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"

_____

U.S. Patent No. 12,121,096

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

_____

PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 12,121,096

Mail Stop: PATENT BOARD
Patent Trial and Appeal Board
U.S. Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

TABLE OF CONTENTS

Page

I. INTRODUCTION 1

II. MANDATORY NOTICES 2

A. Notice of Real Party-In-Interest (37 C.F.R. § 42.8(b)(1)) 2

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

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

D. Service Information (37 C.F.R. § 42.8(b)(4)) 3

E. Fees 3

F. Grounds for Standing 4

III. BACKGROUND 4

A. Overview of the ’096 Patent 4

B. Brief Description of the Technology 8

C. Prosecution History 11

D. Priority Date of the ’096 Patent 13

IV. LEVEL OF ORDINARY SKILL 14

V. CLAIM CONSTRUCTION 14

VI. CHALLENGE AND RELIEF REQUESTED 14

A. Prior Art Patents and Printed Publications 14

B. Grounds 17

VII. OVERVIEW OF THE PRIOR ART 17

A. Overview of Takahashi (EX1005) 17

B. Overview of Kim (EX1008) 18

C. Overview of Hanak (EX1010) 20

D. Overview of Shin (EX1011) 22

E. Overview of Murray (EX1015) 23

VIII. DETAILED EXPLANATION OF THE GROUNDS FOR UNPATENTABILITY 25

A. GROUND 1: Claims 21 and 26-27 Are Obvious Over Takahashi In View Of Hanak 25

i. Claim 21 25

ii. Claim 26 48

iii. Claim 27 49

iv. Combining Takahashi And Hanak 51

B. GROUND 2: Claims 13-20 Are Obvious Over Takahashi In View Of Hanak And Murray 56

i. Claim 13 56

ii. Claim 14 72

iii. Claim 15 72

iv. Claim 16 75

v. Claim 17 76

vi. Claim 18 81

vii. Claim 19 82

viii. Claim 20 84

ix. Combining Takahashi, Hanak, And Murray 87

C. GROUND 3: Claims 21 and 26-27 Are Obvious Over Kim In View Of Hanak 90

i. Claim 21 91

ii. Claim 26 105

iii. Claim 27 106

iv. Combining Kim and Hanak 107

D. GROUND 4: Claims 13-20 Are Obvious Over Kim In View Of Hanak And Shin, And If Necessary Murray 110

i. Claim 13 111

ii. Claim 14 128

iii. Claim 15 128

iv. Claim 16 129

v. Claim 17 131

vi. Claim 18 134

vii. Claim 19 136

viii. Claim 20 138

ix. Combining Kim, Hanak, and Shin, and If Necessary Murray 139

IX. CONCLUSION 142

TABLE OF AUTHORITIES

Page(s)

Cases

Hands Free Labs Licensing LLC v. Skechers U.S.A. Inc.,
Case No. 2:25-cv-00744-JRG (E.D. Tex.) 2

In re ICON Health & Fitness, Inc.,
496 F.3d 1374 (Fed. Cir. 2007) 89

Intel Corp. v. PACT XPP Schweiz AG,
61 F.4th 1373 (Fed. Cir. 2023) 52, 107, 139

KSR Int'l Co. v. Teleflex Inc.,
550 U.S. 398 (2007) .....*passim*

Ruiz v. A.B. Chance Co.,
357 F.3d 1270 (Fed. Cir. 2004) 87, 139

ZUP, LLC v. Nash Mfg., Inc.,
896 F.3d 1365 (Fed. Cir. 2018) 52, 87, 107, 139

Statutes

35 U.S.C. § 102.....13, 14, 15, 16

35 U.S.C. § 103.....16

35 U.S.C. §§ 311-19 1

Rules

37 C.F.R. § 42.1 1

37 C.F.R. § 42.8(b) 2, 3

37 C.F.R. § 42.22(a)(1).....13

37 C.F.R. § 42.104(b)(1)-(2) 13

CLAIM LISTING

Claim Element	LIMITATION
13[pre]	A rapid-entry shoe comprising:
13[a]	a sole portion;
13[b.1]	an upper coupled to the sole portion and including a rear portion, a lateral side portion, a medial side portion, and a forward portion,
13[b.2]	the upper defining a foot opening,
13[b.3]	the upper defining a top line positioned proximate the foot opening;
13[c]	a stabilizer defining a unitary structure extending from the sole portion toward a rear portion of the foot opening; and
13[d.1]	a plurality of elastic elements positioned along at least a portion of the upper,
13[d.2]	the plurality of elastic elements configured to facilitate at least one of flexion and pivoting of the forward portion of the upper relative to the sole portion,
13[d.3]	wherein the plurality of elastic elements includes at least a first elastic element, a second elastic element, and a third elastic element,
13[d.4]	the first elastic element and the third elastic element extending toward the lateral side portion and the medial side portion, respectively,
13[d.5]	wherein the first elastic element and the third elastic element extend to the top line of the upper, and
13[d.6]	wherein the second elastic element does not extend to the top line of the upper; and
13[e.1]	a foam liner coupled to a rear portion of the upper and spaced from the sole portion,
13[e.2]	the foam liner including a concave profile facing toward the forward portion of the upper,
13[e.3]	the foam liner configured to provide heel retention,
13[e.4]	wherein the foam liner is spaced from the top line of the upper.

Claim Element	LIMITATION
14	The rapid-entry shoe of claim 13, wherein the first elastic element and the third elastic element are spaced apart from each other.
15	The rapid-entry shoe of claim 13, wherein the foam liner is positioned at the rear portion of the upper extending toward a side portion of the upper.
16	The rapid-entry shoe of claim 15, wherein the side portion of the upper includes a lateral side portion and a medial side portion, wherein the foam liner extends toward the lateral side portion and the medial side portion.
17[a]	The rapid-entry shoe of claim 13, wherein the stabilizer includes a first portion having concave profile facing toward the forward portion of the upper and a second portion having a convex profile facing toward the forward portion of the upper, the second portion positioned vertically higher than the first portion,
17[b]	wherein the foam liner includes a first portion positioned at the rear portion of the upper adjacent to the convex profile and a second portion extending forward along the upper toward the forward portion of the upper.
18	The rapid-entry shoe of claim 17, wherein the foam liner includes an upper surface, wherein the upper surface of the foam liner is sloped downward and forward where the foam liner is configured to interface with a heel of a user.
19	The rapid-entry shoe of claim 13, wherein the foam liner includes a portion extending forward and downward from the rear portion, and wherein the portion of the foam liner extending forward and downward is tapered from a wider portion toward the rear portion of the upper to a narrower portion toward the forward portion of the upper.
20	The rapid-entry shoe of claim 13, wherein a cross-section of the foam liner defines a convex profile facing toward a front of the rapid-entry shoe when the cross-section of the rapid-entry shoe is taken from a front of the rapid-entry shoe to a back of the rapid-entry shoe along a vertical plane.
21[pre]	A rapid-entry shoe comprising:

Claim Element	LIMITATION
21[a]	a sole portion;
21[b.1]	an upper coupled to the sole portion and including a rear portion, a side portion, and a forward portion,
21[b.2]	the upper defining a foot opening;
21[c]	a stabilizer defining a unitary structure extending from the sole portion toward a rear portion of the foot opening; and
21[d.1]	a plurality of elastic elements positioned along at least a portion of the upper,
21[d.2]	the plurality of elastic elements configured to facilitate at least one of flexion and pivoting of the forward portion of the upper relative to the sole portion,
21[d.3]	wherein the plurality of elastic elements includes at least a first elastic element, a second elastic element, and a third elastic element,
21[d.4]	wherein the first elastic element and the third elastic element extend to a top line of the upper, and
21[d.5]	the second elastic element is spaced from the top line of the upper,
21[e.1]	wherein the forward portion defines a tongue portion,
21[e.2]	wherein the tongue portion is coupled to at least one of the elastic elements and
21[e.3]	wherein at least a portion of at least one of the elastic elements extends across the tongue portion.
26	The rapid-entry shoe of claim 21, wherein the first elastic element is spaced from the third elastic element.
27	The rapid-entry shoe of claim 21, wherein the tongue portion defines a longitudinal axis substantially directed toward a front portion of the rapid-entry shoe, wherein the curvilinear profile of the elastic member crosses the longitudinal axis of the tongue portion.

EXHIBIT LIST

EX NO.	DOCUMENT
EX1001	U.S. Patent No. 12,121,096 ("the '096 patent")
EX1002	Excerpted File History of the '096 Patent
EX1003	Declaration of Angus Wardlaw
EX1004	Japan Utility Model Registration No. 3212460
EX1005	English Translation of Japan Utility Model Registration No. 3212460 ("**Takahashi**")
EX1006	Translator Certification for Takahashi
EX1007	Japan Utility Model Registration No. 3153220
EX1008	English Translation of Japan Utility Model Registration No. 3153220 ("**Kim**")
EX1009	Translator Certification for Kim
EX1010	U.S. Patent Application Publication No. 2015/0013189A1 ("**Hanak**")
EX1011	U.S. Patent No. 12,029,276 ("**Shin**")
EX1012	Certified Copy of KR 10-2019-0048102, submitted during prosecution of Shin
EX1013	Translation of Certified Copy of KR 10-2019-0048102
EX1014	Translator Certification of Certified Copy of KR 10-2019-0048102
EX1015	U.S. Patent No. 3,693,270 ("**Murray**")
EX1016	U.S. Patent Application No. 16/942,335
EX1017	U.S. Provisional Patent Application No. 62/879,883
EX1018	PCT/KR2020/005326
EX1019	English Translation of PCT/KR2020/005326
EX1020	Translator Certification of PCT/KR2020/005326
EX1021	William A. Rossi, *The Complete Footwear Dictionary*, KRIEGLER PUBLISHING COMPANY (2000) (excerpted)

EX NO.	DOCUMENT
EX1022	*Victorian Shoes in the Making*, Victorian Passage, https://www.victorianpassage.com/2008/12/victorian_shoes_in_the_making/
EX1023	J. Sparkes Hall, *The Book of the Feet* (1847)
EX1024	U.S. Patent No. 201,796 ("Dawes")
EX1025	U.S. Patent No. 287,312 ("Packard")
EX1026	U.S. Patent No. 5,970,629 (Tucker)
EX1027	U.K. Patent No. 364,732 ("Phillips")
EX1028	U.S. Patent No. 1,018,652 ("Drechsler")
EX1029	U.S. Patent No. 4,856,209 ("Kenyon")
EX1030	U.S. Patent No. 5,842,292 ("Siesel")
EX1031	U.S. Patent No. 5,189,814 ("Barma")
EX1032	U.S. Patent No. 4,287,675 ("Norton")
EX1033	Christoph Dyckmans, *adidas Busenitz ADV*, Oct. 5, 2013, https://www.weartested.com/adidas-busenitz-adv-review/
EX1034	Nightwing2303, *The Nike PG 2 Deconstructed*, Mar. 2, 2018, https://weartesters.com/nike-pg-2-deconstructed/
EX1035	Noah Goldowitz, *The Nike Zoom KD 9 Elite Deconstructed*, Mar. 31, 2017, https://weartesters.com/nike-zoom-kd-9-elite-deconstructed/
EX1036	U.S. Patent No. 11,350,700 ("Smith-700")
EX1037	U.S. Patent No. 10,759,096 ("Smith-096")
EX1038	Wade Motawi, *Shoe Material Design Guide* (2017) (excerpted)
EX1039	Search Disclosure Declaration of Aron Berger

Skechers U.S.A., Inc. ("Petitioner" or "Skechers") respectfully requests *inter partes* review of claims 13-21 and 26-27 of U.S. Patent No. 12,121,096 ("the '096 patent") (EX1001) pursuant to 35 U.S.C. §§ 311-19 and 37 C.F.R. §§ 42.1 *et seq*.

I. INTRODUCTION

The '096 patent is owned by FAST IP, LLC ("FAST IP"), a non-practicing patent monetization entity. FAST IP asserted the patent against Skechers in the Eastern District of Texas, in which it joined as plaintiffs a related shoe seller and a licensee. 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 litigation were all created within the last ten years. Nonetheless, the '096 patent purports to claim shoe designs that have been in the public domain for decades, if not centuries. Moreover, despite seeking to accuse more than two thousand Skechers shoe models of infringement, plaintiffs contend that they themselves have never practiced the patent. *Id.*, Dkt. 52 at 2.

The '096 patent issued on October 22, 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 dating back to the Civil War era and earlier. The challenged claims recite elements common to nearly every shoe, such as a "sole," "upper," "foot opening," "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.*, EX1022, EX1024, EX1025.

None of the references herein were before the Patent Office during the original prosecution. For these and other reasons below, the Board should institute IPR.

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. While Petitioner does not believe or concede that any other entity qualifies as a real party-in-interest, out of an abundance of caution, Petitioner also identifies the following entities as additional real parties-in-interest solely for this Petition, who will be bound by the outcome of this IPR to the same extent as Petitioner: Beach Acquisition Bidco LLC, Beach Acquisition Midco LLC, Beach Acquisition Holdco LLC, and Beach Acquisition Co Parent LLC.

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

The ’096 patent is asserted in the litigation *Hands Free Labs Licensing LLC v. Skechers U.S.A. Inc.*, Case No. 2:25-cv-00744-JRG (E.D. Tex.).

Due to its claim of priority to U.S. Provisional Application No. 62/879,883, the ’096 patent is related to U.S. Patent No. 11,633,006, which is the subject of IPR2026-00342, U.S. Patent No. 11,871,811, which is the subject of IPR2026-00343, and U.S. Patent No. 12,274,325, which is the subject of IPR2026-00373.

Petitioner has also challenged U.S. Patent No. D1,037,641, also owned by Patent Owner, in a Petition filed today.

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)

Backup Counsel: Kamran Vakili (Reg. No. 64,825)

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

Contact information for Lead and Backup Counsel is as follows:

Irell & Manella LLP
1800 Avenue of the Stars, Suite 900
Los Angeles, CA 90067-4276
Telephone: (310) 277-1010
Fax: (310) 203-7199

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

III. BACKGROUND

A. Overview of the ’096 Patent

The ’096 patent issued on October 22, 2024 and purports to claim a priority date of July 29, 2019. EX1001, 1. Titled “Rapid-Entry Footwear Having A Stabilizer And An Elastic Element,” *id.*, it describes “[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. An embodiment with elastic elements 110 and stabilizer 150 is shown below:

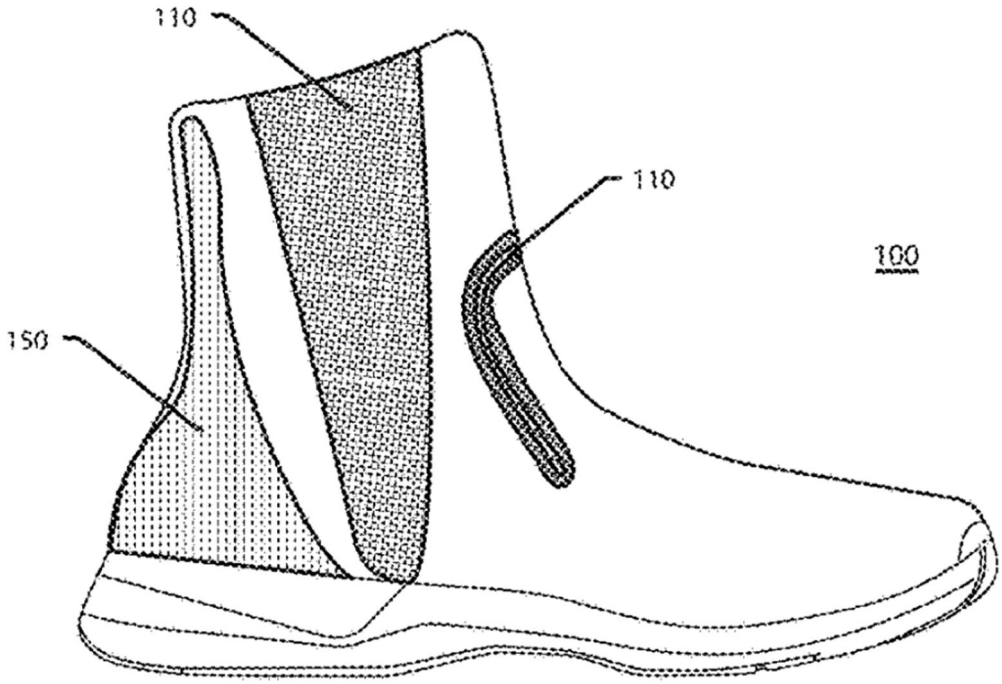


FIG. 6A

Id., Fig. 6A. The '096 patent claims "a ***first*** ***elastic element***, a ***second*** ***elastic element***, and a ***third*** ***elastic element***," which differ in some respects. *Id.*, 12:46-52.[1]

For example, Claim 13 recites "the ***first*** elastic element and the ***third*** elastic element extending toward the ***lateral side*** portion and the ***medial side*** portion, respectively, wherein the first elastic element and the third elastic element ***extend to a top line of the upper***." *Id.*, 12:53-57. A "first elastic element" is highlighted blue below, and a "third elastic element" would be on the opposite side (not in view):

[1] Unless otherwise noted, all emphases in quotations are added by Petitioner.

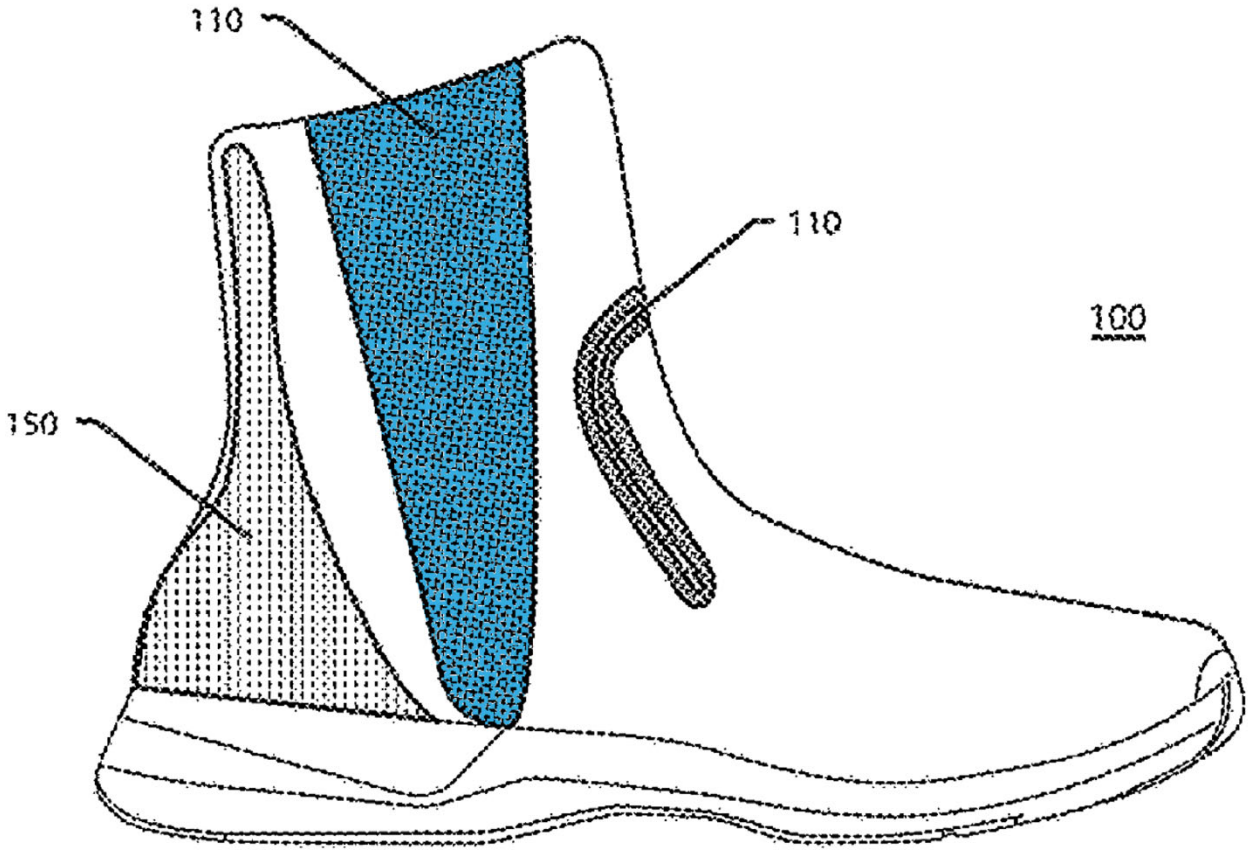


FIG. 6A

Id., Fig. 6A.[2]

Conversely, "the ***second*** elastic element does ***not extend to a top line of the upper***." *Id.*, 12:57-58. A "second elastic element" is highlighted below:

[2] All colored highlighting, text, and arrows are annotations by Petitioner.

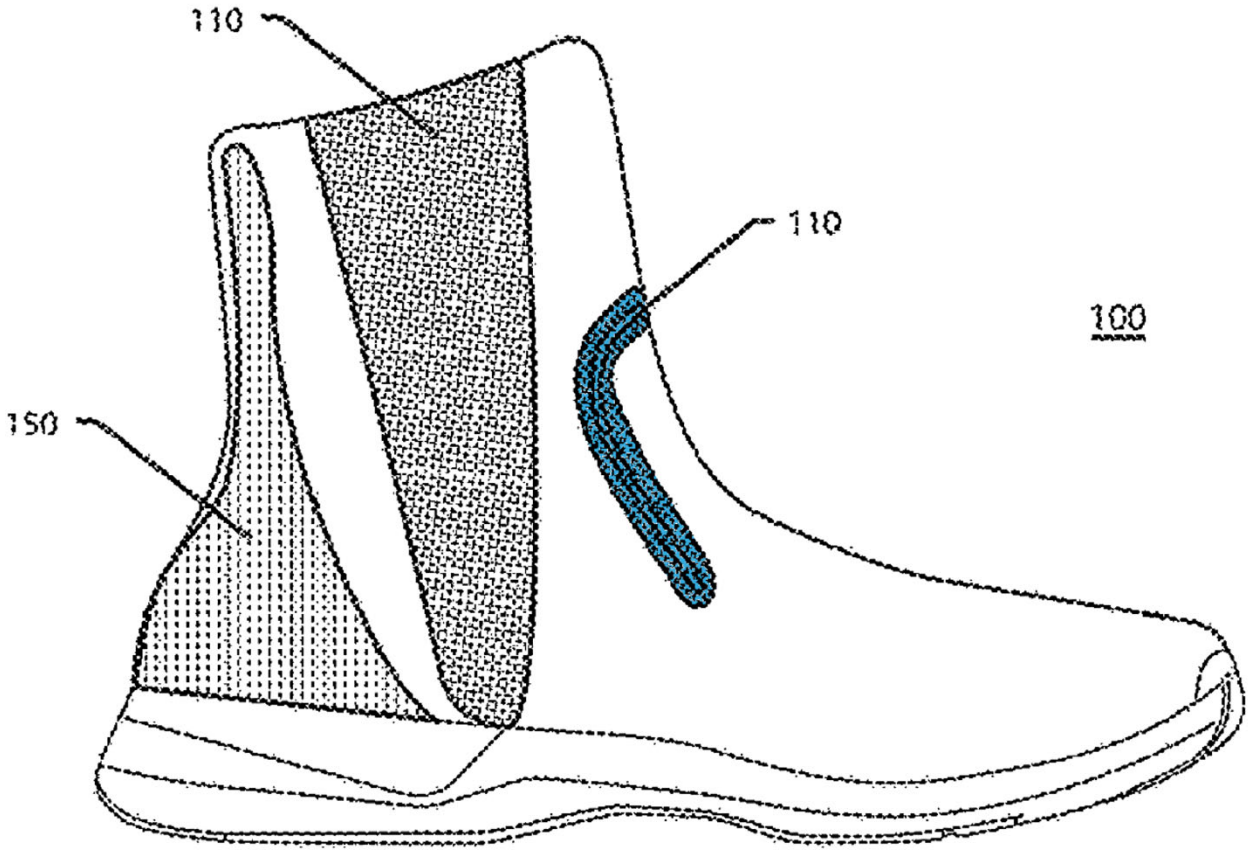


FIG. 6A

Id., Fig. 6A.

The ’096 Patent also describes an embodiment including a “foam liner” 158 (highlighted purple below) adjacent to the stabilizer:

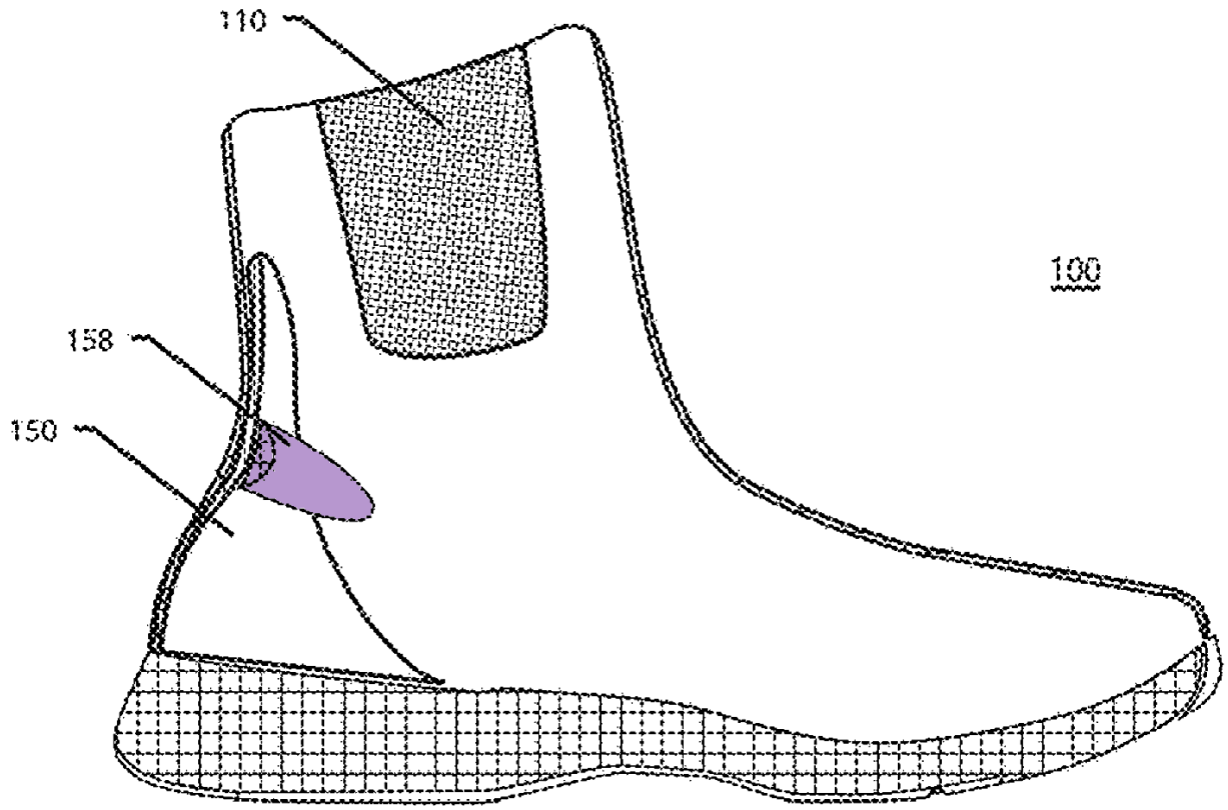


FIG. 1C

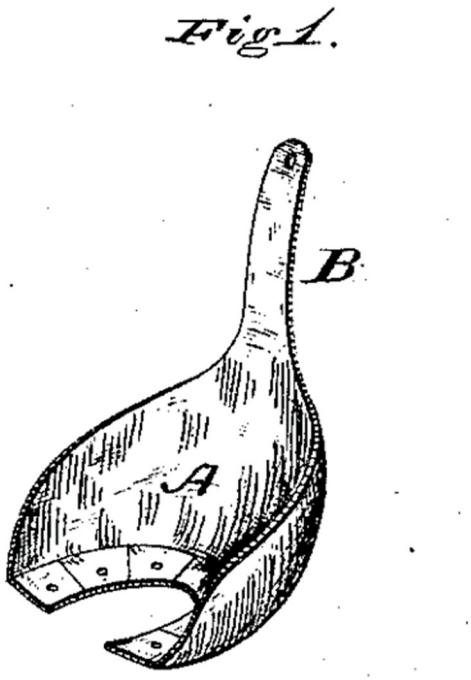
Id., Fig. 1C. "The foam liner may be configured as a strip that is generally orientated concave toward the sole portion." *Id.*, 7:16-18.

B. Brief Description of the Technology

The challenged claims recite standard features known in shoemaking for decades, such as a sole, upper, stabilizer, foam cushioning, and elastic materials.[3]

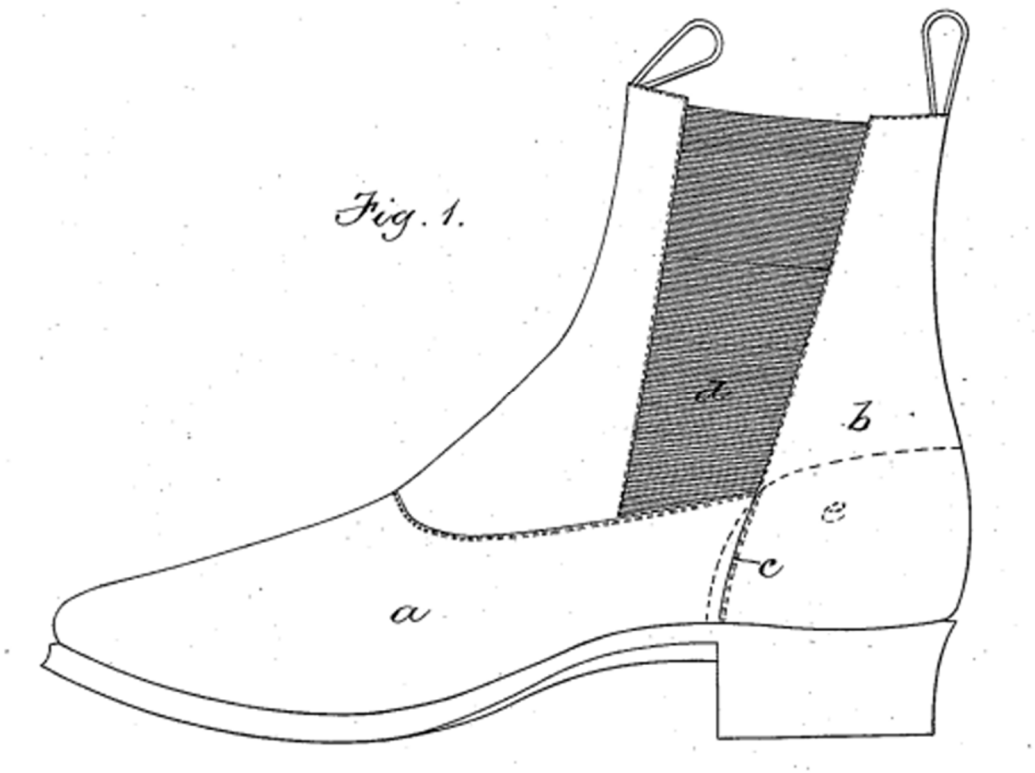
[3] *See* EX1021, p.20 ("upper: All the parts or sections … above the shoe's sole …."); 19 ("stabilizer: … Any mechanical … device, separate or built into the shoe, designed to stabilize or rebalance …."); 9 ("elasticized materials: … Elastic goring used as shoe panels or inserts …."); 7 ("cushioning: The use of a resilient material … built into the shoe or may be used as a separate insert."); 12 ("foam: … Softer foams such as polyurethane foam are used for shoe cushioning ….").

Since the Victorian period, shoes have commonly featured a "stiffening [] inserted at the heel between the outside and lining." EX1022, p.3; *see id.*, p.1 ("heel stiffener"); EX1023, p.88 ("stiffenings"). Such heel stiffenings could be made of a "steel shank" used "to assist in keeping the shank of the shoe in desired shape." EX1022, p.3. One example is described in U.S. Patent No. 201,796, from 1878:



EX1024, Fig. 1, p.1, left col. ("a boot or shoe counter-stiffener with a tongue or projection to extend upward along the back seam, for the purpose of protecting the same and preventing the boot or shoe from breaking or cracking at that point.").

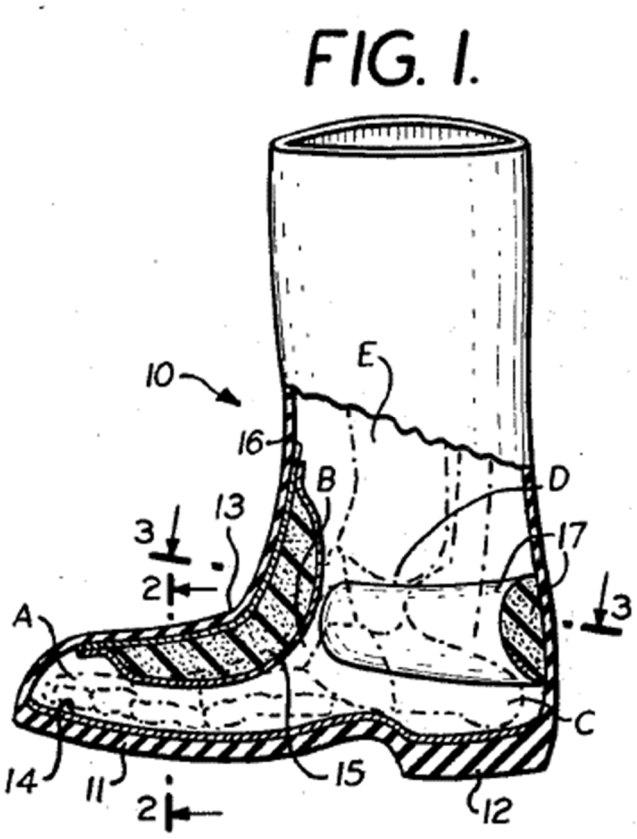
Footwear also included elastic materials like gorings for easier entry. For example, U.S. Patent No. 287,312, from 1883, discloses a stiffener and side gorings:



EX1025, Fig. 1, 1:12-31 ("*d* the elastic gorings" and "the stiff counter or heel-stiffener *e*"); EX1023, p.136-37 (1847 book describing an "elastic boot" that can be put "on and [taken] off in an instant.").

It has also been standard practice for decades to include foam cushioning around the heel to promote foot retention. EX1027, 1:54-59 (1931 patent describing "heel grip" formed of "sponge rubber"); EX1028, ln.12-40 (1912 patent describing "shoe retainers" comprising a "strip of elastic material" to prevent "slipping off at the heel"); EX1029, 3:16-18 ("collar padding" made of "foam padding with a rubberized backing."); EX1030, 3:4-12 ("heel-engaging" insert of "natural or

synthetic foam or sponge rubber"). Murray (1972), for example, describes an "insert 17" of "foam material" to retain the foot "with no tendency to pull out."



EX1015, Fig. 1, 2:29-35.

C. Prosecution History

In the application leading to the '096 patent (no. 18/610,029), claims 11 and 16 (which issued as 13 and 21) originally recited "an elastic element 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." EX1002, p.403-404. These claims were rejected multiple times over Lin (2012/0180338) and Nonogawa (2015/0026937). *Id*., p.273-82, 156-168. The

Applicant admitted that Lin teaches at least "elastic bands being positioned at the collar," *id*, p.261, and that Nonogawa teaches at least "a sheet of [stretchable] material that spans the entire front portion of the upper." *Id.*, p.147.

Following an Examiner-initiated interview, the Examiner issued a Notice of Allowance with an Examiner's Amendment. *Id.*, p.37. Claim 11 was amended to recite "a[[n]] plurality of elastic elements positioned along at least a portion of the upper, the plurality of elastic elements configured to facilitate at least one of flexion and pivoting of the forward portion of the upper relative to the sole portion, wherein the plurality of elastic elements includes at least a first elastic element, a second elastic element, and a third elastic element, the first elastic element and the third elastic element extending toward the lateral side portion and the medial side portion, respectively, wherein the first elastic element and the third elastic element extend to the top line of the upper, and wherein the second elastic element does not extend to the top line of the upper." *Id*., p.38-39. The Examiner amended claim 16 in the same fashion, reciting "a[[n]] plurality of elastic elements positioned along at least a portion of the upper, the plurality of elastic elements configured to facilitate at least one of flexion and pivoting of the forward portion of the upper relative to the sole portion, wherein the plurality of elastic elements includes at least a first elastic element, a second elastic element, and a third elastic element, wherein the first elastic element and the third elastic element extend to a top line of the upper, and the second

elastic element is spaced from the top line of the upper." *Id.*, p.39-40. The "plurality of elastic elements" limitation was thus the sole basis for allowance.

D. Priority Date of the '096 Patent

The '096 patent claims priority as a continuation from application no. 16/942,335 ("the '335 application") (EX1016), filed July 29, 2020, which claims priority to provisional application no. 62/879,883 ("the '883 provisional"), filed July 29, 2019 (EX1017).

Independent claim 13 recites "a foam liner coupled to a rear portion of the upper." EX1001, 12:59-60. Any supporting disclosure for the "foam liner" was, at best, first introduced in the '335 application and was absent from the '883 provisional. Figure 1C of the '335 application "illustrates a … stabilizer having a foam liner," and the application further describes "a liner to provide for heel retention … [which] may be configured as a strip that is generally oriented concave toward the sole portion." EX1016, ¶56. These are the only disclosures purporting to support the "foam liner" limitation, and they are absent from the '883 provisional. There is simply no disclosure of a "foam liner" at all in the '883 provisional.

Accordingly, at best, challenged claims 13-20 can claim priority only to the '335 application's July 29, 2020 filing date, not the July 29, 2019 filing date of the '883 provisional.

IV. LEVEL OF ORDINARY SKILL

The ’096 patent relates to footwear that allows 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 ’096 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, ¶¶12-17.

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

V. CLAIM CONSTRUCTION

Petitioner submits that no issue herein requires any claim term to be construed.

VI. CHALLENGE AND RELIEF REQUESTED

Per 37 C.F.R. § 42.22(a)(1) and §§ 42.104(b)(1)-(2), Petitioner challenges claims 13-21 and 26-27 of the ’096 patent.

A. Prior Art Patents and Printed Publications

The following references are pertinent to the grounds of unpatentability explained below:[4]

[4] Petitioner also cites to EX1021-EX1038 to support the grounds herein. These are all prior art to the ’096 patent under at least one of 35 U.S.C. §§ 102(a)(1) and (2). The authenticity and public availability of EX1021-EX1038 is supported

1. Naomichi Takahashi, *Shoe*, Japan Utility Model Registration No. 3212460 (filed May 31, 2017; issued September 14, 2017) (EX1005) ("**Takahashi**").
2. Seiji Kim, *Shoe*, Japan Utility Model Registration No. 3153220 (issued Aug. 27, 2009) (EX1008) ("**Kim**").
3. Josef Hanak et al., U.S. Patent Application Publication No. 2015/0013189 (published Jan. 15, 2015) (EX1010) ("**Hanak**").
4. Sung Ne Shin, *Easy-To-Wear Functional Shoe*, U.S. Patent No. 12,029,276 (foreign priority April 24, 2019; PCT filed April 22, 2020; issued July 9, 2024) (EX1011) ("**Shin**").
5. Brian L. Murray, *Internal Pads For Rubber Footwear*, U.S. Patent No. 3,693,270 (filed January 8, 1971; issued September 26, 1972) (EX1015) ("**Murray**").

Takahashi, Kim, Hanak, and Murray were published over a year before the '096 patent's July 29, 2019 earliest claimed priority date and thus are prior art under 35 U.S.C. § 102(a)(1) with no exception under 35 U.S.C. § 102(b).

Shin is prior art under 35 U.S.C. § 102(a)(2). Shin issued on July 9, 2024 from an application that was effectively filed, under 35 U.S.C. § 102(d)(2), as of the

---

by copyright notices, library date stamps, volume date labels, and/or other contemporaneous evidence of public distribution.

April 24, 2019 filing date of foreign priority document KR 10-2019-0048102, and at least as of the April 22, 2020 filing date of PCT priority document PCT/KR2020/005326. A certified copy of KR 10-2019-0048102 (EX1012) was submitted to the PTO as part of the national phase of PCT/KR2020/005326 (EX1018). Certified translations of KR 10-2019-0048102 and PCT/KR2020/005326 are submitted as EX1013 and EX1019, respectively. Shin satisfies the ministerial requirements for claiming priority to KR 10-2019-0048102 and PCT/KR2020/005326 because it properly claims their benefit, was filed within twelve months thereof, and names the same inventors. *See* EX1011, codes (22), (30), (71), (72), (86); EX1013, p.1-2; EX1019, codes (22), (30), (71), (72), (81). Shin satisfies the substantive requirements for claiming priority because its relevant subject matter is fully supported by both KR 10-2019-0048102 and PCT/KR2020/005326, as shown by the figures and written descriptions in these documents, and parallel citations herein to EX1011, EX1013, and EX1019.

As Shin issued from an application effectively filed on April 24, 2019, it is prior art under 35 U.S.C. § 102(a)(2) even if the '096 patent were entitled to its July 29, 2019 earliest claimed priority date. Petitioner notes that the priority date challenge in Part III.D above is relevant only if Patent Owner seeks to establish an exception under 35 U.S.C. § 102(b)(2)(B). The '096 patent's next claimed priority date is July 29, 2020, which is over a year after Shin's April 24, 2019 effective filing

date. Thus, any pre-dating disclosure under § 102(b)(2)(B) would itself be prior art under § 102(a)(1) if the challenged claims are not entitled to the July 29, 2019 earliest claimed priority date.

B. Grounds

Claims 13-21 and 26-27 of the '096 patent are unpatentable under 35 U.S.C. § 103. The asserted grounds are:

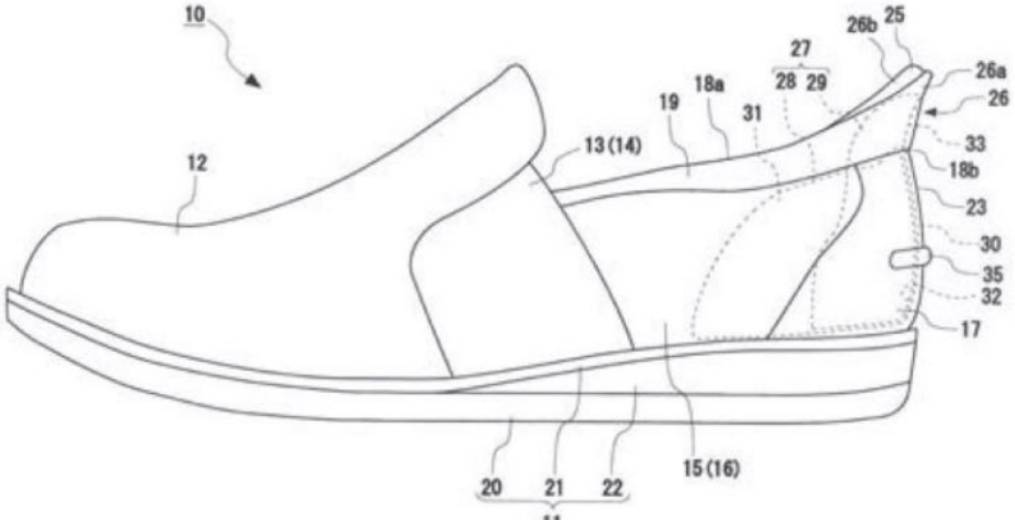
- **Ground 1:** Claims 21 and 26-27 are obvious over **Takahashi** in view of **Hanak**
- **Ground 2:** Claims 13-20 are obvious over **Takahashi** in view of **Hanak** and **Murray**
- **Ground 3:** Claims 21 and 26-27 are obvious over **Kim** in view of **Hanak**
- **Ground 4:** Claims 13-20 are obvious over **Kim** in view of **Hanak** and **Shin**, and if necessary **Murray**

VII. OVERVIEW OF THE PRIOR ART

A. Overview of Takahashi (EX1005)

Takahashi discloses "a shoe that can be easily put on," Takahashi, Abstract, "including a shoe opening that opens to make it possible to insert a person's foot, where the shoe includes a guide portion sloping upward as it goes away from the rear edge, at a heel portion including a rear edge of an opening edge of the shoe opening." *Id.*, ¶7.

[FIG. 1]

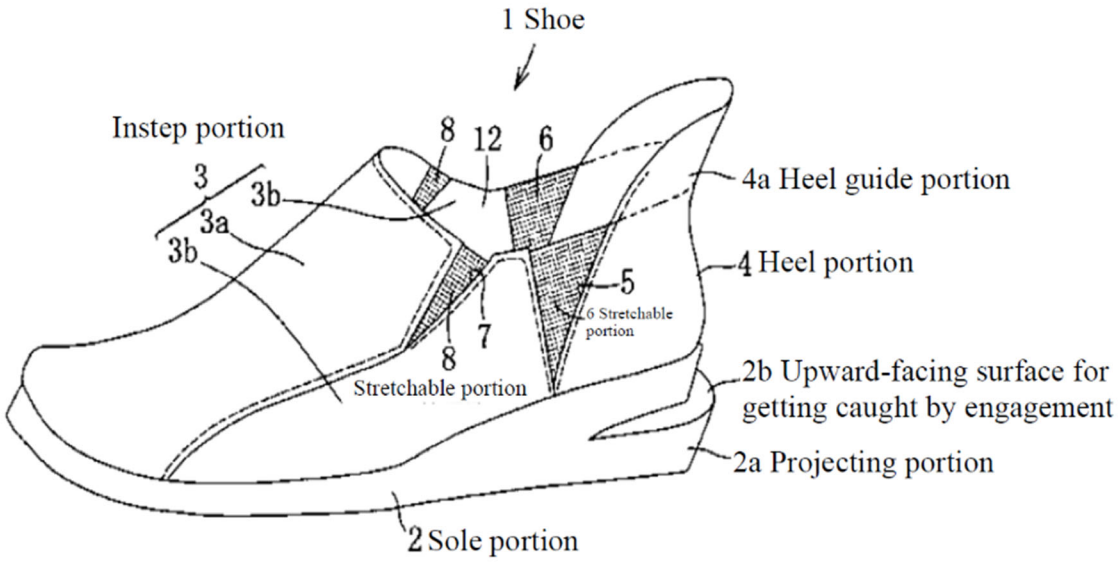


Id., Fig. 1. Additionally, Takahashi includes "stretchable portions 13, 14 located on both the left side and the right side to allow the deformation of the upper," facilitating foot entry. *Id.*, ¶37.

B. Overview of Kim (EX1008)

Kim discloses "shoe[s] that can be easily put on and taken off by people who cannot bend down," which include "a heel guide portion 41" and "stretchable portions 6, 8 composed of a stretchable woven fabric member." Kim, Abstract.

[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" 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's "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. They 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.

C. Overview of Hanak (EX1010)

A "common disadvantage" in conventional footwear is a "tough upper (whose toughness is quite often increased by connecting element/elements), which is firmly attached to the sole of the shoe, causes during walking unnatural and extreme load of the foot instep and consequently also of all muscles and ligaments of the foot." Hanak, ¶2. "As a result," Hanak explains, "callosities are created, function and load of Achilles tendon is changed, functioning of protractors (extensors) and flexors of toes, especially of big toe, is reduced, hammertoes are created, and gradually longitudinal arch of the foot may collapse, thus the flat foot may evolve, and its vascular, lymphatic or nerve system may be even damaged," producing "physical pain," "fatigue," and "lower[] quality of life." *Id.*

As a solution, Hanak discloses an "instep elastic insertion" that "reduces pressure of the upper (4) of the shoe on the instep." *Id*., Abstract. For example, Hanak's Figure 10 embodiment includes an "approximately rectangular instep elastic insertion 411" which, "in cooperation with auxiliary instep insertion 412 positioned on at least one side" and "ankle elastic insertion 422," "reduces pressure acting upon stepping out or more precisely in the first phase of step on the instep of the foot." *Id.*, ¶38. The elastic elements are highlighted blue below:

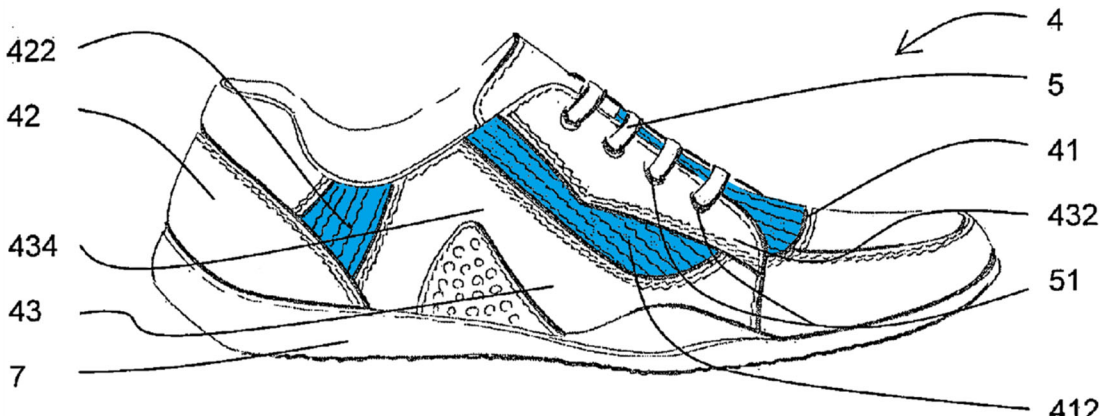


Fig. 10

Id. Fig. 10.

Hanak also discloses an embodiment in Figure 11 with an "approximately trapezoidal instep elastic insertion 411" to reduce instep pressure. *Id.*, ¶39. This embodiment also includes "approximately rectangular ankle elastic insertion 422, which reduces pressure acting on the heel," and optional "calf elastic insertion 431" that "contributes to reduction of toughness of the shoe as a whole." *Id.*

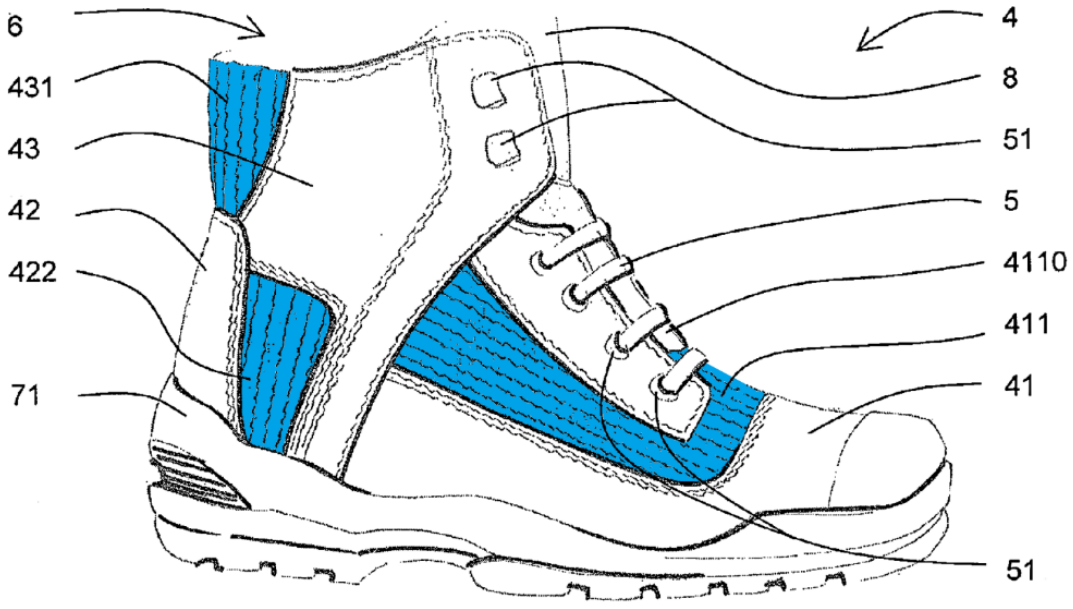


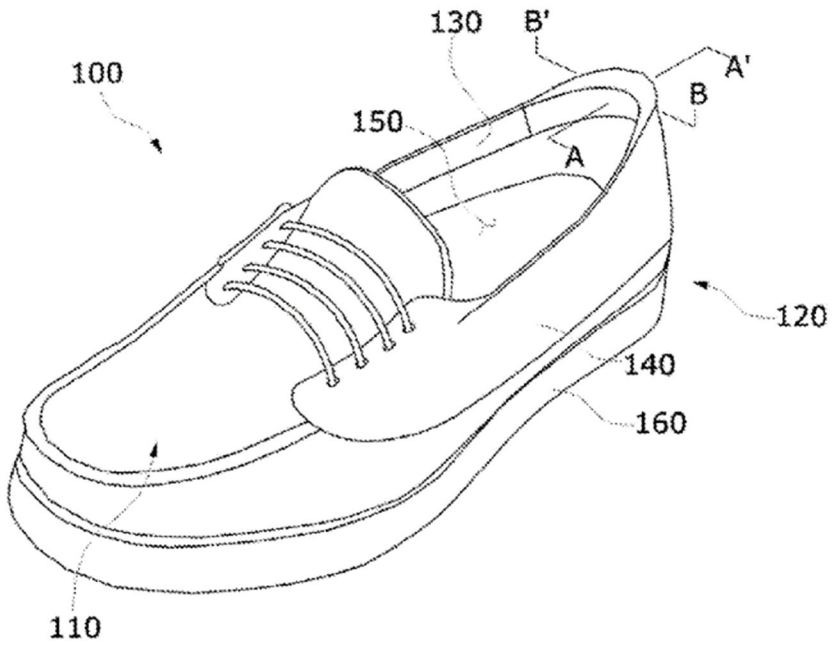
Fig. 11

Id., Fig. 11.

D. Overview of Shin (EX1011)

Shin teaches "an easy-to-wear functional shoe that a wearer may easily put on without bending his/her waist and without using his/her finger or an auxiliary tool such as a shoehorn." Shin, 1:47-50; EX1013, ¶10; EX1019, ¶8.

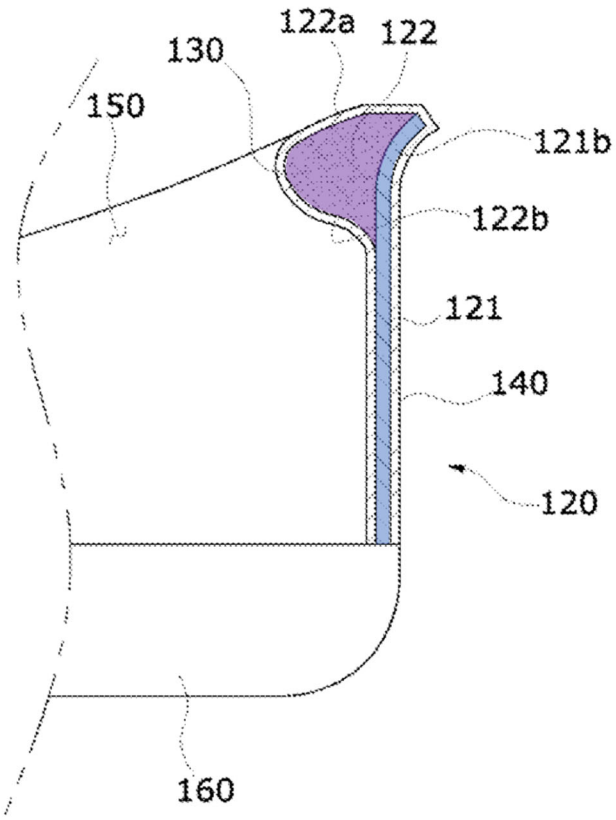
[FIG. 1]



Shin, Fig. 1. A "support member 121" is provided "between the inner skin 130 and the outer skin 140" of the shoe that "support[s] the shoe's heel 120," Shin, 4:4-20, EX1013, ¶¶41-46, EX1019, ¶¶47-51, and "guide[s] a wearing path so that the foot 10 of the wearer may easily slide into the wearing groove 150." Shin, 6:65-67; EX1013, ¶93, EX1019, ¶92. Shin also discloses "elastic member 122" coupled to the support member, made of "rubber material" or "urethane having elasticity"—both of which are foam materials—that is "deformed by a pushing force of the foot

heel" and "restored to an original shape again after the foot heel" has entered the shoe. Shin, 5:34-55; EX1013, ¶¶65-69, EX1019, ¶¶68-72. Annotated Figure 11 illustrates a support member 121 (blue) and elastic member 122 (purple):

[FIG. 11]



Shin, Fig. 11.

E. Overview of Murray (EX1015)

Murray discloses foam liners for shoes that "permit[] the wearer to put his feet into the boots without strenuous effort," and to be "removed easily without using a zipper opening or shoe laces." Murray, Abstract. The liners "compris[e] a body of foam rubber or plastic covered with cloth," and are "resilient or spongy." *Id.*, 1:31-

35; 2:35-37. They can be positioned in several different locations, including the ankle, heel, or front of the shoe.

FIG. 1.

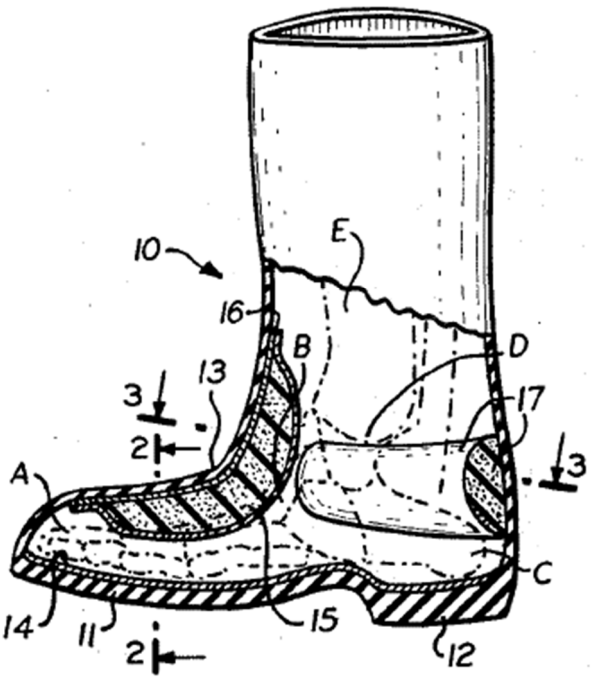
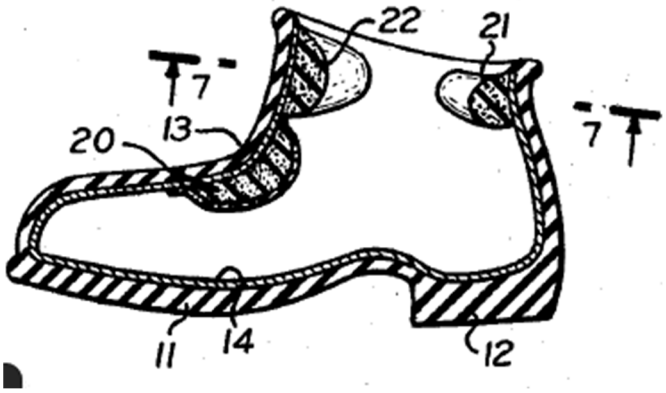
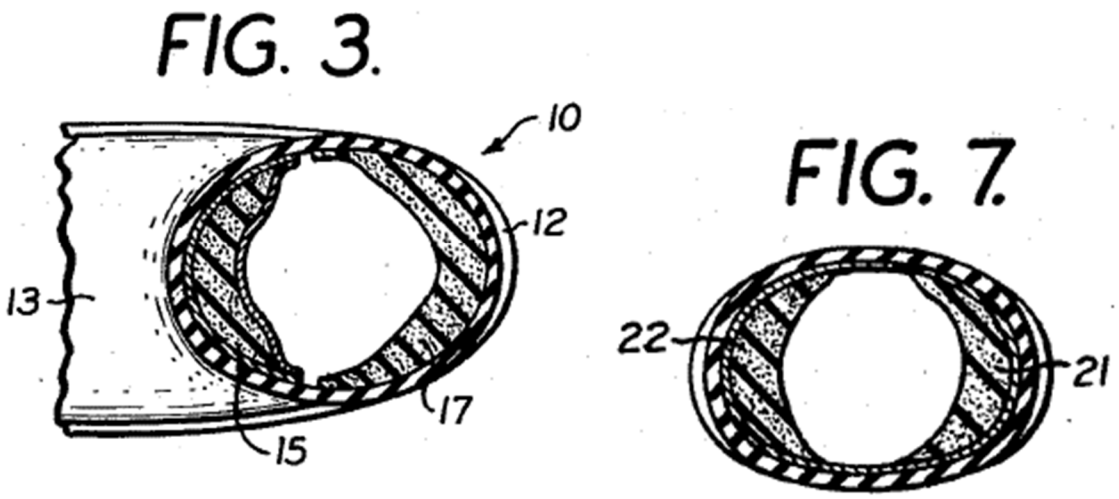


FIG. 6.



Id., Figs. 1, 6.

The foam liners have a concave profile and are configured to surround and support the foot when wearing the shoe.



Id., Figs. 3, 7.

VIII. DETAILED EXPLANATION OF THE GROUNDS FOR UNPATENTABILITY

A. GROUND 1: Claims 21 and 26-27 Are Obvious Over Takahashi In View Of Hanak

Takahashi (EX1005) discloses all elements of claims 21 and 26-27 save for the "second elastic element," which is disclosed in Hanak (EX1010).

i. Claim 21

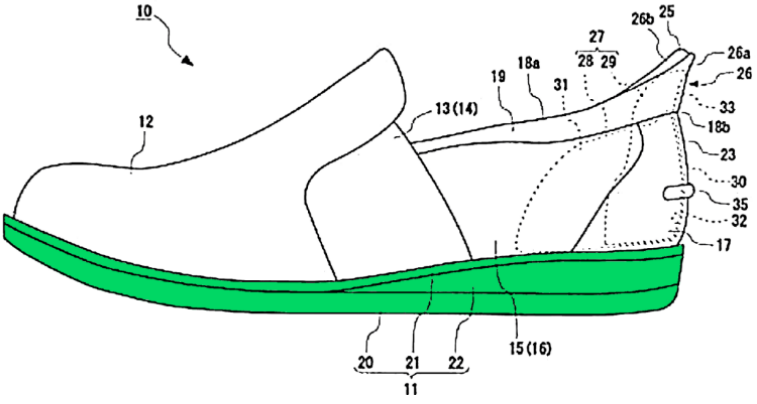
- ***21[pre]: "A rapid-entry shoe comprising:"***

To the extent the preamble is limiting, Takahashi satisfies it. For example, Takahashi teaches "a shoe that can be ***easily put on*** without using a shoehorn or the like." *Id.*, ¶1; *see* EX1001 ('096 patent), 4:16-21 ("[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.").

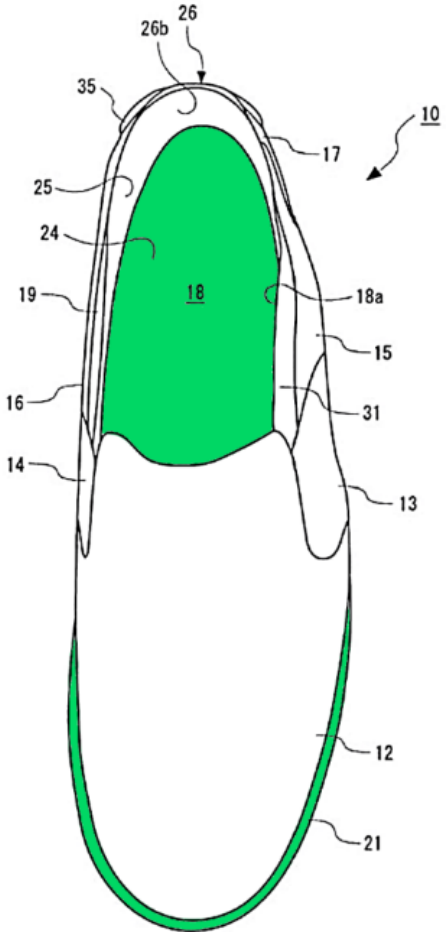
- ***21[a]: "a sole portion;"***

Takahashi discloses 21[a]. The '096 patent explains that "a rapid-entry shoe comprises a 'sole portion' (e.g., footbed, insole, midsole, outsole)." EX1001, 4:28-29. Similarly, Takahashi "includes an outsole 20 on the ground side, a midsole 21 on the outsole 20, and a cushion sole 22 located between the outsole 20 and the midsole 21," Takahashi, ¶38, and "the upper surface of the midsole 21 is provided with an insole (inner sole) 24," *id.* ¶53. The sole is highlighted green below:

[FIG. 1]



[FIG. 2]



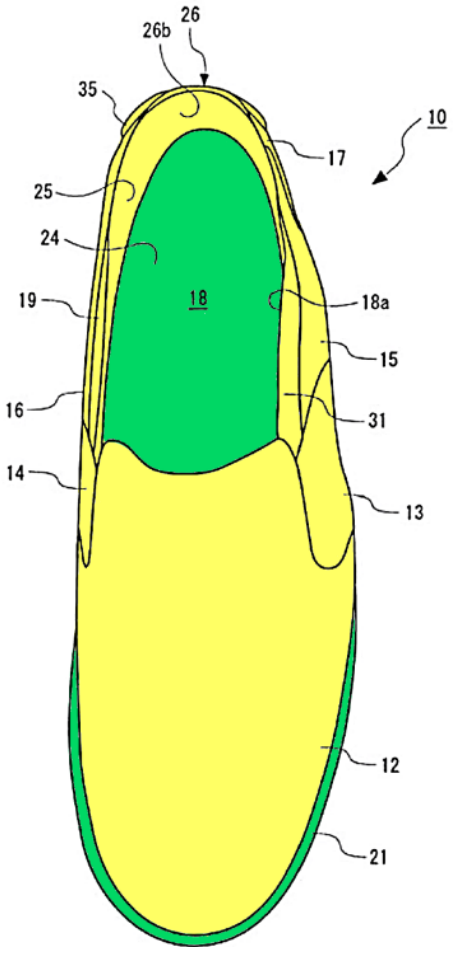
Takahashi, Figs. 1, 2 ¶86.

- ***21[b.1]: "an upper coupled to the sole portion and including a rear portion, a side portion, and a forward portion,"***

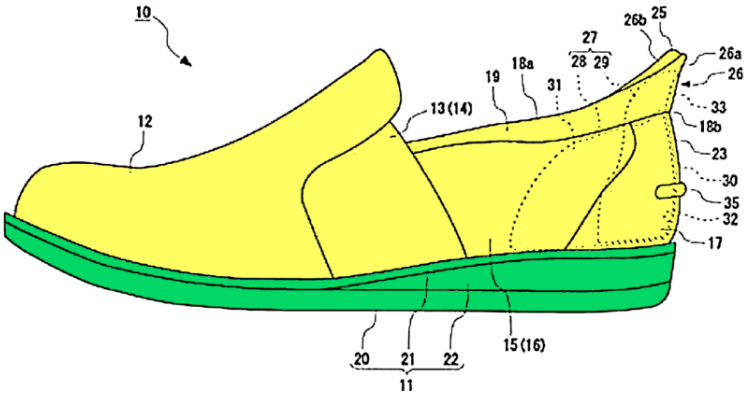
Takahashi discloses 21[b.1].

First, Takahashi discloses "an upper coupled to the sole portion." Below the sole is highlighted green and the upper[5] yellow:

[FIG. 2]



[FIG. 1]

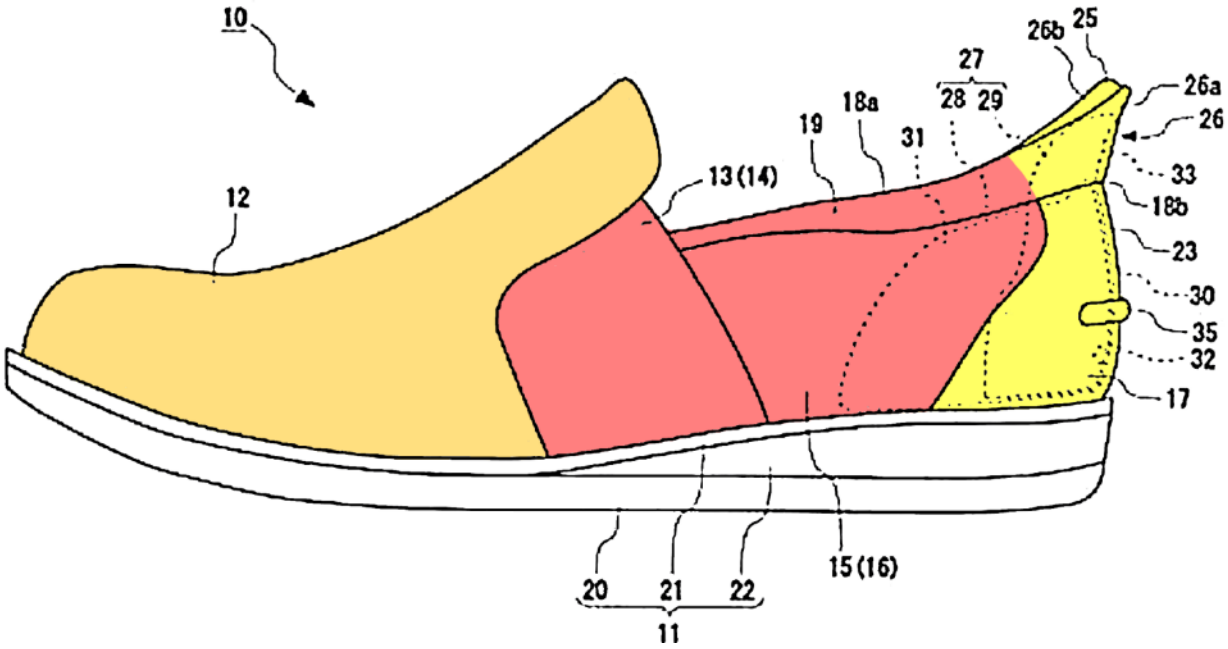


Takahashi, Figs. 1, 2, ¶86.

[5] *See* EX1021, p.20 ("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.").

Second, Takahashi discloses "an upper … including a rear portion, a side portion, and a forward portion." For example, the upper includes a rear portion (highlighted yellow below) including "heel portion 17," a side portion (red) including "stretchable portions 13, 14 located on both the left side and the right side" and "sides 15, 16 covering both the left side and the right side of the foot," and a forward portion (orange) including "upper leather" 12. *Id.*, ¶37.

[FIG. 1]

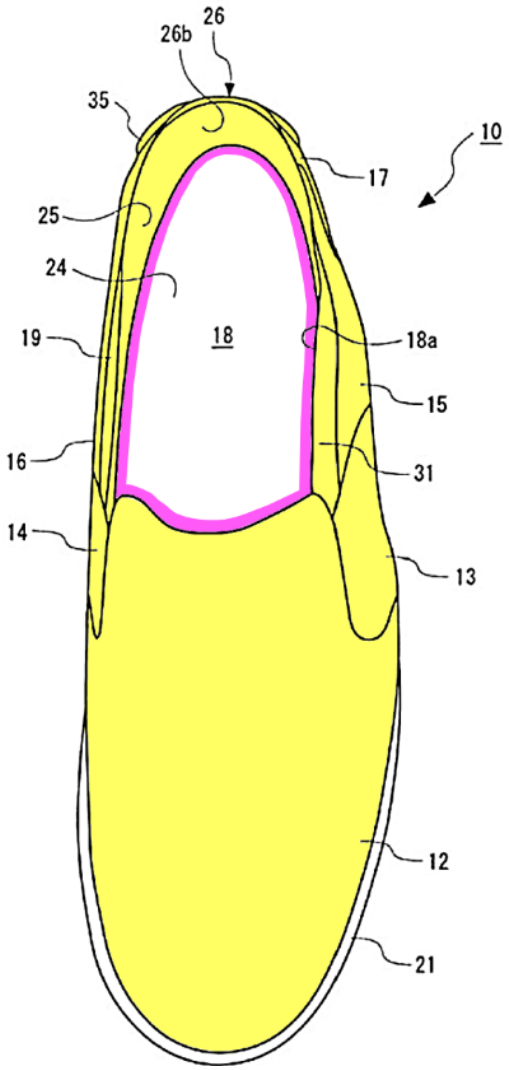


Takahashi, Fig. 1.

- ***21[b.2]: "the upper defining a foot opening;"***

Takahashi discloses 21[b.2]. For example, Figure 2 below shows that the upper (highlighted yellow) defines a foot opening (outlined in pink):

[FIG. 2]

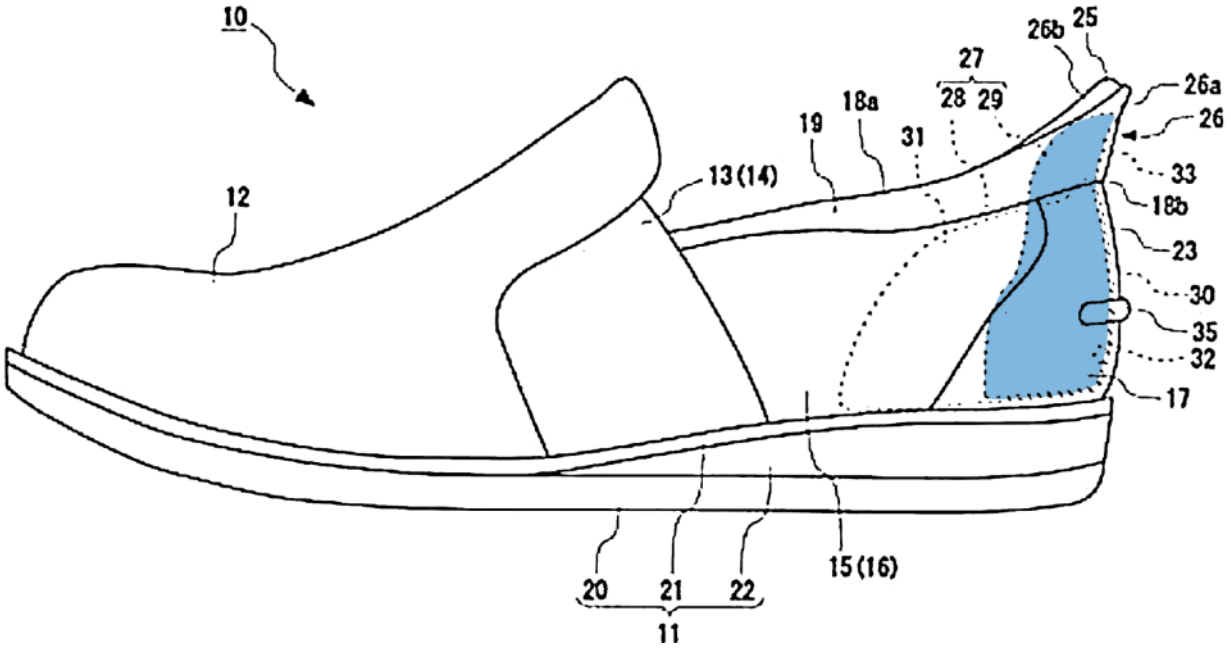


Takahashi, Fig. 2.

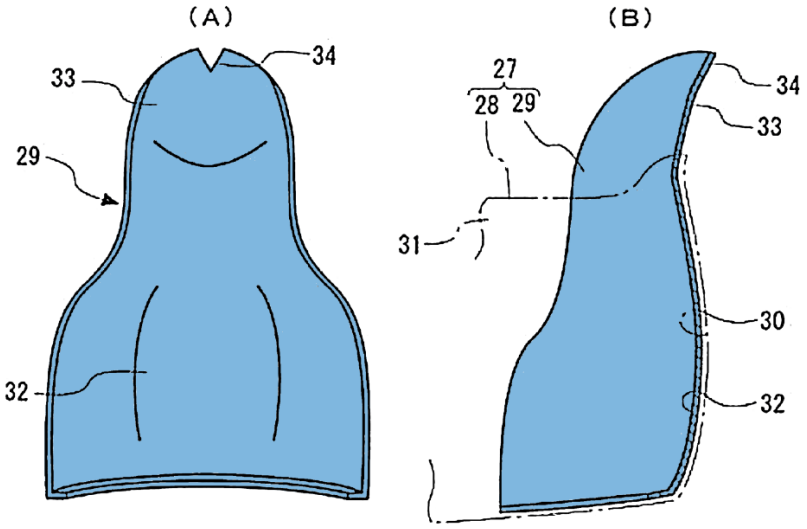
- ***21[c]: "a stabilizer defining a unitary structure extending from the sole portion toward a rear portion of the foot opening; and"***

Takahashi discloses 21[c]. For example, this is met by Takahashi's "second counter 29," highlighted blue below:

[FIG. 1]



[FIG. 4]



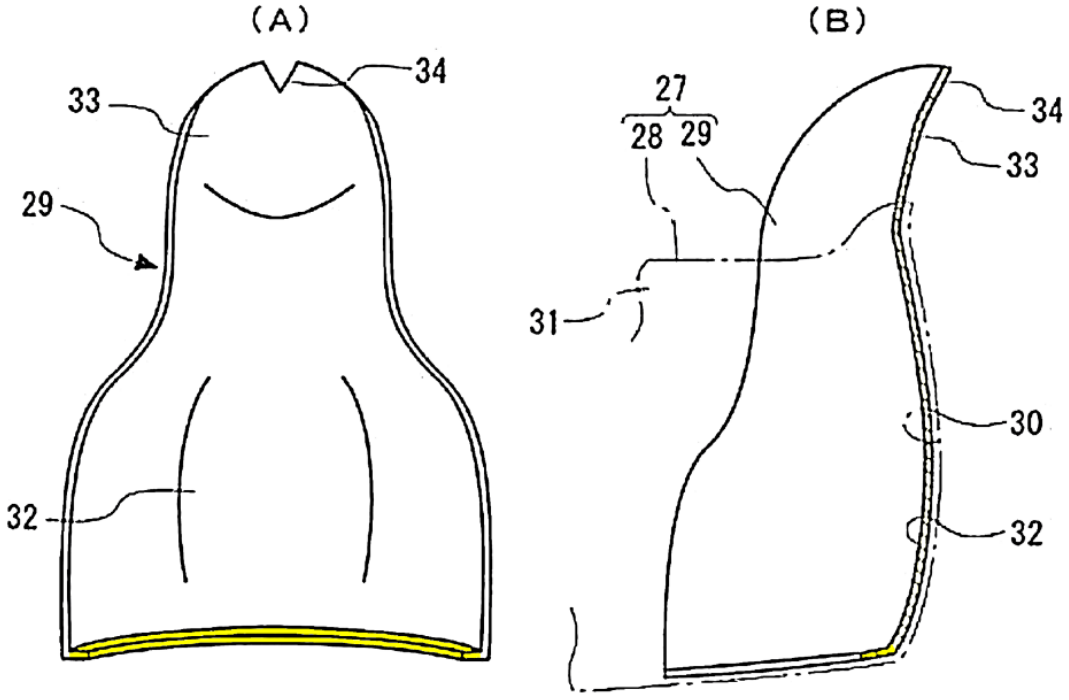
Takahashi, Figs. 1, 4.

First, Takahashi's "second counter 29" is "a stabilizer defining a unitary structure." Takahashi's includes a "counter 27" which "is a double structure including a first counter 28 and a ***second counter 29*** that at least partially overlap."

Id., ¶59. "The second counter 29 integrally has an overlapping concave curved surface portion 32 … and a guide core portion 33." *Id.*, ¶63. Takahashi's "second counter 29 is formed by, for example, a ***shape-memory resin (shape-memory polymer)***," *id.*, ¶68, making it "a stabilizer defining a unitary structure" as claimed.

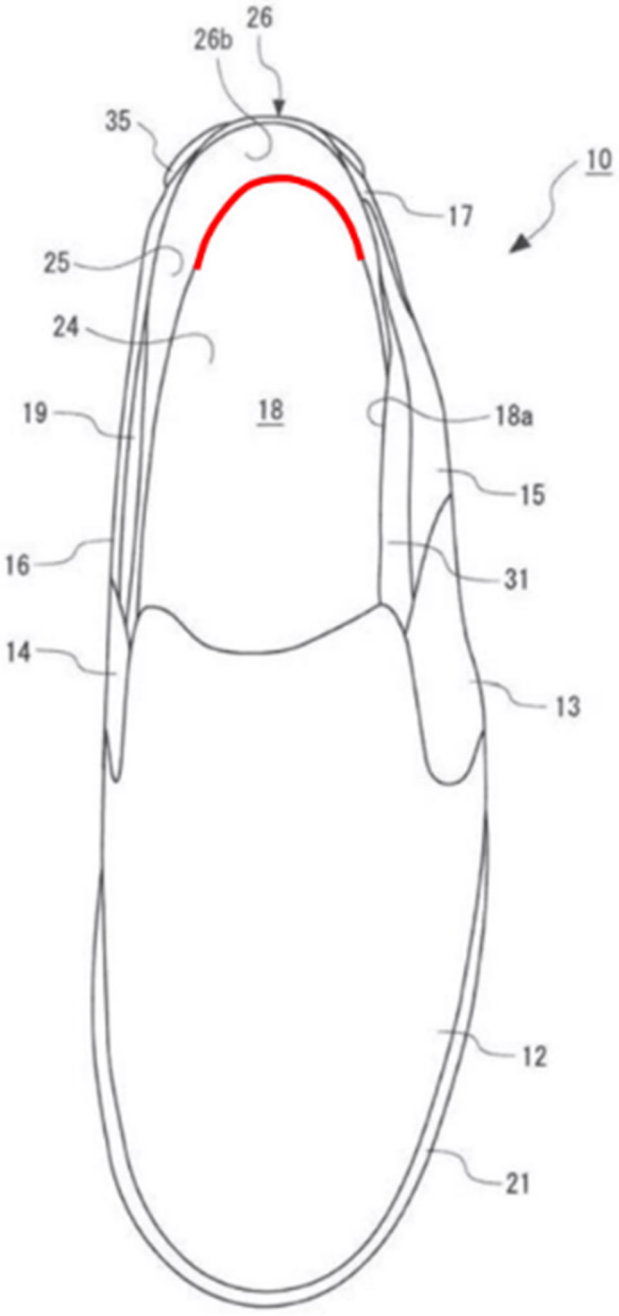
Second, Takahashi's second counter 29 "extend[s] from the sole portion toward a rear portion of the foot opening" as claimed. For example, the '096 patent explains that "sole portion" includes the "footbed, insole, midsole, [and] outsole." EX1001, 4:29. In Figure 4, annotated with yellow highlighting below, Takahashi's "second counter 29" comprises an inwardly-extending flange at its base, and a "guide core portion 33" at the elevated portion that "slopes in a direction opposite to the heel curve 23 sloping inward as it approaches the rear edge" of the foot opening:

[FIG. 4]



Takahashi, Fig. 4 & ¶64. A POSITA would have understood that this flange sits underneath at least "insole 24," as annotated below:

[FIG. 2]

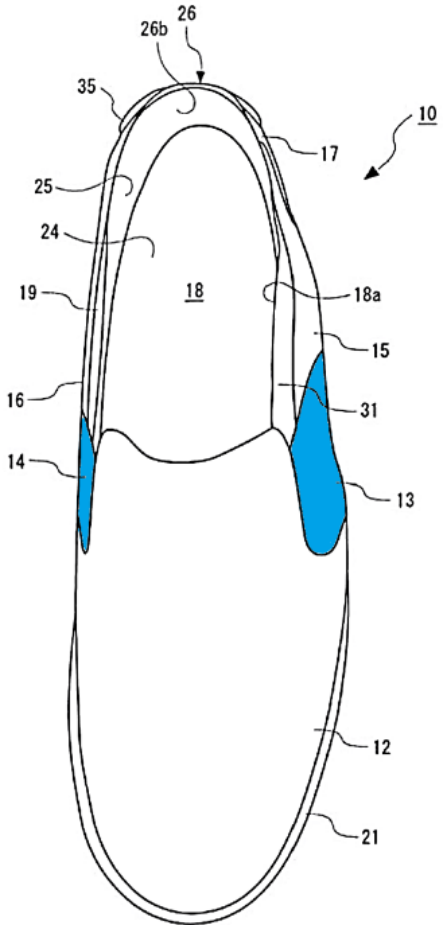


Id., Fig. 2; EX1003, ¶¶18-29. Takahashi's stabilizer thus "extend[s] from the sole portion toward a rear portion of the foot opening" as claimed.

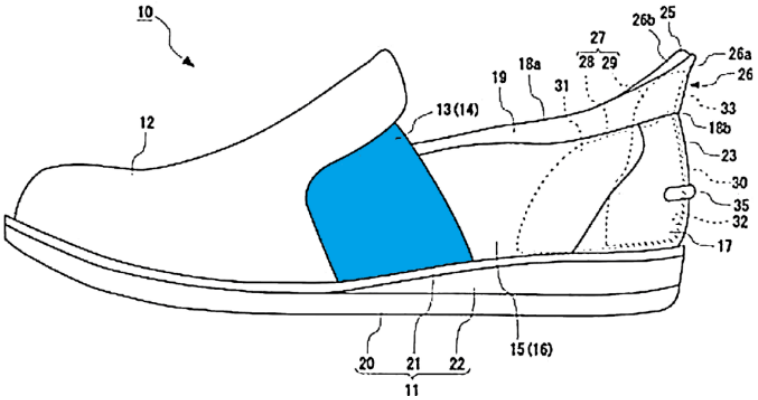
- ***21[d.1]: "a plurality of elastic elements positioned along at least a portion of the upper,"***

Takahashi discloses 21[d.1]. Takahashi includes "stretchable portions 13, 14 located on both the left side and the right side to allow the deformation of the upper 12," *id.*, ¶37, "made of, for example, a stretchable cloth or rubber sheet," *id.*, ¶45, highlighted blue below:

[FIG. 2]



[FIG. 1]

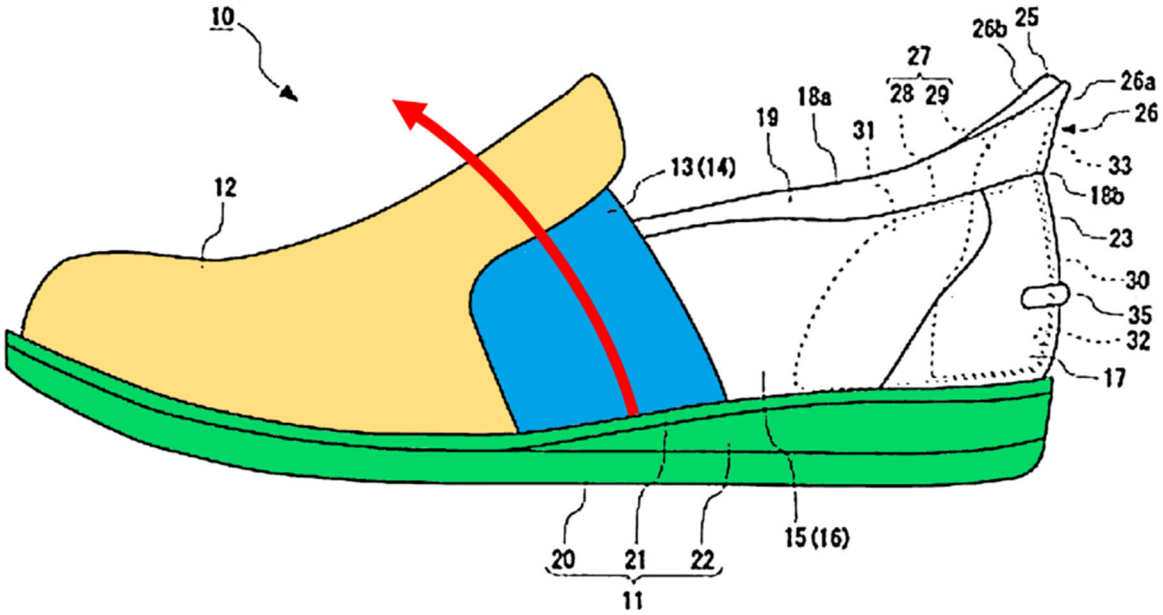


Id., Figs. 1, 2.

- ***21[d.2]: "the plurality of elastic elements configured to facilitate at least one of flexion and pivoting of the forward portion of the upper relative to the sole portion,"***

Takahashi discloses 21[d.2]. For example, annotated Figure 1 below shows that the "plurality of elastic elements" (blue) are "configured to facilitate at least one of flexion and pivoting" (indicated by red arrow) "of the forward portion of the upper" (orange) "relative to the sole portion" (green):

[FIG. 1]



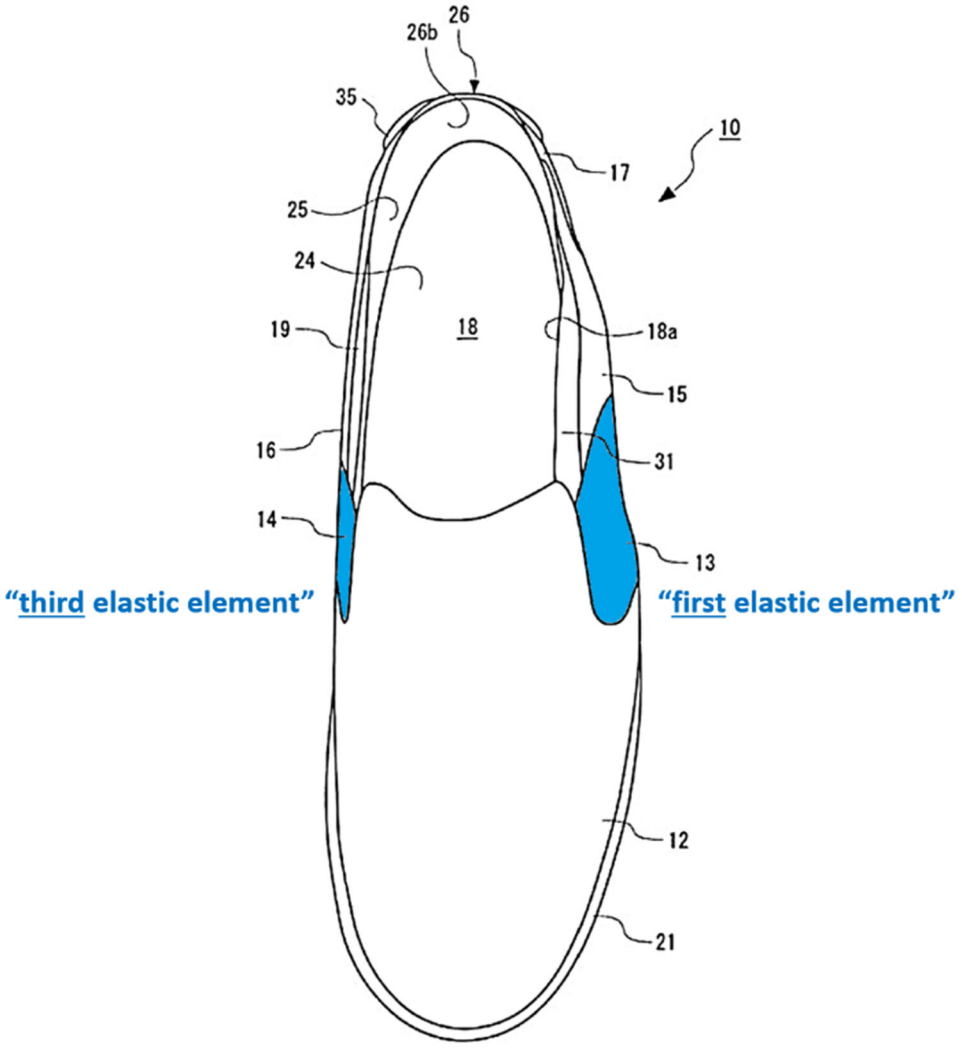
Takahashi, Fig. 1. The "stretchable portions 13, 14 [are] located on both the left side and the right side to ***allow the deformation of the upper 12***." *Id.*, ¶37; EX1003, ¶34.

- ***21[d.3]: "wherein the plurality of elastic elements includes at least a first elastic element, a second elastic element, and a third elastic element,"***

Element 21[d.3] is obvious over Takahashi in view of Hanak. In this combination, Takahashi discloses the claimed "***first***" and "***third*** elastic element[s]," and Hanak discloses the "***second*** elastic element."

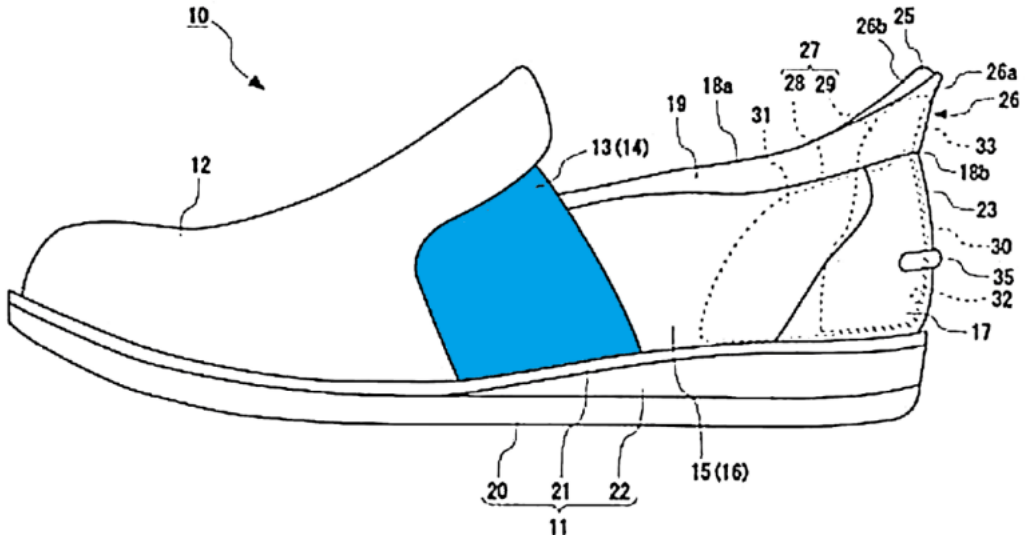
First, Takahashi's "stretchable portions 13, 14" are the "first elastic element" and "third elastic element," respectively:

[FIG. 2]



Takahashi, Fig 2.

[FIG. 1]



Id., Fig. 1, ¶37 ("a pair of stretchable portions 13, 14 located on both the left side and the right side").

Second, Hanak discloses the claimed "second elastic element." For context, Hanak teaches at least three elastic elements on the upper, including those highlighted blue in Figures 10 and 11 below:

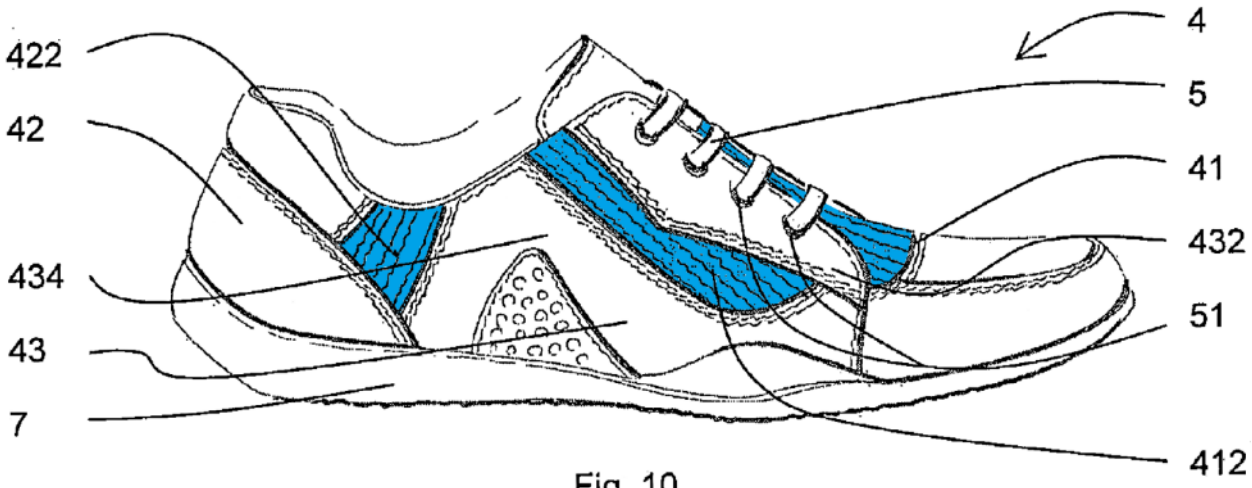


Fig. 10

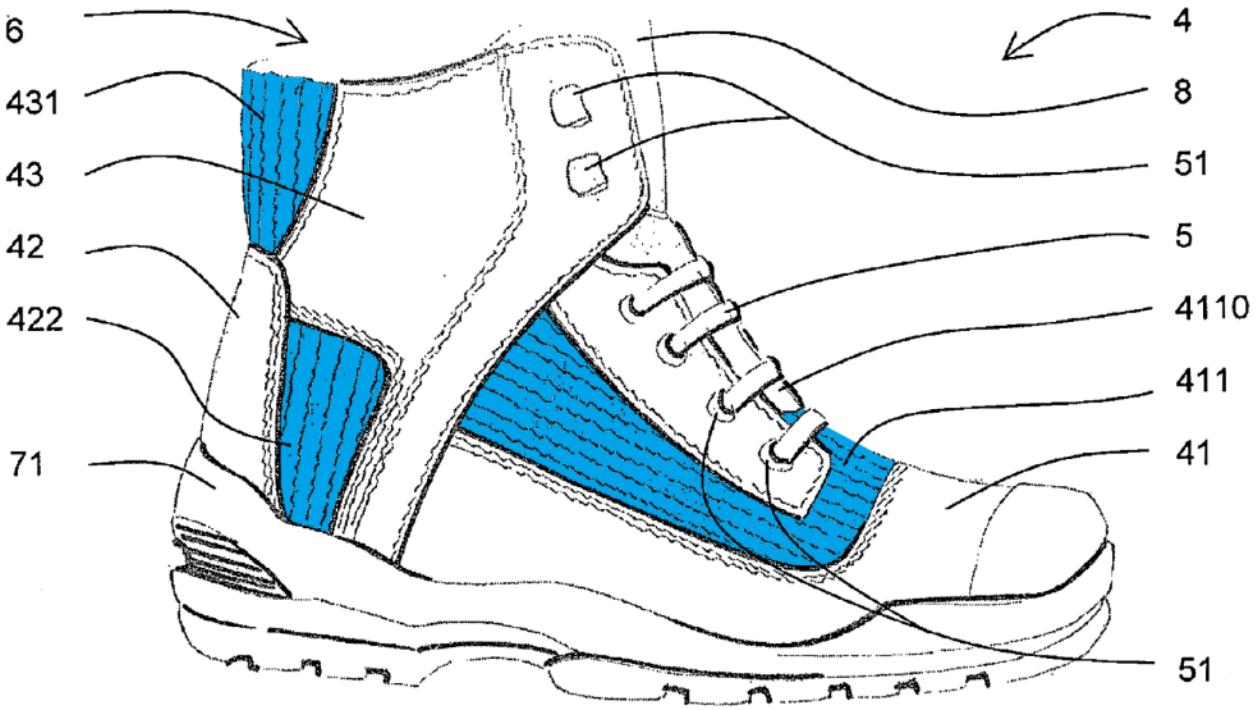


Fig. 11

Hanak, Figs. 10, 11.

Of these, Hanak explains that "FIG. 10" includes "approximately ***rectangular instep elastic insertion 411***" that "reduces pressure … on the instep of the foot." *Id.*, ¶38.

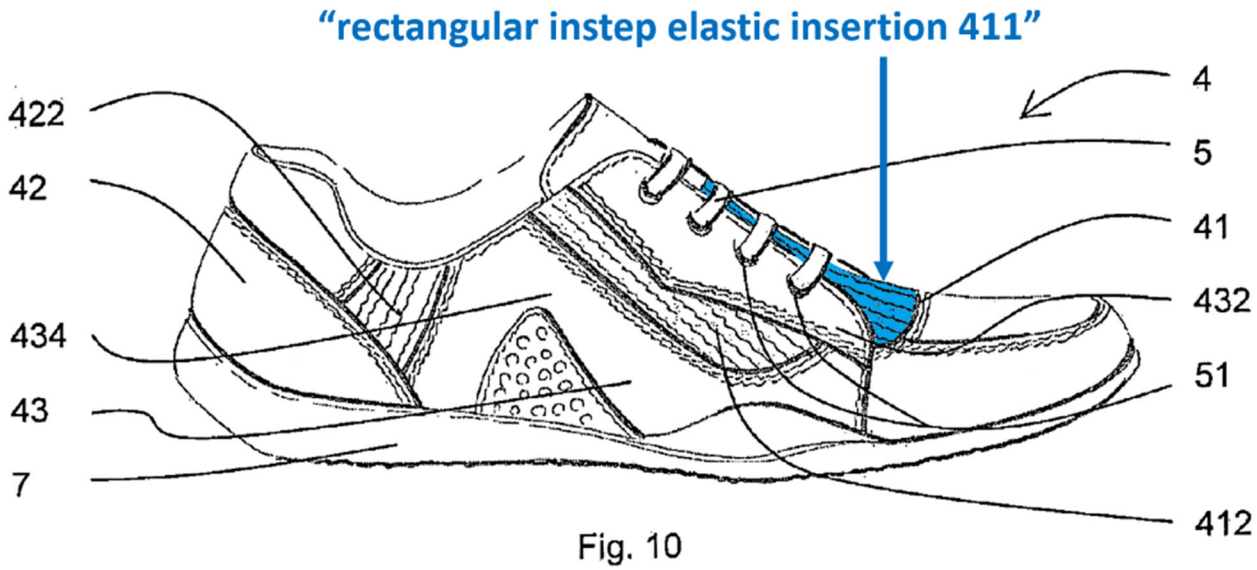


Fig. 10

Id., Fig. 10. It appears that Figure 10 inadvertently omitted the numeral "411" to denote "rectangular instep elastic insertion 411" as described. *Id.* However, a POSITA would have understood that the rightmost elastic insertion highlighted blue above corresponds to "rectangular instep elastic insertion 411," as it contains the same ridge lines as the Figure 11 example, is in the same general instep location on the upper as the instep insertion in Figure 11 (below), and is "approximately rectangular" as discussed in the paragraph describing Figure 10. EX1003, ¶¶37-40.

Similarly, as noted above, Hanak describes an "approximately ***trapezoidal instep elastic insertion 411***" with reference to Figure 11. *Id.*, ¶39.

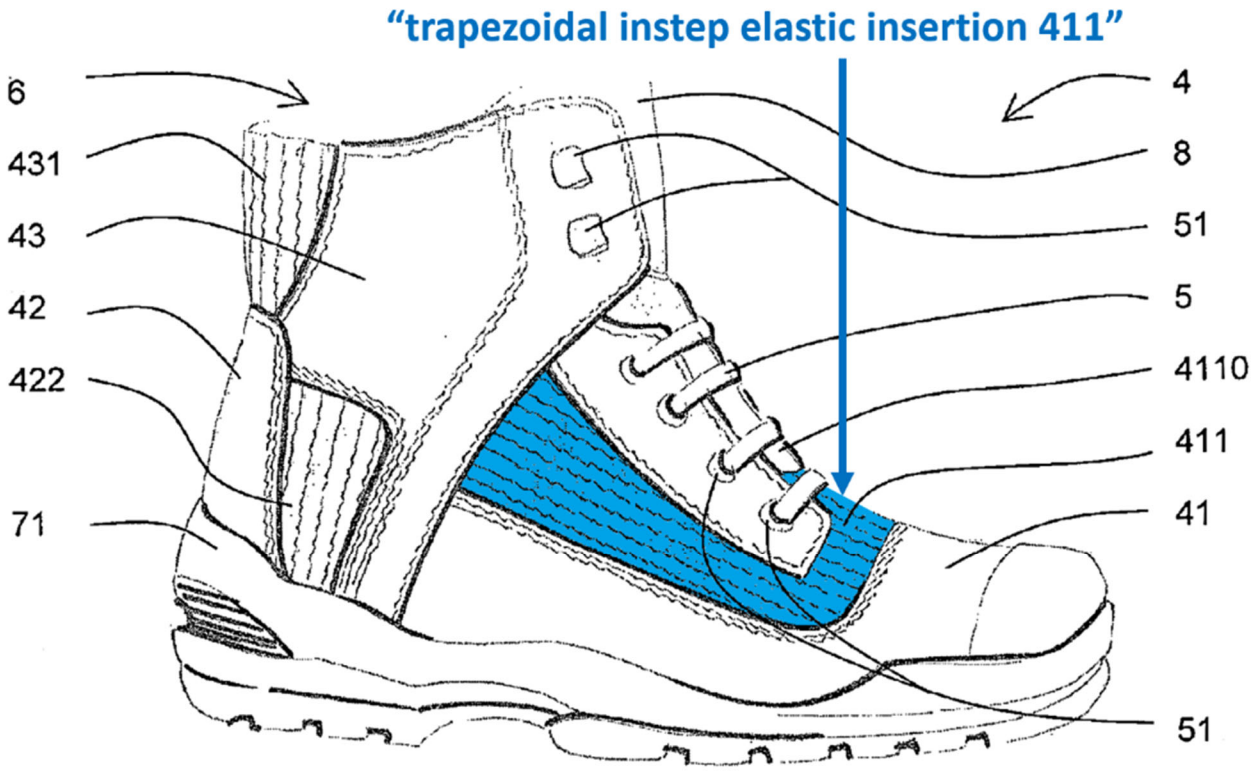


Fig. 11

Hanak, Fig. 11.

A POSITA would have found it obvious to supplement Takahashi by adding Hanak's instep elastic insertion as the "***second*** elastic element" of 21[d.3].

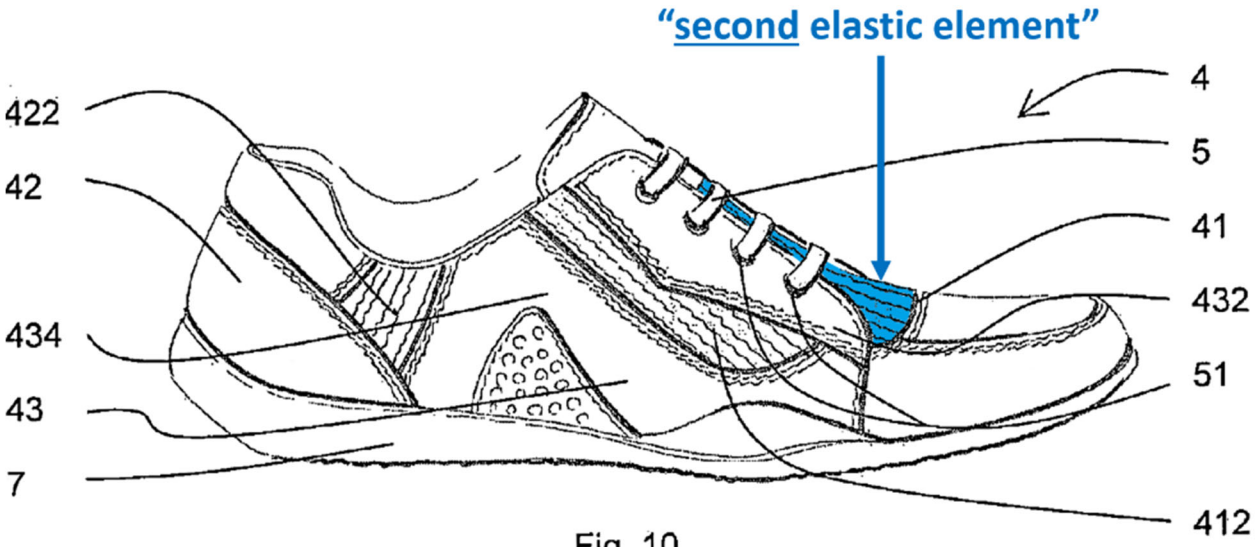
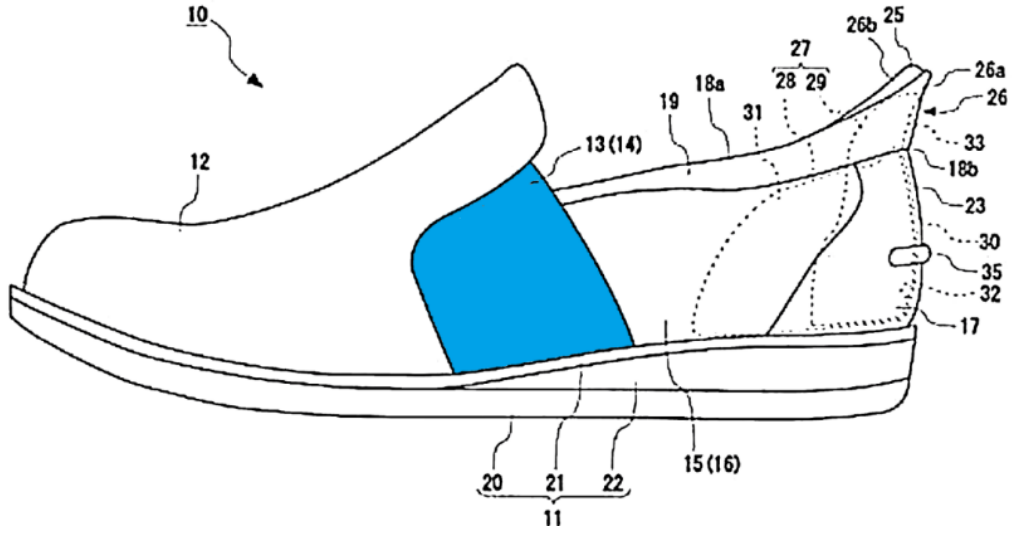


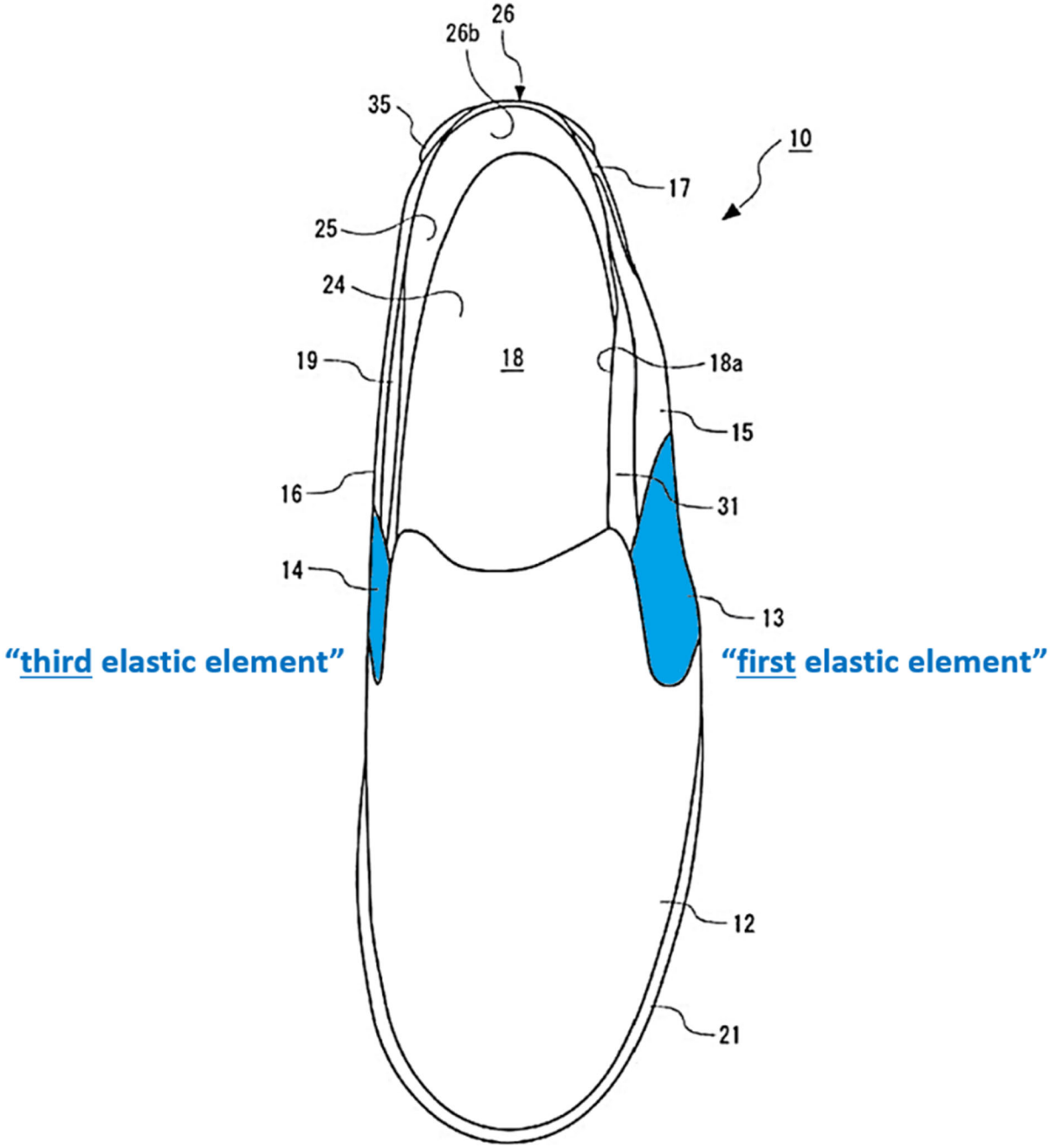
Fig. 10

Id., Fig. 10. A POSITA would have been particularly motivated to use a "rectangular instep elastic insertion" like that in Hanak's Figure 10, which is shown on a loafer-style shoe of similar form factor to Takahashi's, and which would readily fit on the instep of Takahashi's shoe with little modification.

[FIG. 1]



[FIG. 2]



Takahashi, Figs. 1, 2; *see also, e.g.*, EX1003, ¶¶41-43.

Petitioner notes that, like in Hanak, an ***instep elastic insertion*** is a disclosed ***preferred embodiment*** of a "second elastic element" that the '096 patent depicts in Figure 6A, featured on the title page:

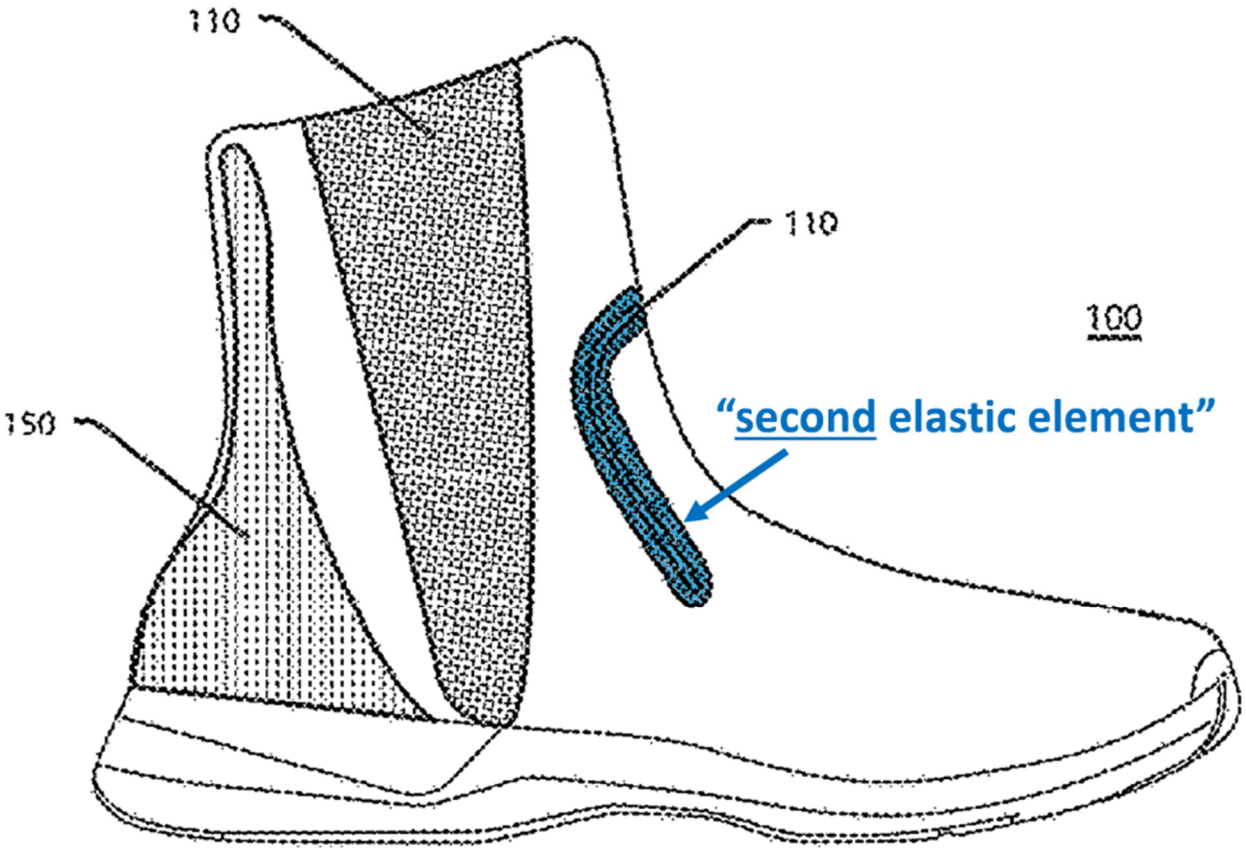


FIG. 6A

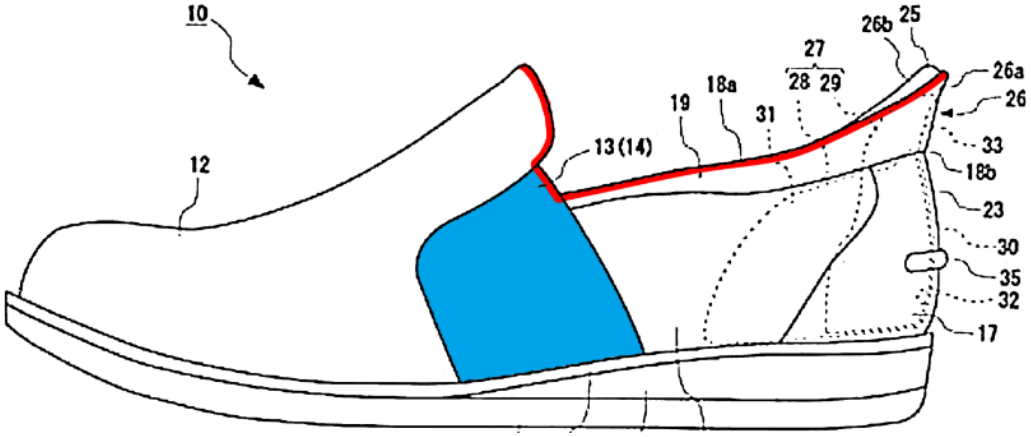
EX1001, Fig. 6A.

Accordingly, Takahashi discloses the "***first***" and "***third*** elastic element[s]," and Hanak discloses the "***second*** elastic element," of 21[d.3]. A POSITA's motivations to combine Takahashi and Hanak, and reasonable expectation of success, are discussed further in Part VIII.A.iv below.

- ***21[d.4]: "wherein the first elastic element and the third elastic element extend to a top line of the upper, and,"***

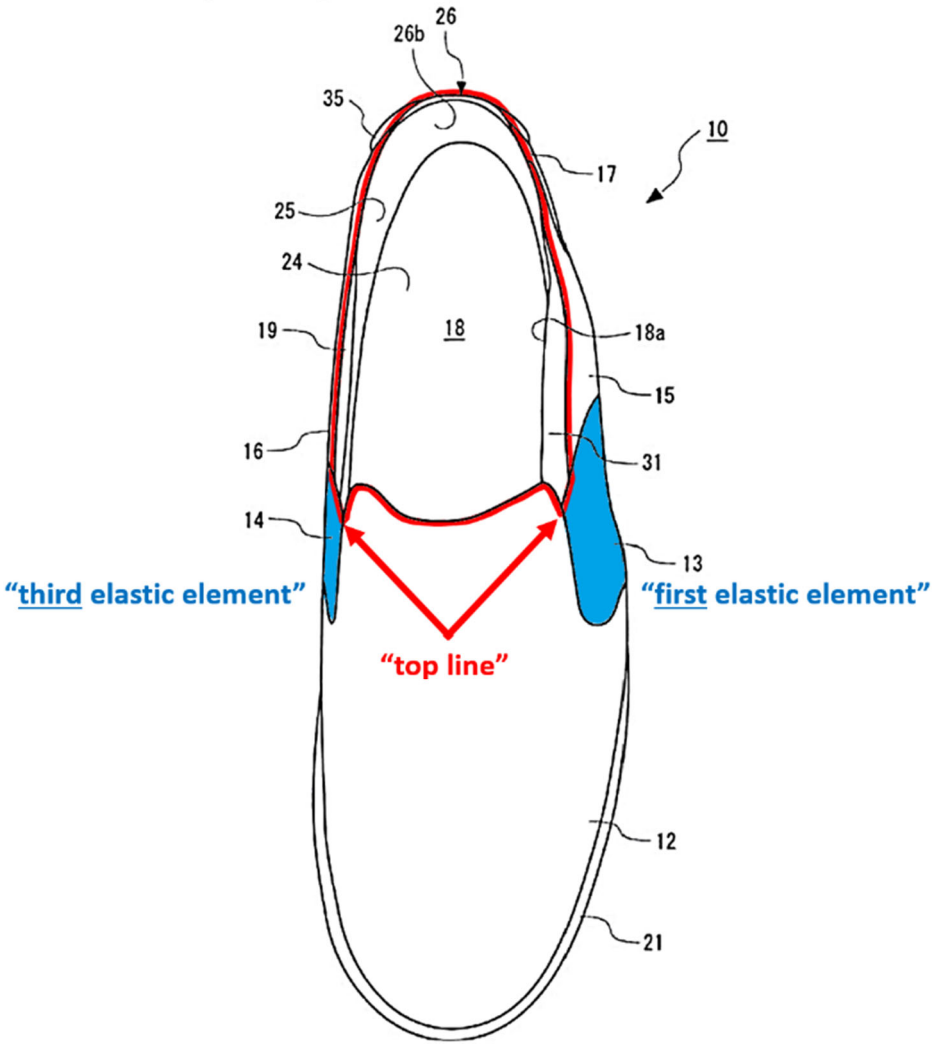
Takahashi discloses 21[d.4]. For example, as shown in annotated Figures 1 and 2, the "first elastic element" and "third elastic element" (blue) each "extend to a top line of the upper" (red line), each forming part of the top line:

[FIG. 1]



Id., Fig. 1.

[FIG. 2]



Id., Fig. 2.

- ***21[d.5]: "the second elastic element is spaced from the top line of the upper,"***

Hanak discloses 21[d.5]. As illustrated below, the "second elastic element" (blue) "is spaced from the top line of the upper" (red):

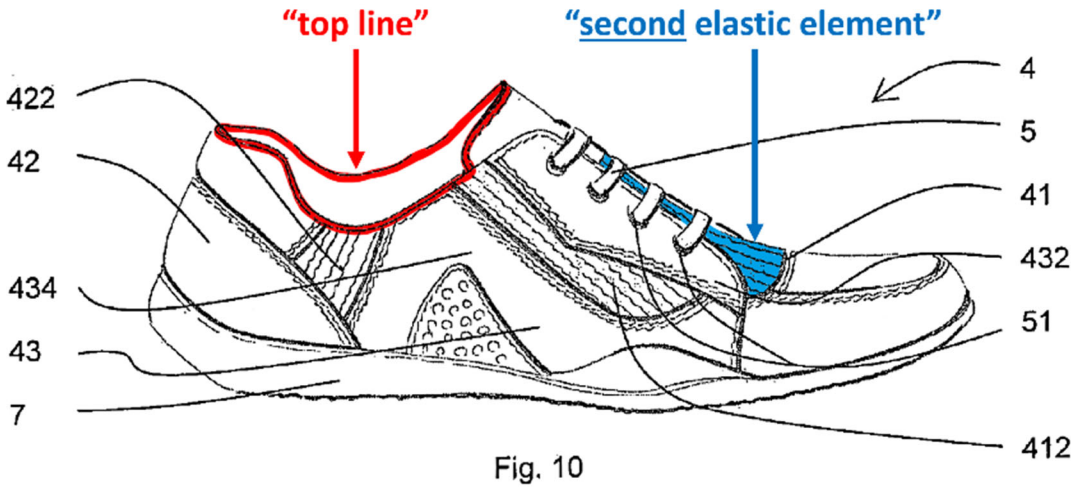
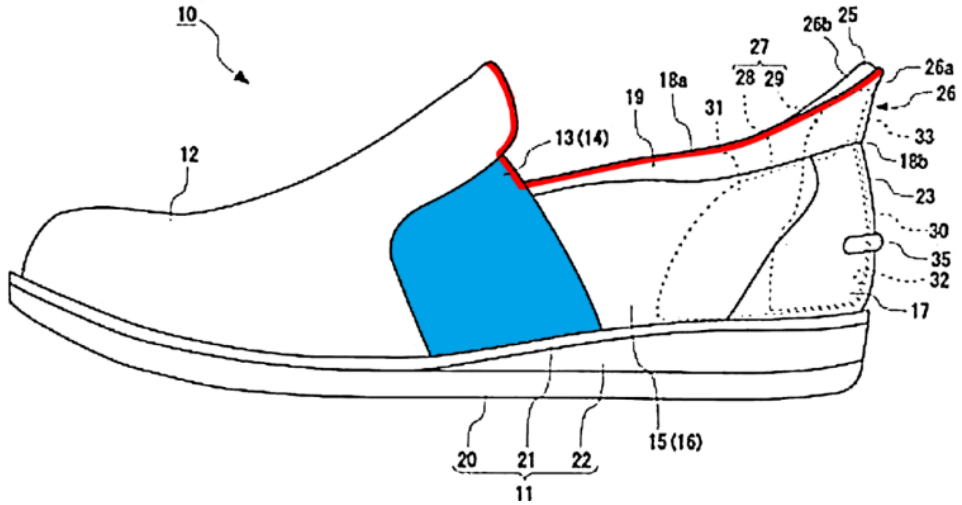


Fig. 10

Hanak, Fig. 10. A POSITA would have understood that Hanak's instep elastic insertion would likewise be spaced from the top line when incorporated into Takahashi's shoe, as both shoes have a similar loafer-style form factor.

[FIG. 1]

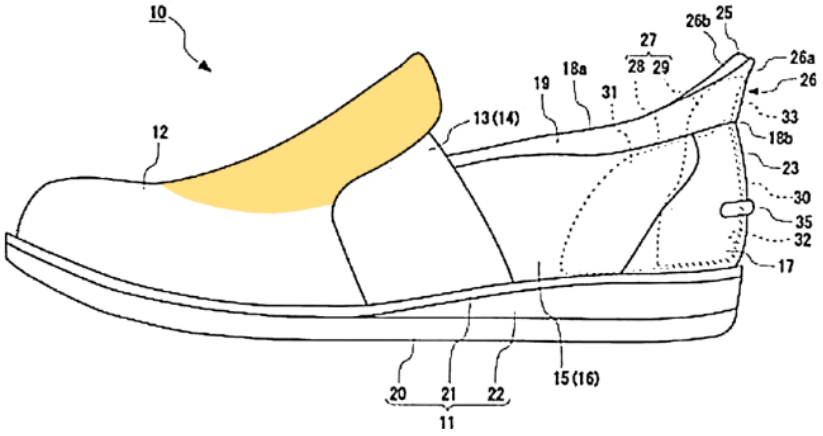


Takahashi, Fig. 2; *see also* EX1003, ¶43.

- ***21[e.1]: "wherein the forward portion defines a tongue portion,"***

Takahashi discloses 21[e.1]. Takahashi's "tongue portion" is highlighted orange below:

[FIG. 1]

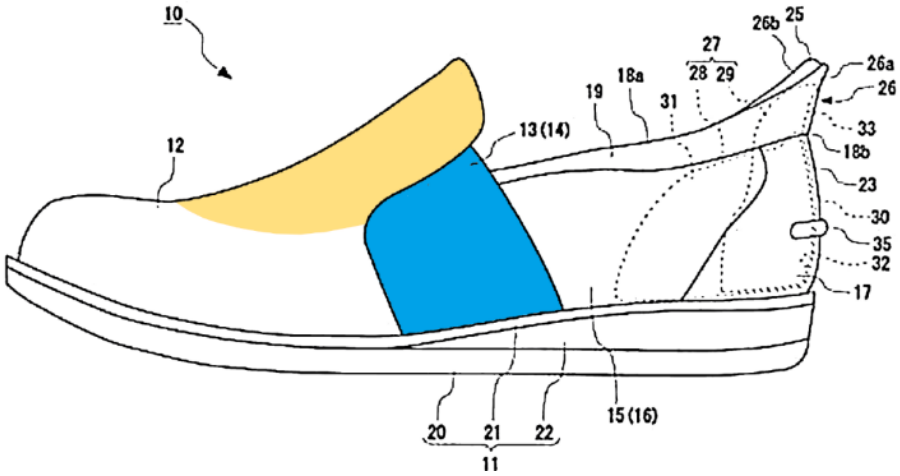


Takahashi, Fig. 1.

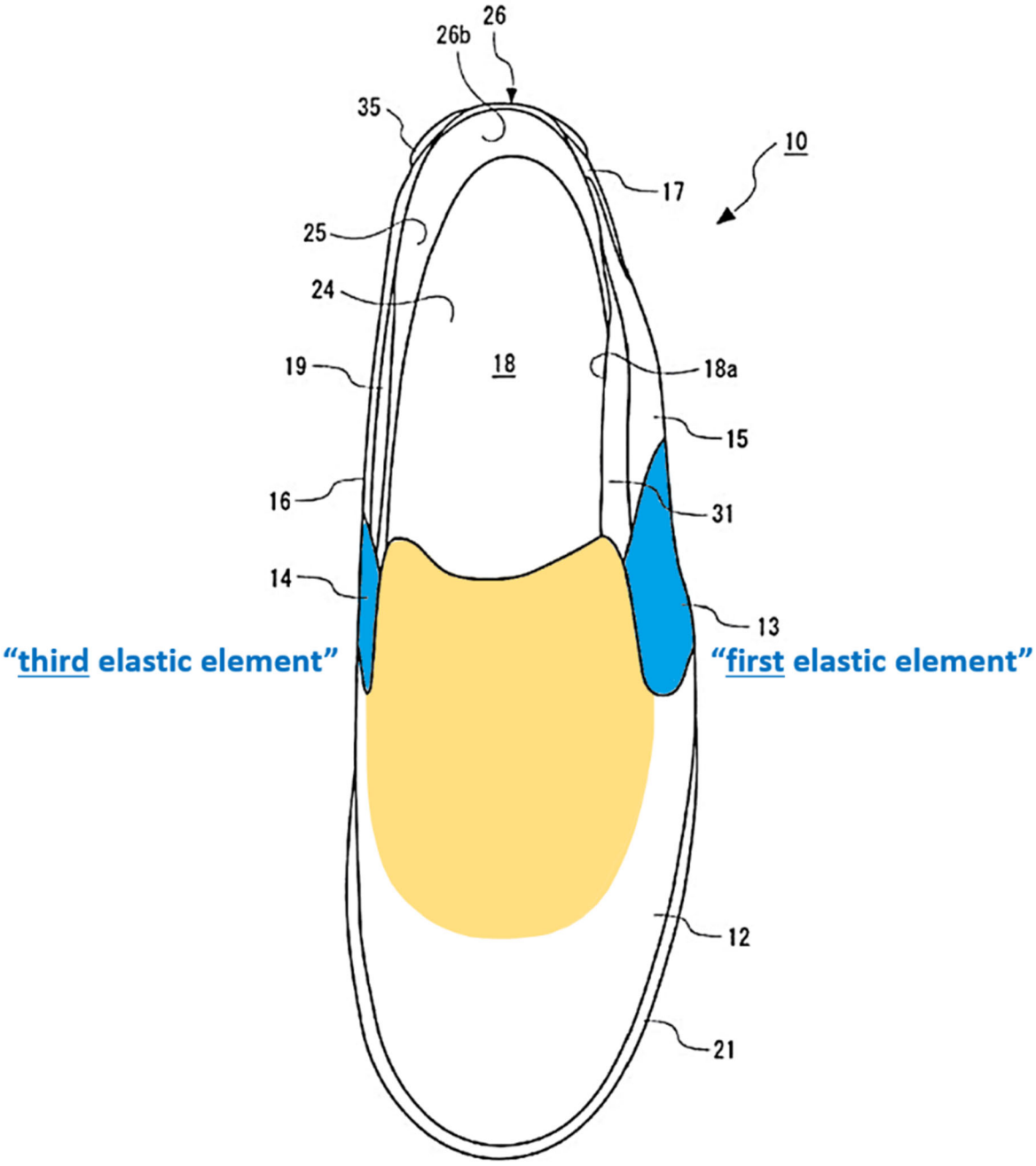
- ***21[e.2]: "wherein the tongue portion is coupled to at least one of the elastic elements and"***

Takahashi discloses 21[e.2]. As shown below, the "tongue portion" (orange) is coupled to the "first elastic element" and "third elastic element" (blue):

[FIG. 1]



[FIG. 2]



Takahashi, Figs. 1, 2; ¶46 ("The stretchable portions 13, 14 have their upper edges joined to the side edges of the upper 12 by sewing etc.…").

Further, although not needed to meet 21[e.2], Hanak's "second elastic element" is also coupled to the tongue portion:

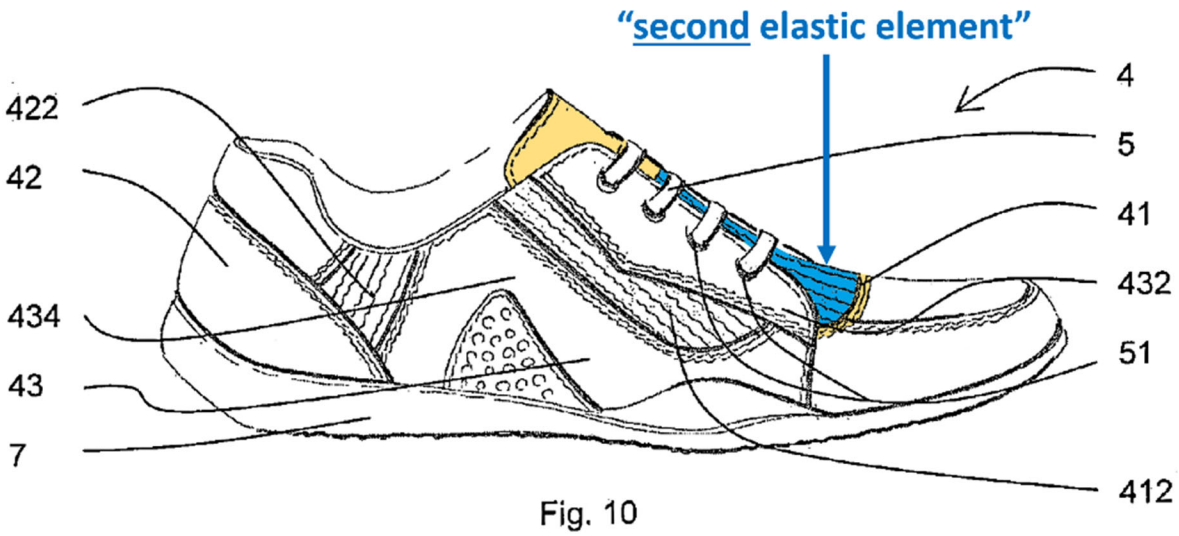


Fig. 10

Hanak, Fig. 10.

- ***21[e.3]: "wherein at least a portion of at least one of the elastic elements extends across the tongue portion."***

Hanak discloses 21[e.3]. For example, Figure 10 of Hanak discloses a "tongue portion" highlighted orange below:

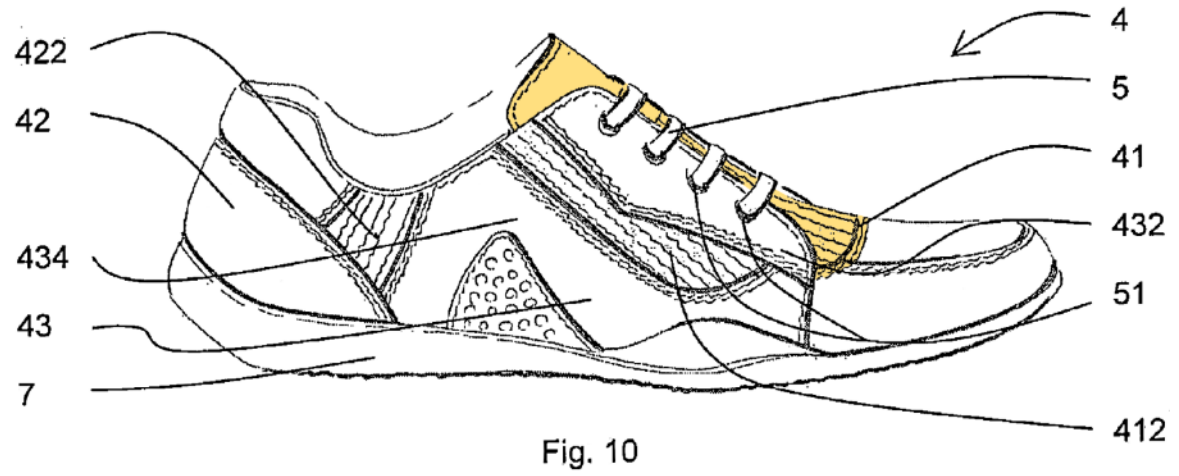


Fig. 10

Hanak, Fig. 10. A POSITA would have understood Figure 10's "tongue portion" as including at least the area indicated above, including because Figure 10 includes wavy lines at the bottom right of that area which appear to indicate stitching at the end of the tongue portion. *See also* EX1003, ¶41.

Figure 10 of Hanak further discloses that the "second elastic element" (highlighted blue below) "extends across the tongue portion" (orange), as indicated by the annotated blue arrow:

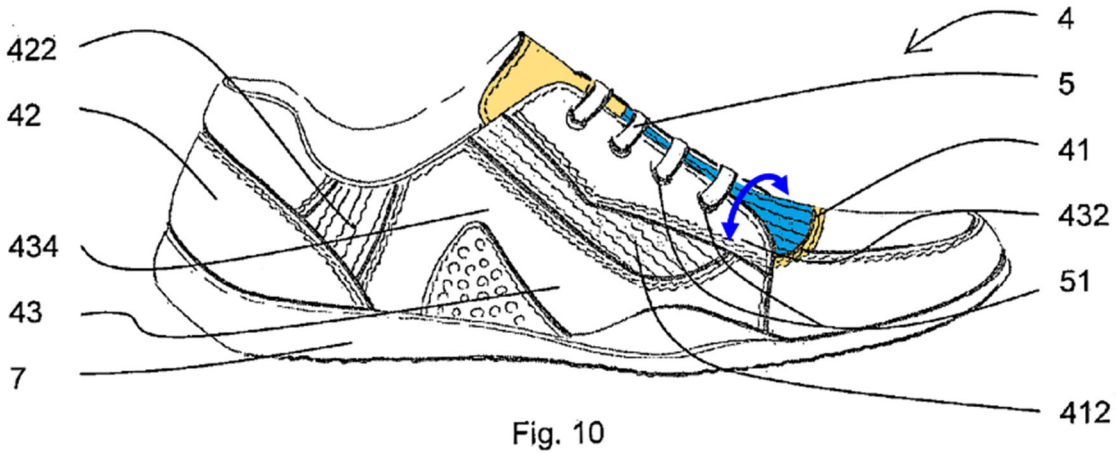
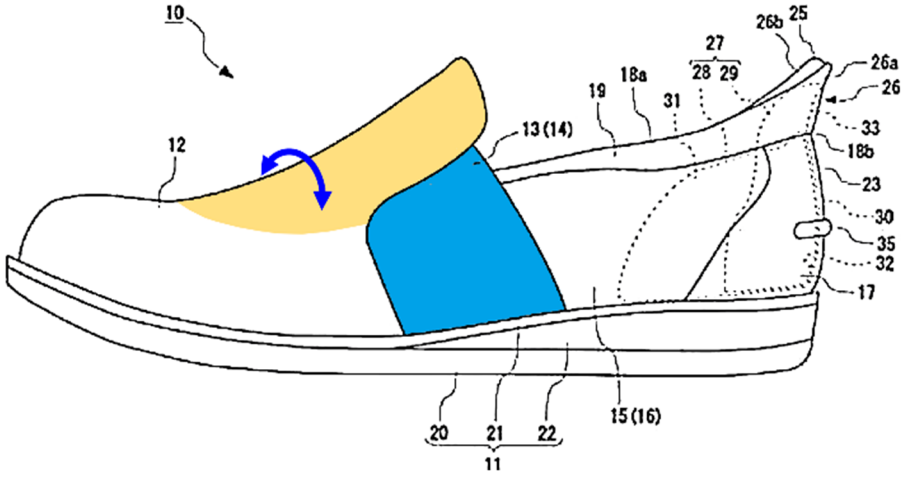


Fig. 10

Hanak, Fig. 10; *see also* Fig. 11. A POSITA would have likewise understood the "second elastic element" disclosed in Hanak would similarly "extend[] across the tongue portion" when implemented in Takahashi, as indicated below:

[FIG. 1]



Takahashi, Fig. 2; *see also* EX1003, ¶43.

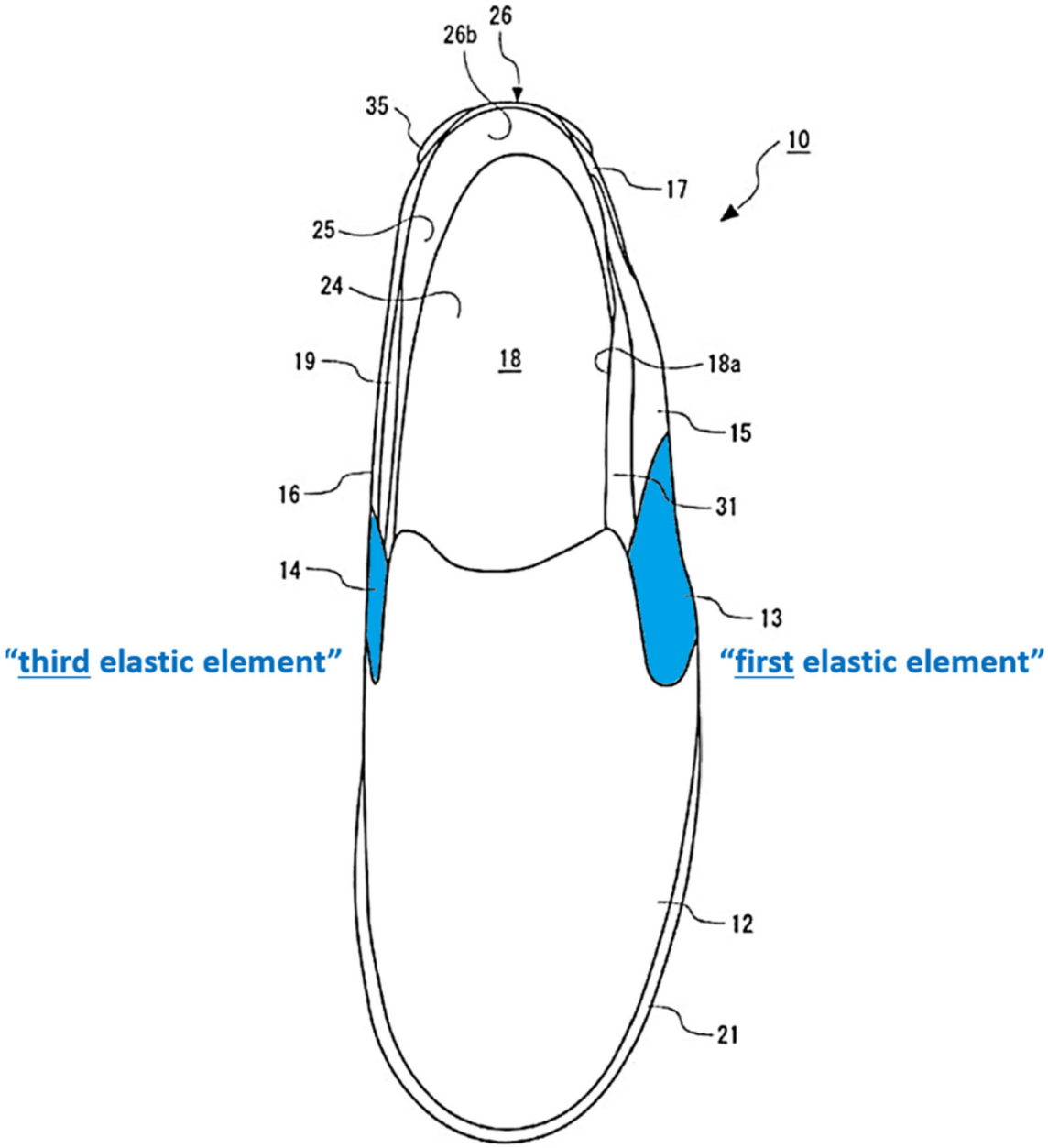
Accordingly, Claim 21 is obvious over Takahashi in view of Hanak.

ii. Claim 26

- ***26. "The rapid-entry shoe of claim 21, wherein the first elastic element is spaced from the third elastic element."***

Takahashi discloses claim 26. Figure 2 makes clear that the "first elastic element" is spaced from the "third elastic element."

[FIG. 2]



Takahashi, Fig. 2.

iii. Claim 27

- ***27. "The rapid-entry shoe of claim 21, wherein the tongue portion defines a longitudinal axis substantially directed toward a front portion of the rapid-entry shoe, wherein the curvilinear profile of the elastic member crosses the longitudinal axis of the tongue portion."***

Hanak discloses claim 27. Hanak's "tongue portion" (highlighted orange) "defines a longitudinal axis[6] substantially directed toward a front portion of the rapid-entry shoe" (dashed red line):

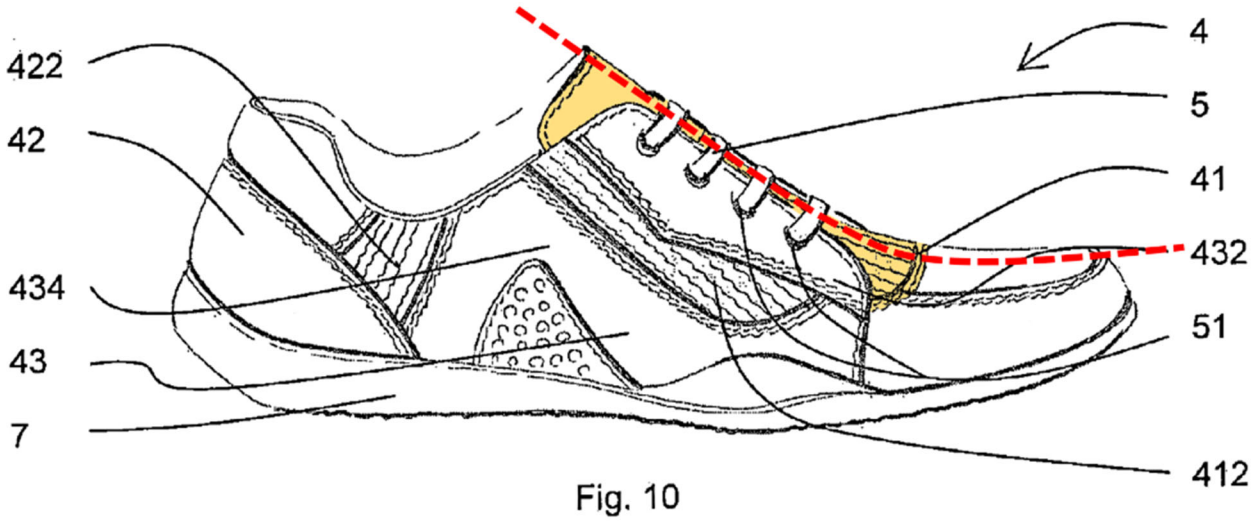


Fig. 10

Hanak, Fig. 10. Further, the claimed "second elastic element" (highlighted blue) has a "curvilinear profile" that "crosses the longitudinal axis of the tongue portion" (dashed red line):

[6] While the '096 patent does not define "longitudinal," it uses it to describe a ***lengthwise*** axis. EX1001, 6:1-8 ("[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*** ….").

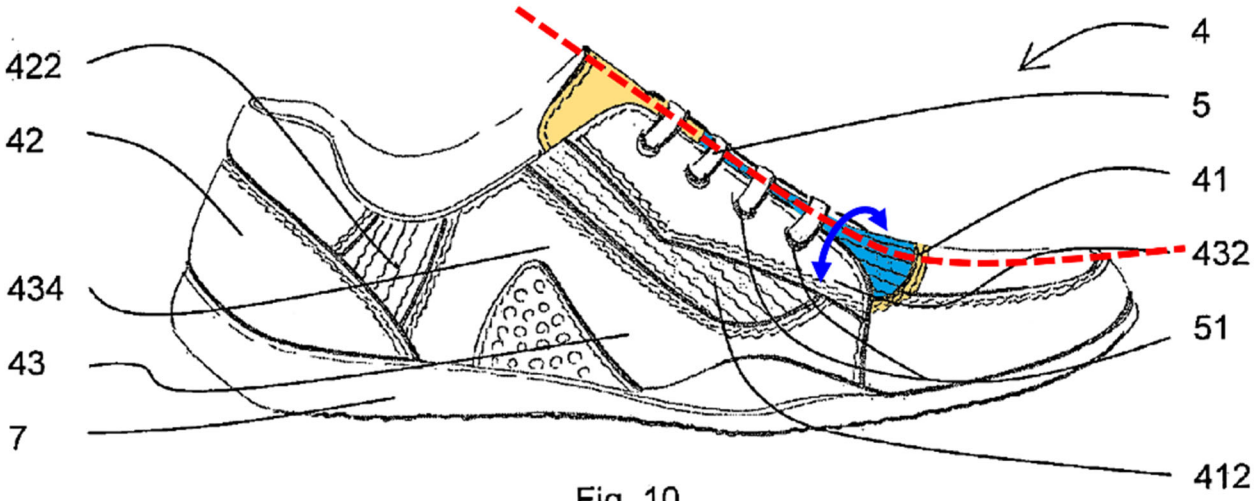
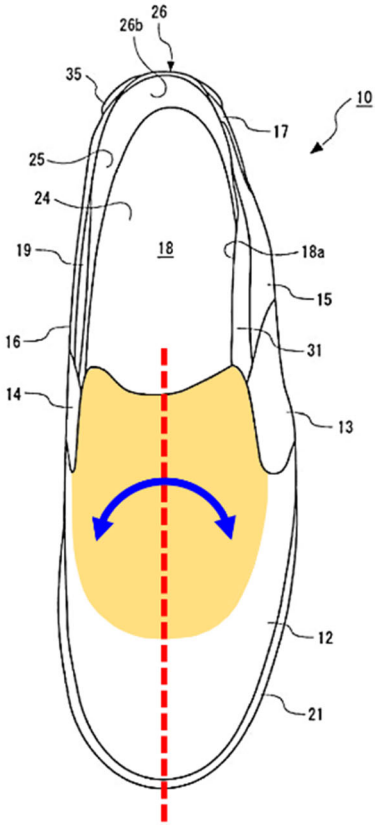


Fig. 10

Id. A POSITA would have likewise understood that the claimed "second elastic element" disclosed in Hanak would also cross the tongue portion's longitudinal axis when implemented in Takahashi's shoe, as indicated below:

[FIG. 2]



Takahashi, Fig. 2; EX1003, ¶43.

iv. Combining Takahashi And Hanak

A POSITA would have been motivated to combine Takahashi and Hanak, with a reasonable expectation of success, by simply adding Hanak's "instep elastic insertion" to Takahashi's upper. Doing so would have been "the mere application of a known technique to a piece of prior art ready for the improvement." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007).

Specifically, Hanak's "instep elastic insertion" alleviates pressure caused by conventional "tough upper[s]" that are "firmly attached to the sole" and cause "extreme load" on the instep. Hanak, ¶2. Instep pressure was a well-known problem in the art, and the use of instep elastic components like Hanak's was a known solution. For example, U.S. Patent No. 5,970,629, from 1999, explains, "[s]ince the instep at the top of the foot is an especially sensitive part of the foot, where many blood vessels and tendons are near the surface, any points of pressure on the instep can cause discomfort." EX1026, 2:10-13. It proposes "a stretchable instep portion," *id.*, 3:3-5, comprising "a stretchable or elastic GORE-TEX laminate material" that "easily stretch[es] when the closure system is open for convenient insertion and removal of the foot from the footwear," *id.*, 3:49-51.

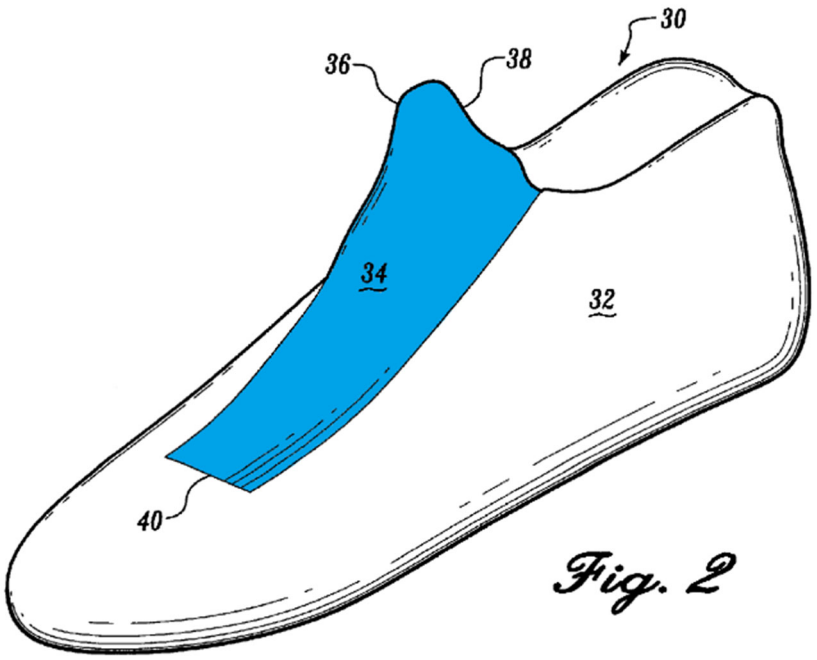


Fig. 2

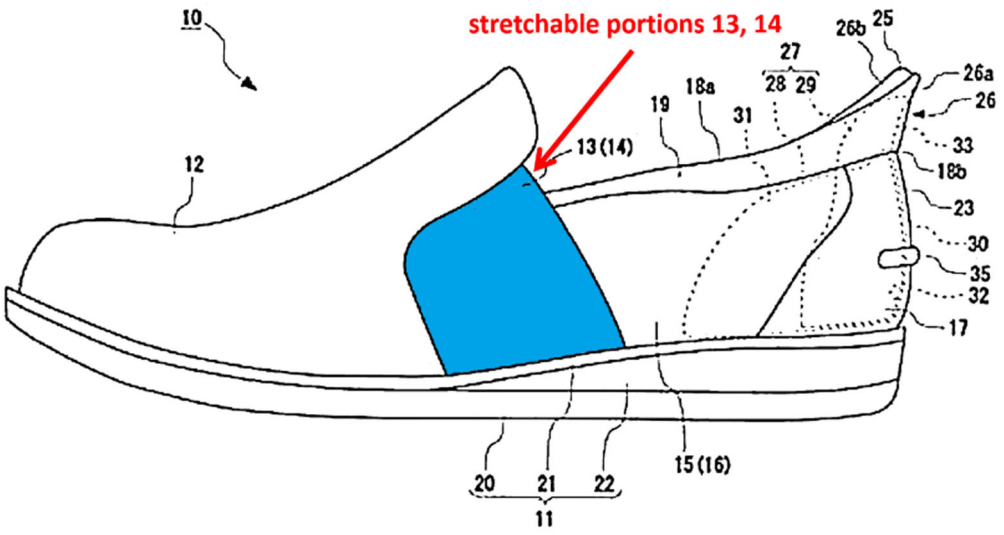
Id., Fig. 2. Accordingly, "[l]ess pressure is exerted against the foot, resulting in greater comfort and function." *Id.*, 4:11-12.

Here, Takahashi's upper may "be made of genuine leather, synthetic leather, artificial leather, enameled leather, etc." that is "joined to the midsole 21" of the shoe, Takahashi, ¶¶43-44, and Hanak teaches that its instep elastic insertion is designed to be incorporated into leather uppers. Hanak, ¶30 ("This insertion with advantage is performed as multilayered one, when it from outer side contains folded layer 2 of material from which the upper of the shoe (e.g. leather) is produced, this being firmly attached for example sewn together with under it arranged elastic layer 3 (e.g. a textile rubber), that renders to it suitable elastic properties."). A POSITA thus would have recognized that Hanak's instep elastic insertion would improve Takahashi's upper by alleviating pressure on the instep caused by its conventional

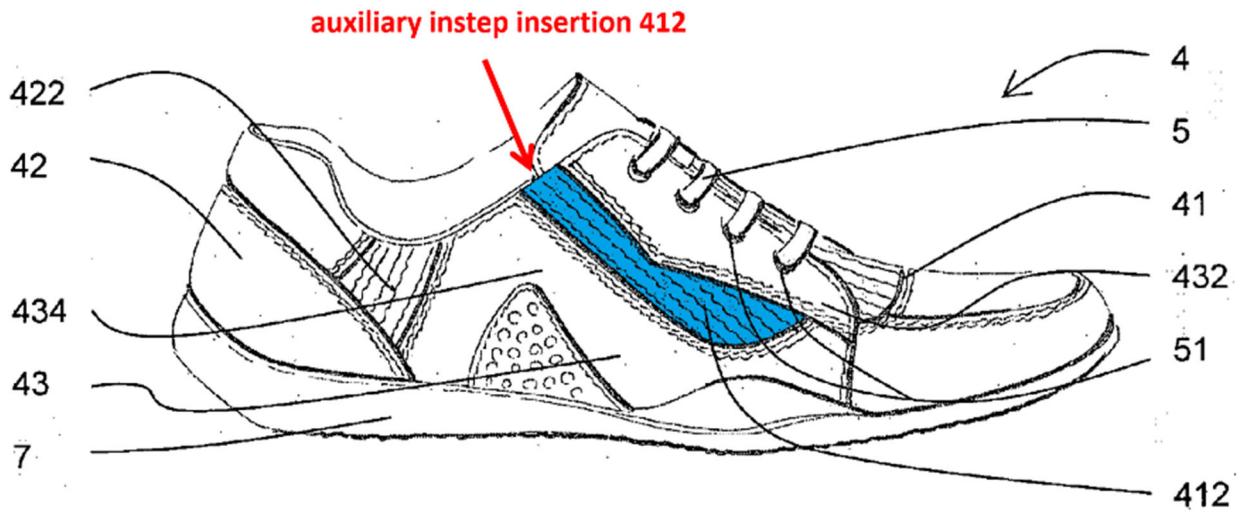
construction, providing comfort and health advantages. *See KSR*, 550 U.S. at 402 ("When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill in the art has good reason to pursue the known options within his or her technical grasp."); *Intel Corp. v. PACT XPP Schweiz AG*, 61 F.4th 1373, 1380 (Fed. Cir. 2023) ("[I]f there's a known technique to address a known problem using 'prior art elements according to their established functions,' then there is a motivation to combine.").

Additionally, a POSITA would have been motivated to combine Takahashi and Hanak based on "the interrelated teachings of [these] patents." *See ZUP, LLC v. Nash Mfg., Inc.*, 896 F.3d 1365, 1371 (Fed. Cir. 2018). For example, Hanak and Takahashi both disclose shoes with similar loafer-style form factors, and both further disclose elastic elements on the sides to enable beneficial deformations of the upper. *See*, *e.g.*, Hanak, ¶6 ("To increase the effect of the instep elastic insertion, the upper of the shoe may further on at least one side of the shoe … comprise an auxiliary instep elastic insertion."); Takahashi, ¶37 ("a pair of stretchable portions 13, 14 located on both the left side and the right side to allow the deformation of the upper 12"). For example, Takahashi's "stretchable portions 13, 14" are similar to Hanak's "auxiliary instep insertion 412 positioned on at least one side of the shoe." Hanak, ¶38. These side elastic elements in both references also form part of the topline:

[FIG. 1]



Takahashi Fig. 1.



Hanak Fig. 10. Because Takahashi's shoe already includes elastic elements on its sides in the same configuration as Hanak's, a POSITA would have recognized that Takahashi was "ready for the improvement" of Hanak. *See KSR*, 550 U.S. at 417.

A POSITA would have had a reasonable expectation of success in incorporating Hanak's instep elastic insertion into Takahashi. As discussed, Hanak

and Takahashi both disclose shoes with similar loafer-style form factors, and a POSITA would have recognized that the "rectangular instep elastic insertion" of Hanak Figure 10 would fit on the instep of Takahashi's shoe with little modification. *See, e.g.*, EX1003, ¶¶41-43. Hanak also teaches that its instep elastic insertion can be applied to shoes with leather uppers like Takahashi's. Takahashi already incorporates elastic elements at its sides, which Hanak explains "increase[s] the effect of the instep elastic insertion," Hanak, ¶6, so each component would function in the same way as in the original reference. Moreover, the materials and techniques for making Hanak's instep elastic insertion were conventional at the time of the invention, and a POSITA would have been able to easily modify its size, shape, and orientation to accommodate Takahashi's upper without substantial experimentation or modification. *See* EX1026, 3:28-53; EX1021 p.13 (teaching various "goring[s]," a "fabric woven with rubber threads to form an elastic material," that can be "applied at the shoe's throat or instep" or "over the instep and under the tongue"). Incorporating Hanak's instep elastic insertion into Takahashi thus would have been a mere "combination of familiar elements according to known methods" to "yield predictable results," and/or a "predictable use of prior art elements according to their established functions." *KSR*, 550 U.S. at 416.

B. GROUND 2: Claims 13-20 Are Obvious Over Takahashi In View Of Hanak And Murray

Takahashi (EX1005) discloses all elements of claims 13-20 save for the "second elastic element," which is disclosed in Hanak (EX1010), and positioning of the "foam liner," which is disclosed in Murray (EX1015).

i. Claim 13

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

To the extent the preamble is limiting, Takahashi discloses it. *See* Part VIII.A.i, 21[pre] (identical claim language).

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

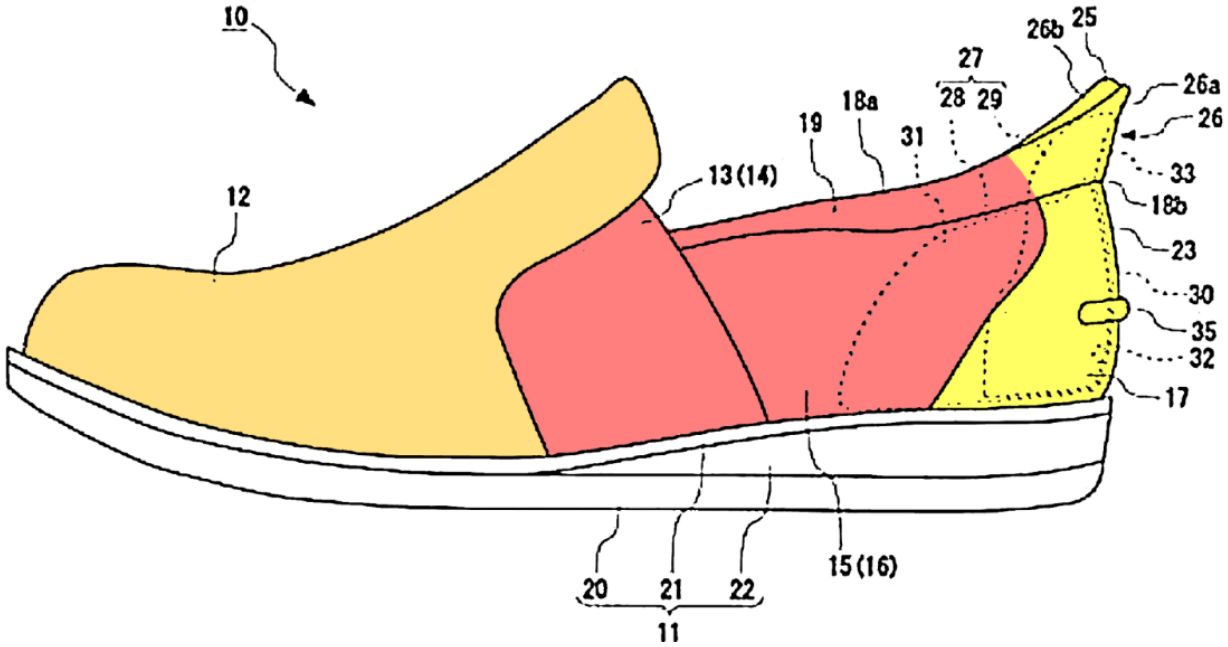
Takahashi discloses 13[a]. *See* Part VIII.A.i, 21[a] (identical).

- ***13[b.1]: "an upper coupled to the sole portion and including a rear portion, a lateral side portion, a medial side portion, and a forward portion,"***

Takahashi discloses 13[b.1]. *See* Part VIII.A.i, 21[b.1] ("an upper coupled to the sole portion and including a rear portion, a side portion, and a forward portion,").

As discussed, Takahashi's upper includes a rear portion (yellow), side portions (red), and forward portion (orange):

[FIG. 1]

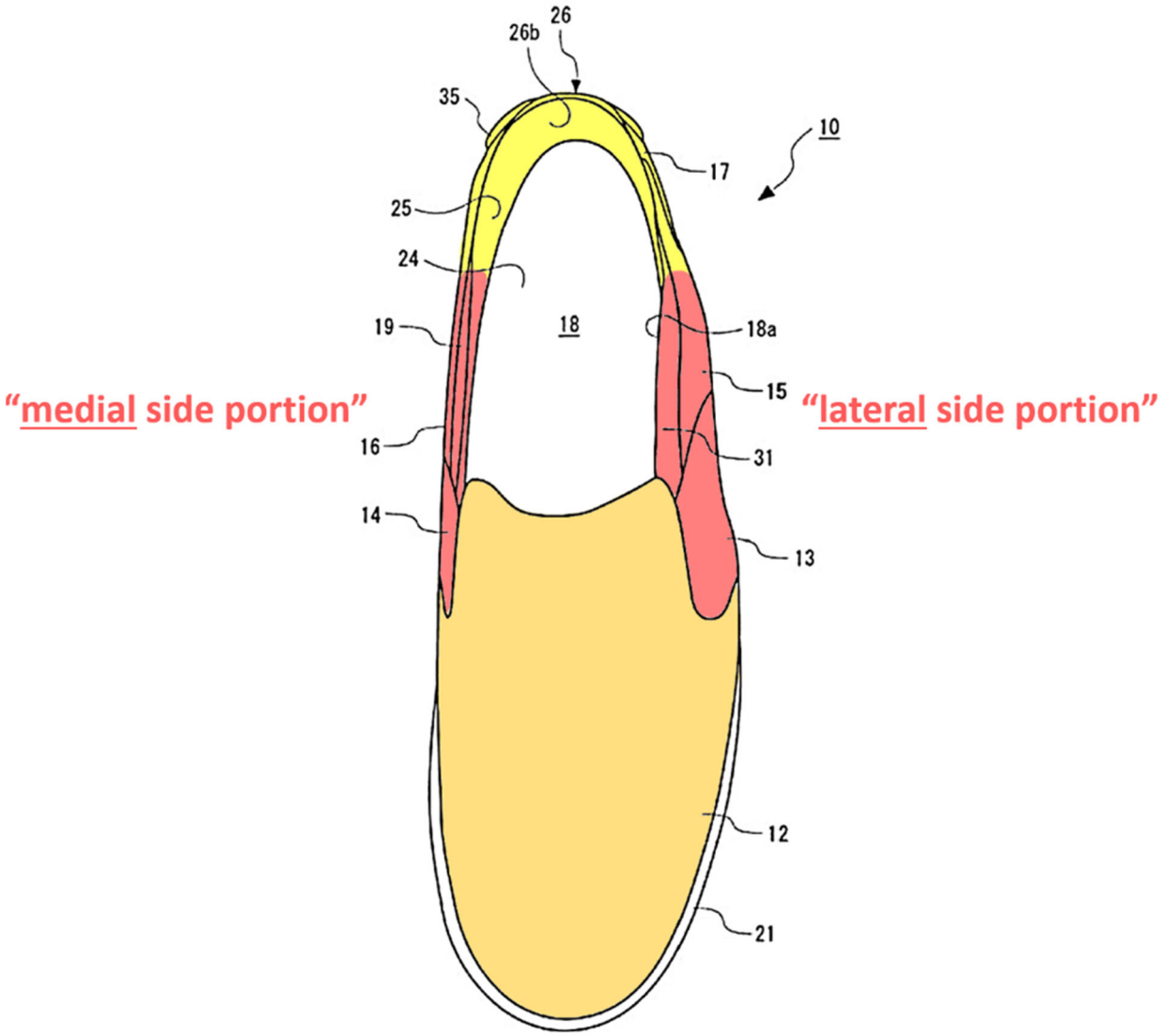


Takahashi, Fig. 1.

Further, Takahashi's side portions (red) include a "medial side portion" and "lateral side portion."[7]

[7] *See* EX1021, 16 ("Lateral…. The outer side."); 17 ("Medial. The inner side ….").

[FIG. 2]



Takahashi, Figs. 1, 2.

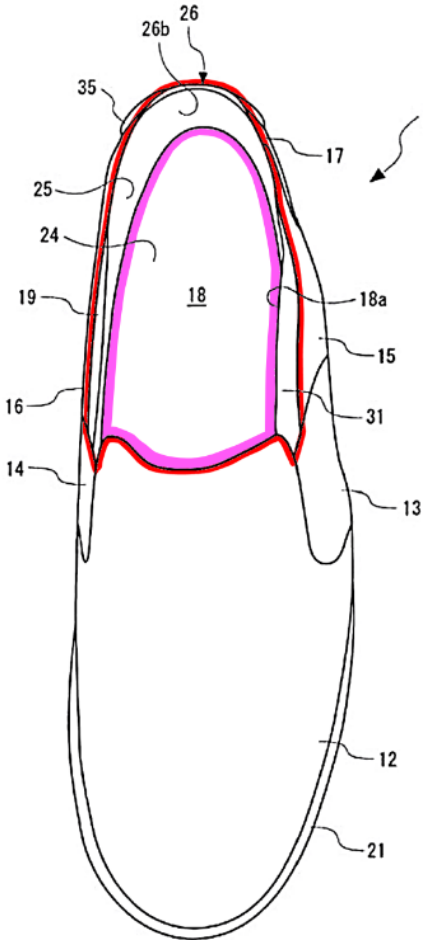
- ***13[b.2]: "the upper defining a foot opening,"***

Takahashi discloses 13[b.2]. *See* Part VIII.A.i, 21[b.2] (identical).

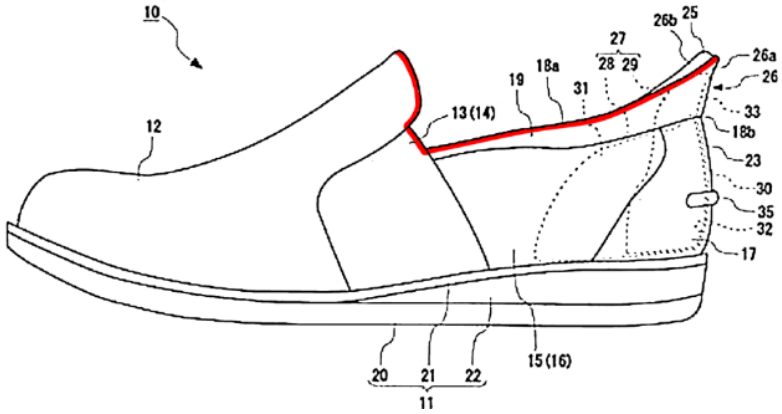
- ***13[b.3]: "the upper defining a top line positioned proximate the foot opening;"***

Takahashi discloses 13[b.3]. As shown below, Takahashi's upper defines a "top line" (red) "positioned proximate the foot opening" (pink):

[FIG. 2]



[FIG. 1]



Takahashi, Figs. 1, 2.

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

Takahashi discloses 13[c]. *See* Part VIII.A.i, 21[c] (identical).

- ***13[d.1]: "a plurality of elastic elements positioned along at least a portion of the upper,"***

Takahashi discloses 13[d.1]. *See* Part VIII.A.i, 21[d.1] (identical).

- ***13[d.2]: "the plurality of elastic elements configured to facilitate at least one of flexion and pivoting of the forward portion of the upper relative to the sole portion,"***

Takahashi discloses 13[d.2]. *See* Part VIII.A.i, 21[d.2] (identical).

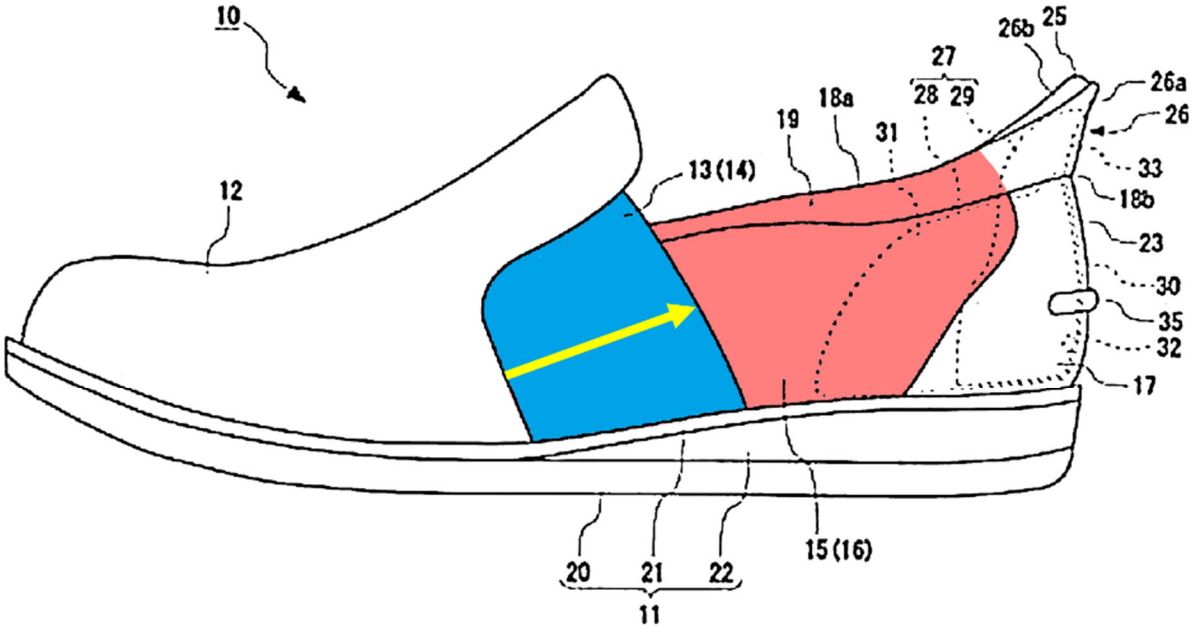
- ***13[d.3]: "wherein the plurality of elastic elements includes at least a first elastic element, a second elastic element, and a third elastic element,"***

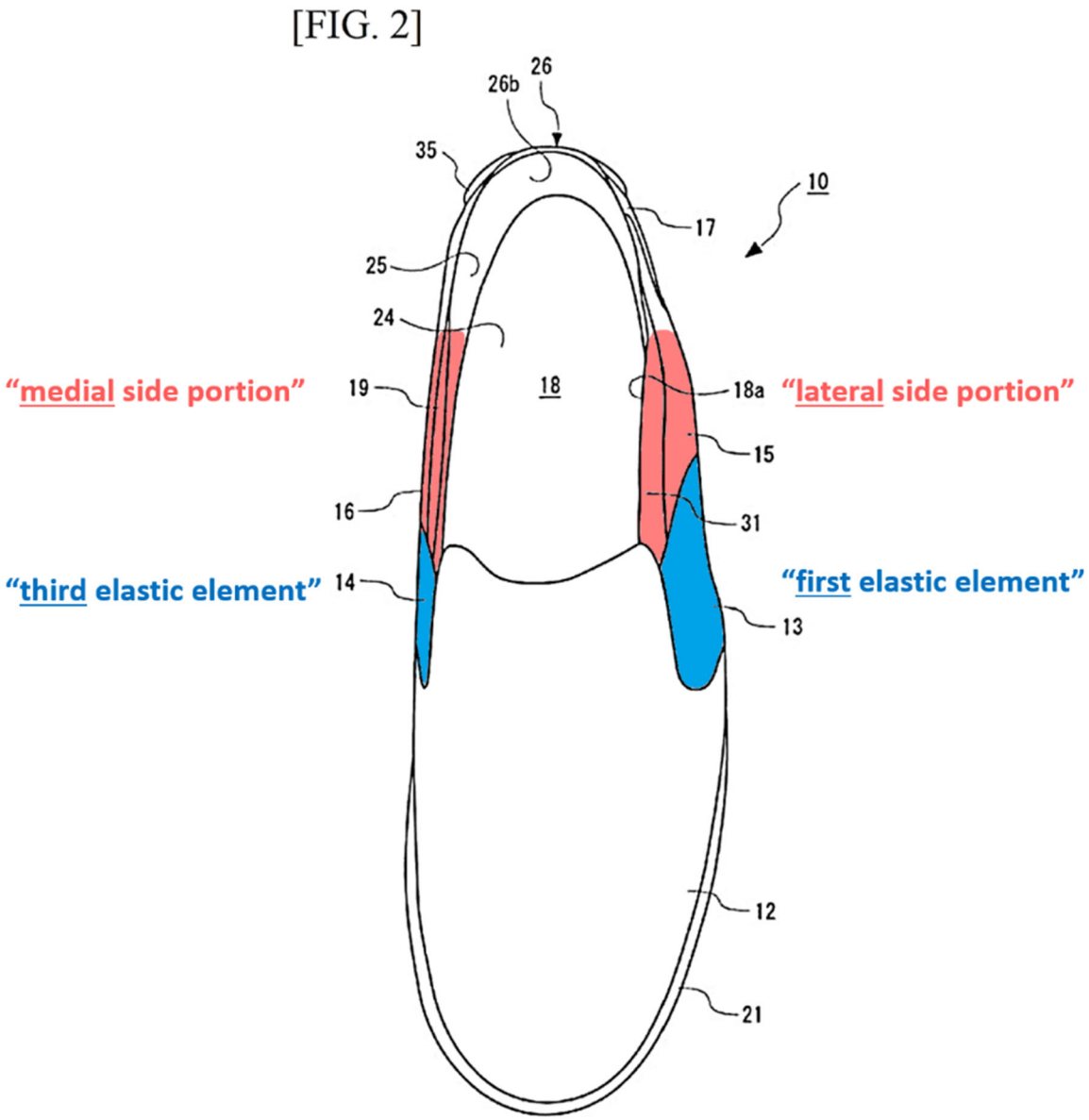
Takahashi and Hanak disclose 13[d.3]. *See* Part VIII.A.i, 21[d.3] (identical).

- ***13[d.4]: "the first elastic element and the third elastic element extending toward the lateral side portion and the medial side portion, respectively,"***

Takahashi discloses 13[d.4]. Takahashi's "first elastic element" and "third elastic element" (highlighted blue below) respectively "extend[] toward the lateral side portion and the medial side portion" (red):

[FIG. 1]





Takahashi, Figs. 1, 2.

- ***13[d.5]: "wherein the first elastic element and the third elastic element extend to the top line of the upper, and"***

Takahashi discloses 13[d.5]. *See* Part VIII.A.i, 21[d.4] (identical).

- ***13[d.6]: "wherein the second elastic element does not extend to the top line of the upper; and"***

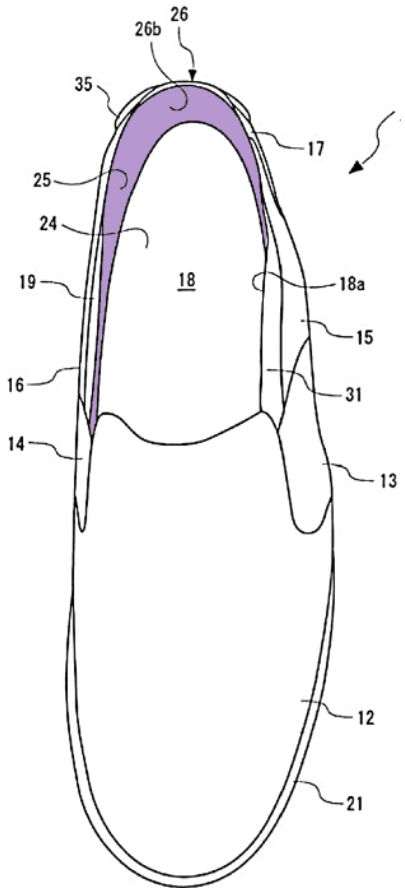
Hanak discloses 13[d.6]. *See* Part VIII.A.i, 21[d.5] ("the second elastic element is spaced from the top line of the upper").

- ***13[e.1]: "a foam liner coupled to a rear portion of the upper and spaced from the sole portion,"***

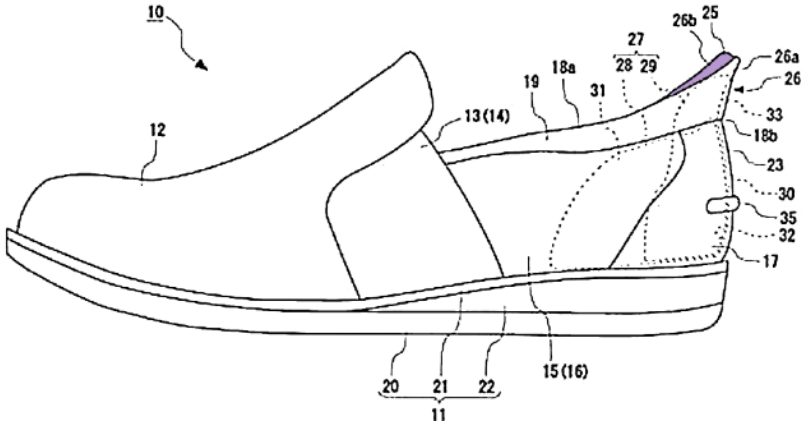
Element 13[e.1] is obvious over Takahashi in view of Murray.

Takahashi discloses a "foam liner coupled to the rear portion of the upper." For example, Takahashi discloses "lining 25" at the rear and sides of the shoe opening, *id.* ¶ 54, colored purple below:

[FIG. 2]



[FIG. 1]

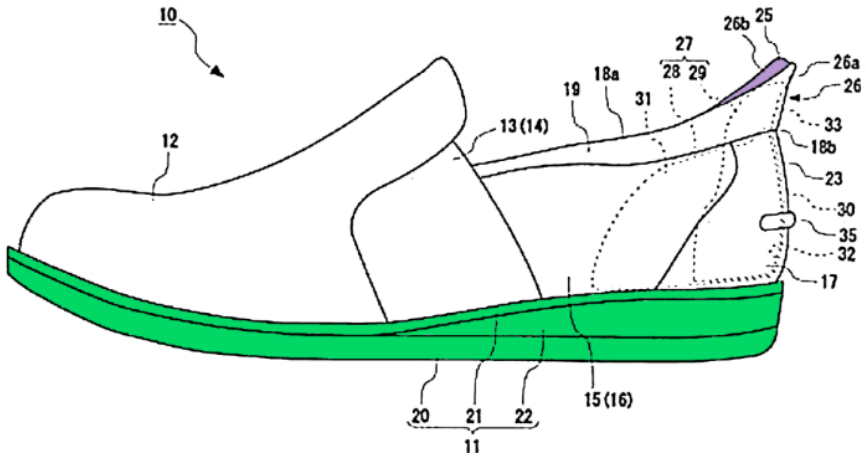


Takahashi, Figs. 1-2. "The inner surfaces of the sides 15, 16 and the ***heel portion 17*** are provided with a ***lining (covering for inside surface) 25***," wherein "[t]he material and thickness of the ***lining 25*** are set to have an appropriate ***cushioning***

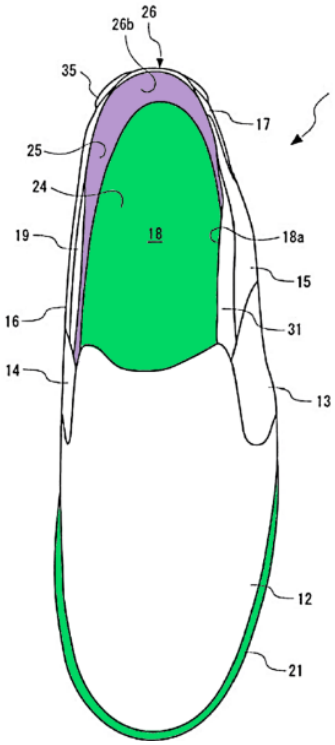
property," and, "two or more layers of cloth (inner surface skin), ***cushion body (e.g., sponge)*** or the like are used …." *Id.*, ¶54. A POSITA would have understood Takahashi's "cushion body (e.g., sponge)" was a foam liner. EX1021, p.12 (defining "foam" as "[a]ny of various resins in sponge or cellular form," and noting, "[s]ofter foams such as polyurethanes are used for shoe cushioning"), 18 ("sponge…. [A]rtificial sponge—for many years used as a shoe cushioning material—consists of foam-type rubber …."); EX1003, ¶¶52.

Takahashi's "foam liner" (purple) is not expressly disclosed as "spaced from the sole portion" (green), as no vertical cross-section view showing the foam liner's lower boundary is provided:

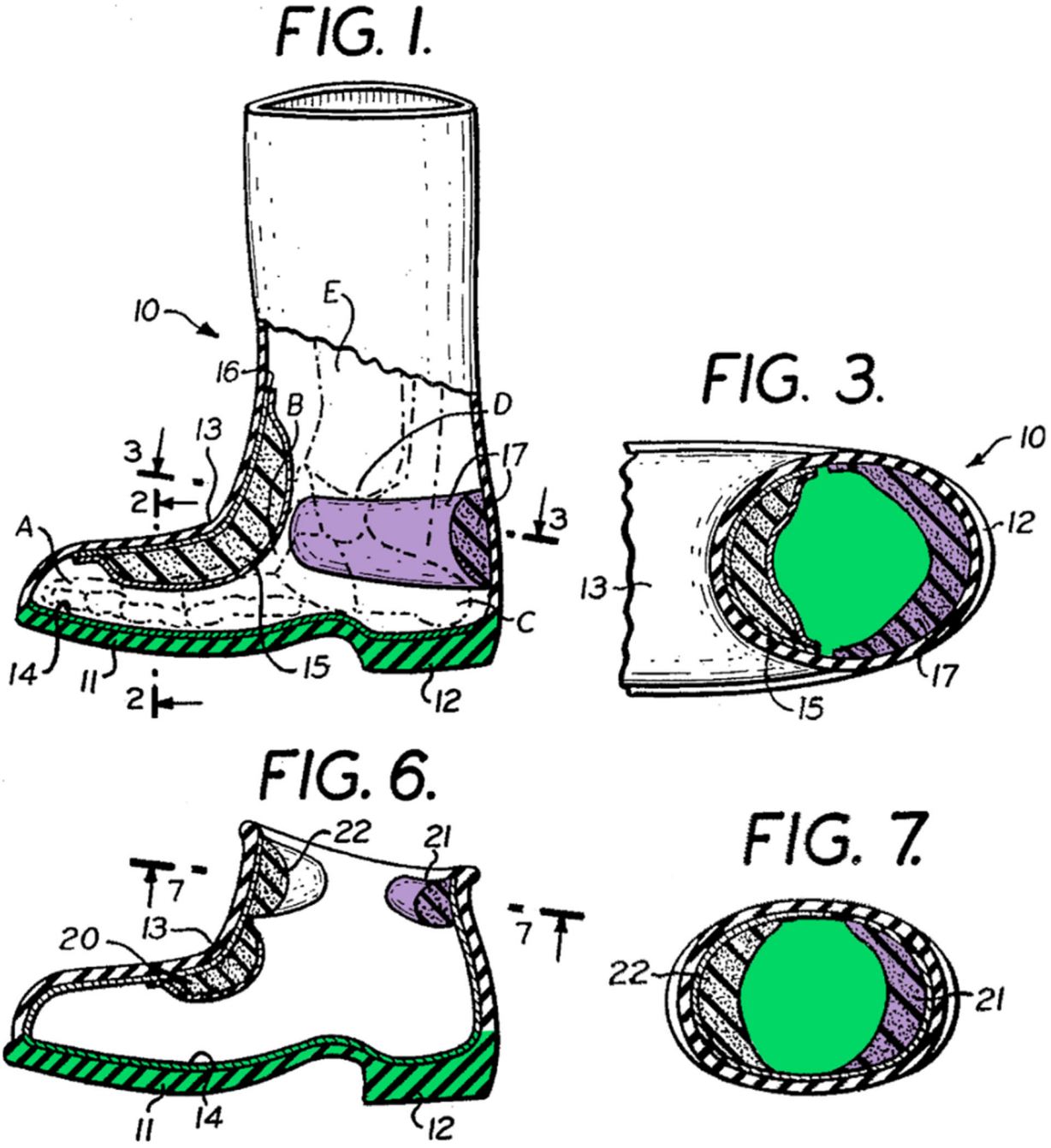
[FIG. 1]



[FIG. 2]



Takahashi, Figs. 1, 2. Nevertheless, a POSITA would have found it obvious to make Takahashi's foam liner "spaced from the sole portion" in view of Murray's explicit teachings:



Murray, Figs. 1, 3, 6, 7.

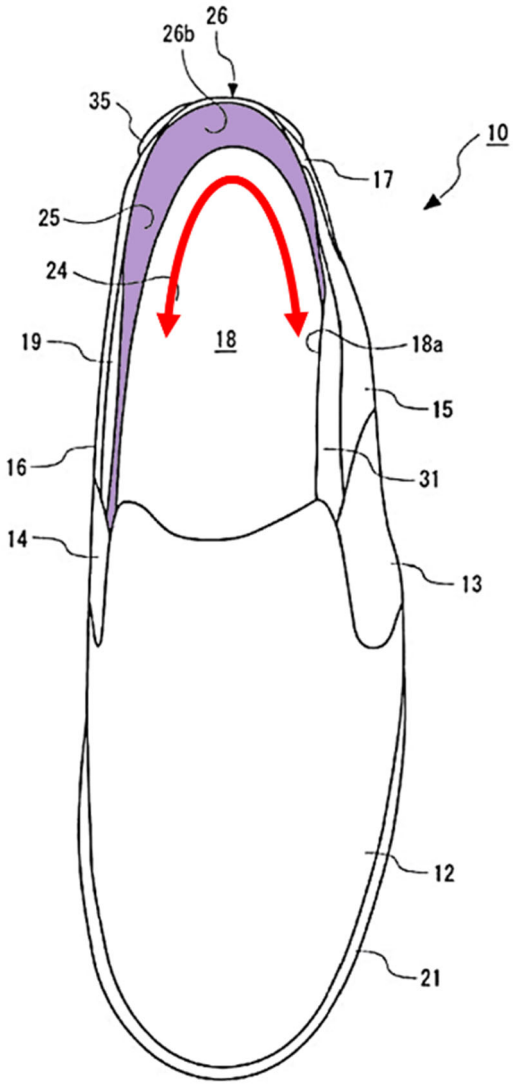
Murray's cross-section views make clear that its foam liner (pink) is "spaced from the sole portion" (green). Murray explains that "insert 17" (Figures 1, 3) and "insert 21" (Figures 6-7) "compris[e] a body of foam rubber or plastic covered with cloth," which "foam material" is "resilient or spongy." *Id.*, 1:31-35, 2:35-37. The foam liner's placement ensures that, "when the foot is lifted, to walk or run, the heel bone of the foot engages insert 17 so that the boot closely follows the movement of the foot with no tendency to pull out." *Id.*, 2:32-35. In view of these teachings, a POSITA making Takahashi's shoe would have found it obvious to position its foam liner "spaced from the sole portion," high enough for the heel to rest beneath it, thereby improving heel retention. EX1003, ¶¶49, 54-55.

A POSITA's motivations to apply Murray's teachings to Takahashi, and expectation of success, are discussed further in Part VIII.B.ix below.

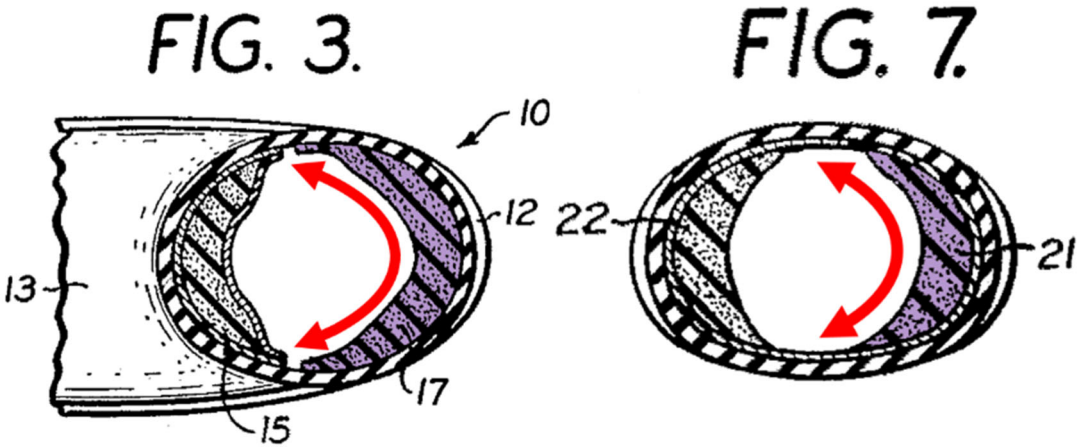
- ***13[e.2]: "the foam liner including a concave profile facing toward the forward portion of the upper,"***

Takahashi discloses 13[e.2]. For example, as shown in Figure 2, Takahashi's "foam liner" (purple) "include[s] a concave profile facing toward the forward portion of the upper" (red arrow):

[FIG. 2]



Takahashi, Fig. 2. While Takahashi alone meets 13[e.2], Murray also discloses it:

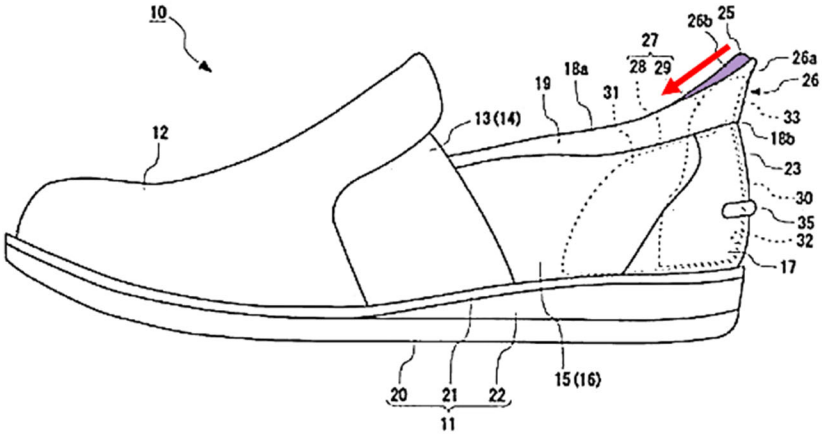


Murray, Figs. 3, 7. These similarities would have further motivated a POSITA to apply Murray's teachings to Takahashi's foam liner to meet 13[e.1] ("spaced from the sole portion," *supra*) and 13[e.4] ("spaced from the top line," *infra*).

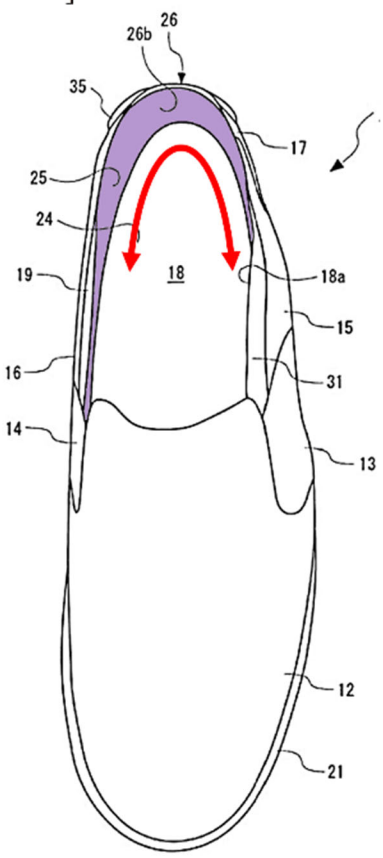
- ***13[e.3]: "the foam liner configured to provide heel retention,"***

Takahashi discloses 13[e.3]. Figures 1 and 2 show Takahashi's "foam liner" (purple) is "configured to provide heel retention" because it is angled downward toward the heel (Figure 1) and wraps around the heel (Figure 2):

[FIG. 1]



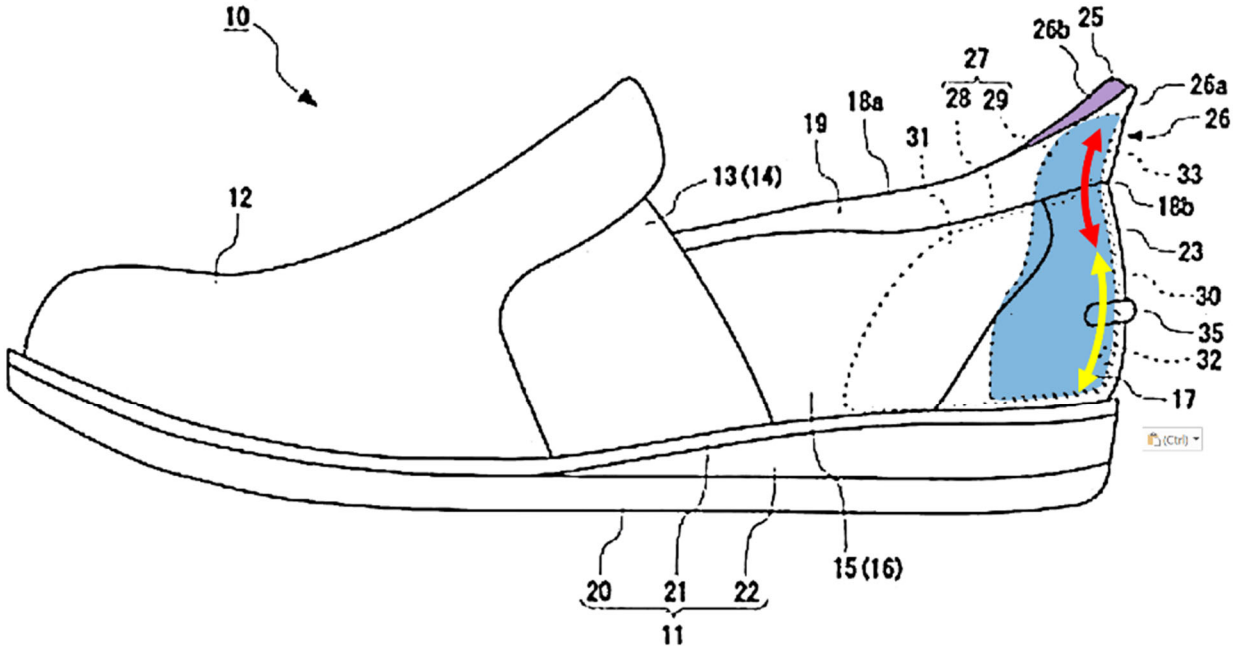
[FIG. 2]



Takahashi, Figs. 1, 2; EX1003, ¶¶52-54.

Further, Takahashi's "counter 27 is ***disposed between*** the heel portion 17 and the ***lining 25***" (foam liner, highlighted purple), and "is a double structure including a first counter 28 and a second counter 29." *Id.*, ¶59 The "second counter 29" (blue) includes a "concave curved surface portion 32" (yellow arrow) and "guide core portion 33" (red arrow):

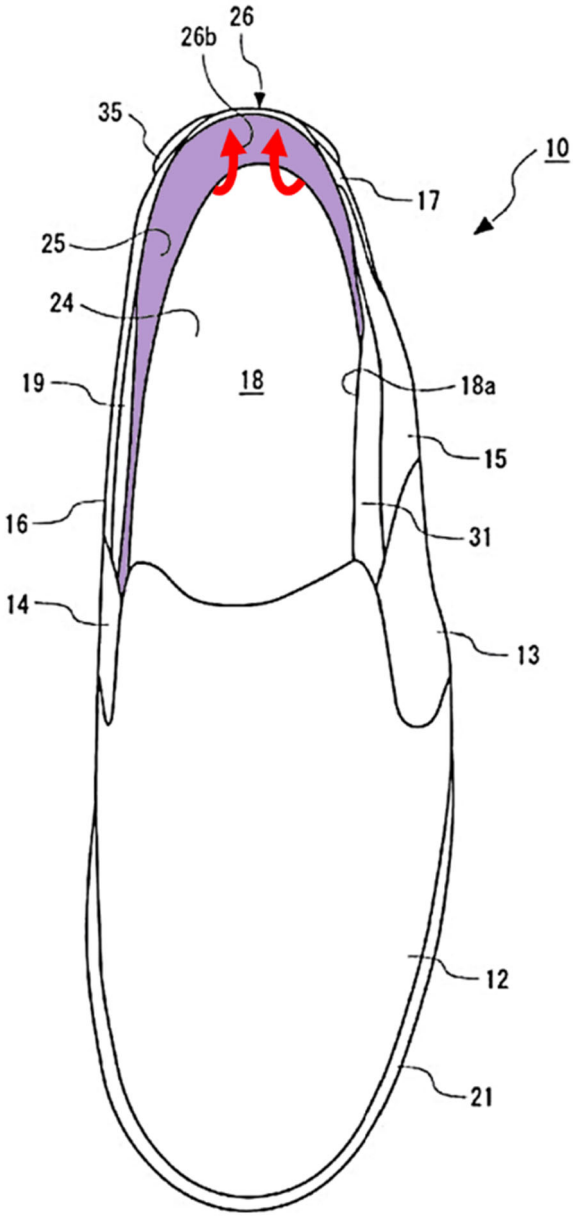
[FIG. 1]



Takahashi, Fig. 1; *id.*, ¶63. "In other words, the heel portion is provided with a heel curve sloping inward as it approaches the rear edge ***to hold a person's heel and make it difficult for the shoe to slip off***, and the guide portion slopes in a direction opposite to the heel curve." *Id.*, ¶10; *see also id.*, ¶11, 12, 24, 52, 75. A POSITA would have understood that the counter's geometry, along with it being "disposed between the heel portion 17 and the lining 25" (foam liner), *id.*, ¶59, indicate that

"lining 25" (foam liner) follows the counter's curved contour and thus helps "to hold a person's heel and make it difficult for the shoe to slip off." *Id.*, ¶10.

[FIG. 2]



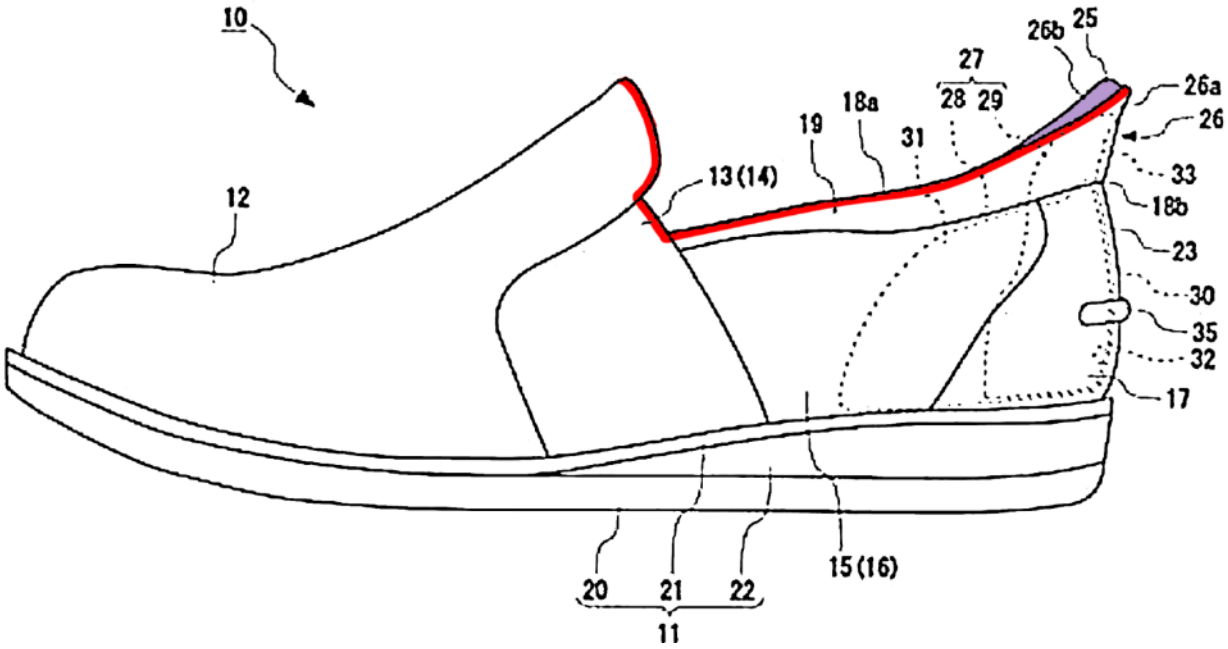
Takahashi, Fig. 1. This is particularly so given that "lining 25" (foam liner) has a "cushion body (e.g., sponge)" with a "cushioning property," which a POSITA would understand facilitates heel retention. *Id.*, ¶54; *see also, e.g.*, EX1003, ¶¶53-54.

- ***13[e.4]: "wherein the foam liner is spaced from the top line of the upper."***

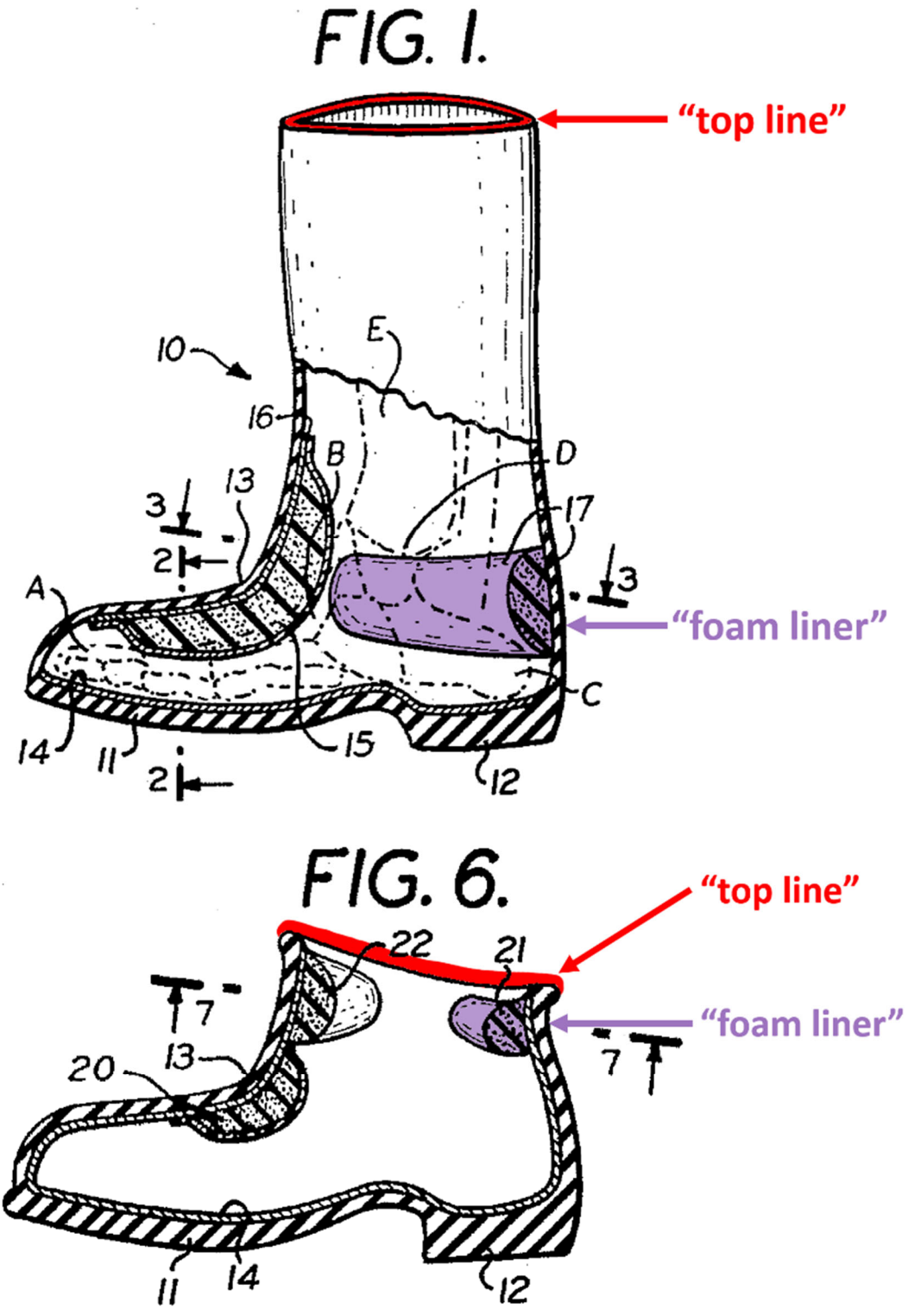
Element 13[e.4] is obvious over Takahashi in view of Murray.

Takahashi discloses a "foam liner" (pink) that does ***not*** appear "spaced from the top line of the upper" (red line):

[FIG. 1]



Takahashi, Fig. 1. Nevertheless, a POSITA would have found it obvious to move Takahashi's foam liner lower, or its top line higher, based on Murray, which expressly discloses such foam liners being "spaced from the top line of the upper" as recited in 13[e.4]:



Murray, Figs. 1, 6. Murray explains, "insert 17 is placed … just below the wearer's interior ankle bone D of tibia E and extending around the heel to the outside of the

foot A, preferably to complete a semicircle or to terminate at the instep pad, in the range of about 2 inches to 8 inches and about ¼ inch to 3 inches in height. This insert 17 keeps the instep B of the foot and heel bone C in its proper position and when the foot is lifted, to walk or run, the heel bone of the foot engages insert 17 so that the boot closely follows the movement of the foot with no tendency to pull out." *Id.*, 2:23-35; 2:53-65 (discussion of "second insert 21"). A POSITA would have found it obvious to orient Takahashi's foam liner to yield these benefits of improved heel retention, and/or to realize shoe form factors with higher top lines such as those disclosed in Murray. EX1003, ¶¶49, 54-55.

ii. Claim 14

- ***14. "The rapid-entry shoe of claim 13, wherein the first elastic element and the third elastic element are spaced apart from each other."***

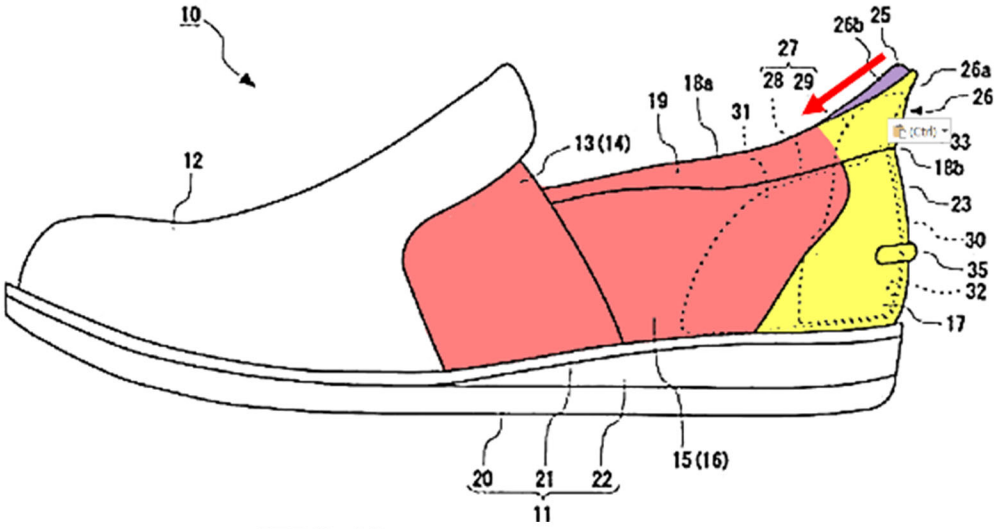
Takahashi discloses claim 14. *See* Part VIII.A.ii, *supra*, Claim 26 ("the first elastic element is spaced from the third elastic element").

iii. Claim 15

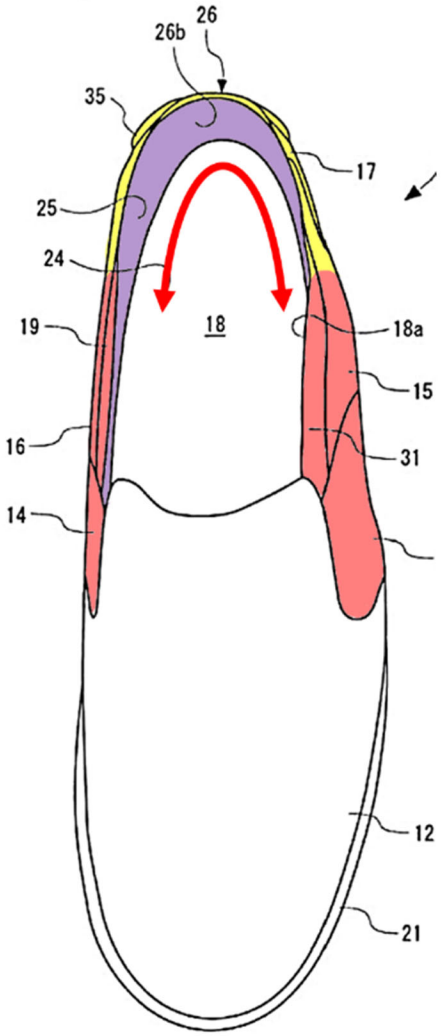
- ***15. "The rapid-entry shoe of claim 13, wherein the foam liner is positioned at the rear portion of the upper extending toward a side portion of the upper."***

Takahashi discloses claim 15. Takahashi's "foam liner" (purple) "is positioned at the rear portion of the upper" (yellow) "extending toward a side portion of the upper" (red):

[FIG. 1]

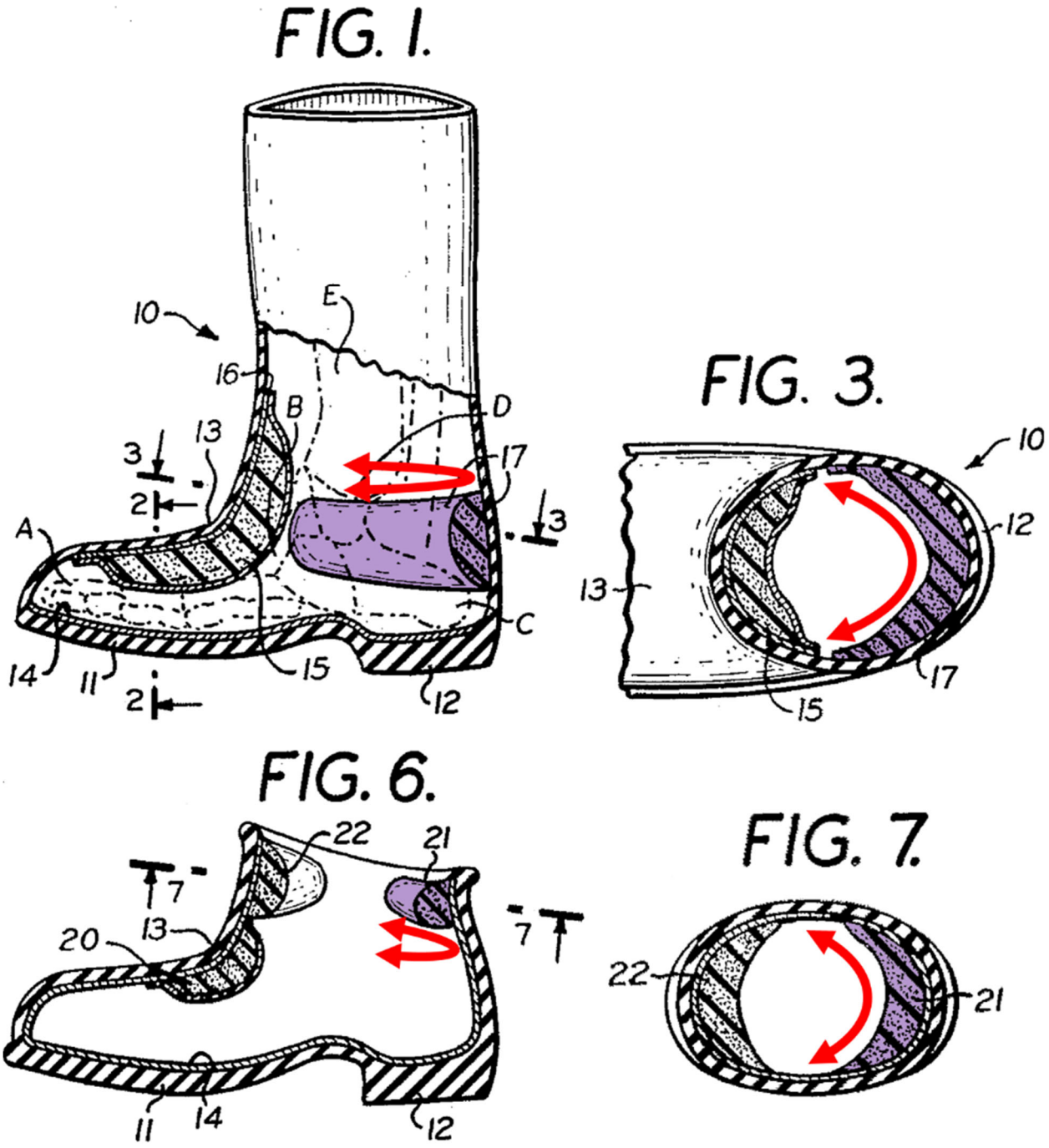


[FIG. 2]



Takahashi, Figs. 1, 2.

Murray also expressly discloses this:



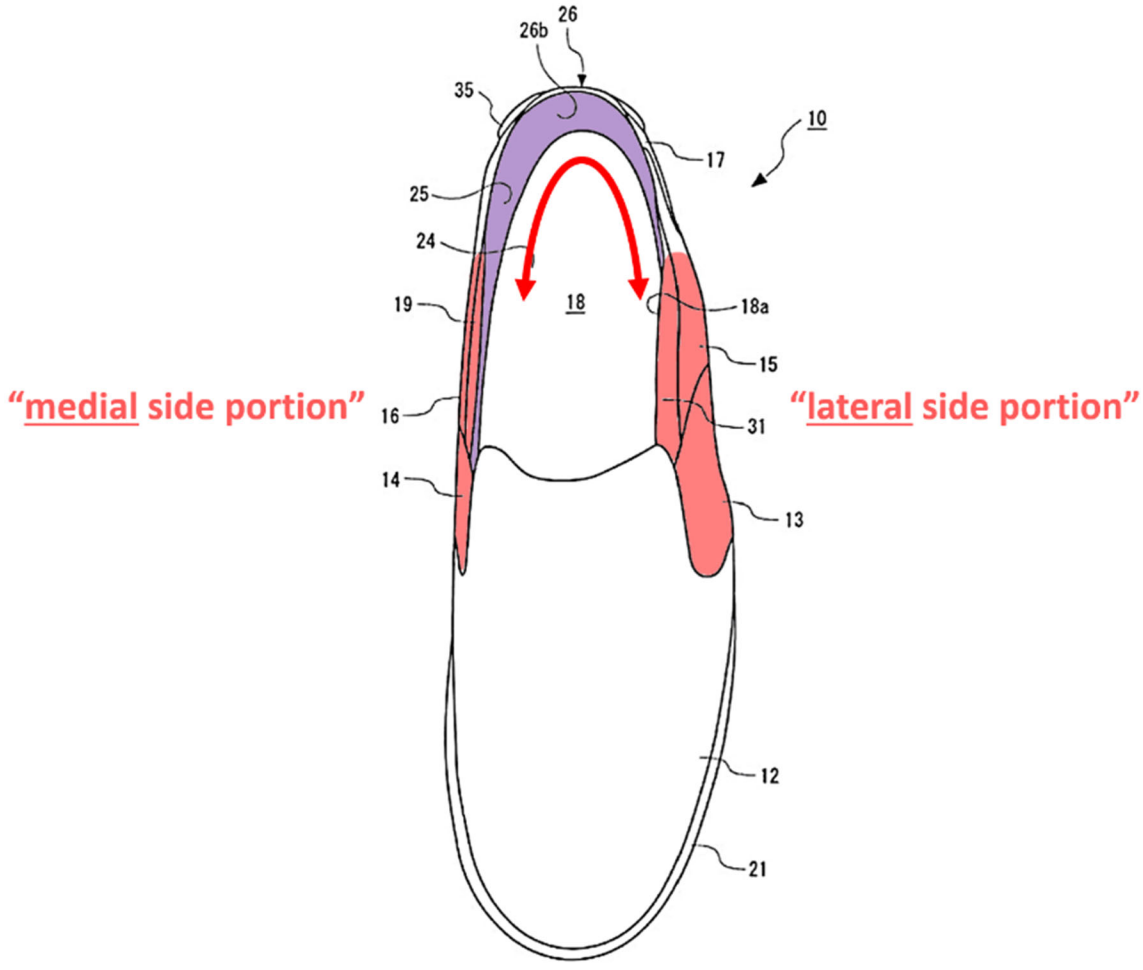
Murray, Figs. 1, 3, 6, 7. While Takahashi meets claim 15's added limitations on its own, this similarity would have further motivated a POSITA to apply Murray's teachings to Takahashi as they relate to elements 13[e.1] and 13[e.4].

iv. Claim 16

- ***16. "The rapid-entry shoe of claim 15, wherein the side portion of the upper includes a lateral side portion and a medial side portion, wherein the foam liner extends toward the lateral side portion and the medial side portion."***

Takahashi discloses claim 16. Takahashi's "side portion of the upper includes a lateral side portion and a medial side portion" (red and labeled below), "wherein the foam liner" (purple) "extends toward the latera side portion and the medial side portion" (red arrows):

[FIG. 2]



Takahashi, Fig. 2. Murray also discloses this, as discussed for Claim 15 above.

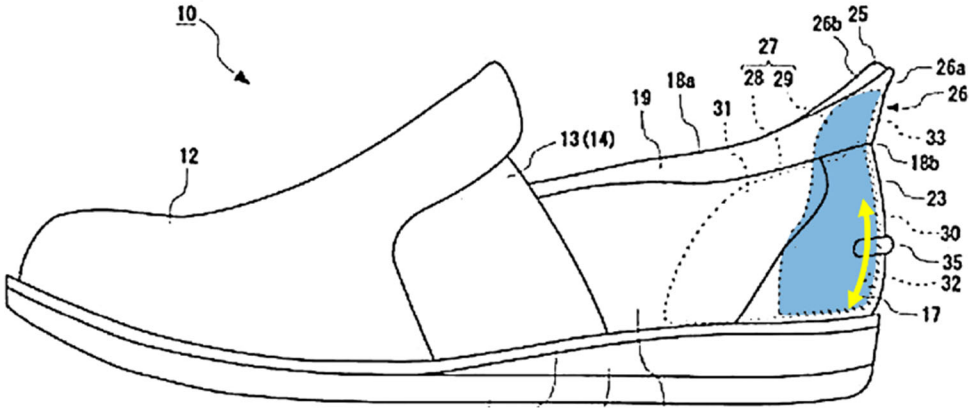
v. Claim 17

- ***17[a]: "The rapid-entry shoe of claim 13, wherein the stabilizer includes a first portion having concave profile facing toward the forward portion of the upper and a second portion having a convex profile facing toward the forward portion of the upper, the second portion positioned vertically higher than the first portion,"***

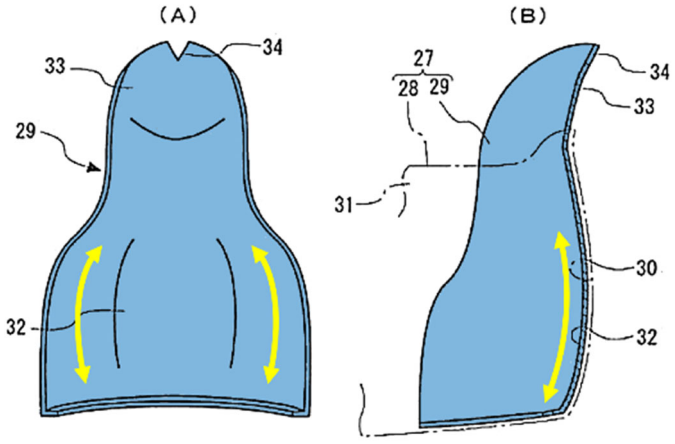
Takahashi discloses 17[a].

First, Takahashi's "stabilizer" ("second counter 29," highlighted blue) "includes a first portion having a concave profile facing toward the forward portion of the upper" ("concave curved surface portion 32," yellow arrow):

[FIG. 1]



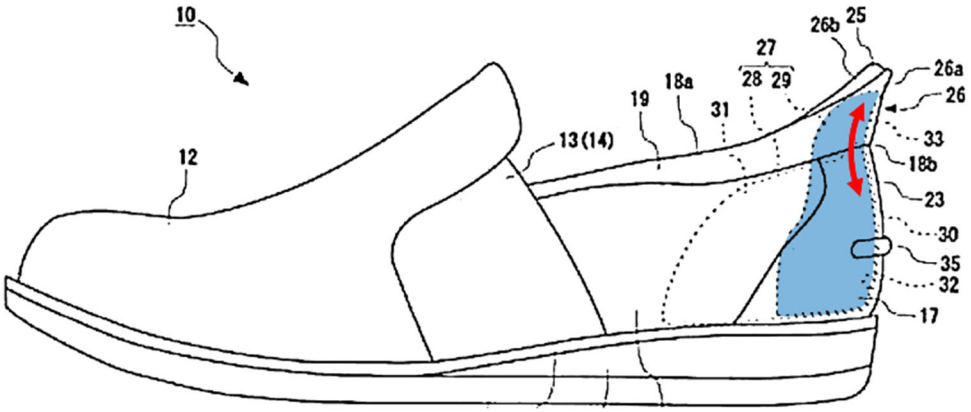
[FIG. 4]



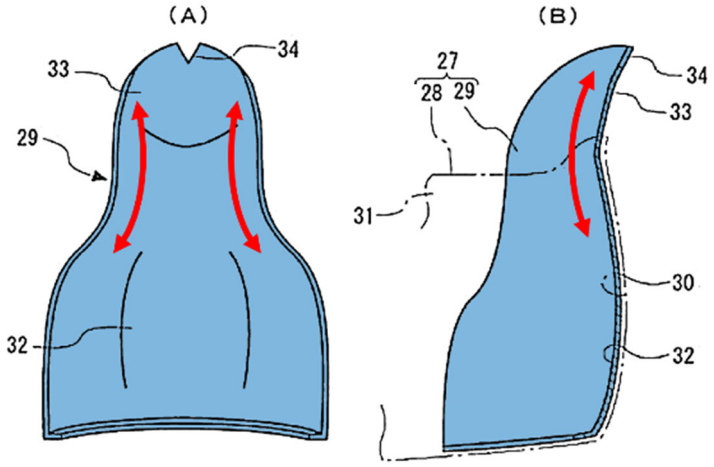
Takahashi, Figs. 1, 4, ¶63 ("The second counter 29 integrally has an overlapping concave curved surface portion 32 ….").

Second, Takahashi's stabilizer includes "a second portion having a convex profile facing toward the forward portion of the upper" ("guide core portion 33," red arrow):

[FIG. 1]



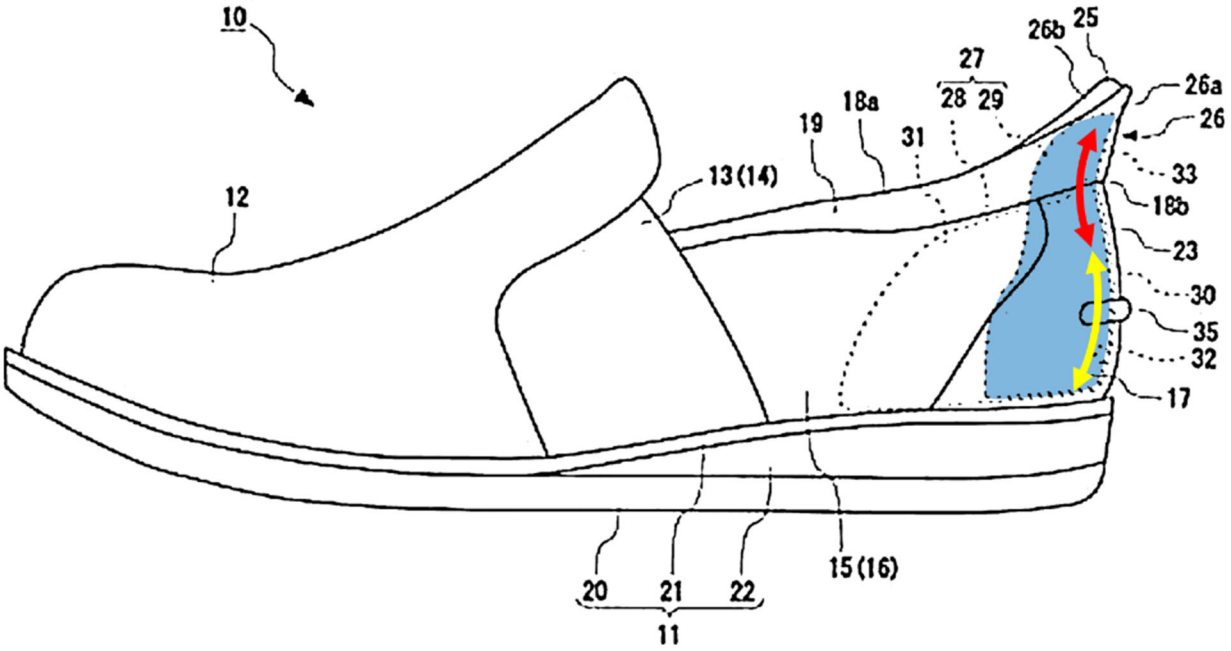
[FIG. 4]



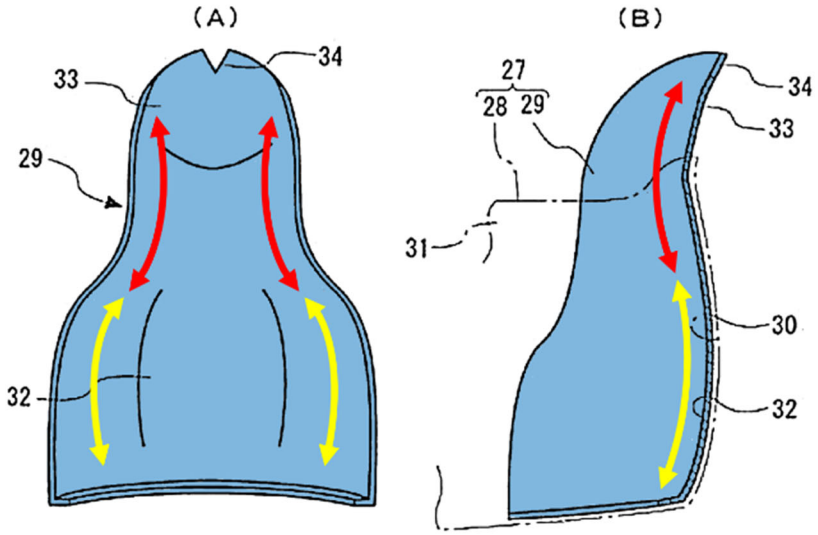
Takahashi, Figs. 1, 4, ¶¶63 ("The second counter 29 integrally has … a guide core portion 33."); 65 ("The guide core portion 33 slopes in a direction opposite to the heel curve ….").

Third, Takahashi's "second portion" ("guide core portion 33," red arrow) is "positioned vertically higher than the first portion" ("concave curved surface portion 32," yellow arrow):

[FIG. 1]



[FIG. 4]



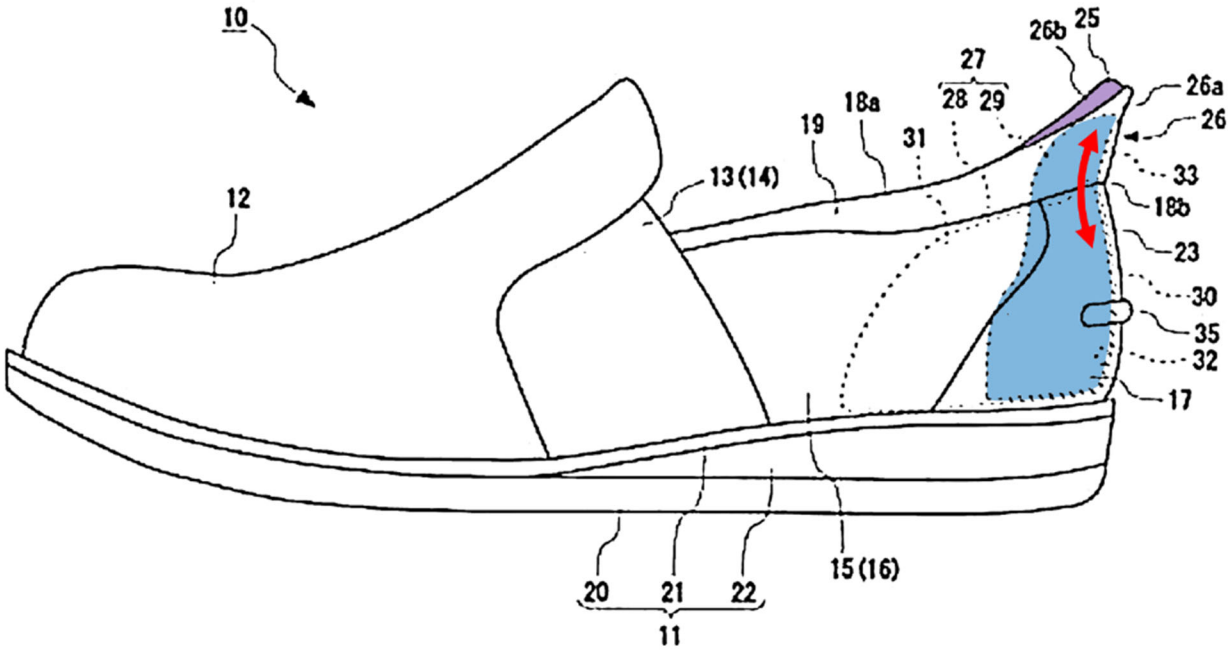
Takahashi, Figs. 1, 4.

- ***17[b]: "wherein the foam liner includes a first portion positioned at the rear portion of the upper adjacent to the convex profile and a second portion extending forward along the upper toward the forward portion of the upper."***

Takahashi discloses 17[b].

First, Takahashi's "foam liner" ("lining 25," highlighted purple) "includes a first portion positioned at the rear portion of the upper adjacent to the convex profile" (*i.e.*, adjacent to "guide core portion 33," indicated with red arrow, of "second counter 29," highlighted blue):

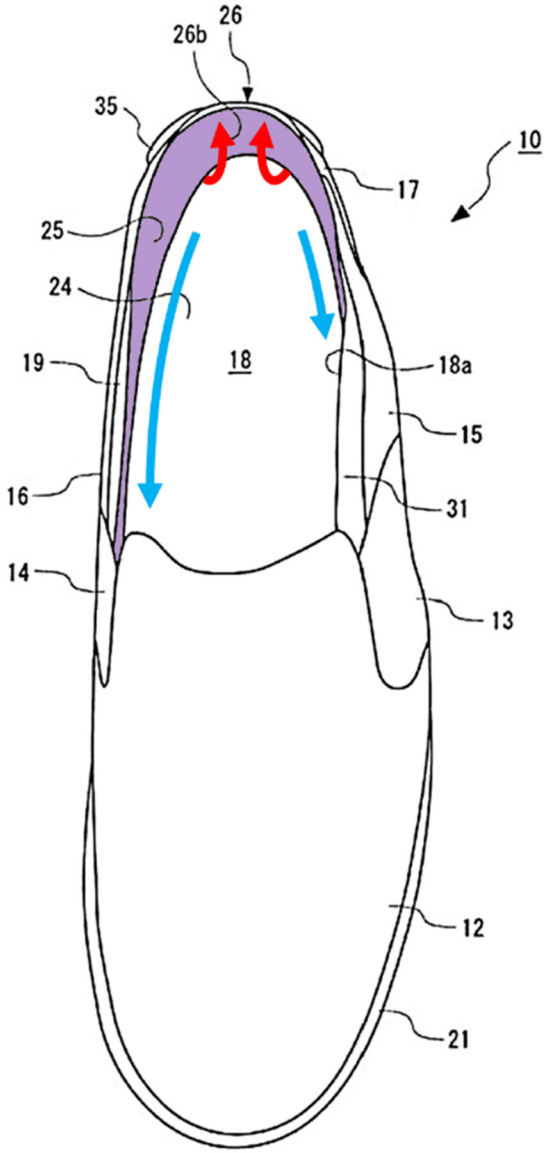
[FIG. 1]



Takahashi, Fig. 1, ¶¶63 ("The second counter 29 integrally has … a guide portion 33."), 59 ("The counter 27 is a double structure including a first counter 28 and a second counter 29 …."); *id.* ("counter 27 is ***disposed between*** the heel portion 17 and the ***lining 25***.").

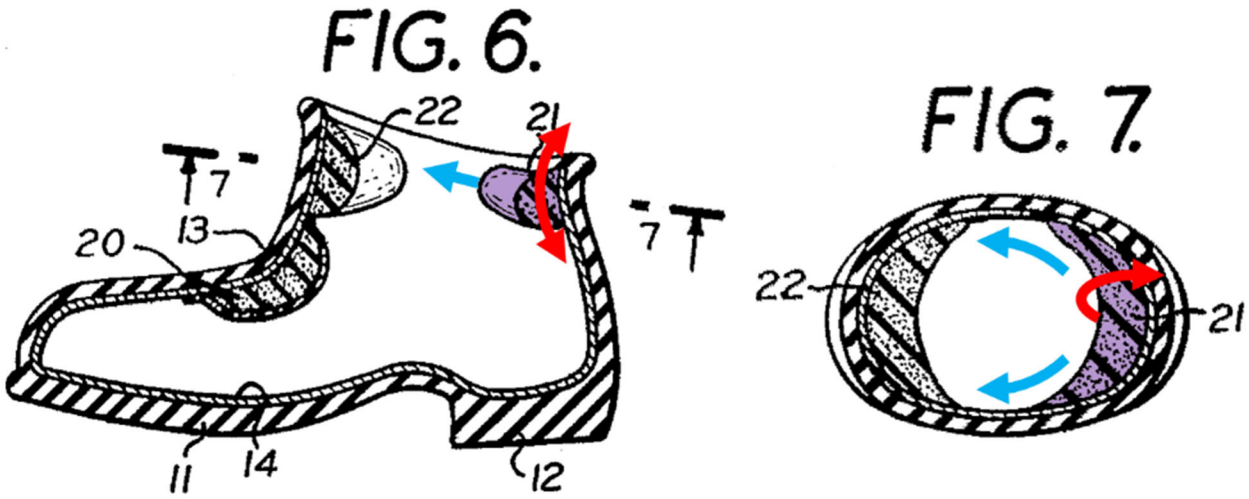
Second, the foam liner includes "a second portion extending forward along the upper toward the forward portion of the upper" (blue arrows):

[FIG. 2]



Takahashi, Fig. 2.

Murray also expressly discloses this in its Figure 6 and 7 embodiment, which includes a foam liner (purple) adjacent to a convex profile (red arrows) and extending toward a forward portion (blue arrows):



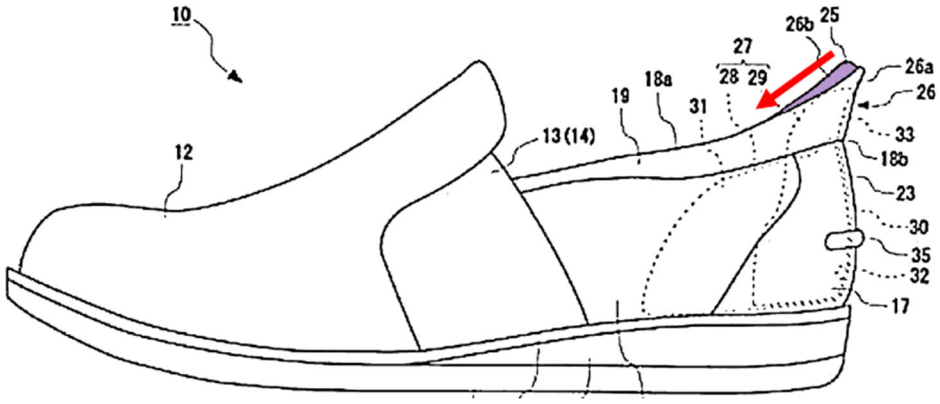
Murray, Figs. 6-7. While Takahashi alone meets claim 17's added limitations, this would have further motivated a POSITA to apply Murray's teachings to Takahashi relating to elements 13[e.1] and 13[e.4].

vi. Claim 18

- ***18. "The rapid-entry shoe of claim 17, wherein the foam liner includes an upper surface, wherein the upper surface of the foam liner is sloped downward and forward where the foam liner is configured to interface with a heel of a user."***

Takahashi discloses claim 18, as shown in Figure 1:

[FIG. 1]



Takahashi, Fig. 1.

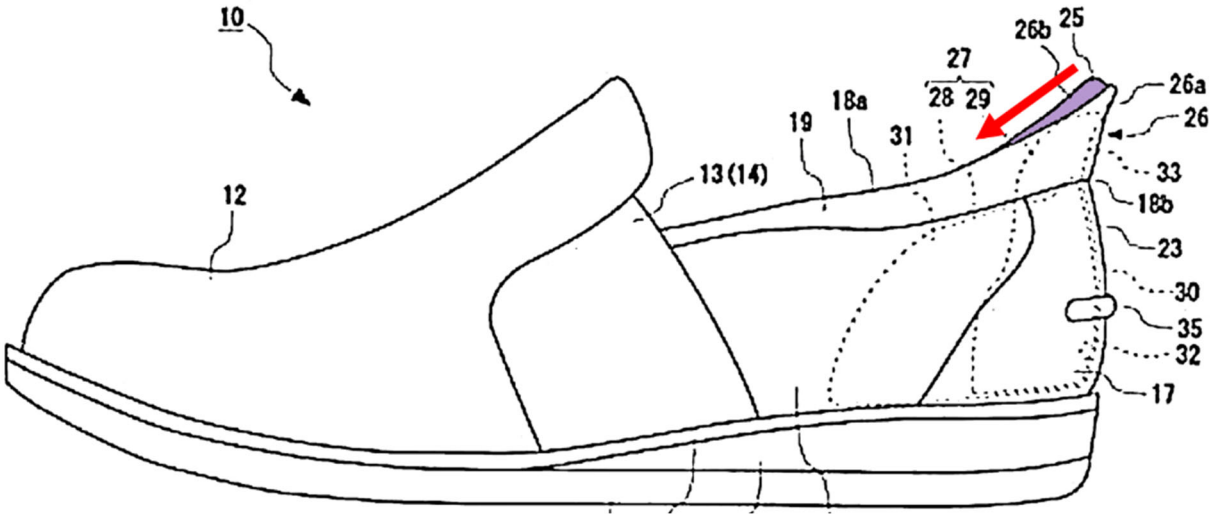
vii. Claim 19

- ***19. "The rapid-entry shoe of claim 13, wherein the foam liner includes a portion extending forward and downward from the rear portion, and wherein the portion of the foam liner extending forward and downward is tapered from a wider portion toward the rear portion of the upper to a narrower portion toward the forward portion of the upper."***

Takahashi discloses claim 19.

For example, Figure 1 shows that Takahashi's "foam liner includes a portion extending forward and downward from the rear portion":

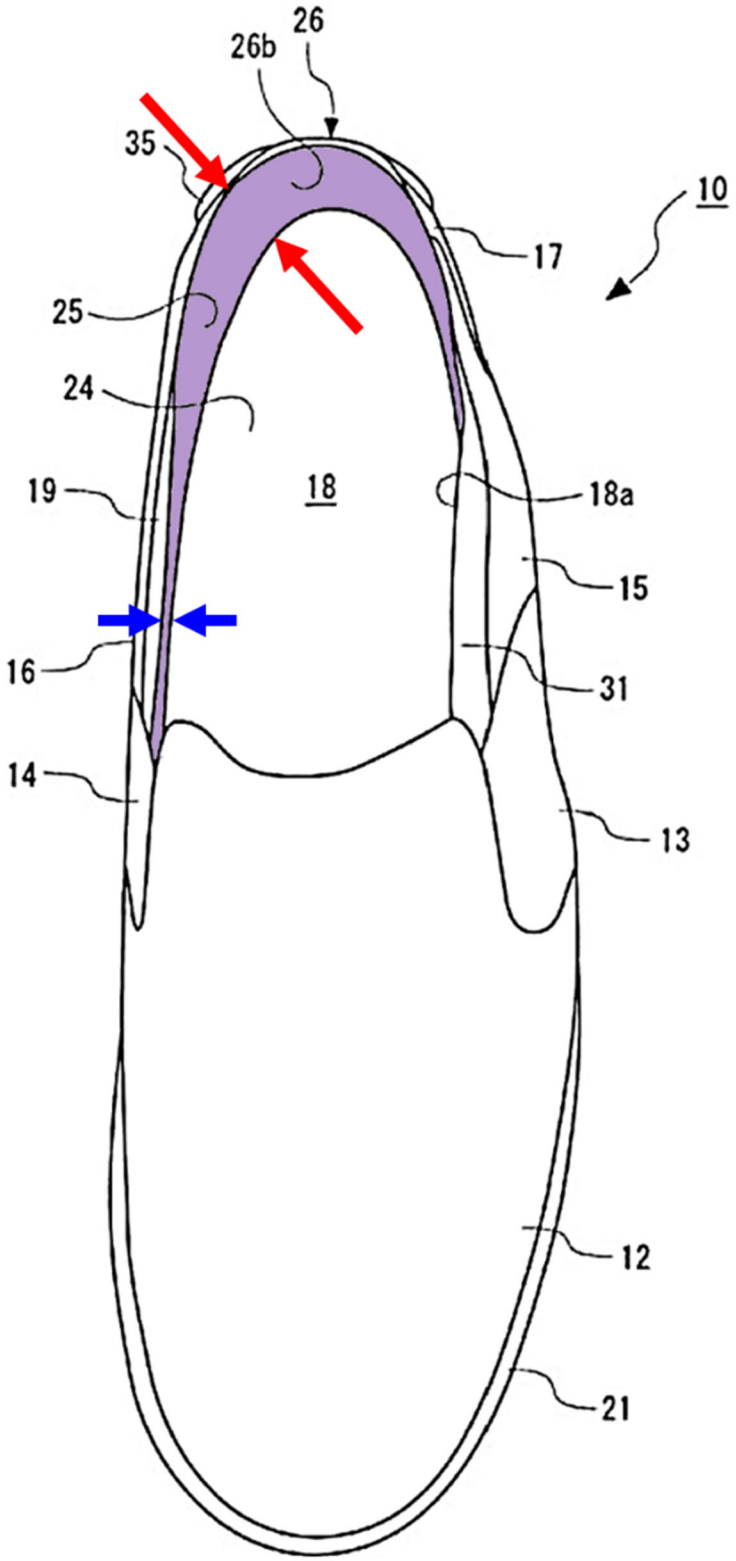
[FIG. 1]



Takahashi, Fig. 1.

Figure 2 further shows that "the portion of the foam liner extending forward and downward is tapered from a wider portion toward the rear portion of the upper" (indicated below with red arrows) "to a narrower portion toward the forward portion of the upper" (blue arrows):

[FIG. 2]



Takahashi, Fig. 2.

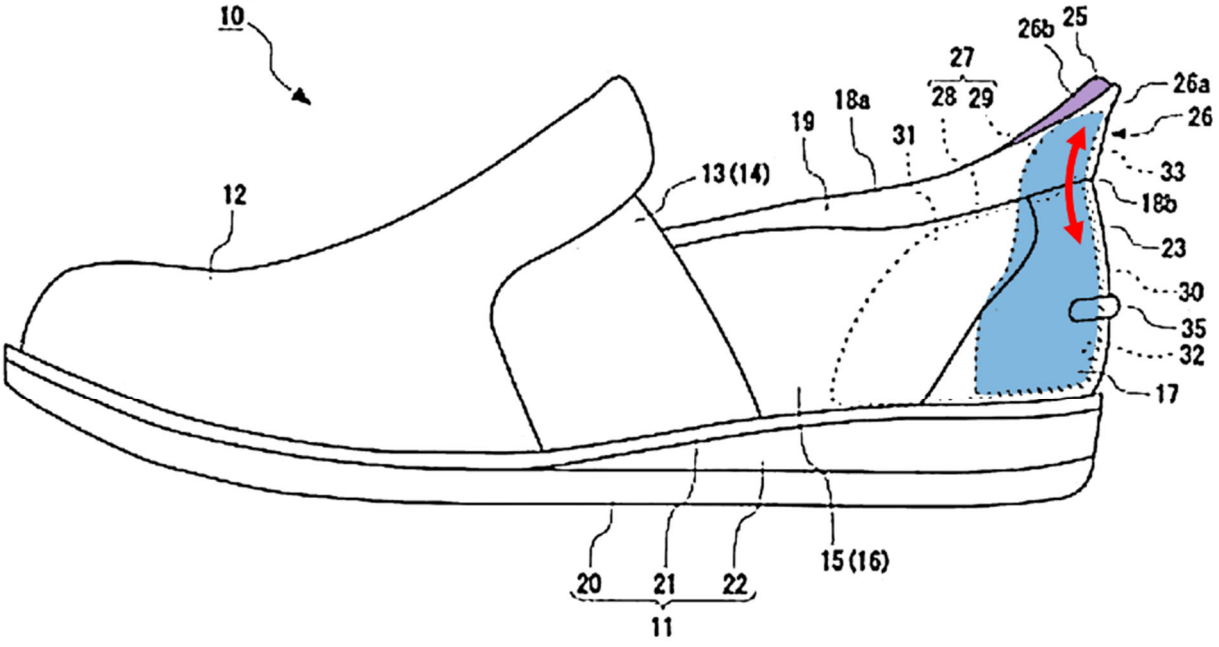
viii. Claim 20

- ***20. "The rapid-entry shoe of claim 13, wherein a cross-section of the foam liner defines a convex profile facing toward a front of the rapid-entry shoe when the cross-section of the rapid-entry shoe is taken from a front of the rapid-entry shoe to a back of the rapid-entry shoe along a vertical plane."***

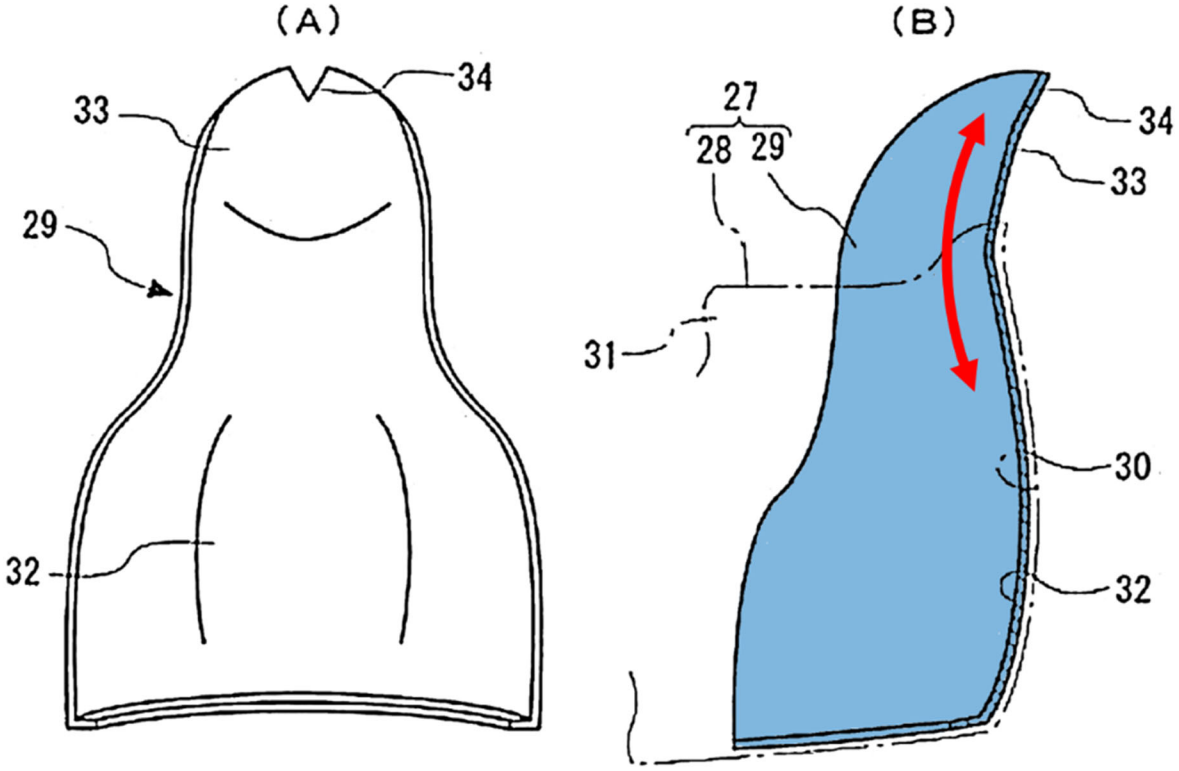
Takahashi discloses claim 20.

For example, Takahashi Figures 1 and 4(B) show vertical cross-sectional views of a "second counter 29" (stabilizer) that "defines a convex profile facing toward a front of the rapid-entry shoe" ("guide core portion 33," indicated with red arrow) "when the cross-section of the rapid-entry shoe is taken from a front of the rapid-entry shoe to a back of the rapid-entry shoe along a vertical plane":

[FIG. 1]



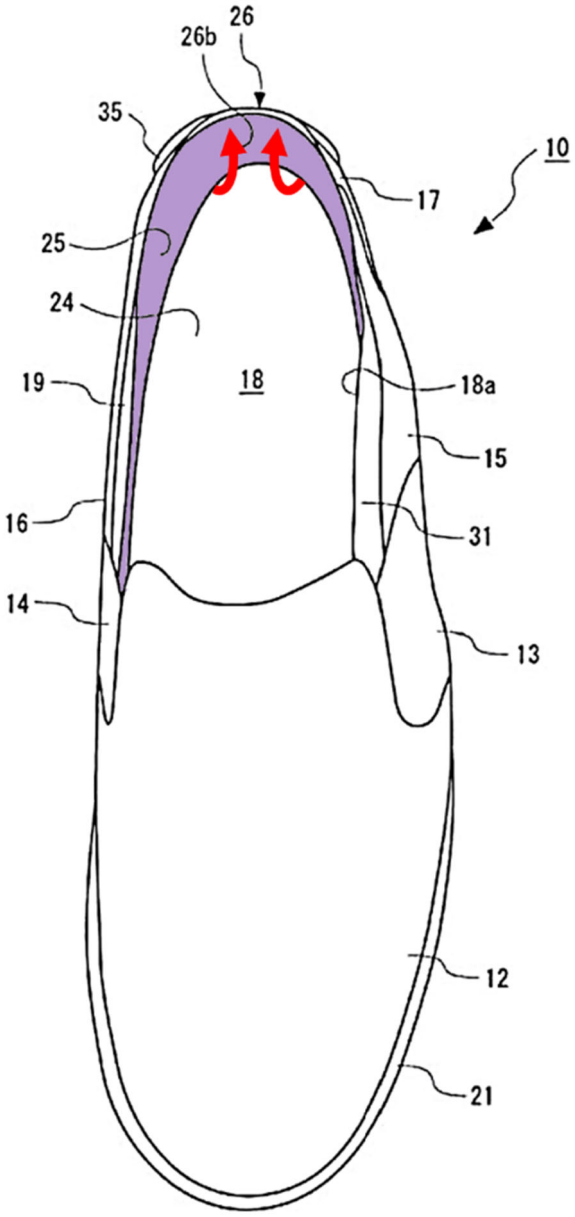
[FIG. 4]



Takahashi, Figs. 1, 4.

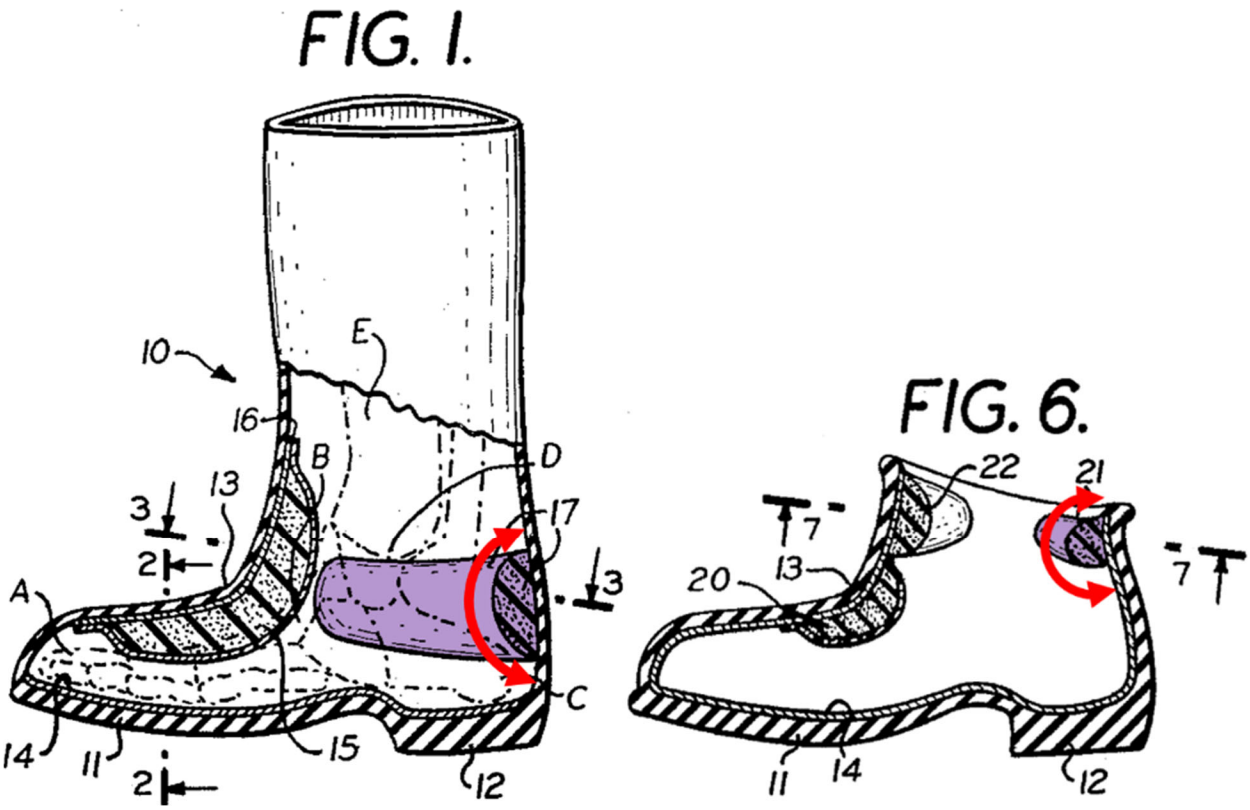
Takahashi explains that "counter 27," which includes "second counter 29," is "***disposed between*** the heel portion 17 and the ***lining 25***" (foam liner, highlighted purple in Figure 1 above). *Id.*, ¶59. A POSITA would have understood that the counter's geometry, and it being "disposed between" the heel portion and foam liner, *id.*, indicate that the foam liner follows the convex shape of the counter's "guide core portion 33" and thus likewise "defines a convex profile facing toward a front of the rapid-entry shoe" as recited in claim 20. This geometry is further illustrated with red arrows in Figure 2 below:

[FIG. 2]



Takahashi, Fig. 2; EX1003, ¶53.

Murray also expressly discloses this in Figures 1 and 6, which provide vertical cross-sectional views showing foam liners with convex profiles facing toward the front of the shoe:



Murray, Figs. 1, 6. While Takahashi alone meets claim 20, this would have further motivated a POSITA to apply Murray's teachings to Takahashi relating to elements 13[e.1] and 13[e.4].

ix. Combining Takahashi, Hanak, And Murray

The motivation to combine Takahashi and Hanak, and a POSITA's reasonable expectation of success, is discussed above in Part VIII.A and is incorporated here. A POSITA would have been further motivated to modify Takahashi's foam liner as taught by Murray (*i.e.*, spaced "from the sole portion" and "from the top line" as recited in 13[e.1] and 13[e.4]) to enhance heel retention in Takahashi's shoe.

First, the "interrelated teachings" of Takahashi and Murray would have motivated a POSITA to consider them together. *See ZUP*, 896 F.3d at 1371. Like Takahashi, Murray is primarily concerned with easy donning and doffing. Murray, 1:38-42 ("The construction permits the wearer to put his feet into the boots without strenuous effort. Also, the boots may be removed easily without using a zipper opening or shoe laces."). As Takahashi and Murray address the same "problem to be solved," a POSITA would have considered both when designing an easy-to-wear shoe. *Ruiz v. A.B. Chance Co*., 357 F.3d 1270, 1276 (Fed. Cir. 2004) ("[A] court or examiner may find a motivation to combine prior art references in the nature of the problem to be solved.") (citations omitted).

Moreover, a POSITA would have been motivated to modify Takahashi's "cushion body" by adopting the spacing and placement of Murray's foam insert. As shown in Murray Figures 1 and 3, the foam insert is placed "just below the wearer's interior ankle bone D of tibia E and extending around the heel to the outside of the foot A," and this specific spacing "keeps the instep B of the foot and heel bone C in its proper position and when the foot is lifted, to walk or run, the heel bone of the foot engages insert 17 so that the boot closely follows the movement of the foot with no tendency to pull out." Murray, 2:24-35. Similarly, in Figures 6-7, the insert is positioned just below "the rear portion of the shoe top," which "keeps the foot firmly

engaged within the footwear and at the same time absorbs the play which otherwise may exist around the ankle." *Id.*, 2:55-62.

Accordingly, modifying Takahashi according to Murray would have been "the mere application of a known technique to a piece of prior art ready for the improvement." *See KSR*, 550 U.S. at 417. Heel retention was a known problem in the art, and foam liners like Murray's were a recognized solution to that problem. *See*, *e.g.*, EX1021, p.14 ("heel liner. A special lining around the inside back of the heel's counter, usually to prevent heel slippage."). The Complete Footwear Dictionary, from 2000, provides an example of such a liner, strongly resembling Murray's foam insert:



Heel liner inside shoe to prevent slippage.

Id. Takahashi itself explains that one goal of its invention is a heel portion that "hold[s] a person's heel and make[s] it difficult for the shoe to slip off" when worn. Takahashi, ¶75. A POSITA considering Murray and Takahashi together would have

recognized that modifying Takahashi's foam liner according to Murray serves this purpose, "keep[ing] the foot firmly engaged within the footwear." Murray, 2:60-63.

A POSITA would have had a reasonable expectation of success in modifying Takahashi's foam liner according to Murray. Murray's invention is applicable to all footwear, including Takahashi's loafer-style slip-on. *See* Murray, 1:16-20 ("[B]oots' are used throughout to designate all types of footwear such … high and low shoes, loafers, slippers, and of all types of materials …."). Moreover, the materials and techniques for implementing Murray's foam insert and Takahashi's cushion body were conventional at the time of the invention, and a POSITA would have been able to easily modify the size, shape, and orientation of Takahashi's cushion body to accommodate the particular spacing of Murray's insert without substantial experimentation or unconventional modifications. *See*, *e.g.*, EX1021, p.12 (discussing "various resins in sponge or cellular form" and "foams such as polyurethane"), 14 (describing "heel liner[s]"), 18 ("artificial sponge" has "for many years been used as a shoe cushioning material"). *See In re ICON Health & Fitness, Inc.*, 496 F.3d 1374, 1382 (Fed. Cir. 2007) ("[W]e do not ignore the modifications that one skilled in the art would make to a device borrowed from the prior art.").

C. GROUND 3: Claims 21 and 26-27 Are Obvious Over Kim In View Of Hanak

Kim (EX1008) discloses all elements of claims 21 and 26-27 save for the "second elastic element," which is disclosed in Hanak (EX1015).

i. Claim 21

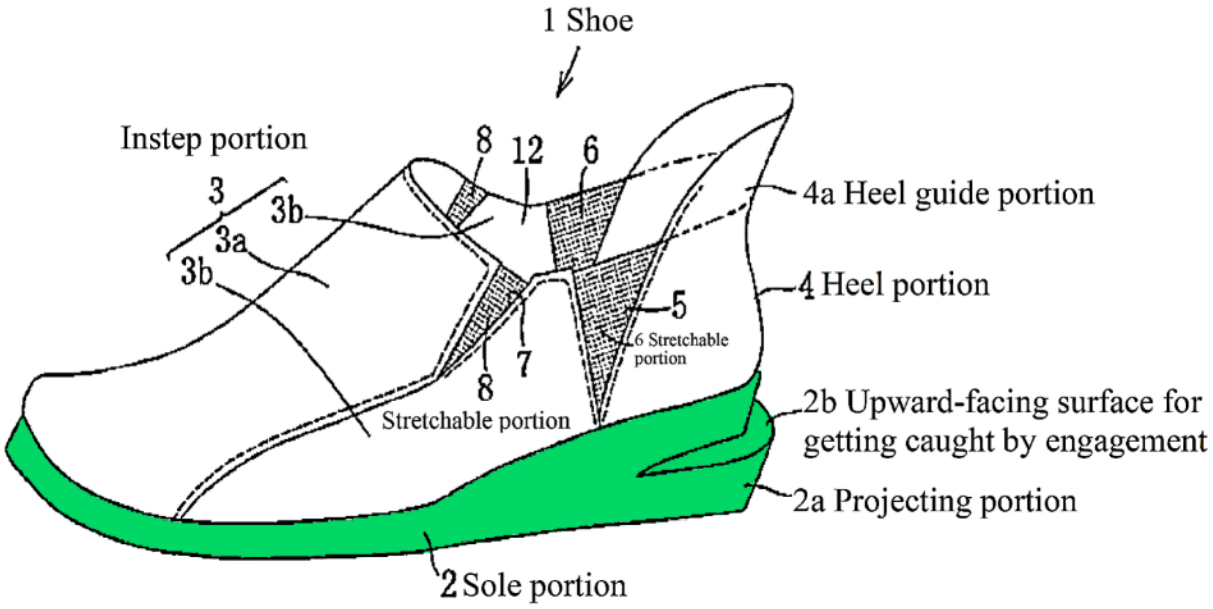
- ***21[pre]: "A rapid-entry shoe comprising:"***

To the extent the preamble is limiting, Kim satisfies it. For example, Kim discloses "a shoe that can be ***easily put on*** and taken off by people who cannot bend down[.]" Kim, Abstract.

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

Kim discloses 21[a]. Figure 1 includes "2 Sole portion," highlighted green below:

[FIG. 1]



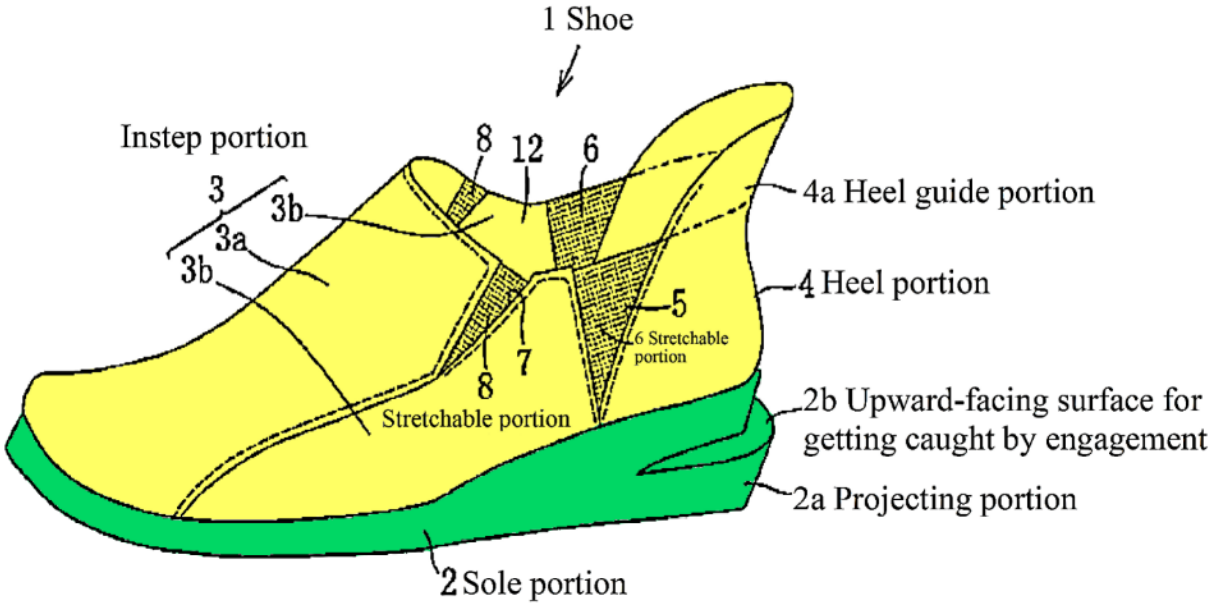
Kim, Fig. 1.

- ***21[b.1]: "an upper coupled to the sole portion and including a rear portion, a side portion, and a forward portion,"***

Kim discloses 21[b.].

First, Kim discloses "an upper coupled to the sole portion." Below the sole is highlighted green and the upper yellow:

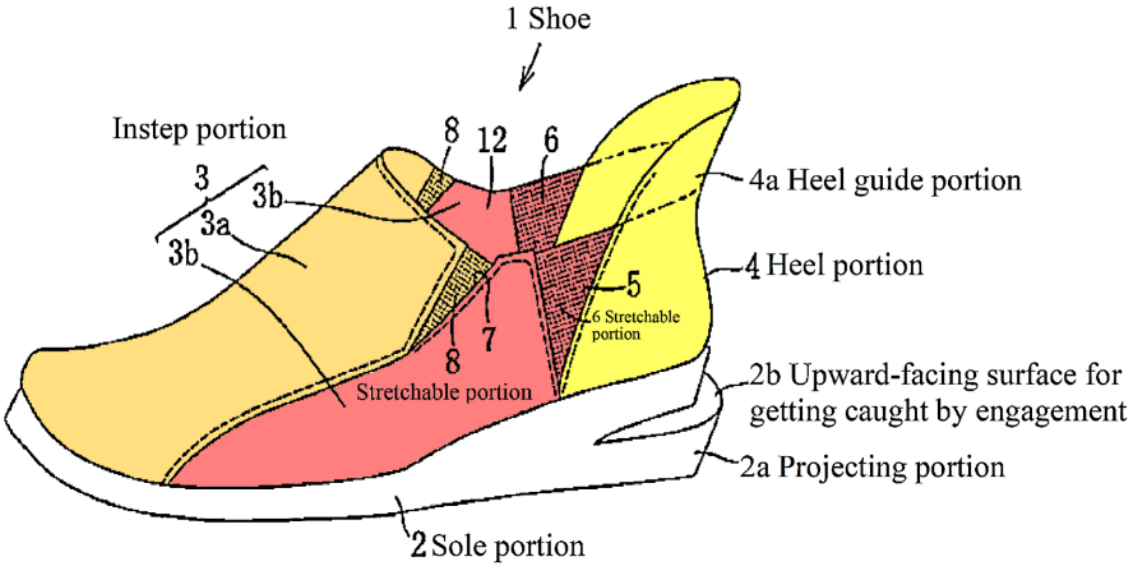
[FIG. 1]



Kim, Fig. 1.

Second, Kim discloses "an upper … including a rear portion, a side portion, and a forward portion." The upper includes a rear portion ("4 heel portion"), a side portion ("instep portion … 3b"), and a forward portion ("instep portion ... 3a"), highlighted below in orange, red, and yellow respectively:

[FIG. 1]

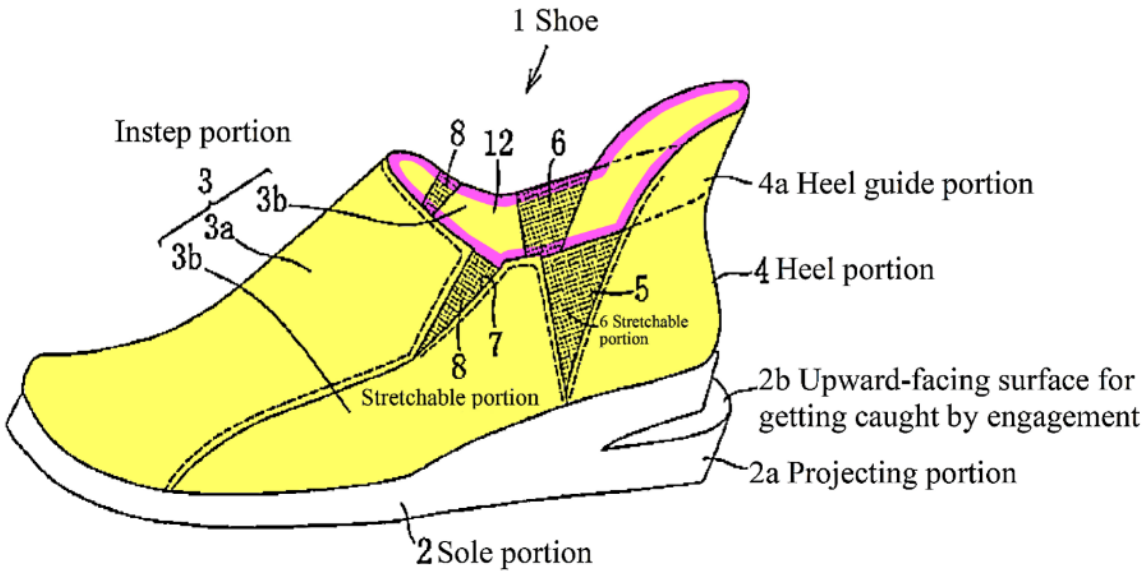


Kim, Fig. 1.

- ***21[b.2]: "the upper defining a foot opening;"***

Kim discloses 21[b.2]. Figure 1 shows that the upper (highlighted yellow) defines a foot opening (pink):

[FIG. 1]

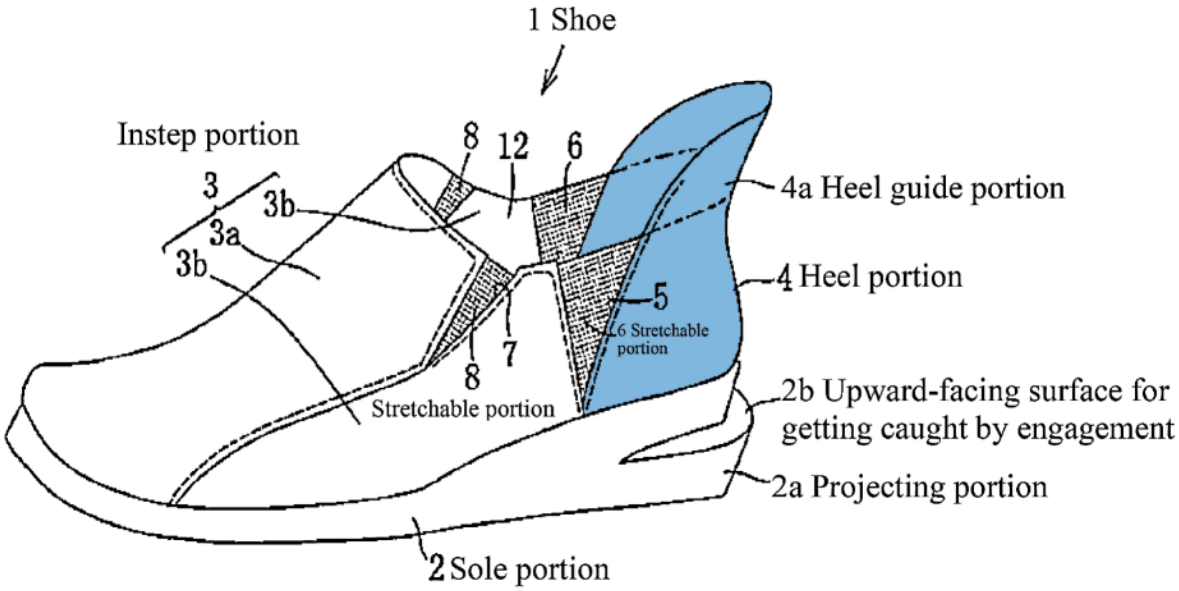


Kim, Fig. 1.

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

Kim discloses 21[c]. For example, Kim discloses "4 Heel portion" (including "4a Heel guide portion"), highlighted blue below:

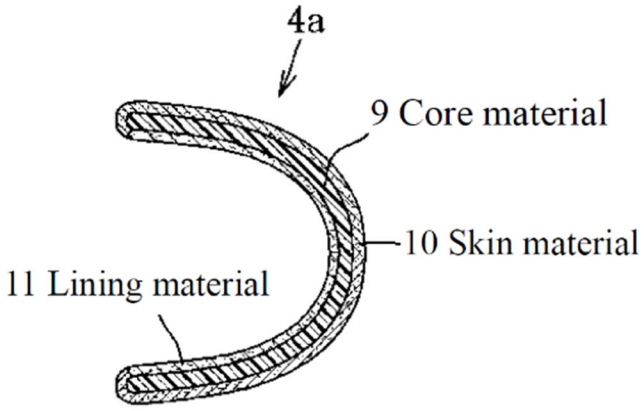
[FIG. 1]



Kim, Fig. 1.

First, Kim's "4 Heel portion" is "a stabilizer defining a unitary structure." Kim's "heel portion and the heel guide portion are comprised of a hard core material." *Id.*, ¶3; *see also id.*, ¶¶10, 17, 27, 31. 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 also shows a cross-section of the heel portion in Figure 2, including "9 Core material":

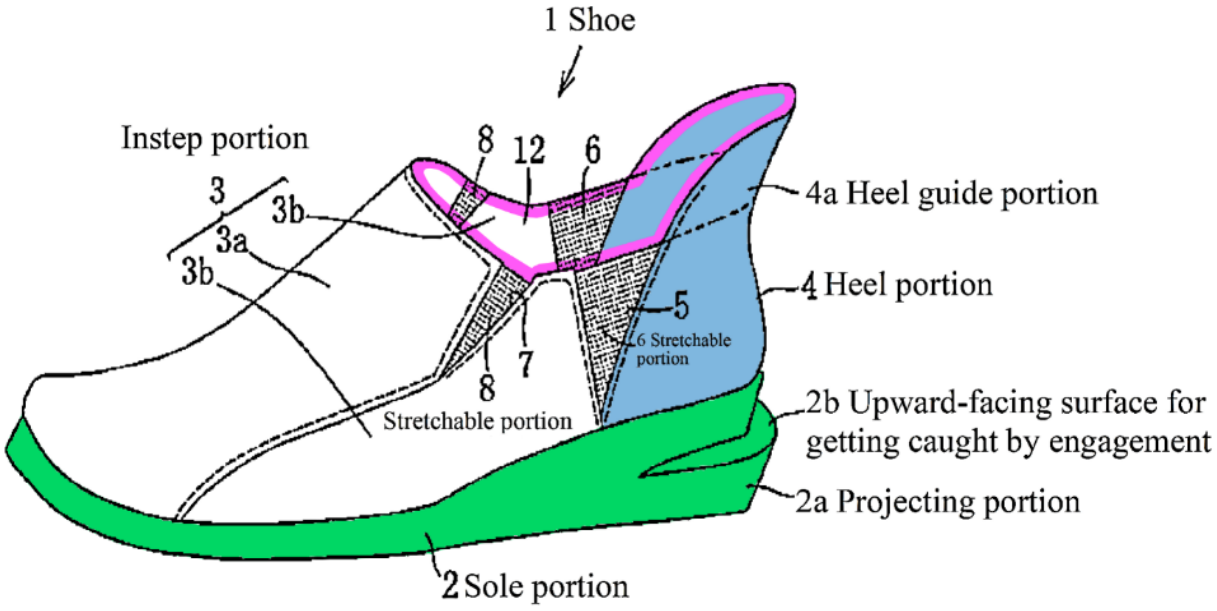
[FIG. 2]



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

Second, Figure 1 shows Kim's "stabilizer" (blue) is "extending from the sole portion" (green) "toward a rear portion of the foot opening" (pink):

[FIG. 1]

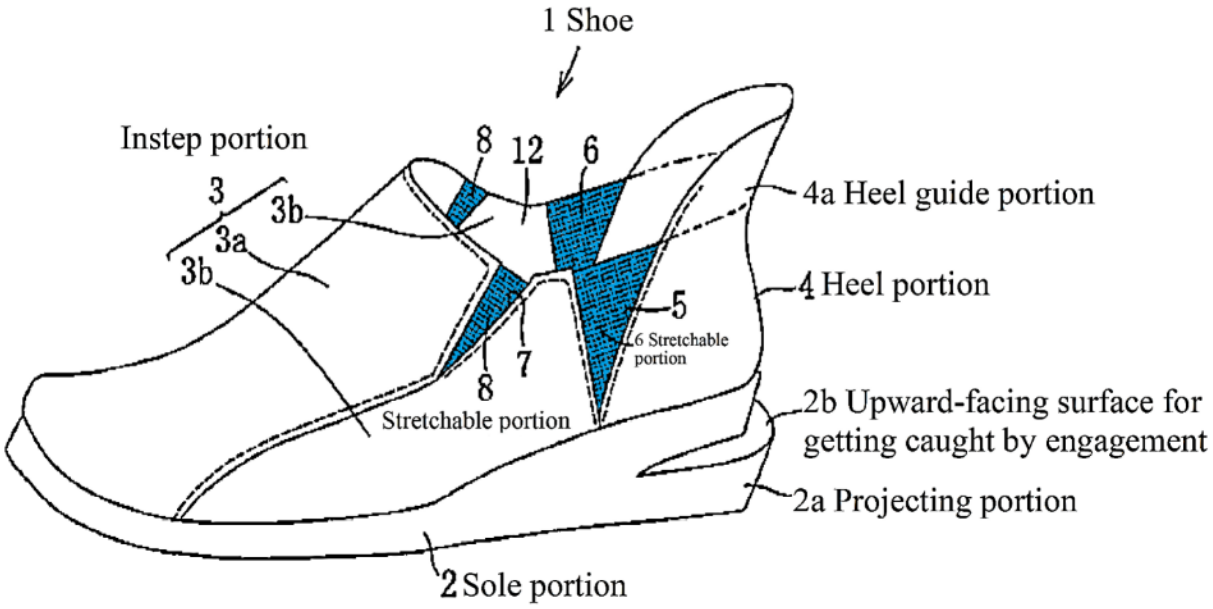


Kim, Fig. 1.

- ***21[d.1]: "a plurality of elastic elements positioned along at least a portion of the upper,"***

Kim discloses 21[d.1]. For example, Figure 1 includes two "6 Stretchable portion[s]" and two "8 Stretchable portion[s]," highlighted blue below:

[FIG. 1]

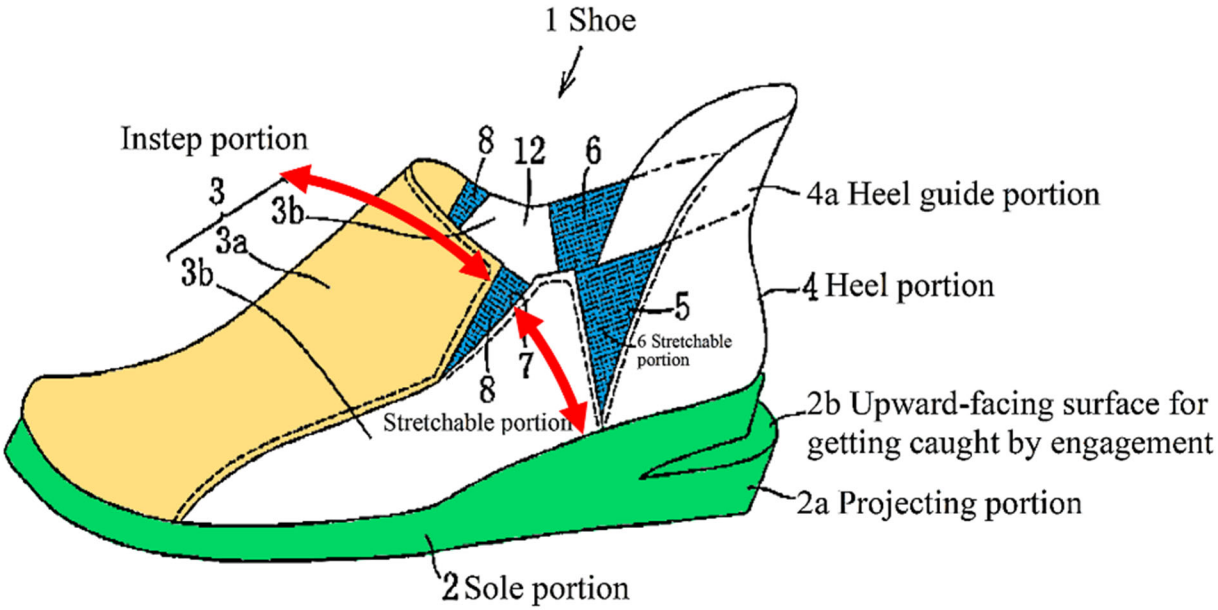


Kim, Fig. 1. The "two pairs of stretchable portions 6, 8 [are] composed of a stretchable woven fabric." *Id.*, Abstract.

- ***21[d.2]: "the plurality of elastic elements configured to facilitate at least one of flexion and pivoting of the forward portion of the upper relative to the sole portion,"***

Kim discloses 21[d.2]. Kim's "elastic elements" (blue) are "configured to facilitate at least one of flexion and pivoting" (illustrated with red arrows) "of the forward portion of the upper" (including "Instep portion 3," orange) "relative to the sole portion" (green):

[FIG. 1]



Kim, Fig. 1. "The ***instep portion 3***, the two pairs of stretchable portions 6, 8, and the upper end portion of the heel guide portion 4a form the shoe opening 12, and the shoe opening 12 ***expands when the two pairs of stretchable portions 6, 8 stretches***." *Id.*, ¶25; EX1003, ¶36.

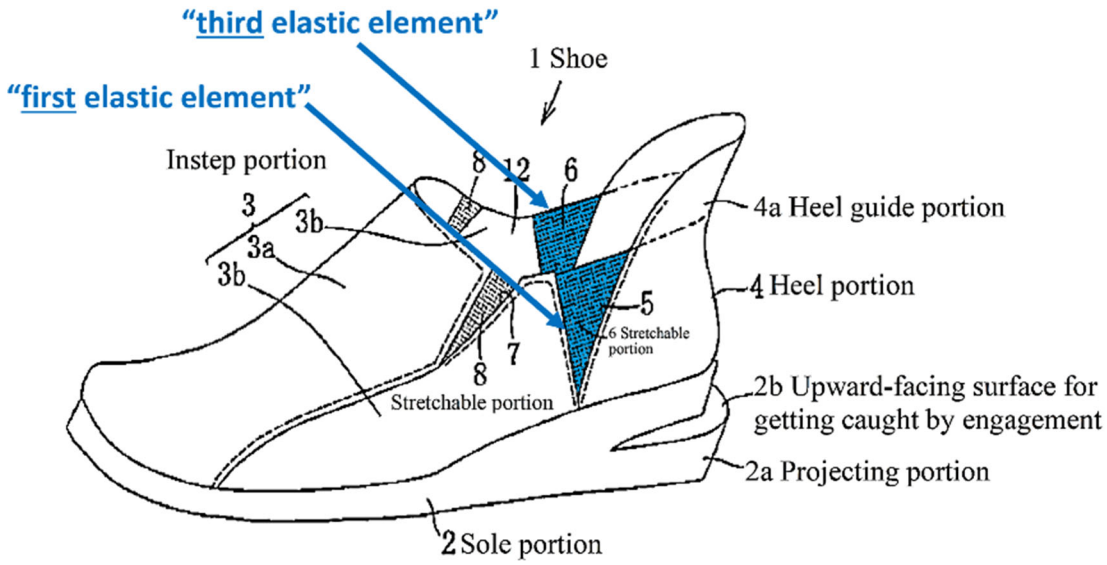
- ***21[d.3]: "wherein the plurality of elastic elements includes at least a first elastic element a second elastic element, and a third elastic element,"***

Element 21[d.3] is obvious over Kim in view of Hanak. Kim discloses the "***first***" and "***third*** elastic element[s]," and Hanak discloses the "***second*** elastic element."

First, Kim discloses "two pairs of stretchable portions 6, 8," for four elastic elements total. Kim, Abstract. Kim's "6 Stretchable portion[s]" and "8 Stretchable

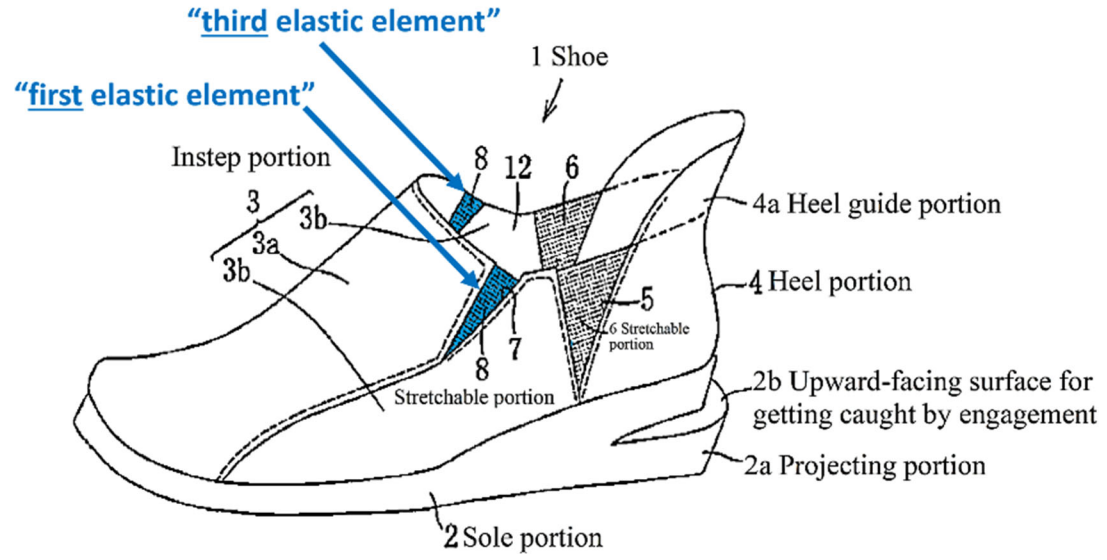
portion[s]" each satisfy the "***first***" and "***third***" elastic elements in alternative claim mappings. In one example claim mapping, one "6 Stretchable portion" is the "first elastic element," and the other "6 Stretchable portion" is the "third elastic element":

[FIG. 1]



Id., Fig. 1. In another example, one "8 Stretchable portion" is "first elastic element," and the other "8 Stretchable portion" is the "third elastic element":

[FIG. 1]



Id.

Second, Hanak discloses the claimed "***second*** elastic element":

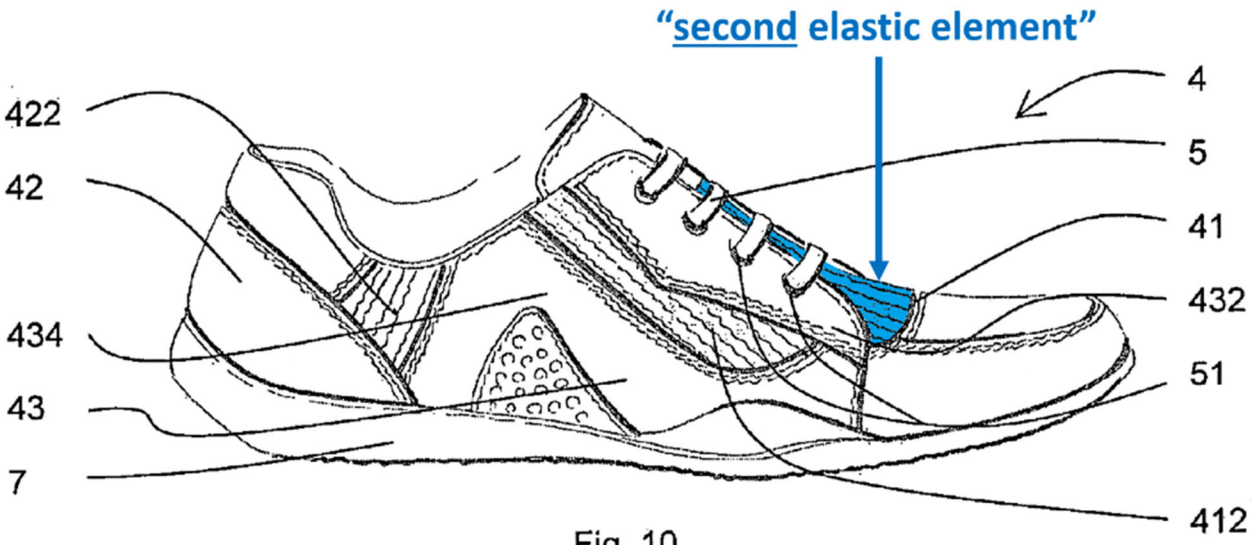


Fig. 10

Hanak, Fig. 10, ¶38 (discussing Figure 10's "approximately rectangular instep elastic insertion"). Petitioner incorporates by reference the discussion of Hanak for Element 21[d.3] in Ground 1. *See* Part VIII.A.i, *supra*.

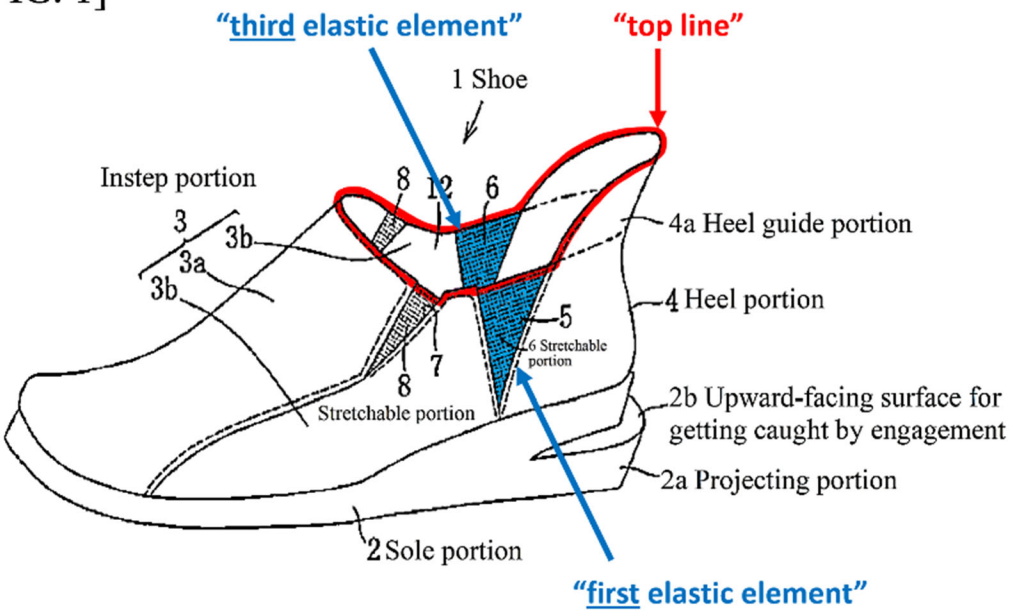
A POSITA would have found it obvious to supplement Kim with Hanak's instep elastic insertion as the claimed "second elastic element." A POSITA would have been particularly motivated to use a "rectangular instep elastic insertion" like in Hanak's Figure 10, which is a loafer-style shoe of similar form factor to Kim, and which would readily fit on Kim's instep with little modification. EX1003, ¶41-43.

A POSITA's motivations to combine Kim and Hanak, and reasonable expectation of success, are discussed further in Part VIII.C.iv below.

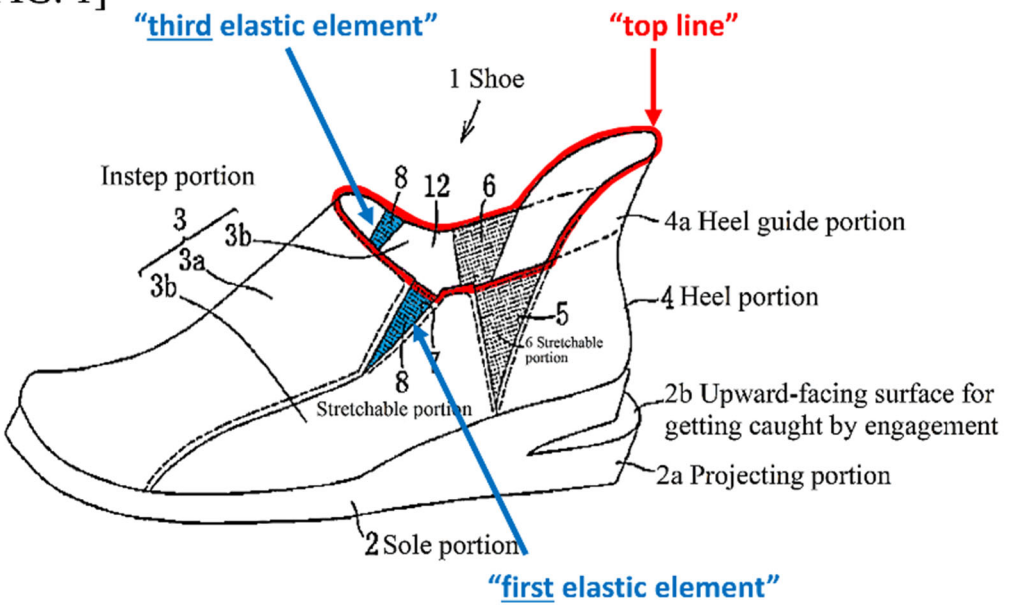
- ***21[d.4]: "wherein the first elastic element and the third elastic element extend to a top line of the upper, and,"***

Kim discloses 21[d.4]. As shown in alternative examples of Figure 1 annotated below, the "first elastic element" and "third elastic element" (blue) "extend to a top line of the upper" (red line), each forming part of the top line:

[FIG. 1]



[FIG. 1]



Kim, Fig. 1.

- ***21[d.5]: "the second elastic element is spaced from the top line of the upper,"***

Hanak discloses 21[d.5]. As illustrated below, the "second elastic element" (blue) "is spaced from the top line of the upper" (red):

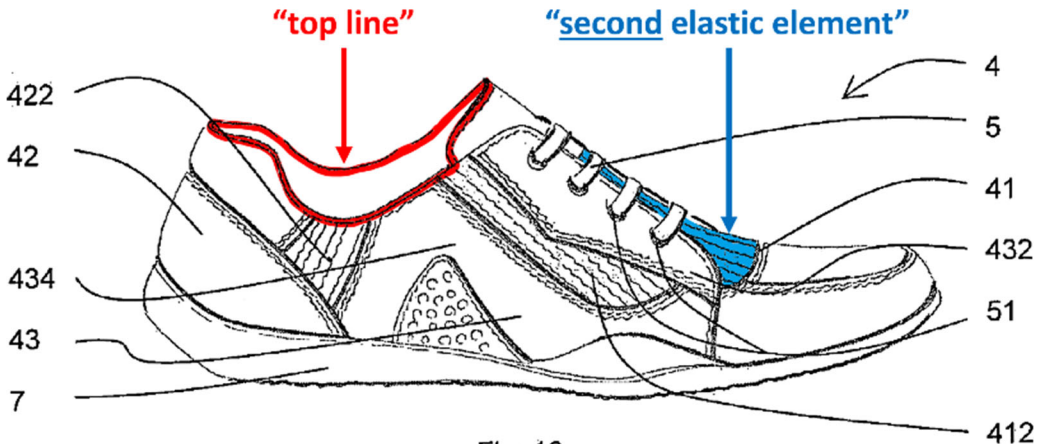
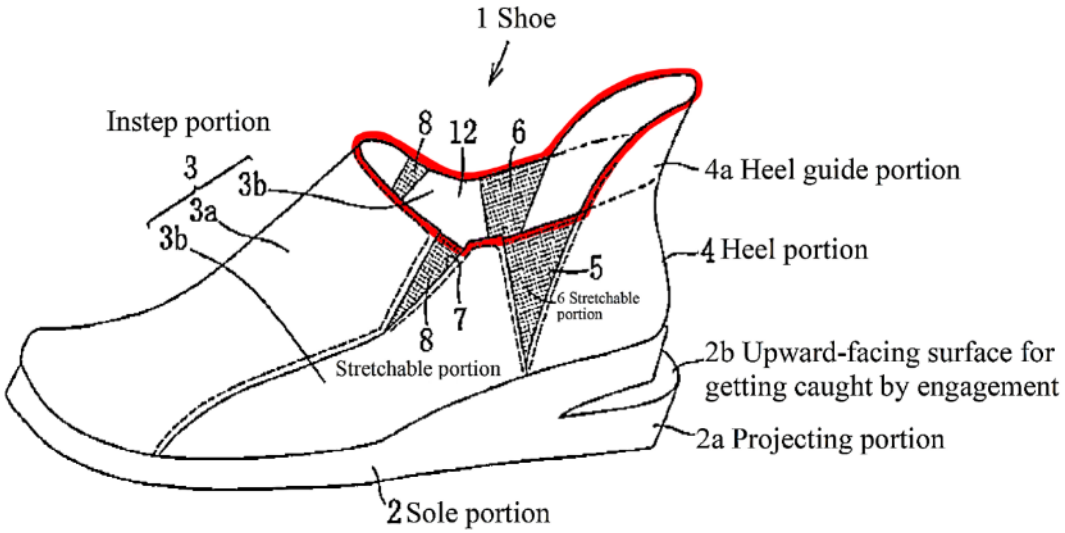


Fig. 10

Hanak, Fig. 10. A POSITA would have understood that Hanak's instep elastic insertion would likewise be spaced from the top line when incorporated into Takahashi's shoe, as both shoes have a similar loafer-style form factor.

[FIG. 1]

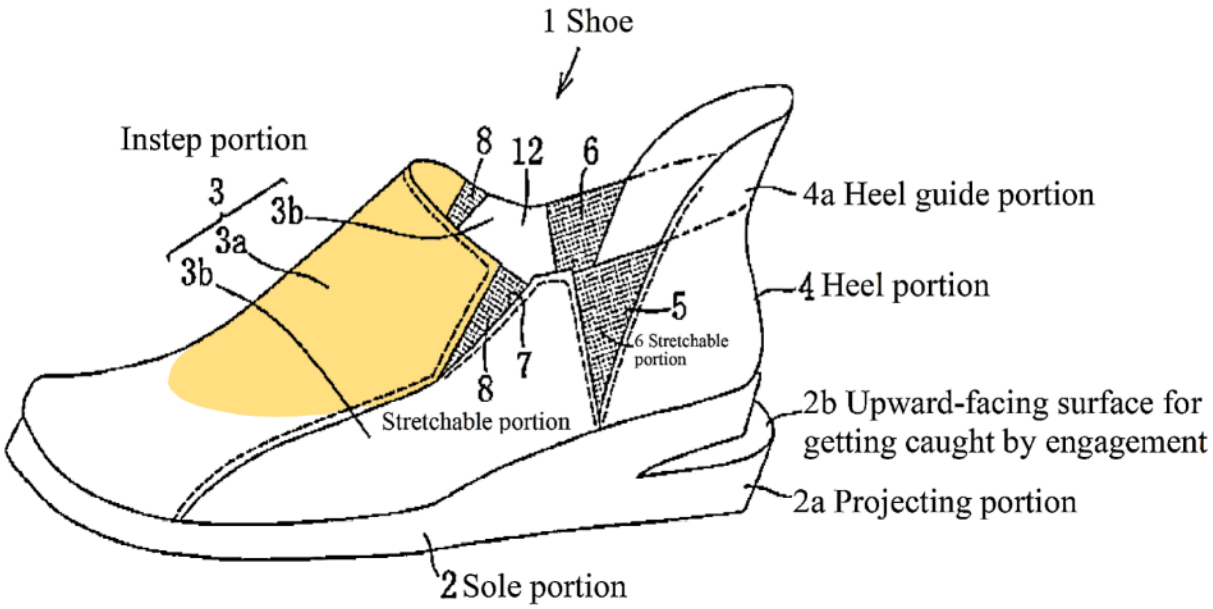


Kim, Fig. 1; EX1003, ¶43.

- ***21[e.1]: "wherein the forward portion defines a tongue portion,"***

Kim discloses 21[e.1]. The "tongue portion" is highlighted orange below:

[FIG. 1]

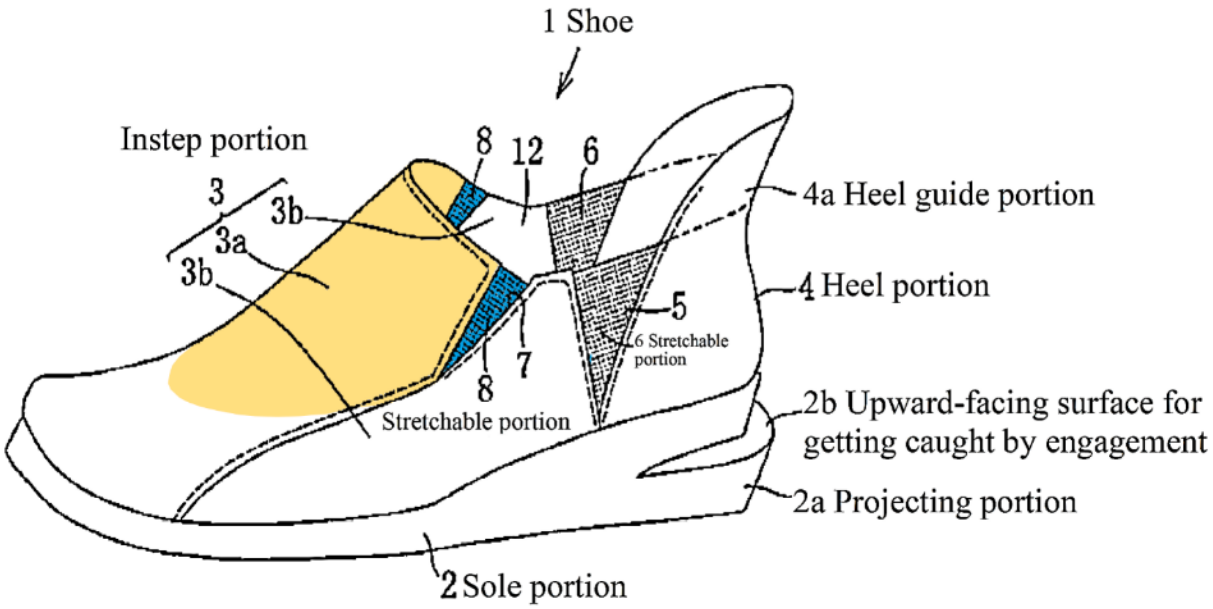


Kim, Fig. 1.

- ***21[e.2]: "wherein the tongue portion is coupled to at least one of the elastic elements and"***

Kim discloses 21[e.2]. As shown below, the "tongue portion" (orange) is coupled to two of the "elastic elements" (the "8 Stretchable portion[s], blue):

[FIG. 1]



Kim, Fig. 1.

Further, although not needed to meet 21[e.2], the "second elastic element" of Hanak is also coupled to the tongue portion:

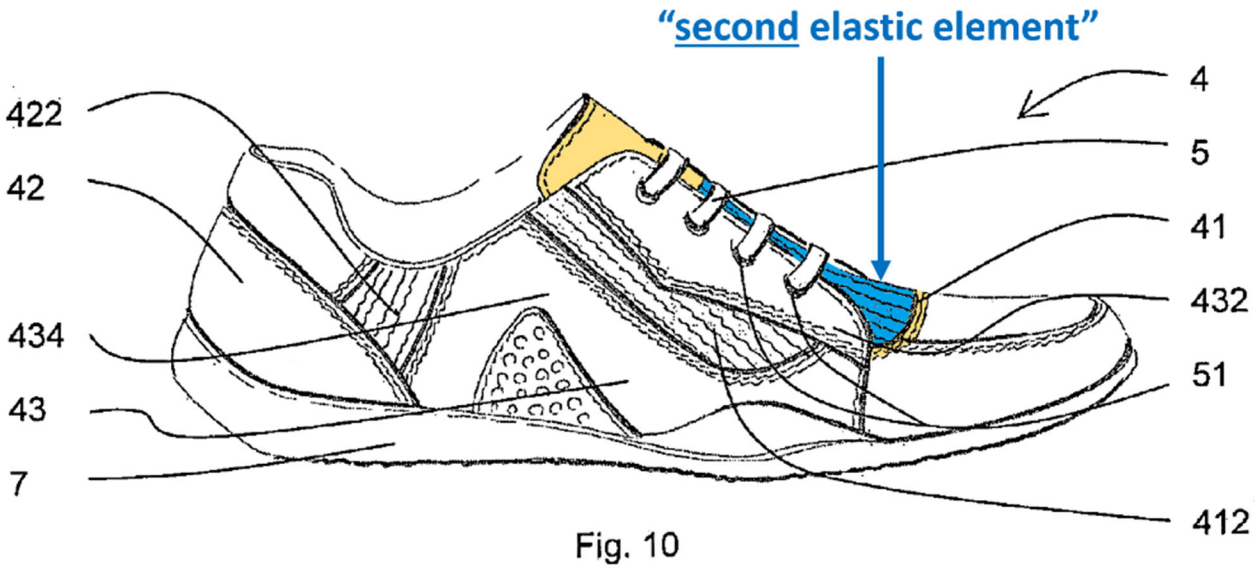


Fig. 10

Hanak, Fig. 10.

- ***21[e.3]: "wherein at least a portion of at least one of the elastic elements extends across the tongue portion."***

Hanak discloses 21[e.3]. Petitioner incorporates by reference the discussion of Hanak for 21[e.3] in Ground 1. *See* Part VIII.A.i, *supra*.

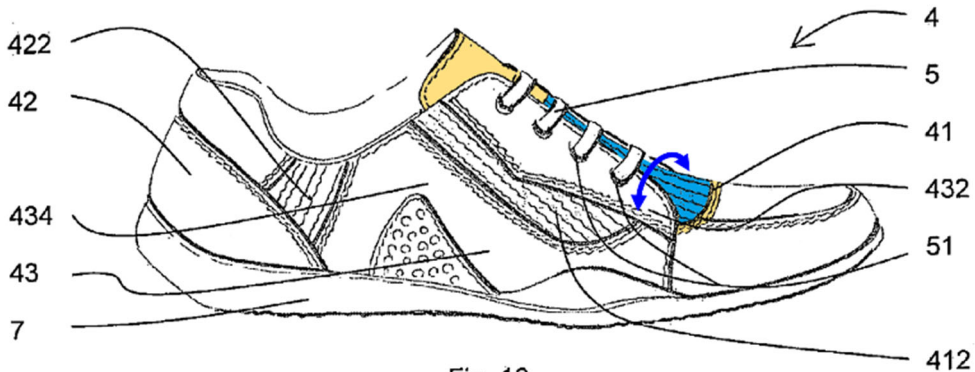
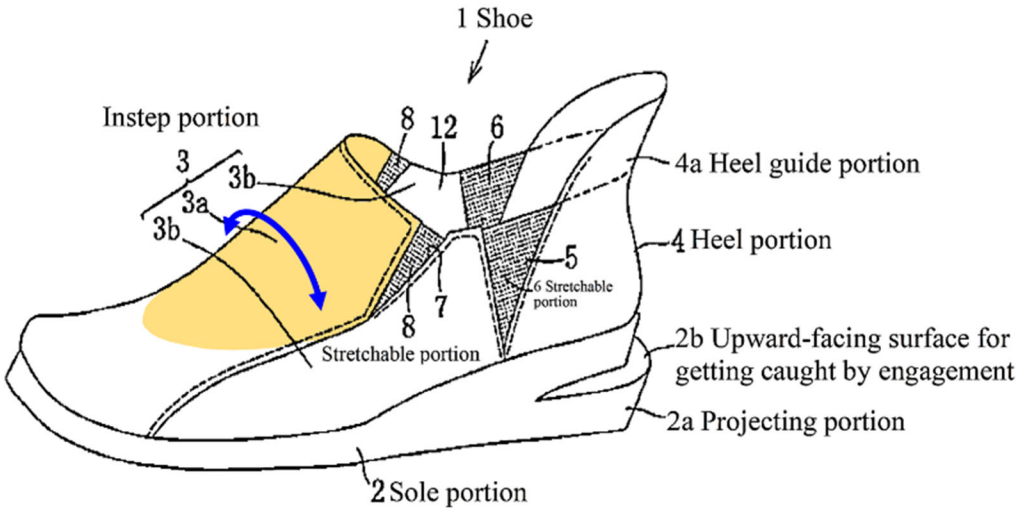


Fig. 10

Hanak, Fig. 10; *see also id.*, Fig. 11. A POSITA would have likewise understood that the "second elastic element" disclosed in Hanak would similarly "extend[] across the tongue portion" when implemented in Kim, as indicated below:

[FIG. 1]



Kim, Fig. 1; *see also* EX1003, ¶43.

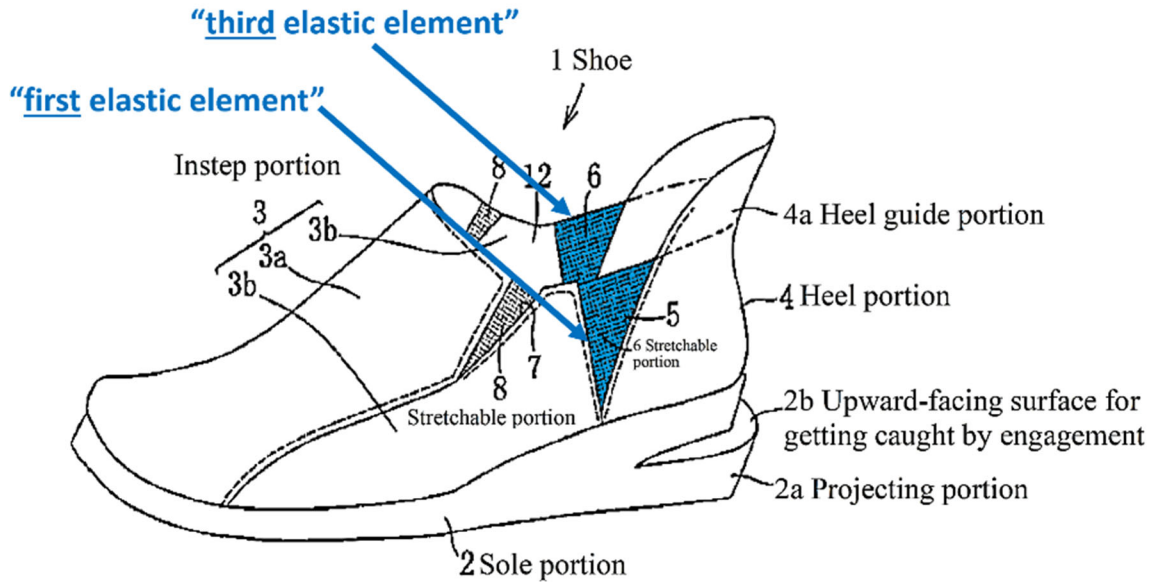
Accordingly, Claim 21 is obvious over Kim in view of Hanak.

ii. Claim 26

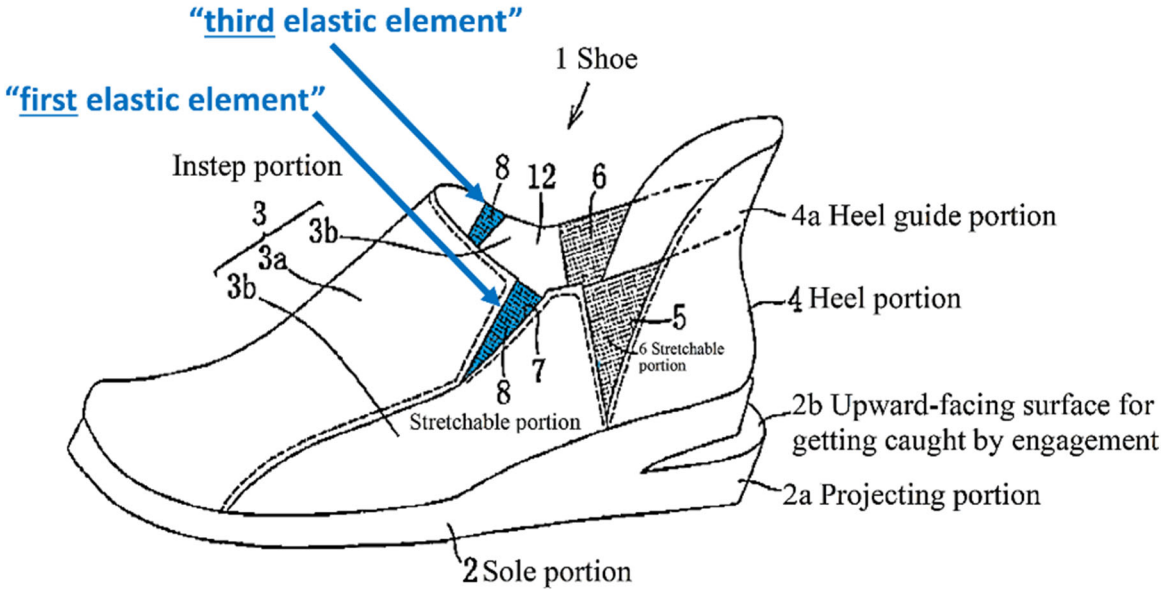
- ***26. "The rapid-entry shoe of claim 21, wherein the first elastic element is spaced from the third elastic element."***

Kim discloses dependent claim 26. Figure 1 shows the "first elastic element" is spaced from the "third elastic element," in any combination:

[FIG. 1]



[FIG. 1]



Kim, Fig. 1.

iii. Claim 27

- ***27. "The rapid-entry shoe of claim 21, wherein the tongue portion defines a longitudinal axis substantially directed toward a front portion of the rapid-entry shoe, wherein the curvilinear profile of the elastic member crosses the longitudinal axis of the tongue portion."***

Hanak discloses claim 27. Petitioner incorporates the discussion of Hanak for this claim in Ground 1. *See* Part VIII.A.iii, *supra*.

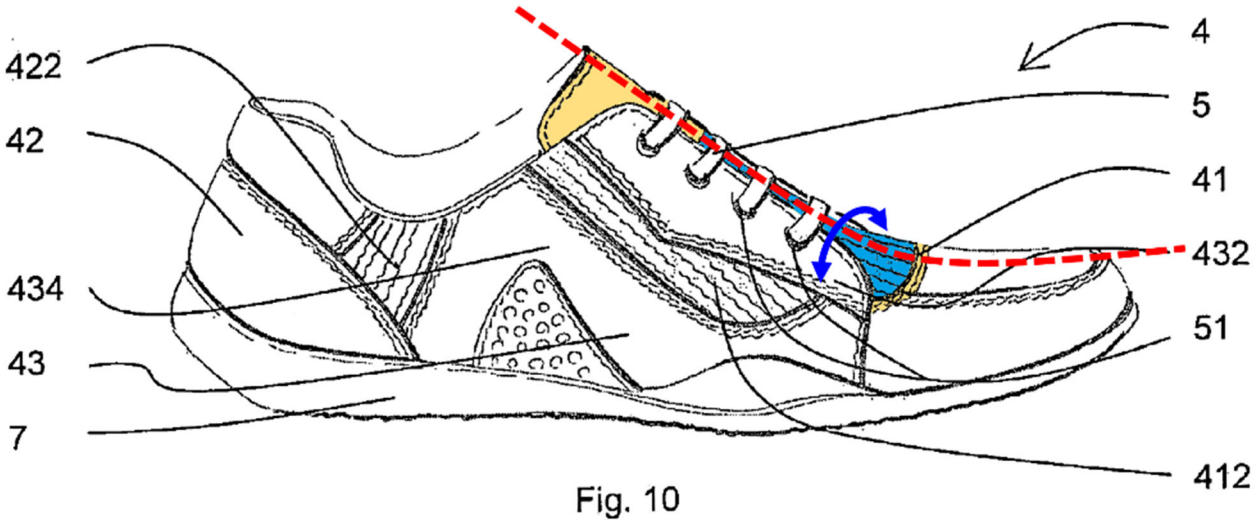
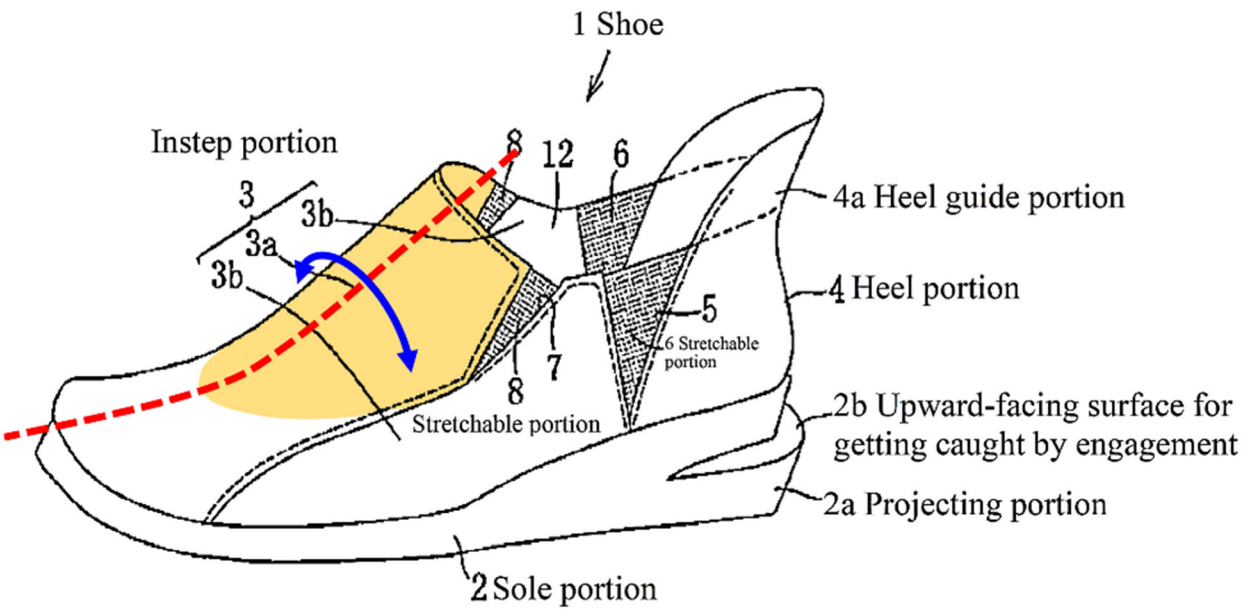


Fig. 10

Hanak, Fig. 10.

A POSITA would have understood that the claimed "second elastic element" of Hanak would cross the longitudinal axis of Kim's tongue portion, as indicated below:

[FIG. 1]



Kim, Fig. 1; *see also* EX1003, ¶43.

iv. Combining Kim and Hanak

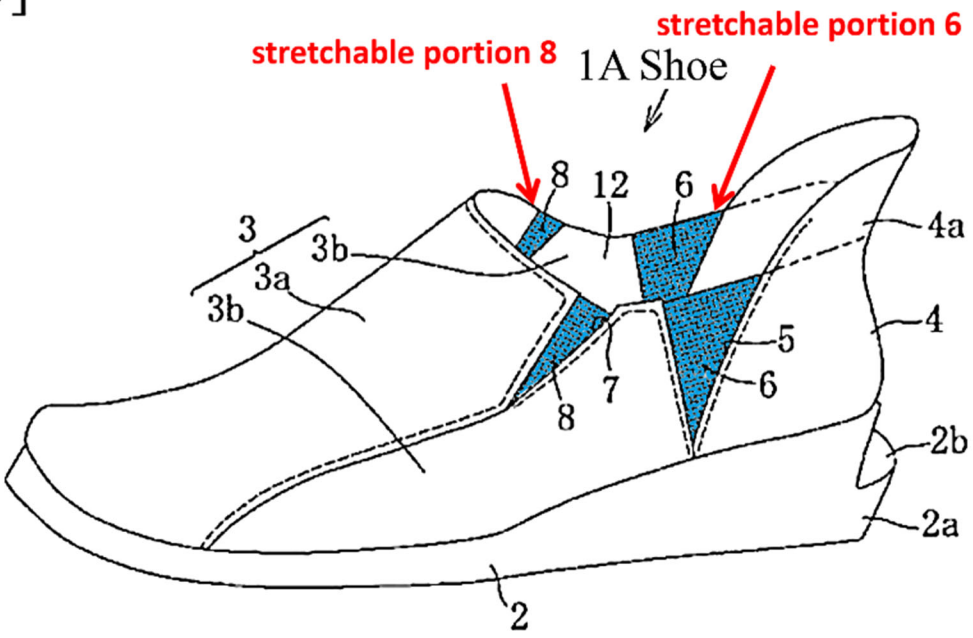
A POSITA would have been motivated to simply add Hanak's "instep elastic insertion" to Kim's shoe. Doing so would have been "mere application of a known technique to a piece of prior art ready for the improvement," for similar reasons discussed in Part VII.A.iv. *See KSR*, 550 U.S. at 417.

Kim's upper is "made of leather, synthetic leather or the like," is "joined to the sole portion," and "is manufactured by sewing together" pieces of leather or "may be integrally manufactured from one member." Kim, ¶24. A POSITA would have understood that Hanak's instep elastic insertion, explicitly designed to remedy a "common disadvantage" of "tough upper[s]" that are "firmly attached to the sole,"

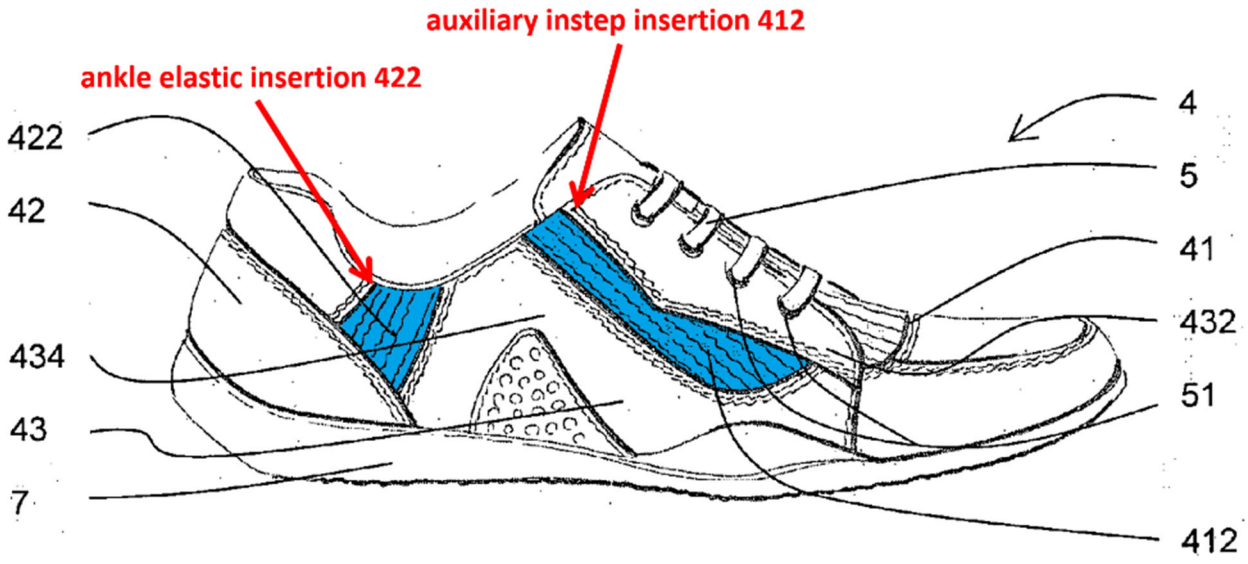
Hanak, ¶2, would improve Kim by addressing the known problem in the art of excessive instep pressure caused by conventional uppers, *see*, *e.g.*, *id.*; EX1026, 2:10-13. A POSITA would thus have been motivated to modify Kim's upper to incorporate Hanak's instep elastic insertion. *See Intel*, 61 F.4th at 1380-81 ("There is a motivation to combine when a known technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way using the prior art elements according to their established functions.") (cleaned up).

Kim and Hanak's "interrelated teachings" provide further motivation to combine them. *See ZUP*, 896 F.3d at 1371. For example, Hanak and Kim both disclose shoes with similar loafer-style form factors, and both further disclose elastic elements on the sides to enable beneficial deformations of the upper. *See*, *e.g.*, Hanak, ¶¶6-7 ("To increase the effect of the instep elastic insertion, the upper of the shoe may further on at least one side … an auxiliary instep elastic insertion"); Kim, ¶25 ("[T]he shoe opening 12 expands when the two pairs of stretchable portions 6, 8 stretches."). Kim's "two pairs of stretchable portions 6, 8," *id.*, ¶22, are similar to Hanak's "auxiliary instep insertion 412" and "ankle elastic insertion 422," Hanak, ¶38. These side elastic elements in both references also form part of the topline:

[FIG. 3]



Kim, Fig. 3.



Hanak Fig. 10. Given the highly similar configuration of elastic elements in each reference, a POSITA would have recognized that Kim was "ready for the improvement" of Hanak. *See KSR*, 550 U.S. at 417.

A POSITA would have had a reasonable expectation of success in incorporating Hanak's instep elastic insertion into Kim. As discussed, Hanak and Kim both disclose shoes with similar loafer-style form factors, and a POSITA would have recognized that the "rectangular instep elastic insertion" of Hanak Figure 10 would fit on the instep of Takahashi's shoe with little modification. *See, e.g.*, EX1003, ¶¶41-43. Hanak also explicitly teaches that its instep insertion can be applied to leather uppers like Kim's, and Kim already incorporates elastic elements corresponding to Hanak's auxiliary and ankle elastic insertions. Accordingly, each component in the combination would act in the same way it did in the original reference. Moreover, the materials and techniques for making and using Hanak's instep elastic insertion were conventional at the time of the invention, and a POSITA would have been able to easily modify its size, shape, and orientation to accommodate Kim's upper without substantial experimentation or modification. *See*, *e.g.*, EX1026, 3:28-53; EX1021, p.13. Incorporating Hanak's instep elastic insertion into Kim thus would have been a mere "predictable use of prior art elements according to their established functions." *KSR*, 550 U.S. at 416.

D. GROUND 4: Claims 13-20 Are Obvious Over Kim In View Of Hanak And Shin, And If Necessary Murray

Kim (EX1008) teaches claims 13-20 save for the "second elastic element," disclosed in Hanak (EX1010), and "foam liner," disclosed in Shin (EX1011). If needed, Murray (EX1015) teaches the "foam liner" being "spaced from the top line."

i. Claim 13

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

To the extent the preamble is limiting, Kim discloses it. *See* Part VIII.C.i, 21[pre] (identical).

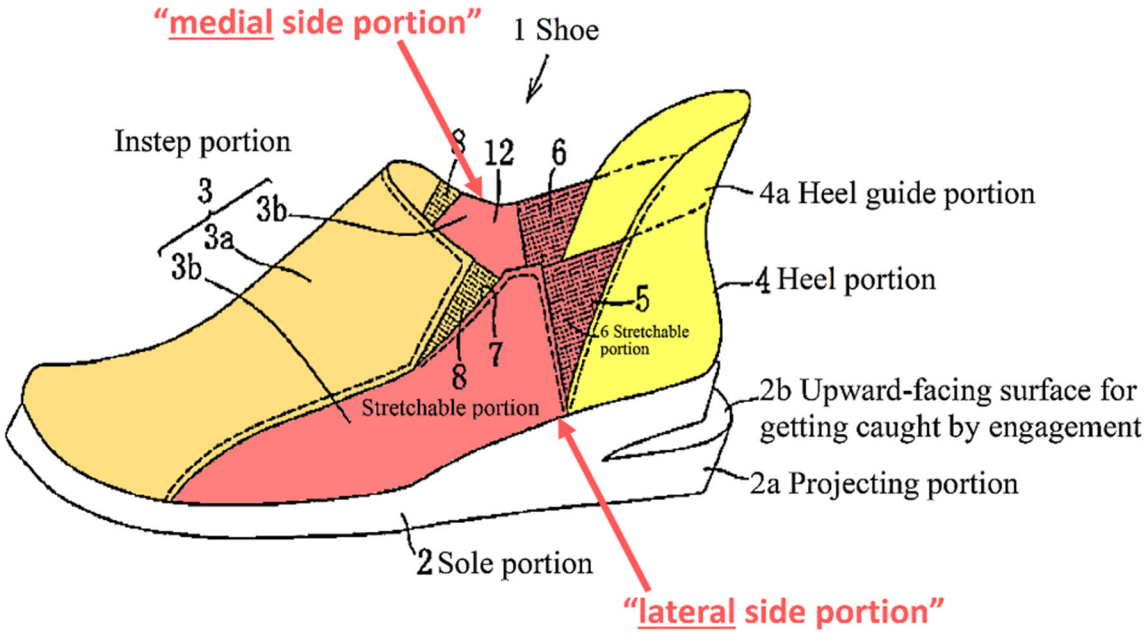
- ***13[a]: "a sole portion;"***

Kim discloses 13[a]. *See* Part VIII.C.i, 21[a] (identical).

- ***13[b.1]: "an upper coupled to the sole portion and including a rear portion, a lateral side portion, a medial side portion, and a forward portion,"***

Kim discloses 13[b.1]. *See* Part VIII.C.i, 21[b.1]. Kim's upper includes a rear portion (yellow), side portions (red), and forward portion (orange). *Id.* Kim's side portions (red) include a "medial side portion" and "lateral side portion":

[FIG. 1]



Kim, Fig. 1.

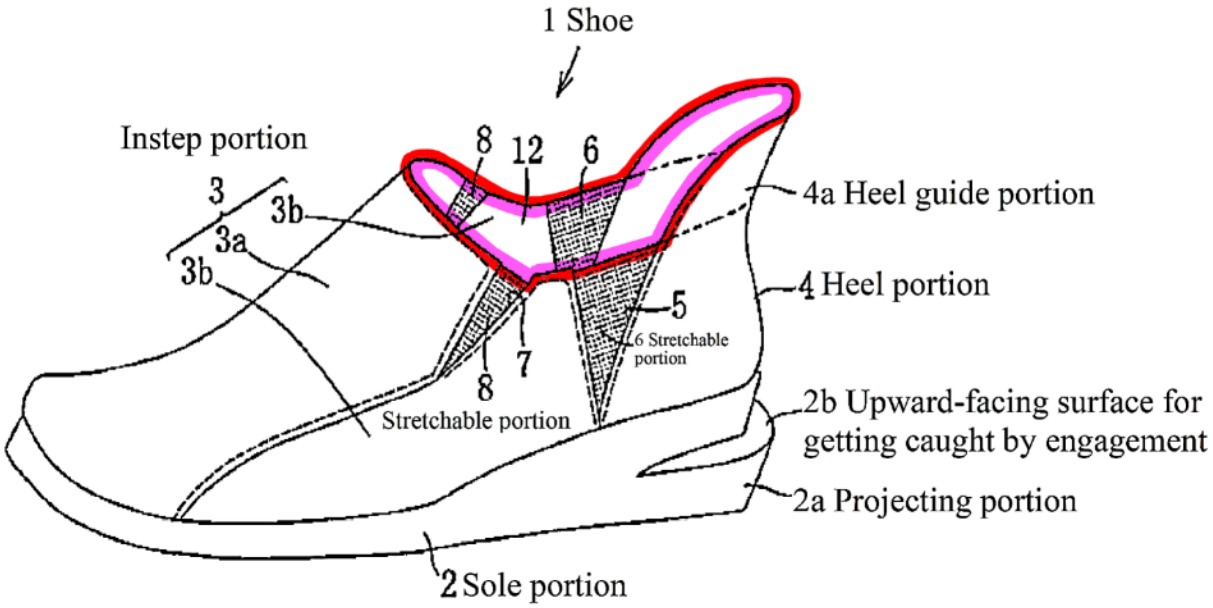
- ***13[b.2]: "the upper defining a foot opening,"***

Kim discloses 13[b.2]. *See* Part VIII.C.i, 21[b.2] (identical).

- ***13[b.3]: "the upper defining a top line positioned proximate the foot opening;"***

Kim discloses 13[b.3]. As shown below, Kim's upper defines a "top line" (red) "positioned proximate the foot opening" (pink):

[FIG. 1]



Kim, Fig. 1.

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

Kim discloses 13[c]. *See* Part VIII.C.i, 21[c] (identical).

- ***13[d.1]: "a plurality of elastic elements positioned along at least a portion of the upper,"***

Kim discloses 13[d.1]. *See* Part VIII.C.i, 21[d.1] (identical).

- ***13[d.2]: "the plurality of elastic elements configured to facilitate at least one of flexion and pivoting of the forward portion of the upper relative to the sole portion,"***

Kim discloses 13[d.2]. *See* Part VIII.C.i, 21[d.2] (identical).

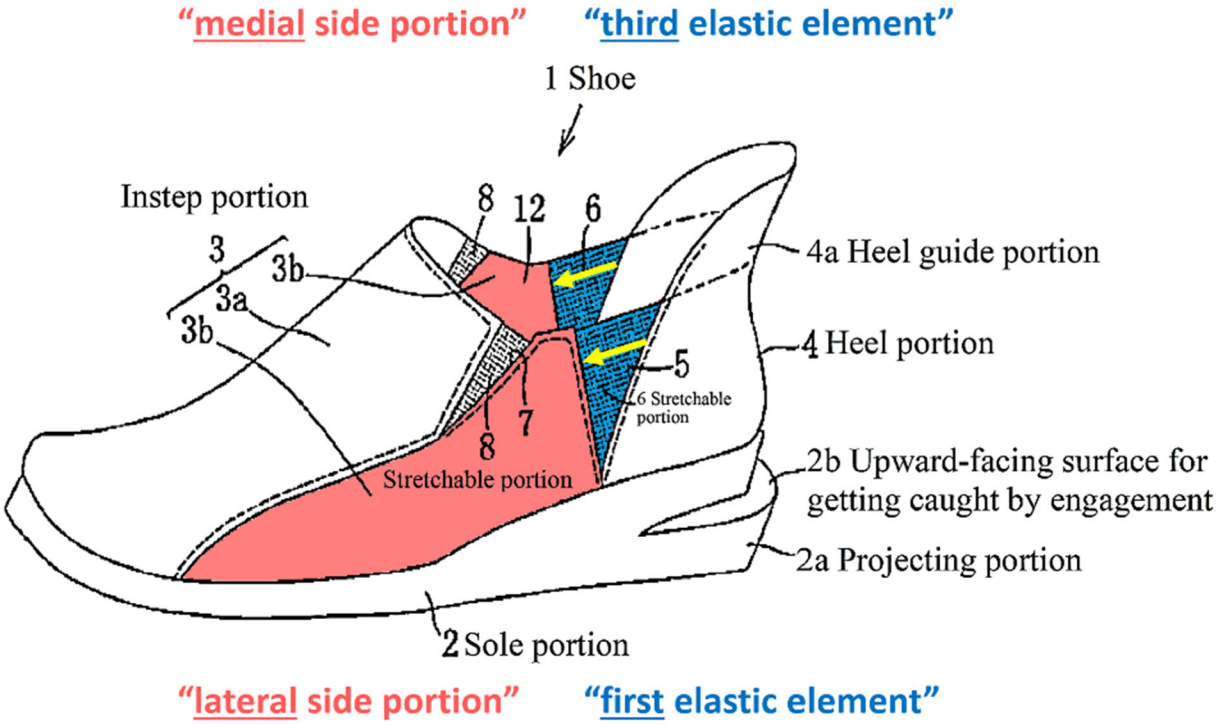
- ***13[d.3]: "wherein the plurality of elastic elements includes at least a first elastic element, a second elastic element, and a third elastic element,"***

Kim and Hanak disclose 13[d.3]. *See* Part VIII.C.i, 21[d.3] (identical).

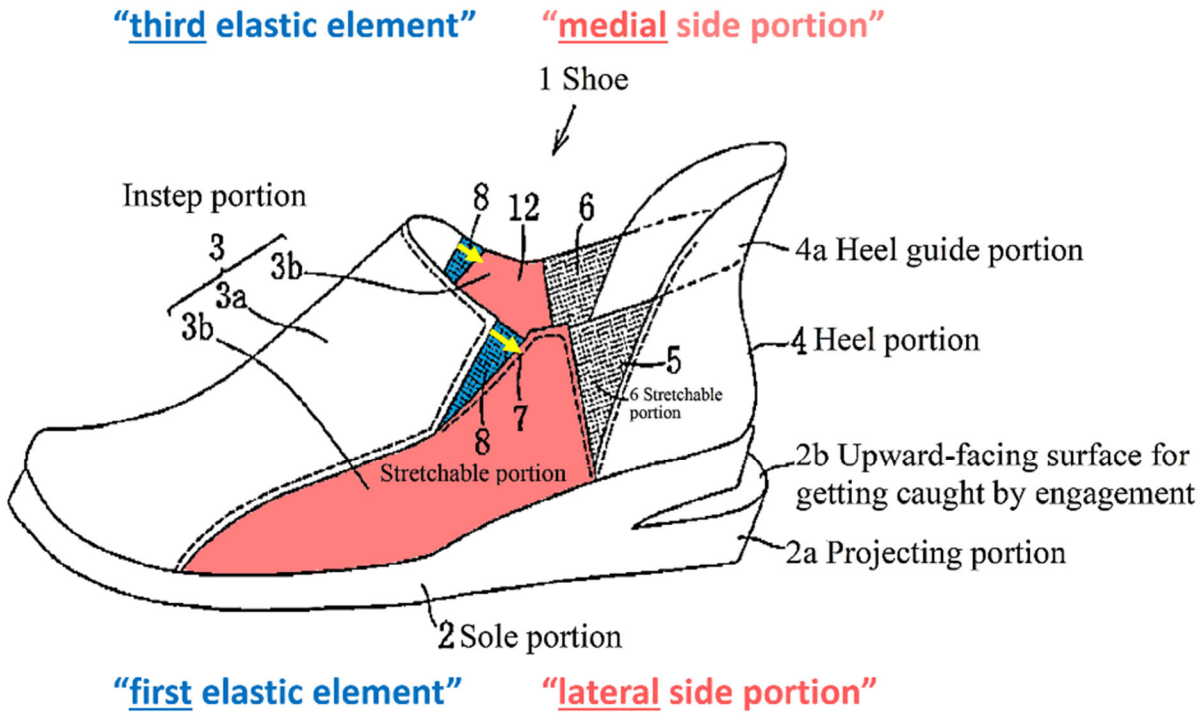
- ***13[d.4]: "the first elastic element and the third elastic element extending toward the lateral side portion and the medial side portion, respectively,"***

Kim discloses 13[d.4]. In either example mapping, Kim's "first" and "third elastic element[s]" (highlighted blue below) respectively "extend[] toward the lateral side portion and the medial side portion" (red):

[FIG. 1]



[FIG. 1]



Kim, Fig. 1.

- ***13[d.5]: "wherein the first elastic element and the third elastic element extend to the top line of the upper, and"***

Kim discloses 13[d.5]. *See* Part VIII.C.i, 21[d.4] (identical).

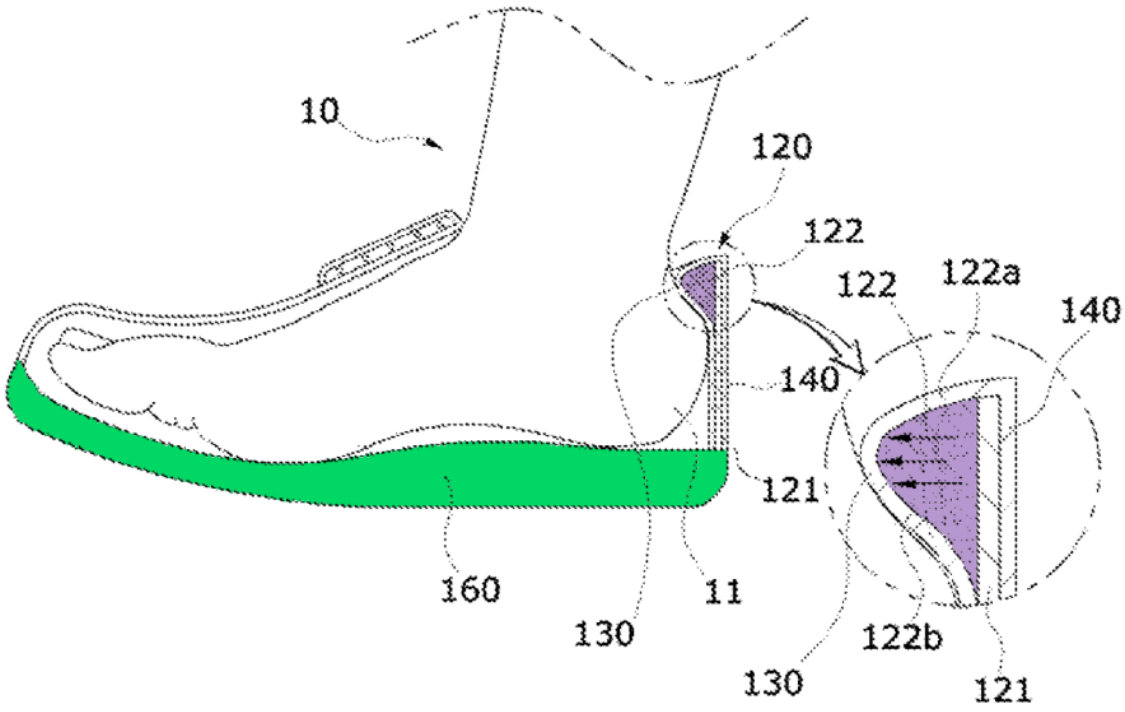
- ***13[d.6]: "wherein the second elastic element does not extend to the top line of the upper; and"***

Hanak discloses 13[d.6]. *See* Part VIII.C.i, 21[d.5] ("the second elastic element is spaced from the top line of the upper").

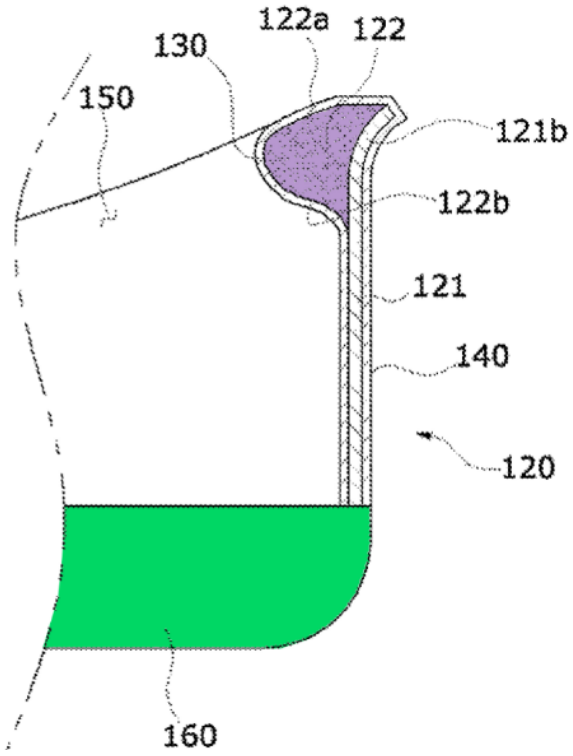
- ***13[e.1]: "a foam liner coupled to a rear portion of the upper and spaced from the sole portion,"***

Shin discloses 13[e.1]. Shin discloses a "foam liner coupled to the rear portion of the upper" (highlighted purple below) "and spaced from the sole portion" (green):

[FIG. 7]



[FIG. 11]



Shin, Figs. 7, 11.

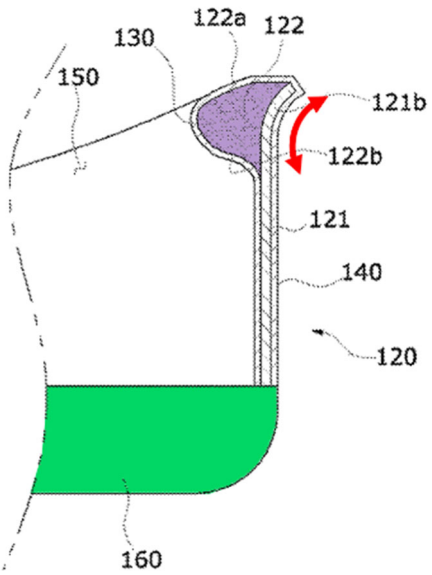
Shin's "elastic member 122" (purple) is a foam liner, as it "may be made of a rubber material" or "a highly elastic material such as urethane having elasticity." Shin, 5:34-37; EX1013, ¶65; EX1019, ¶68. A POSITA would have understood these disclosures to include foam rubber and urethane foams, which were ubiquitous in shoemaking at the time of the invention. *See*, *e.g.*, EX1003, ¶¶50; EX1021, p.12, 20 ("urethane" can "be chemically manipulated to become urethane foam for shoe cushioning").

Shin also explains that the "elastic member 122" (foam liner) is provided so "when the wearer puts on the shoe, the wearer may ***easily put on the shoe*** without bending his/her waist or using his/her hands." Shin, 5:18-21; EX1013, ¶61; EX1019, ¶64. During donning, the liner "is elastically deformed by a pushing force of the foot heel 11." Shin, 5:25-28; EX1013, ¶63; EX1019, ¶66. "[T]he elastic member 122 is restored to an original shape again after the foot heel 11 of the wearer has passed therethrough," and "the elastic member 122 [is] restored in this way ***so that the foot 10 of the wearer is not easily separated to the outside***." Shin, 5:48-54; EX1013, ¶¶68-70; EX1019, ¶¶71-73. Shin thus expressly discloses both that its foam liner is for rapid-entry shoes and improves heel retention.

A POSITA would have found it obvious to add Shin's foam liner to Kim, including to improve Kim's heel retention as taught by Shin. This is particularly so for Shin's Figure 11 embodiment, which already has curved geometry where the

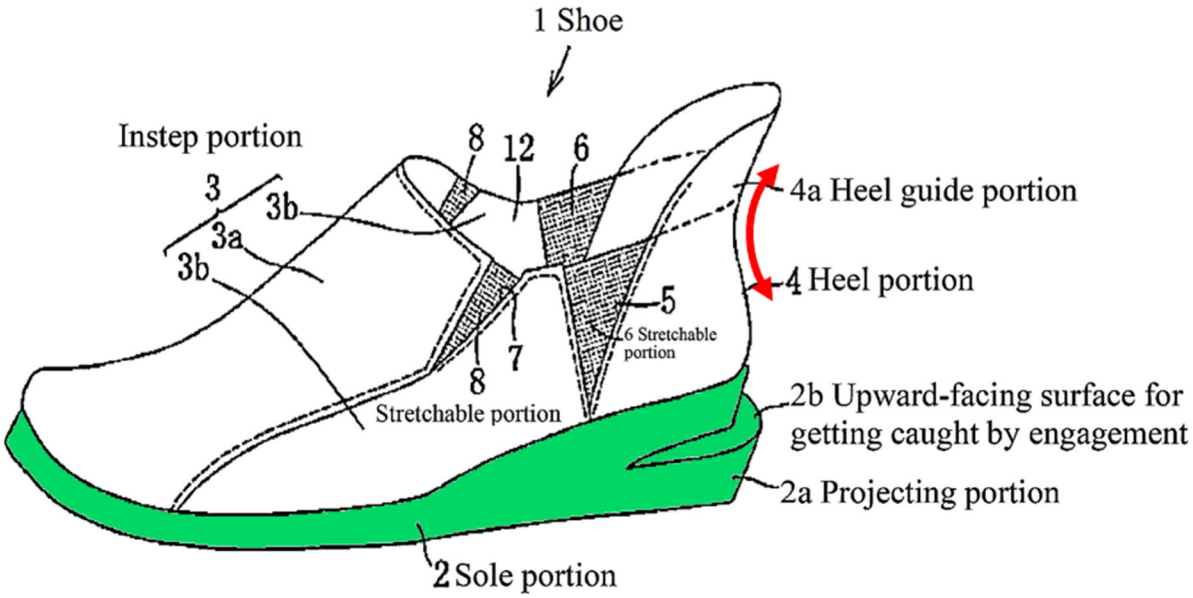
foam liner (purple) is attached to the stabilizer (indicated by red arrow below), consistent with the curved geometry of Kim's stabilizer in Figure 1 (red arrow):

[FIG. 11]



Shin, Fig. 11.

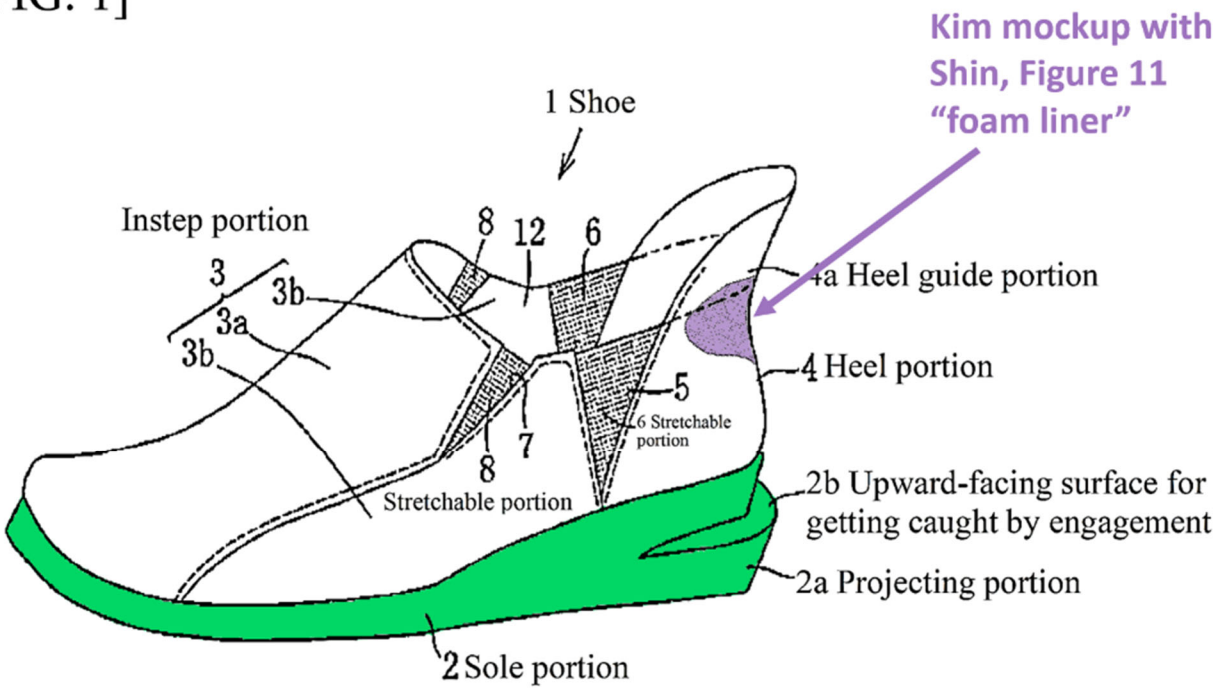
[FIG. 1]



Kim, Fig. 1.

A POSITA thus would have readily understood that Shin's foam liner, Figure 11, could be added to Kim, Figure 1, with minimal modification. To illustrate this, the image below superimposes the foam liner cross-section of Shin, Figure 11, onto Kim's heel, Figure 1:

[FIG. 1]

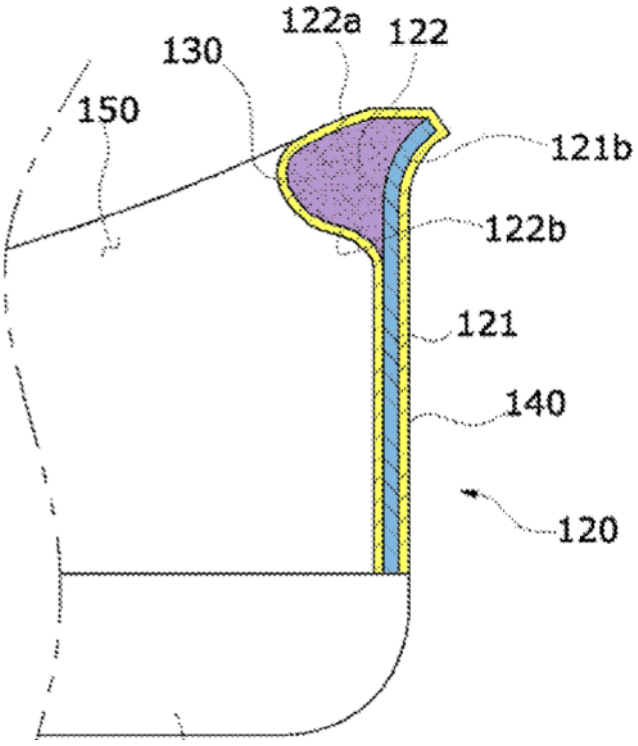


Kim, Fig. 1, *with foam liner from* Shin, Fig. 11 (mockup). Moreover, when combined with Kim at its natural location, Shin's foam liner naturally remains "spaced from the sole portion" (green) as recited in 13[e.1]. EX1003, ¶¶56-57.

Additionally, Shin discloses that its foam liner "is provided between the inner skin 130 and the outer skin 140" of the upper and "protrudes from the support member 121 in an inward direction." Shin., 4:40-44; EX1013, ¶46; EX1019, ¶51. Annotated Figure 11 of Shin below shows the "elastic member 122" (highlighted

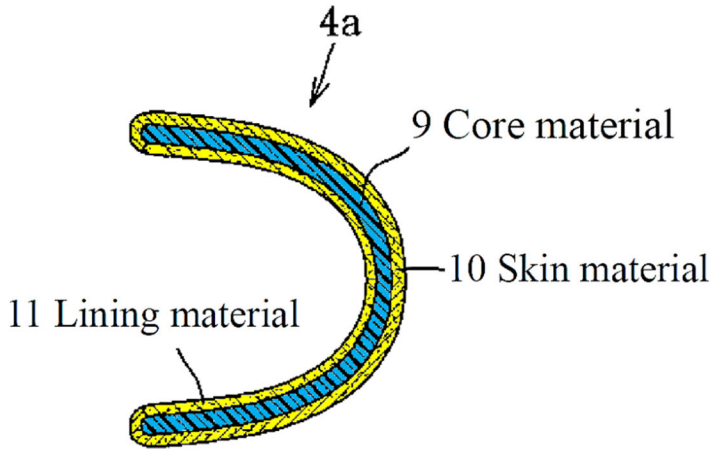
purple), “inner skin 130” and “outer skin 140” (both yellow), and “support member 121” (blue):

[FIG. 11]



Shin, Fig. 11. A POSITA would have understood that Shin’s foam liner can be incorporated in Kim’s design in the same way, as Kim likewise includes both “a hard core material” (blue) and “a soft lining material covering the inside of the core material” (yellow), as shown in Figure 2 below:

[FIG. 2]



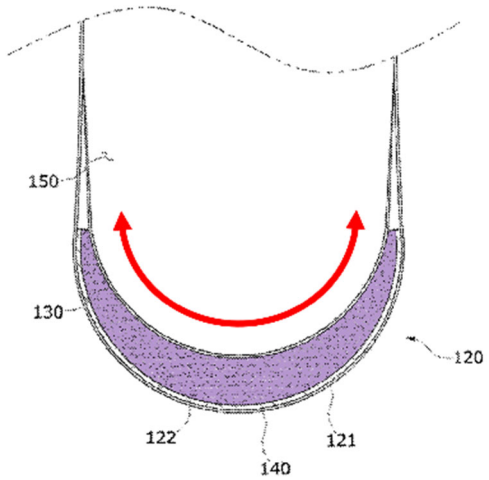
Kim, Fig 2; *id.* ¶10. A POSITA thus would have found it obvious to incorporate Shin's foam liner between the "11 Lining material" and "9 Core material" shown above, as this was a conventional way of including foam lining at the heel of a shoe. EX1003, ¶58.

A POSITA's motivations to add Shin's foam liner to Kim, and expectation of success, are discussed further in Part VIII.D.ix below.

- ***13[e.2]: "the foam liner including a concave profile facing toward the forward portion of the upper,"***

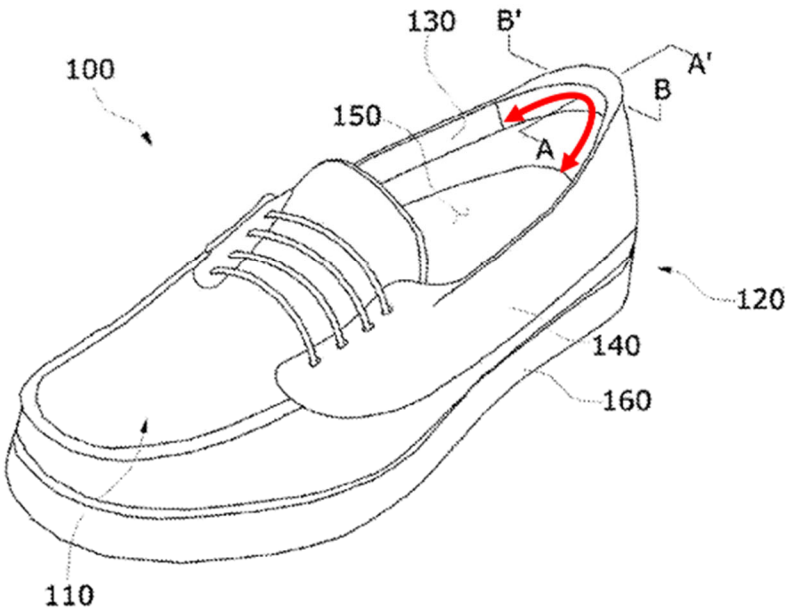
Shin discloses 13[e.2]. As shown below in Figure 3, Shin's "foam liner" (purple) "include[s] a concave profile facing toward the forward portion of the upper" (indicated by red arrow):

[FIG. 3]



Shin, Fig. 3. "FIG. 3 is a cross-sectional view taken along line B-B' of FIG. 1." *Id.*, 2:66-67; EX1013, ¶36; EX1019, ¶31.

[FIG. 1]



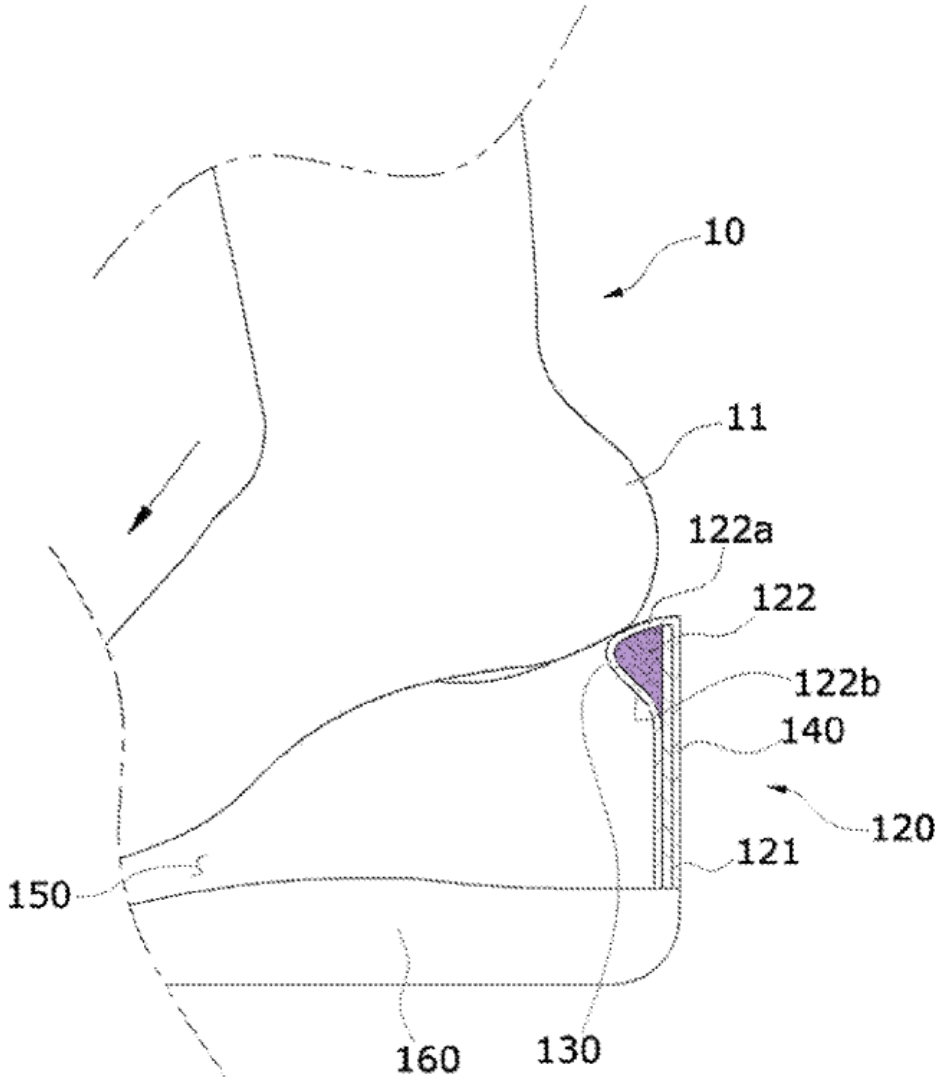
Id., Fig. 1.

- ***13[e.3]: "the foam liner configured to provide heel retention,"***

Shin discloses 13[e.3]. "First, referring to FIG. 5, … the shoe heel 120 is provided with the support member 121 and the elastic member 122, and thus when

the wearer puts on the shoe, the wearer may easily put on the shoe without bending his/her waist or using his/her hands." Shin, 5:16-21; EX1013, ¶61; EX1019, ¶64.

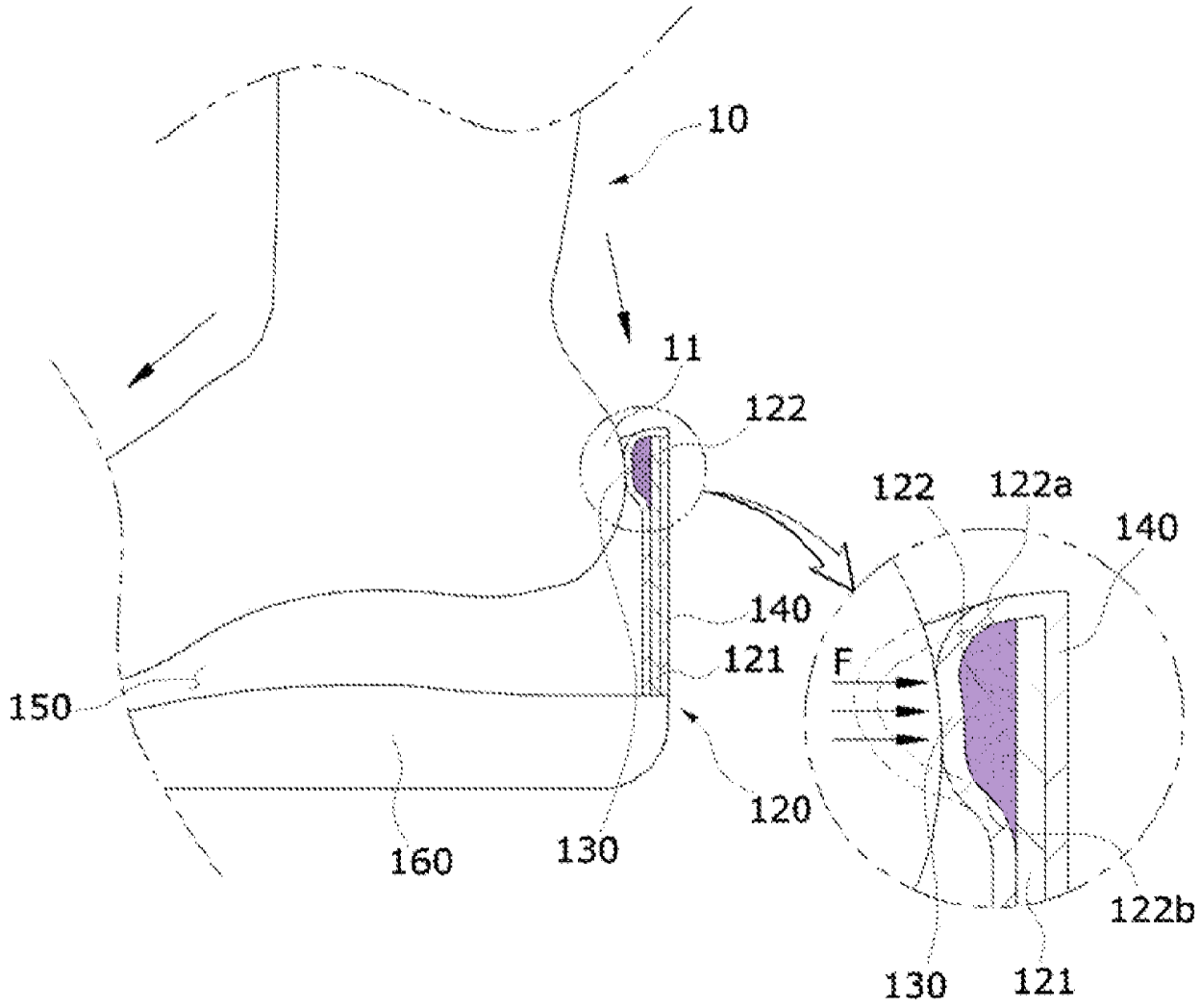
[FIG. 5]



Shin, Fig. 5.

Next, "in FIG. 6, when the foot heel 11 of the wearer applies an external force F to the inner skin 130, the elastic member 122 provided in the inner skin 130 is elastically deformed by a pushing force of the foot heel 11." Shin, 5:25-28; EX1013, ¶63; EX1019, ¶66.

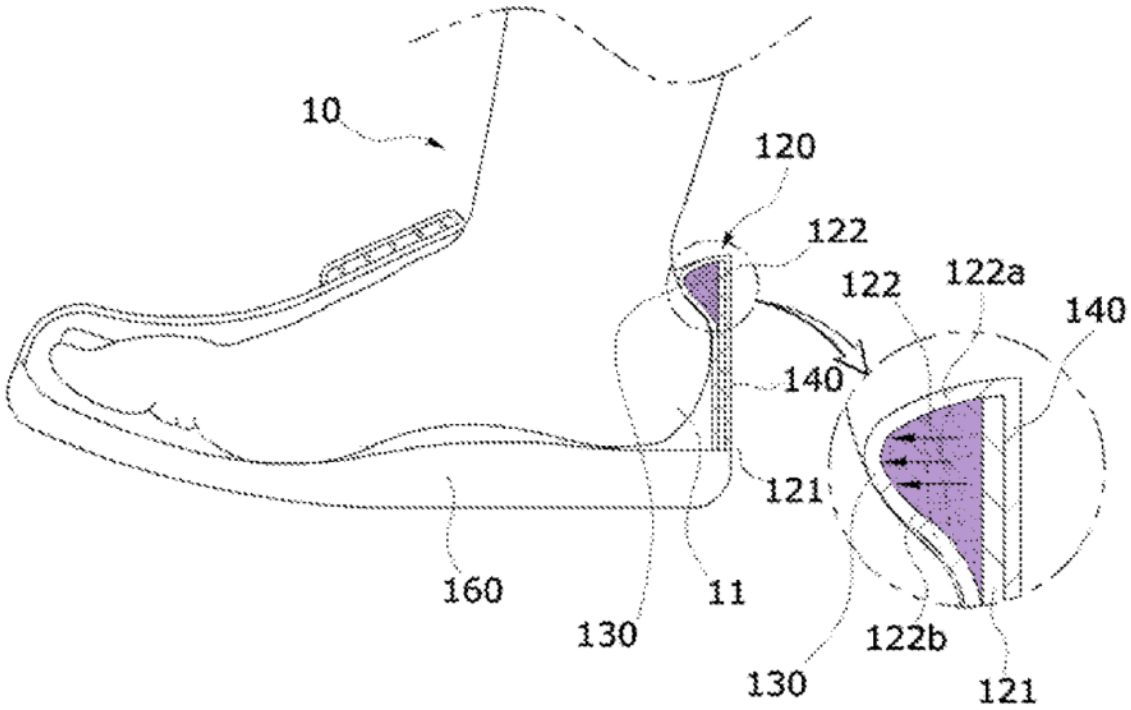
[FIG. 6]



Shin, Fig. 6.

Then, in "FIG.7 … the elastic member 122 is restored to an original shape after the foot heel 11 of the wearer has passed therethrough," and "the elastic member 122 [is] restored in this way ***so that the foot 10 of the wearer is not easily separated to the outside***." Shin, 5:46-54; EX1013, ¶¶68-70; EX1019, ¶¶71-73.

[FIG. 7]

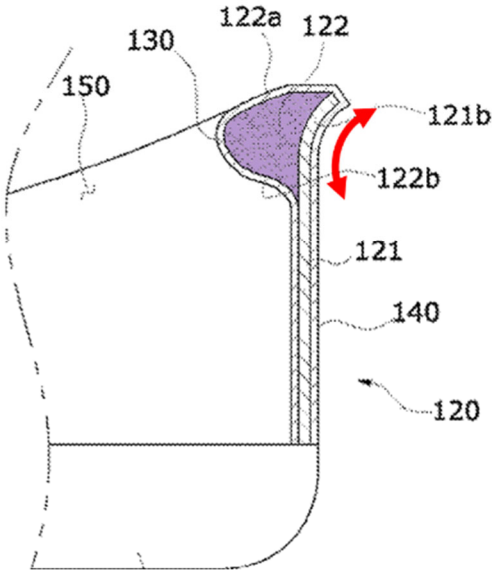


Id., Fig. 7.

- ***13[e.4]: "wherein the foam liner is spaced from the top line of the upper."***

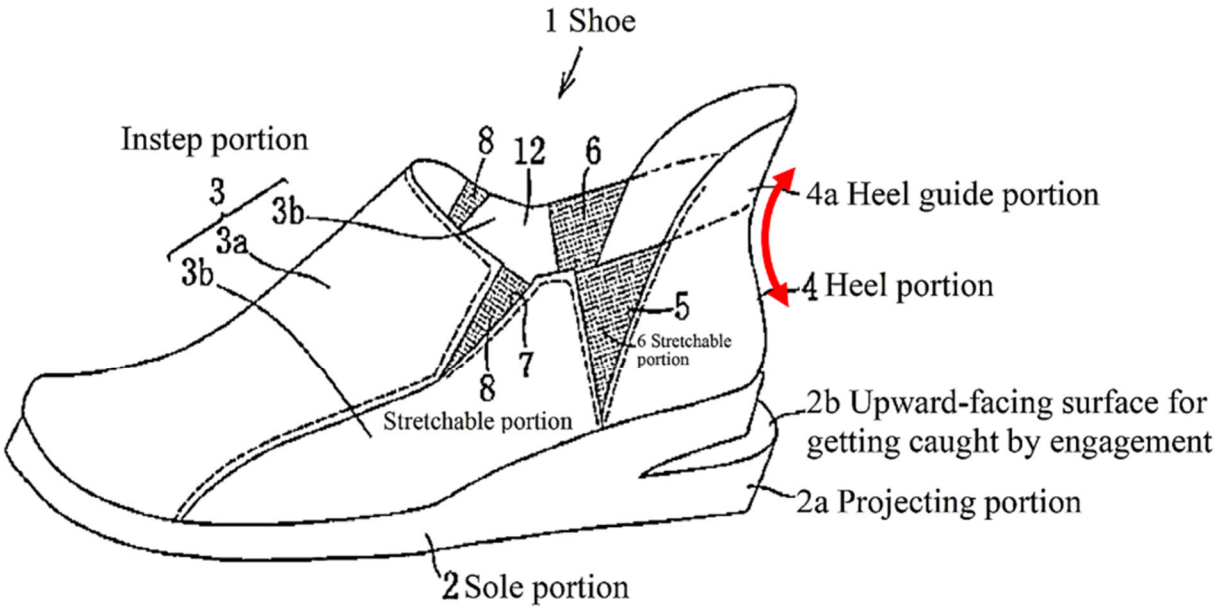
Element 13[e.4] is obvious over Kim in view of Shin and, if necessary, Murray. Adding Shin Figure 11's foam liner to Kim Figure 1 at the position naturally suggested by Kim's stabilizer geometry (as discussed for 13[e.1] above) produces a "foam liner" that "is spaced from the top line of the upper" as claimed:

[FIG. 11]



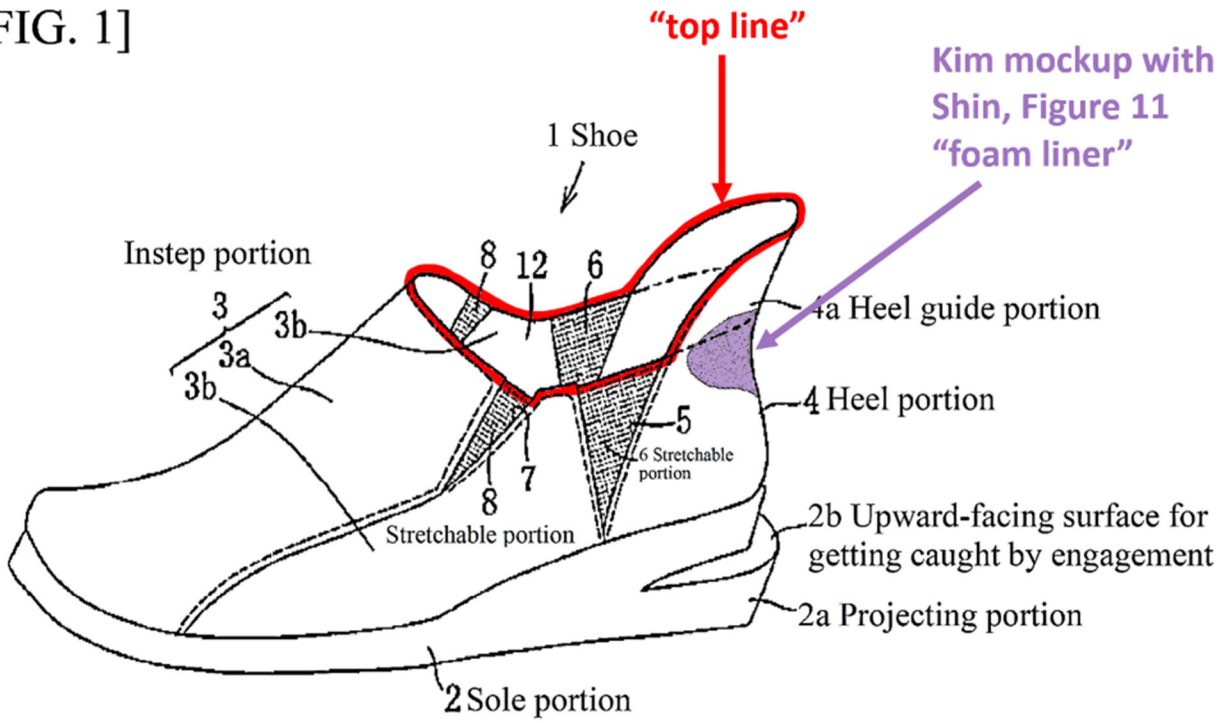
Shin, Fig. 11.

[FIG. 1]



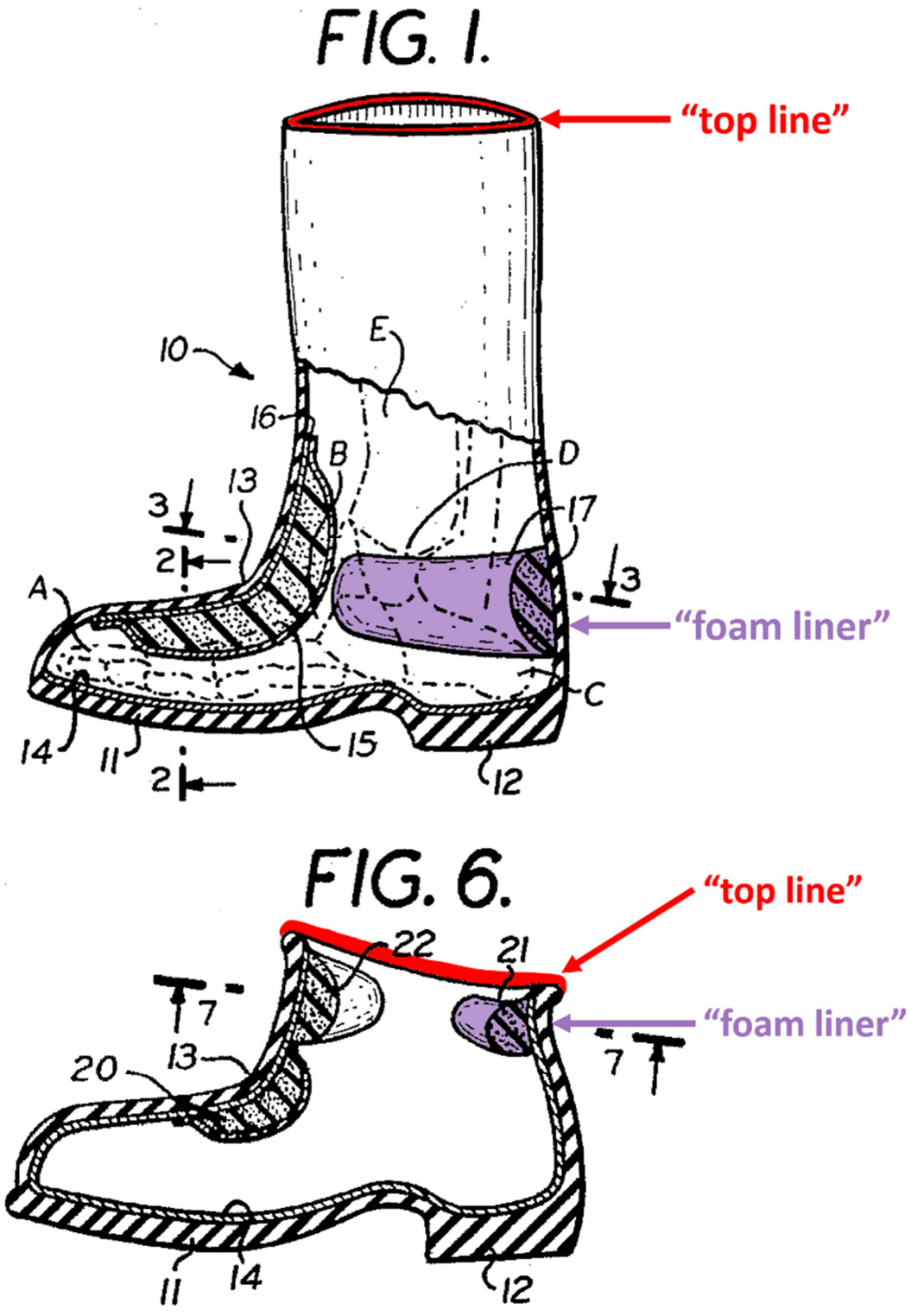
Kim, Fig. 1.

[FIG. 1]



Kim, Fig. 1, *with foam liner from* Shin, Fig. 11 (mockup). This obvious addition of Shin's foam liner to Kim thus meets 13[e.4]. EX1003, ¶¶56-58.

As noted, this element is obvious over Kim in view of Shin. Nevertheless, if the Board disagrees, a POSITA would have certainly found the foregoing combination obvious in light of the additional interrelated teachings of Murray, which expressly discloses such foam liners "spaced from the top line of the upper" as recited in 13[e.4]:



Murray, Figs. 1, 6. Petitioner incorporates by reference the discussion of Murray for Element 13[e.4] in Ground 2. *See* Part VIII.B.i, *supra*.

A POSITA's motivations to combine Kim, Shin, and if necessary Murray, and expectation of success, are discussed further in Part VIII.D.ix below.

ii. Claim 14

- ***14. "The rapid-entry shoe of claim 13, wherein the first elastic element and the third elastic element are spaced apart from each other."***

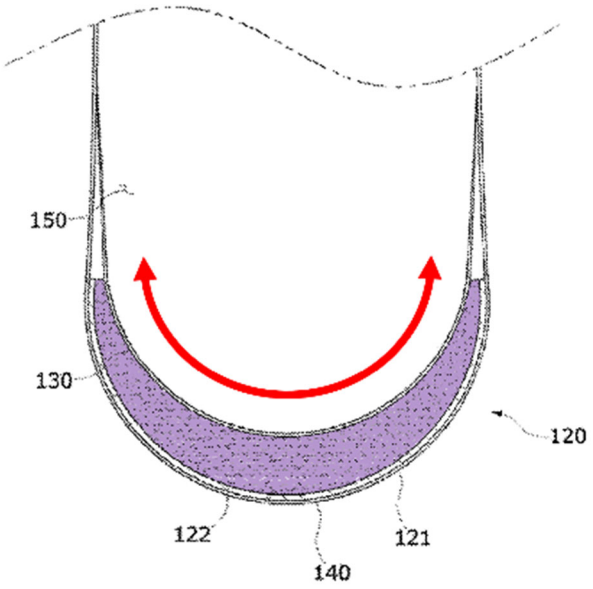
Kim discloses claim 14. *See* Part VIII.C.ii, *supra*, Claim 26 ("wherein the first elastic element is spaced from the third elastic element").

iii. Claim 15

- ***15. "The rapid-entry shoe of claim 13, wherein the foam liner is positioned at the rear portion of the upper extending toward a side portion of the upper."***

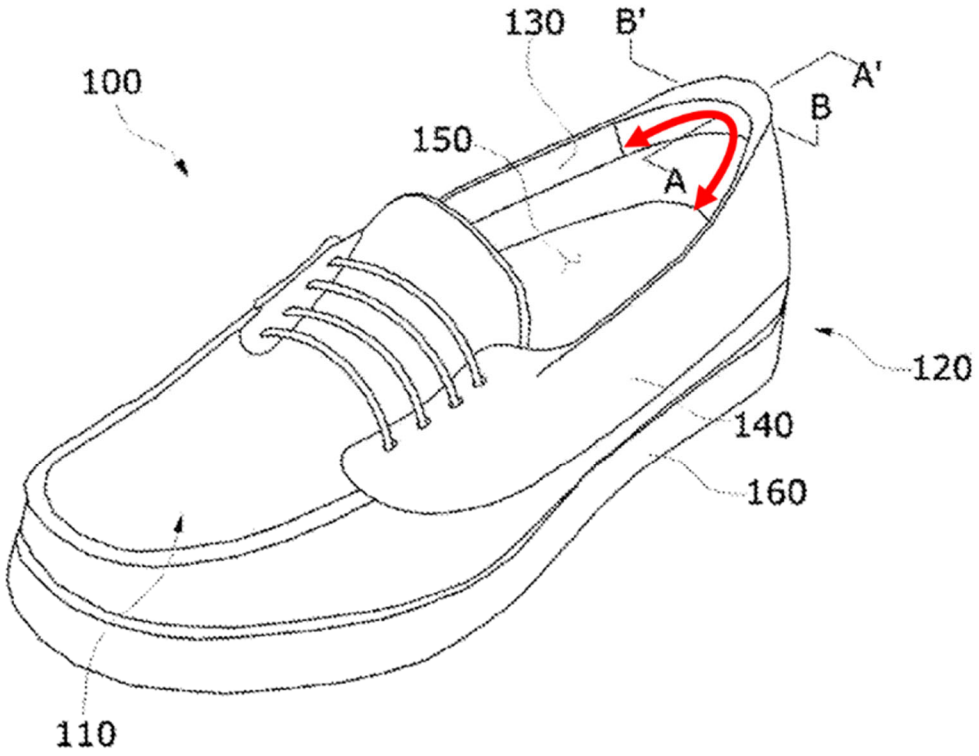
Shin discloses claim 15. Shin's "foam liner" (purple) "is positioned at the rear portion of the upper extending toward a side portion of the upper" (indicated by red arrow):

[FIG. 3]



Shin, Fig. 3. "FIG. 3 is a cross-sectional view taken along line B-B' of FIG. 1." *Id.*, 2:66-67; EX1013, ¶36; EX1019, ¶31.

[FIG. 1]



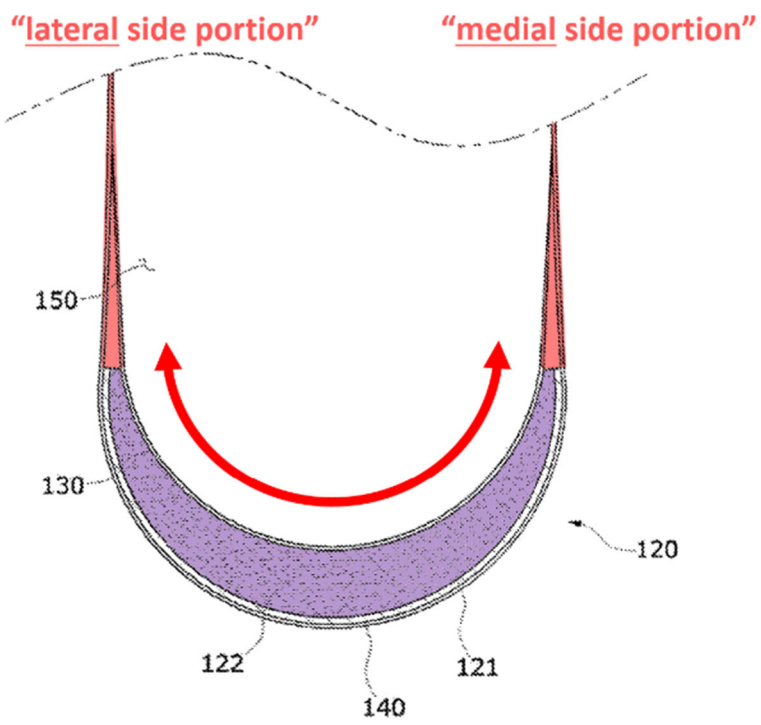
Id., Fig. 1.

iv. Claim 16

- ***16. "The rapid-entry shoe of claim 15, wherein the side portion of the upper includes a lateral side portion and a medial side portion, wherein the foam liner extends toward the lateral side portion and the medial side portion."***

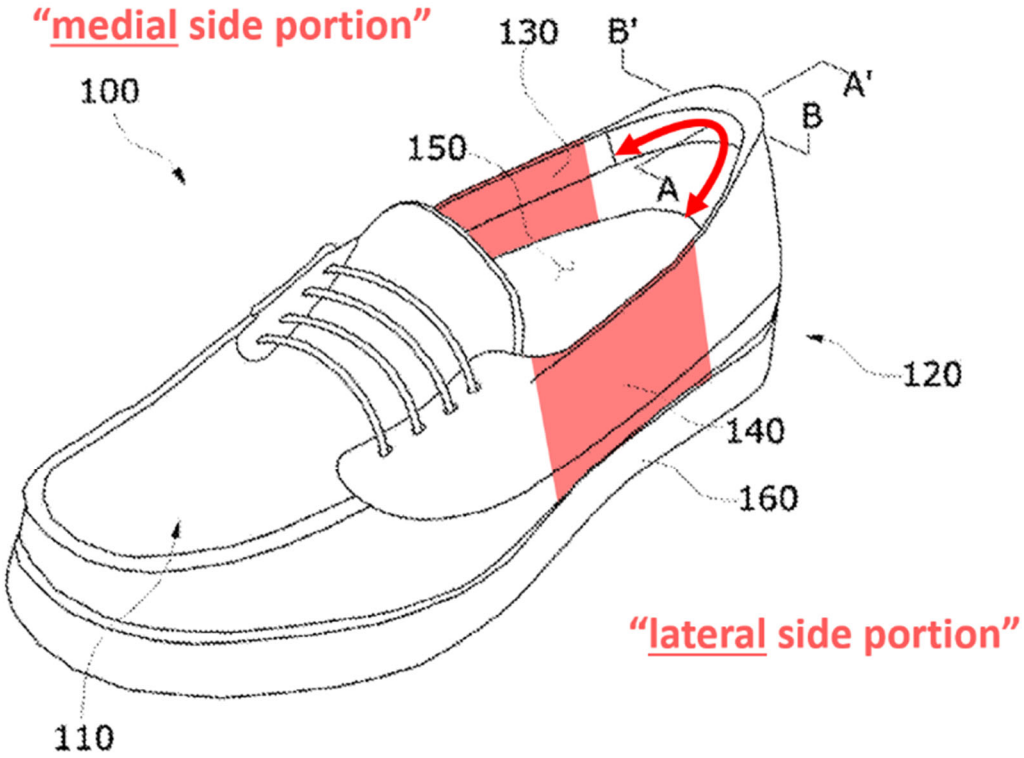
Shin discloses claim 16. Shin's "side portion of the upper includes a lateral side portion and a medial side portion" (red and labeled below), "wherein the foam liner" (purple) "extends toward the lateral side portion and the medial side portion" (red arrows):

[FIG. 3]



Shin, Fig. 3.

[FIG. 1]



Id., Fig. 1.

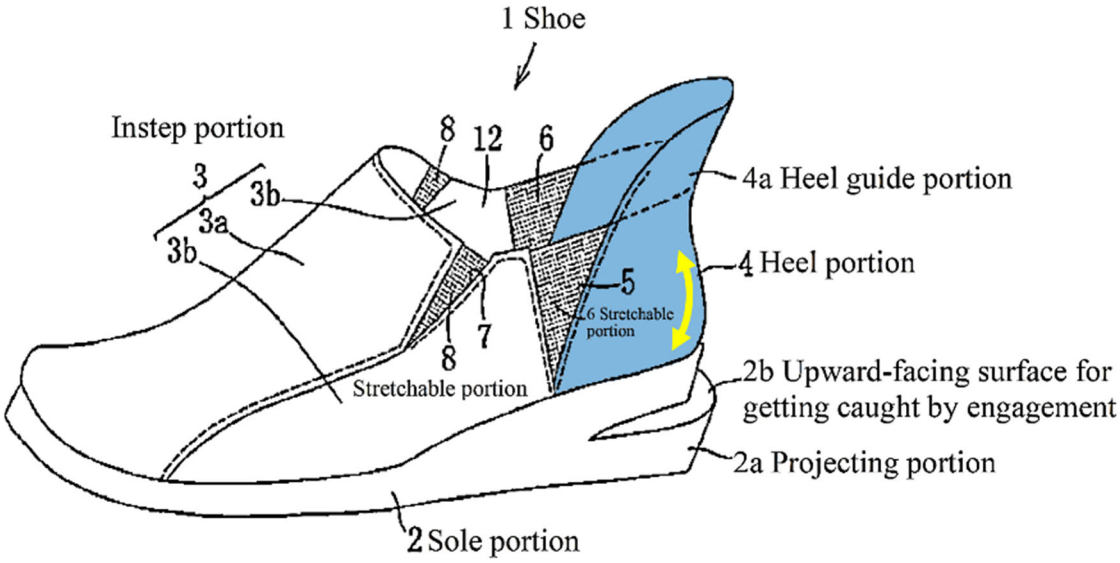
v. Claim 17

- ***17[a]: "The rapid-entry shoe of claim 13, wherein the stabilizer includes a first portion having concave profile facing toward the forward portion of the upper and a second portion having a convex profile facing toward the forward portion of the upper, the second portion positioned vertically higher than the first portion,"***

Kim discloses 17[a].

First, Kim's "stabilizer" (blue) "includes a first portion having a concave profile facing toward the forward portion of the upper" (indicated by yellow arrow):

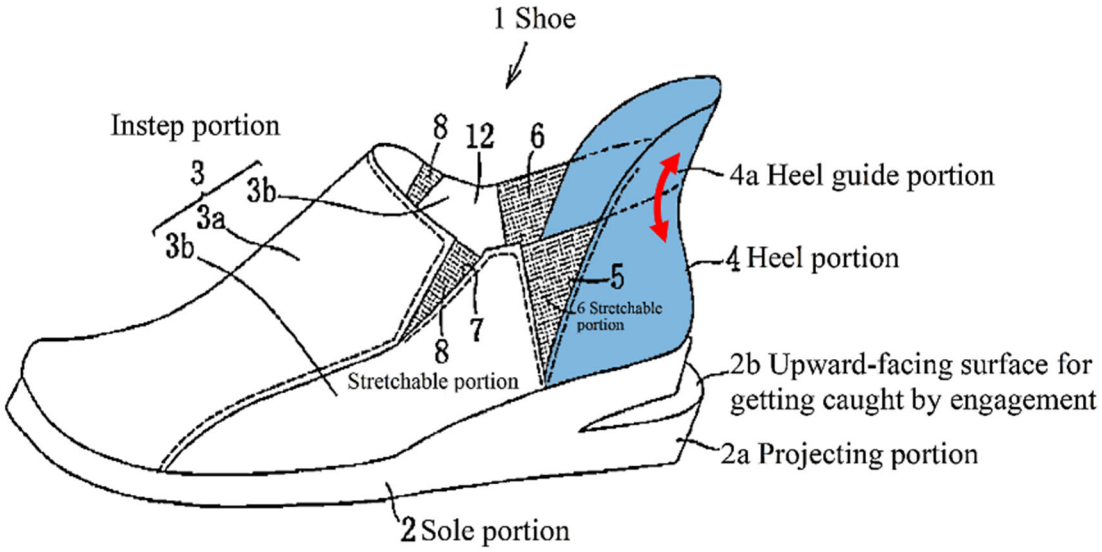
[FIG. 1]



Kim, Fig. 1; Abstract ("heel portion 4 covering the outside of the heel").

Second, Kim's stabilizer includes "a second portion having a convex profile facing toward the forward portion of the upper" (red arrow):

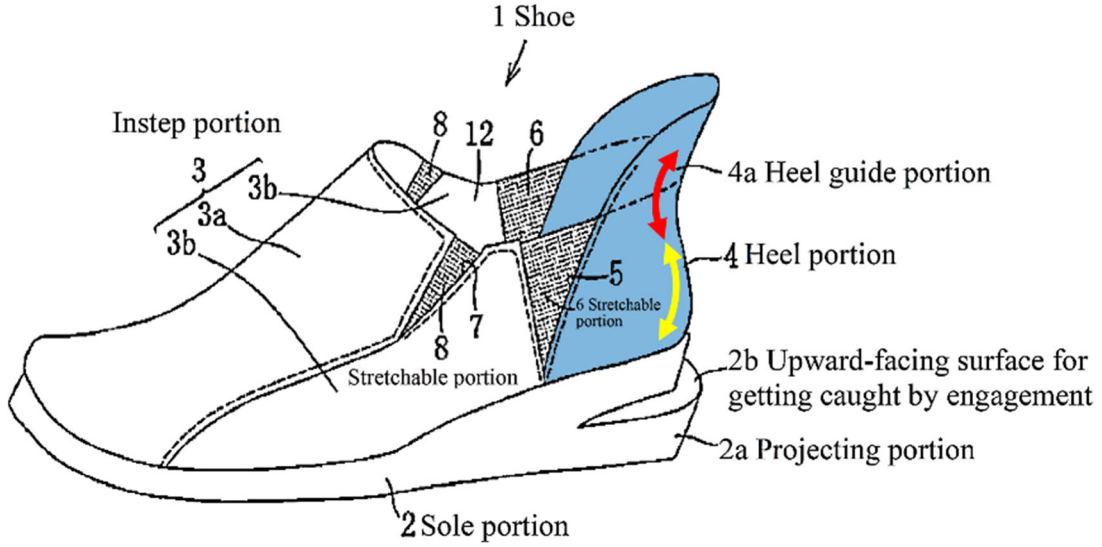
[FIG. 1]



Id., Fig. 1; Abstract ("heel guide portion 4a integrally projecting from the upper end of the heel portion 4 and curving in a slope to go backward").

Third, Kim's "second portion" (red arrow) is "positioned vertically higher than the first portion" (yellow arrow):

[FIG. 1]



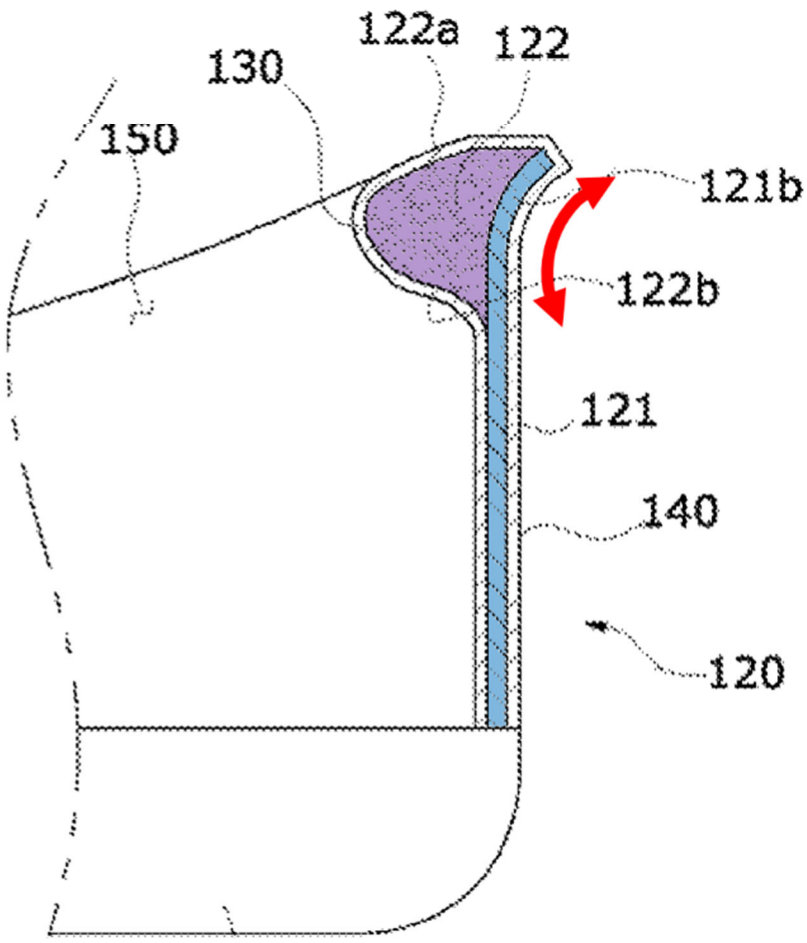
Id.

- ***17[b]: "wherein the foam liner includes a first portion positioned at the rear portion of the upper adjacent to the convex profile and a second portion extending forward along the upper toward the forward portion of the upper."***

Shin discloses 17[b].

First, Shin's "foam liner" (highlighted purple below) "includes a first portion positioned at the rear portion of the upper adjacent to the convex profile" (convex profile defined by "support member 121," blue):

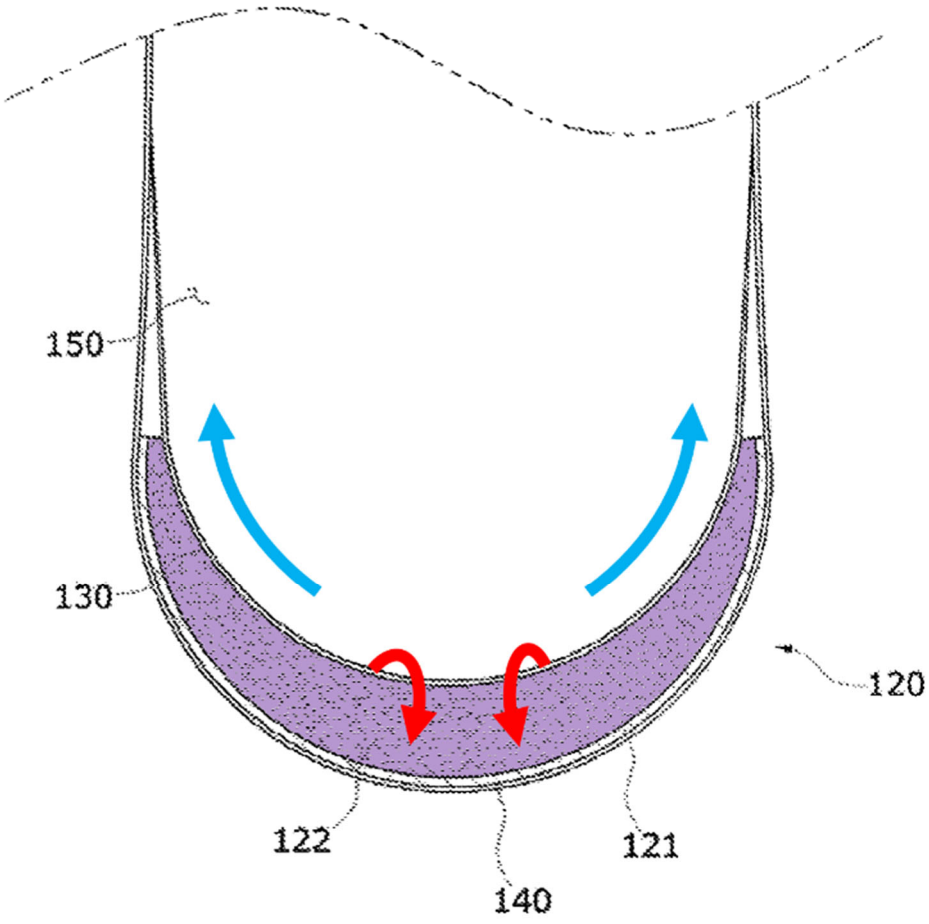
[FIG. 11]



Shin, Fig. 11.

Second, the foam liner includes "a second portion extending forward along the upper toward the forward portion of the upper" (blue arrows):

[FIG. 3]



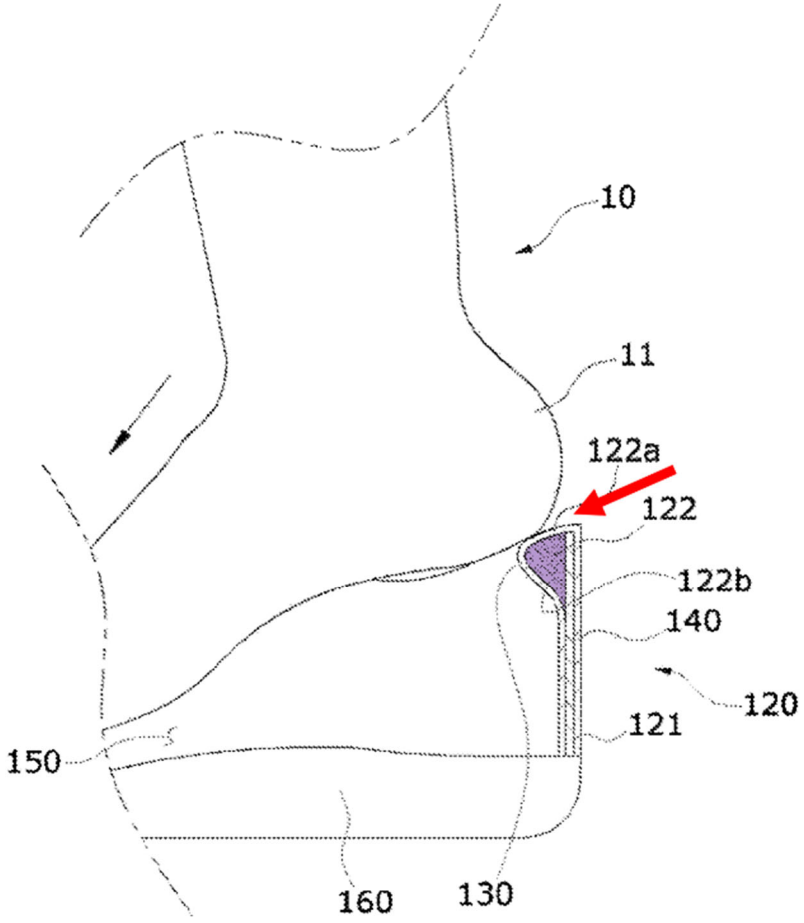
Shin, Fig. 3.

vi. Claim 18

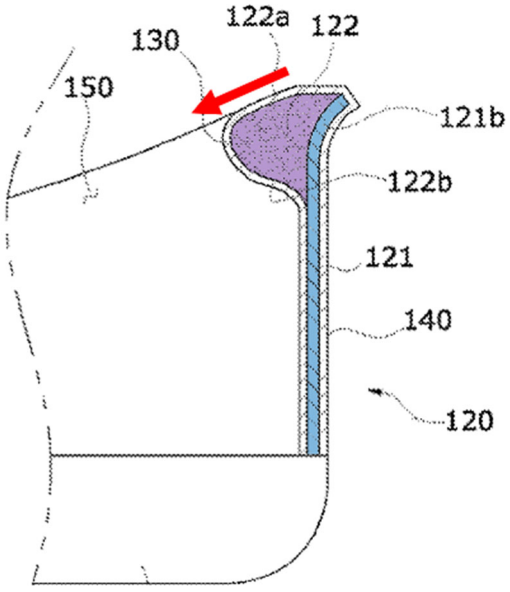
- ***18. "The rapid-entry shoe of claim 17, wherein the foam liner includes an upper surface, wherein the upper surface of the foam liner is sloped downward and forward where the foam liner is configured to interface with a heel of a user."***

Shin discloses claim 18, as shown, for example, in Figures 5 and 11:

[FIG. 5]



[FIG. 11]



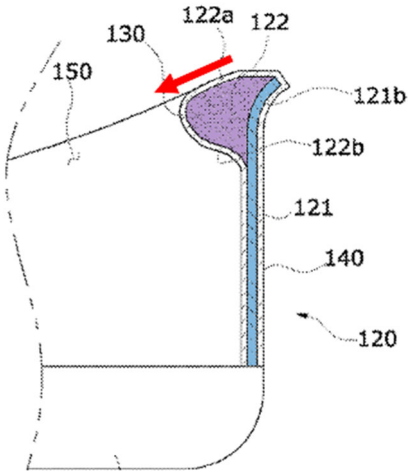
Shin, Figs. 5, 11.

vii. Claim 19

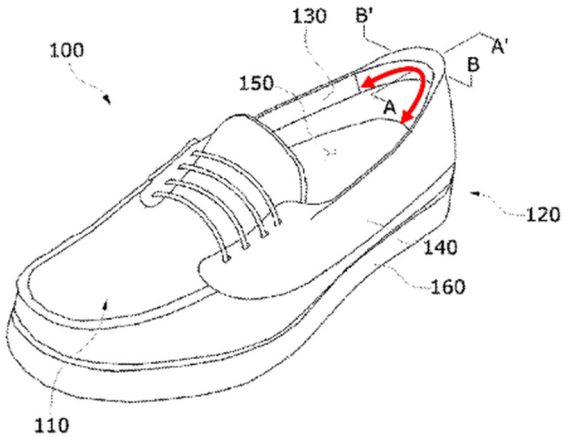
- ***19. "The rapid-entry shoe of claim 13, wherein the foam liner includes a portion extending forward and downward from the rear portion, and wherein the portion of the foam liner extending forward and downward is tapered from a wider portion toward the rear portion of the upper to a narrower portion toward the forward portion of the upper."***

Shin discloses claim 19. For example, Figure 11 shows that Shin's "foam liner includes a portion extending forward and downward from the rear portion," and Figure 1 is consistent with this:

[FIG. 11]



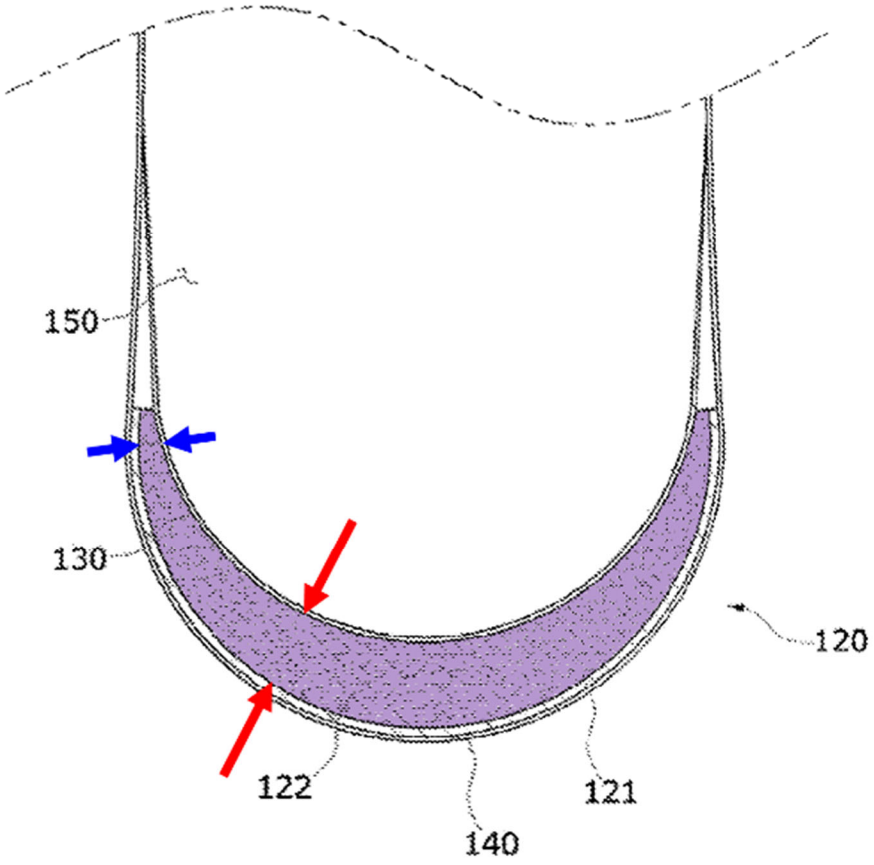
[FIG. 1]



Shin, Figs. 11, 1.

Figure 3 further shows that "the portion of the foam liner extending forward and downward is tapered from a wider portion toward the rear portion of the upper" (indicated below with red arrows) "to a narrower portion toward the forward portion of the upper" (blue arrows):

[FIG. 3]



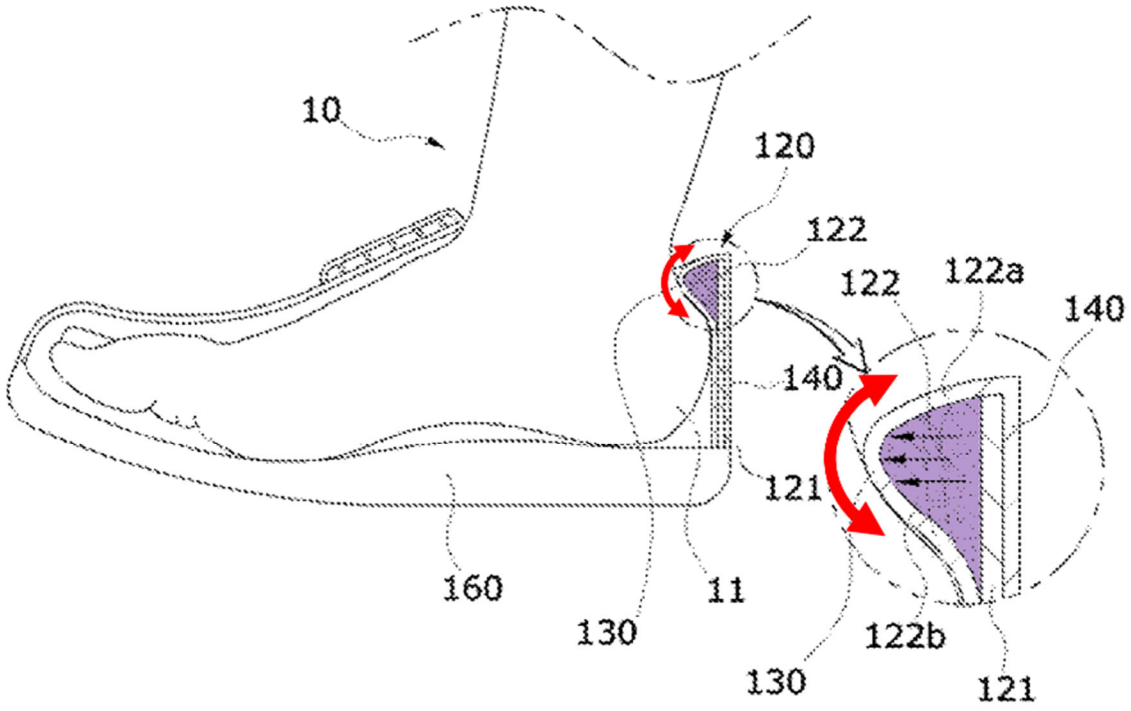
Id., Fig. 3.

viii. Claim 20

- ***20. "The rapid-entry shoe of claim 13, wherein a cross-section of the foam liner defines a convex profile facing toward a front of the rapid-entry shoe when the cross-section of the rapid-entry shoe is taken from a front of the rapid-entry shoe to a back of the rapid-entry shoe along a vertical plane."***

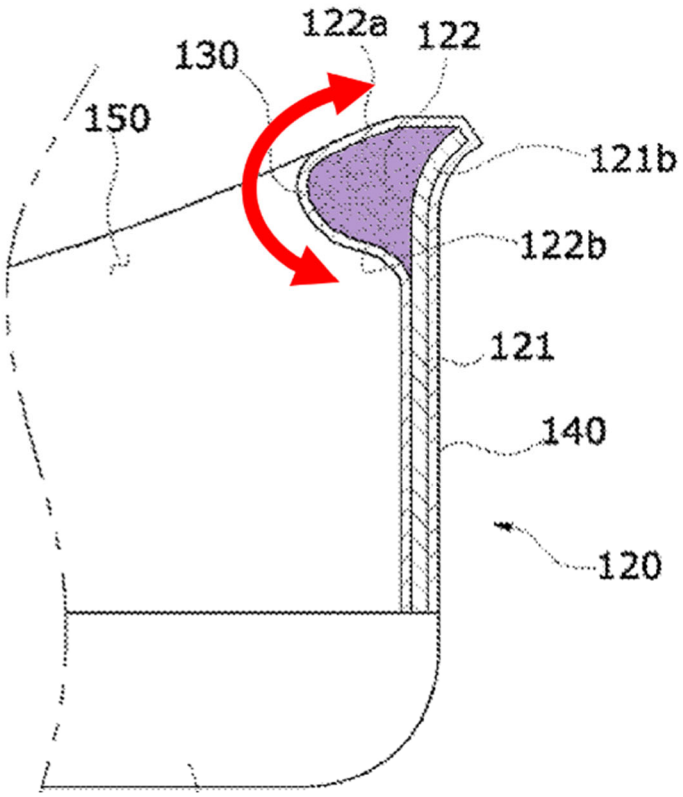
Shin discloses claim 20. For example, Figures 7 and 11 both show "a cross-section of the foam liner" (purple) that "defines a convex profile facing toward a front of the rapid-entry shoe" (indicated by red arrow below) "when the cross-section of the rapid-entry shoe is taken from a front of the rapid-entry shoe to a back of the rapid-entry shoe along a vertical plane":

[FIG. 7]



Shin, Fig. 7.

[FIG. 11]



Id., Fig. 11.

ix. Combining Kim, Hanak, and Shin, and If Necessary Murray

A POSITA's motivation to combine Kim and Hanak and reasonable expectation of success are discussed above in Part VIII.C.iv, which is incorporated here by reference.

A POSITA would have been motivated to further modify Kim by incorporating Shin's foam liner and, if necessary, adjusting its positioning as taught by Murray (i.e., spacing it "from the top line of the upper" as recited in 13[e.4]), to enhance heel-retention.

First, Kim, Shin, and Murray are all directed to the same "problem to be solved," *Ruiz*, 357 F.3d at 1276, footwear that provides for easier donning and doffing, *see*, *e.g.*, Kim, Abstract ("[Problem] To provide a shoe that can be easily put on and taken off by people who cannot bend down …."); Shin, 1:45-50 (providing "an easy-to-wear functional shoe that a wearer may easily put on …."); EX1013, ¶1; EX1019, ¶8; Murray, 1:38-42. Moreover, Kim and Shin both teach the use of flared heel structures to direct the foot into the shoe, Shin, Fig. 11, 6:65-67 ("[T]he inclined section 121b may guide a wearing path so that the foot 10 of the wearer may easily slide into" the shoe); EX1013, ¶93; EX1019, ¶92; Kim, ¶8 (a user "pushes the heel of the foot into the inside of the heel portion while sliding it along the heel guide portion."), and Shin and Murray both teach foam liners at the heel to retain the foot in the shoe. Murray, 2:24-35; Shin, 5:16-28; EX1013, ¶¶60-63; EX1019, ¶¶63-66. A POSITA seeking to design a rapid-entry shoe would thus have considered the "interrelated teachings" of these references. *ZUP*, 896 F.3d at 1371.

Moreover, a POSITA would have recognized that incorporating Shin's foam "elastic member" into Kim's heel would have been the mere application of "a known technique" to "improve similar devices in the same way" by using "prior art elements according to their established functions." *See Intel*, 61 F.4th at 1380-81, *KSR*, 550 U.S. at 417. As explained in Part VIII.B.ix above, heel retention was a known problem in the art, and linings like Shin's were a recognized solution. Shin's liner

could easily be incorporated into Kim's heel portion and/or heel guide portion in the same configuration taught by Shin to predictably improve Kim's shoe by promoting foot retention. The same is true for modifying the positioning of Shin's foam liner according to the spacing and placement of Murray's foam insert—as discussed in Part VIII.B.ix above, Murray explains that spacing the liner above the sole portion and from the topline enhances heel retention. *See*, *e.g.*, Murray, 2:24-35, 2:55-62.

There would also have been a reasonable expectation of success combining Kim, Hanak, Shin, and Murray. The combination of these elements would yield predictable results because each component would act in the same way in the combination as it did in the original reference (e.g., Shin's liner would provide the same heel retention). As discussed in above in Parts VIII.A.iv, VIII.B.ix, and VIII.C.iv, the materials and techniques for making and using elastic elements and foam liners were standard long before the invention, and there would be predictability to incorporating those components within Kim's shoe. A POSITA would thus have been well able to make slight modifications to size, shape, and orientation of these components based on the particularities of the Kim shoe, heel portion, and heel guide portion without requiring substantial experimentation or unconventional modifications.

IX. CONCLUSION

Challenged claims 13-21 and 26-27 of the ’096 Patent are unpatentable. Skechers respectfully requests institution of *inter partes* review.

Dated: July 24, 2026

Respectfully submitted,

/s/ Samuel K. Lu

Samuel K. Lu (Reg. No. 40,707)
IRELL & MANELLA LLP
1800 Avenue of the Stars, Suite 900
Los Angeles, CA 90067-4276

CERTIFICATE OF WORD COUNT

I hereby certify, pursuant to 37 C.F.R. section 42.24, that the foregoing Petition contains 13,972 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.

Dated: July 24, 2026

/s/ Aron Berger
Aron Berger

CERTIFICATE OF SERVICE

I hereby certify, pursuant to 37 C.F.R. sections 42.6 and 42.105, that a complete copy of the Petition for *Inter Partes* Review of U.S. Patent No. 12,121,096 and Exhibits are being served via Priority Mail Express on July 24, 2026 the same day as the filing of the above-identified documents in the United States Patent and Trademark Office/Patent Trial and Appeal Board, upon the patent prosecution counsel of record for the Patent Owner:

164668 - FAST IP, LLC
1172 West 700 North
Suite 200
Lindon, UT 84042

Courtesy copies were also sent via ShareSite to Patent Owner's counsel of record in the related district court litigation at the following email address:

Ryan Dykal
Boies Schiller Flexner LLP
55 Hudson Yards
20th Floor
New York, NY 10001
rdykal@bsfllp.com

/s/ Pia Kamath
Pia Kamath