

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. 11,633,006

Title:

Rapid-Entry Footwear Having A Stabilizer and An Elastic Element

**PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 11,633,006**

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CLAIM LISTING

Claim Element	LIMITATION
1[pre]	A rapid-entry shoe comprising:
1[a]	a sole portion and an upper, the upper comprising a rear portion, a forward portion, and a side portion, the side portion extending between the rear portion and the forward portion;
1[b]	an elastic element disposed at the side portion, the elastic element extending to and forming a portion of a top line of the rapid-entry shoe, and the elastic element further extending to the sole portion;
1[c]	a stabilizer disposed at the rear portion and extending from within the sole portion, the stabilizer comprising a base portion at least partially within the sole portion and an elevated portion;
1[d]	wherein the base portion of the stabilizer defines a closed cup portion extending completely between lateral and medial sides of the sole portion;
1[e]	wherein the stabilizer comprises a curvature between its lateral and medial sides, and wherein, from the base portion toward the elevated portion, the curvature extends progressively less between its lateral and medial sides;
1[f]	wherein the elevated portion of the stabilizer comprises a flare portion extending rearward to direct a foot into a foot opening of the rapid-entry shoe;
1[g]	wherein expansion or deformation of the elastic element enlarges the foot opening of the rapid-entry shoe, and wherein contraction of the elastic element reduces the foot opening of the rapid-entry shoe;
1[h]	wherein the stabilizer is comprised of a rigid material such that the rear portion of the upper at which the stabilizer is disposed is configured to resist downward collapse;
1[i]	wherein the rapid-entry shoe comprises a foam liner oriented concave toward the sole portion; and
1[j]	wherein the elastic element is configured to enable the forward portion of the rapid-entry shoe to flex and/or pivot forward relative to the sole portion.

EX NO.	DOCUMENT
EX1001	U.S. Patent No. 11,633,006 (the “’006 patent”)
EX1002	File History of the ’006 patent
EX1003	U.S. Patent Application No. 16/942,335
EX1004	U.S. Provisional Patent Application No. 62/879,883
EX1005	Declaration of Angus Wardlaw
EX1006	Japan Utility Model Registration No. 3212460
EX1007	English Translation of Japan Utility Model Registration No. 3212460 (“Takahashi”)
EX1008	Translator Certification for Takahashi
EX1009	U.S. Patent No. 12,029,276 (“Shin”)
EX1010	Certified Copy of KR 10-2019-0048102, submitted during prosecution of Shin
EX1011	Translation of Certified Copy of KR 10-2019-0048102
EX1012	Translator Certification of Certified Copy of KR 10-2019-0048102.
EX1013	PCT/KR2020/005326
EX1014	English Translation of PCT/KR2020/005326
EX1015	Translator Certification of PCT/KR2020/005326
EX1016	China Patent Publication No. CN 109393642A
EX1017	English Translation of China Patent Publication No. CN 109393642A (“Hongren”)
EX1018	Translator Certification for Hongren
EX1019	U.S. Patent No. 3,693,270 (“Murray”).
EX1020	Japan Utility Model Registration No. 3153220
EX1021	English Translation of Japan Utility Model Registration No. 3153220 (“Kim”)
EX1022	Translator Certification for Kim
EX1023	William A. Rossi, <i>The Complete Footwear Dictionary</i> , KRIEGLER PUBLISHING COMPANY (2000)

EX NO.	DOCUMENT
EX1024	J. Sparkes Hall, <i>The Book of the Feet</i> (1847)
EX1025	<i>Victorian Shoes in the Making</i> , Victorian Passage, https://www.victorianpassage.com/2008/12/victorian_shoes_in_the_making/
EX1026	U.S. Patent No. 201,796
EX1027	U.S. Patent No. 287,312
EX1028	U.S. Patent No. 11,350,700
EX1029	U.S. Patent No. 10,759,096
EX1030	Wade Motawi, <i>Shoe Material Design Guide</i> (2017)
EX1031	U.S. Patent No. 5,189,814
EX1032	U.S. Patent No. 4,287,675
EX1033	Christoph Dyckmans, <i>adidas Busenitz ADV</i> , Oct. 5, 2013, https://www.weartested.com/adidas-busenitz-adv-review/
EX1034	Noah Goldowitz, <i>The Nike Kyrie 4 Deconstructed – More Zoom and More Comfort</i> , Dec. 20, 2017, https://weartesters.com/nike-kyrie-4-deconstructed-zoom-comfort/

Skechers U.S.A., Inc. (“Petitioner” or “Skechers”) respectfully requests *inter partes* review of claim 1 of U.S. Patent No. 11,633,006 (“the ’006 patent”) (Ex. 1001) pursuant to 35 U.S.C. §§ 311-19 and 37 C.F.R. §§ 42.1 *et seq.*

I. INTRODUCTION

The ’006 patent is owned by FAST IP, LLC (“FAST IP”), a non-practicing patent monetization entity. FAST IP has asserted the ’006 patent against Skechers in the Eastern District of Texas, in which it joined as plaintiffs a related shoe seller and a licensee of the patent. Dkt. 44, Case No. 2:25-cv-00744-JRG (E.D. Tex.).

Skechers, which is headquartered in California, has been a leader in the footwear industry for over thirty years. FAST IP and the other plaintiffs in the underlying litigation were all created within the last ten years. Nonetheless, the ’006 patent purports to claim shoe designs that have been in the public domain for at least decades, if not centuries. Moreover, despite seeking to accuse more than two thousand Skechers shoe models of infringing the patent, plaintiffs contend that they themselves have never practiced the patent.

The ’006 patent issued on April 25, 2023, and purports to claim priority to a provisional application dated July 29, 2019. This recent patent is a brazen attempt to monopolize historical designs that date back to the Civil War era and earlier. Claim 1 of the ’006 patent recites elements common to nearly every shoe, such as “a sole,” “an upper,” “a foot opening,” a “stabilizer,” and “elastic elements.” As

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explained below, these elements were present in well-known shoes dating back to at least the 1800s. *See, e.g.*, EX1025, EX1026, EX1027.

Central to this Petition, all of the elements discussed above are also disclosed in 2017 Japanese Utility Model Registration No. 3212460 to Naomichi Takahashi (“Takahashi”) (Ground 1A), which anticipates challenged claim 1 of the ’006 patent. Grounds 1A-F provide additional teachings from Shin, Murray, and Hongren, that each supplement Takahashi’s disclosure. Grounds 2A and 2B are based on 2009 Japanese Utility Model Registration No. 3153220 to Seji Kim (“Kim”) which, in view of Shin, Murray, or Hongren, renders claim 1 obvious.

None of these references were brought to the attention of the Patent Office during the original prosecution, in which claim 1 was issued without a single prior art rejection. For these and other reasons presented more fully below, the Board should institute IPR based on the Grounds presented herein.

II. MANDATORY NOTICES

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

Real party-in-interest is Skechers U.S.A., Inc.

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

The ’006 patent is asserted in the pending litigation *Hands Free Labs Licensing LLC v. Skechers U.S.A. Inc.*, Case No. 2:25-cv-00744-JRG (E.D. Tex.). To Petitioner’s knowledge, there are no other pending judicial or administrative matters regarding the ’006 patent.

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

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

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

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

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

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

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

III. BACKGROUND

A. Overview of the '006 Patent

The '006 patent issued recently, on April 25, 2023, and claims a priority date of July 29, 2019. EX1001, p.1. Titled “Rapid-Entry Footwear Having A Stabilizer And An Elastic Element,” *id.*, it is directed to “[a] rapid-entry shoe having an elastic element to enlarge a foot opening of the rapid-entry shoe and also having a stabilizer to prevent a rear portion of the rapid-entry shoe from collapsing downward,” *id.*, Abstract.

A side-view of an embodiment that the '006 patent describes and claims, having an elastic element 110 and stabilizer 150, is shown below:

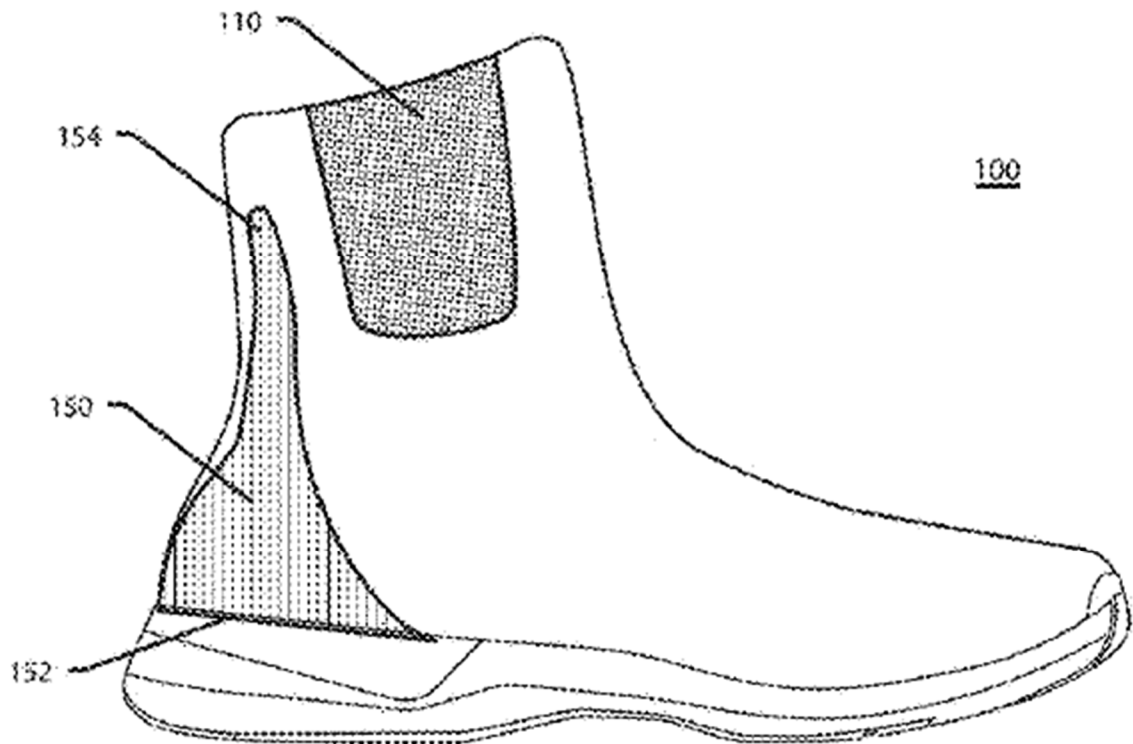


FIG. 1A

Id., Fig. 1A.

The '006 patent states that the “stabilizer 150 can be comprised of a stiff, rigid or semi-rigid material.” Ex. 1001, 6:15-16. It further provides, “[i]n accordance with some embodiments, a stabilizer is configured to prevent the rear portion of the rapid-entry shoe from one or more of collapsing downward, flexing rearward and pivoting rearward.” *Id.*, 1:59-62.

The patent also states, “[i]n accordance with some embodiments, the rapid-entry shoe comprises an elastic element disposed at the side portion” and that “expansion or deformation of an elastic element enlarges a foot opening of the rapid-entry shoe, and contraction of an elastic element reduces the foot opening of the rapid entry shoe.” *Id.*, 1:39-50.

The '006 patent also describes an embodiment in which its shoe includes a “foam liner” 158 adjacent to the heel stabilizer:

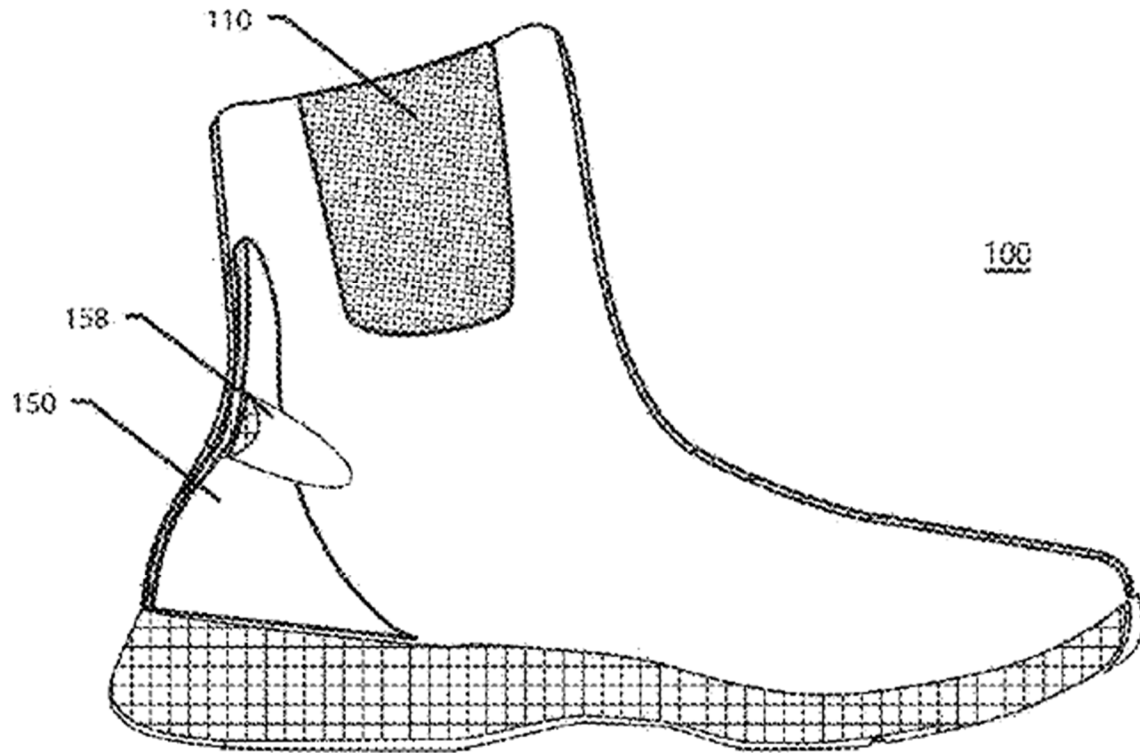


FIG. 1C

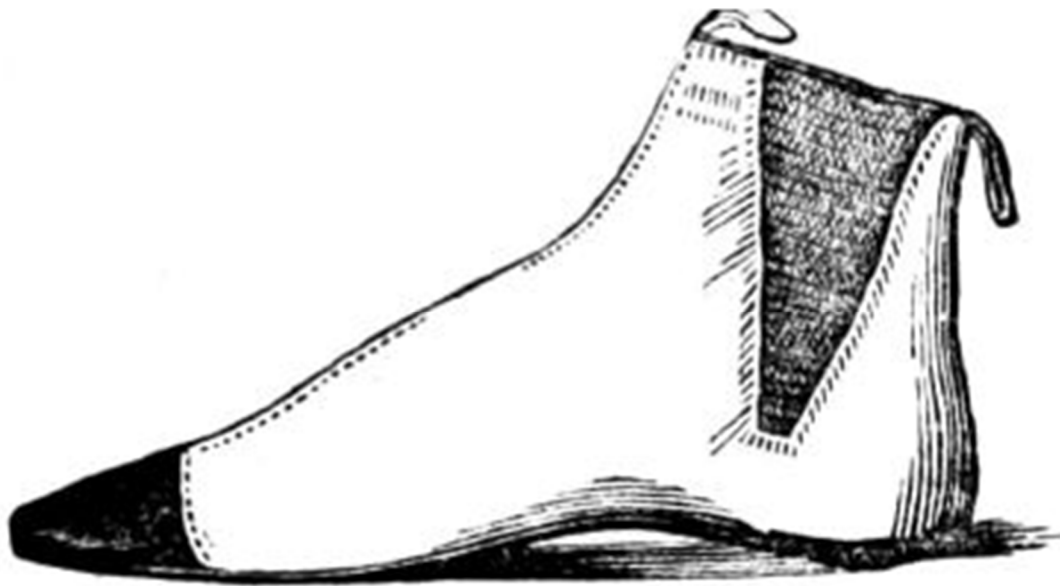
Ex. 1001, Fig. 1C. The patent states, “[t]he foam liner may be configured as a strip that is generally oriented concave toward the sole portion.” *Id.*, 7:6-10.

B. Brief Description of the Technology

The wearing of shoes by humans predates recorded history. Shoes commonly include standard features such as a sole and upper as well as stabilizers, elastic materials, and foam cushioning elements. *See, e.g.*, EX1023, p.14 (“sole: Derived from the Latin ‘solea,’ meaning soil or ground.”); 17 (“upper: All the parts or sections ... above the shoe’s sole ...”); 16 (“stabilizer: ... Any mechanical ... device, separate or built into the shoe, designed to stabilize or rebalance ...”); 11 (“heel cup: A cupped-shape insert to cradle the foot’s heel for motion control or

cushioning.”); 8 (“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.”); 9 (“foam: ... Softer foams such as polyurethane foam are used for shoe cushioning”); 12 (“heel liner. A special lining around the inside back of the heel’s counter, usually to prevent heel slippage.”).

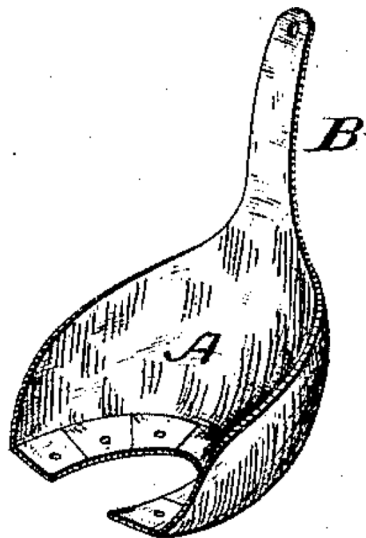
Rapid-entry footwear of the type described and claimed in the ’006 patent has also long existed, since at least the mid-1800s. EX1005, ¶32. For example, in 1847, J. Sparkes Hall published his designs for an “elastic boot,” commonly known today as the “Chelsea boot,” which features two elastic elements that allow the boot to be put “on and [taken] off in an instant.” EX1024, p.137.



Id., p.127; *see also id.*, p.126 describing (“India-rubber web so plastic that the boot would go on and off, and yet not so soft and yielding as that it would not return again to its original form.”).

Victorian era shoes also commonly featured a “stiffening [] inserted at the heel between the outside and lining.” EX1025, p.5-6; *see also id.*, p.3 (referring to a “heel stiffener”); EX1024, p.88 (discussing “stiffenings”). Such heel stiffenings could be made of leather, or alternatively a “steel shank” could be used “to assist in keeping the shank of the shoe in desired shape.” EX1025, p.6. One example is described in U.S. Pat. No. 201,796, which issued in 1878:

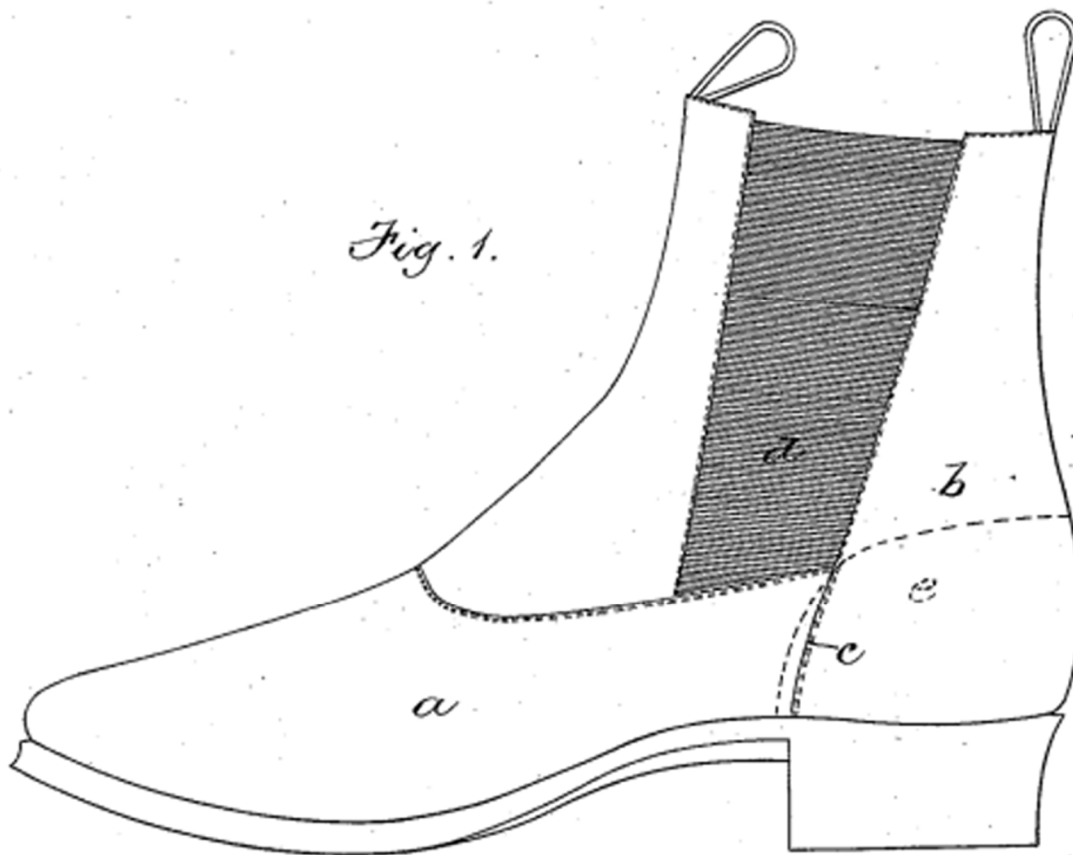
Fig 1.



EX1026, Fig. 1; *see also id.*, p.1, left col. (discussing “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.”).

Thus, the core elements described and claimed in the '006 patent have been well-known in the art for centuries. In fact, both were described in U.S. Patent No. 287,312 (“Congress-Gaiter”), issued in 1883.



EX1027, Fig. 1, 1:12-31 (discussing “*d* the elastic gorings” and “the stiff counter or heel-stiffener *e*”).

C. Prosecution History of the '006 Patent

The application leading to the '006 patent (serial no. 17/965,501) received a single Office Action, with the sole rejection made on the ground of non-statutory double patenting over co-pending application serial no. 16/942,335 (“the '335 application”). EX1002, p.11-15.

The Applicant purported to disagree with the Examiner’s finding of non-statutory double patenting, but nevertheless obviated it with a concurrently-filed terminal disclaimer. EX1002, p.8-10. The Examiner then issued a Notice of Allowance, providing no reasons for allowance. *Id.*, p.5-7.

D. Priority Date of the '006 Patent

The '006 patent claims priority as a continuation from the '335 application (EX1003), filed July 29, 2020, which in turn claims priority to U.S. provisional patent application no. 62/879,883 (“the '883 provisional”) filed on July 29, 2019 (EX1004).

Challenged claim 1 of the '006 patent recites, *inter alia*, “the rapid-entry shoe comprises a foam liner oriented concave toward the sole portion.” Ex. 1001, 12:5-6. Any disclosure supporting this limitation was, at best, first introduced in the '335 application, and was otherwise absent from the '883 provisional. For example, Fig. 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.” EX1003, ¶¶15, 56. These appear to be the only disclosures purporting to support the “foam liner” claim limitation, and they are wholly absent from the ’883 provisional. Indeed, there is no supporting disclosure at all for a “foam liner” in the ’883 provisional, let alone for the claimed “a foam liner oriented concave toward the sole portion.”

Accordingly, claim 1 is, at best, entitled to the July 29, 2020 filing date of the ’335 application, not the July 29, 2019 filing date of the ’883 provisional.

IV. LEVEL OF ORDINARY SKILL IN THE ART

The ’006 patent relates to an article of footwear that allows for rapid entry of a foot using a stabilizer component. Ex. 1001, Abstract. A person of ordinary skill in the art (“POSITA”) in the field of the ’006 patent in July 2019 or July 2020 would 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. EX1005, ¶16. Such a person of ordinary skill would have at least a general understanding of construction processes and materials used to manufacture footwear.

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

V. CLAIM CONSTRUCTION

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

VI. CHALLENGE AND RELIEF REQUESTED

Pursuant to 37 C.F.R. § 42.22(a)(1) and §§ 42.104(b)(1)-(2), Petitioner challenges claim 1 of the '006 patent on the grounds identified below.

A. Prior Art Patents and Printed Publications

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

1. Naomichi Takahashi, *Shoe*, Japan Utility Model Registration No. 3212460 (filed May 31, 2017; issued September 14, 2017) (“**Takahashi**”).
2. Zhuang Hongren, *Counter Heel Cup Inserting Device*, China Invention Patent Publication No. CN 109393642 A (filed December 6, 2018; published March 1, 2019) (“**Hongren**”).
3. 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;

¹ Petitioner also cites to EX1023-EX1034 to support the grounds in this Petition. These exhibits are all prior art to the '006 patent under 35 U.S.C. § 102(a)(1) and (2). The authenticity and public availability of EX1023-EX1034 is supported by copyright notices, library date stamps, volume date labels, and/or other contemporaneous evidence of public distribution.

issued July 9, 2024) (“**Shin**”).

4. Brian L. Murray, *Internal Pads For Rubber Footwear*, U.S. Patent No. 3,693,270 (filed January 8, 1971; issued September 26, 1972) (“**Murray**”).

5. Seiji Kim, *Shoe*, Japan Utility Model Registration No. 3153220 (filed June 16, 2009; issued August 27, 2009) (“**Kim**”).

As set forth below, each of the foregoing are prior art to the ’006 patent, regardless of its entitlement to the claimed July 29, 2019 priority date.

Takahashi, Murray, and Kim were published more than a year prior to both the July 29, 2019 filing date of the ’883 provisional and the July 29, 2020 filing date of the ’335 application, and thus qualify as prior art under 35 § 102(a)(1) with no exception under § 102(b).

Hongren was published more than a year prior to the July 29, 2020 filing date of the ’335 application. Accordingly, Hongren qualifies as prior art under 35 § 102(a)(1) with no exception under § 102(b). Even if the challenged claim were entitled to the July 29, 2019 filing date of the ’883 provisional application, which it is not, Hongren would still be prior art under 35 § 102(a)(1) with no exception under § 102(b) at least because the disclosure was not made by, and subject matter not previously disclosed by, the inventor, a joint inventor, or another who obtained the subject matter directly or indirectly therefrom.

Shin was effectively filed, under 35 U.S.C. § 102(d)(2), as of the April 24, 2019 filing date of foreign priority document KR 10-2019-0048102 and at least the April 22, 2020 filing date of PCT priority document PCT/KR2020/005326.² 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 of KR 10-2019-0048102,³ and names the same inventor. *See* EX1009, codes (22), (30), (71), (72), (86); EX1011, p.1-2; EX1014, codes (22), (30), (71), (72), (81). Shin further satisfies the substantive requirements for claiming priority because the relevant subject matter of Shin is fully supported by KR 10-2019-0048102 and PCT/KR2020/005326, as shown by the identical figures and consistent written description in all three documents, as well as by parallel citations herein to EX1011 and EX1014 when citing or quoting Shin.

Accordingly, Shin is prior art under 35 U.S.C. § 102(a)(1), with no exception under § 102(b), based on either of its foreign or PCT priority dates, because the disclosure was not made by, and subject matter not previously disclosed by, the

² A certified copy of KR 10-2019-0048102 (EX1010) was submitted to the PTO as part of the national phase of PCT/KR2020/005326 (EX1013). Certified translations of KR 10-2019-0048102 and PCT/KR2020/005326 are submitted herewith as EX1011 and EX1014, respectively.

³ As PCT/KR2020/005326 designates the United States, “the filing date of [PCT/KR2020/005326] is also the filing date for the national stage application [i.e., Shin].” MPEP § 1893(b).

inventor, a joint inventor, or another who obtained the subject matter directly or indirectly therefrom. *See Penumbra, Inc. v. RapidPulse, Inc.*, IPR2021-01466, Paper 34, 29-35 (PTAB Mar. 10, 2023) (precedential). Even if the challenged claim were entitled to the July 29, 2019 date, which it is not, Shin would still be prior art as of its foreign priority date under 35 U.S.C. § 102(a)(1) with no exception under § 102(b).

B. Grounds For Challenge

Skechers requests cancellation of claim 1 of the '006 patent as unpatentable under 35 U.S.C. §§ 102 and 103. The asserted grounds are:

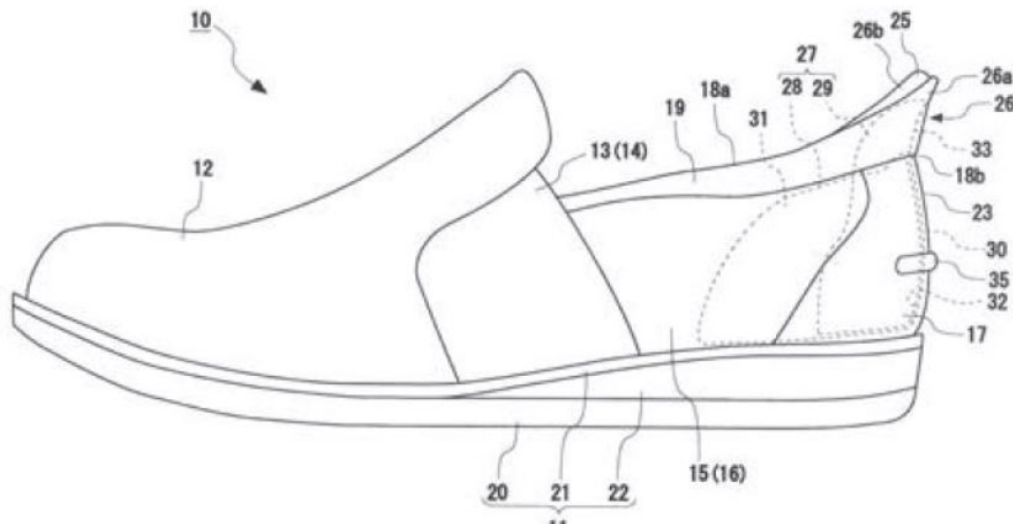
- **Ground 1A:** Claim 1 is anticipated by **Takahashi**
- **Ground 1B:** Claim 1 is obvious over **Takahashi** and **Shin**
- **Ground 1C:** Claim 1 is obvious over **Takahashi** and **Hongren**
- **Ground 1D:** Claim 1 is obvious over **Takahashi**, **Hongren**, and **Shin**
- **Ground 1E:** Claim 1 is obvious over **Takahashi** and **Murray**
- **Ground 1F:** Claim 1 is obvious over **Takahashi**, **Hongren**, and **Murray**
- **Ground 2A:** Claim 1 is obvious over **Kim** and **Shin**
- **Ground 2B:** Claim 1 is obvious over **Kim**, **Hongren**, and **Murray**.

VII. OVERVIEW OF THE PRIOR ART

A. Overview of Takahashi (EX1007)

Takahashi addresses the problem of “provid[ing] a shoe that can be easily put on.” Takahashi, Abstract. To do so, Takahashi proposes “a shoe 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.

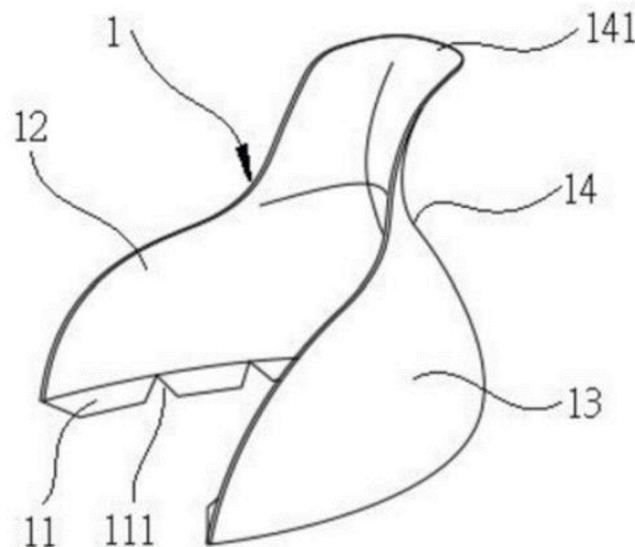
[FIG. 1]



Id., Fig. 1. Takahashi’s shoe includes a heel counter that “is a double structure,” where, “the second counter is soft compared to the first counter.” *Id.*, ¶¶16-17. Additionally, Takahashi’s shoe includes a “pair of stretchable portions 13, 14 located on both the left side and the right side to allow the deformation of the upper,” facilitating the entry of the user’s foot. *Id.*, ¶37.

B. Overview of Hongren (EX1017)

Hongren provides “a counter heel cup inserting device capable of easily achieving, when a user walks in shoes, a function of inserting into the shoes in 1 to 2 seconds,” thus, “enhancing the convenience of putting on and taking off the shoes, while ensuring stability and comfort during walking.” Hongren, ¶3. To that end, it discloses a “heel cup inserting device” that includes a “horizontal embedding portion 11”:



Id., Abstract, Fig. 1, ¶22. The horizontal embedding portions of Hongren’s heel cup device are “fixed between a sole 21 and an insole 22”:

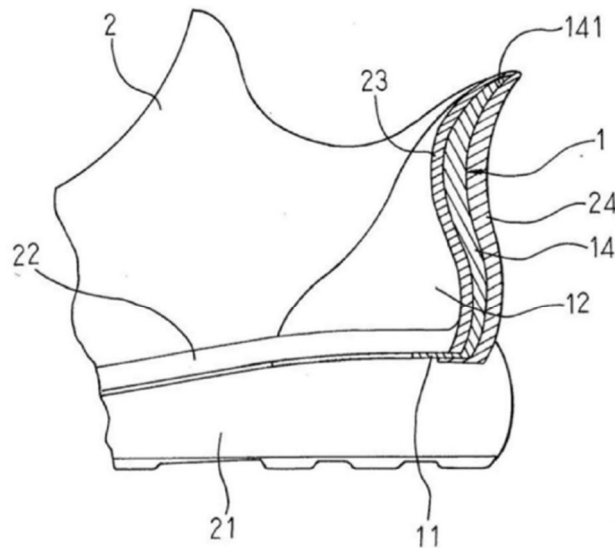


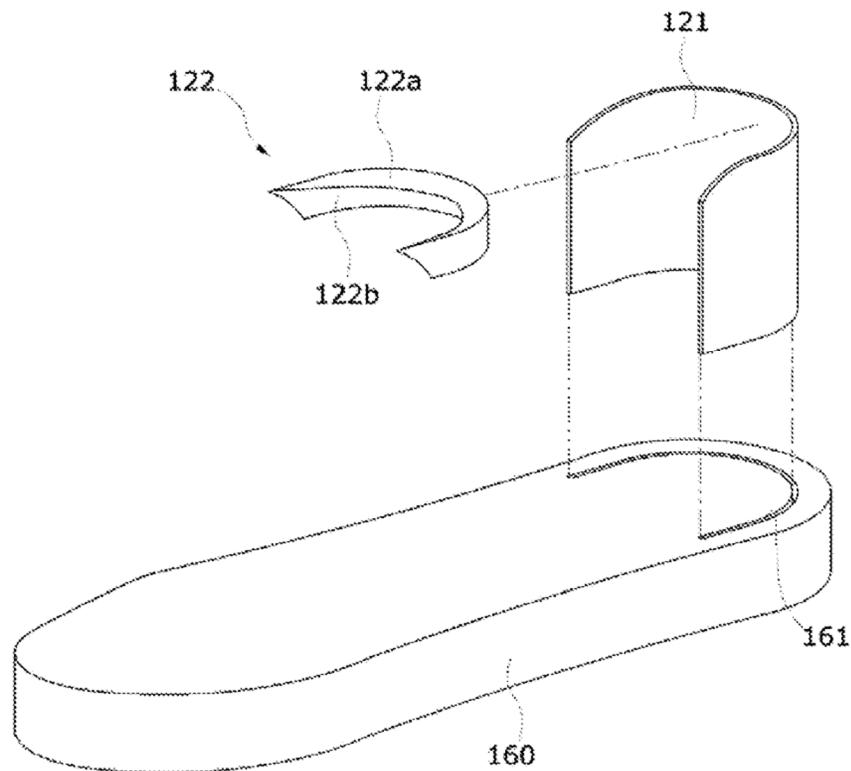
FIG. 3

Id., Fig. 3, ¶24. Due to the stability afforded by Hongren’s heel cup, including its horizontal embedding portions embedded within the sole, “the shoe 2 can be put on and taken off using just the feet.” *Id.*, ¶25.

C. Overview of Shin (EX1009)

Shin discloses an “easy-to-wear functional shoe” that includes “a support member for supporting the heel of the functional shoe; and an elastic member coupled to the upper portion of the support member and formed to protrude from the support member toward the inside of the functional shoe.” Shin, Abstract; EX1011, ¶13; EX1014, ¶9. The support member is “made of a material having hardness sufficient to not allow the shoe heel to fold inward,” and is embedded in the sole for stability:

[FIG. 8]

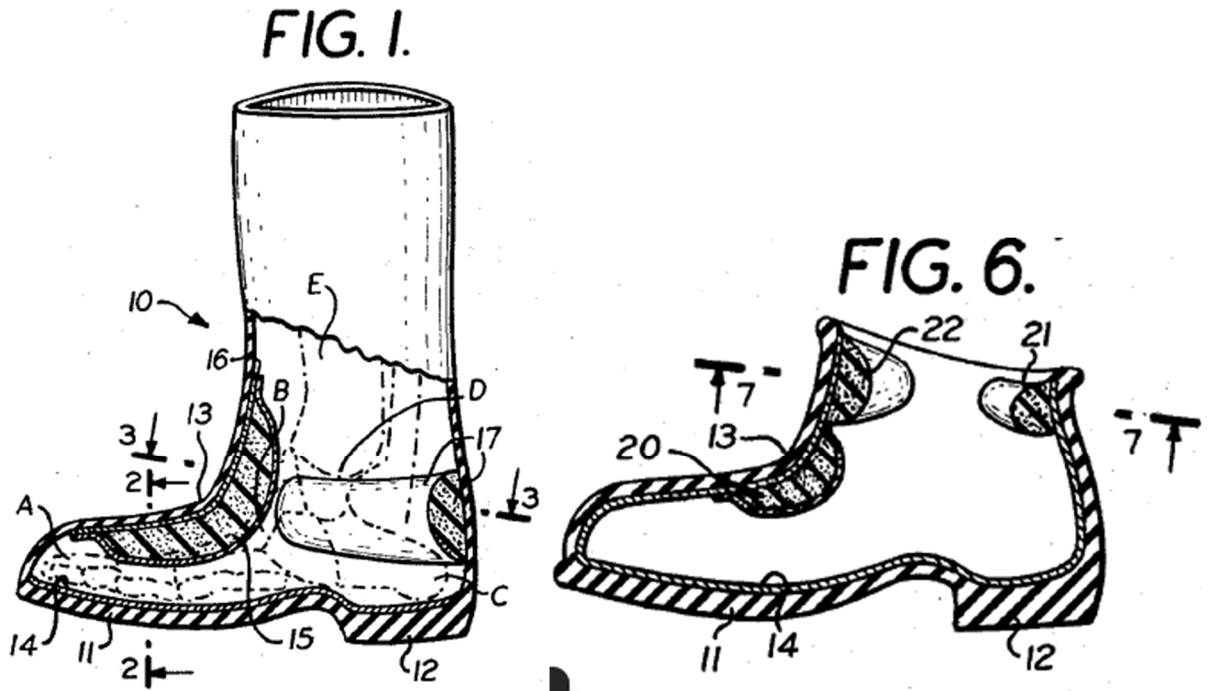


Shin, Fig. 8, 2:3-4; EX1011, ¶19; EX1014, ¶15. An elastic member positioned at the interior of the support member, near the wearer's ankle, is provided for heel retention, comfort, and stability, and may be made of rubber or urethane. Shin, 2:1-2; EX1011, ¶18; EX1014, ¶14.

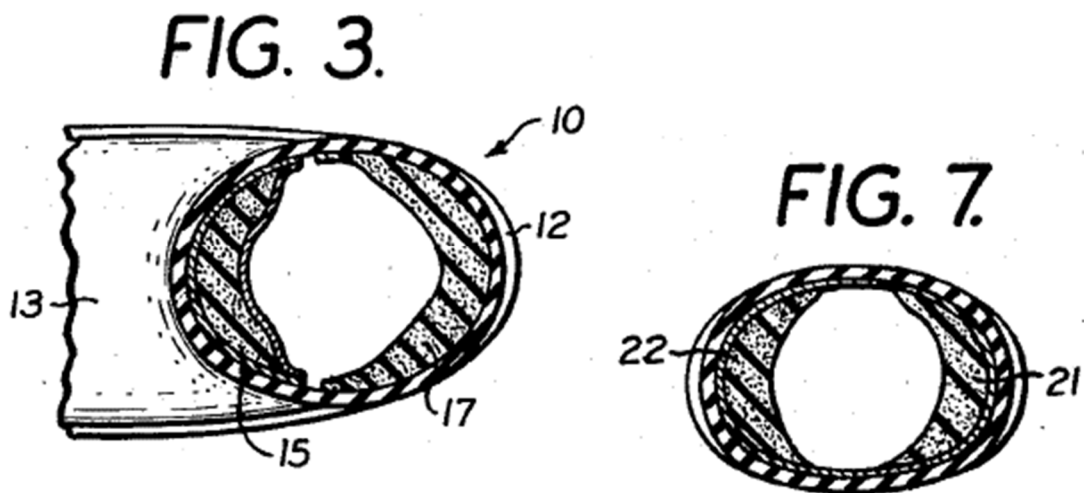
D. Overview of Murray (EX1019)

Murray discloses internal pads for boots and 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 pads “compris[e] a body of foam rubber or plastic covered with cloth,” and are “resilient

or spongy.” *Id.*, 1:31-35; 2:35-37. The pads can be positioned in several different locations, including the ankle, heel, or front of the boot.



Id., Figs. 1, 6. The pads have a concave profile and are configured to surround and support the foot when wearing the boot.

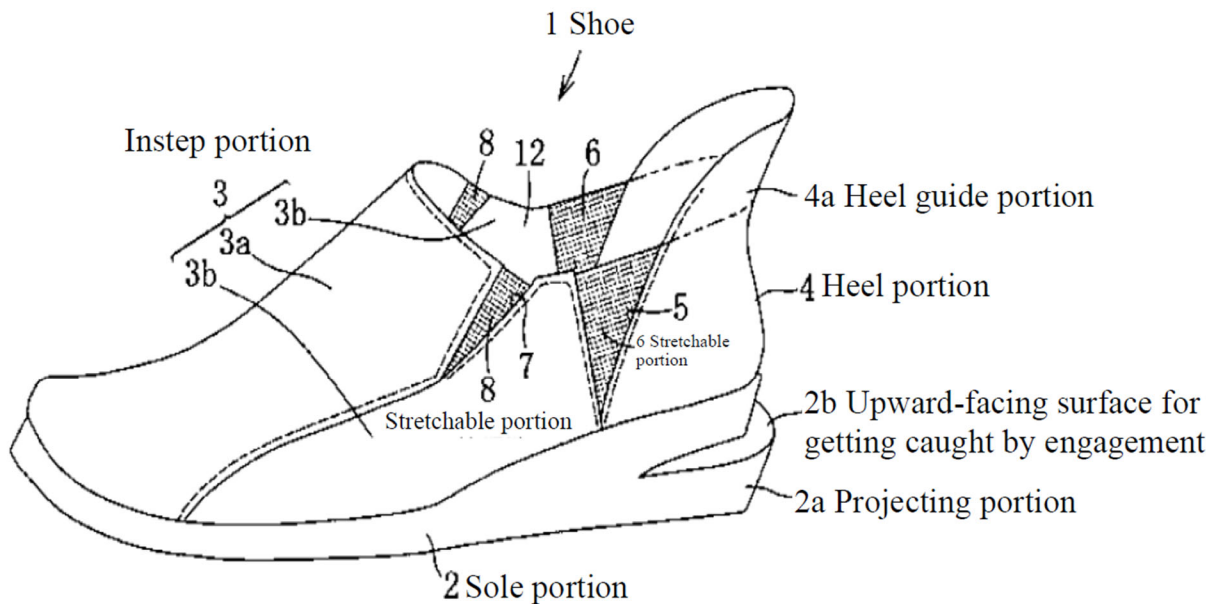


Id., Figs. 3, 7.

E. Overview of Kim (EX1021)

Kim discloses “a shoe that can be easily put on and taken off by people who cannot bend down, such as elderly people, physically disabled people and pregnant women.” Kim, Abstract. Kim achieves this through a combination of “a heel guide portion 4a” and “stretchable portions 6, 8 composed of a stretchable woven fabric member.” *Id.*

[FIG. 1]



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

Kim explains, “the 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; *see also id.*, claim 3. “[W]hen putting on the shoe, the user first inserts, starting from the

toes, the foot into the shoe, and then pushes the heel of the foot into the inside of the heel portion while sliding it along the heel guide portion.” *Id.*, ¶8. The “hard core material” of the heel and heel guide portions 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. Further, the “stretchable portions are composed of a stretchable woven fabric,” “a highly-flexible leather,” or “synthetic leather and a stretchable gathered rubber.” *Id.*, ¶¶11, 37-38. The stretchable portions provide that “the shoe opening 12 expands when the shoe 1E is put on or taken off, and the shoe 1E can be easily put on or taken off.” *Id.*, ¶37; *see also id.*, ¶25 (“[T]he shoe opening 12 expands when the two pairs of stretchable portions 6, 8 stretches.”).

VIII. GROUND 1A: CLAIM 1 IS ANTICIPATED BY TAKAHASHI

All limitations of claim 1 are anticipated by Takahashi (EX1007).

A. Claim 1

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

To the extent that the preamble is limiting, Takahashi teaches a rapid-entry shoe. *See, e.g.*, Takahashi, Abstract, ¶¶1, 6. The ’006 patent explains, “‘rapid-entry shoe’ refers to an athleisure shoe, a casual shoe, a formal shoe, a dress shoe, a heel, a sports/athletic shoe (e.g., a tennis shoe, a golf shoe, a bowling shoe, a running shoe, a basketball shoe, a soccer shoe, a ballet shoe, etc.), a walking shoe, a sandal, a boot,

or other suitable type of shoe.” ’006 Pat., 4:8-13. Takahashi discloses such a shoe, stating, “[t]he present device relates to a shoe that can be easily put on without using a shoehorn or the like.” Takahashi, ¶1. Takahashi further “provide[s] a shoe that can be easily put on” by “including a shoe opening that opens to make it possible to insert a person’s foot” as well as “a heel guide portion” that directs a foot into the foot opening. *Id.*, Abstract; *see also id.*, claim 2 (“the heel guide portion is provided at the rear end of a top line” and “guid[es] the insertion of the foot into” the shoe).

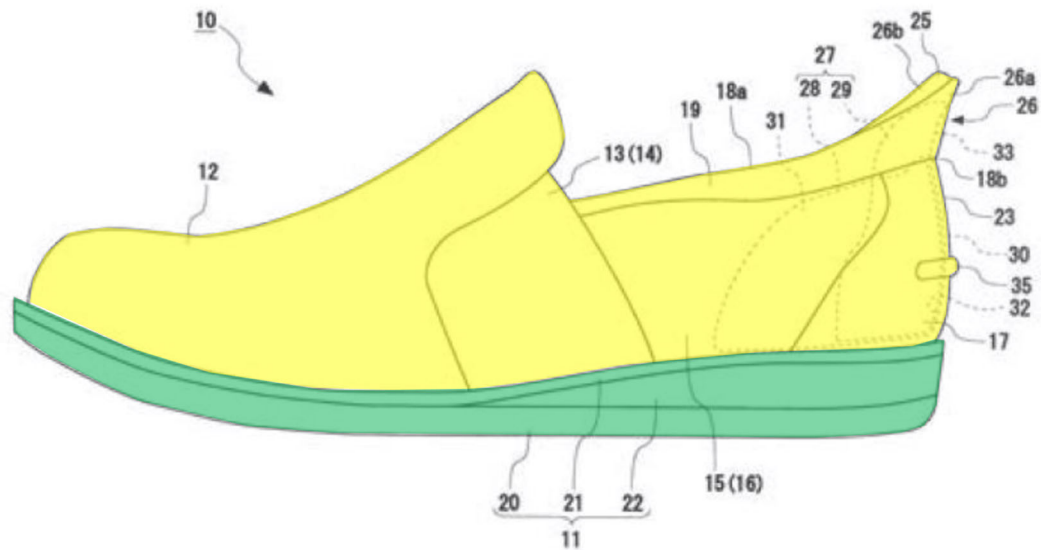
- ***1[a]: “a sole portion and an upper, the upper comprising a rear portion, a forward portion, and a side portion, the side portion extending between the rear portion and the forward portion;”***

Takahashi discloses element 1[a]. *See, e.g.*, Takahashi, Figs. 1, 3, 5; ¶¶37-44, 46, 48, 51, 53, 86.

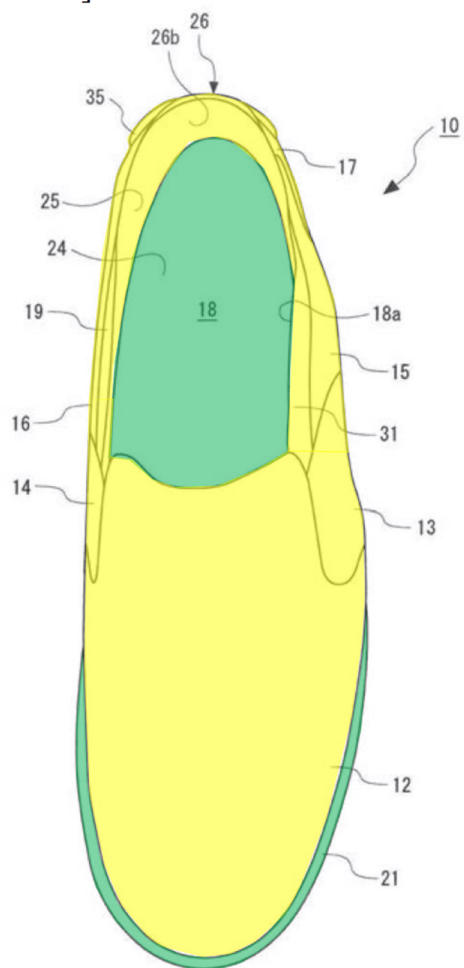
First, Takahashi includes “a sole portion and an upper.” Petitioner has annotated the sole portion, comprising the outsole (20), midsole (21), cushion sole (22), and insole (24), and the upper, which includes everything above the shoe’s sole,⁴ in green and yellow highlighting respectively in Figures 1 and 2 below:

⁴ *See, e.g.*, EX1023, p.17 (“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.”).

[FIG. 1]



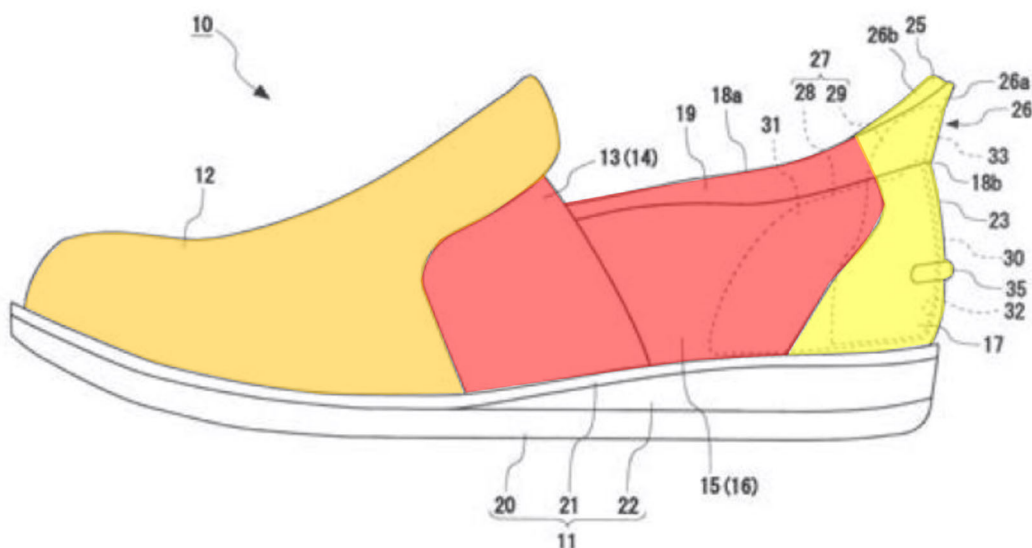
[FIG. 2]



Id., Figs. 1, 2 (emphasis added), ¶86.

Second, Takahashi discloses “the upper comprising a rear portion, a forward portion, and a side portion, the side portion extending between the rear portion and the forward portion.” For example, the upper includes a rear portion including “heel portion 17,” a side portion including “stretchable portions 13, 14 located on both the left side and the right side to allow the deformation of the upper 12” and “sides 15, 16 covering both the left side and the right side of the foot,” and a forward portion including the “upper leather” 12. *Id.*, ¶37. In Figure 1 below, Petitioner has highlighted the forward, side, and rear portions in orange, red, and yellow respectively:

[FIG. 1]

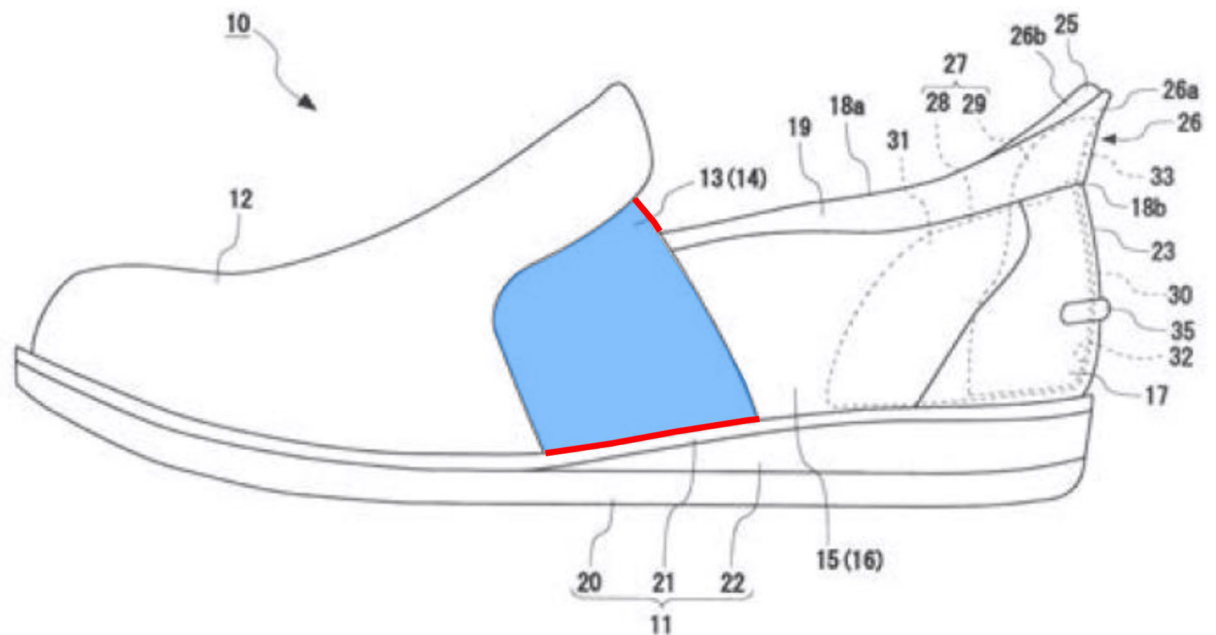


Id., Fig. 1 (emphasis added).

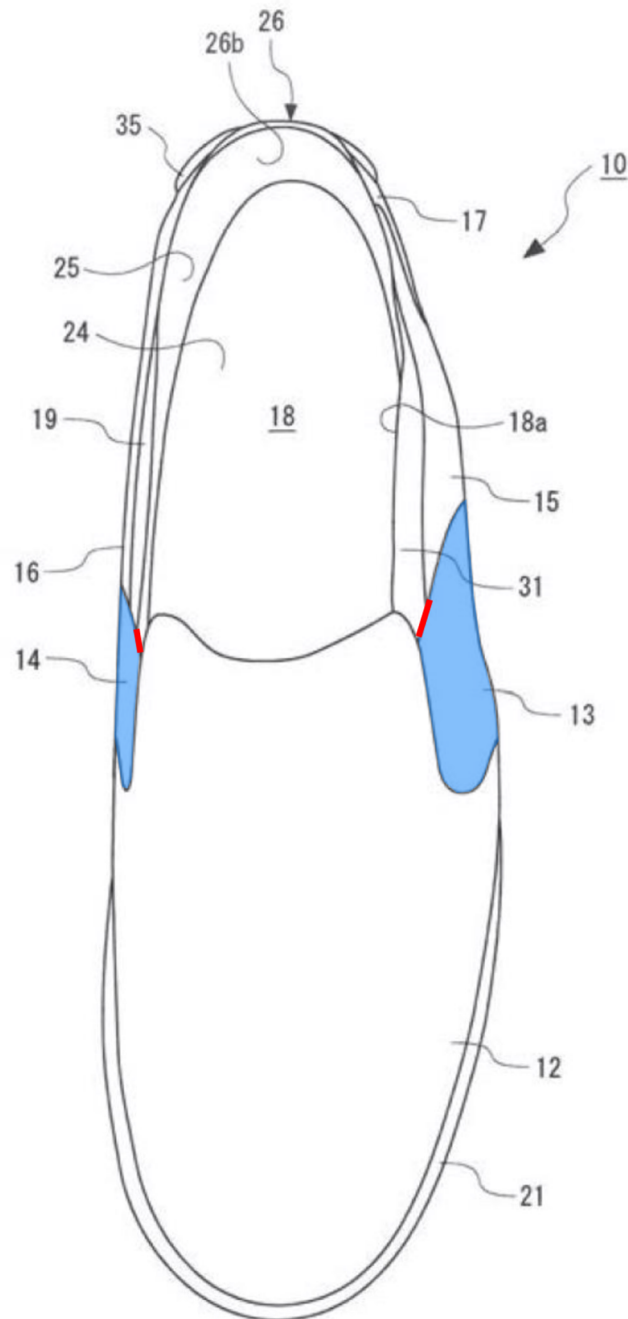
- ***1[b]: “an elastic element disposed at the side portion, the elastic element extending to and forming a portion of a topline of the rapid-entry shoe, and the elastic element further extending to the sole portion;”***

Takahashi discloses element 1[b]. See, e.g., Takahashi, Figs. 1, 2; ¶¶37, 45, 46, 48, 86. For example, as shown by Figures 1 and 2, Takahashi’s shoe has two stretchable portions (13, 14) at the side portion, highlighted in blue, forming part of the topline and extending to the sole, as shown by the red lines added by Petitioner:

[FIG. 1]



[FIG. 2]



Id., Figs. 1, 2 (emphasis added); ¶86. Takahashi further explains, the shoe includes “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” *Id.*, ¶37; *see also id.*, ¶44 (“The rear edge of the upper 12 is a free end capable of being displaced and deformed (warped)

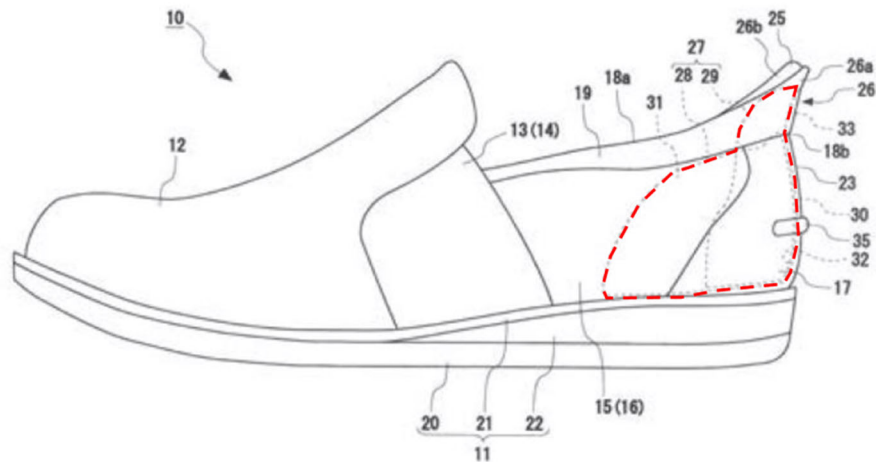
upward during the insertion of foot, and constitutes the front side of the shoe opening 18.”). “The stretchable portions 13, 14 may be made of, for example, a stretchable cloth or rubber sheet” *Id.*, ¶45.

- ***1[c]: “a stabilizer disposed at the rear portion and extending from within the sole portion, the stabilizer comprising a base portion at least partially within the sole portion and an elevated portion;”***

Takahashi discloses element 1[c]. *See, e.g.*, Takahashi, Abstract; Figs. 1-5; ¶¶3, 7-12, 21-26, 30-32, 49, 50, 53-56, 59, 70, 71, 75-78, 80-86.

First, Takahashi includes a “a stabilizer disposed at the rear portion.” For example, Takahashi shows a “heel portion 17” provided with a “guide portion 26 that slopes upward as it goes away from the rear edge 18b of the shoe opening” *Id.*, ¶73. The heel portion “includes a counter 27 integrally having an inward-facing concave curved surface portion 30 to support a person’s heel, and the counter 27 includes a guide core portion 33 for maintaining the shape of the guide portion 26.” *Id.*, ¶76. Takahashi further explains, “[a]s shown by the dashed line in FIG. 1, a counter 27 is disposed between the heel portion 17 and the lining 25.” *Id.* ¶59. Figure 1, annotated by Petitioner below, shows the counter 27 of heel portion 17 disposed at the rear portion:

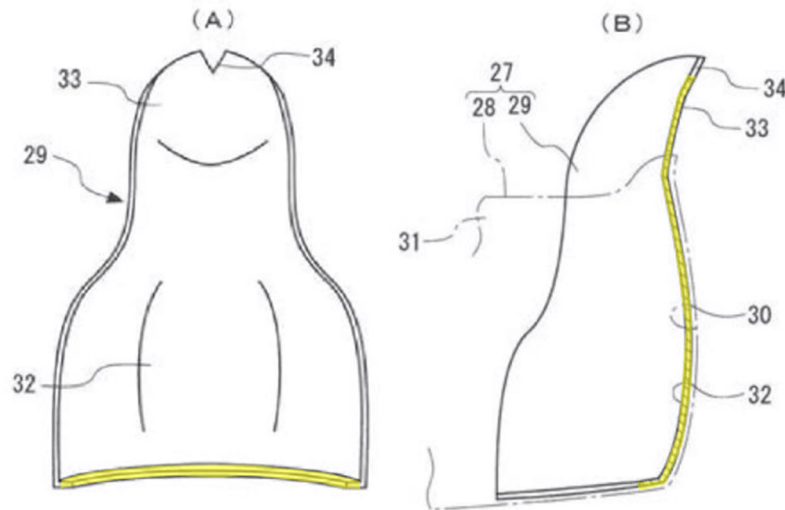
[FIG. 1]



Id., Fig. 1 (emphasis added).

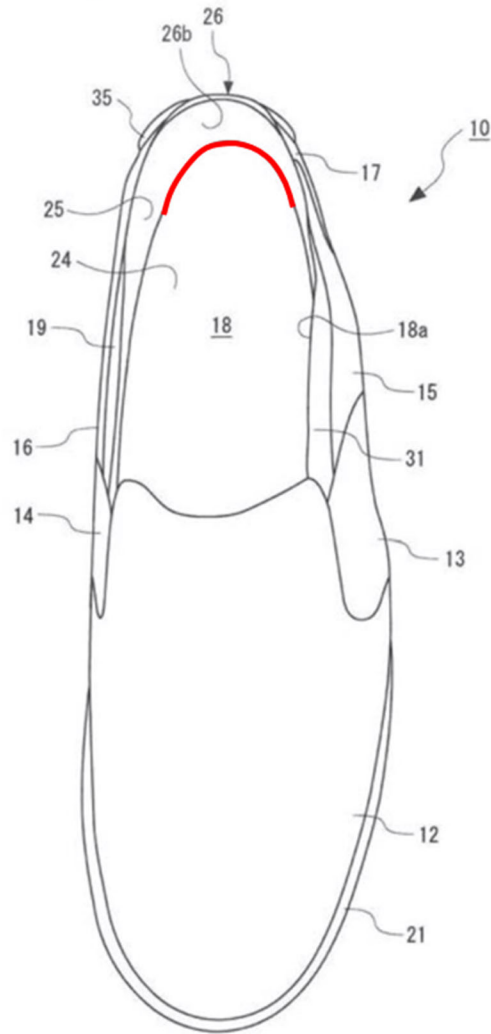
Second, Takahashi’s stabilizer “extend[s] from within the sole portion” and “compris[es] a base portion at least partially within the sole portion and an elevated portion,” as recited in element 1[c]. For example, the ’006 patent explains that the “sole portion” includes the “footbed, insole, midsole, [and] outsole.” ’006 Pat. 4:20-21. In Figure 4, annotated with yellow highlighting by Petitioner below, Takahashi shows that the counter 27 comprises an inwardly-extending flange at its base portion, as well as a “guide core portion 33” at the elevated portion of the stabilizer that “slopes in a direction opposite to the heel curve 23 sloping inward as it approaches the rear edge” of the shoe opening:

[FIG. 4]



Id., Fig. 4 (emphasis added), ¶64; *see also id.* ¶3 (“a shoe that can be put on without using a shoehorn includes a rigid portion where a guide portion sloping from an opening edge of a shoe opening to become lower toward the front is formed at a heel portion including the rear edge of the opening edge of the shoe opening”). A POSITA would have understood that this flange at the base portion of the stabilizer sits underneath at least the insole 24 of Takahashi’s shoe, as annotated by Petitioner below:

[FIG. 2]

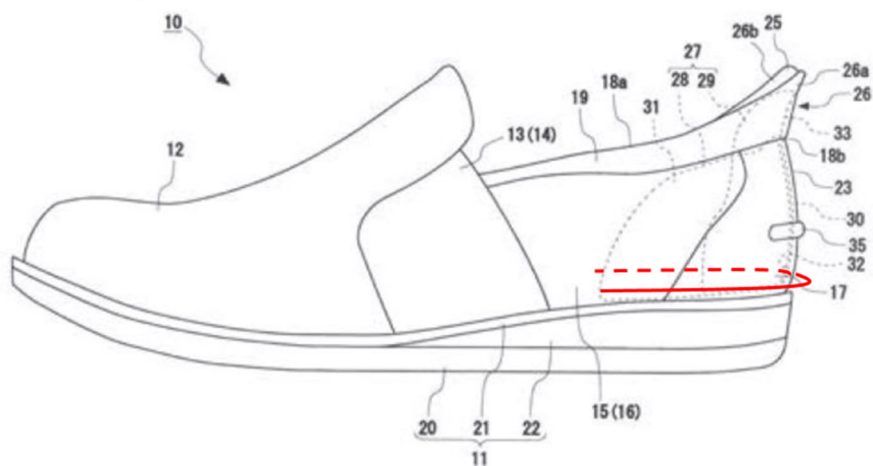


Id., Fig. 2 (emphasis added); EX1005, ¶¶23-31.

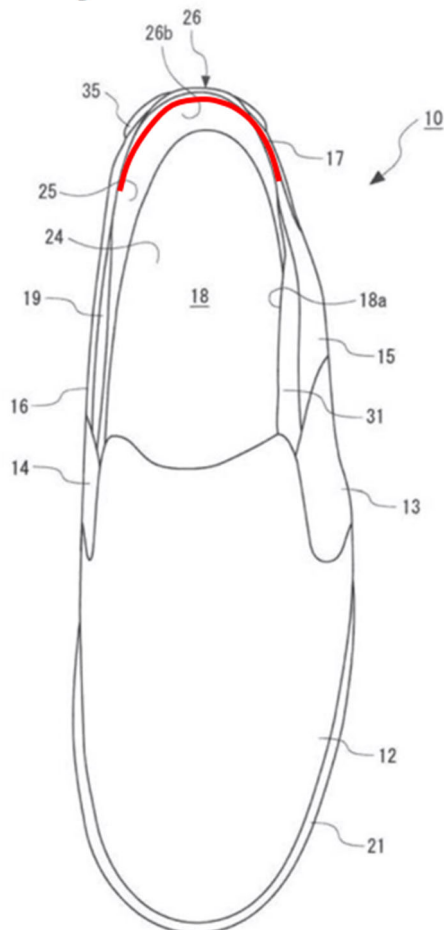
- ***1[d]: “wherein the base portion of the stabilizer defines a closed cup portion extending completely between lateral and medial sides of the sole portion;”***

Takahashi discloses element 1[d]. *See, e.g.*, Takahashi, Abstract; Figs. 1-5; ¶¶3, 7-12, 21-26, 30-32, 49, 50, 53-56, 59, 70, 71, 75-78, 80-86. For example, Takahashi’s heel portion 17 has a closed cup shape configured to surround the heel, from lateral to medial sides of the sole, upon insertion of the foot:

[FIG. 1]



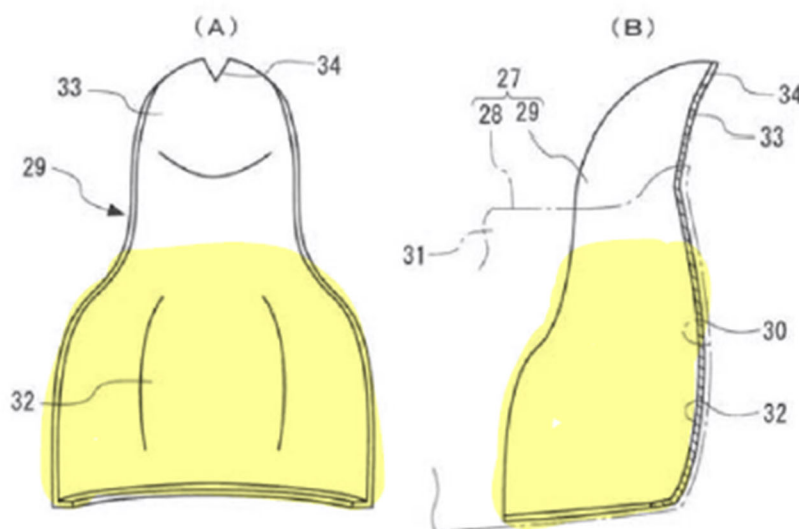
[FIG. 2]



Takahashi, Figs. 1, 2 (emphasis added); ¶86.

Takahashi's heel counter 27 also includes a closed cup shape at a base portion, extending completely between the lateral and medial sides of the sole portion. For example, Takahashi describes "a first counter having a lateral surface portion that wraps around from an inward-facing concave curved surface portion to the left and the right to support a user's heel" *Id.* ¶15. The counter 27 may have a "double structure" that "provid[es] the first counter 28 with the lateral surface portion that wraps around from the curved surface portion 30 to the left and the right," forming a closed cup extending completely between lateral and medial sides of the sole portion. *Id.* ¶¶80-81. Takahashi further discloses, "[t]he heel curve 23 may be formed so that its outer shape at rear end is a concave cup shape when viewed from lateral side" *Id.*, ¶51.

[FIG. 4]

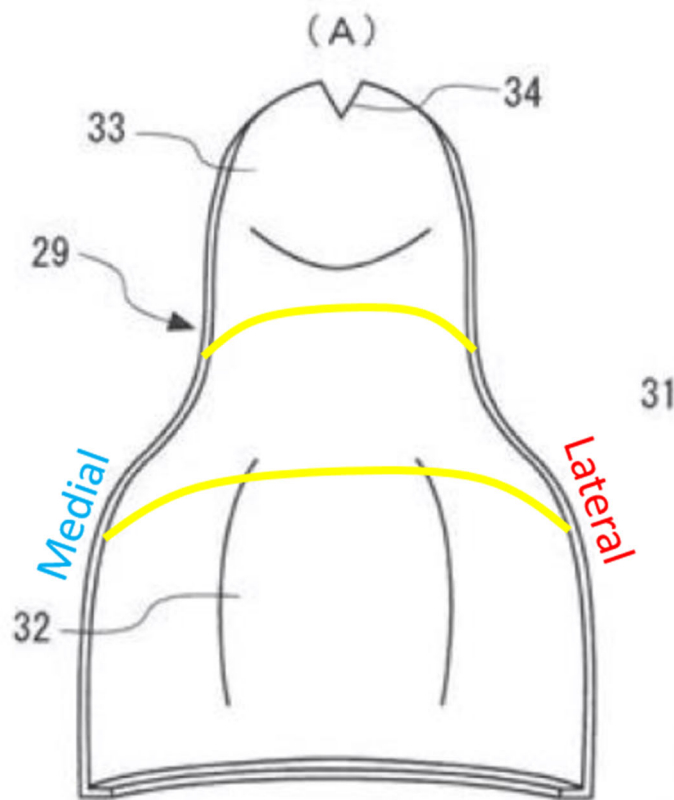


Id., Fig. 4 (emphasis added).

- *1[e]: “wherein the stabilizer comprises a curvature between its lateral and medial sides, and wherein, from the base portion toward the elevated portion, the curvature extends progressively less between its lateral and medial sides;”*

Takahashi discloses element 1[e]. See, e.g., Takahashi, Figs. 1-4; ¶¶63, 65, 86. For example, Figure 4, annotated by Petitioner below, shows:

[FIG. 4]



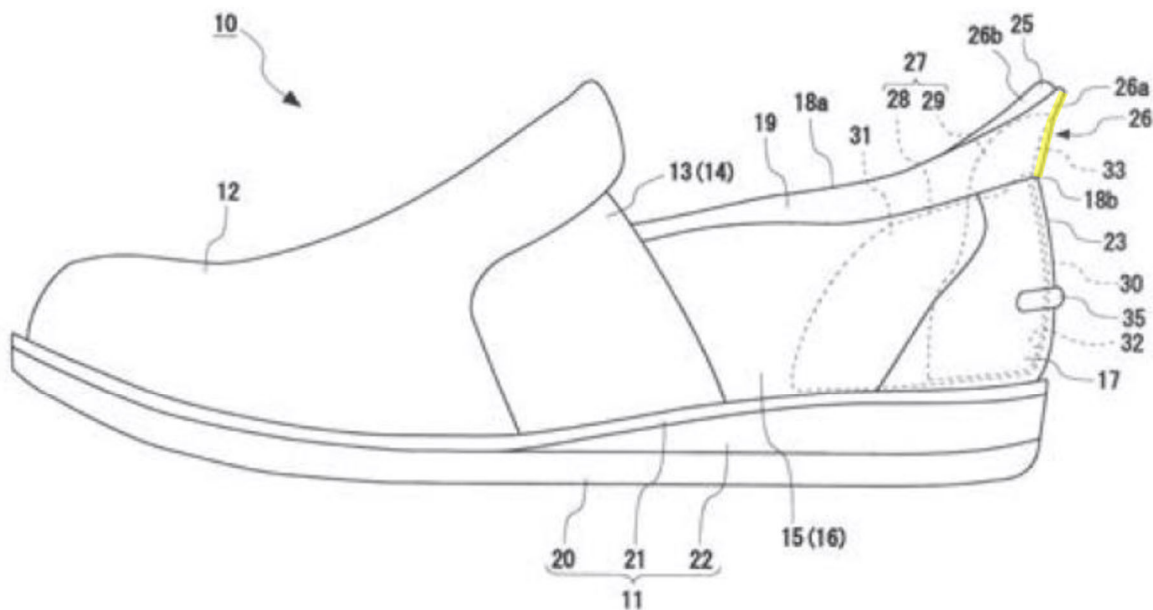
Id., Fig. 4(A) (annotations added). Takahashi further states, “[t]he second counter 29 integrally has an overlapping concave curved surface portion 32,” and “[t]he guide core portion 33 is in the shape of semicircle when viewed from the front.” *Id.*, ¶¶63-65. It is evident that the concave curved surface extends between lateral and

medial sides, and that the curvature extends progressively less from the base portion (bottom) toward the elevated portion (top) of the heel counter.

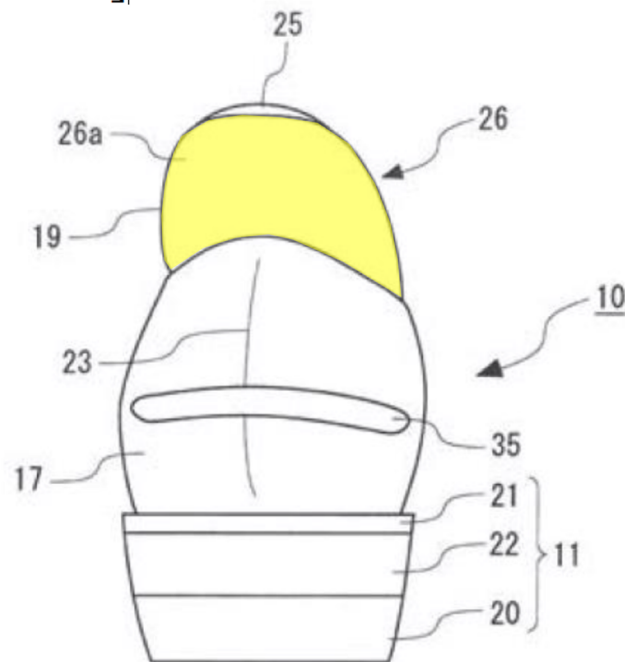
- **1[f]: “wherein the elevated portion of the stabilizer comprises a flare portion extending rearward to direct a foot into a foot opening of the rapid-entry shoe;”**

Takahashi discloses element 1[f]. *See, e.g.*, Takahashi, Abstract; Figs. 1, 3-5; ¶¶3, 9, 10, 23, 24, 64, 66, 74, 75, 86; claim 2. For example, Takahashi’s shoe has a flared “guide portion 26” extending rearward:

[FIG. 1]

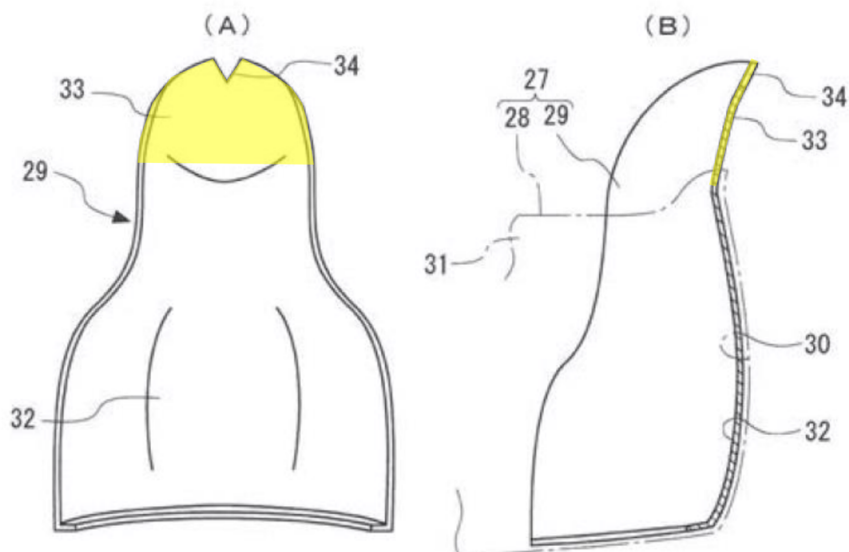


[FIG. 3]



Id., Figs. 1, 3 (emphasis added). Takahashi further shows a flared elevated portion of its second counter extending rearward:

[FIG. 4]

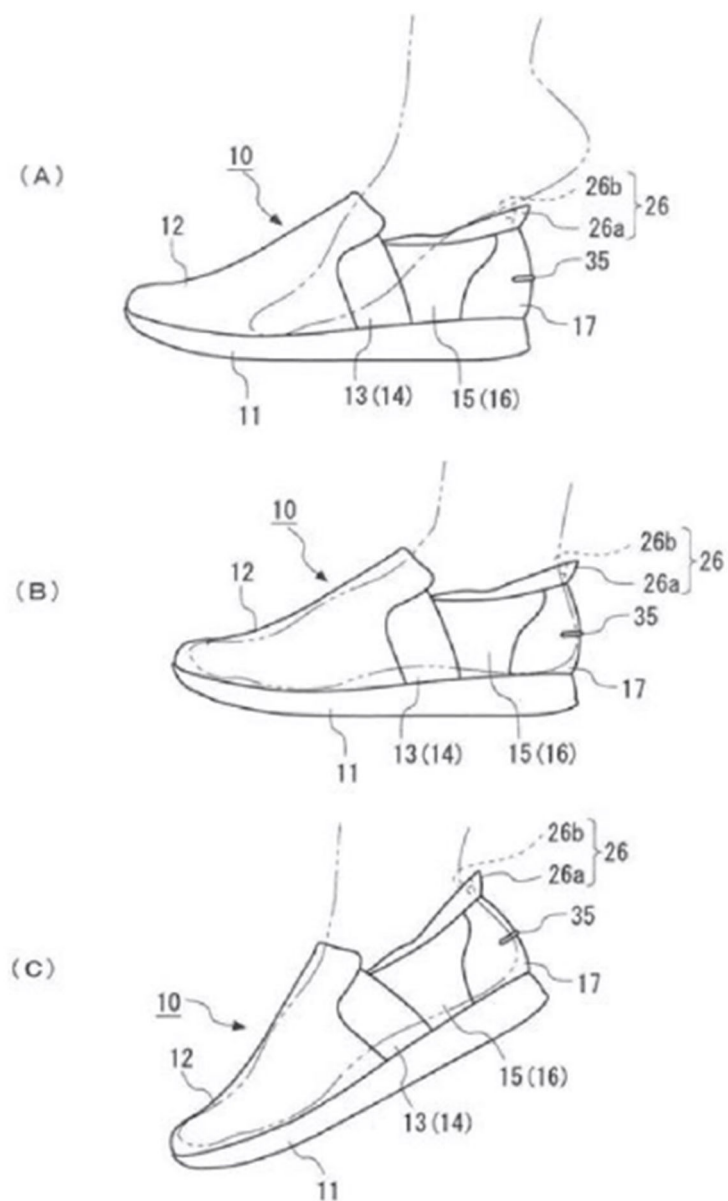


Id., Fig. 4 (emphasis added). This “guide core portion 33” directs the wearer’s foot into the foot opening. For example, Takahashi states, “[t]he guide core portion 33

slopes in a direction opposite to the heel curve 23, sloping inward as it approaches the rear edge 18b.” *Id.*, ¶64. It further states, “the extending portion has an upper-surface inwardly-sloping portion for supporting a heel from a lower side and guiding the insertion of the foot into the inside of the body when a user inserts the foot into the body from the opening.” *Id.*, claim 2. Takahashi further illustrates the flared portion’s rearward extension and function to direct the foot into the foot opening in

Figure 5:

[FIG. 5]



Id., Fig. 5.

- ***1[g]: “wherein expansion or deformation of the elastic element enlarges the foot opening of the rapid-entry shoe, and wherein contraction of the elastic element reduces the foot opening of the rapid-entry shoe;”***

Takahashi discloses element 1[g]. *See, e.g.,* Takahashi, Fig. 5; ¶¶37, 44, 45, 86. For example, as discussed for element 1[b], Takahashi describes “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.” *Id.*, ¶37. Takahashi further states, “[t]he rear edge of the upper 12 is a free end capable of being displaced and deformed (warped) upward during the insertion of foot” *Id.*, 44. Takahashi also teaches, “[t]he stretchable portions 13, 14 may be made of, for example, a stretchable cloth or rubber sheet” *Id.*, 45. A POSITA would understand that at least these features allow deformation of the upper to temporarily enlarge the foot opening, and contract upon foot insertion to secure the foot in the shoe. EX1005, ¶¶33-36.

- ***1[h]: “wherein the stabilizer is comprised of a rigid material such that the rear portion of the upper at which the stabilizer is disposed is configured to resist downward collapse;”***

Takahashi discloses element 1[h]. *See, e.g.,* Takahashi, ¶¶3. For example, Takahashi explains, “[t]he heel portion 17 includes a counter 27 integrally having an inward-facing concave curved surface portion 30 to support a person’s heel, and the counter 27 includes a guide core portion 33 for maintaining the shape of the guide portion 26.” *Id.*, ¶¶76, 77 (by “providing the counter 27 with the guide core portion 33 that is used to maintain the shape of the guide portion 26, the ease of

putting on a shoe can be further improved while maintaining the shape of the heel portion 17.”). It further notes, “[t]he first counter 28 is made of a relatively hard resin material or a material formed by using a (compressed) leather as a base material and spraying a resin powder material onto it,” where “for the resin material or the resin powder material, a thermoplastic resin such as a thermoplastic polyurethane (TPI), a polyamide elastomer (PAE) and an ABS resin can be used.” *Id.*, ¶¶61-62. A POSITA would understand these structures and materials to resist downward collapse of the rear portion of the shoe. EX1005, ¶¶19-22.

- ***1[i]: “wherein the rapid-entry shoe comprises a foam liner oriented concave toward the sole portion; and”***

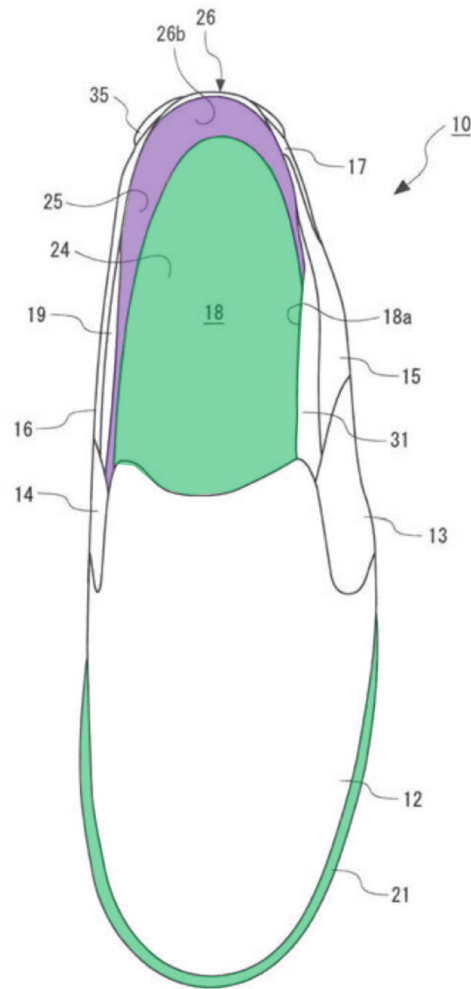
Takahashi discloses element 1[i]. *See, e.g.*, Takahashi, Figs. 1, 2; ¶¶54, 86.

First, Takahashi discloses a “foam liner.” For example, Takahashi teaches a “lining 25” at the rear and sides of the shoe opening. *Id.* ¶54. Takahashi explains, “[t]he 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 understand Takahashi’s “sponge” cushioning as a foam liner. EX1023, p.9 (defining “foam” as “[a]ny of various resins in sponge or cellular form with an open or closed cellular pattern,” and noting, “[s]ofter foams such as polyurethanes are used for shoe cushioning”), 173 (“sponge.... [A]rtificial

sponge—for many years used as a shoe cushioning material—consists of foam-type rubber filled with air pockets.”); EX1005, ¶¶37-43.

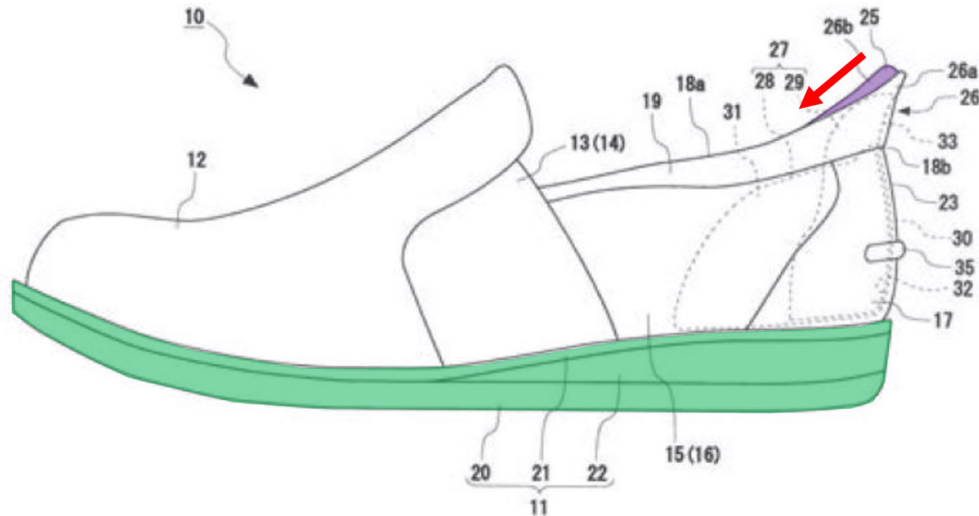
Second, Takahashi’s foam liner is “oriented concave toward the sole portion,” as required by element 1[i]. For example, Takahashi’s Figure 2 shows the foam lining 25 wrapping around the inside of the heel portion 17 and the lateral and medial sides 15, 16, forming a general “U” shape. As the sole portion of Takahashi is positioned on the inside of the U-shaped foam liner, the foam liner is oriented concave toward the sole portion. Figure 2 is reproduced below, with the foam lining highlighted by Petitioner in purple and the sole portion in green:

[FIG. 2]



Id., Fig. 2 (emphasis added). As another example, Takahashi Figure 1 shows that the foam liner wraps around the heel portion 17 along the inside of the flared guide portion (26), forming a U shape oriented downwards toward the sole portion:

[FIG. 1]

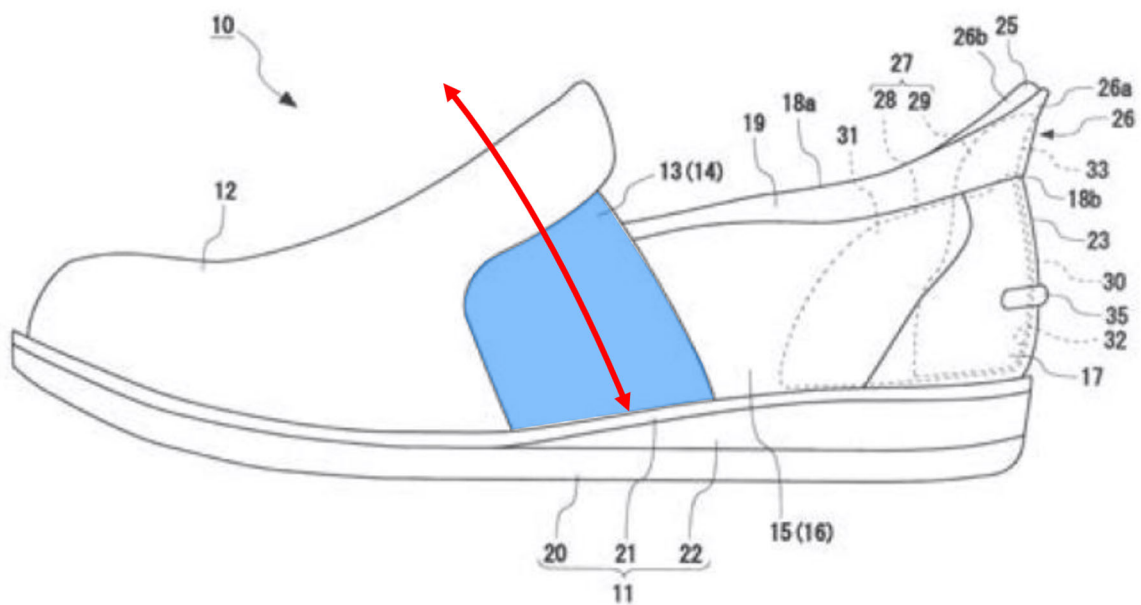


Id., Fig. 1 (emphasis and red arrow added).

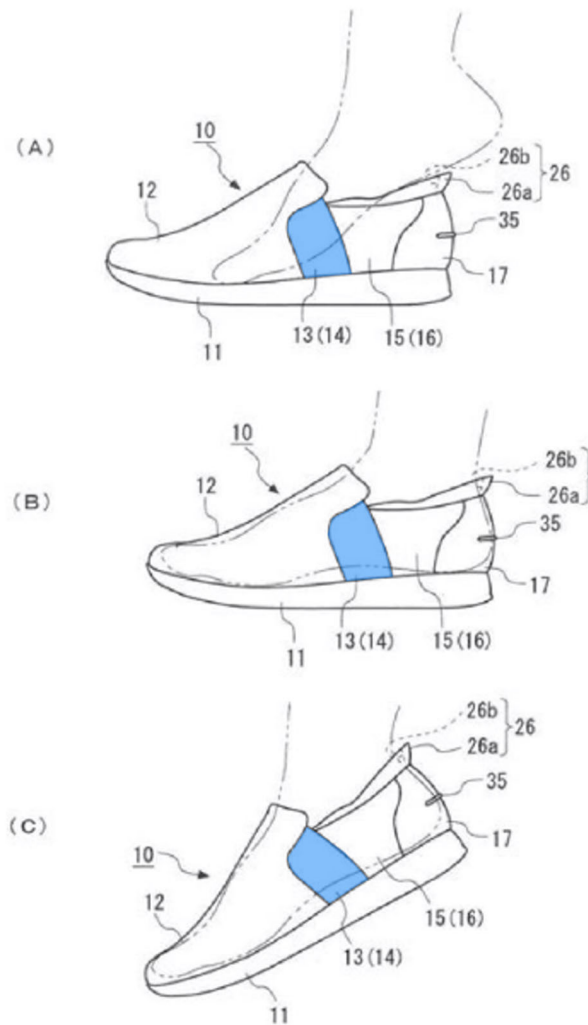
- ***1[j]: “wherein the elastic element is configured to enable the forward portion of the rapid-entry shoe to flex and/or pivot forward relative to the sole portion.”***

Takahashi discloses element 1[j]. *See, e.g.*, Takahashi, Fig. 5; ¶¶37, 44, 45, 86. For example, Takahashi explains, the “pair of 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. Takahashi further states, “[t]he rear edge of the upper 12 is a free end capable of being displaced and deformed (warped) upward during the insertion of foot” *Id.*, ¶44. Takahashi shows that, upon insertion of a foot, the upper and stretchable portions of the shoe facilitate deformation of the forward portion to flex and/or pivot forward relative to the sole to facilitate entry of the foot:

[FIG. 1]



[FIG. 5]



Id., Figs. 1, 5 (emphasis added). Takahashi also teaches, “[t]he stretchable portions 13, 14 may be made of, for example, a stretchable cloth or rubber sheet” *Id.*, ¶45. A POSITA would understand that at least these features would allow for deformation of the upper to flex and/or pivot forward relative to the sole. EX1005, ¶¶33-36.

IX. GROUND 1B: CLAIM 1 IS OBVIOUS OVER TAKAHASHI AND SHIN

As explained above, Takahashi anticipates claim 1. Claim 1 is further obvious over Takahashi in view of Shin (EX1009), which also discloses at least elements 1[c] and 1[i] and supplements Takahashi's disclosure thereof.

A. Claim 1

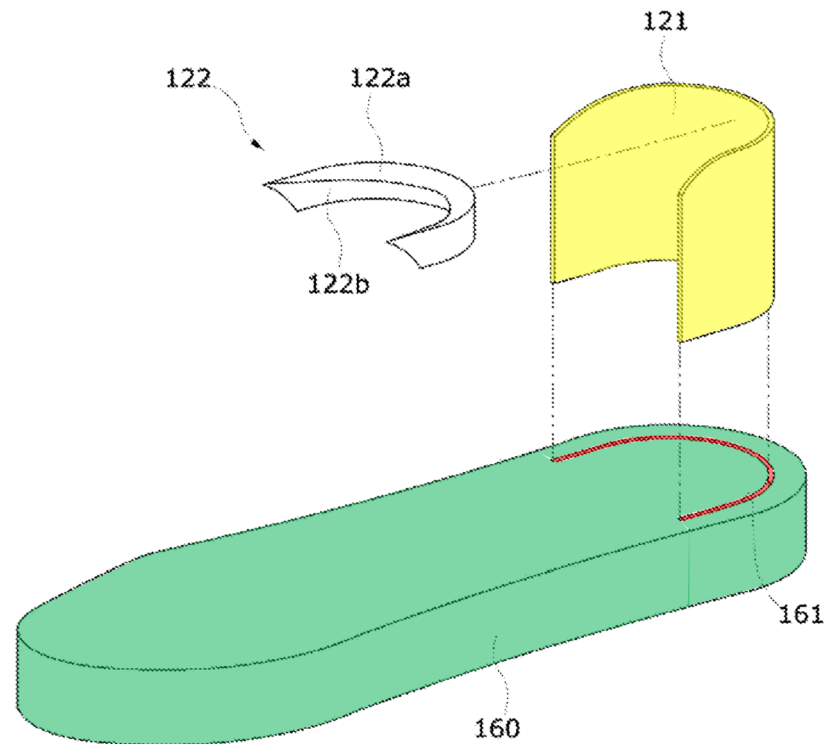
- *1[c]: “a stabilizer disposed at the rear portion and extending from within the sole portion, the stabilizer comprising a base portion at least partially within the sole portion and an elevated portion;”*

The combination of Takahashi and Shin would include element 1[c]. Shin, Abstract, Figs. 1, 8, 9, 4:29-34, 5:61-6:2, claims 1, 5.⁵ For example, Shin teaches a shoe with a “support member 121” that “is provided between the inner skin 130 and outer skin 140” of the shoe. Shin, 4:17-19; EX1011, ¶46; EX1014, ¶51. “The support member 121 functions to support the shoe heel 120” and “may be made of reinforced plastic” so it “does not allow the shoe heel 120 to break or bend” in response to “an external force applied by the wearer” when donning the shoe. Shin, 4:19-24; EX1011, ¶46; EX1014, ¶51. The base of “the support member 121 is fitted into a slot 161 having a semicircular arch shape and provided in the sole 161 so that the shoe heel 120 is vertical.” Shin, 5:65-67; EX1011, ¶73; EX1014, ¶75. Figure 8

⁵ EX1011, Figs. 1, 8, 9, ¶¶48, 72-73; EX1014, Figs. 1, 8, 9, ¶¶53, 74-75.

shows the support member 121, slot 161, and sole 160, highlighted in yellow, red, and green respectively:

[FIG. 8]

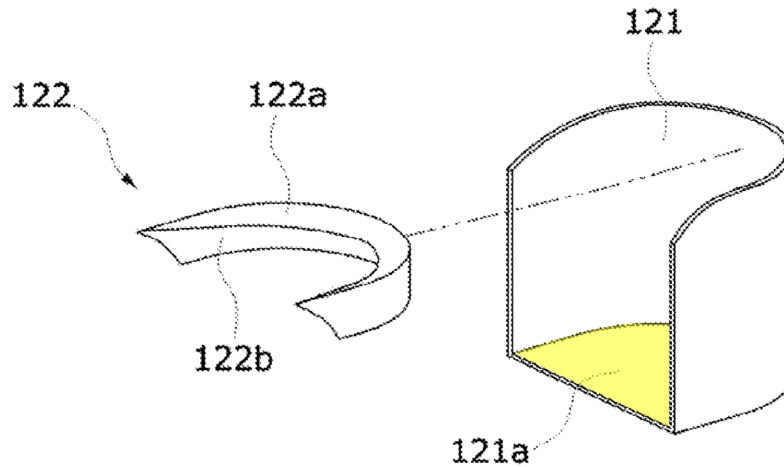


Shin, Fig. 8 (emphasis added).

Additionally, Shin discloses embodiments in which its support member 121 comprises a “bottom surface 121a” that is “integrally formed at a lower end of the support member 121.” Shin, 6:33-35; EX1011, ¶¶84-86; EX1014, ¶¶84-86. The “bottom surface 121a has a shape forming a bottom plate of the support member 121” and “functions to supplement the strength” of the support member “so that the support member 121 may maintain [its] shape.” Shin, 6:38-41; EX1011, ¶¶84-86; EX1014, ¶¶84-86. Shin further states that the bottom surface 121a is “fitted in or

unevenly coupled to the sole 160.” Shin, 6:42-43; EX1011, ¶¶84-86; EX1014, ¶¶84-86. Figure 10, reproduced below, shows the bottom surface 121a highlighted in yellow.

[FIG. 10]



Shin, Fig. 10.

- ***1[i]: “wherein the rapid-entry shoe comprises a foam liner oriented concave toward the sole portion; and”***

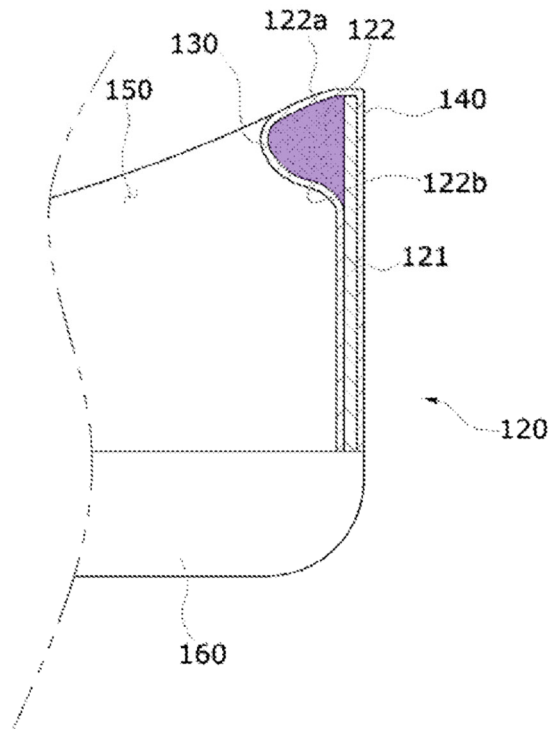
The combination of Takahashi and Shin would include element 1[i]. Shin, Abstract; Figs. 1-14, 16; 1:54-58, 1:65-67, 2:1-2, 2:12-23, 2:61-3:37, 4:40-48, 4:66-5:12, 5:22-37, 5:46-60, 6:3-21; 7:8-23, 7:46-60; claims 1, 12, 13.⁶

First, Shin discloses a “foam liner.” For example, Shin’s shoe has an “elastic member 122” with “wearing surface 122a” and “seating surface 122b” that engages,

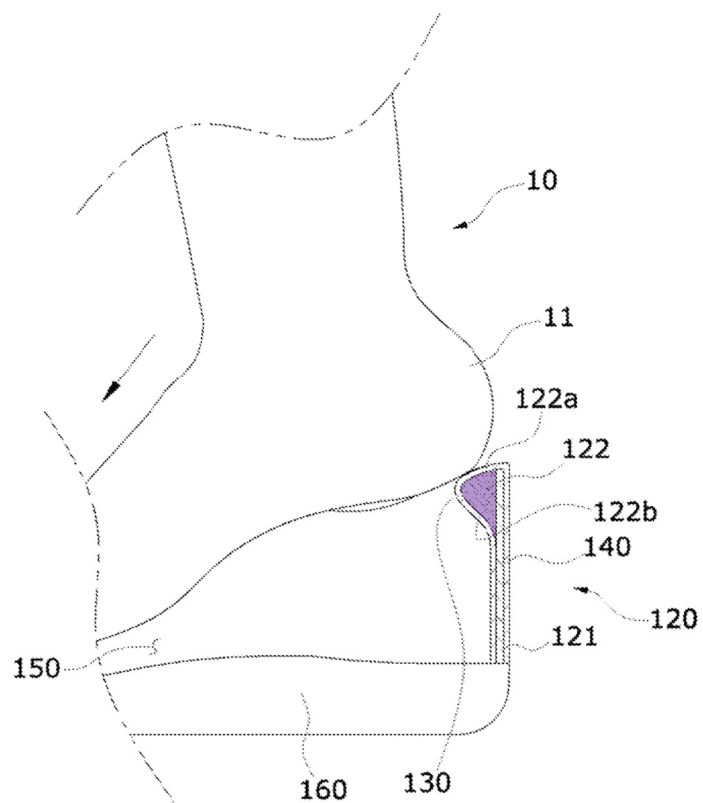
⁶ EX1011, Figs. 1-14, 16, ¶¶13-26, 36, 50-65, 68-79, 96-111; EX1014, Figs. 1-14, 16, ¶¶9-22, 29-42, 55-68, 71-81, 94-107.

and is compressed by, the wearer's heel when donning the shoe. The elastic member 122 in Figures 2 and 5-7 is highlighted below in purple:

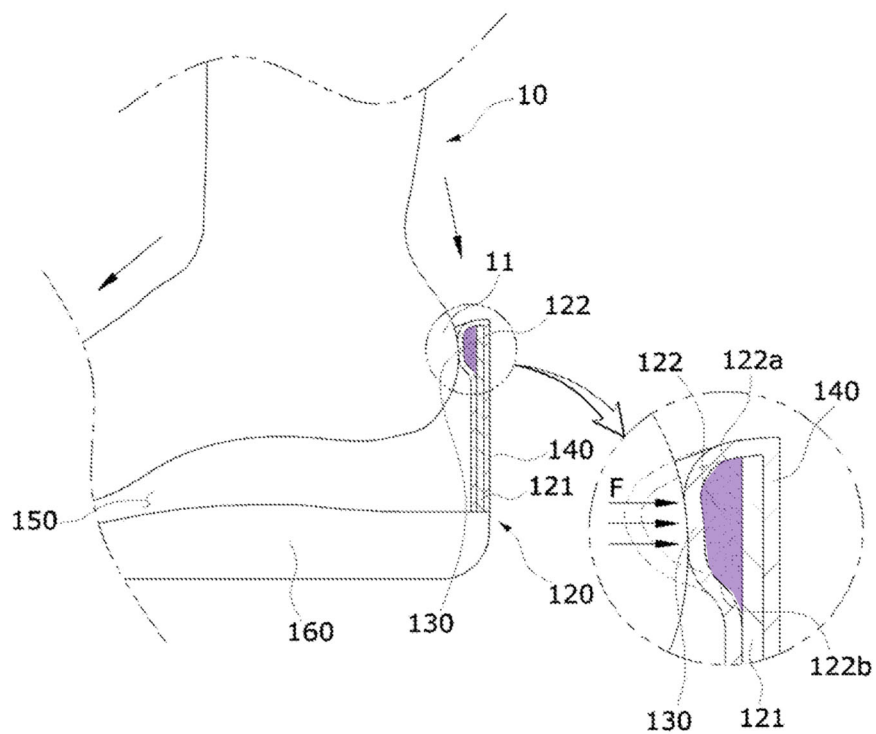
[FIG. 2]



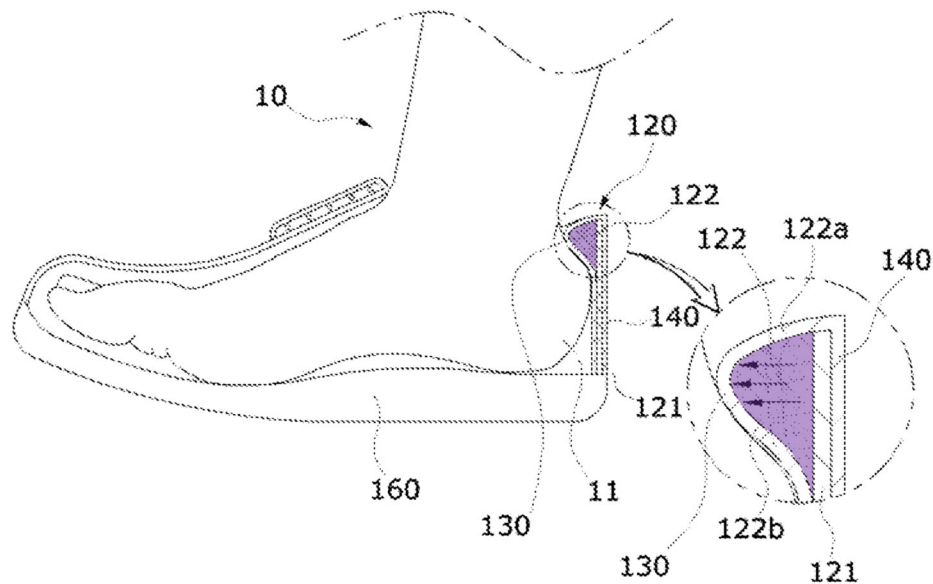
[FIG. 5]



[FIG. 6]



[FIG. 7]

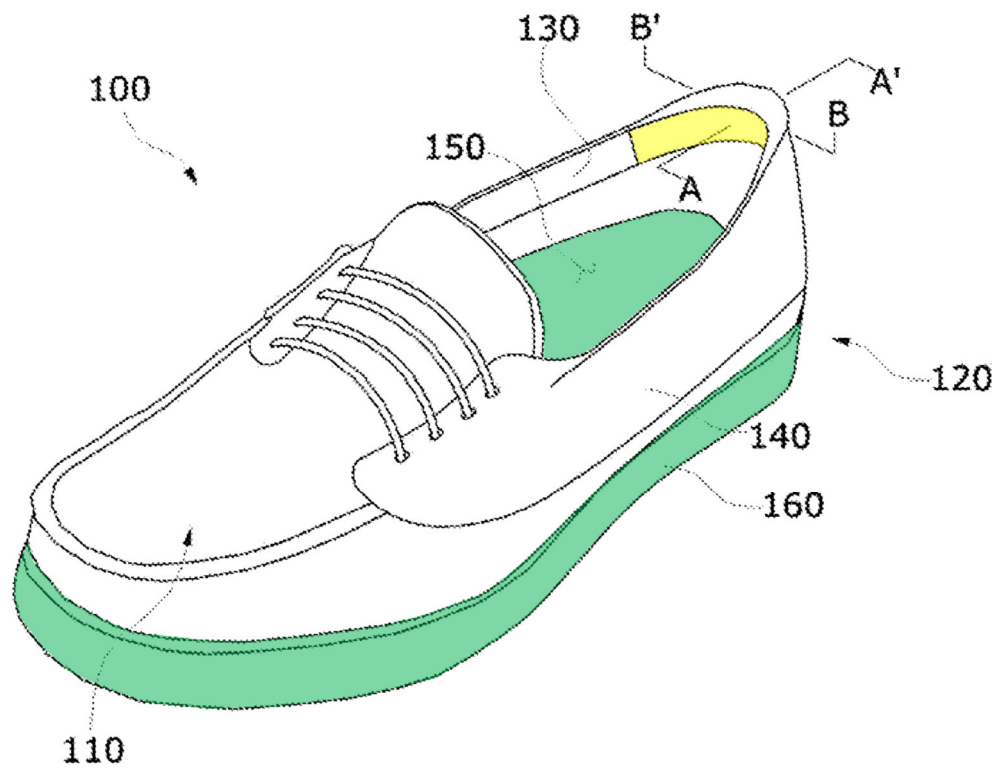


Shin, Figs. 2, 5-7 (emphasis added). Shin explains, “[w]hen the wearer inserts a foot 10 into” the shoe, the “heel 11 comes into contact with the inner skin 130 surrounding the elastic member 122” and “applies an external force F to the inner skin 130” such that the “elastic member 122” is “elastically deformed by a pushing force of the foot heel 11,” allowing the wearer to “easily put on the shoe without bending his/her waist or using his/her hands.” Shin, 5:16-28; EX1011, ¶¶60-63; EX1014, ¶¶63-66. “[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 foot heel 11 of the wearer is seated on the seating surface 122b” such that “the foot 10 of the wearer is not easily separated” from the shoe. Shin, 5:46-54; EX1011, ¶¶68-69; EX1014, ¶¶71-72.

Shin further states, “[t]he elastic member 122 that is elastically deformable in this way may be made of a rubber material” or “of a highly elastic material such as urethane having elasticity.” Shin, 5:34-37; EX1011, ¶65; EX1014, ¶68. A POSITA would understand these disclosures to include foam rubber and urethane foams. *See, e.g.,* EX1005, ¶¶37-43; EX1023, p.9, 17 (“urethane” can “be chemically manipulated to become urethane foam”). Alternatively, it would have been obvious to a POSITA to modify the disclosed rubber and urethane to be foam rubber and/or urethane foam, given the ubiquity of such foams in shoe manufacturing, particularly for cushioning, at the time of the purported invention. *See* EX1023, p.9, 17; EX1005, ¶¶37-43.

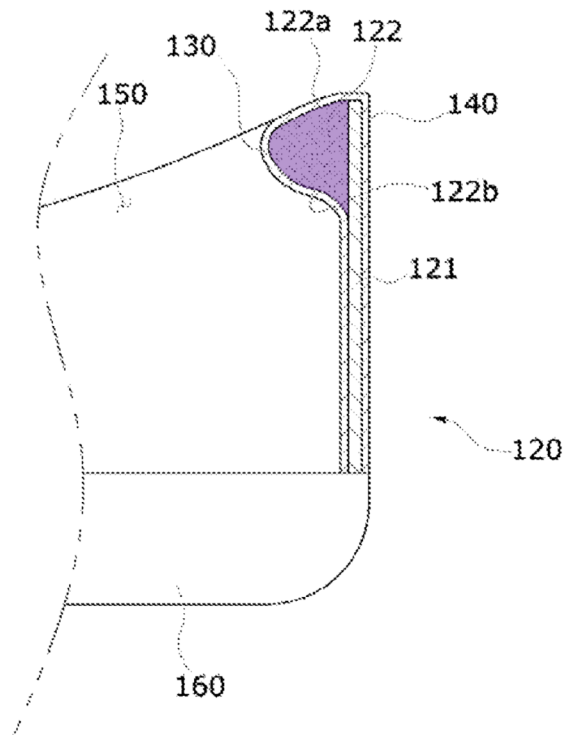
Second, Shin teaches that its foam liner is “oriented concave toward the sole portion,” as required by element 1[i]. For example, Figure 1 “is a perspective view schematically illustrating an easy-to-wear functional shoe according to one embodiment of the present invention.” Shin, 4:1-3; EX1011, ¶36; EX1014, ¶36. Figure 1 is reproduced below, with the foam liner’s concave shape highlighted by Petitioner in yellow, and the sole portion in green:

[FIG. 1]



Shin explains that the highlighted concave shape corresponds to its foam liner, shown cross-sectionally in Figure 2. *See* Shin, 4:10-11 (“FIG. 2 is a cross-sectional view taken along line A-A’ of FIG. 1”); EX1011, ¶36; EX1014, ¶30.

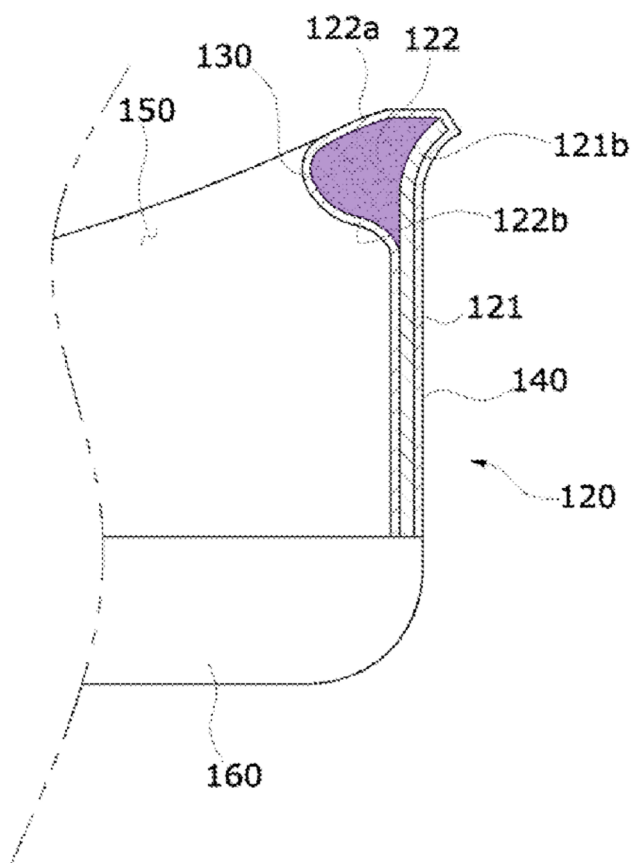
[FIG. 2]



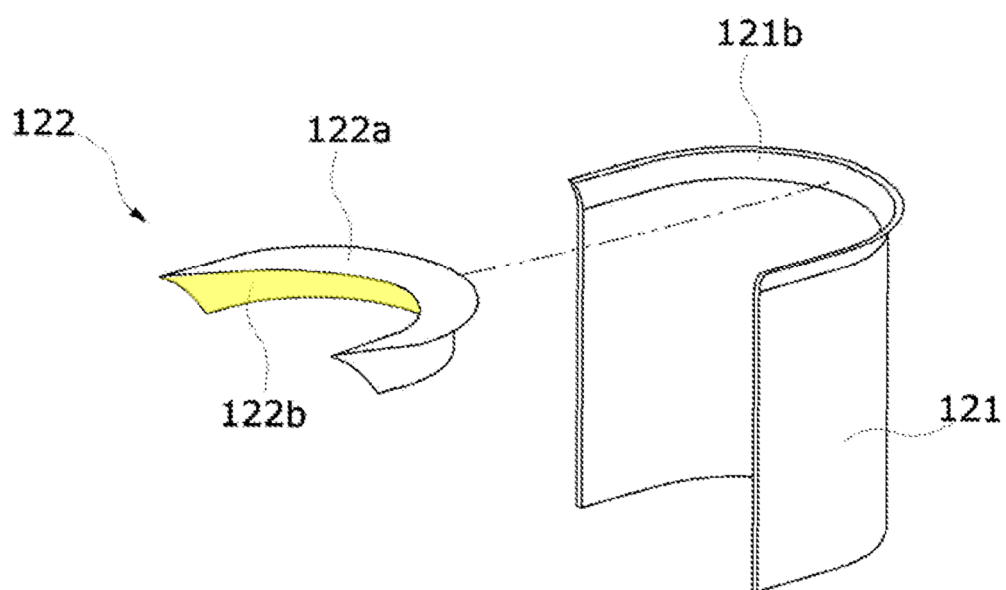
Shin, Fig. 2 (emphasis added).

As another example, Shin shows a concave orientation of its elastic member 122, with wearing surface 122a and seating surface 122b, in Figures 11 and 12:

[FIG. 11]

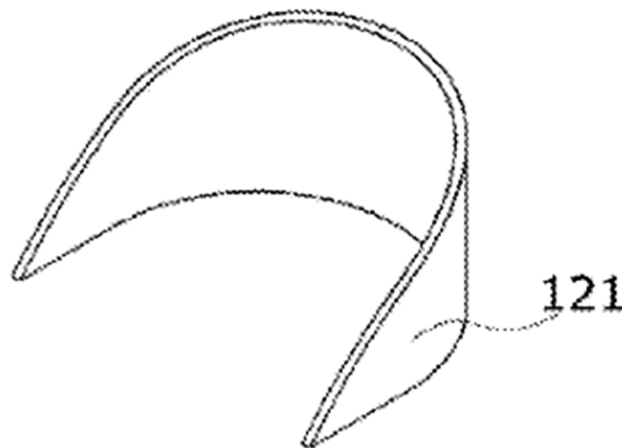


[FIG. 12]



Shin, Figs. 11, 12 (emphasis added). In this embodiment, “the inclined section 121b may guide a wearing path so that the foot 10 of the wearer may easily slide into” the shoe. Shin, 6:65-67; EX1011, ¶¶93; EX1014, ¶¶92. Shin further explains, “[t]he elastic member 122 protrudes from the upper end of the support member 121 in an inward direction,” and notes, “[t]he wearing surface 122a is a section inclined inward in a direction toward the lower side,” while “[t]he seating surface 122b is a section connected to a lower end of the wearing surface 122a and inclined outward in a direction toward the lower side.” Shin, 6:3-21; EX1011, ¶¶74-79; EX1014, ¶¶76-80.

Shin also describes an embodiment in which “[t]he support member 121 has a shape having both ends inclined downward in a direction toward the inner side with respect to a heel”:



Shin, Fig. 17, 8:34-36; EX1011, ¶¶123; EX1014, ¶¶117. The elastic member 122 affixed to the support member 121 in this embodiment would necessarily be oriented

concave toward the sole portion, as the “support member 121 has a shape having both ends inclined downward in a direction toward” the sole. Shin, Fig. 17, 8:34-36; EX1011, ¶123; EX1014, ¶117; EX1005, ¶42.

B. Combining Takahashi and Shin

A POSITA would have had reasons to combine Shin’s heel support member and foam liner with Takahashi’s shoe, and a reasonable expectation of success in doing so.

For example, Takahashi and Shin each address similar technology and are directed to similar design incentives—heel structures that facilitate easier entry of a foot, allowing donning and doffing without bending down to use one’s hands. *See, e.g.,* Takahashi, Abstract (“[Problem] To provide a shoe that can be easily put on”); Shin, 1:45-50 (“The present invention is directed to providing an easy-to-wear functional shoe that a wearer may easily put on without bending his/her waist”); EX1011, ¶1; EX1014, ¶8. Indeed, both designs bear strong similarities based on a heel counter insert and are explicitly geared toward alleviating the need for facilitating devices like shoehorns. Takahashi, ¶1 (“The present device relates to a shoe that can be easily put on without using a shoehorn or the like.”); Shin, 1:47-50 (describing its solution for “a functional shoe that a wearer may easily put on ... without using his/her finger or an auxiliary tool such as a shoehorn.”); EX1011, ¶1; EX1014, ¶8. Moreover, both designs expressly teach use of flared heel counters to

direct the foot into the shoe. Shin, Fig. 11, 6:65-67 (explaining, “the inclined section 121b may guide a wearing path so that the foot 10 of the wearer may easily slide into” the shoe); EX1011, ¶93; EX1014, ¶92; Takahashi, ¶ 71 (“[T]he foot can be easily put in” the shoe “by providing near the heel a guide portion 26 for guiding the foot in.”). A POSITA seeking to address the problem of providing a shoe that does not require bending over or using hands or a shoehorn would thus have reason to look to Takahashi and Shin. *See ZUP, LLC v. Nash Mfg., Inc.*, 896 F.3d 1365, 1371 (Fed. Cir. 2018) (a “motivation to combine may be found explicitly or implicitly in,” *inter alia*, “market forces” and “design incentives”); *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, incorporating Shin’s heel support member and foam liner into Takahashi’s shoe would be the use of a known technique to improve similar devices in the same way. For example, heel retention was a known problem in the art, and heel liners like those of Takahashi and Shin were a recognized solution to that problem. *See, e.g.*, EX1023, p.12 (“heel liner. A special lining around the inside back of the heel’s counter, usually to prevent heel slippage.”). The Complete Footwear Dictionary, published in 2000, provides an example of such a liner, which strongly resembles that of Takahashi and Shin:



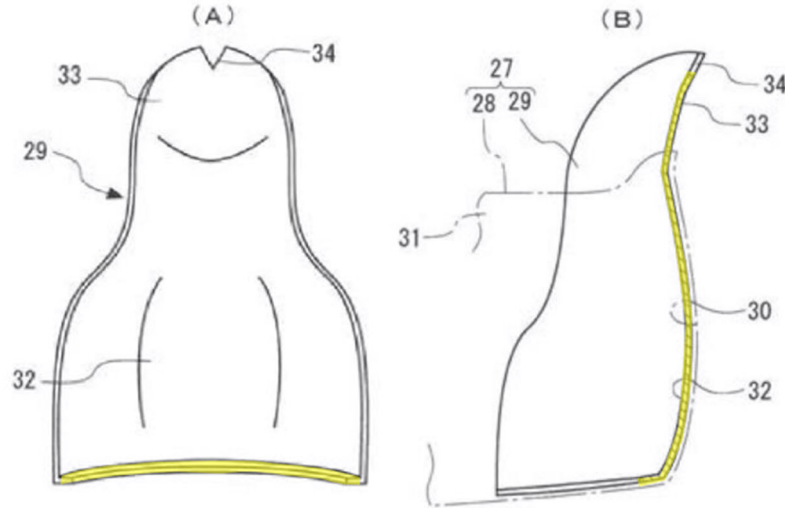
Heel liner inside shoe to prevent slippage.

Id. Here, Shin's foam liner could easily be incorporated into Takahashi's heel counter in the same configuration taught by Shin (e.g., attached to an inner surface of the counter) to provide the predictable result of enhancing wearability, fit, and comfort. Shin, Figs. 5-7; 5:34-37; EX1011, ¶¶65; EX1014, ¶¶68. This augments Takahashi's teaching of a "lining" on the inner surfaces of the heel portion with "an appropriate cushioning property," and would operate according to its ordinary function in this context. Takahashi, ¶¶54. A POSITA would also have understood that incorporating Shin's foam lining would improve Takahashi's shoe by promoting retention of the foot within the shoe. *See* Shin, 5:46-54 (because "the elastic member 122 is restored to an original shape again after the foot heel 11 of the wearer has passed therethrough," "the foot heel 11 of the wearer is seated on the seating surface 122b" such that "the foot 10 of the wearer is not easily separated" from the foot); EX1011, ¶¶68-69; EX1014, ¶¶71-72. Shin would thus enhance Takahashi's goal of

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 would also have recognized that incorporating Shin’s support member extending from within the sole portion would enhance Takahashi’s purpose of “maintaining the shape of the heel portion” during donning. *Id.*, ¶26. Indeed, the use of heel counter reinforcements to retain heel shape and provide stability was conventional in the art. *See* EX1023, p.5 (“counter. The stiffener or reinforcement in the backpart of the shoe to retain shoe shape and offer stability and support to the heel of the foot.”). Here, Shin teaches that “fitt[ing]” the support member “into a slot” that is “provided in the sole” allows “the shoe heel” to remain “vertical” as the user is using the footwear. Shin, 5:65-67; EX1011, ¶73; EX1014, ¶75. Similarly, Shin teaches that providing the support member with a “bottom surface” that “form[s] a bottom plate of the support member” and is “fitted in” the sole “functions to supplement the strength” of the support member so it “may maintain [its] shape.” Shin, 6:34-43; EX1011, ¶¶84-85; EX1014, ¶¶84-85. These teachings also supplement Takahashi’s inward-extending flange, reproduced below:

[FIG. 4]



Takahashi, Fig. 4 (emphasis added). A POSITA would thus have been motivated to combine Shin and Takahashi given the multiple benefits of incorporating Shin's support member and heel lining into Takahashi's shoe. *See Intel Corp. v. PACT XPP Schweiz AG*, 61 F.4th 1373, 1380-81 (Fed. Cir. 2023) ("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).

There would have been a reasonable expectation of success in combining Takahashi and Shin. As discussed above, the combination of known elements from these references would yield predictable results, as each component in the combination would act in the same way as it did in the original reference from which it was derived (e.g., Shin's support member would continue to provide securement

and stability to Takahashi's counter, and Shin's elastic member would likewise provide the same cushioning and support). Additionally, the materials and techniques for making and using Shin's components were standard at the time of the invention, and there would be a good degree of predictability incorporating them within Takahashi's shoe. Foam linings and heel counters/stiffeners were all conventional footwear components long before the invention, and it would have been well within the skill of a POSITA to modify Takahashi's lining and counter according to Shin. *See, e.g.*, EX1023, p.5, 7, 9, 12, 16, 17; EX1005, ¶¶19-31, 37-43; EX1025; EX1026; EX1027. A POSITA would be able to easily make slight modifications to size, shape, and orientation of these components based on the particularities of Takahashi's shoe, heel portion, and counter to accommodate those components without requiring substantial experimentation or unconventional modifications. Furthermore, the reasonable expectation of success is implicitly shown through the prior art references themselves, as well as within the further obviousness analysis herein.

X. GROUND 1C: CLAIM 1 IS OBVIOUS OVER TAKAHASHI AND HONGREN

As explained above, Takahashi anticipates claim 1. Claim 1 is further obvious over Takahashi in view of Hongren (EX1017), which also discloses at least element 1[c] and supplements Takahashi's disclosure of that element.

A. Claim 1

- ***1[c]: “a stabilizer disposed at the rear portion and extending from within the sole portion, the stabilizer comprising a base portion at least partially within the sole portion and an elevated portion;”***

The combination of Takahashi and Hongren would include element 1[c].

Hongren, Abstract, Figs. 1-8, ¶¶5, 8, 13-22, 24, 25, Claims 1, 4.

For example, Hongren discloses a stabilizer in the form of a “heel cup inserting device” with a “horizontal embedding portion 11,” which Petitioner has highlighted yellow below:

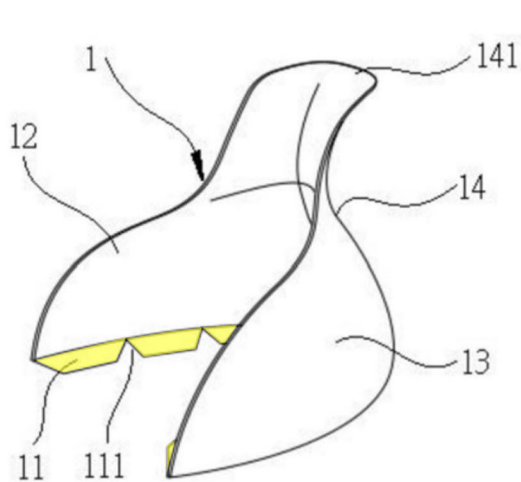


FIG. 1

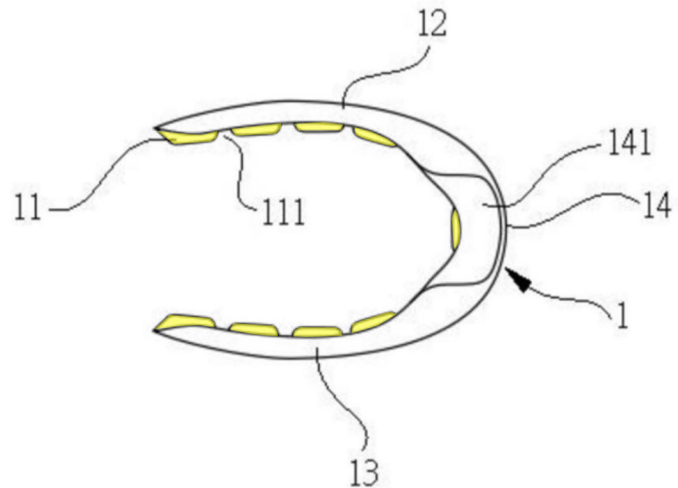


FIG. 2

Id., Figs. 1, 2 (emphasis added). This horizontal embedding portion 11 extends from within the sole portion by being “clamped and fixed between a sole 21 and an insole 22 of the shoe 2.” *Id.*, ¶24. Figures 3 and 4, reproduced below, show the counter heel cup inserting device 1 and its embedding portion 11 (highlighted yellow) extending from within sole portion (highlighted green):

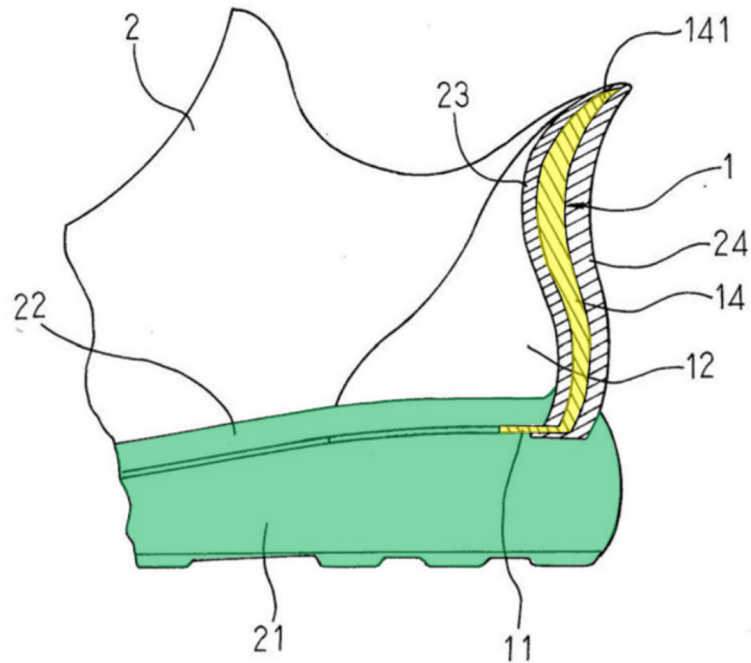


FIG. 3

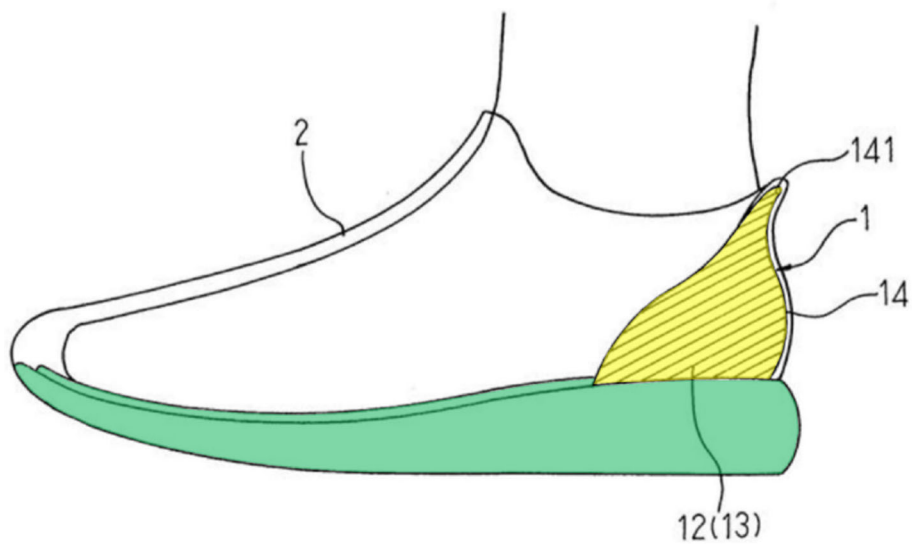


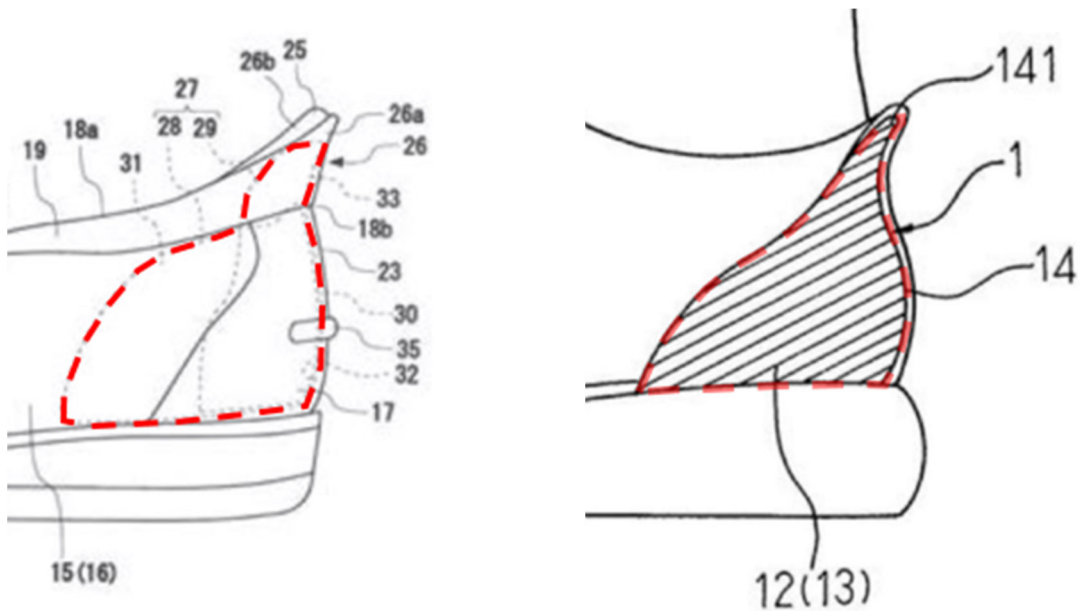
FIG. 4

Id., Figs. 3, 4 (emphasis added). Hongren explains that this configuration “enhanc[es] the convenience of putting on and taking off the shoes, while ensuring stability and comfort during walking.” *Id.*, ¶1.

B. Combining Takahashi and Hongren

A POSITA would have had reasons to combine Hongren's counter heel cup with Takahashi's shoe and a reasonable expectation of success in doing so.

For example, Takahashi and Hongren address similar technology based on similar design incentives—heel structures facilitating easier entry into a shoe, without using hands. Takahashi's teachings on this subject are discussed in Section IX(B), and are incorporated by reference. Like Takahashi, Hongren seeks to "enhanc[e] the convenience of putting on and taking off the shoes," and expressly denounces prior art usage of "shoelaces" or "a shoehorn to assist in putting on the shoes," which "mak[e] the process of putting on and taking off quite troublesome." Hongren ¶¶1-2. Both references are expressly based on a heel counter bearing substantial similarities in shape, positioning, and configuration, as shown by the side-by-side comparison of Takahashi's Figure 1 and Hongren's Figure 3 below, with the shape of the counter annotated in red:



Takahashi Fig. 1, Hongren Fig. 4 (both cropped, emphasis added). Accordingly, a POSITA designing a shoe to not require bending over, using hands, or using a shoehorn, would have been motivated to combine Takahashi and Hongren. *See ZUP*, 896 F.3d at 1371; *Ruiz*, 357 F.3d at 1276.

Further, combining Takahashi and Hongren would have been an obvious combination of prior art elements according to known methods, yielding predictable results. Hongren's horizontal embedding portion could easily be added to Takahashi's counter in the same configuration taught by Hongren (e.g., attached to the bottom of the counter and affixed beneath the insole) to yield the predictable result of better attaching and stabilizing Takahashi's counter. Incorporating Hongren's embedding portion would also have been a natural extension of the flange included Takahashi's heel counter:

[FIG. 4]

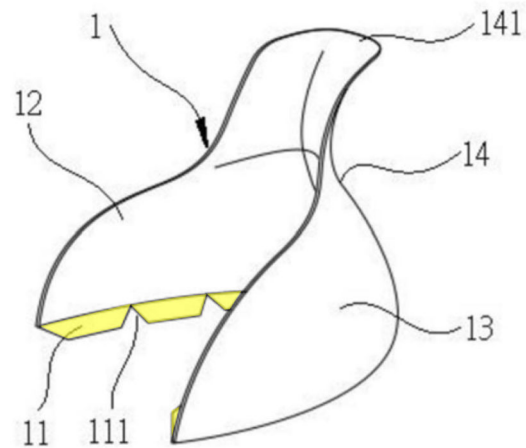
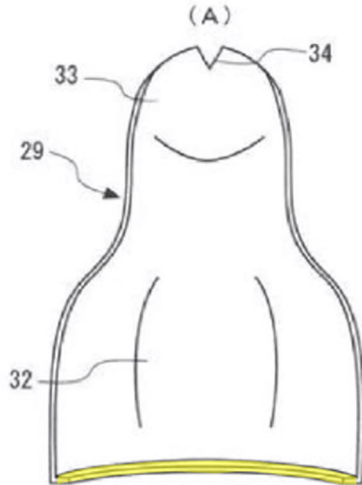


FIG. 1

Takahashi, Fig. 4A; Hongren, Fig. 1 (emphasis added). This would also promote Hongren's goal of "ensuring stability and comfort during walking," Hongren, ¶1, and Takahashi's goal of improving the "ease of putting on a shoe ... while maintaining the shape of the heel portion," Takahashi, ¶26.

Combining Takahashi and Hongren would also be a simple substitution of one known element for another to obtain predictable results. For example, Takahashi describes affixing its counter by situating it inside the heel portion, which in turn is "joined by sewing." *See, e.g.,* Takahashi, ¶¶49, 80-81. Hongren's embedding portion could be simply substituted for this affixing structure to provide the same securement of the counter within the heel portion of the shoe.

There would also have been a reasonable expectation of success combining Takahashi and Hongren. Each component would act in the same way in the combination as it did in the original reference (e.g., Hongren's horizontal embedding

portion would continue to provide securement and stability to Takahashi's counter). Additionally, the materials and techniques for making and using the components of Hongren proposed for combination with Takahashi were standard at the time of the invention; as discussed in Section IX(B), heel counters were conventional footwear components long before the invention. *See, e.g.*, EX1023, p.5, 7, 9, 12, 16, 17; EX1025; EX1005, ¶¶19-31; EX1026; EX1027. It would thus have been well within a POSITA's ability to modify Takahashi's counter according to Hongren, and there would be a good degree of predictability in substituting Hongren's components within Takahashi's shoe. Furthermore, the reasonable expectation of success is implicitly shown through the prior art references themselves, as well as within the further obviousness analysis herein.

XI. GROUND 1D: CLAIM 1 IS OBVIOUS OVER TAKAHASHI, SHIN, AND HONGREN

As detailed above, claim 1 is anticipated by Takahashi, and is further obvious over Takahashi in view of either Shin or Hongren. Claim 1 is further obvious over Takahashi in view of both Shin and Hongren.

A. Claim 1

The combination of Takahashi, Shin, and Hongren would include all elements of claim 1. The teachings of Takahashi, Shin, and Hongren as to the elements of claim 1 are discussed in Sections VIII-X, and are incorporated herein by reference.

B. Combining Takahashi, Shin, and Hongren

A POSITA would have been motivated to combine Hongren's counter heel cup and Shin's support member with Takahashi's shoe, and would have had a reasonable expectation of success in doing so.

The motivations to combine Takahashi and Shin and Takahashi and Hongren are discussed in detail in Sections IX(B) and X(B), which are incorporated by reference and equally applicable herein. For example, all three references address the same problem—easier donning and doffing for improved wearer convenience and comfort—and disclose heel structures designed to resolve it. *See, e.g.*, Takahashi ¶1; Hongren, ¶2; Shin, 1:47-50; EX1011, ¶1; EX1014, ¶8. As each address the same “problem to be solved”—a shoe that does not require hands to don—a POSITA would have had reason to consider them together. *See Ruiz*, 357 F.3d at 1276-77. Similarly, combining Takahashi, Shin, and Hongren would have been an obvious combination of prior art elements according to known methods to yield predictable results. For example, as discussed in Section X(B), Hongren's horizontal embedding portion could easily be added to Takahashi's counter in the same configuration as Hongren (e.g., affixed beneath the insole), providing the predictable result of better attaching and stabilizing Takahashi's counter. Hongren, Figs. 1, 3, ¶24. This goal—better attaching and stabilizing the heel counter—is also reflected in Shin's use of a slot within the sole in which to insert its heel support

member and/or a bottom plate affixed in the sole. Shin, Figs. 8, 10, 5:65-67, 6:38-43; EX1011, ¶¶73, 84-86; EX1014, ¶¶75, 84-86. Similarly, Shin's foam liner could easily be incorporated into Takahashi's heel counter as discussed in Section IX(B), yielding the predictable result of enhancing wearability, fit, and comfort, Shin, Figs. 5-7; 5:34-37; EX1011, ¶65; EX1014, ¶68, while enhancing Takahashi's "lining" with "an appropriate cushioning property" on the heel portion, Takahashi, ¶54. This would also promote Hongren's goal, "ensuring stability and comfort during walking." Hongren, ¶1.

XII. GROUND 1E: CLAIM 1 IS OBVIOUS OVER TAKAHASHI AND MURRAY

As explained above, Takahashi anticipates claim 1. Claim 1 is further obvious over Takahashi in view of Murray (EX1019), which also discloses at least element 1[i] and supplements Takahashi's disclosure of that element.

A. Claim 1

- *1[i]: "wherein the rapid-entry shoe comprises a foam liner oriented concave toward the sole portion; and"*

The combination of Takahashi and Murray would include element 1[i]. Murray, Abstract; Figs. 1, 3, 6, 7; 1:4-46, 2:3-37, 2:47-64; claim 1. For example, Murray discloses a shoe having a "first insert 15" and a "second insert 17" comprising "foam material" that "is resilient or spongy" and configured to "hold the foot" in the shoe "with no tendency to pull out," while also being "resilient or spongy

enough to give way whenever it is desired” to don or doff the shoe. *Id.*, 2:8-38. Murray explains, “the inserts comprising a body of foam rubber or plastic covered with cloth” are “attached to ordinary boots and shoes to achieve a tight comfortable fit. *Id.*, 1:31-35. “[T]he first insert 15 acts to hold the foot tightly in contact with the rear insert 17,” which in turn is positioned “just below the wearer’s interior ankle bone D of tibia E and extending around the heel to the outside of the foot A,” forming a “semicircle” around the heel. *Id.*, 2:19-27. This “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.*, 2:29-34. Figures 1 and 3 show the first and second insert are oriented concave toward the sole of the shoe:

FIG. 1.

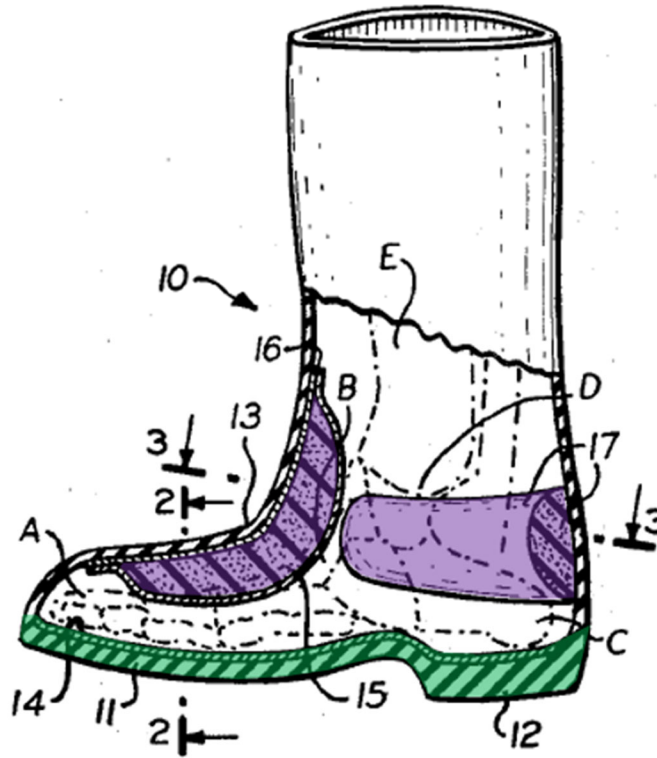
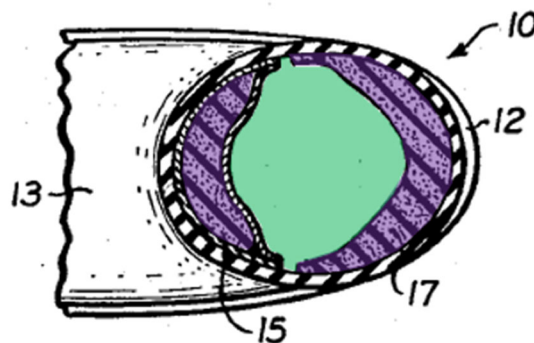


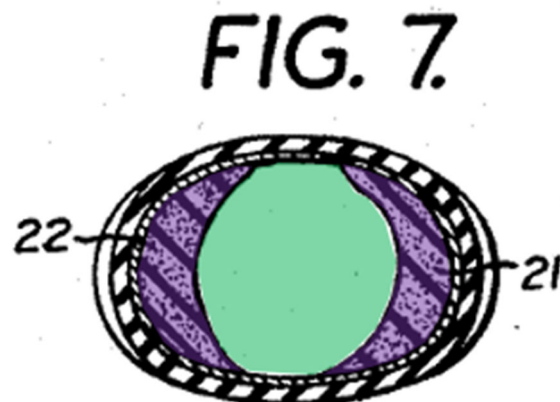
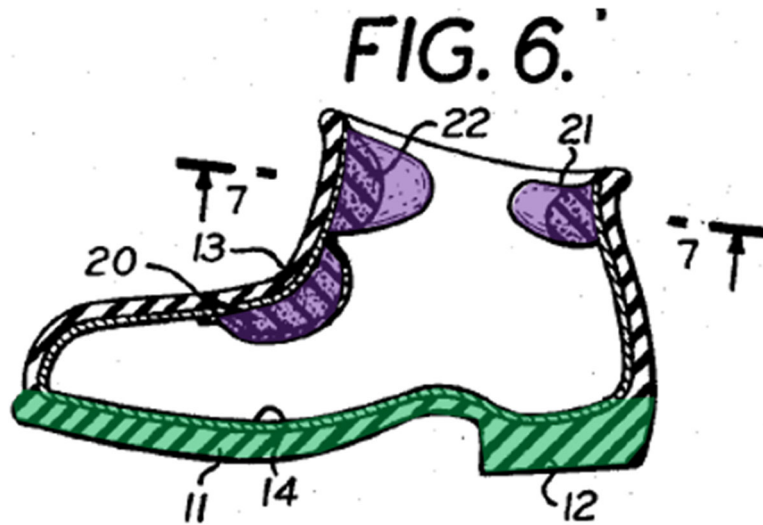
FIG. 3.



Id., Figs. 1, 3 (emphasis added).

Murray also teaches an embodiment of “footwear without an extended upper,” in which “first insert 20 is positioned at the instep,” “second insert 21 is positioned around the rear portion of the shoe top,” and “third insert 22 is secured near the upper

edge of the front portion of the upper.” *Id.*, 2:53-57. This “keeps the foot firmly engaged within the footwear” and “absorbs the play which otherwise may exist around the ankle. The result is a comfortable fit” for a user. *Id.*, 2:61-64. These inserts are oriented concave toward the sole portion:



Id., Figs. 6, 7 (emphasis added).

B. Combining Takahashi and Murray

A POSITA would have had reasons to combine Murray's foam inserts with Takahashi's shoe and a reasonable expectation of success.

Like Takahashi, Murray is primarily concerned with easy donning and doffing via its technology. Murray, 1:38-40 ("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 both address the same "problem to be solved," a POSITA would have been motivated to consider both when designing an easy-to-wear shoe. *Ruiz*, 357 F.3d at 1276.

Combining Takahashi and Murray would also have been an obvious combination or substitution of prior art elements according to known methods to yield predictable results. Murray's foam inserts could easily be incorporated into Takahashi's heel counter in the configuration taught by Murray (e.g., "stitched or otherwise secured" to an inner surface of the counter and/or an inner surface of an instep) to yield the predictable result of enhancing wearability, fit, and comfort. Murray, Figs. 1, 3, 6, 7; 2:17-18. Doing so would augment Takahashi's teaching of a "lining" with a "cushion body (e.g., sponge)" on the inner surfaces of the heel portion to provide "an appropriate cushioning property." Takahashi, ¶54.

Similarly, combining Takahashi and Murray would be the use of a known technique to improve similar devices in the same way. As explained in Section IX,

heel retention was a known problem in the art, with an understood solution of a “heel liner” at “the inside back of the heel’s counter” to “prevent heel slippage.” EX1023, p.12. Incorporating Murray’s foam inserts into Takahashi’s shoe serves exactly this purpose, “keep[ing] the foot firmly engaged within the footwear,” Murray, 2:60-63, thus promoting Takahashi’s goal of 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 would thus have been motivated to combine Takahashi and Murray given these synergies. *See Intel*, 61 F.4th at 1380-81.

A POSITA would have a reasonable expectation of success in combining Murray and Takahashi. As discussed above, incorporating Murray’s inserts would yield predictable results, as each component in the combination would act in the same way in the combination as it did in the original reference (e.g., Murray’s inserts would provide the same cushioning, support, and heel retention). Additionally, the materials and techniques for making and using Murray’s foam inserts in combination with Takahashi’s counter were standard long before the invention. *See, e.g.*, EX1023, p.5, 7, 9, 12, 16, 17; EX1005, ¶¶19-31, 37-43; EX1025; EX1026; EX1027. A POSITA would be able to easily make slight modifications to size, shape, and orientation of these components based on the particularities of Takahashi’s shoe, heel, and counter to accommodate Murray’s inserts without substantial experimentation or modifications. Further, reasonable expectation of success is

implicitly shown via the prior art references themselves, as well as within the further obviousness analysis herein.

XIII. GROUND 1F: CLAIM 1 IS OBVIOUS OVER TAKAHASHI, HONGREN, AND MURRAY

As detailed above, claim 1 is anticipated by Takahashi, and is further obvious over Takahashi in view of either Murray or Hongren. Moreover, claim 1 is further obvious over Takahashi in view of both Murray and Hongren.

A. Claim 1

The combination of Takahashi, Murray, and Hongren would include all elements of claim 1. The teachings of these references as to the elements of claim 1 are discussed in Sections VIII and X-XII, and are incorporated herein by reference.

B. Combining Takahashi, Murray, and Hongren

A POSITA would have been motivated to combine Hongren's counter heel cup and Murray's foam inserts within Takahashi's shoe and would have had a reasonable expectation of success in doing so. The motivations to combine Takahashi and Hongren and Takahashi and Murray are discussed in detail in Sections X(B) and XII(B), which are incorporated by reference and equally applicable herein. For example, all three facilitate easier entry and removal of footwear and improved convenience and comfort. *See, e.g.*, Takahashi ¶1; Hongren, ¶2; Murray, 1:38-40. As they are each directed to the same "problem to be solved"—

a shoe that would not require bending over or using hands—a POSITA would have had reason to consider them together. *See Ruiz*, 357 F.3d at 1276-77.

Similarly, the combination of Takahashi, Murray, and Hongren would have been an obvious combination of prior art elements according to known methods to yield predictable results. For example, as discussed in Section X(B), Hongren's horizontal embedding portion could easily be added to Takahashi's counter in the same configuration as Hongren (e.g., affixed beneath the insole), providing the predictable result of better attaching and more fully stabilizing Takahashi's counter. Hongren, Figs. 1, 3, ¶24. This would also promote Murray's goal of "keep[ing] the foot firmly engaged within the footwear" and "absorb[ing] the play which otherwise may exist around the ankle." Murray, 2:60-63. Likewise, Murray's foam inserts could easily be incorporated into Takahashi's heel counter as discussed in Section XII(B), yielding their predictable benefit of enhanced heel retention, fit, and comfort, *id.*, 2:29-34, 2:61-64, and further improving Takahashi's heel lining with "an appropriate cushioning property," Takahashi, ¶54. This would also advance Hongren's goal, "ensuring stability and comfort during walking." Hongren, ¶1.

XIV. GROUND 2A: CLAIM 1 IS OBVIOUS OVER KIM AND SHIN

All limitations of claim 1 are obvious over the combination of Kim (EX1021) and Shin.

A. Claim 1

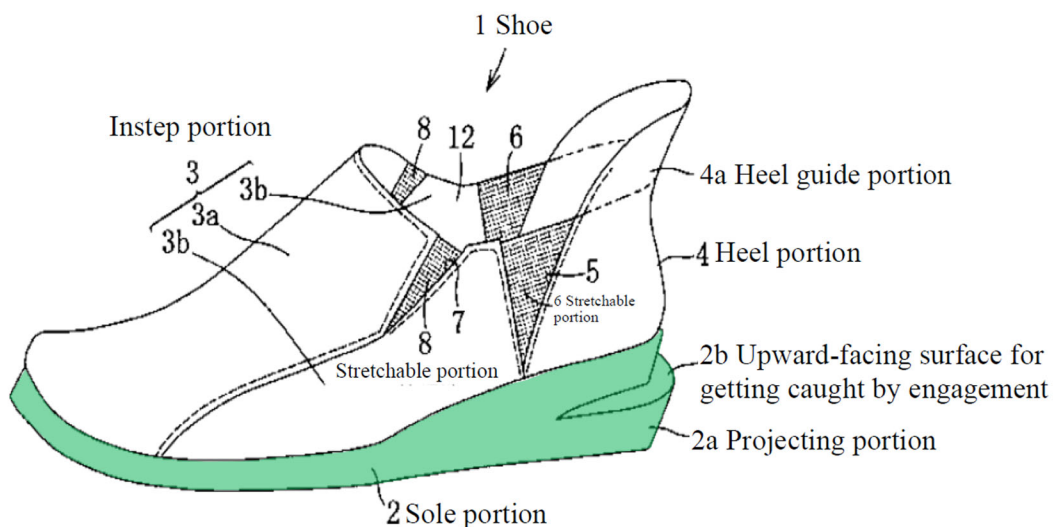
- ***1[pre]: “A rapid-entry shoe comprising:”***

Kim teaches a rapid-entry shoe. *See, e.g.*, Kim, Abstract; ¶¶13, 38. As noted above, the '006 Patent explains that a “rapid-entry shoe” refers to any “suitable type of shoe.” '006 Pat., 4:8-13. Kim provides such a shoe, disclosing “a shoe that can be easily put on and taken off by people who cannot bend down, such as elderly people, physically disabled people and pregnant women.” Kim, Abstract.

- ***1[a]: “a sole portion and an upper, the upper comprising a rear portion, a forward portion, and a side portion, the side portion extending between the rear portion and the forward portion;”***

Kim discloses element 1[a]. First, Kim discloses “a sole portion.” *See, e.g.*, Kim, Figs. 1, 3-7; Claim 1; ¶¶7, 22-24. For example, Kim discloses a shoe with “2 Sole portion,” annotated with green highlighting in Figure 1 below:

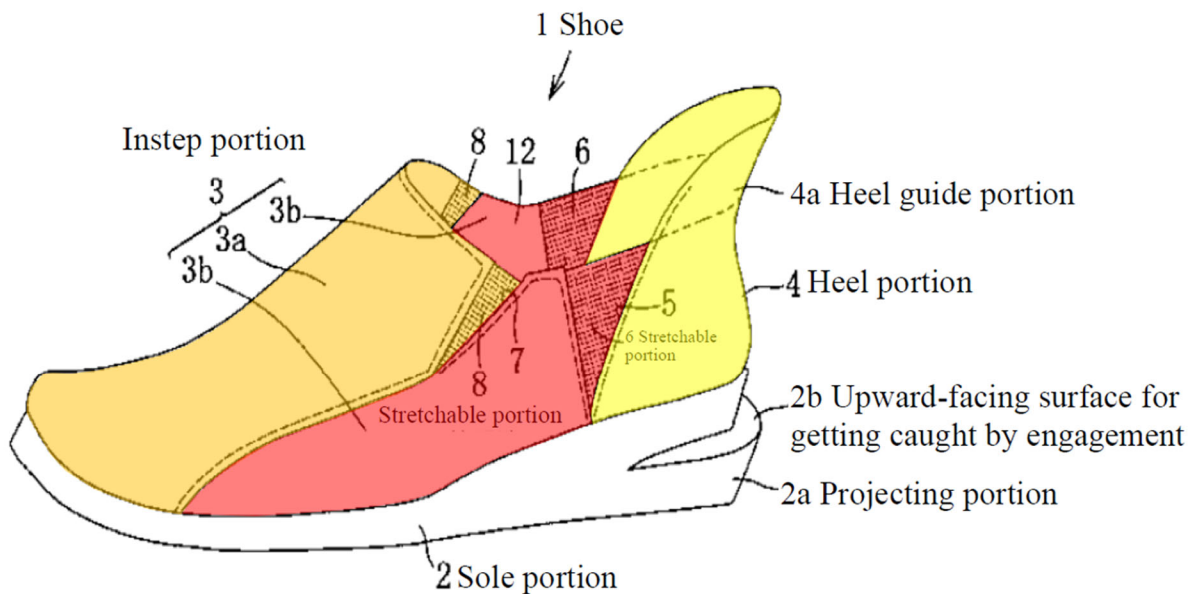
[FIG. 1]



Kim, Fig. 1 (emphasis added); *see also id.*, Figs. 3-7 (similar).

Second, Kim discloses “an upper, the upper comprising a rear portion, a forward portion, and a side portion, the side portion extending between the rear portion and the forward portion.” Like Takahashi, Kim’s upper includes everything above the sole,⁷ and includes a rear portion (“4 heel portion”), a side portion (“instep portion ... 3b”), and a forward portion (“instep portion ... 3a”). *Id.*, Figs. 1, 3-7. Petitioner has highlighted the forward, side, and rear portions in Figure 1 below in orange, red, and yellow respectively:

[FIG. 1]



Kim, Fig. 1; *see also id.*, Figs. 3-5 (same), *id.*, ¶22 (“As shown in FIG. 1, a shoe 1 includes ... an instep portion 3 covering the upper surface side and lateral surface

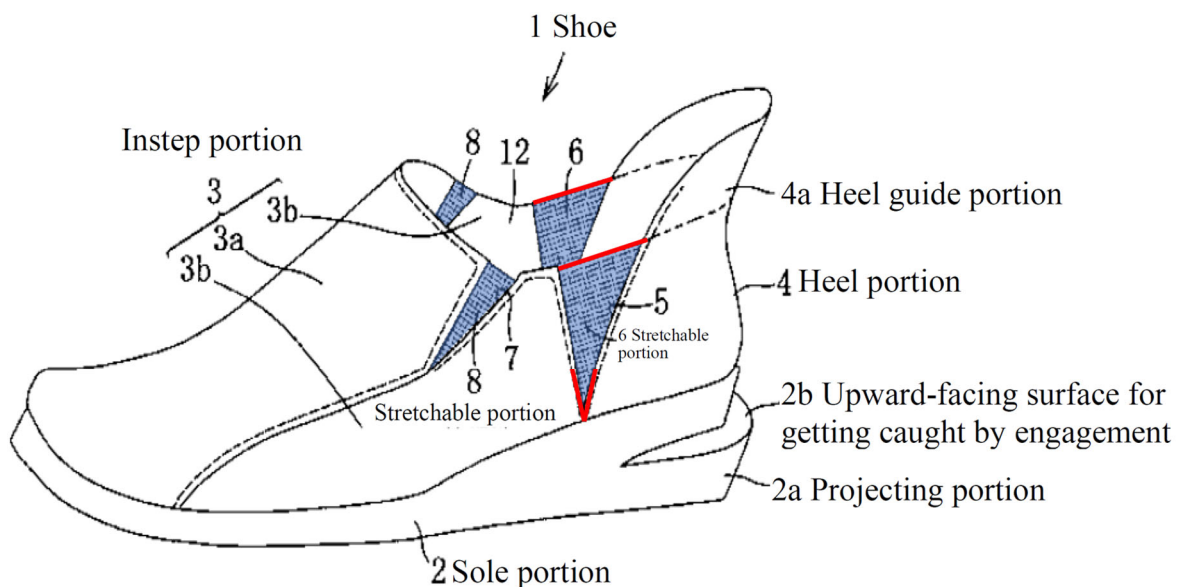
⁷ *See, e.g.*, EX1023, p.17.

sides of the instep of the foot, a heel portion 4 covering the outside of the heel of the foot”).

- ***1[b]: “an elastic element disposed at the side portion, the elastic element extending to and forming a portion of a topline of the rapid-entry shoe, and the elastic element further extending to the sole portion;”***

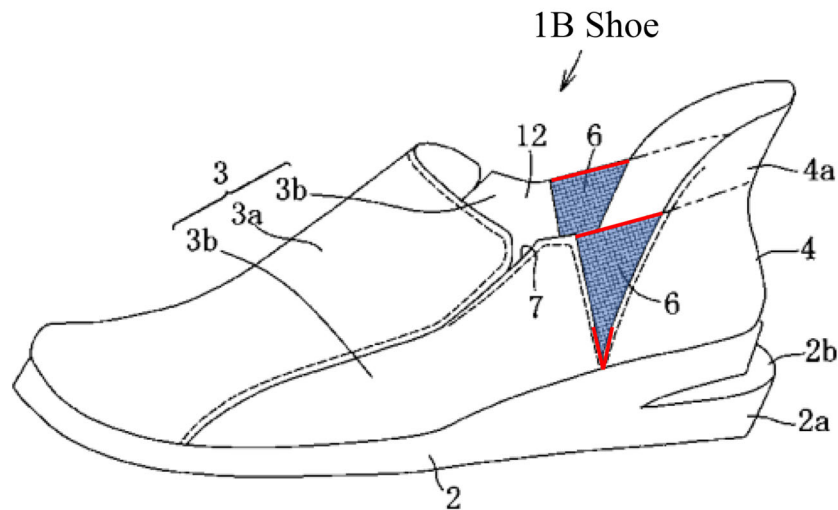
Kim discloses element 1[b]. *See, e.g.,* Kim, Figs. 1, 3, 4, 5, 6, 7; Abstract; Claims 1, 4; ¶¶15, 22, 25, 29, 30, 36, 37, 38. For example, Kim discloses elastic “6 Stretchable portion[s]” adjacent to the lateral surface sides and extending from a topline of the shoe to the sole, and “8 Stretchable portion[s]” adjacent to the instep portion. Petitioner has annotated Figure 1 below, showing the elastic elements in blue and the “6 Stretchable portion[s]” extending to the topline and sole:

[FIG. 1]



Kim, Fig. 1 (emphasis added). Kim describes “two pairs of stretchable portions 6, 8 composed of a stretchable woven fabric member at the boundary between the instep portion 3 and the heel portion 4 and in the vicinity thereof.” *Id.*, Abstract. Kim also provides an example with only one pair of stretchable portions:

[FIG. 4]



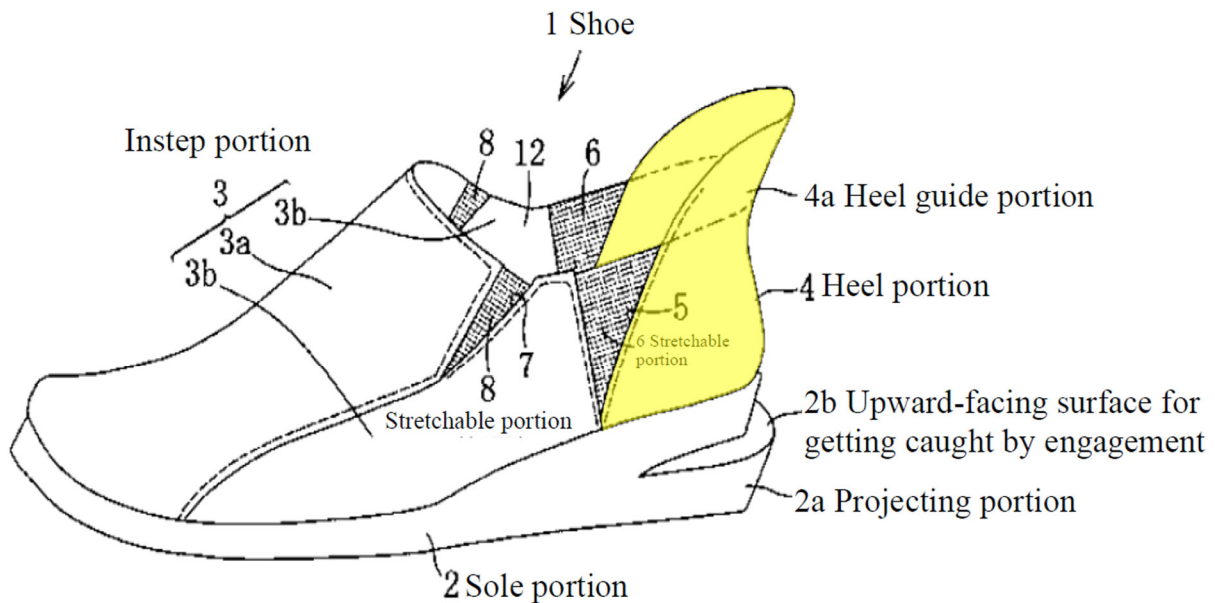
Kim, Fig. 4 (emphasis added).

- ***1[c]: “a stabilizer disposed at the rear portion and extending from within the sole portion, the stabilizer comprising a base portion at least partially within the sole portion and an elevated portion;”***

The combination of Kim and Shin would include element 1[c]. *See, e.g.*, Kim Figs. 1, 3-7; Claim 1, 2; ¶¶7, 9, 13, 16, 22, 26, 29, 31. Shin's teachings regarding element 1[c] are discussed in Section IX and incorporated by reference herein.

Furthermore, Kim discloses a shoe with a “4 Heel portion” and “4a Heel guide portion,” which Petitioner has highlighted yellow in Figure 1:

[FIG. 1]

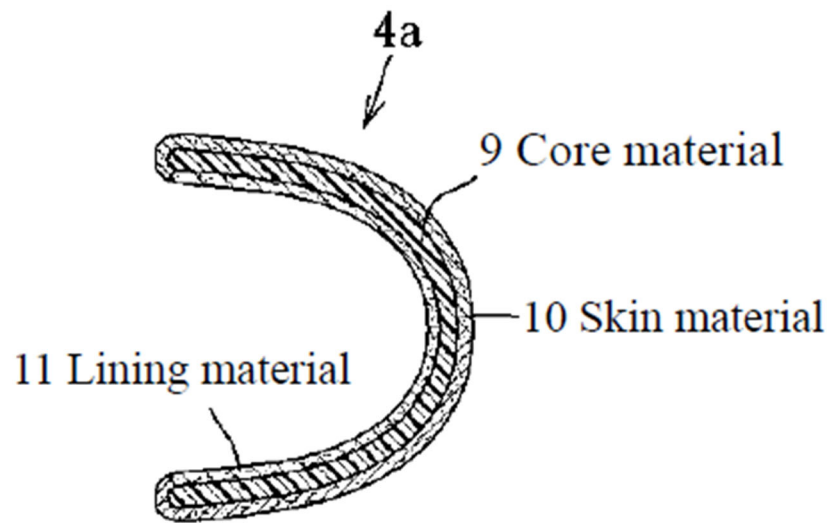


Id., Fig. 1; *see also id.*, Figs. 3-7 (same). Kim's shoe "includes a heel guide portion integrally projecting from the upper end of the heel portion and curving in a slope to go backward as it goes upward" to guide a foot into the shoe. *Id.*, ¶7. "The heel portion 4 and the heel guide portion 4a are composed of a hard core material 9 ... so a sufficient strength can be ensured in the heel portion 4 and the heel guide portion 4a, and the heel portion 4 and the heel guide portion 4a can be prevented from losing their shape." *Id.*, ¶31.

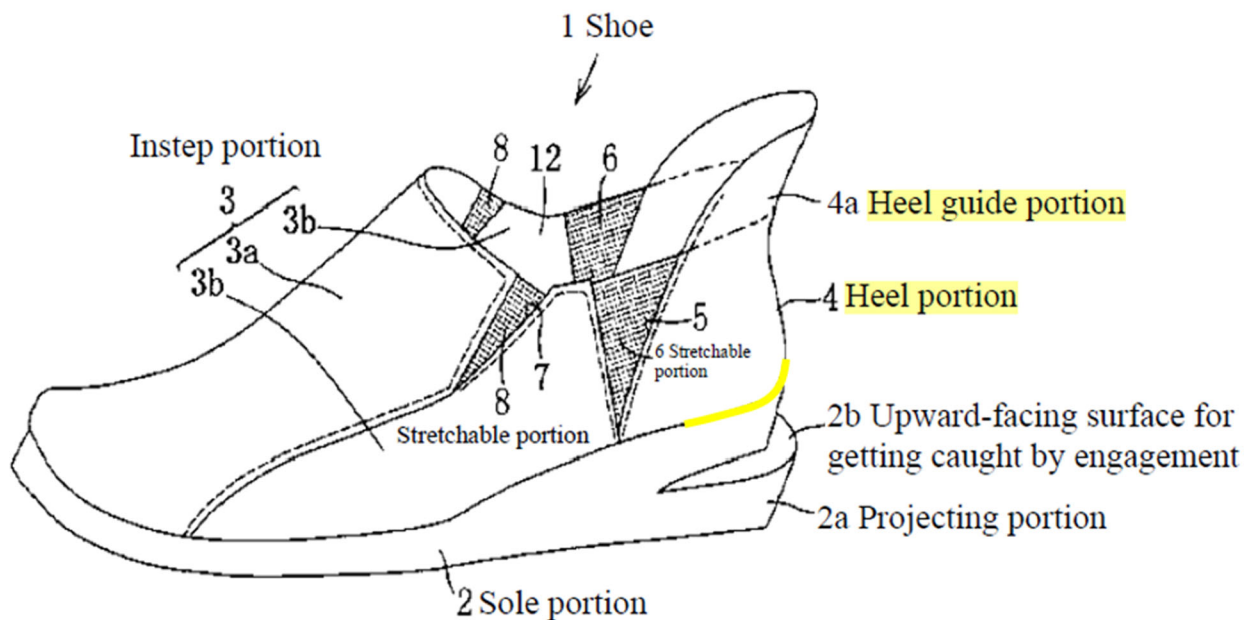
- ***1[d]: "wherein the base portion of the stabilizer defines a closed cup portion extending completely between lateral and medial sides of the sole portion;"***

Kim discloses element 1[d]. *See, e.g.*, Kim, Figs. 1, 3, 4, 5, 6, 7; Claim 1, 2; ¶¶7, 9, 13, 16, 22, 26, 29, 31. For example, Kim discusses "a heel portion covering

the outside of the heel of the foot.” Kim, ¶7. Kim shows a horizontal cross-sectional view of the heel portion, illustrating its closed cup shape:



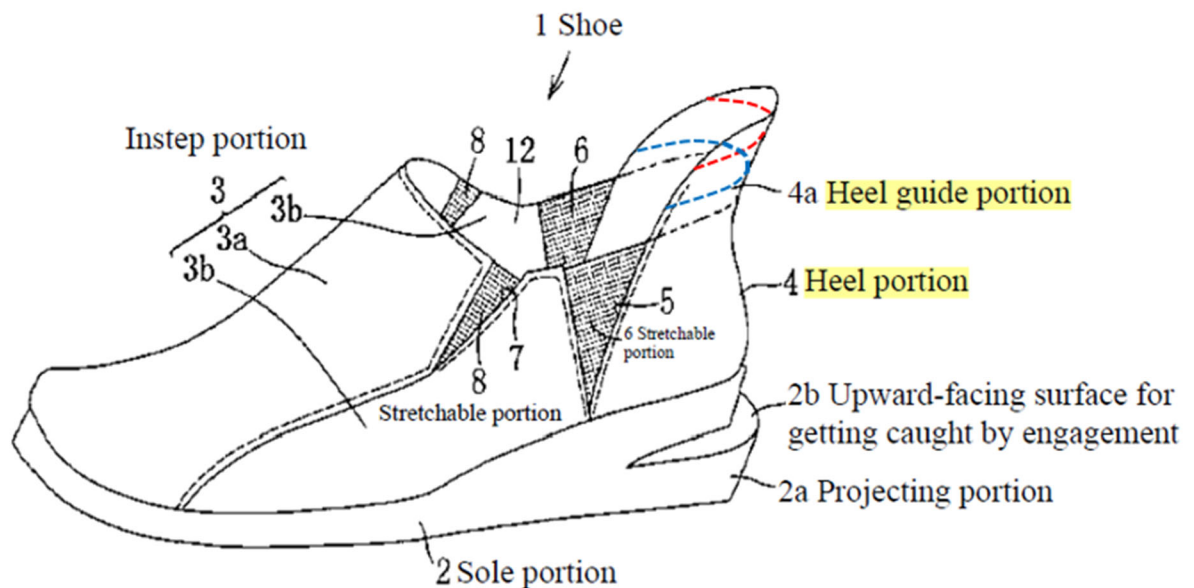
Id., Fig. 2. It is further evident from Figure 1 that the heel portion extends from lateral to medial sides of the sole:



Id., Fig. 1 (emphasis added).

- **1[e]:** “wherein the stabilizer comprises a curvature between its lateral and medial sides, and wherein, from the base portion toward the elevated portion, the curvature extends progressively less between its lateral and medial sides;”

Kim discloses element 1[e]. See, e.g., Kim, Figs. 1, 3, 4, 5, 6, 7; Claim 1, 2; ¶¶7, 9, 13, 16, 22, 26, 29, 31. For example, Kim shows the heel guide portion curving from medial to lateral sides with a tapering mediolateral width from the bottom of the heel guide portion toward the top:



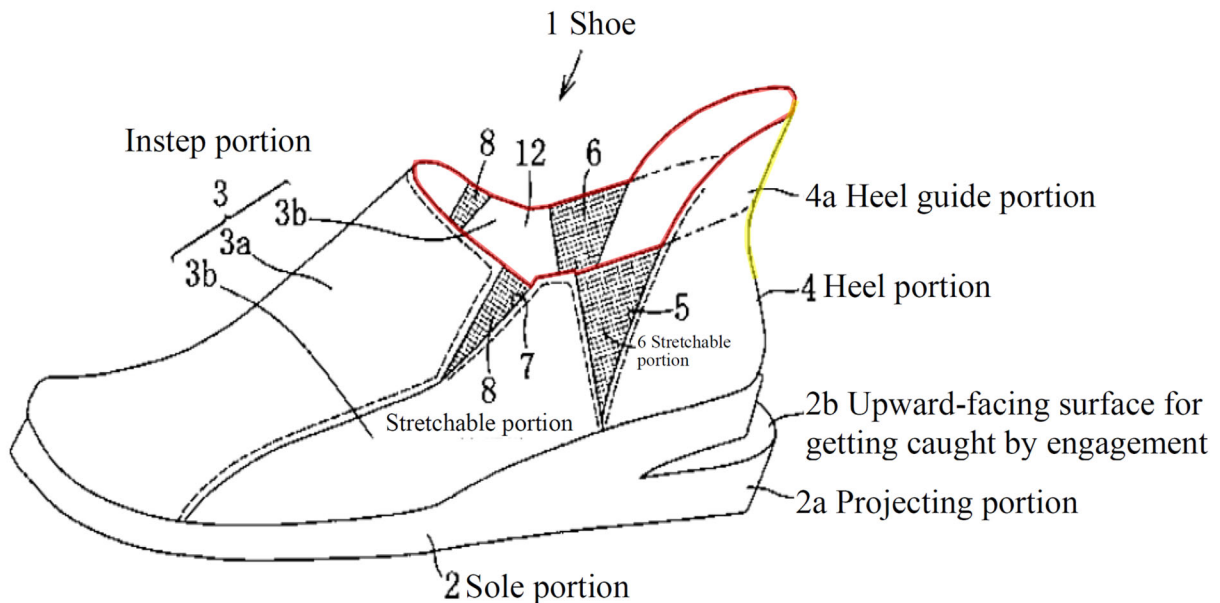
Kim, Fig. 1 (emphasis added).

- **1[f]:** “wherein the elevated portion of the stabilizer comprises a flare portion extending rearward to direct a foot into a foot opening of the rapid-entry shoe;”

Kim discloses element 1[f]. See, e.g., Kim, Figs. 1, 3, 4, 5, 6, 7; Claim 1, 2; ¶¶7, 9, 13, 16, 22, 26, 29, 31. For example, Kim explains that “when putting on the

shoe,” the user “pushes the heel of the foot into the inside of the heel portion while sliding it along the heel guide portion,” which “allow[s] the user to easily put on the shoe without bending down.” *Id.*, ¶13. Figure 1 shows that Kim’s heel and heel guide portions flare rearward (highlighted yellow) to guide the wearer’s foot into foot opening (highlighted red):

[FIG. 1]



Kim, Fig. 1 (emphasis added).

- **1[g]: “wherein expansion or deformation of the elastic element enlarges the foot opening of the rapid-entry shoe, and wherein contraction of the elastic element reduces the foot opening of the rapid-entry shoe;”**

Kim discloses element 1[g]. See, e.g., Kim, ¶¶15, 25, 30. For example, Kim states, “at least one pair of stretchable portions are included which are provided at the boundary portion between the instep portion and the heel portion or in the

vicinity thereof, so when the shoes are put on or taken off, the one pair of stretchable portions stretches, and thereby the opening of the shoe expands, making it easier to put on or take off the shoe.” *Id.*, ¶15. As Kim explains with respect to Figure 1:

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

Id. ¶25 (emphasis added). The elasticity of Kim’s stretchable portions ensures that they contract to reduce the foot opening when the foot has entered the shoe and/or when the foot is removed from the shoe. EX1005, ¶¶33-36.

- ***1[h]: “wherein the stabilizer is comprised of a rigid material such that the rear portion of the upper at which the stabilizer is disposed is configured to resist downward collapse;”***

Kim discloses element 1[h]. *See, e.g.*, Kim, Fig. 2; Claim 3; ¶¶10, 17, 26, 27, 31. For example, Kim states, “[t]he heel portion 4 and the heel guide portion 4a are composed of a hard core material 9 ... so a sufficient strength can be ensured in the heel portion 4 and the heel guide portion 4a, and the heel portion 4 and the heel guide portion 4a can be prevented from losing their shape.” *Id.*, ¶31.

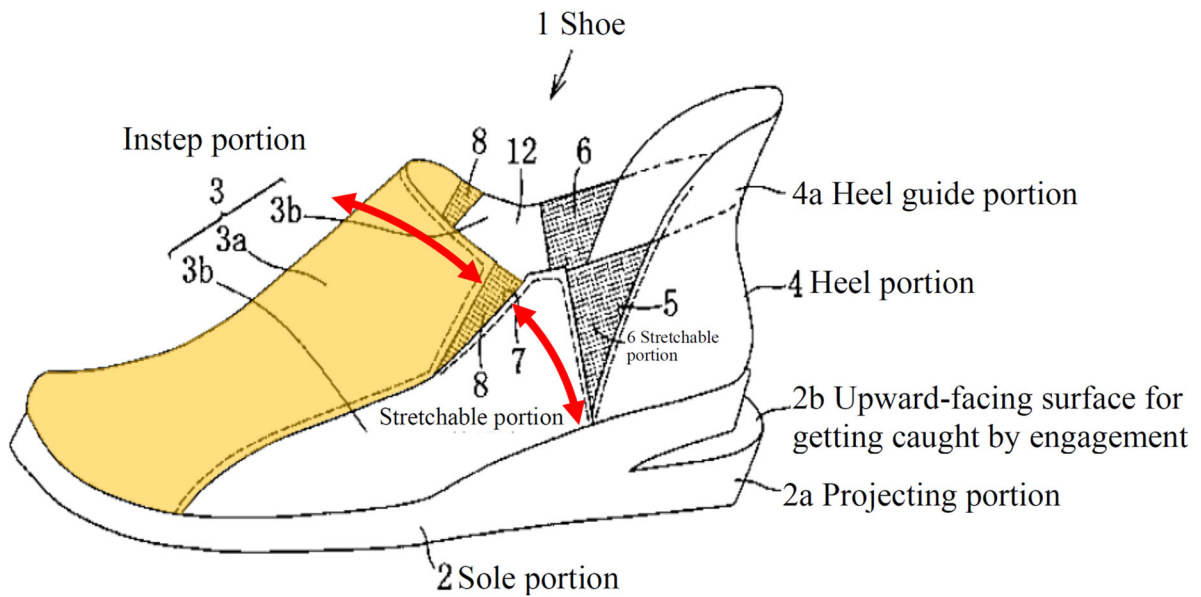
- ***1[i]: “wherein the rapid-entry shoe comprises a foam liner oriented concave toward the sole portion; and”***

The combination of Kim and Shin would include element 1[i]. Shin’s teaching regarding claim element 1[i] is discussed in Section IX and is incorporated by reference herein.

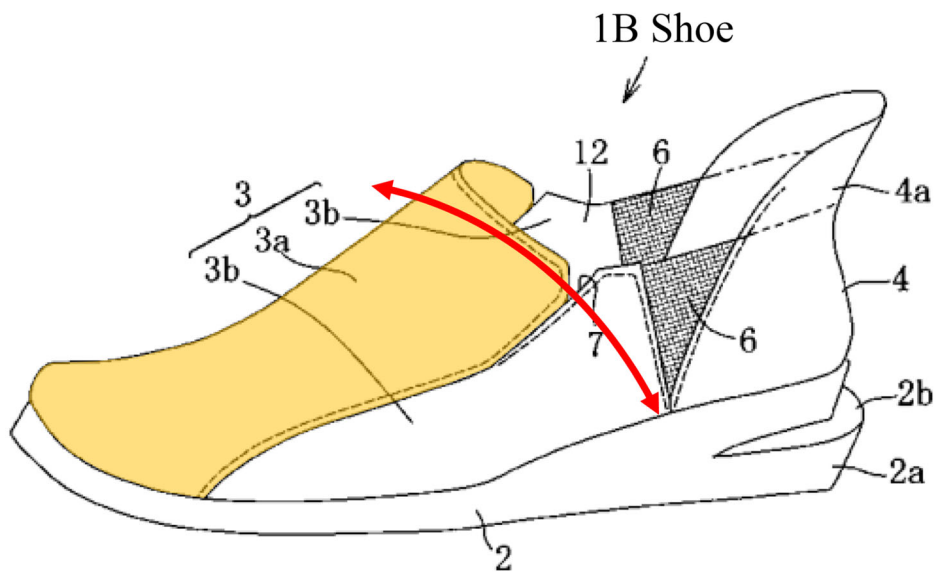
- ***1[j]: “wherein the elastic element is configured to enable the forward portion of the rapid-entry shoe to flex and/or pivot forward relative to the sole portion.”***

Kim discloses element 1[j]. *See, e.g., Kim, ¶¶15, 25, 29, 30.* For example, Kim explains that “[t]he instep portion 3, the two pairs of stretchable portions 6, 8, and the upper end portion of the heel guide portion 4a form a shoe opening 12” which “expands when the two pairs of stretchable portions 6, 8 stretches.” *Id.*, ¶25. The forward portion (“instep portion ... 3a”) thus flexes and/or pivots upward and forward relative to the sole portion because the entire “shoe opening 12” expands when the stretchable portions stretch, and the instep portion 3a forms a part of that shoe opening. Figures 1 and 4, annotated by Petitioner below, illustrate this flexure/pivoting:

[FIG. 1]



[FIG. 4]



Id., Figs. 1, 4; Moreover, a POSITA would understand from these disclosures, and the structure of Kim's shoes as shown for example in Figures 1, 3, 4 and 5, that the forward portion of the shoe would flex and/or rotate forward/upward relative to the

sole upon insertion of the foot in order to accommodate the stated expansion of the foot opening. EX1005, ¶¶33-36.

B. Combining Kim and Shin

A POSITA would have had reasons to combine Shin's support member with Kim's shoe and a reasonable expectation of success in doing so.

For example, both disclose heel structures that facilitate easy entry of a wearer's foot, allowing donning and removal without bending down or using hands. *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”); EX1011, ¶1; EX1014, ¶8. Indeed, both designs bear strong similarities based on a heel counter and are explicitly geared toward alleviating the need for facilitating devices like shoehorns. Kim, ¶3 (“It is not practical to place a shoehorn in every place where shoes are worn, and additionally it is troublesome to carry a small shoehorn.”); Shin, 1:47-50 (describing “a functional shoe that a wearer may easily put on ... without using his/her finger or an auxiliary tool such as a shoehorn.”); EX1011, ¶1; EX1014, ¶8. Moreover, both designs expressly teach use of flared heel counters 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); EX1011, ¶93; EX1014, ¶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.”). A POSITA seeking to design an easy-to-wear shoe that does not require bending over, using hands, or using a shoehorn, would thus have reason to look to Kim and Shin.

Moreover, incorporating Shin’s heel support member and foam liner into Kim’s shoe would be a known technique to improve similar devices in the same way. As explained in Section IX(B), heel retention was a known problem in the art, and heel linings like Shin’s were a recognized solution to that problem. Incorporating Shin’s foam liner would thus predictably improve Kim’s shoe by promoting foot retention. *See Intel*, 61 F.4th at 1380-81.

The proposed combination would also have been an obvious combination of prior art elements according to known methods to yield predictable results. For example, Shin’s use of a slot within the sole to attach its support member, or a bottom plate affixed in the sole, Shin, Figs. 8, 10, 5:65-67, 6:38-43; EX1011, ¶¶73, 84-86; EX1014, ¶¶75, 84-86, could easily be added to Kim’s heel portion in the same configuration taught by Shin to yield the predictable result of better attaching and stabilizing Kim’s heel portion. Similarly, Shin’s elastic member could easily be incorporated into Kim’s heel portion and/or heel guide portion in the same configuration taught by Shin (e.g., attached to an inner surface of the heel portion and/or heel guide portion) to predictably enhance wearability, fit, and comfort. Shin, Figs. 5-7; 5:34-37; EX1011, ¶65; EX1014, ¶68. This would also further Kim’s

teaching of a “a soft lining material covering the inside of the core material [of the heel portion and the heel guide portion]” and would operate according to its ordinary function in this context. Kim ¶17.

Moreover, the proposed combination would constitute a simple substitution of one known element for another, obtaining predictable results. For example, Kim’s heel portion is “joined to the sole portion.” Kim, ¶24. Shin’s use of a slot within the sole in which to insert its heel support member, and bottom plate affixed in the sole, could be simply substituted to effect and/or enhance this joining. Shin, Figs. 8, 10, 5:65-67, 6:38-43; EX1011, ¶¶73, 84-86; EX1014, ¶¶75, 84-86. Similarly, Kim describes a “a soft lining material covering the inside of the core material” of its heel portion. Kim, ¶17. Substituting Shin’s foam liner for this soft lining would be straightforward and yield the same benefit of cushioning and secure fit.

There would also have been a reasonable expectation of success combining Shin and Kim. As discussed above, 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 support member and foam lining member would provide the same cushioning, heel retention, and support). As discussed in Section IX(B), the materials and techniques for making and using Shin’s foam lining and support member were standard at the time of the invention,

and there would be predictability in substituting 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 to accommodate those components without requiring substantial experimentation or unconventional modifications. The reasonable expectation of success is also implicitly shown via the prior art references themselves, and within the further obviousness analysis herein.

XV. GROUND 2B: CLAIM 1 IS OBVIOUS OVER KIM, HONGREN, AND MURRAY

As detailed above, claim 1 is obvious over the combination of Kim and Shin. Claim 1 is further obvious over Kim in view of Hongren and Murray.

A. Claim 1

The combination of Kim, Hongren, and Murray would include all elements of claim 1. The teachings of Kim discussed in Section XI, of Hongren in Section IX, and of Murray in Section X above are incorporated by reference as if fully set forth herein.

B. Combining Kim, Hongren, and Murray

A POSITA would have had reasons to combine Hongren's heel counter and Murray's foam inserts within Kim's shoe, and would have had a reasonable expectation of success in doing so.

Like Kim, Hongren and Murray are directed to easy donning and doffing, as explained in Sections X(B) and XII(B). A POSITA seeking implement an easy-to-wear shoe that does not require bending over, tying laces, or a shoehorn, would thus have reason to look consider them together, as they are each directed to the same “problem to be solved.” *See Ruiz*, 357 F.3d at 1276-77.

Moreover, combining Kim with Murray and Hongren would have been an obvious combination of prior art elements according to known methods to yield predictable results. For example, Murray’s foam inserts could easily be incorporated into Kim’s heel portion in their standard configuration (e.g., attached to the inside of the heel portion and/or an instep), yielding the predictable result of enhancing heel retention, fit, and comfort. Murray, Figs. 1, 3, 6, 7; 1:31-35. This would enhance Kim’s “soft lining material covering the inside of the core material,” Kim, ¶17, and Hongren’s goal of “ensuring stability and comfort during walking.” Hongren, ¶1. Similarly, Hongren’s embedding portion could easily be added to Kim’s heel portion in the same configuration taught by Hongren (e.g., attached to the bottom of the heel portion and affixed beneath the insole) to better attach and stabilize Kim’s heel portion. Hongren, Figs. 1, 3; ¶24.

Moreover, the proposed combination is a simple substitution of one known element for another to obtain predictable results. For example, Kim describes “a soft lining material covering the inside of the core material,” Kim, ¶17, and

substituting Murray's foam inserts for this soft lining would be straightforward and would yield the same cushioning and securement benefits. Murray, 1:31-35. Likewise, Kim's heel portion is "joined to the sole portion," Kim, ¶24, and Hongren's horizontal embedding portion could be substituted to enhance this joining.

There would also have been a reasonable expectation of success in making the proposed combination. As discussed above, the combination of known elements from the cited art would yield predictable results, as each component in the combination would be expected to act in the same way in the combination as it did in the original reference (e.g., the horizontal embedding portion of Hongren would continue to provide securement and stability to Kim's heel portion, and Murray's foam inserts would likewise provide the same cushioning and support). Additionally, the materials and techniques for making and using the components of Hongren and Murray that are proposed in combination with Kim were fairly standard at the time of the invention, and there would be a good degree of predictability in substituting those components within Kim's shoe. A POSITA would be able to easily make slight modifications to size, shape, and orientation of these components based on the particularities of the Kim shoe, heel portion, and counter to effectively accommodate those components without requiring any substantial experimentation or unconventional modifications. The reasonable expectation of success is also

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implicitly shown via the prior art references themselves, as well as within the further obviousness analysis herein.

XVI. CONCLUSION

As set forth above, the challenged claim of the '006 Patent is unpatentable.

Dated: April 24, 2026

Respectfully submitted,

/s/ Samuel K. Lu

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CERTIFICATE OF WORD COUNT

I hereby certify, pursuant to 37 C.F.R. section 42.24, that the foregoing Petition contains 13,771 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: April 24, 2026

/s/ 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. 11,633,006 and Exhibits are being served via Priority Mail Express on April 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:

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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:

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Pia Kamath