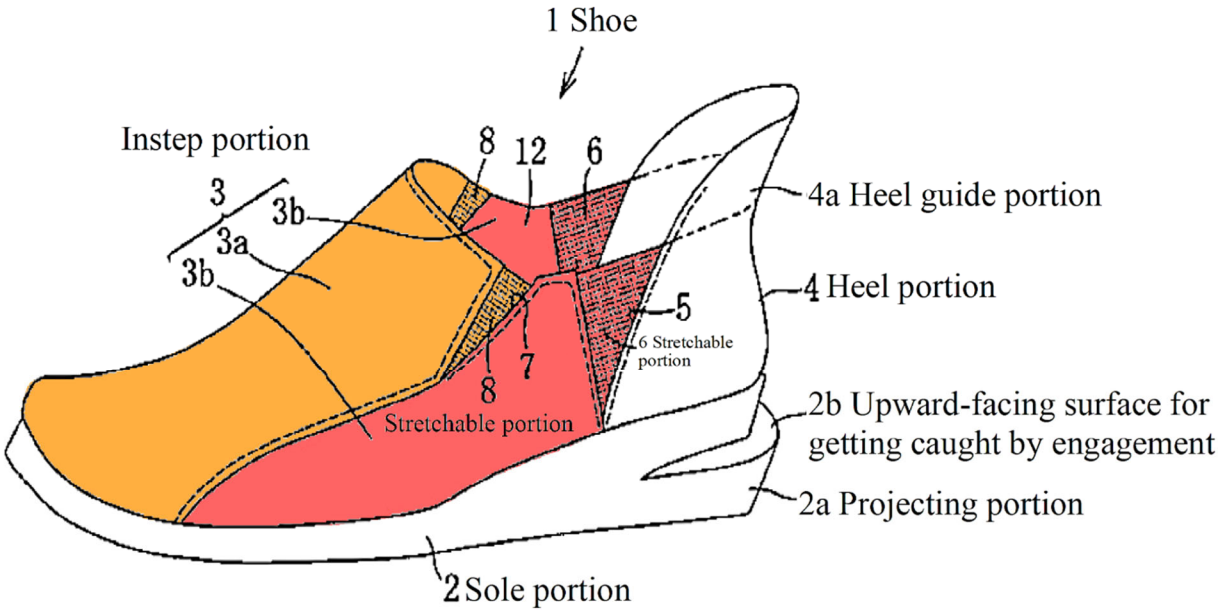
In all examples, the "heel portion and the heel guide portion are comprised of a hard core material" and thus are non-elastic. Kim, ¶3; *see also id.* ¶27 ("hard core material 9" is "made of a synthetic resin material including a hot melt material, a counter material or the like."). Likewise, the "instep portion 3" is "made of leather, synthetic leather or the like" and thus is also non-elastic. *Id.* ¶24.

ii. Claim 2

- ***2. "The rapid-entry shoe of claim 1, wherein the first elastic element is positioned at the side portion of the upper and the second elastic element is positioned at a forward portion of the upper."***

Kim's first two examples (Figures 1 and 3) each individually anticipate dependent claim 2. For example, Figure 1 is shown below annotated by Petitioner:

[FIG. 1]



Kim, Fig. 1 (annotated with color); *see also id.*, Fig. 3 (same).

First, either of Kim's "6 Stretchable portion[s]" meets the claim 2 limitation "wherein the first elastic element is positioned at the side portion of the upper," the side portions shown above annotated in red. *Id.*

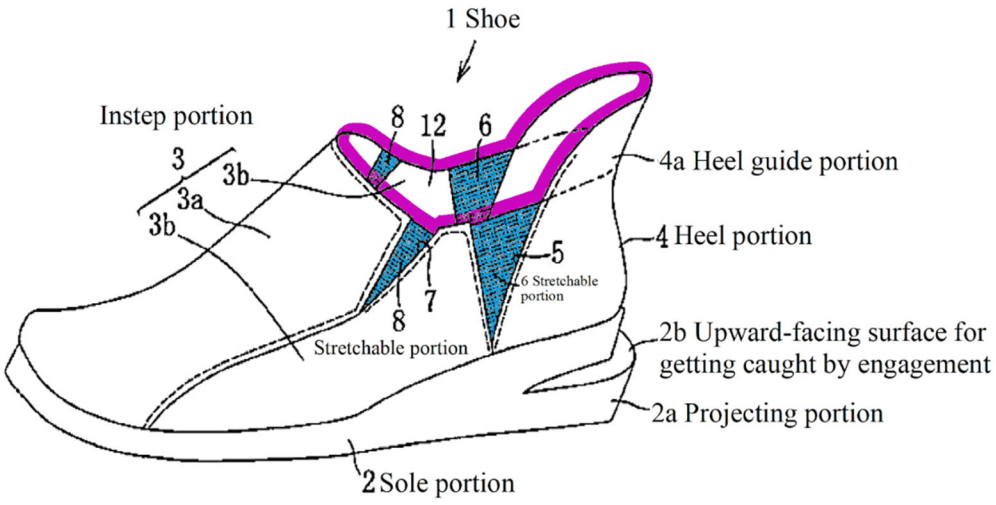
Second, either of Kim's "8 Stretchable portion[s]" meets the claim 2 limitation wherein "the second elastic element is positioned at a forward portion of the upper," the forward portion shown above annotated in orange. *Id.*

iii. Claim 3

- ***3. "The rapid-entry shoe of claim 1, wherein the first elastic portion defines a portion of the foot opening."***

All six of Kim's examples each individually anticipate dependent claim 3. Each of Kim's "6 Stretchable portion[s]" (in all examples) and "8 Stretchable portion[s]" (in Figures 1 and 3) meet the "first elastic portion defines a portion of the foot opening" element of claim 3. For example, annotated Figure 1 below shows each elastic element (blue) defining a portion of the foot opening (outlined in pink):

[FIG. 1]



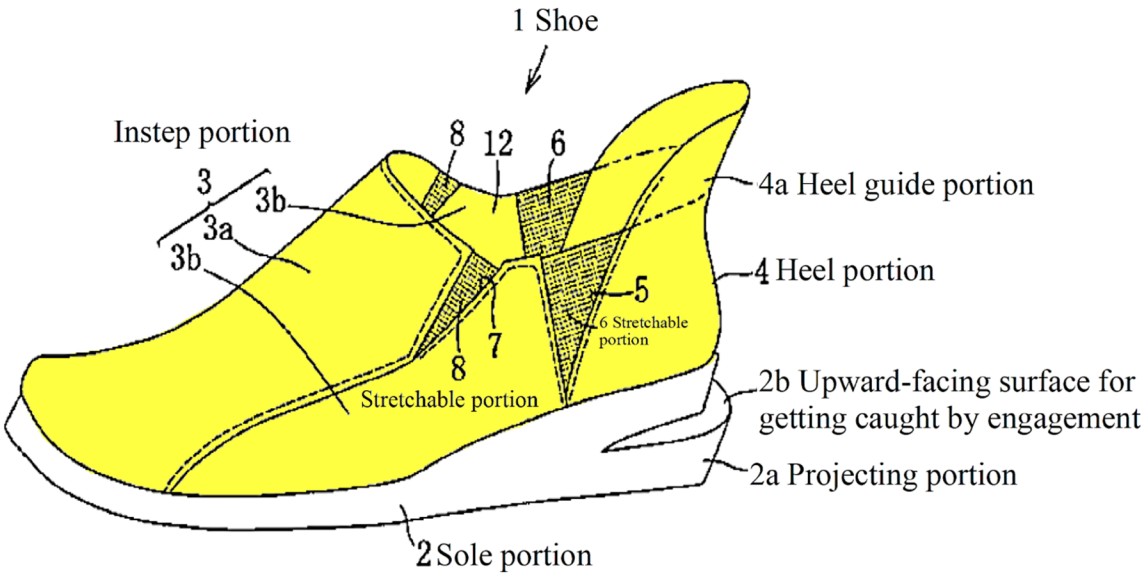
Kim, Fig. 1 (annotated with color); *see also id.*, Fig. 3. As Kim further explains, "[t]he instep portion 3, the two pairs of stretchable portions 6, 8, and the upper end portion of the heel guide portion 4a form a shoe opening 12." *Id.*, ¶25.

iv. Claim 4

- ***4. "The rapid-entry shoe of claim 1, wherein the first elastic element defines at least a portion of the upper."***

All six of Kim's examples each individually anticipate dependent claim 4. For example, each of Kim's "6 Stretchable portion[s]" (in all examples) and "8 Stretchable portion[s]" (in Figures 1 and 3) meet the "first elastic element defines at least a portion of the upper" element of claim 4. As discussed for element 1[b], which is incorporated here by reference, the upper in each Kim example includes everything shown in yellow below, which includes "stretchable portions" 6 and 8:

[FIG. 1]



Kim, Fig. 1 (annotated with color); *see also id.*, Figs. 3-7.

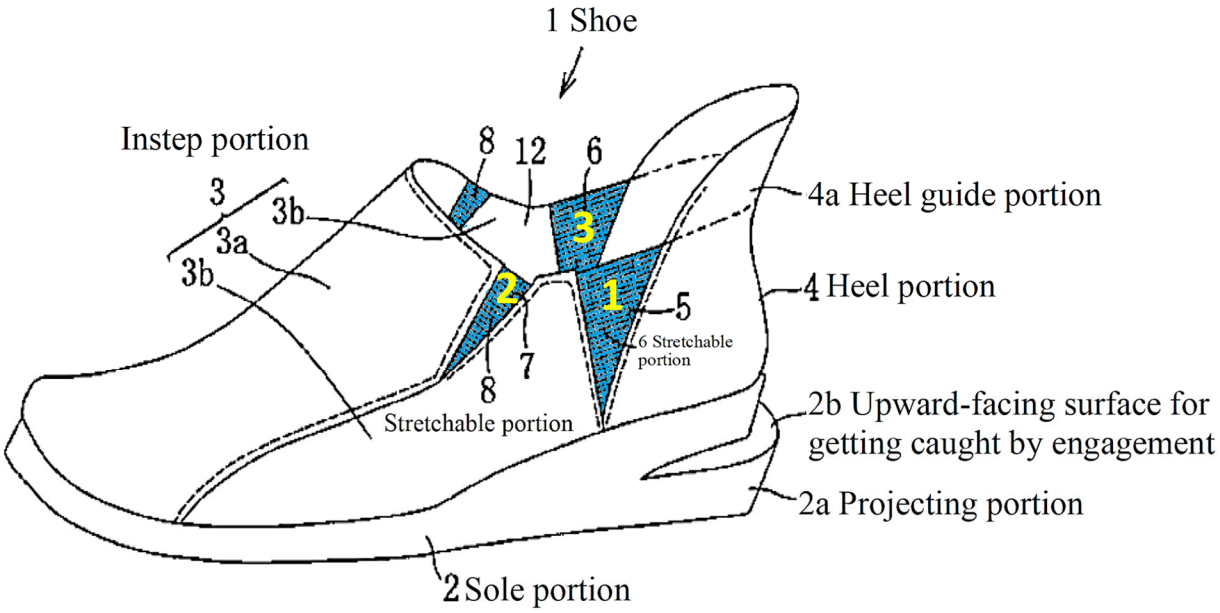
v. Claim 7

- ***7. "The rapid-entry shoe of claim 1, wherein the elastic element includes third elastic element, wherein the side portion includes a lateral side portion and a medial side portion, and wherein the first elastic element is positioned on the lateral side portion and the third elastic element is positioned on the medial side portion."***

Kim's Figure 1 and 3 examples each individually anticipate claim 7.

First, Kim's first two examples (Figures 1 and 3) each meet the limitation "wherein the elastic element includes a third elastic element" as recited in claim 7. For example, Kim discloses "two pairs of stretchable portions 6, 8," for four elastic elements total. Kim, Abstract. Thus, in one example claim mapping, one of Kim's "8 Stretchable portion[s]" maps to the "third elastic element" limitation of claim 7. In this exemplary mapping, Kim's other "8 Stretchable portion" maps to the "first elastic element" of claim 1 (from which claim 7 depends), and either of Kim's "6 Stretchable portion[s]" maps to the "second elastic element" of claim 1, as shown in annotated Figure 1 below:

[FIG. 1]



Kim, Fig. 1 (annotated with color and yellow numbers); *see also id.*, Fig. 3.

Second, Kim's first two examples (Figures 1 and 3) each meet the claim 7 limitation "wherein the side portion includes a lateral side portion and a medial side portion, and wherein the first elastic element is positioned on the lateral side portion and the third elastic element is positioned on the medial side portion." For example, as shown in annotated Figure 1 above, the first elastic element ("6 Stretchable portion" with a yellow 1) is positioned on the lateral side portion (*e.g.*, the shoe's outer side) and the third elastic element ("6 Stretchable portion" with a yellow 3) is positioned on the medial side portion (*e.g.*, the shoe's inner side).[4]

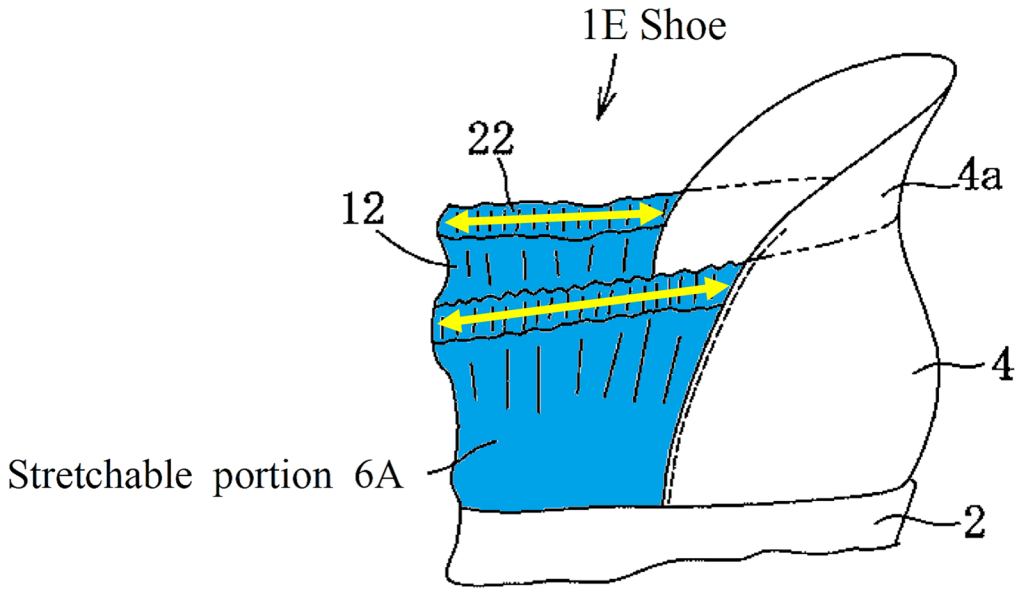
[4] *See, e.g.*, EX1012, 6 ("Lateral…. The outer side."); *id.* at 111 ("Medial. The inner side of an object, such as the inner or medial side of the foot.").

vi. Claim 8

- ***8. "The rapid-entry shoe of claim 1, wherein at least one of the plurality of elastic elements includes a 2-way stretch."***

At least Kim's disclosed Example 6 (Figure 7) anticipates dependent claim 8. For example, each "Stretchable portion 6A" in Figure 7 meets the claim 8 limitation "wherein at least one of the plurality of elastic elements includes a 2-way stretch."[5]

[FIG. 7]

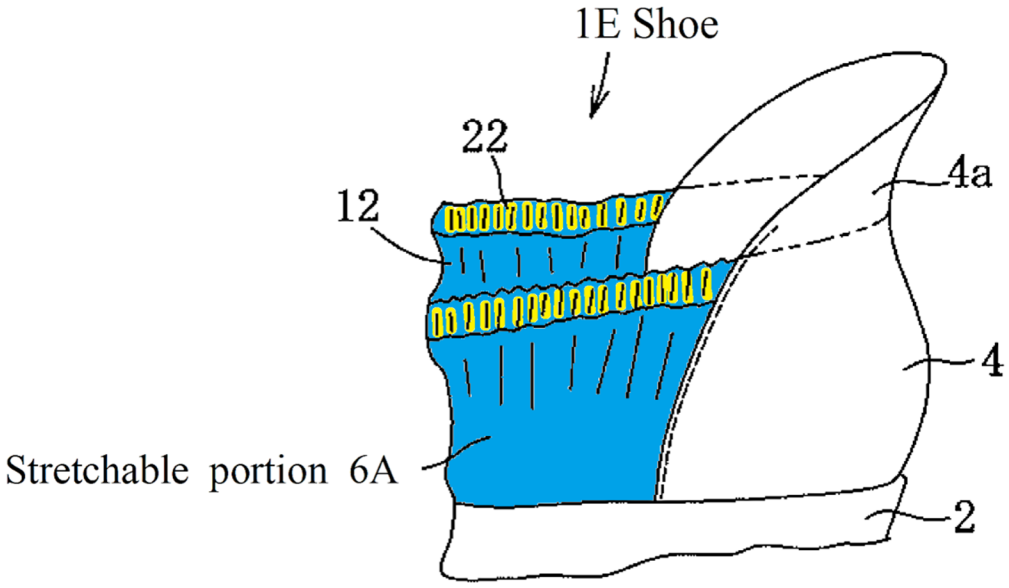


[5] *See, e.g.*, EX1013, 2 ("**3.1.3. Elastic or Stretch fabric:** Stretch fabric is a synthetic fabric which stretches. Stretch fabrics are either 2-way stretch or 4-way stretch. 2-way stretch fabrics stretch in one direction, usually from selvedge to selvedge (but can be in other directions depending on the knit). 4-way stretch fabrics, such as spandex, stretch in both directions, crosswise and lengthwise."); EX1019, 8:33-48 ("A material with 'four way' stretch capabilities stretches in a first direction and a second, directly-opposing direction, as well as in a third direction that is perpendicular to the first direction and a fourth direction that is directly opposite the third direction. In other words, a sheet of four-way stretch material stretches in both crosswise and lengthwise. A material with 'two way' stretch capabilities, in contrast, stretches to some substantial degree in the first direction and the second, directly opposing direction, but will not stretch in the third and fourth directions, or will only

Kim, Fig. 7 (annotated with color and yellow arrows). As shown, each of Kim's "Stretchable portion 6A" elastic elements includes a 2-way stretch that allows the elastic elements to stretch in their lengthwise directions toward the heel and toe (*i.e.*, in the two directions indicated by yellow arrows above). A POSITA would have understood that Kim's Figure 7 example discloses elastic elements that "include[] a 2-way stretch" as recited in claim 8, for multiple reasons.

First, Figure 7 itself indicates elastic elements with 2-way stretch capability by providing ***accordion fold lines*** on the "Stretchable portion 6A" elastic elements, including in particular for element 22 thereof, as shown annotated in yellow below:

[FIG. 7]

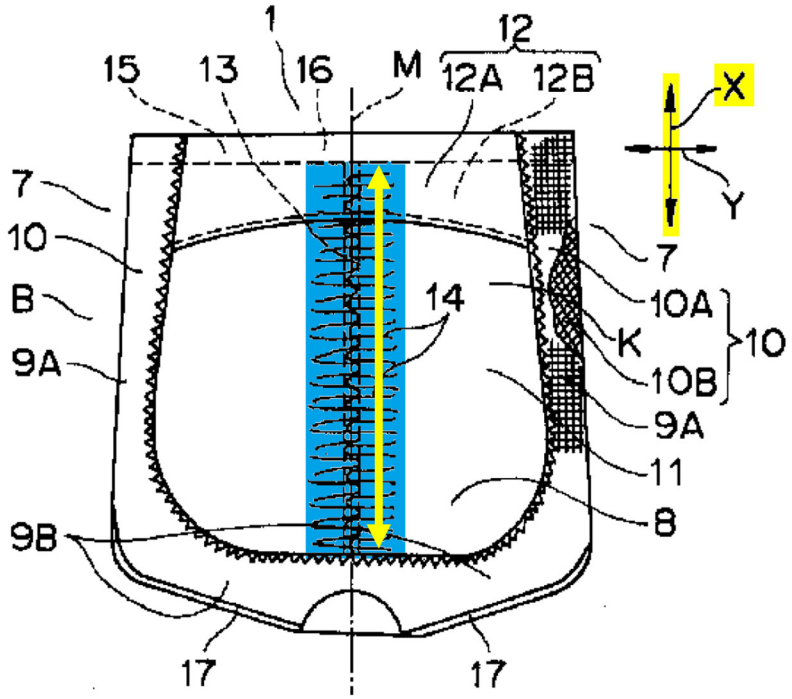


stretch to some limited degree in the third and fourth directions relative to the first and second directions (i.e., the fabric will stretch substantially less in the third and fourth directions than in the first direction and second directions). In other words, a sheet of two-way stretch material stretches either crosswise or lengthwise.").

Kim, Fig. 7 (annotated with color). A POSITA would have understood that the accordion fold lines indicate the bunching of material when the elastic elements are contracted and the corresponding directions of expansion when stretched—*i.e.*, stretching in their lengthwise directions, perpendicular to the accordion fold lines. EX1003, ¶26; *see also, e.g.*, EX1014, 2:41-42 & 3:15-21 (1942 patent on a sock with "elastic garter top" and "accordion, mock rib extension," where "[t]he garter and also the extension of accordion work have a definite two way stretch.").

Second, Kim's description of Figure 7 reinforces the above. For example, Kim states: "As shown in FIG. 7, regarding the shoe 1E in Example 6, the ***stretchable portions 6A*** are composed of a highly-flexible leather or synthetic leather and a ***stretchable gathered rubber 22 provided at the upper end thereof***." Kim, ¶37 (emphasis added). "Since the ***stretchable portions 6A*** are composed of the highly-flexible leather or synthetic leather and the ***gathered rubber 22 at the upper edge thereof***, the ***shoe opening 12 expands*** when the shoe 1E is put on or taken off, and the shoe 1E can be easily put on or taken off." *Id.* (emphasis added). A POSITA thus would have understood that the "stretchable gathered rubber 22 provided at the upper end thereof" provides the "Stretchable portion 6A" elastic elements 2-way stretch capability in their lengthwise directions, perpendicular to the accordion fold lines, such that "shoe opening 12 expands." *Id.*; *see* EX1003, ¶27-28.

Indeed, it was well-known in the art that gathered rubber in the accordion style configuration shown in Kim's Figure 7 would yield a 2-way stretch elastic element. For example, a similar elastic element was described in the 2003 Japanese Patent No. 3,094,168U. Figure 2 thereof is shown below annotated by Petitioner:

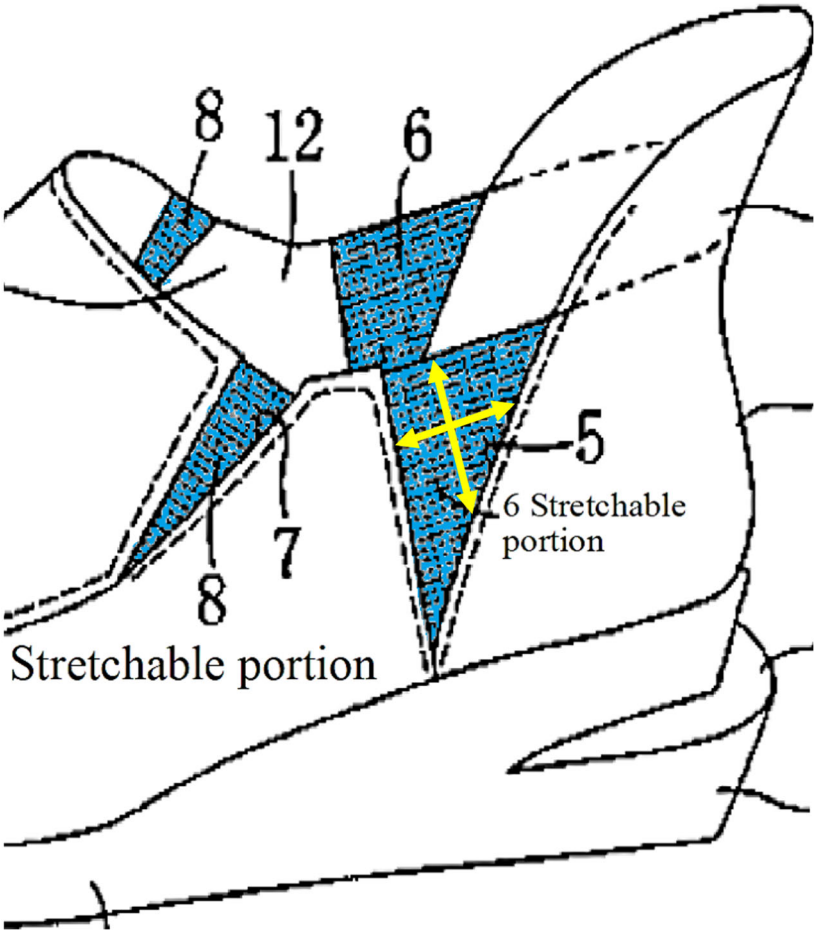


EX1016, Fig. 2 (annotated with color and arrow). Figure 2 depicts "underwear such as a girdle." *Id.*, ¶1. "[O]n the backside centerline M of the girdle 1 serving as the underwear body, ***gathers 14*** are performed in such a manner that the back body B itself of the girdle 1 can ***stretch in the body-length direction (vertical direction X)*** by arranging an ***elastic cord 13***, and thereby the body-length becomes compact." *Id.*, ¶16 (emphasis added). This just further exemplifies that a POSITA would have understood Kim's "gathered rubber 22" elements provide "Stretchable portion[s] 6A" with 2-way stretch capability in their lengthwise directions. EX1003, ¶27.

vii. Claim 9

- ***9. "The rapid-entry shoe of claim 1, wherein at least one of the plurality of elastic elements includes a 4-way stretch."***

Kim's first five examples (Figures 1 and 3-6) each individually anticipate dependent claim 9. For example, each "6 Stretchable portion" (in Figures 1 and 3-6) and each "8 Stretchable portion" (in Figures 1 and 3) meets the claim 9 limitation "wherein at least one of the plurality of elastic elements includes a 4-way stretch." This is shown, for example, in Figure 1 annotated by Petitioner below:



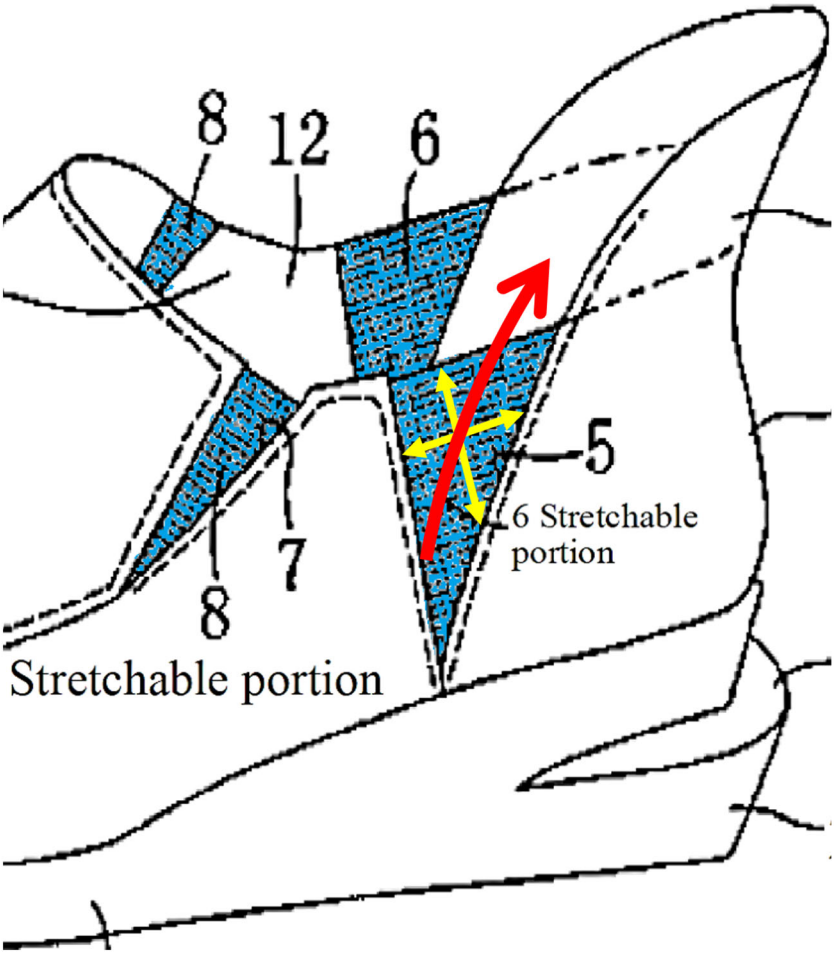
Kim, Fig. 1 (cropped, and annotated with color and yellow arrows). Each elastic element "includes a 4-way stretch" allowing expansion in at least four directions,

including for example the directions indicated by yellow arrows. *See* Footnote 5, *supra* (4-way stretch). A POSITA would have understood this for multiple reasons.

First, Kim's Figures 1 and 3-6 indicate elastic with 4-way stretch capability by including ***vertical and horizontal crosshatched lines*** in each "6 Stretchable portion" and "8 Stretchable portion," indicating the ability to stretch in both vertical and horizontal directions. Moreover, the ***crosshatched lines*** in Kim's first five examples (Figures 1 and 3-6) plainly differ from the ***accordion fold lines*** in Kim's sixth example (Figure 7). *See* Part VIII.A.vi, *supra* (discussing Figure 7). Given this deliberate distinction between embodiments, a POSITA would have understood that Kim's first five examples with crosshatched lines (Figures 1 and 3-6) disclose 4-way stretch and Kim's sixth example with accordion fold lines (Figure 7) discloses 2-way stretch. EX1003, ¶29.

Second, the geometry and placement of the elastic elements in Kim's first five examples (Figures 1 and 3-6), and Kim's description, underscore Kim's disclosure of 4-way stretch elastic for these examples. As Kim explains, "a ***heel guide portion*** integrally projecting from the upper end of the heel portion and ***curving in a slope to go backward as it goes upward***." Kim, ¶7 (emphasis added). "As for this shoe, when putting on the shoe, the user first inserts, starting from the toes, the foot into the shoe, ***and then pushes the heel of the foot into the inside of the heel portion while sliding it along the heel guide portion***. ***At this time, since the one pair of***

stretchable portions stretches, the opening of the shoe expands, and the heel can be easily placed at the inside of the heel portion." *Id.*, ¶8 (emphasis added). Given this description, and Figures 1 and 3-6 themselves, a POSITA would have understood that stepping into the shoe causes the "heel guide portion" to stretch the "6 Stretchable portion[s]" in a direction ***diagonal to*** the crosshatching on those elastic elements (*i.e.*, in the direction indicated by a red arrow in annotated Figure 1 below), utilizing their 4-way stretch capability by simultaneously expanding the material in both horizontal and vertical directions relative to the crosshatching:



Kim, Fig. 1 (cropped, and annotated with color and arrows); EX1003, ¶30.

Third, Kim further discloses that the "two pairs of stretchable portions 6, 8 [are] composed of a ***stretchable woven fabric member***." Kim, Abstract (emphasis added); *see also id.*, ¶22 ("As shown in FIG. 1, a shoe 1 includes … two pairs of stretchable portions 6, 8 composed of a stretchable woven fabric member (for example, tatami rubber and stone-grain rubber)."); ¶32 (similar). A POSITA would have understood Kim's discussion of "stretchable woven fabric" as disclosing that embodiments of Kim's Figures 1 and 3-6 examples include 4-way stretch elastic elements. *Id; see also* EX1013, 2 ("Stretch fabrics are either 2-way stretch or 4-way stretch. … 4-way stretch fabrics, such as spandex, stretch in both directions, crosswise and lengthwise."); *id.* (such "stretch fabrics" have been used "as early as the mid-1980s," "entered the mainstream market in the early 1990s," and are "widely used in sports clothing."). At minimum, Kim's "stretchable woven fabric" discloses a genus with only two species—2-way and 4-way stretch—both of which were known to, and would have at once been envisaged by, a POSITA. EX1003, ¶31.[6]

[6] *See, e.g.*, *Incept LLC v. Palette Life Scis., Inc.*, 77 F.4th 1366, 1372 (Fed. Cir. 2023) ("[W]hen a prior art reference describes a genus and the challenged claim recites a species of that genus, anticipation turns on whether the genus was of such a defined and limited class that one of ordinary skill in the art could have 'at once envisaged' each member of the genus."); *Bristol-Myers Squibb Co. v. Ben Venue Lab'ys, Inc.*, 246 F.3d 1368, 1380 (Fed. Cir. 2001) ("[T]he disclosure of a small genus may anticipate the species of that genus even if the species are not themselves recited."); *Kennametal, Inc. v. Ingersoll Cutting Tool Co.*, 780 F.3d 1376, 1382 (Fed. Cir. 2015) (affirming PTAB finding of anticipation where two of three species were disclosed, and a POSITA "would immediately envisage applying [the third]").

Fourth, as a separate and independently sufficient embodiment, Kim discloses another variation of the Figure 1 and 3-6 embodiments in which, "[a]lternatively, the stretchable portions 6, 8 may be composed of a ***rubber member***." Kim, ¶38 (emphasis added). A POSITA would have understood that a "rubber member"—particularly in the flat, two-dimensional shapes of Kim's "8 Stretchable portion[s]" and "6 Stretchable portion[s]"—would plainly "include[] a 4-way stretch" as recited in claim 9, as a flat sheet of rubber is generally stretchable in all directions in the plane defined by its surface. EX1003, ¶32.

viii. Claim 10

Kim's first two examples (Figures 1 and 3) each individually anticipate independent claim 10 of the '811 patent.

- ***10[pre]: "A rapid-entry shoe comprising:"***

Petitioner incorporates by reference the discussion of element 1[pre]. *See supra*, Claim 1, Element 1[pre] ("A rapid-entry shoe comprising:").

- ***10[a]: "A sole portion;"***

Petitioner incorporates by reference the discussion of element 1[a]. *See supra*, Claim 1, Element 1[a] ("a sole portion;").

- ***10[b]: "an upper coupled to the sole portion and including a rear portion, a side portion, and a forward portion, the upper defining a foot opening;"***

Petitioner incorporates by reference the discussion of element 1[b]. *See supra*, Claim 1, Element 1[b] ("an upper coupled to the sole portion and including a rear portion, a side portion, and a forward portion, the upper defining a foot opening;").

- ***10[c]: "a stabilizer defining a unitary structure extending from the sole portion toward a rear portion of the foot opening; and"***

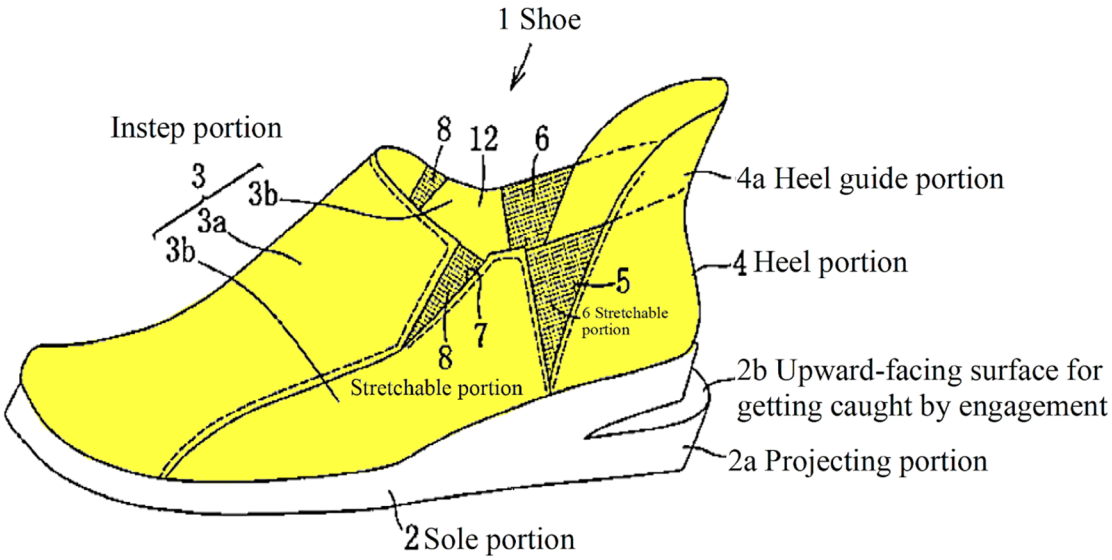
Petitioner incorporates by reference the discussion of element 1[c]. *See supra*, Claim 1, Element 1[c] ("a stabilizer defining a unitary structure extending from the sole portion toward a rear portion of the foot opening; and").

- ***10[d]: "a plurality of elastic elements positioned along at least a portion of the upper, the elastic element configured to facilitate at least one of flexion and pivoting of the forward portion of the upper relative to the sole portion,"***

Kim's first two examples (Figures 1 and 3) each disclose element 10[d].

First, Kim's first two examples each include "a plurality of elastic elements positioned along at least a portion the upper." For example, as discussed above for element 1[b], the discussion of which is incorporated here by reference, the upper in each Kim example includes everything shown in yellow in annotated Figure 1 below, which includes Kim's "stretchable portions" 6 and 8:

[FIG. 1]



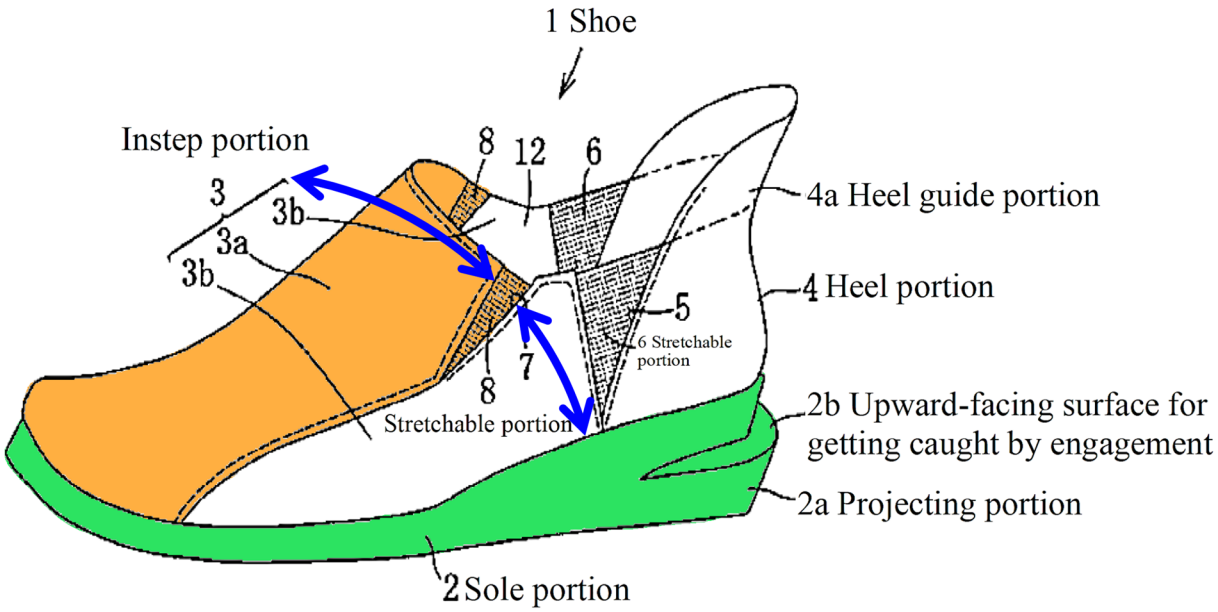
Kim, Fig. 1 (annotated with color); *see also id.*, Figs. 3-7.

Second, Kim's "6 Stretchable portion[s]" and "8 Stretchable portion[s]" are "elastic element[s] configured to facilitate at least one of flexion and pivoting of the forward portion of the upper relative to the sole portion" as recited in element 10[d]. For example, as Kim explains regarding Figure 1:

> As shown in FIG. 1, the boundary portions between the instep portion 3 and the heel portion 4 are respectively provided with a pair of substantially triangular notch portions 5, and these notch portions 5 are respectively mounted with stretchable portions 6 for filling up the notch portions 5. At ***instep portion 3***, the ***boundary portions between the upper surface side member 3a and the lateral surface side members 3b*** (the vicinity portion of the boundary portion between the instep portion 3 and the heel portion 4) are respectively provided with a pair of ***substantially triangular notch portions 7***, and these notch portions 7 are respectively mounted with ***stretchable portions 8*** for filling up the notch portions 7. … The ***instep portion 3***, the two pairs of stretchable portions 6, 8, and the upper end portion of the heel guide portion 4a form a shoe opening 12, and the ***shoe opening 12 expands when the two pairs of stretchable portions 6, 8 stretches***."

Kim, ¶25 (emphasis added). Referring now to Figure 1 annotated by Petitioner, and mapping to element 10[d] of the '811 patent, the claimed "elastic elements" (*e.g.*, Kim's "6 Stretchable portion[s]" and "8 Stretchable portion[s]") are "configured to facilitate at least one of flexion and pivoting" (illustrated below with blue arrows) "of the forward portion of the upper" (including "Instep portion 3" shown in orange) "relative to the sole portion" (including "2 Sole portion" shown in green):

[FIG. 1]



Kim, Fig. 1 (annotated with color and arrows). For example, Kim's "stretchable portions 8" in particular facilitate flexion and/or pivoting of the forward portion of the upper (orange) relative to the sole portion (green), in the manner indicated above with annotated blue arrows, such that "shoe opening 12 expands when the two pairs of stretchable portions 6, 8 stretches." *Id.*, ¶25; *see also* EX1003, ¶¶ 20, 24.

- ***10[e]: "wherein the plurality of elastic elements includes a first elastic element defining a first longitudinal axis and a second elastic element defining a second longitudinal axis, wherein the first longitudinal axis defines a first angle relative to a vertical axis and the second longitudinal axis defines a second angle relative to the vertical axis, wherein the first angle and the second angle are different."***

For relevant context, the '811 patent describes an embodiment as recited in element 10[e] by referring to and comparing Figures 4A (a different embodiment) and 4B (an embodiment as recited in element 10[e]):

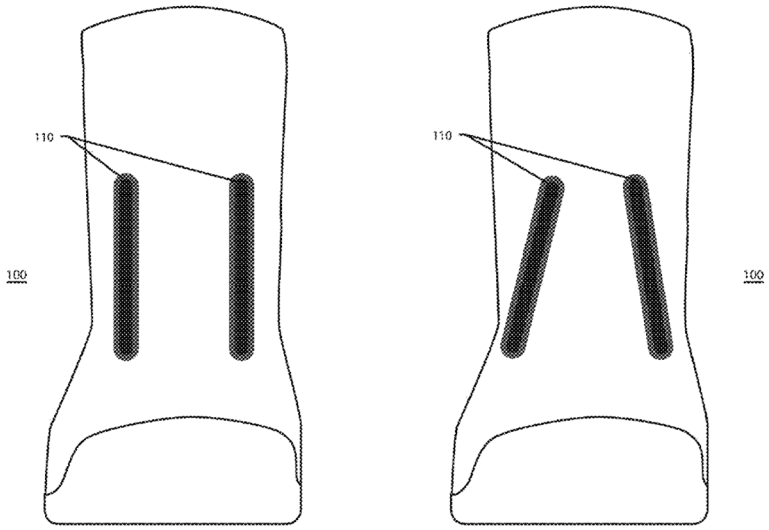


FIG. 4A FIG. 4B

EX1001, Figs. 4A-4B. As the '811 patent explains:

> FIGS. 4A-4C are front schematic views of a rapid-entry shoe showing various configurations of first and second elastic elements, in accordance with various embodiments. The elastic elements may extend parallel to each other (FIG. 4A) or ***may be angled relative to each other (FIG. 4B)*** (e.g., to conform to the shape of the curvature of the forward portion of the rapid entry shoe 100). For example, the ***first elastic element*** may extend at a ***first angle relative to a vertical axis that is perpendicular to the footbed of the shoe***, and the ***second elastic element*** may extend at a ***second angle relative to the vertical axis***. The ***first*** and ***second*** angle ***may be different***.

Id., 5:42-53 (emphasis added). For example, as illustrated in Figure 4B below annotated by Petitioner with red geometric markings, the two elastic elements 110 each have a longitudinal axis[7] (*e.g.*, the axes indicated by the red diagonal lines labeled "1" and "2"), each having a different angle (the angles labeled "θ_1" and "θ_2") relative to a vertical axis that is perpendicular to the footbed of the shoe:

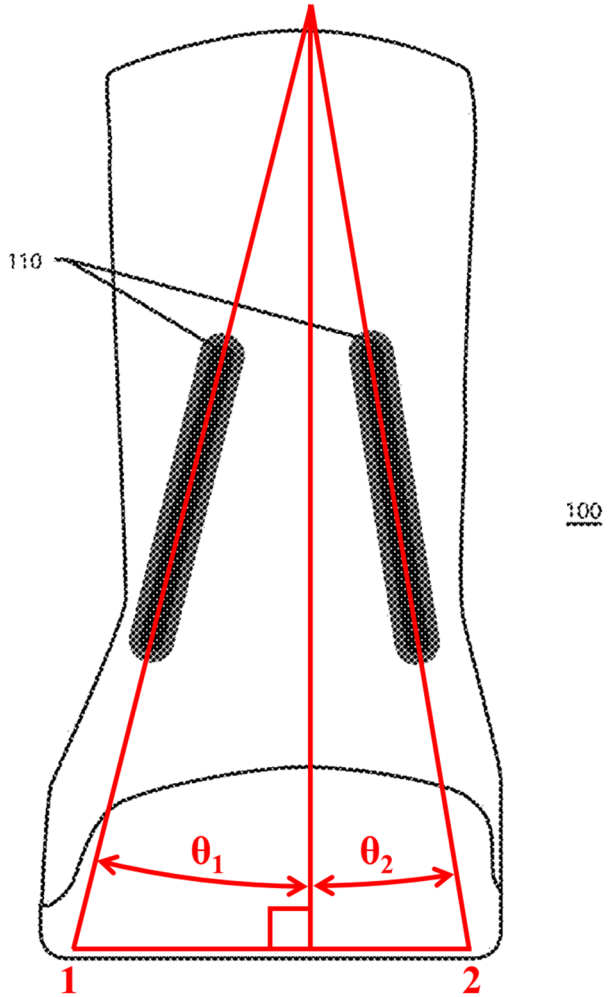
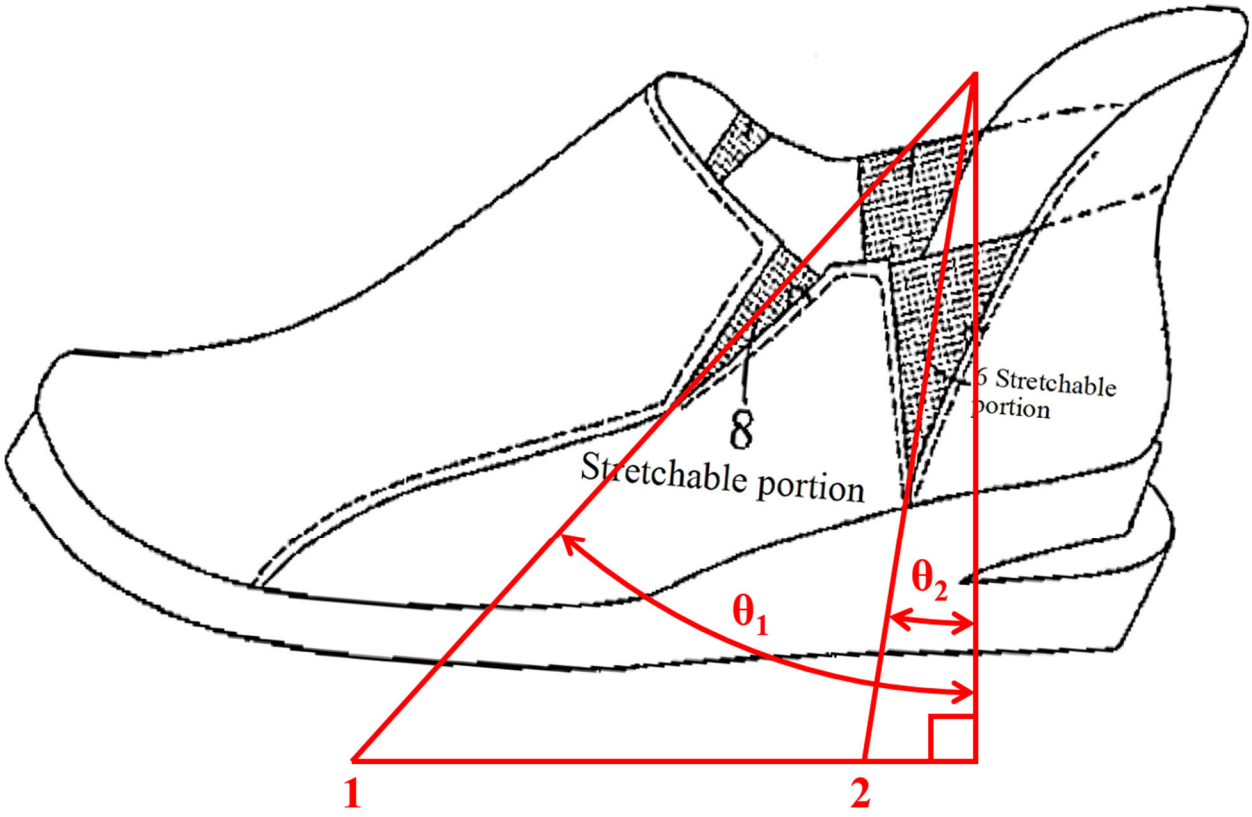


FIG. 4B

[7] While the '811 patent does not define "longitudinal," it uses "longitudinal axis" to describe a ***lengthwise*** axis of an example elastic element. EX1001, 5:66–6:12 ("[T]he expansion of the elastic element 110 may be ***perpendicular*** to its ***longitudinal axis*** …. That is, the material of the elastic element may be configured to expand in a direction ***transverse*** to its ***length*** ….") (emphasis added).

EX1001, Fig. 4B (annotated with red markings).

Kim's first two examples (Figures 1 and 3) each disclose element 10[e]. For example, Figure 1 below has been annotated by Petitioner with red markings:



Kim, Fig. 1 (annotated, and certain labels removed for clarity); *see also id.*, Fig. 3.

First, Kim's Figures 1 and 3 each disclose the limitation "wherein the plurality of elastic elements includes a first elastic element defining a first longitudinal axis and a second elastic element defining a second longitudinal axis" as recited in element 10[e]. For example, as shown in annotated Figure 1 above, the shoe includes a first elastic element (*e.g.*, an "8 Stretchable portion") defining a first longitudinal axis (*e.g.*, the axis indicated by the red diagonal line labeled "1") and a second elastic

element (e.g., a "6 Stretchable portion") defining a second longitudinal axis (*e.g.*, the axis indicated by the red diagonal line labeled "2").

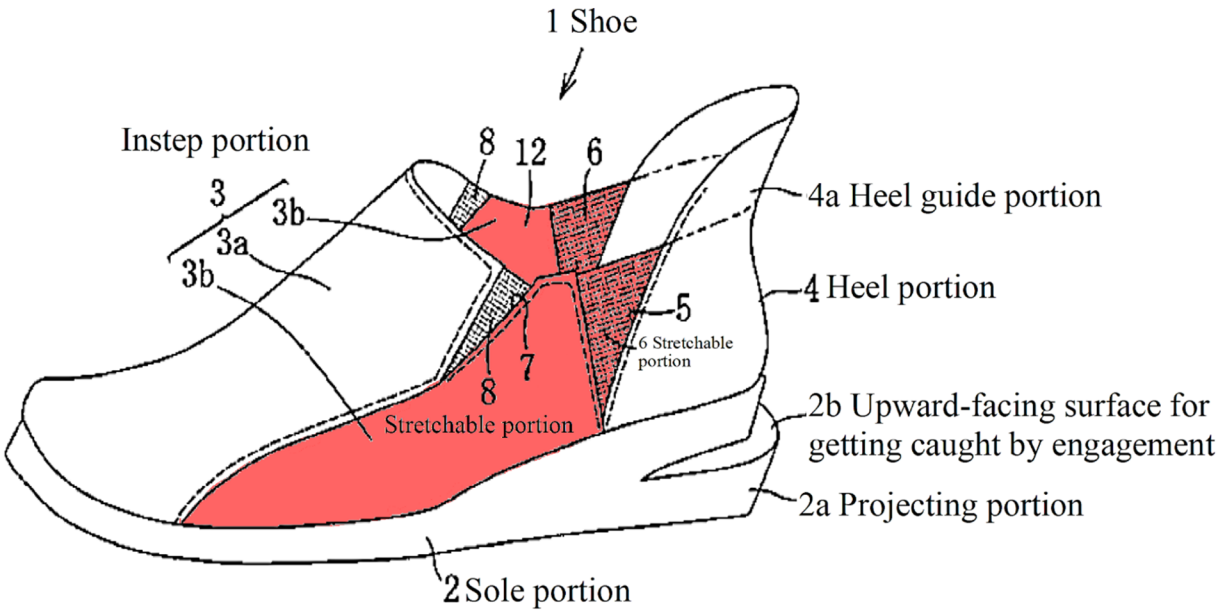
Second, Kim's Figures 1 and 3 each disclose the element 10[e] limitation "wherein the first longitudinal axis defines a first angle relative to a vertical axis and the second longitudinal axis defines a second angle relative to the vertical axis, wherein the first angle and the second angle are different." For example, as shown in annotated Figure 1 above, the first longitudinal axis (red diagonal line labeled "1") defines a first angle relative to a vertical axis (the angle labeled "θ_1") and the second longitudinal axis (red diagonal line labeled "2") defines a second angle relative to the vertical axis (the angle labeled "θ_2"), wherein the first angle and second angle are different (the first angle θ_1 is substantially larger than the second angle θ_2).

ix. Claim 12

- ***12. "The rapid-entry shoe of claim 10, wherein at least a portion of the plurality of elastic elements define at least a portion of the side portion of the upper."***

Kim's first two examples (Figures 1 and 3) each individually anticipate dependent claim 12. For example, Figure 1 is shown below annotated by Petitioner:

[FIG. 1]



Kim, Fig. 1 (annotated with color); *see also id.*, Fig. 3. As shown above, "at least a portion of the plurality of elastic elements" (*e.g.*, the "6 Stretchable portion[s]") "define at least a portion of the side portion of the upper" (*e.g.*, define at least a portion of the side portion of the upper annotated in red). *Id.*

Accordingly, claims 1-4, 7-10 and 13 are anticipated by Kim.

B. GROUND 2: Alternatively, If Not Found Anticipated By Kim, Claims 8 and 9 Are Obvious Over Kim In View Of Hoying

Dependent claims 8 and 9 recite the rapid-entry shoe of claim 1, wherein at least one of the plurality of elastic elements includes a "***2-way stretch***" (claim 8) and "***4-way stretch***" (claim 9), respectively. EX1001, Cls. 8 & 9. As discussed for Ground 1 above, Petitioner believes that Kim anticipates dependent claims 8 and 9.

See Parts VIII.A.vi-vii, *supra*. However, if the Board disagrees, dependent claims 8 and 9 are alternatively rendered obvious by Kim in view of Hoying.

At the time of the alleged invention, it was well-known that elastic elements can include either ***2-way*** or ***4-way*** stretch capability. EX1003, ¶25; *see, e.g.*, EX1013 at 2 ("3.1.3. Elastic or Stretch fabric: Stretch fabric is a synthetic fabric which stretches. Stretch fabrics are either 2-way stretch or 4-way stretch."). Further, it was well-known that 2-way and 4-way stretch elastic elements are both suitable for use specifically ***in shoe uppers***. EX1003, ¶25; *see, e.g.*:

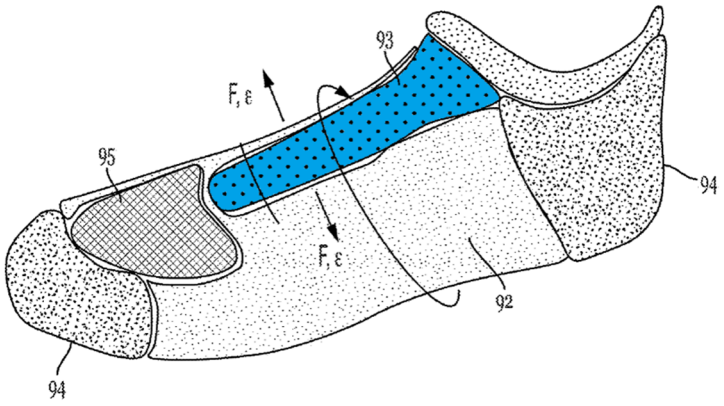
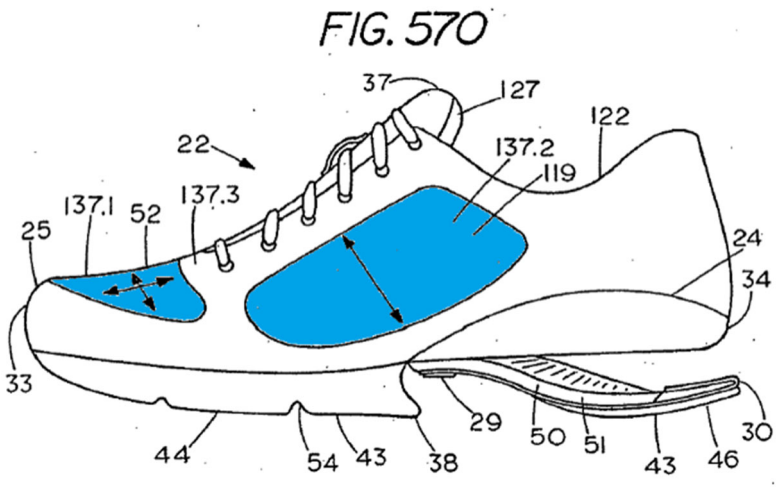
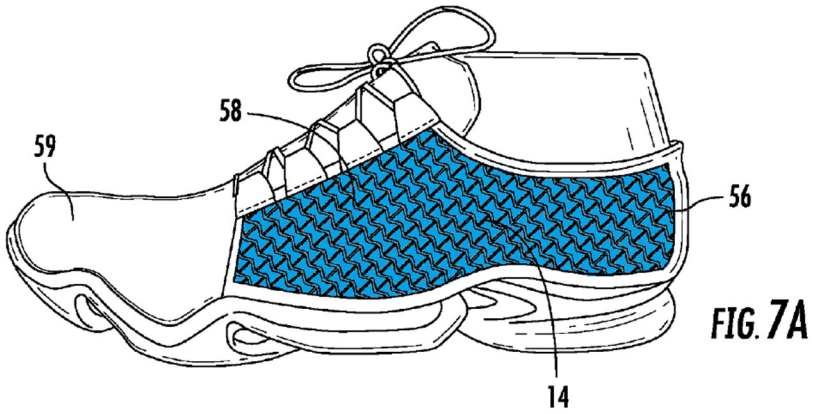


Fig. 10A

EX1007 (Hoying), Fig. 10A (annotated with color); *see* EX1026, p.123 (Fig. 10A); EX1007, 7:46-51 & EX1026, p.14 ("providing at least one stretchable portion of the shoe upper" which "may be provided by using a stretch fabric, e.g. ***2-way*** or ***4-way*** stretch, of a stretchable material such as elastane, e.g., LYCRA®, neoprene or the like."); EX1007, 38:18-20 & EX1026, p.61 ("Zone 93 may need to be elastic to ensure ease of step in" and "to ensure ease of entry into the shoe");



EX1018 (Lyden), Fig. 570 (annotated with color); ¶1432 ("As shown in FIG. 570, various portions of the upper 23 can thereby be made from different textile materials and knits. For example, the vamp 52 can be made of a ***four way*** elastic textile material 137.1 and the quarter 119 can be made of a ***two way*** elastic textile material 137.2, …. The primary desired direction of stretch of the elastic textile materials 137.1 and 137.2 has been indicated with arrows.");



EX1019 (Toronjo), Fig. 7A (annotated with color) & 8:39-48 ("base layer 22" of "arrangement 14" comprising "an elastic fabric having limited stretch properties, such as a ***two-way*** stretch fabric," and other embodiments "with '***four way***' stretch");

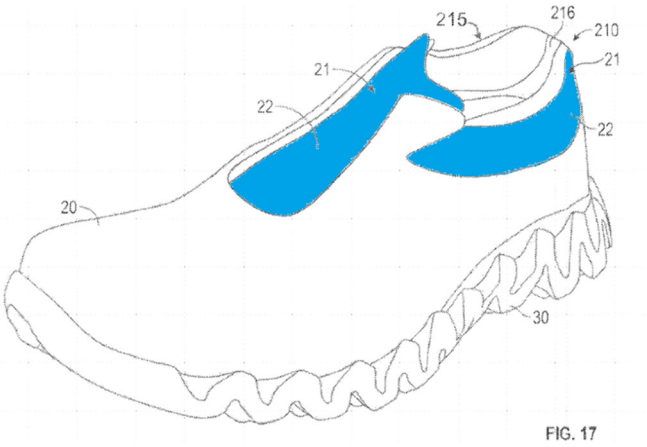
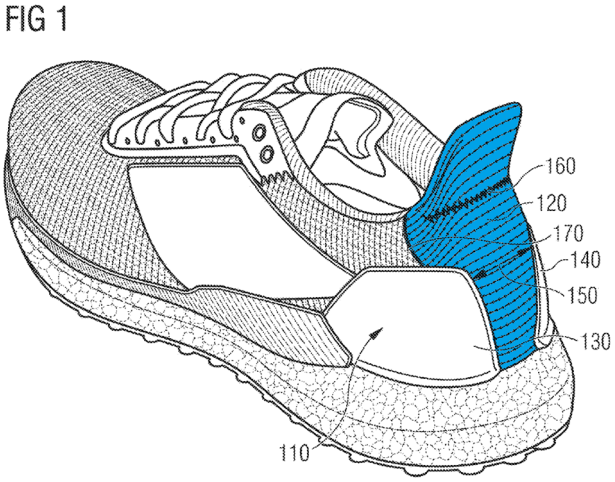


FIG. 17

EX1020 (Marvin) at Fig. 17 (annotated with color) & ¶43 ("outer layer 22" is "an elastic material such as … a ***4-way*** stretch Lycra®," with "[o]ther suitable materials, including … a ***2-way*** stretch material, a ***4-way*** stretch material, …");



EX1022 (Smith), Fig. 1 (annotated with color); *id.*, 4:63-5:1 ("FIG. 1 shows … an adaptive heel element 120 comprising a stretch material such as a ***4-way*** stretch material and/or a ***2 way*** stretch material."); *id.*, 8:36-39 ("The stretch material can be any ***2-way*** or ***4-way*** stretch material suited for the manufacturing of shoe components in general or components of athletic shoes in particular."); Cl. 11 ("The

shoe according to claim 1, wherein the stretch material comprises a ***2-way*** stretch material."); Cl. 14 ("The shoe according to claim 1, wherein the stretch material comprises a ***4-way*** stretch material.") (all emphases added).

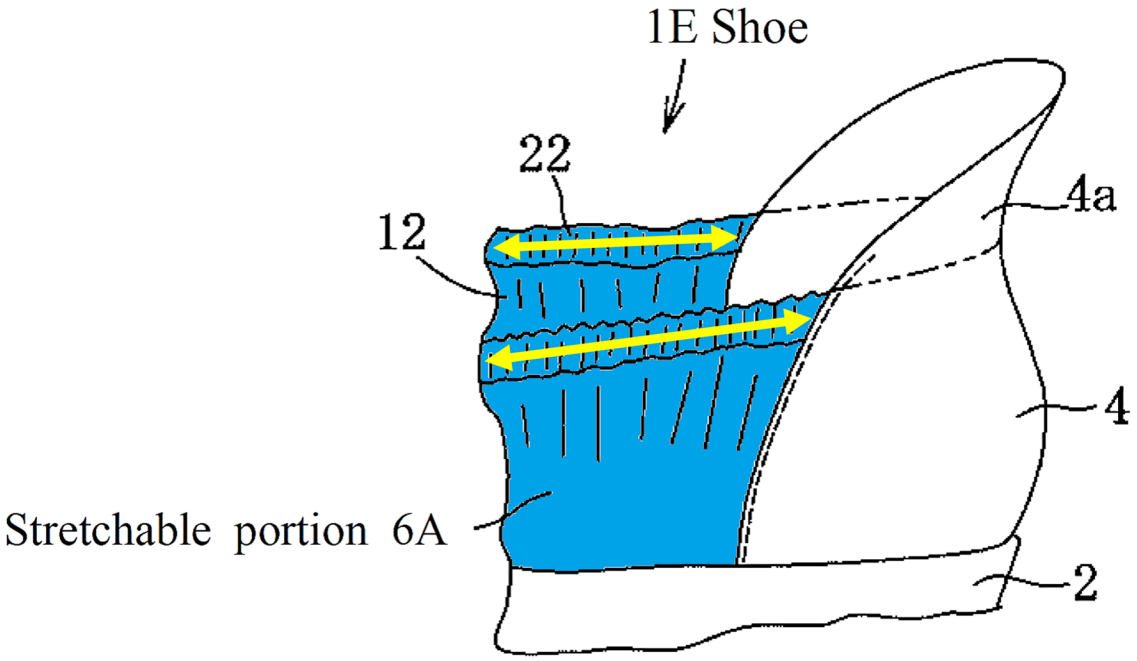
As discussed below, claims 8 and 9 are obvious over Kim in view of Hoying (the first example reference cited in the preceding paragraph), which explicitly teaches using "2-way or 4-way stretch" elastic elements for "stretchable portion[s] of [a] shoe upper." EX1007, 7:46-51; EX1026, p.14. A POSITA would have found it obvious to make the shoes described in Kim, while simply selecting materials for the elastic elements that include "2-way stretch" (claim 8) or "4-way stretch" (claim 9) capability as expressly taught by Hoying. Similarly, any of the other example references discussed above—Lyden (EX1018), Toronjo (EX1019), Marvin (EX1020), or Smith (EX1022)—could be substituted for Hoying in this obviousness combination, as all expressly teach that 2-way and 4-way stretch elastic elements are suitable for use in shoe uppers. A POSITA would have found it obvious to apply this well-known knowledge regarding elastic elements when making the shoes disclosed in Kim, with a reasonable expectation of success, particularly given that doing so requires no modification of Kim's shoe designs. Indeed, as discussed for Ground 1, Petitioner believes Kim already discloses 2-way stretch (Figure 7) and 4-way stretch (Figures 1 and 3-6) elastic elements. *See* Parts VIII.A.vi-vii, *supra*.

i. Claim 8

- ***8. "The rapid-entry shoe of claim 1, wherein at least one of the plurality of elastic elements includes a 2-way stretch."***

As discussed, Petitioner believes that Kim's sixth example (Figure 7) anticipates dependent claim 8. For example, each "Stretchable portion 6A" elastic element "includes a 2-way stretch" as indicated in annotated Figure 7 below:

[FIG. 7]



Kim, Fig. 7 (annotated with color and yellow arrows). A POSITA would have understood that the "gathered rubber 22 provided at the upper end thereof" provides the "Stretchable portion 6A" elastic elements with 2-way stretch capability because the "gathered rubber 22" portions can expand in their lengthwise directions toward the heel and toe, perpendicular to the accordion fold lines, so that "shoe opening 12 expands when the shoe 1E is put on or taken off." *Id.*, ¶37; *see* Part VIII.A.vi, *supra*.

Nevertheless, if the Board disagrees that Kim's Figure 7 embodiment discloses elastic elements that "include[] a 2-way stretch" as recited in claim 8, Petitioner submits that a POSITA also would have found it obvious to make Kim's Figure 7 embodiment—as described in Kim, with no design modifications—while simply selecting materials for the "Stretchable portion[s] 6A" (Kim, Fig. 7 & ¶37) that have 2-way stretch capability, as expressly taught by Hoying.

Hoying is directed to "a method for manufacturing a shoe upper" that includes "providing at least one stretchable portion on the shoe upper." EX1007, Abstract; EX1026, pp.2-3. For example, Figure 10A shows "an embodiment of a shoe upper" in which "Zone 93" is a "stretchable portion of the shoe upper":

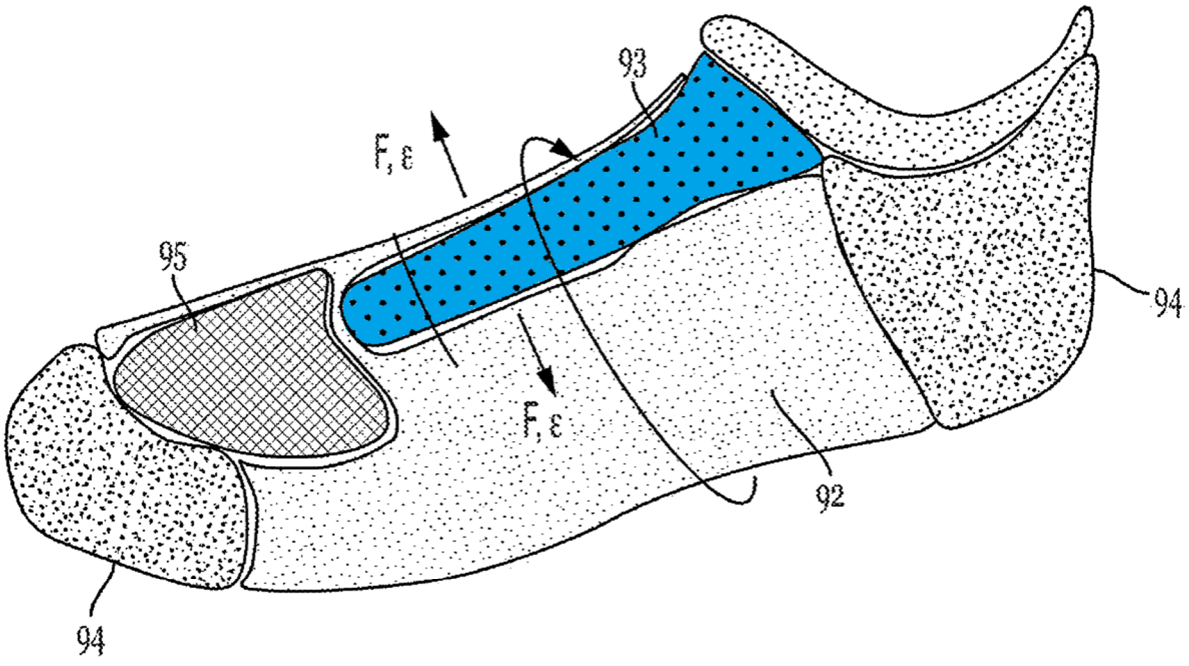


Fig. 10A

EX1007, Fig. 10A (annotated with color); *see* EX1026, p.123 (Fig. 10A). As Hoying explains: "Zone 93 may need to be ***elastic*** to ensure ***ease of step in***." EX1007, 38:18-20; EX1026, p.61; *see* EX1007, 41:52-54 & EX1026, p.66 ("Zone 93 of the illustrative example shown in Fig. 10A provides an ***elastic zone***. This zone may allow for ***easy access of the foot*** to the shoe.") (emphases added).

Similarly, Figure 10C of Hoying depicts another "embodiment of a shoe upper" in which Zone 75B is a stretchable portion:

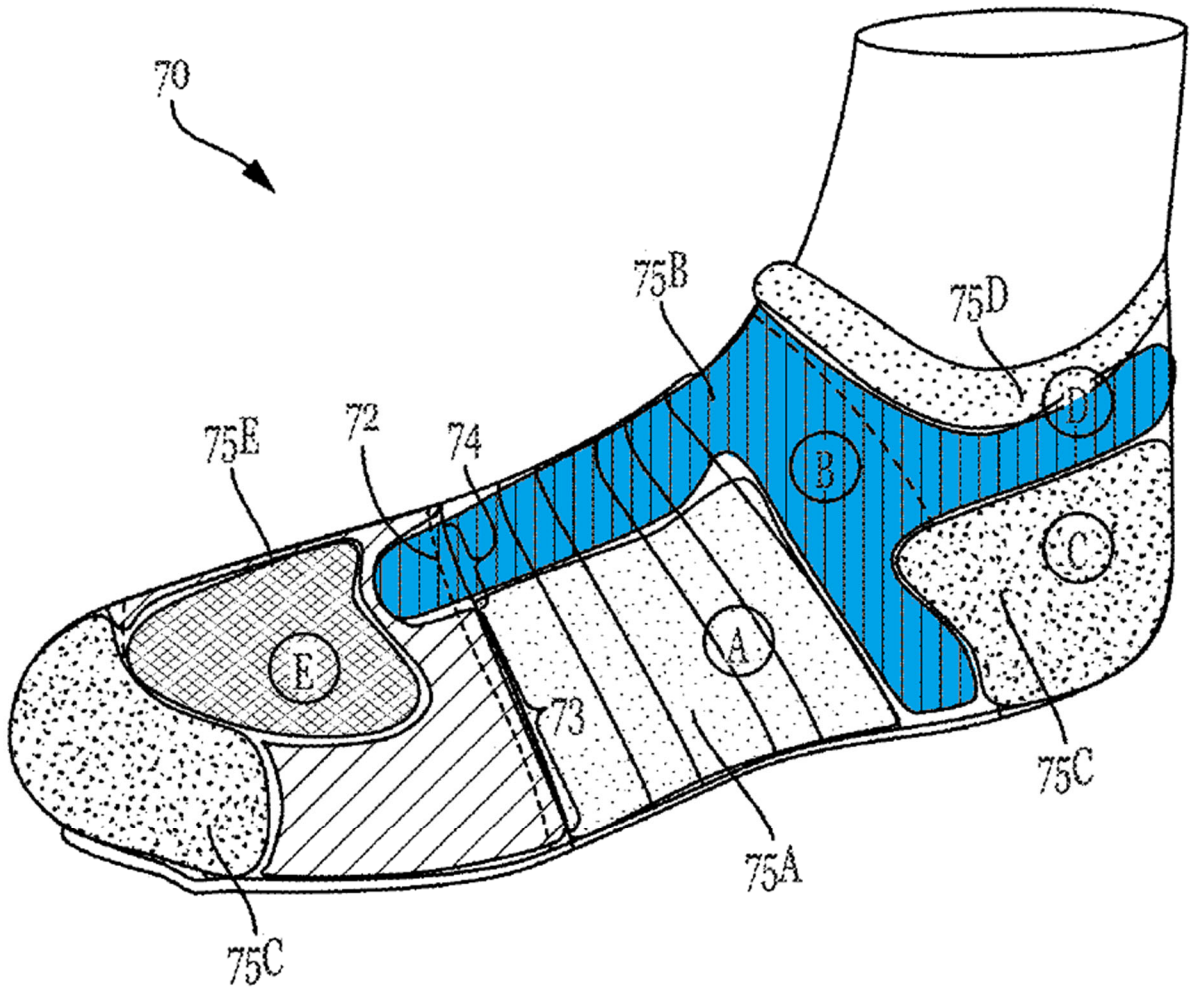


Fig. 10C

EX1007, Fig. 10C (annotated with color); *see* EX1026, p.124 (Fig. 10C). As Hoying explains: "The second zone 75B is mainly located on the instep portion, but also extends partly above and over the ancle. It comprises the second section 74 of the row 72 as described above. This zone needs some ***stretch*** in order to ***allow the step in and out of the foot***, in particular as regards the collar and instep areas." EX1007, 44:39-44; EX1026, p.70 (emphasis added).

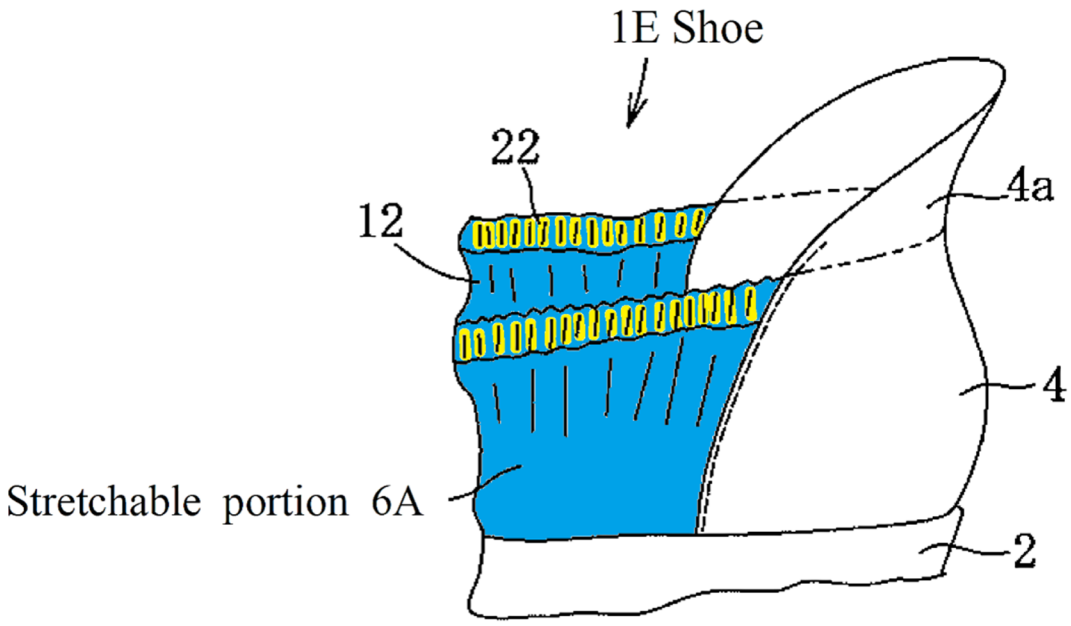
Regarding the "at least one stretchable portion of the shoe upper," Hoying teaches that "the stretchable portion may be provided by using a stretch fabric, e.g., ***2-way*** or 4-way stretch, of a stretchable material such as elastane, e.g. LYCRA®, neoprene or the like." EX1007, 7:46-51; EX1026, p.14 (emphasis added).

Claim 8 recites "[t]he rapid-entry shoe of claim 1, wherein at least one of the plurality of elastic elements includes a ***2-way*** stretch." EX1001, Cl. 8 (emphasis added). A POSITA would have found it obvious to make Kim's Figure 7 example, just as described in Kim, while selecting materials for Kim's "Stretchable portion[s] 6A" (Kim, Fig. 7 & ¶37) that have "2-way … stretch" capability as taught by Hoying (EX1007, 7:46-51; EX1026, p.14). A POSITA would have been motivated to do so, with a reasonable expectation of success.

For example, "a suggestion or motivation" to use 2-way stretch elastic elements to make Kim's Figure 7 example is "derived from the [Kim] prior art reference itself." *SIBIA Neurosci., Inc. v. Cadus Pharm. Corp.*, 225 F.3d 1349, 1356

(Fed. Cir. 2000). Figure 7 suggests use of 2-way stretch elastic by providing vertical ***accordion fold lines*** on the "Stretchable portion 6A" elastic elements, indicating that the material can stretch in the lengthwise directions toward the heel and toe:

[FIG. 7]



Kim, Fig. 7 (annotated with color). Kim's description of Figure 7 reinforces this, explaining that "the ***stretchable portions 6A*** are composed of a highly-flexible leather or synthetic leather and a ***stretchable gathered rubber 22 provided at the upper end thereof***." *Id.* ¶37 (emphasis added). At minimum, a POSITA would have understood this to suggest that the "stretchable gathered rubber 22" can provide the "Stretchable portion 6A" elastic elements 2-way stretch capability in their lengthwise directions, perpendicular to the accordion fold lines. EX1003, ¶¶26-27.

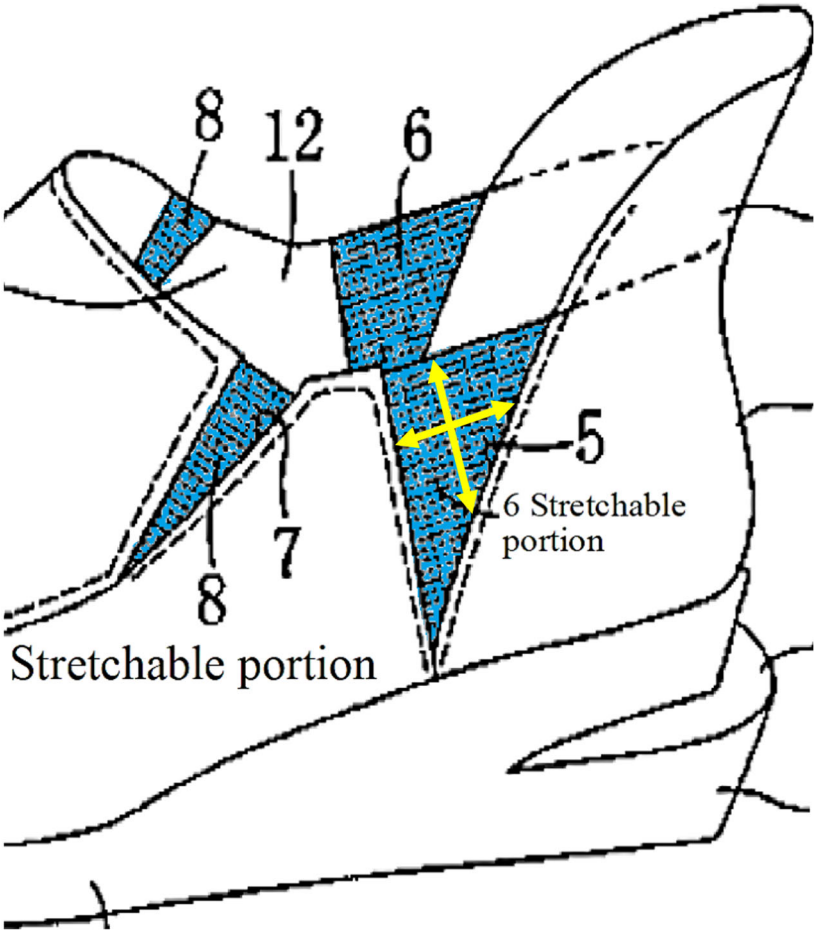
Moreover, a "suggestion or motivation" to use 2-way stretch material for the elastic elements in Kim's Figure 7 example is further derived "from the nature of the problem to be solved." *SIBIA*, 225 F.3d at 1356; *see also KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007) ("When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp."). As Kim explains, Figure 7's "stretchable portions 6A" and "gathered rubber 22 provided at the upper end thereof" are provided so that the "***shoe opening 12 expands*** when the shoe 1E is put on or taken off." Kim, ¶37 (emphasis added). A POSITA would have understood that the "shoe opening 12 expands" when the elastic elements stretch in their lengthwise directions toward the heel and toe—*i.e.*, in two primary directions—thus making 2-way stretch material a logical choice for implementing Kim's "stretchable portions 6A." EX1003, ¶28.

Additionally, the interrelated teachings of Kim and Hoying would have motivated a POSITA to apply the well-known teachings of Hoying regarding elastic elements when making the shoes disclosed in Kim. As this concerns both claims 8 and 9, this topic is discussed in Part VIII.B.iii below.

ii. Claim 9

- ***9. "The rapid-entry shoe of claim 1, wherein at least one of the plurality of elastic elements includes a 4-way stretch."***

As discussed, Petitioner believes that Kim's first five examples (Figures 1 and 3-6) each anticipate claim 9. For example, each elastic element in these embodiments "includes a 4-way stretch," as indicated in annotated Figure 1 below:



Kim, Fig. 1 (annotated with color and arrows); *see* Part VIII.A.vii, *supra*.

Nevertheless, if the Board disagrees that Kim anticipates claim 9, Petitioner submits that a POSITA also would have found it obvious to make any of Kim's first five examples (Figures 1 & 3-6)—exactly as described in Kim, with no design

modifications—while selecting materials for the "6 Stretchable portion[s]" and/or "8 Stretchable portion[s]" (Kim, Figs. 1 & 3-6; ¶37) that have 4-way stretch capability, as expressly taught by Hoying.

The disclosures of Hoying discussed for claim 8 above are equally relevant here and are hereby incorporated by reference. *See* Part VIII.B.i, *supra*. Among other things, regarding the "at least one stretchable portion of the shoe upper," Hoying expressly teaches that "the stretchable portion may be provided by using a stretch fabric, e.g., 2-way or ***4-way*** stretch." EX1007, 7:46-51; EX1026, p.14 (emphasis added).

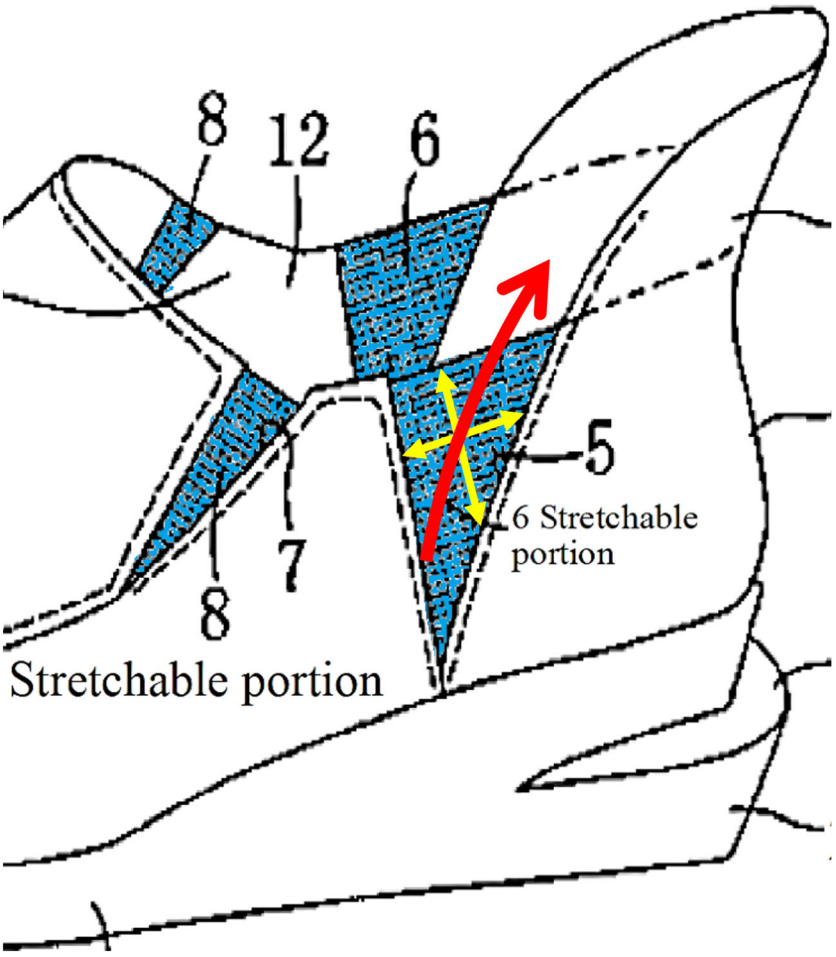
Claim 9 recites "[t]he rapid-entry shoe of claim 1, wherein at least one of the plurality of elastic elements includes a ***4-way*** stretch." EX1001, Cl. 9 (emphasis added). A POSITA would have found it obvious to make Kim's Figure 1 or 3-6 examples, while selecting materials for Kim's "6 Stretchable portion[s]" and/or "8 Stretchable portion[s]" (Kim, Figs. 1 & 3-6) that have "4-way stretch" capability as taught by Hoying (EX1007, 7:46-51; EX1026, p.14). A POSITA would have been motivated to do so, with a reasonable expectation of success.

For example, "a suggestion or motivation" to use 4-way stretch material for the elastic elements in Kim's Figure 1 and 3-6 examples is "derived from the [Kim] prior art reference itself." *SIBIA*, 225 F.3d at 1356. For example, the elastic elements in these Figures include ***vertical and horizontal crosshatched lines***,

suggesting their ability to stretch in both vertical and both horizontal directions—*i.e.,* a 4-way stretch. This is also enforced by the ***crosshatched lines*** (Figures 1 and 3-6) differing from the ***accordion fold lines*** in Kim's Figure 7 example, suggesting 4-way stretch for the former and 2-way stretch for the latter. EX1003, ¶29. Further, Kim discloses another variant of its Figure 1 and 3-6 examples where "the stretchable portions 6, 8 may be composed of a ***rubber member***." Kim, ¶38 (emphasis added). This suggests 4-way stretch, as a flat sheet of rubber is generally stretchable in all directions in the plane defined by its surface. EX1003, ¶32.

Moreover, a "suggestion or motivation" to use 4-way stretch material for the elastic elements in Kim's first five examples (Figures 1 and 3-6) is further derived "from the nature of the problem to be solved." *SIBIA*, 225 F.3d at 1356. As Kim explains, these examples include "a heel guide portion … ***curving in a slope to go backward as it goes upward***." Kim, ¶7 (emphasis added). As a result, stepping into the shoe "***pushes the heel of the foot into the inside of the heel portion while sliding it along the heel guide portion***," such that, "***since the one pair of stretchable portions stretches, the opening of the shoe expands***, and the heel can be easily placed at the inside of the heel portion." *Id.* ¶8 (emphasis added). A POSITA would have thus understood that stepping into the shoe causes the "heel guide portion" to stretch the "6 Stretchable portion[s]" in a direction ***diagonal to*** the crosshatching (*i.e.*, in the direction indicated by the red arrow in annotated Figure 1 below), which

would suitably use an elastic material's 4-way stretch capability by expanding the material in both its horizontal and vertical directions relative to the crosshatching:



Kim, Fig. 1 (annotated with color and arrows). The problem to be solved by Kim's first five examples (Figures 1 and 3-6) thus naturally suggests use of 4-way stretch material, allowing it to stretch both vertically and horizontally. EX1003, ¶¶30, 33.

Additionally, the interrelated teachings of Kim and Hoying would have motivated a POSITA to apply the well-known teachings of Hoying regarding elastic elements when making the shoes disclosed in Kim. This is discussed below.

iii. Combining Kim and Hoying

As discussed above for claim 8, a POSITA would have found it obvious to make Kim's Figure 7 example with materials for Kim's "Stretchable portion[s] 6A" (Kim, Fig. 7 & ¶37) that include "2-way … stretch" capability as taught by Hoying (EX1007, 7:46-51; EX1026, p.14). Likewise, for claim 9, a POSITA would have found it obvious to make Kim's Figure 1 or 3-6 examples with materials for Kim's "6 Stretchable portion[s]" and/or "8 Stretchable portion[s]" (Kim, Figs. 1 & 3-6) that include "4-way stretch" capability as taught by Hoying (EX1007, 7:46-51; EX1026, p.14). As discussed, "a suggestion or motivation" to make these embodiments is "derived from the [Kim] prior art reference itself" and its description of "the nature of the problem to be solved." *SIBIA*, 225 F.3d at 1356. These arguments are incorporated here by reference. *See* Parts VIII.B.i-ii, *supra*.

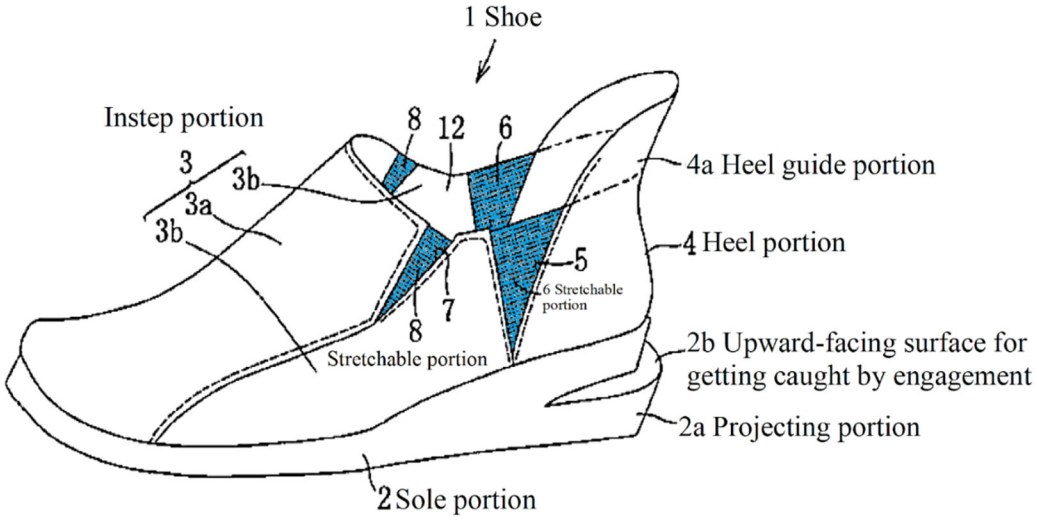
Additionally, a POSITA would have further been motivated to combine the teachings of Kim and Hoying, with a reasonable expectation of success, based on the interrelated teachings of these two references. *See ZUP, LLC v. Nash Mfg., Inc.*, 896 F.3d 1365, 1371 (Fed. Cir. 2018) ("A motivation to combine may be found explicitly or implicitly in … the interrelated teachings of multiple patents.").

For example, Kim and Hoying address similar technology and design goals—*e.g.*, shoes with elastic elements in their uppers, to facilitate ease of a foot stepping into the shoe. For example, Kim describes providing "stretchable portions" so that

"the shoe opening 12 expands when the shoe 1E is put on or taken off, and the shoe 1E can be easily put on or taken off." Kim, ¶ 37; *see also id.*, ¶ 8 ("[S]ince the one pair of stretchable portions stretches, the opening of the shoe expands, and the heel can be easily placed at the inside of the heel portion."). Similarly, Hoying describes "providing at least one stretchable portion on the shoe upper," which "may need to be elastic to ensure ease of step in." EX1007, 7:46-51, 38:18-20; EX1026, p.61; *see also* EX1007, 41:52-54 & EX1026, p.66 ("Zone 93 of the illustrative example shown in Fig. 10A provides an elastic zone. This zone may allow for easy access of the foot to the shoe."); EX1007, 44:39-44 & EX1026, p.70 ("This zone needs some stretch in order to allow the step in and out of the foot, in particular as regards the collar and instep areas.").

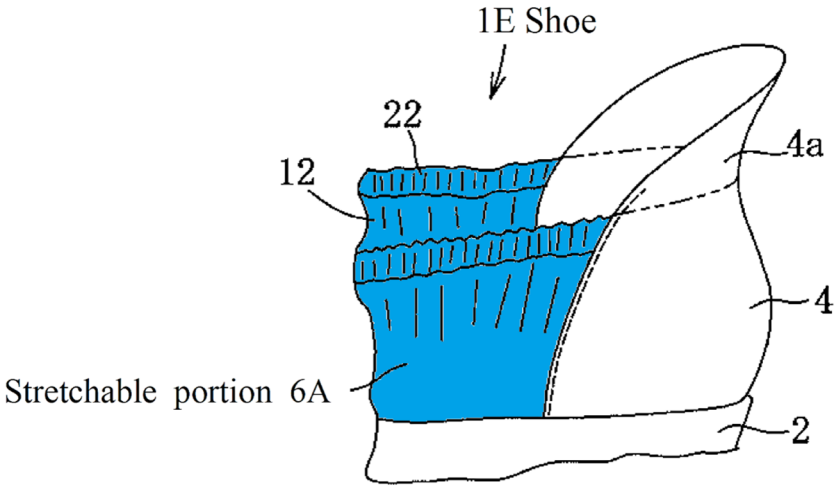
Relatedly, Kim and Hoying both disclose elastic elements in overlapping general areas, including on the sides of the upper, to facilitate entry of the foot:

[FIG. 1]



Kim, Fig. 1 (annotated with color);

[FIG. 7]



Kim, Fig. 7 (annotated with color);

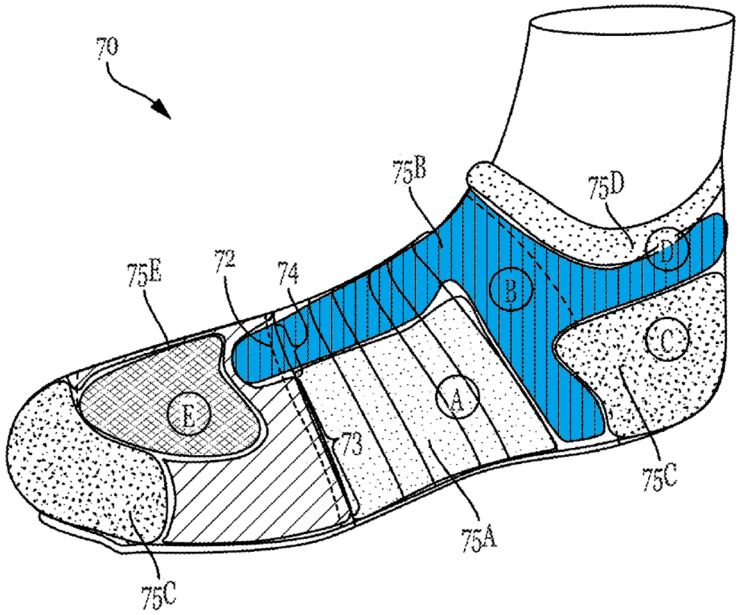


Fig. 10C

Hoying, EX1007, Fig. 10C (annotated with color); *see* EX1026, p.124 (Fig. 10C); EX1007, 44:39-44 & EX1026, p.70 ("zone 75B … needs some stretch in order to allow the step in and out of the foot").

Likewise, Kim and Hoying are both addressed to shoes with heel stabilizers. For example, Kim describes a "4 Heel portion" (including "4a Heel guide portion") comprising a "hard core material" so that "a sufficient strength can be ensured in the heel portion and the heel guide portion, and the heel portion and the heel guide portion can be prevented from losing their shape." Kim, ¶ 17. Hoying likewise discloses shoes with stabilizers, including in the heel portion. *See* EX1007, 20:15-18 & EX1026, p.33 ("[I]t is possible, for example, to apply a plastic heel or toe cap as reinforcement …."); EX1007, 26:1-11 & EX1026, p.42 (describing use of "a polymer layer" in order "to achieve sufficient stability"); EX1007, 62:28-30 & EX1026, p.97 (describing "stability elements, such as heel counters").

Moreover, Hoying provides an express "teaching, suggestion, or motivation" to use 2-way and 4-way stretch materials for elastic elements in shoe uppers. *KSR*, 550 U.S. at 418. For example, as Hoying states, "the stretchable portion may be provided by using a stretch fabric, e.g., ***2-way*** or ***4-way stretch***, of a stretchable material such as elastane, e.g. LYCRA®, neoprene or the like." EX1007, 7:46-51; EX1026, p.14 (emphasis added). At minimum, the 2-way and 4-way stretch options of Hoying would have both been "obvious to try" when implementing the elastic elements of Kim's designs, as "there are a finite number of identified, predictable solutions" (just 2-way and 4-way stretch), and a POSITA "has good reason to pursue the known options within his or her technical grasp." *KSR*, 550 U.S. at 402.

Additionally, a POSITA would have a reasonable expectation of success in taking Hoying's teaching that "2-way or 4-way stretch" materials are both suitable for "stretchable portion[s] of [a] shoe upper" (EX1007, 7:46-51; EX1026, p.14) and applying that knowledge when selecting materials to implement elastic elements in Kim's designs. Kim, Figs. 1 & 3-7. This straightforward application of knowledge constitutes mere "combination of familiar elements according to known methods," *KSR*, 550 U.S. at 416, "substitution of one known element for another," *Knowles Elecs. LLC v. Iancu*, 886 F.3d 1369, 1378 (Fed. Cir. 2018), and/or use of "a known technique to address a known problem using prior art elements according to their established functions," *Intel Corp. v. PACT XPP Schweiz AG*, 61 F.4th 1373, 1380 (Fed. Cir. 2023) (citation omitted), all to yield predictable results. Indeed, Hoying is titled "Method For Manufacturing A Shoe Upper" and states that its teachings are "not limited to these embodiments" and "may be used for the manufacture of shoe uppers in general," EX1007, 7:23-29; EX1026, p.13, which includes Kim's designs.

Accordingly, claims 8 and 9 are obvious over Kim in view of Hoying.

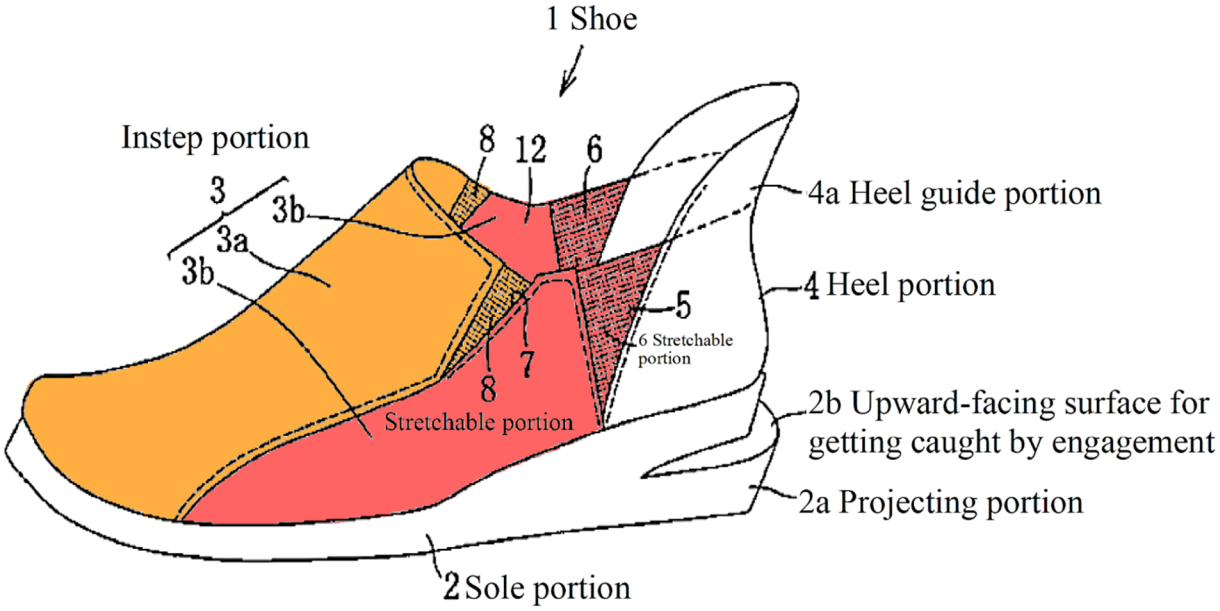
C. GROUND 3: Claims 2, 5, 6 and 11 Are Obvious Over Kim In View Of Koo

i. Claim 2

- ***2. "The rapid-entry shoe of claim 1, wherein the first elastic element is positioned at the side portion of the upper and the second elastic element is positioned at a forward portion of the upper."***

As detailed in Ground 1, Petitioner believes that Kim's first two examples (Figures 1 and 3) each anticipate dependent claim 2. *See* Part VIII.A.ii, *supra*.

[FIG. 1]



Kim, Fig. 1 (annotated with color); *see also id.*, Fig. 3. First, either of Kim's "6 Stretchable portion[s]" meets the claim 2 limitation "wherein the first elastic element is positioned at the side portion of the upper," the side portions shown above annotated in red. *Id.* Second, either of Kim's "8 Stretchable portion[s]" meets the

claim 2 limitation wherein "the second elastic element is positioned at a forward portion of the upper," the forward portion shown above annotated in orange. *Id.*

Nevertheless, if the Board disagrees that Kim's "8 Stretchable portion[s]" are "positioned at a forward portion of the upper" as recited in claim 2, Petitioner alternatively submits that a POSITA would have found it obvious to combine any of Kim's six examples (Figures 1 and 3-7) with any of Koo's elastic web, laces, or straps, all of which are indisputably "positioned at a forward portion of the upper." For example, Figures 19 and 22 of Koo are shown below annotated by Petitioner:

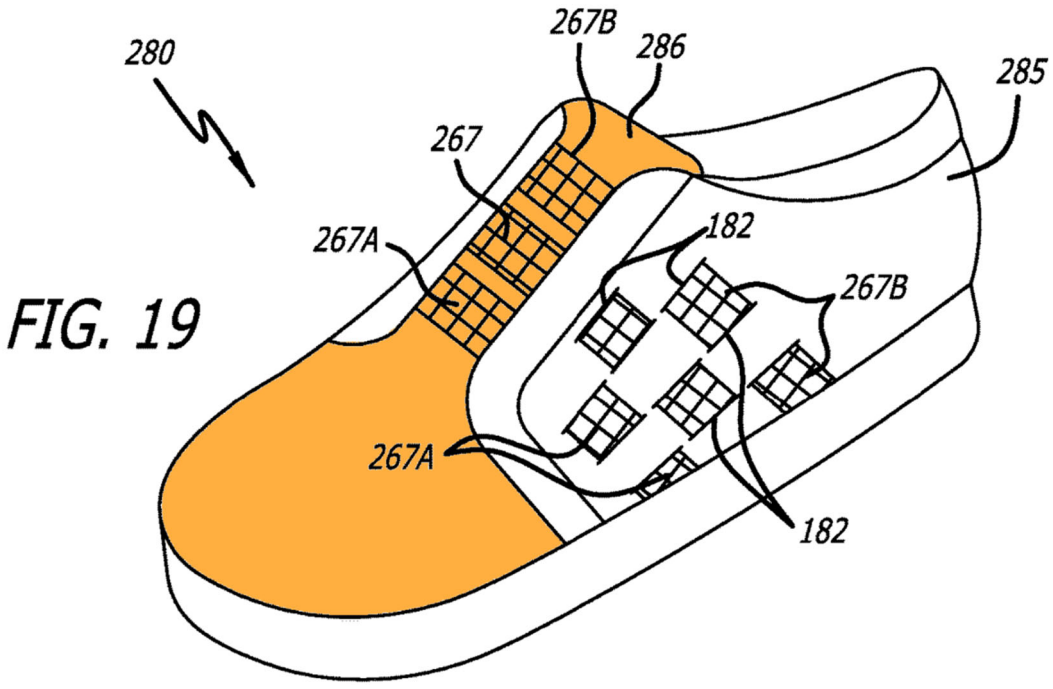
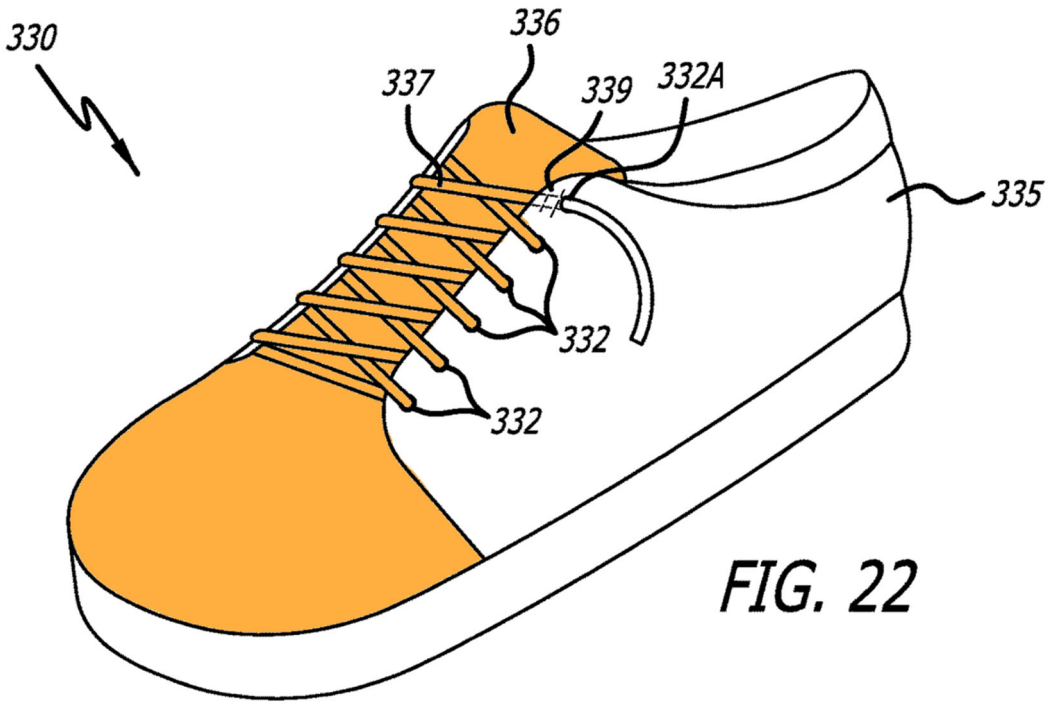


FIG. 19

Koo, Fig. 19 (annotated with color) (showing "elastic web 267").



Id., Fig. 22 (annotated with color) (showing "elastic laces 337").

For example, Koo's "elastic web 267" (Figure 19) and "elastic laces 337" (Figure 22) are each "positioned at a forward portion of the upper" (shown in orange) as recited in claim 2. Regarding Figure 19, Koo explains that "the strips of elastic web 267 run across the top surface of the tongue 286" and pass "across the forefoot opening." *Id.*, 10:6-12. Similarly, describing Figure 22, Koo notes that the "elastic laces 267" span across "a row of eyelets 332 on each side of the forefoot opening under which the tongue 336 extends, and with a lace 337 (e.g., having a circular cross-section) woven back and forth between such eyelets 332." *Id.*, 10:46-53, 11:33. As Koo further explains, "because lace 337 is elastic it can still secure the shoe 332 the wearer's foot and a [sic] still open up to accommodate insertion and removal of the wearer's foot." *Id.*, 10:64-67.

A POSITA would have found it obvious to combine any of Kim's six examples with Koo's elastic web, laces, or straps. For example, a POSITA would have found it obvious to modify either of Kim's first two examples (Figures 1 or 3) by replacing or supplementing Kim's "8 Stretchable portion[s]" with Koo's "elastic web 267" or "elastic laces 337" shown above. Koo, Figs. 19 & 22. Similarly, a POSITA would have found it obvious to modify any of Kim's other examples (Figures 4-7), which do not have "8 Stretchable portion[s]," by adding Koo's elastic web, laces, or straps. In each combination, Koo's elastic web, laces, or straps meets dependent claim 2's limitation wherein "the second elastic element is positioned at a forward portion of the upper." EX1001, Cl. 2. Claim 2 is accordingly obvious over Kim in view of Koo.

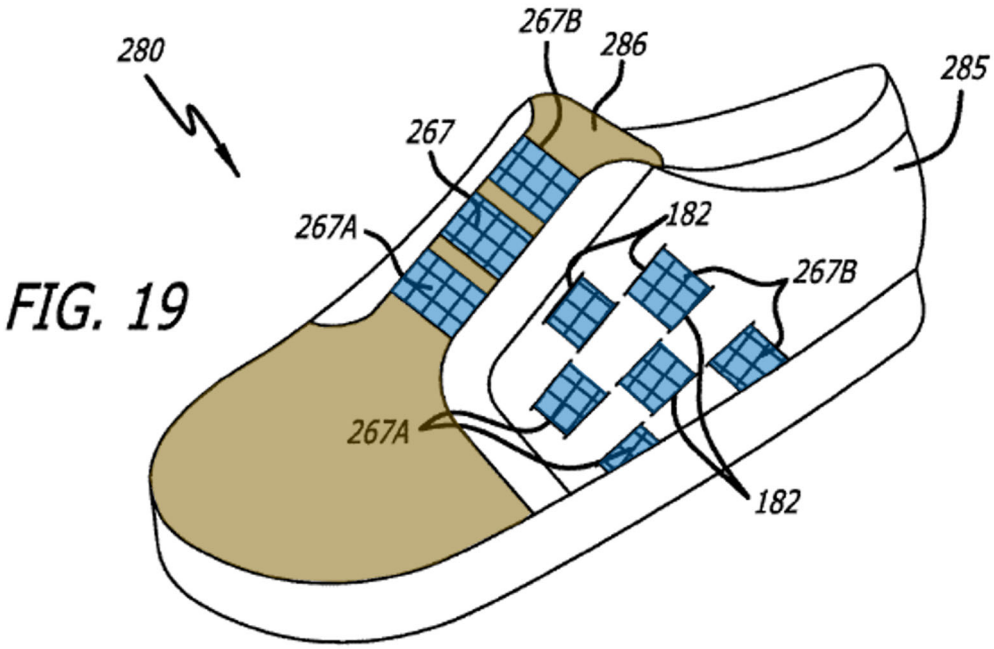
A POSITA's motivations to make the foregoing combinations, and reasonable expectation of success in doing so, are discussed in detail in Part VIII.C.v below.

ii. Claim 5

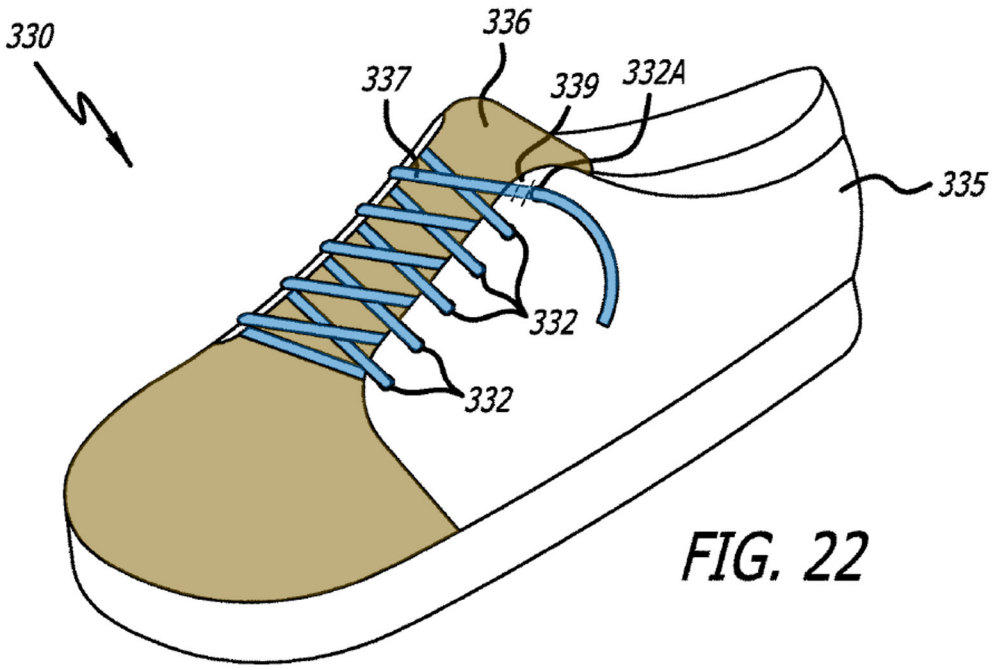
- ***5. "The rapid-entry shoe of claim 1, wherein the second elastic element extends across a vamp of the upper."***

Dependent claim 5 is rendered obvious by Kim in view of Koo. As detailed above, Kim anticipates claim 1, which discussion is incorporated here by reference. *See* Part VIII.A.i, *supra*. Furthermore, a POSITA would have found it obvious to combine any of Kim's six examples (Figures 1 and 3-7) with any of Koo's elastic web, laces, or straps, each of which meets claim 5's limitation "wherein the second

elastic element extends across a vamp of the upper." EX1001, Cl. 5. For example, Figures 19 and 22 of Koo are shown below annotated by Petitioner:



Koo, Fig. 19 (annotated with color) (showing "elastic web 267").



Id., Fig. 22 (annotated with color) (showing "elastic laces 337").

As shown above, each of Koo's "elastic web 267" and "elastic laces 337" (shown in blue) "extends across a vamp of the upper" (shown in brown),[8] as recited in dependent claim 5. *See also id.*, 10:6-12, 10:46-53, 10:46-67, 11:33.

A POSITA would have found it obvious to combine any of Kim's six examples with Koo's elastic web, laces, or straps. For example, a POSITA would have found it obvious to modify either of Kim's first two examples (Figures 1 or 3) by replacing or supplementing Kim's "8 Stretchable portion[s]" with either of Koo's "elastic web 267" or "elastic laces 337" shown in the figures above. Koo, Figs. 19 & 22. Similarly, a POSITA would have found it obvious to modify any of Kim's other examples (Figures 4-7), which do not have "8 Stretchable portion[s]," by adding Koo's elastic web, laces, or straps. In each combination, Koo's elastic web, laces, or straps meets claim 5's limitation "wherein the second elastic element extends across a vamp of the upper." EX1001, Cl. 5. Claim 5 is accordingly obvious over Kim in view of Koo.

A POSITA's motivations to make the foregoing combinations, and reasonable expectation of success in doing so, are discussed in detail in Part VIII.C.v below.

[8] *See, e.g.*, EX1012, 8 ("**vamp.** The lower forward part of the shoe's upper, covering the forepart of the foot. There are various types of vamps: ….").

iii. Claim 6

- ***6. "The rapid-entry shoe of claim 1, wherein the second elastic element is spaced from the foot opening."***

Dependent claim 6 is rendered obvious by Kim in view of Koo. As detailed above, Kim anticipates claim 1, which discussion is incorporated here by reference. *See* Part VIII.A.i, *supra*. Furthermore, a POSITA would have found it obvious to combine any of Kim's six examples (Figures 1 and 3-7) with any of Koo's elastic web, laces, or straps, each of which meets claim 6's limitation "wherein the second elastic element is spaced from the foot opening." EX1001, Cl. 6. For example, Figures 19 and 22 of Koo are shown below annotated by Petitioner:

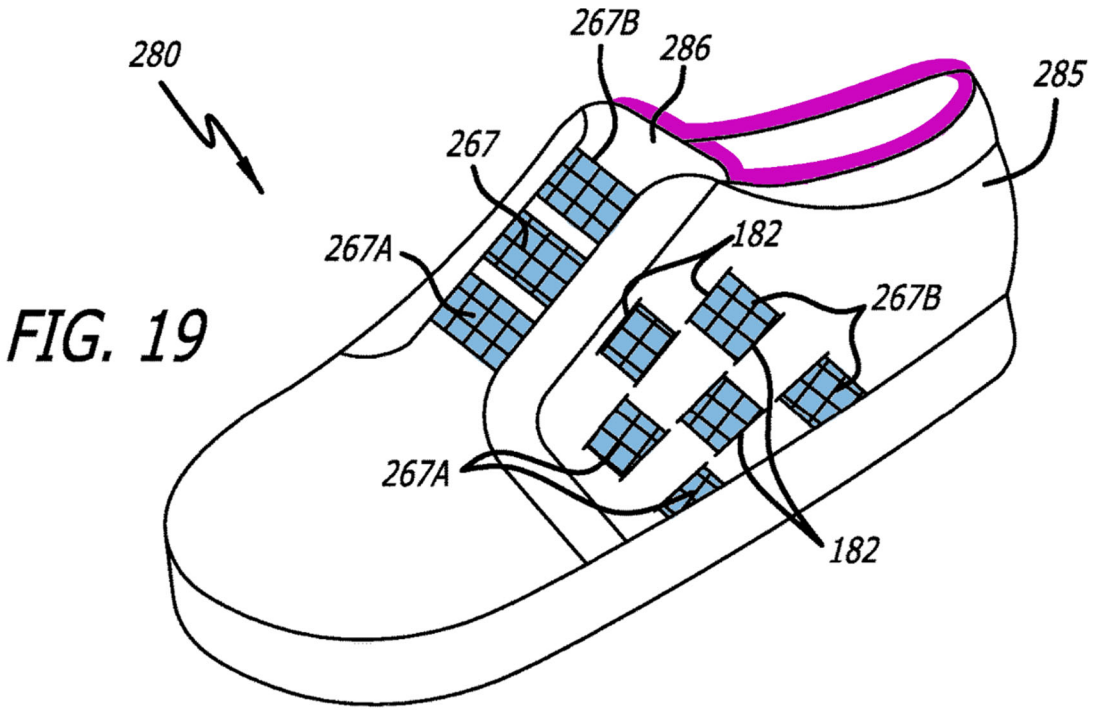
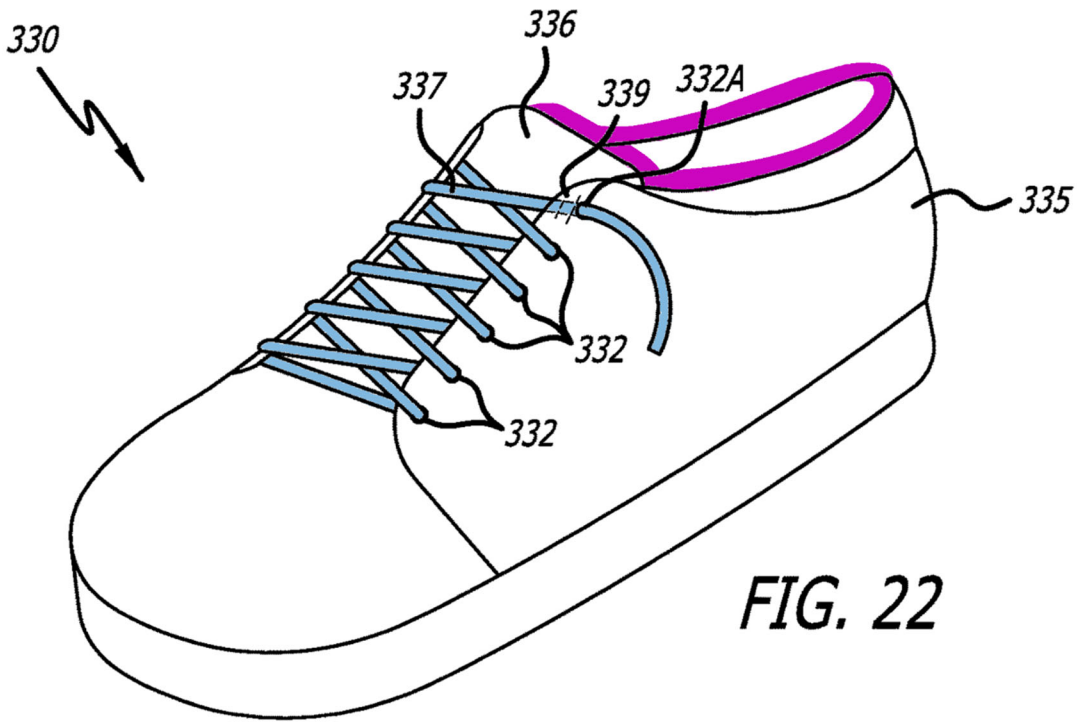


FIG. 19

Koo, Fig. 19 (annotated with color).



Id., Fig. 22 (annotated with color).

As shown above, each of Koo's "elastic web 267" and "elastic laces 337" (shown in blue) "is spaced from the foot opening" (shown in pink), as recited in dependent claim 6. *See also id.*, 9:64-10:9, 10:46-53, 10:46-67, 11:33.

A POSITA would have found it obvious to combine any of Kim's six examples with Koo's elastic web, laces, or straps. For example, a POSITA would have found it obvious to modify either of Kim's first two examples (Figures 1 or 3) by replacing or supplementing Kim's "8 Stretchable portion[s]" with either of Koo's "elastic web 267" or "elastic laces 337" shown in the figures above. Koo, Figs. 19 & 22. Similarly, a POSITA would have found it obvious to modify any of Kim's other examples (Figures 4-7), which do not have "8 Stretchable portion[s]," by

adding Koo's elastic web, laces, or straps. In each combination, Koo's elastic web, laces, or straps meets claim 6's limitation "wherein the second elastic element is spaced from the foot opening." EX1001, Cl. 6. Claim 6 is accordingly obvious over Kim in view of Koo.

A POSITA's motivations to make the foregoing combinations, and reasonable expectation of success in doing so, are discussed in detail in Part VIII.C.v below.

iv. Claim 11

- ***11. "The rapid-entry shoe of claim 10, wherein the plurality of elastic elements includes a longitudinal axis that conforms to a shape of a curvature of at least a portion of the upper."***

Dependent claim 11 is rendered obvious by Kim in view of Koo. As detailed in Ground 1, Kim's first two examples (Figures 1 and 3) each anticipate independent claim 10, which discussion is incorporated here by reference. *See* Part VIII.A.viii, *supra*. Furthermore, a POSITA would have found it obvious to combine either of Kim's first two examples (Figures 1 or 3) with Koo's elastic web, which meets claim 11's limitation "wherein the plurality of elastic elements includes a longitudinal axis that conforms to a shape of a curvature of at least a portion of the upper." EX1001, Cl. 11.[9]

For example, Figure 19 of Koo is shown below annotated by Petitioner:

[9] *See* Footnote 7, *supra* (citing EX1001, 5:66–6:12 (using "longitudinal axis" to describe a lengthwise axis)).

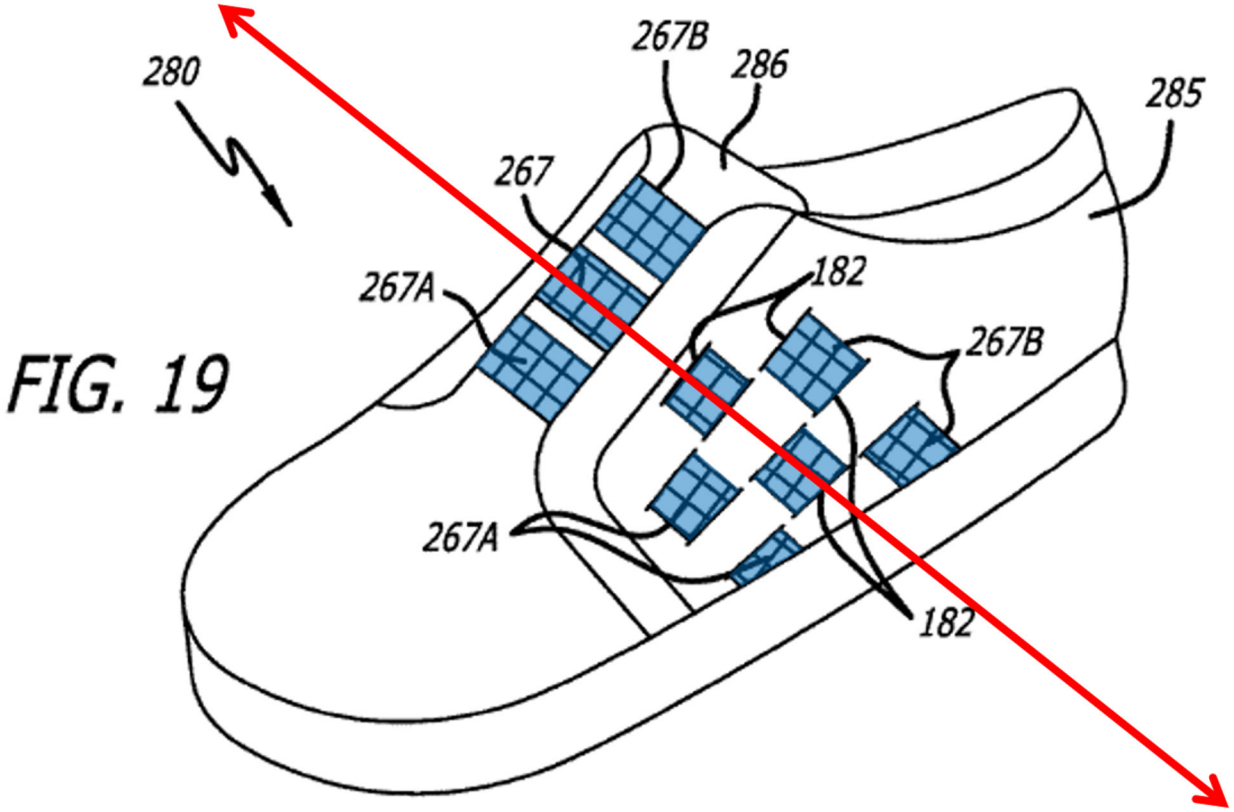


FIG. 19

Koo, Fig. 19 (annotated with color and arrow indicating a longitudinal axis). As Koo explains regarding Figure 19, the "strips of web 267 cross over the top of the tongue 286 (e.g., across the forefoot opening) and then are woven inside and outside of the sidewalls of upper 285 through slits or openings 182." *Id.*, 10:6-9.

Similarly, Figure 21 of Koo is shown below annotated by Petitioner:

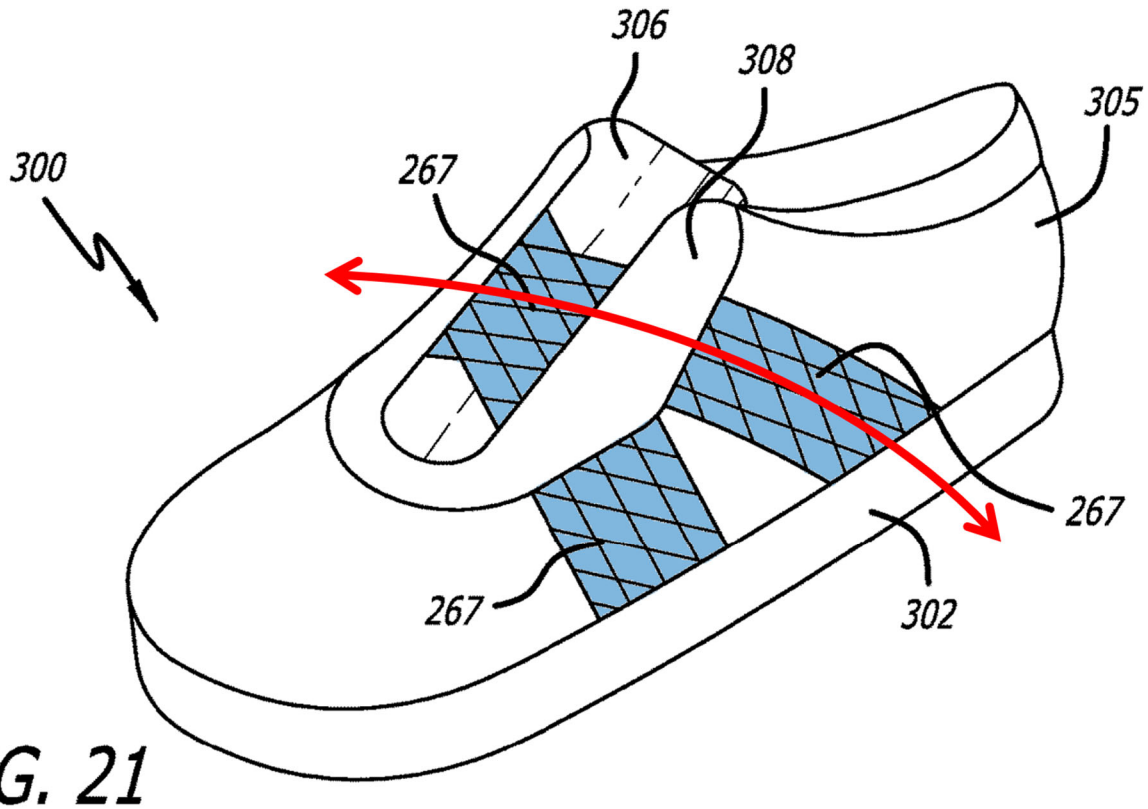


FIG. 21

Id., Fig. 21 (annotated with color and arrow indicating a longitudinal axis). As Koo explains for Figure 21, "the web 267 material is provided in the shape of an 'X', with its crossing portion disposed over the top of the tongue 306 (within the forefoot opening), and with its extending portions (two on each side) passing underneath a strip of material 308 that borders the forefoot opening … and then reemerging and running along the outside surface of the sidewall of upper 305, ultimately attaching to the bottom portion of the upper 305 or to the sole 302." *Id.*, 10:21-32.

As shown in the examples above, Koo's "elastic web 267" is an elastic element that "includes a longitudinal axis" (*e.g.*, noted with annotated red arrows) "that conforms to a shape of a curvature of at least a portion of the upper" (*e.g.*, the

longitudinal axis of "elastic web 267" conforms to the curvature of the upper as the elastic wraps from the shoe's side portion, up to and over the forward portion).

Koo also provides cross-section views showing elastic elements "conforming to a shape of a curvature of at least a portion of the upper." *See* Koo, Figs. 2, 4, 6, 9A, 9B, 11. For example, Figure 11 is shown below annotated by Petitioner:

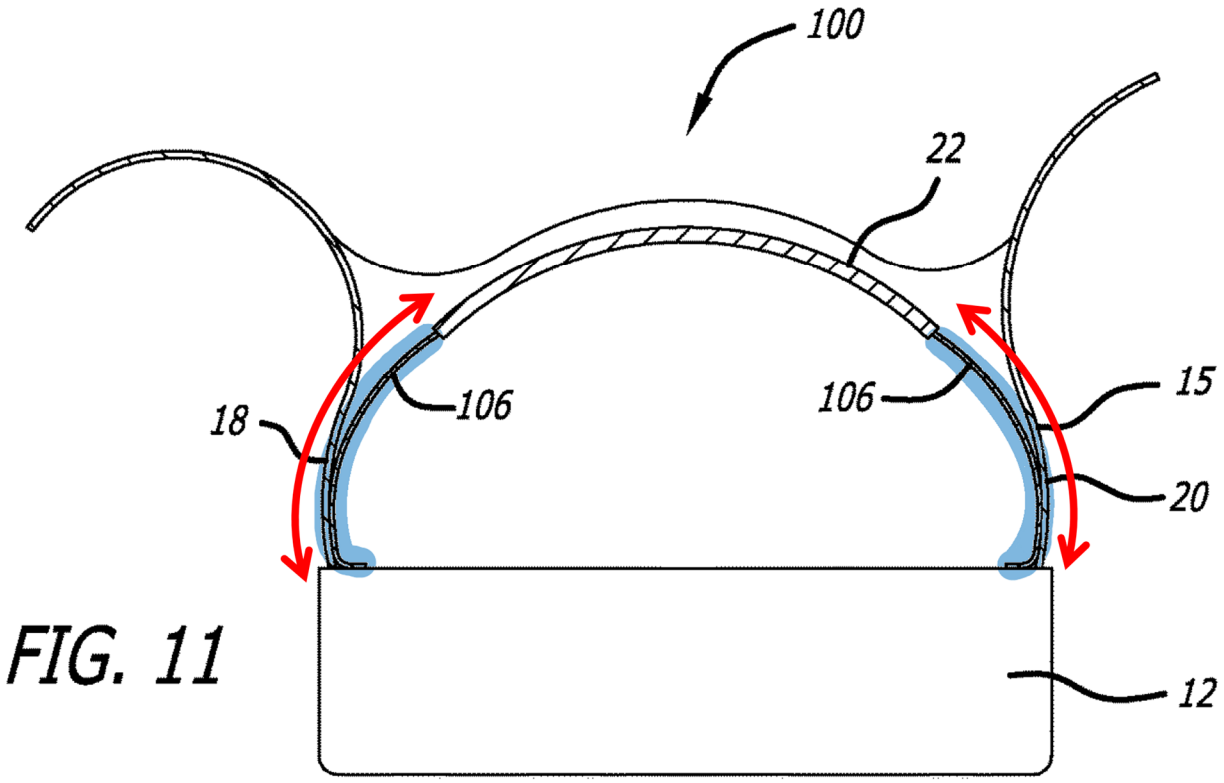


FIG. 11

Id., Fig. 11 (annotated with color and arrows noting longitudinal axes); *see also id.*, 2:34-36 ("FIG. 11 is a sectional view of a shoe according to a fifth representative embodiment …"); *id.*, 5:52-56 ("In this embodiment, on each side of the tongue 22 an elastic strap 106 preferably is fixedly attached to the tongue 22 at its proximal and preferably is securely attached to the shoe's sole 12 at its distal end.").

A POSITA would have found it obvious to combine either of Kim's first two examples (Figures 1 or 3) with Koo's elastic web, for example, by replacing or supplementing Kim's "8 Stretchable portion[s]" with Koo's "elastic web 267" shown above. Koo, Fig. 21. In each combination, Koo's elastic web meets claim 11's limitation "wherein the plurality of elastic elements includes a longitudinal axis that conforms to a shape of a curvature of at least a portion of the upper." EX1001, Cl. 10. Claim 11 is accordingly obvious over Kim in view of Koo.

A POSITA's motivations to make the foregoing combinations, and reasonable expectation of success in doing so, are discussed in detail in the next section.

v. Combining Kim and Koo

A POSITA would have found it obvious to combine any of Kim's six examples with Koo's elastic web, laces, or straps. For example, a POSITA would have found it obvious to: (a) modify either of Kim's first two examples (Figures 1 or 3) by replacing or supplementing Kim's "8 Stretchable portion[s]" with Koo's elastic web, laces, or straps; and/or (b) modify any of Kim's other examples (Figures 4-7), which do not have "8 Stretchable portion[s]," by simply adding Koo's elastic web, laces, or straps. As discussed above, these combinations render claims 2, 5, 6 and 11 obvious. A POSITA would have been motivated to combine Kim and Koo in these manners, with a reasonable expectation of success, based on the interrelated teachings of these references.

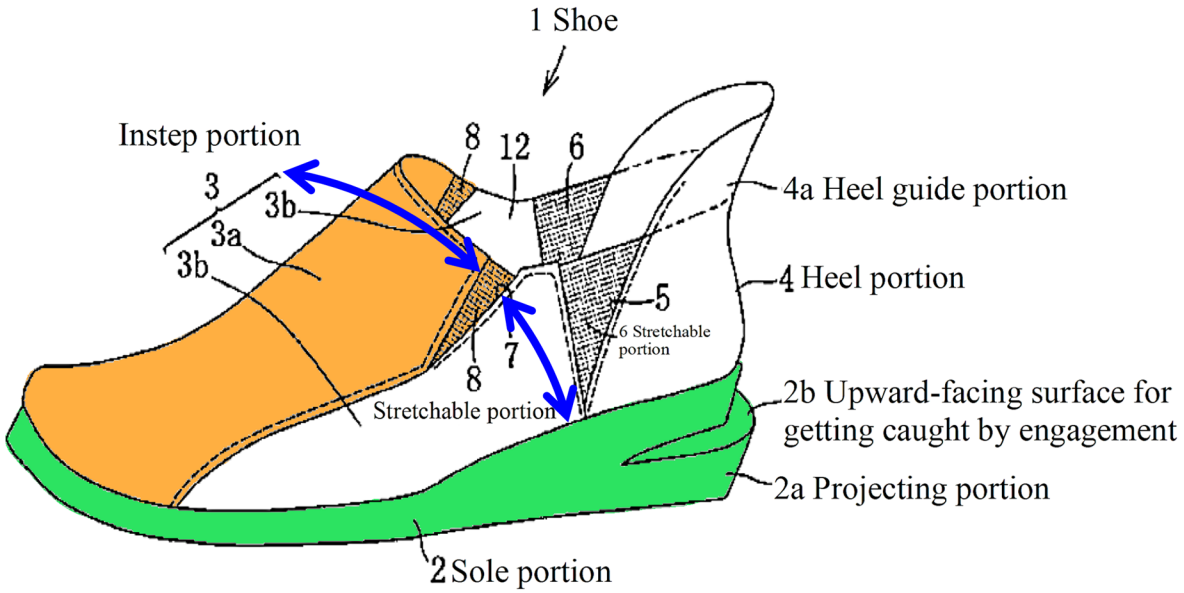
For example, Koo provides an express teaching, suggestion, and motivation to incorporate its elastic web, laces, or straps into various different shoe designs, as Koo states that its teachings are designed to be implemented in ***any*** kind of footwear. *See* Koo, 1:14-15 ("The present invention pertains to shoes, such as casual shoes and ***other types of footwear***."); *id.*, 3:18-22 ("These embodiments generally pertain to a casual shoe, such as a low-top canvas sneaker. However, the structures of the present invention can be used in conjunction with ***any other kind of shoe or other item of footwear*** (collectively referred to as 'shoes' herein)."); *id.*, 9:1-5 ("In the preceding embodiments …, each subject shoe is illustrated as being a kind of sneaker or athletic shoe. However, such depictions should not be understood as limiting. Similar kinds of strap configurations can be applied to ***any other type of shoe***.") (emphases added). A POSITA thus would have understood that Koo's elastic web, laces, and straps can be incorporated into a broad array of shoes, including those disclosed in Kim.

Further, Kim and Koo address similar technology and are directed to the same problem to be solved—*i.e.*, shoe designs with elastic elements that allow the foot opening to expand, thereby facilitating ease of entry into and exit from the shoe. *See, e.g.*, *Ruiz v. A.B. Chance Co*., 357 F.3d 1270, 1276 (Fed. Cir. 2004) (fact finder "may find a motivation to combine … in the nature of the problem to be solved."). For example, Kim describes providing "stretchable portions" so that "the shoe opening 12 expands when the shoe 1E is put on or taken off, and the shoe 1E can be easily

put on or taken off." Kim, ¶ 37; *see also id.*, ¶8 ("[S]ince the one pair of stretchable portions stretches, the opening of the shoe expands, and the heel can be easily placed at the inside of the heel portion."). Kim's shoes thus "can be easily put on and taken off by people who cannot bend down." *Id.*, Abstract. Similarly, Koo explains that its elastic web, laces, and straps enable "the wearer to slide his or her foot into the shoe without tying the shoelaces, or even to wear the shoe without shoelaces at all," allowing "for greater convenience." Koo, 6:8-11. Thus, a POSITA seeking to make a shoe easy to don and doff would have had reason to look to both Kim and Koo.

Moreover, a POSITA would have further understood that, among other things, Kim's "8 Stretchable portion[s]" (Kim, Figs. 1 & 3) serve the same function as Koo's elastic web, laces, and straps. For example, Figure 1 of Kim is annotated below:

[FIG. 1]



Kim, Fig. 1 (annotated with color and arrows); *see also* Part VIII.A.viii, *supra* (discussing claim element 10[d]). As shown, Kim's "8 Stretchable portion[s]" sit between "Instep portion 3a" (shown in orange) and "2 Sole portion" (shown in green). Kim, ¶ 25. Kim's "8 Stretchable portion[s]" thus facilitate flexion and/or pivoting of the forward portion of the upper relative to the sole portion—in the manner indicated above with annotated blue arrows—such that "shoe opening 12 expands when the two pairs of stretchable portions 6, 8 stretches." *Id.*

Similarly, example Figure 19 of Koo is annotated below:

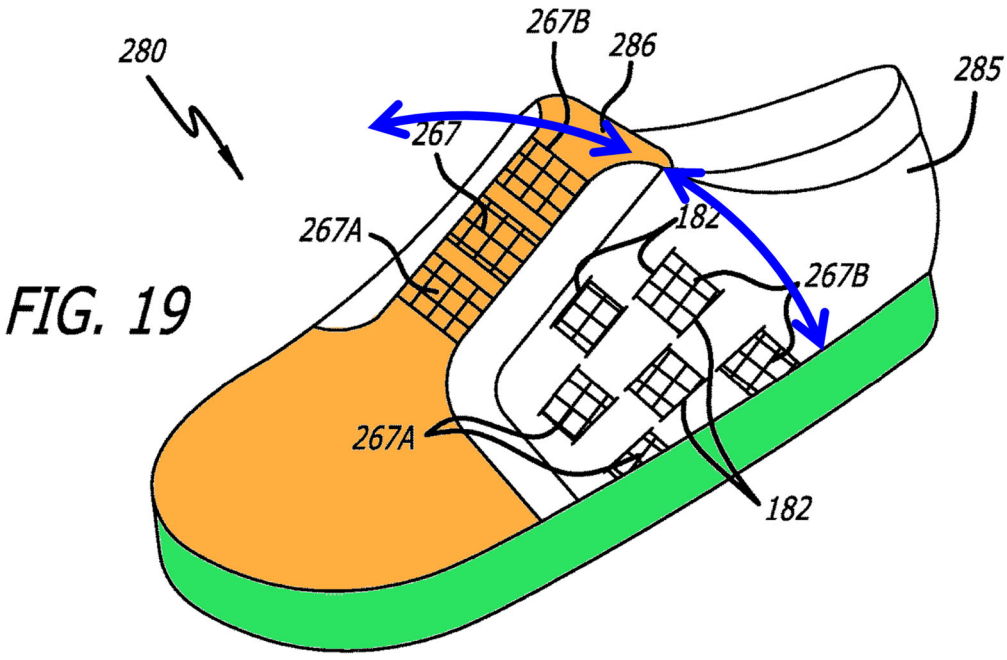


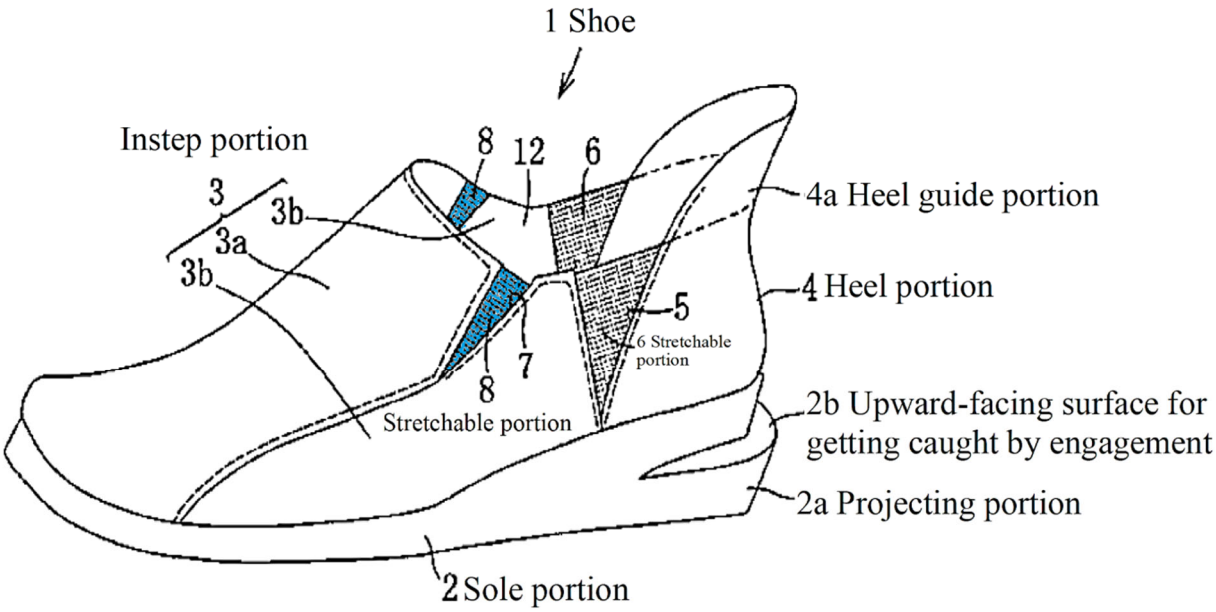
FIG. 19

Koo, Fig. 19 (annotated with color and arrows). As shown, the "elastic web 267" elements in Koo's Figure 19 likewise facilitate flexion and/or pivoting of the forward portion of the upper (shown in orange) relative to the sole portion (shown in green),

in the same manner indicated above with annotated blue arrows. *See* Koo, 10:10-11 ("the strips of elastic web 267 run across the top surface of the tongue 286"); *id.*, 6:1-15 ("elastic straps are used to pull or hold a shoe's tongue in a down (or at least lower) position" and enable "the wearer to slide his or her foot into the shoe without tying the shoelaces"). As these features in Kim and Koo serve the same function, a POSITA would have understood that replacing Kim's "8 Stretchable portion[s]" with Koo's elastic web, laces, or straps would include mere "substitution of one known element for another [and] would have yielded predictable results." *Knowles Elecs.*, 886 F.3d at 1378. Indeed, such stretchable portions have been well-known shoe features for nearly to 200 years. For example, elastic elements are discussed in J. Sparkes Hall's "Book of the Feet: A History of Boots and Shoes," published in 1847. EX1009, 126 ("India-rubber web so elastic that the boot would go on and off, and yet not so soft and unyielding as that it would not return again to its original form"); *id.*, 132 ("elastic lace boot"); *see* EX1003 ¶19.

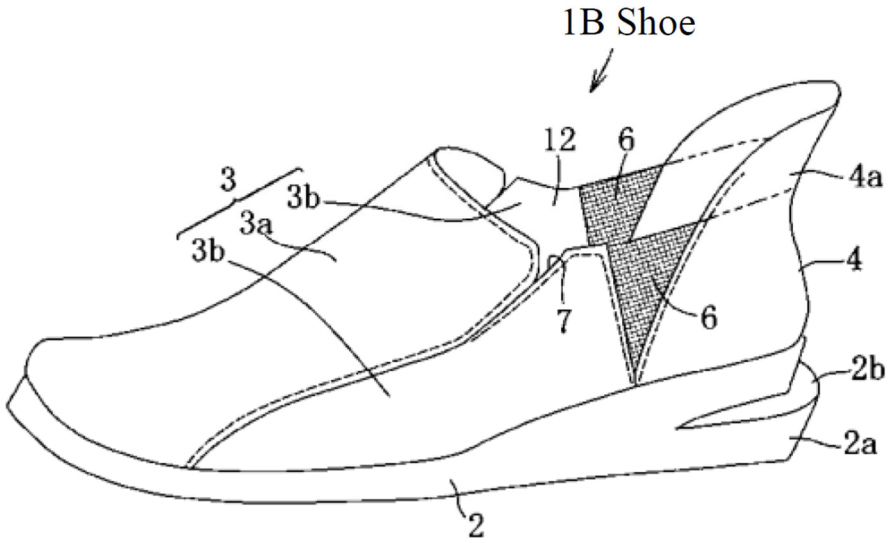
Related to the above, a POSITA would have also understood that Kim's other designs (Figures 4-7), which do not have "8 Stretchable portion[s]," would benefit from simply adding Koo's elastic web, laces, or straps, without substituting one feature for another. For example, Figures 1 and 4 of Kim are compared below:

[FIG. 1]



Kim, Fig. 1 (annotated with color) (showing "8 Stretchable portion[s]");

[FIG. 4]



Kim, Fig. 4; *see also id.*, Figs. 5-7. Unlike Kim's Figure 1, the Figure 4 example does not include "8 Stretchable portion[s]" and thus does not have elastic elements directly interfaced with "Instep portion 3a." From Koo's disclosures, a POSITA

would have been motivated to add Koo's elastic web, laces, or straps to Kim's Figure 4 embodiment. For example, Koo explains that "the aggregate tension provided by [Koo's] elastic straps is strong enough … to hold the shoe onto the wearer's foot. As a result, it is possible for the wearer to slide his or her foot into the shoe without tying the shoelaces, or even to wear the shoe without shoelaces at all." Koo, 6:3-10. A POSITA would have thus been motivated to add Koo's elastic web, laces, or straps to Kim's Figure 4 embodiment to obtain the "aggregate tension" benefits described in Koo (*id.*), and doing so would merely require using "a known technique to address a known problem using prior art elements according to their established functions." *Intel*, 61 F.4th at 1380.

In addition to the functional benefits discussed above, a POSITA would have also been motivated to incorporate Koo's elastic web, laces, or straps into Kim's shoe designs for aesthetic and stylistic purposes. As Koo explains, because "consumers are always looking for unique combinations of aesthetics and functionality in their footwear," Koo is directed to "enabling additional shoe styles and additional ways to wear conventional-looking shoes." Koo, 1:22-33. Thus, a POSITA making any of Kim's shoe designs would have been motivated to incorporate Koo's elastic web, laces, or straps, including to "provide a desired aesthetic effect" as taught in Koo. *Id.*, 8:46-52; *see id.*, 6:12-15 ("Not only does this approach provide for greater convenience, but it also can provide the wearer with a

means to make different kinds of fashion statements, e.g., wearing shoes with the laces untied or wearing shoes that have lace-up eyelets 24 but no laces through them."). At minimum, "an implicit motivation to combine exists" where, as here, "the 'improvement' is technology-independent and the combination of references results in a product or process that is more desirable." *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1368 (Fed. Cir. 2006).

A POSITA would have had a reasonable expectation of success in combining the teachings of Kim and Koo, including: (a) modifying Kim's first two examples (Figures 1 or 3) by replacing or supplementing Kim's "8 Stretchable portion[s]" with Koo's elastic web, laces, or straps; and/or (b) modifying Kim's other examples (Figures 4-7) by simply adding Koo's elastic web, laces, or straps. These embodiments include mere "combination of familiar elements according to known methods," *KSR*, 550 U.S. at 416, "substitution of one known element for another," *Knowles Elecs.*, 886 F.3d at 1378, and/or use of "a known technique to address a known problem using prior art elements according to their established functions," *Intel Corp.*, 61 F.4th at 1380. A POSITA thus would have reasonably expected each component to function the same way in combination as described in its source reference. For example, Koo's elastic web, laces, or straps—implemented in Kim's shoe designs—would still provide Koo's described "aggregate tension" on the forward portion that serves both "to hold the shoe onto the wearer's foot" and to

enable "the wearer to slide his or her foot into the shoe without tying the shoelaces, or to even wear the shoe without shoelaces at all." Koo, 6:3-10. As discussed, Koo states that its elastic web, laces, and straps can be implemented in "any other kind of shoe or other item of footwear." *Id.*, 3:17-2; *see also id.*, 1:14-15, 9:1-5. Moreover, the techniques to make the foregoing combinations were routine long before the '811 Patent's claimed priority date, so substituting or adding Koo's elastic web, laces, or straps to Kim's shoe designs would have required mere routine skill. Indeed, by as early as the mid 1800's, ordinary artisans were modifying shoes to use such elastic web, laces, or straps. *See* EX1009, 132 ("elastic lace boot"); EX1003, ¶¶20-21.

Accordingly, claims 2, 5, 6 and 11 are obvious over Kim in view of Koo.

IX. CONCLUSION

For the reasons above, challenged claims 1-10 and 11-12 of the '811 Patent are unpatentable. Skechers respectfully requests institution of *inter partes* review.

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Respectfully submitted,

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CERTIFICATE OF WORD COUNT

I hereby certify, pursuant to 37 C.F.R. section 42.24, that the foregoing Petition contains 13,946 words, excluding the parts of the brief exempted by 37 C.F.R. § 42.24(a). The word count is based on the word count of the Microsoft Word program used to prepare the Petition.

/s/ Kamran Vakili