

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SKECHERS U.S.A., INC.,
“Petitioner”

v.

FAST IP, LLC,
“Patent Owner”

U.S. Patent No. 12,274,325

Title:

Rapid-Entry Footwear Having A Stabilizer and An Elastic Element

**PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 12,274,325**

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CLAIM LISTING

Claim Element	LIMITATION
1[pre]	A rapid-entry shoe comprising:
1[a]	a sole;
1[b]	an upper;
1[c]	a stabilizer provided at a rear portion of the sole and comprised of a rigid material, the stabilizer comprising:
1[d]	a base portion; and
1[e]	an elevated portion extending upward from the base portion, wherein:
1[f]	the base portion is proximate the sole and comprises:
1[g]	a lateral portion extending from a lateral side of the sole to a midportion of the base portion; and
1[h]	a medial portion extending from the midportion of the base portion to a medial side of the sole;
1[i]	wherein the lateral portion of the base portion, the midportion of the base portion and the medial portion of the base portion form a convex structure;
1[j]	wherein the midportion of the base portion of the stabilizer extends upward from the sole continuously between the sole and the elevated portion and at least partially surrounds a heel portion of the rapid-entry shoe, and wherein:
1[k]	the elevated portion extends rearward from a rear portion of the convex structure and acts as a shoehorn; and
1[l]	a foam liner coupled to the stabilizer between the medial portion of the base portion and the lateral portion of the base portion along the convex structure, at least a portion of the foam liner extending beyond at least one of the medial portion of the base portion and the lateral portion of the base portion and oriented downward toward the sole such that the foam liner acts to retain a heel within the heel portion of the rapid-entry shoe.
2	The rapid-entry shoe of claim 1, wherein the base portion of the stabilizer extends into the sole.

Claim Element	LIMITATION
3	The rapid-entry shoe of claim 1, wherein the elevated portion of the stabilizer extends to a top collar of the upper of the rapid-entry shoe.
4	The rapid-entry shoe of claim 1, further comprising an elastic element disposed on a side portion of the upper and forward relative to the rear portion.
5	The rapid-entry shoe of claim 4, wherein the upper defines a foot opening and wherein the elastic element enlarges the foot opening of the rapid-entry shoe in response to a foot being inserted into the opening and contacting at least a portion of the upper.
6	The rapid-entry shoe of claim 4, wherein the elastic element forms at least a portion of a top collar of the upper of the rapid-entry shoe.
7	The rapid-entry shoe of claim 4, wherein the elastic element enables a forward portion of the upper to flex relative to the sole of the rapid-entry shoe.
8	The rapid-entry shoe of claim 1, further comprising a lattice structure adjacent the stabilizer.
9	The rapid-entry shoe of claim 8, wherein the lattice structure is visible on an outside surface of the rapid-entry shoe.

EX NO.	DOCUMENT
EX1001	U.S. Patent No. 12,274,325 (the “’325 patent”)
EX1002	File History of the ’325 patent (excerpted)
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 Application Publication No. 2017/0273404 (“Doenges”)
EX1010	U.S. Patent No. 12,029,276 (“Shin”)
EX1011	Certified Copy of KR 10-2019-0048102, submitted during prosecution of Shin
EX1012	Translation of Certified Copy of KR 10-2019-0048102
EX1013	Translator Certification of Certified Copy of KR 10-2019-0048102
EX1014	PCT/KR2020/005326
EX1015	English Translation of PCT/KR2020/005326
EX1016	Translator Certification of PCT/KR2020/005326
EX1017	William A. Rossi, <i>The Complete Footwear Dictionary</i> , KRIEGLER PUBLISHING COMPANY (2000) (excerpted)
EX1018	<i>Victorian Shoes in the Making</i> , Victorian Passage, https://www.victorianpassage.com/2008/12/victorian_shoes_in_the_making/
EX1019	J. Sparkes Hall, <i>The Book of the Feet</i> (1847)
EX1020	U.S. Patent No. 201,796 (“Dawes”)
EX1021	U.S. Patent No. 287,312 (“Packard”)
EX1022	U.S. Patent No. 3,040,454 (“Topper”)

EX NO.	DOCUMENT
EX1023	U.K. Patent No. 364,732 (“Phillips”)
EX1024	U.S. Patent No. 1,018,652 (“Drechsler”)
EX1025	U.S. Patent No. 4,856,209 (“Kenyon”)
EX1026	U.S. Patent No. 5,842,292 (“Siesel”)
EX1027	U.S. Patent No. 3,693,270 (“Murray”)
EX1028	U.S. Patent No. 5,189,814 (“Barma”)
EX1029	U.S. Patent No. 4,287,675 (“Norton”)
EX1030	Oxford Dictionary of English (3d ed. 2010) (excerpted)
EX1031	The American Heritage Dictionary of the English Language (5th ed. 2018) (excerpted)
EX1032	Cambridge Advanced Learner’s Dictionary (4th ed. 2013) (excerpted)
EX1033	Webster’s New World College Dictionary (5th ed. 2018) (excerpted)
EX1034	Christoph Dyckmans, <i>adidas Busenitz ADV</i> , Oct. 5, 2013, https://www.weartested.com/adidas-busenitz-adv-review/
EX1035	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/
EX1036	U.S. Patent No. 11,350,700 (“Smith-700”)
EX1037	U.S. Patent No. 10,759,096 (“Smith-096”)
EX1038	Wade Motawi, <i>Shoe Material Design Guide</i> (2017) (excerpted)
EX1039	Excerpt of XML Version of Feb. 13, 2025 Applicant Arguments/Remarks Made in an Amendment from File History of the ’325 patent

Skechers U.S.A., Inc. (“Petitioner” or “Skechers”) respectfully requests *inter partes* review of claims 1-9 of U.S. Patent No. 12,274,325 (“the ’325 patent”) (EX1001) pursuant to 35 U.S.C. §§ 311-19 and 37 C.F.R. §§ 42.1 *et seq.*

I. INTRODUCTION

The ’325 patent is owned by FAST IP, LLC (“FAST IP”), a non-practicing patent monetization entity. FAST IP has asserted the ’325 patent against Skechers in the Eastern District of Texas, in which it joined as plaintiffs a related shoe seller and a licensee of the patent. Dkt. 44, No. 2:25-cv-00744-JRG (E.D. Tex.).

Skechers, which is headquartered in California, has been a leader in the footwear industry for over thirty years. FAST IP and the other plaintiffs in the underlying litigation were all created within the last ten years. Nonetheless, the ’325 patent purports to claim shoe designs that have been in the public domain for at least decades, if not centuries. Moreover, despite seeking to accuse more than two thousand Skechers shoe models of infringing the patent, plaintiffs contend that they themselves have never practiced the patent. *Id.*, Dkt. 52 at 2.

The ’325 patent issued on April 15, 2025, and purports to claim priority to a provisional application dated July 29, 2019. EX1001, 1. Its claims recite elements common to ordinary shoes, such as “a sole,” “an upper,” “a foot opening,” a “stabilizer,” a “foam liner,” and an “elastic element.” As explained below, these

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features were well-known aspects of footwear design for decades, and in many cases, centuries. *See, e.g.*, EX1018; EX1020; EX1021.

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”), which anticipates claims 1-7 of the ’325 patent (Ground 1). The remaining challenged claims, 8 and 9, claim an obvious design implementation, as shown by U.S. Patent Application Publication No. 2017/0273404 (“Doenges”), which a POSITA would have readily applied to Takahashi (Ground 2). Grounds 3, 4, and 5 are based on U.S. Patent No. 12,029,276 to Sung Ne Shin (“Shin”), which anticipates claims 1-3, and when considered with Takahashi and Doenges, renders obvious claims 1-9.

Takahashi and Doenges were not before the Examiner during prosecution. Moreover, Shin—which was buried by the Applicant in an IDS citing 247 other references—was never cited by the Examiner. 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 '325 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 '325 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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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 '325 patent is eligible for IPR and that Petitioner is not barred or estopped from requesting this IPR.

III. BACKGROUND

A. Overview of the '325 Patent

The '325 patent issued on April 15, 2025 and claims a priority date of July 29, 2019. EX1001, 1. Titled “Rapid-Entry Footwear Having A Stabilizer And An Elastic Element,” *id.*, it is directed to “[a] rapid-entry shoe having an elastic element to enlarge a foot opening of the rapid-entry shoe and also having a stabilizer to prevent a rear portion of the rapid-entry shoe from collapsing downward,” *id.*, Abstract. A side-view of an embodiment having an elastic element 110 and stabilizer 150 is shown below:

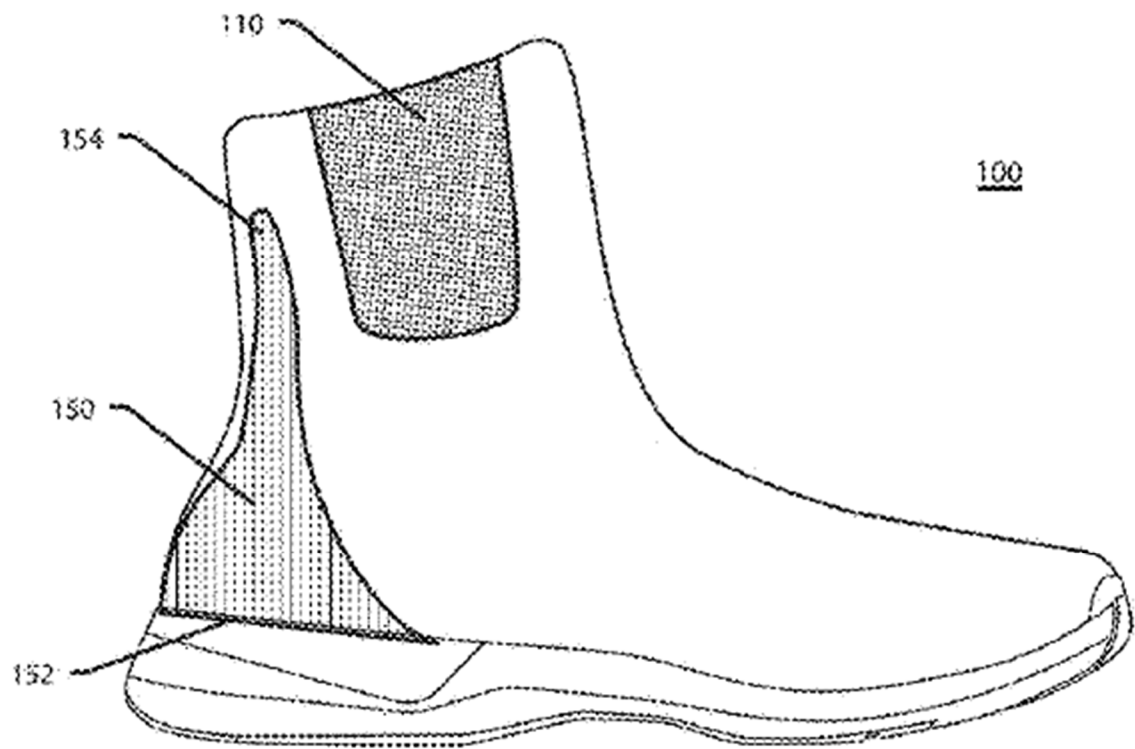


FIG. 1A

Id. at Fig. 1A.

The '325 patent states, the “stabilizer 150 can be comprised of a stiff, rigid or semi-rigid material.” *Id.*, 6:15-16. It further explains, “[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 stabilizer 150 may include a base portion 152 and an elevated portion 154,” and “comprises a curvature extending between its medial side portion and its lateral side portion, the curvature being convex toward the rear

portion (i.e., concave toward or angled relative to the forward portion).” *Id.*, 6:30-55.

Further, “[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.

B. Brief Description of the Technology

The challenged claims recite standard features that have been known in shoemaking for decades, such as a sole, an upper, a stabilizer, foam cushioning, and elastic materials.¹ Since the Victorian period, shoes have commonly featured a “stiffening [] inserted at the heel between the outside and lining.” EX1018, p.3; *see also id.*, p.1 (referring to a “heel stiffener”); EX1019, p.88 (discussing “stiffenings”). Such heel stiffenings could be made of leather, or alternatively a “steel shank” could

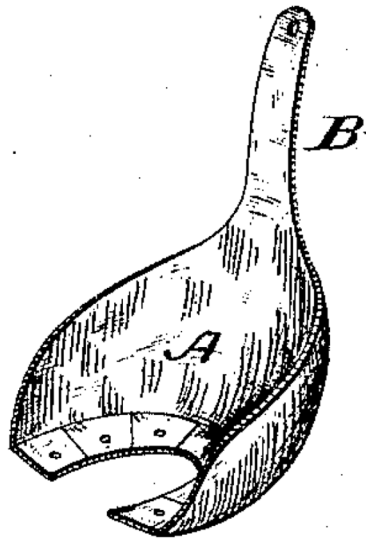
¹ *See, e.g.*, EX1017, p.20 (“upper: All the parts or sections ... above the shoe’s sole ...”); 18 (“stabilizer: ... Any mechanical ... device, separate or built into the shoe, designed to stabilize or rebalance ...”); 9 (“elasticized materials: ... Elastic goring used as shoe panels or inserts ...”); 8 (“cushioning: The use of a resilient material ... built into the shoe or may be used as a separate insert.”); 10 (“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.”).

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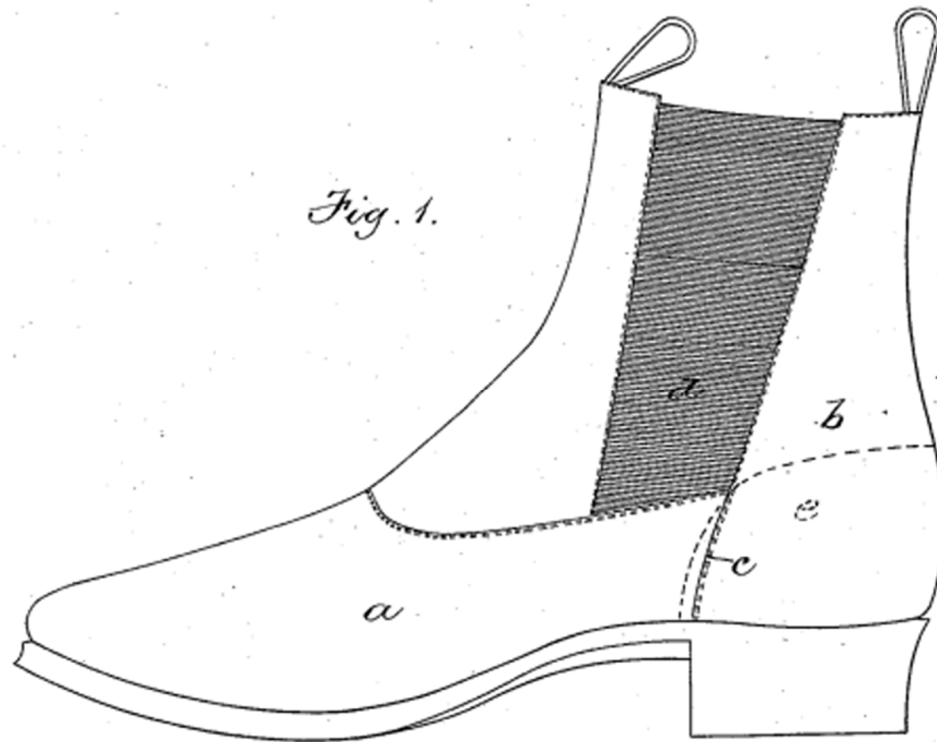
be used “to assist in keeping the shank of the shoe in desired shape.” EX1018, p.3.

One example is described in U.S. Patent No. 201,796, from 1878:

Fig 1.



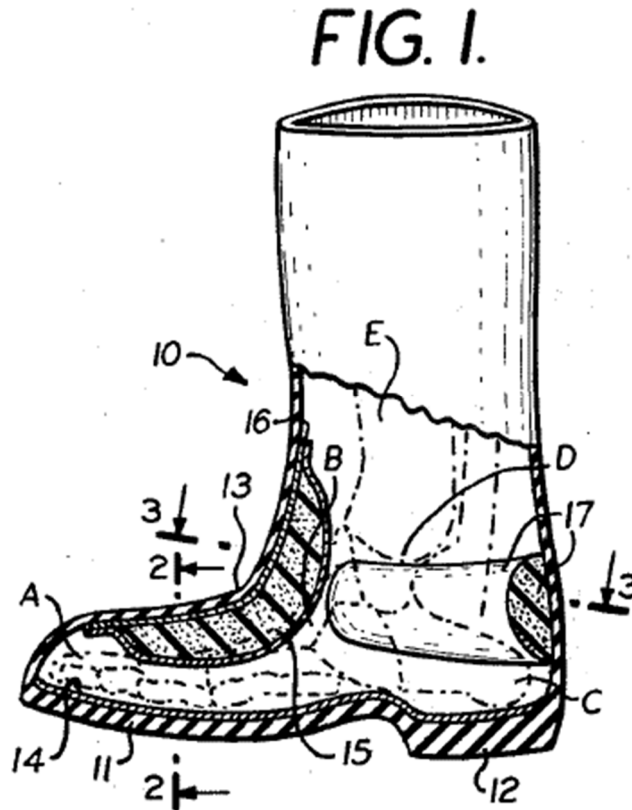
EX1020, Fig. 1, p.1, left col. (discussing “a boot or shoe counter-stiffener with a tongue or projection to extend upward along the back seam, for the purpose of protecting the same and preventing the boot or shoe from breaking or cracking at that point.”). Footwear also commonly included elastic materials to facilitate easier entry into the footwear, like side gorings. For example, U.S. Patent No. 287,312, from 1883, discloses both a stiffener and side gorings:



EX1021, Fig. 1, 1:12-31 (discussing “*d* the elastic gorings” and “the stiff counter or heel-stiffener *e*”); *see also* EX1019, p.136-37 (1847 book describing an “elastic boot” that can be put “on and [taken] off in an instant.”).

Similarly, it has been standard practice for decades to include lining and foamed cushioning elements around the shoe’s heel, including to promote retention of the foot in the footwear. *See, e.g.*, EX1023, 1:54-59 (1931 patent describing “heel grip” formed of “sponge rubber”); EX1024, ln.12-40 (1912 patent describing “shoe retainers” comprising a “strip of elastic material” to prevent “slipping off at the heel”); EX1025, 3:16-18 (discussing “collar padding” that “is constructed of ... foam padding with a rubberized backing.”); EX1026, 3:4-12 (describing a “heel-

engaging” insert of “natural or synthetic foam or sponge rubber”). U.S. Patent No. 3,693,270, for example, issued in 1972 and describes an “insert 17” formed of “foam material” to retain the foot “with no tendency to pull out.”



EX1027, Fig. 1, 2:29-35.

C. Relevant Prosecution History

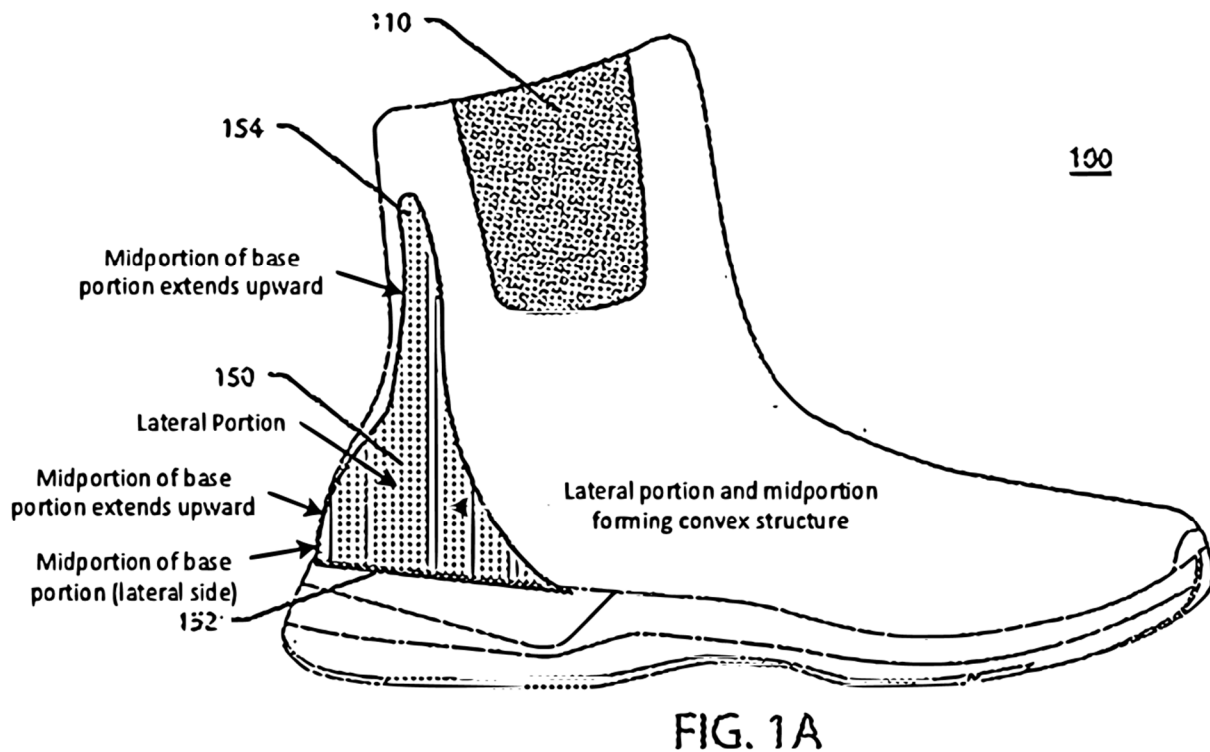
In an Office Action dated March 6, 2024, the Examiner rejected, among other things, claim 1 as anticipated by Lin (2012/0180338). EX1002, p.30-31. In a May 30, 2024 response, the Applicant amended claim 1 to add a limitation requiring “a foam liner provided over at least a portion of the stabilizer, the foam liner oriented concave toward the sole and having a cross-section defining a curve.” *Id.*, p.39. The

Applicant argued that “Lin does not disclose or suggest that its supporting piece includes a foam liner as claimed.” *Id.*, p.44.

In a subsequent June 10, 2024 Office Action, the Examiner rejected, among other things, claim 1 as anticipated by Beers (2018/0110292). *Id.*, p.52-54. In a response dated September 4, 2024, the Applicant further amended claim 1 to require “a foam liner coupled to the stabilizer and continuously extending between the medial portion of the base portion and the lateral portion of the base portion to form a curve, ~~provided over at least a portion of the stabilizer~~, the curve foam liner oriented concave downward toward the sole ~~and having a cross-section defining a curve such that the foam liner acts to retain a heel within the heel portion of the rapid-entry shoe.~~” *Id.*, p.63. The Applicant argued, “Beers does not disclose or suggest a foam liner as claimed.” *Id.*, p.70.

In a subsequent Office Action dated September 13, 2024, the Examiner rejected, among other things, claim 1 as obvious over Lin (2012/0180338) in view of Koh (5,946,825). *Id.*, p.87-89. In a February 13, 2025 response, the Applicant further amended claim 1 to require “a foam liner coupled to the stabilizer between the medial portion of the base portion and the lateral portion of the base portion along the convex structure, at least a portion of the foam liner extending beyond at least one of the medial portion of the base portion and the lateral portion of the base portion and ~~continuously extending between the medial portion of the base portion~~

and the lateral portion of the base portion to form a curve, the curve oriented downward toward the sole such that the foam liner acts to retain a heel within the heel portion of the rapid-entry shoe.” *Id.*, p.104-05. The Applicant directed the Examiner to Figures 1A and 1C, and “added various annotations to illustrate how these figures ... show all the features of claim 1.” *Id.*, p.110. The Applicant annotated Figure 1A to show the “lateral portion” of the stabilizer and that the “[m]idportion of the base portion extends upward”:



EX1039; *see also* EX1002, p.111. The Applicant further annotated Figure 1C, which depicts a “cross-section,” to show the stabilizer’s “lateral portion” and the “foam liner” that “extends beyond medial/lateral portion” of the stabilizer:

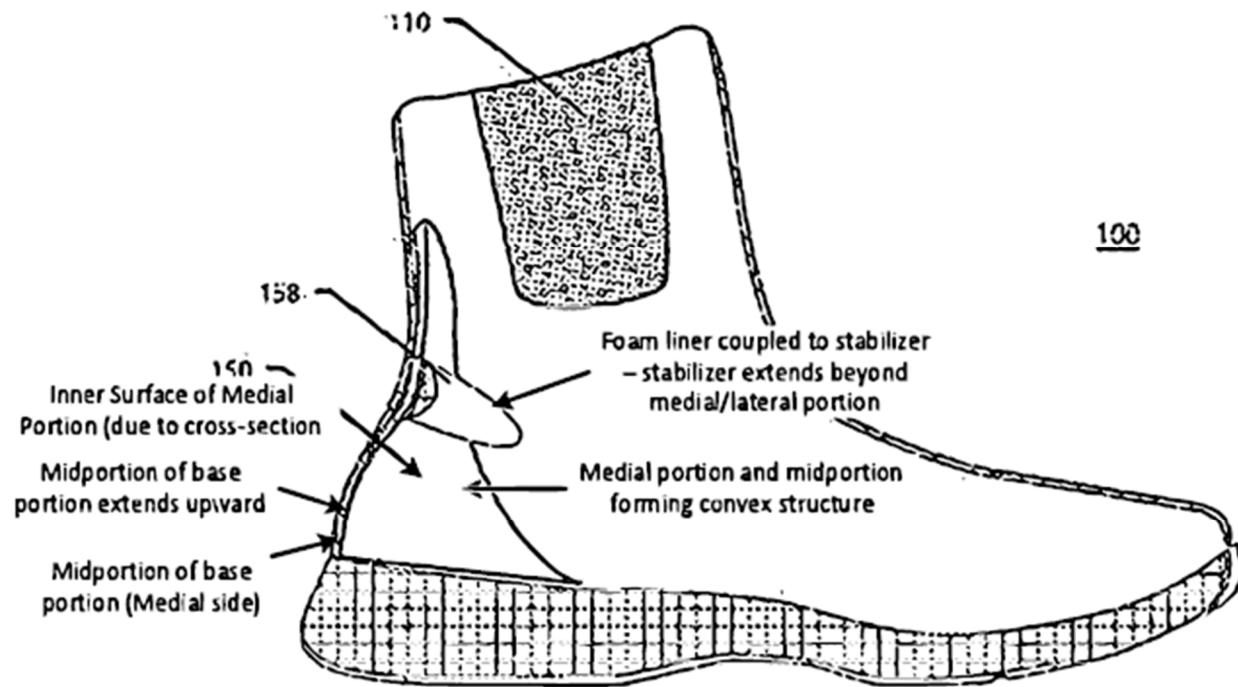


FIG. 1C

EX1039; *see also* EX1002, p.111. The Applicant argued that claim 1 was not obvious over Lin in view of Koh because “Lin does not disclose or suggest a foam liner” and “Koh does not disclose or suggest that its foam collar insert extends beyond a stabilizer as claimed.” EX1002, p.117-118. As such, the Applicant argued, “there is no disclosure in either reference that suggests that the foam collar insert of Koh would extend beyond the collar and supporting piece of Lin.” *Id.*

The Examiner allowed the claims, citing the “applicant remark filed 02-13-2025” as the sole reason for allowance. *Id.*, p.134. The “foam liner” limitation was thus the sole basis for allowance over the prior art cited by the Examiner.

D. Priority Date of the '325 Patent

The '325 patent claims priority as a continuation from U.S. patent application no. 16/942,335 (“the '335 application”) (EX1003), filed on July 29, 2020, which in turn claims priority to provisional application no. 62/879,883 (“the '883 provisional”) filed on July 29, 2019 (EX1004).

Independent claim 1 recites, *inter alia*, “a foam liner coupled to the stabilizer” that is “oriented downward toward the sole such that the foam liner acts to retain a heel within the heel portion of the rapid-entry shoe.” EX1001, 11:58-65. Any supporting disclosure was, at best, first introduced in the '335 application and was 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, ¶56. These are the only disclosures purporting to support the “foam liner” 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 “oriented downward toward the sole.”

Accordingly, the challenged claims are 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 '325 patent relates to footwear that allows 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 '325 patent in July 2019 or July 2020 would have had a bachelor's degree in engineering and at least a few years of experience in designing and manufacturing shoes, or equivalent academic and work experience. EX1005, ¶15. Such a POSITA would have at least a general understanding of construction processes and materials used in footwear manufacturing.

This Petition does not turn on the definition of ordinary skill. 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 1-9 of the '325 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:²

² Petitioner also cites to EX1017-EX1038 to support the grounds in this Petition. These exhibits are all prior art to the '325 patent under 35 U.S.C. §

1. Naomichi Takahashi, *Shoe*, Japan Utility Model Registration No. 3212460 (filed May 31, 2017; issued September 14, 2017) (“**Takahashi**”) (EX1007).
2. Nicole Doenges et al., *Footwear Upper With Molded Geometry*, U.S. Patent Application Publication No. 2017/0273404 (filed June 12, 2017, published September 28, 2017) (“**Doenges**”) (EX1009).
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; issued July 9, 2024) (“**Shin**”) (EX1010).

As discussed below, each of these references are prior art to the ’325 patent, even if the ’325 patent were accorded priority from the July 29, 2019 provisional application that, as explained above, does not support its claims.

Takahashi and Doenges were published over a year before the ’325 patent’s July 29, 2019 earliest claimed priority date and thus are prior art under 35 U.S.C. § 102(a)(1) with no exception under 35 U.S.C. § 102(b).

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

102(a)(1) and (2). The authenticity and public availability of EX1017-EX1038 is supported by copyright notices, library date stamps, volume date labels, and/or other contemporaneous evidence of public distribution.

April 24, 2019 filing date of foreign priority document KR 10-2019-0048102, and at least as of the April 22, 2020 filing date of PCT priority document PCT/KR2020/005326. A certified copy of KR 10-2019-0048102 (EX1011) was submitted to the PTO as part of the national phase of PCT/KR2020/005326 (EX1014). Certified translations of KR 10-2019-0048102 and PCT/KR2020/005326 are submitted herewith as EX1012 and EX1015, respectively. Shin satisfies the ministerial requirements for claiming priority to KR 10-2019-0048102 and PCT/KR2020/005326 because it properly claims their benefit, was filed within twelve months thereof, and names the same inventors. *See* EX1010, codes (22), (30), (71), (72), (86); EX1012, p.1-2; EX1015, codes (22), (30), (71), (72), (81). Shin satisfies the substantive requirements for claiming priority because its relevant subject matter is fully supported by both KR 10-2019-0048102 and PCT/KR2020/005326, as shown by the figures and written descriptions in these documents, and parallel citations herein to EX1010, EX1012, and EX1015 when citing Shin.

As Shin issued from an application effectively filed on April 24, 2019, it is prior art under 35 U.S.C. § 102(a)(2) even if the '325 patent were entitled to its July 29, 2019 earliest claimed priority date. Petitioner notes that the priority date challenge in Part III.D is relevant here only if Patent Owner seeks to establish an exception under 35 U.S.C. § 102(b)(2)(B). The '325 patent's next claimed priority

date is July 29, 2020, which is more than a year after Shin's April 24, 2019 effective filing date. Thus, any pre-dating disclosure under § 102(b)(2)(B) would itself be prior art under § 102(a)(1) if the challenged claims are not entitled to the July 29, 2019 earliest claimed priority date.

B. Grounds For Challenge

Skechers requests cancellation of claims 1-9 of the '325 patent as unpatentable under 35 U.S.C. §§ 102 and 103. The asserted grounds are:

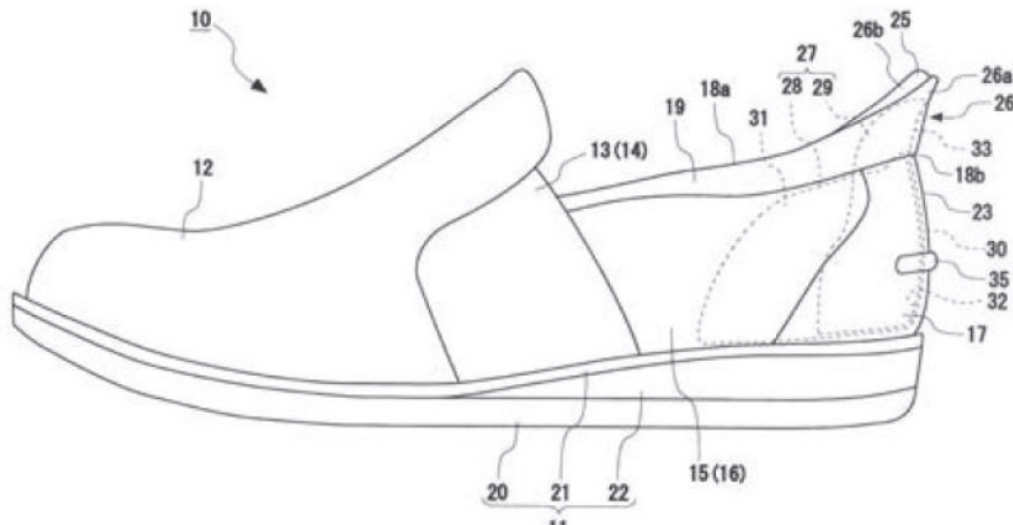
- **Ground 1:** Claims 1-7 are anticipated by **Takahashi**
- **Ground 2:** Claims 8 and 9 are obvious over **Takahashi** and **Doenges**
- **Ground 3:** Claims 1-3 are anticipated by **Shin**
- **Ground 4:** Claims 1-7 are obvious over **Shin** and **Takahashi**
- **Ground 5:** Claims 8 and 9 are obvious over **Shin**, **Doenges**, and if necessary, **Takahashi**

VII. GROUND 1: CLAIMS 1-7 ARE ANTICIPATED BY TAKAHASHI

A. Overview of Takahashi (EX1007)

Takahashi addresses the problem of “a shoe that can be easily put on,” Takahashi, Abstract, and 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 includes a heel counter with “a double structure,” wherein “the second counter is soft compared to the first counter.” *Id.*, ¶¶16-17. Additionally, Takahashi includes “stretchable portions 13, 14 located on both the left side and the right side to allow the deformation of the upper,” facilitating entry of the foot. *Id.*, ¶37.

B. Claim 1

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

To the extent the preamble is limiting, Takahashi satisfies it. *See, e.g.*, Takahashi, Abstract, ¶¶1, 6. For example, Takahashi states that “[t]he present device relates to a shoe that can be *easily put on* without using a shoehorn or the like.” *Id.*,

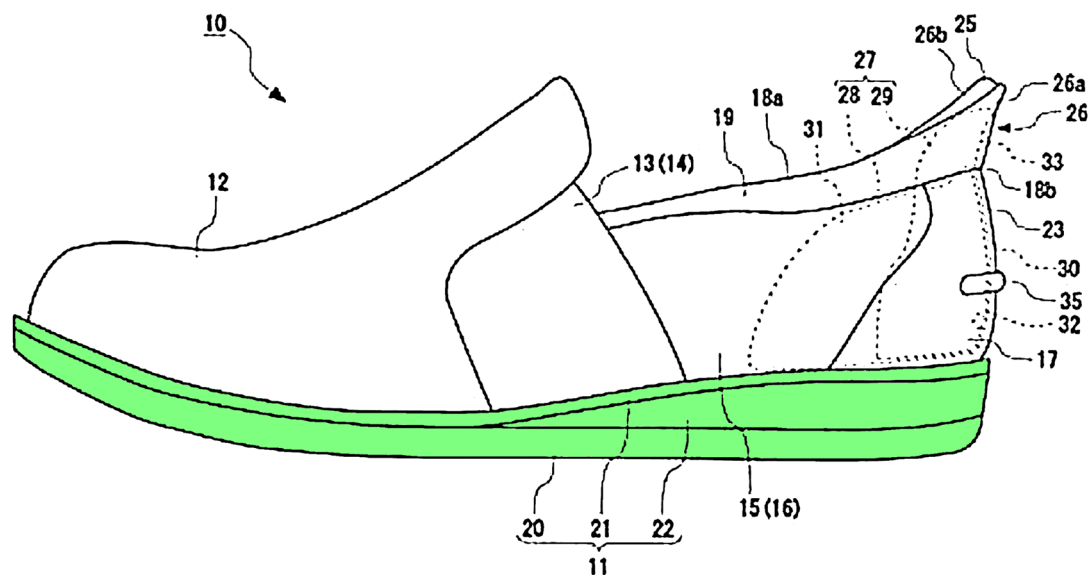
¶1³; *see also, e.g.*, EX1001 ('325 patent), 4:8-13 (“As used herein, a ‘rapid-entry shoe’ refers to an athleisure shoe, a casual shoe, a formal shoe, a dress shoe, a heel, a sports/athletic shoe ... a walking shoe, a sandal, a boot, or other suitable type of shoe.”).

- *1[a]: “a sole;”*

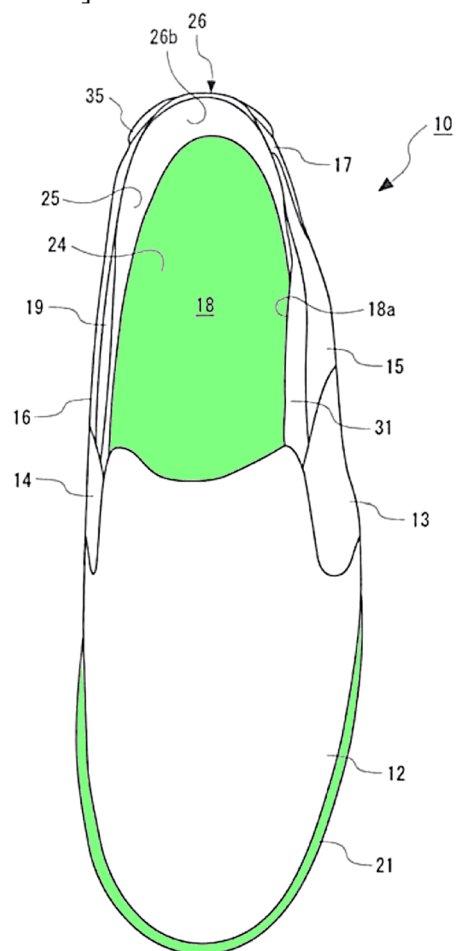
Takahashi discloses 1[a]. The '325 patent explains that “a rapid-entry shoe comprises a ‘sole portion’ (e.g., footbed, insole, midsole, outsole).” EX1001, 4:20-21. Similarly, Takahashi “includes an outsole 20 on the ground side, a midsole 21 on the outsole 20, and a cushion sole 22 located between the outsole 20 and the midsole 21,” Takahashi, ¶38, and “the upper surface of the midsole 21 is provided with an insole (inner sole) 24,” *id.* ¶53. The sole is highlighted green in Figures 1 and 2 below:

³ Unless otherwise noted, all emphases in quotations were added by Petitioner.

[FIG. 1]



[FIG. 2]

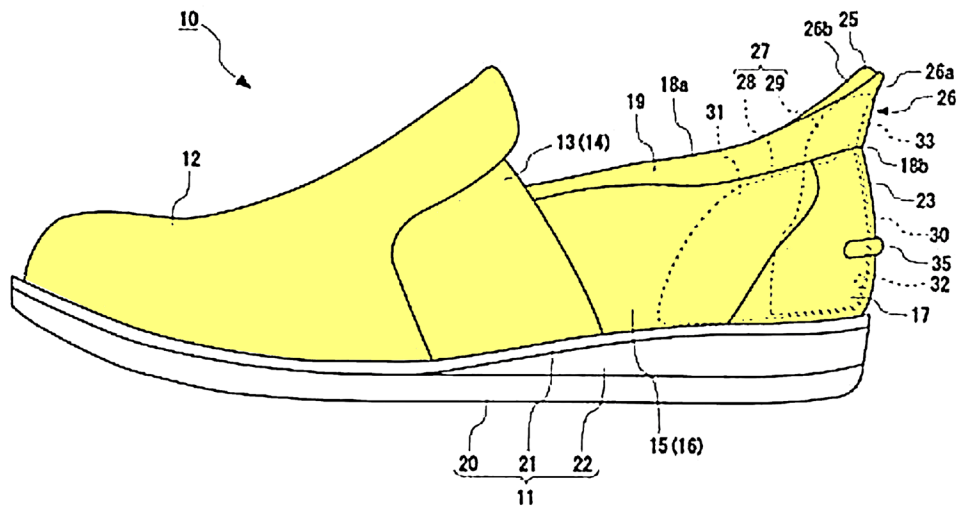


Id., Figs. 1, 2,⁴ ¶86.

- 1[b]: “an upper;”

Takahashi discloses 1[b]. The upper⁵ is highlighted in yellow in Figures 1 and 2 below:

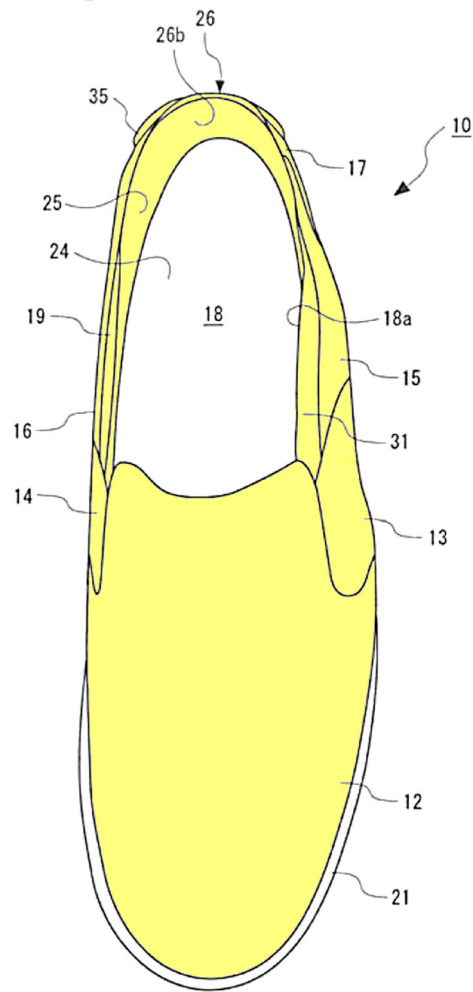
[FIG. 1]



⁴ All highlighting, colored arrows, and colored lines throughout this Petition were added by Petitioner.

⁵ See, e.g., EX1017, p.20 (“upper” includes “[a]ll the parts or sections (vamp, quarters, linings, etc.) above the shoe’s sole that are stitched or otherwise joined together to become a unit, and then attached to the insole and outsole.”).

[FIG. 2]



Id., Figs. 1, 2.

- ***1[c]: “a stabilizer provided at a rear portion of the sole and comprised of a rigid material, the stabilizer comprising:”***

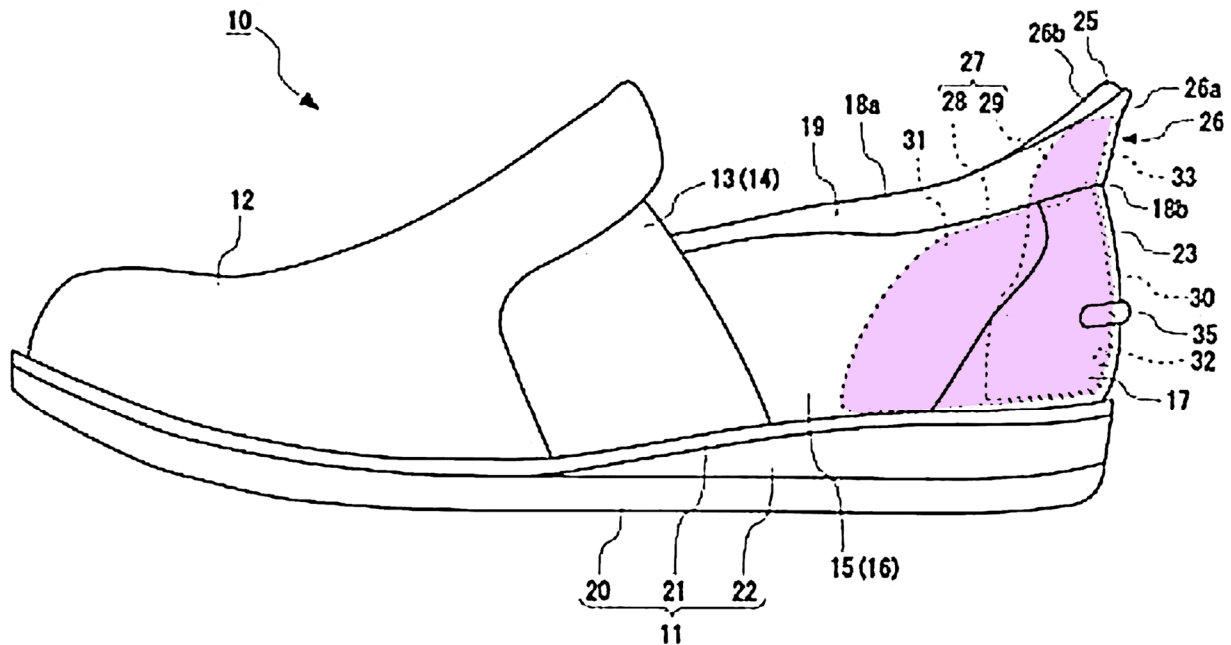
Takahashi discloses 1[c].

First, Takahashi includes “a stabilizer provided at a rear portion of the sole.”

For example, Takahashi discloses a “counter 27” stabilizer at a rear portion of the sole: “As 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 shows the “counter 27” stabilizer (pink) at a rear portion of the sole:

[FIG. 1]



Id., Fig. 1.

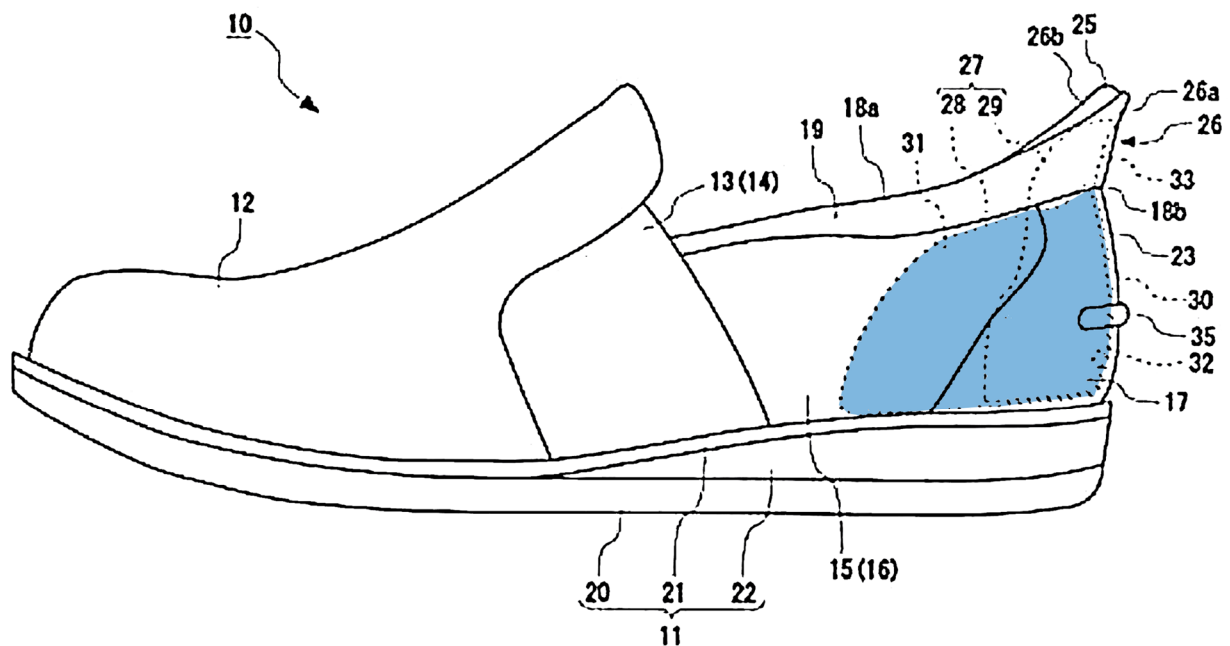
Second, Takahashi’s stabilizer is “comprised of a rigid material” as recited in 1[c]. For example, Takahashi states: “The counter 27 is a double structure including a first counter 28 and a second counter 29 that at least partially overlap each other.... The first counter 28 is made of a relatively *hard resin material* or a material formed by using a (compressed) leather as a base material and spraying a resin powder material onto it.” *Id.*, ¶¶59-61. “[F]or the resin material or the resin powder material, a thermoplastic resin such as a thermoplastic polyurethane (TPU), a polyamide

elastomer (PAE) and an ABS resin can be used.” *Id.*, ¶62. A POSITA would have understood these to be “rigid material[s]” as claimed. EX1005, ¶¶18-21.

- *1[d]: “a base portion; and”*

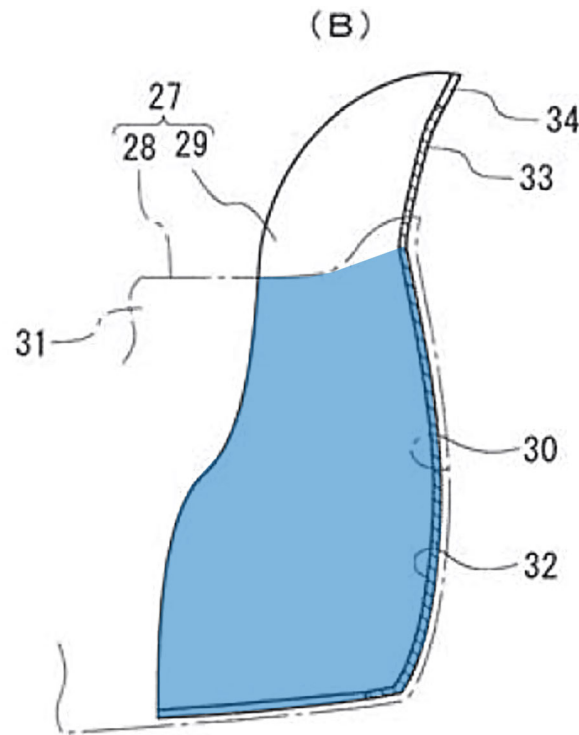
Takahashi discloses 1[d]. For example, Takahashi’s “counter 27” stabilizer includes a base portion defining “heel curve 23” of “heel portion 17,” highlighted blue in Figure 1 below:

[FIG. 1]



Id., Fig. 1. Takahashi explains, “[a]t the heel portion 17, a heel curve 23 is integrally formed which is concave on the inside (convex on the outside) to follow the heel of a person’s foot.” *Id.*, ¶49

Similarly, Figure 4(B) shows “a sectional view” of the “second counter 29” portion of the “counter 27” stabilizer, the base portion of which defines “concave curved surface portion 32,” shown in blue:

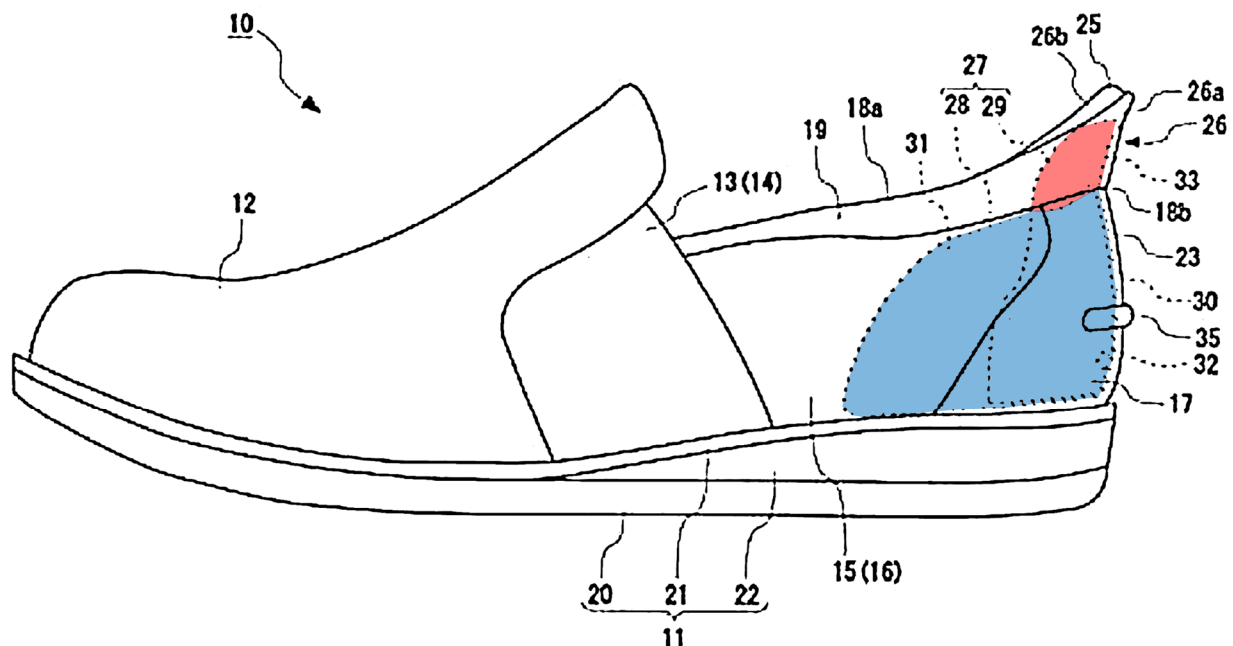


Id., Fig. 4(B). “The counter 27 is a double structure including a first counter 28 and a second counter 29 that at least partly overlap each other. The first counter 28 integrally has a concave curved surface portion 30 that is inwardly concave to support the heel of a person, ... The second counter 29 integrally has an overlapping concave curved surface portion 32 located inside the first counter 28 to follow the concave curved surface portion 30” *Id.*, ¶¶59-63.

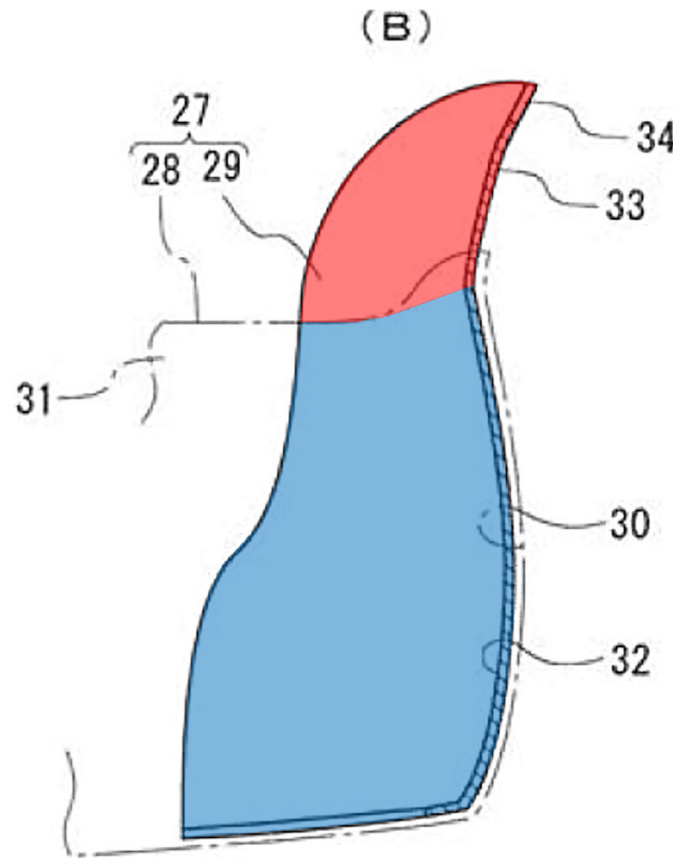
- *1[e]: “an elevated portion extending upward from the base portion, wherein:”*

Takahashi discloses 1[e]. For example, Takahashi’s “counter 27” stabilizer includes an elevated portion defining “guide portion 26” (highlighted red), extending upward from the base portion (blue):

[FIG. 1]



Id., Fig. 1, ¶76 (“counter 27 includes a guide core portion 33 for maintaining the shape of the guide portion 26.”). Similarly, Figure 4(B) shows “a sectional view” of the “second counter 29” portion of the “counter 27” stabilizer, the elevated portion defining “guide core portion 33,” shown in red:

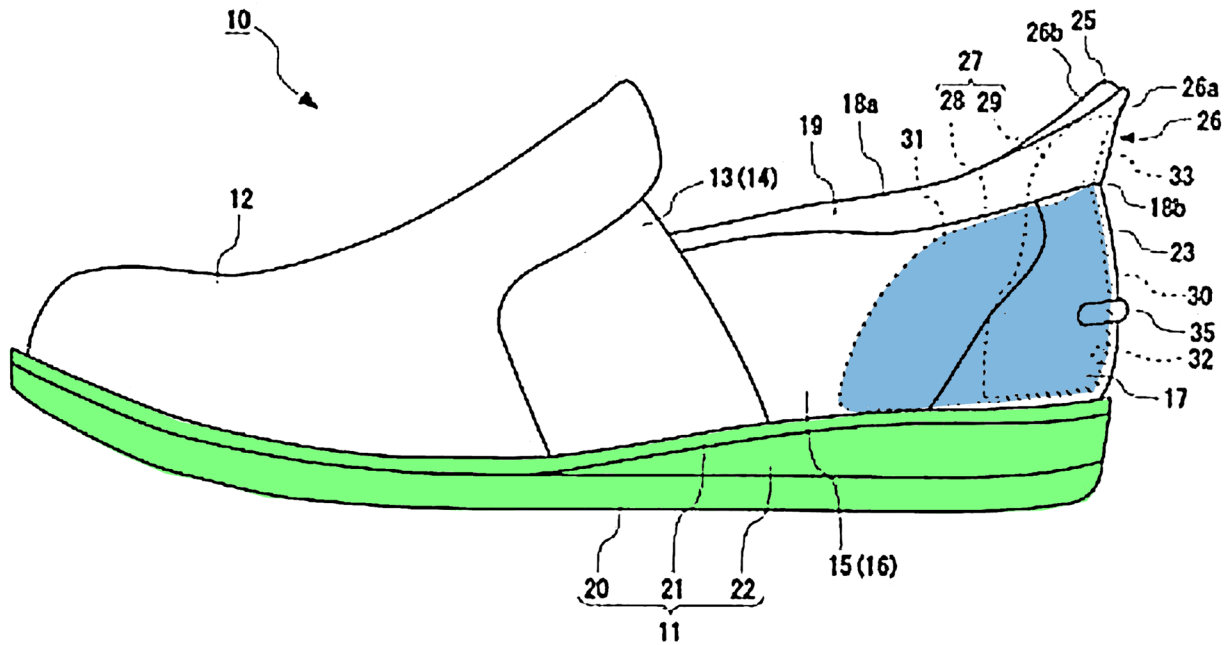


Id., Fig. 4(B). “The guide core portion 33 slopes in a direction opposite to the heel curve 23 sloping inward as it approaches the rear edge 18b. Thereby, the shape retention of the guide portion 26 sloping in a direction opposite to the heel curve 23 sloping inward as it approaches the rear edge 18b is maintained at a high level.” *Id.*, ¶64.

- ***1[f]: “the base portion is proximate the sole and comprises:”***

Takahashi discloses 1[f]. For example, Figure 1 below shows that “counter 27” (highlighted blue), which is “disposed between the heel portion 17 and the lining 25,” is proximate the sole (green). *Id.*, ¶59.

[FIG. 1]



Id., Fig. 1. This is consistent with Figure 1C of the '325 patent, which “illustrates a cross-section of a rapid-entry shoe with a stabilizer” and shows the stabilizer 150 proximate the sole, as indicated by the added red circle:

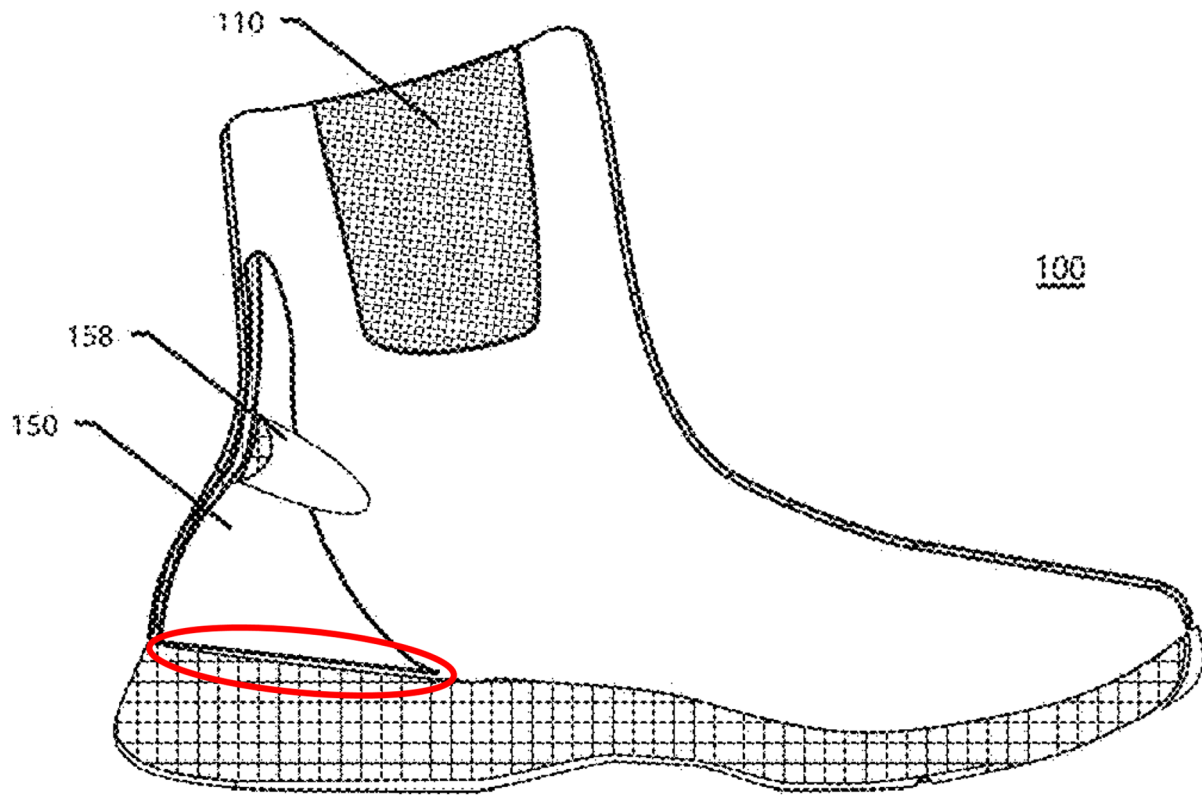
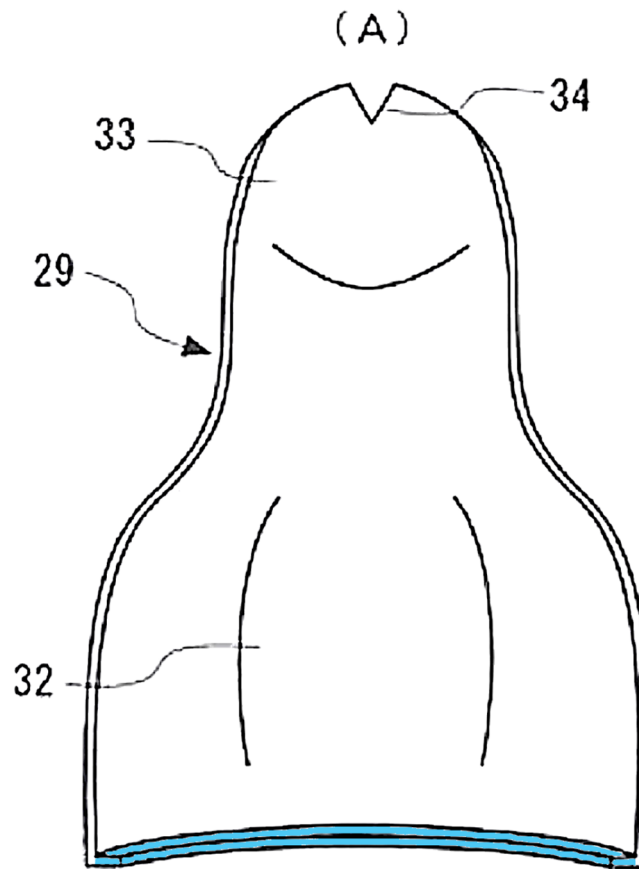


FIG. 1C

EX1001, Fig. 1C.

Moreover, a POSITA would interpret Figure 1 of Takahashi in view of the reference as a whole, including Figure 4(A), which shows “a front view of the second counter” 29. *Id.*, ¶35. Figure 4(A) shows that the bottom of Takahashi’s second counter has an inwardly-extending flange, indicated by blue highlighting:

[FIG. 4]



Id., Fig. 4(A). A POSITA would have understood that this flange sits underneath the insole of Takahashi's shoe and is thus "proximate the sole." EX1005, ¶¶22-31.

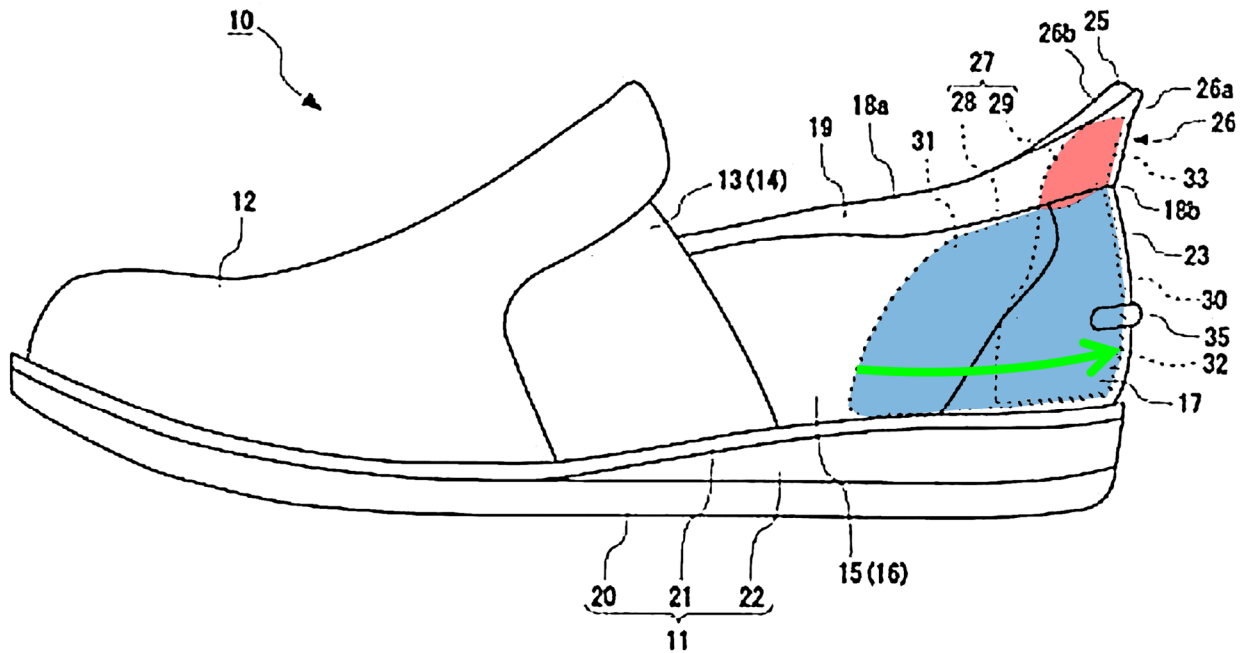
- **1[g]: "a lateral portion extending from a lateral side of the sole to a midportion of the base portion; and"**

Takahashi discloses 1[g]. For example, Takahashi explains:

The first counter 28 integrally has a concave curved surface portion 30 that is inwardly concave to support the heel of a person, and a ***lateral surface portion 31*** that go around from the concave curved surface portion 30 ***to the left and the right, and is in the shape of a three-dimensional curved plate formed to follow the outer periphery of the heel of the foot.***

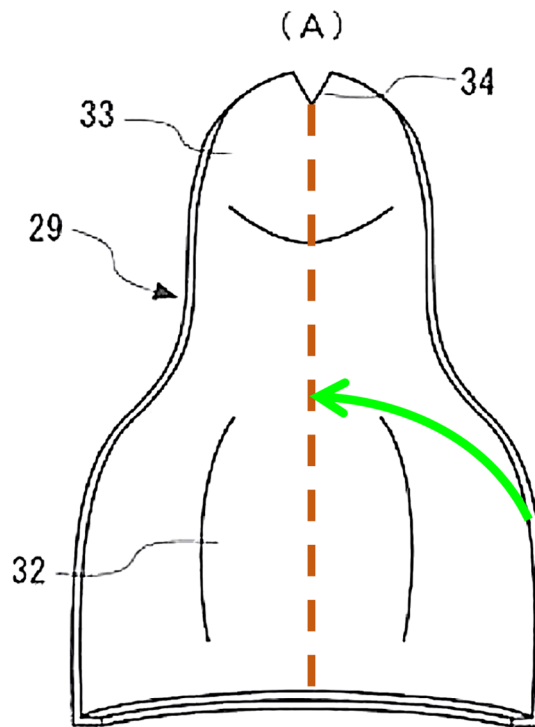
Id., ¶60; *see also id.*, ¶80 (describing “lateral surface portion 31 that wraps around from the concave curved surface portion 30 to the left and the right”). Figure 1 shows the lateral side of “lateral surface portion 31,” indicated by a green arrow:

[FIG. 1]



Id., Fig. 1. Similarly, Figure 4(A) shows second counter 29 with a lateral portion extending from a lateral side of the sole to a midportion of the base portion:

[FIG. 4]

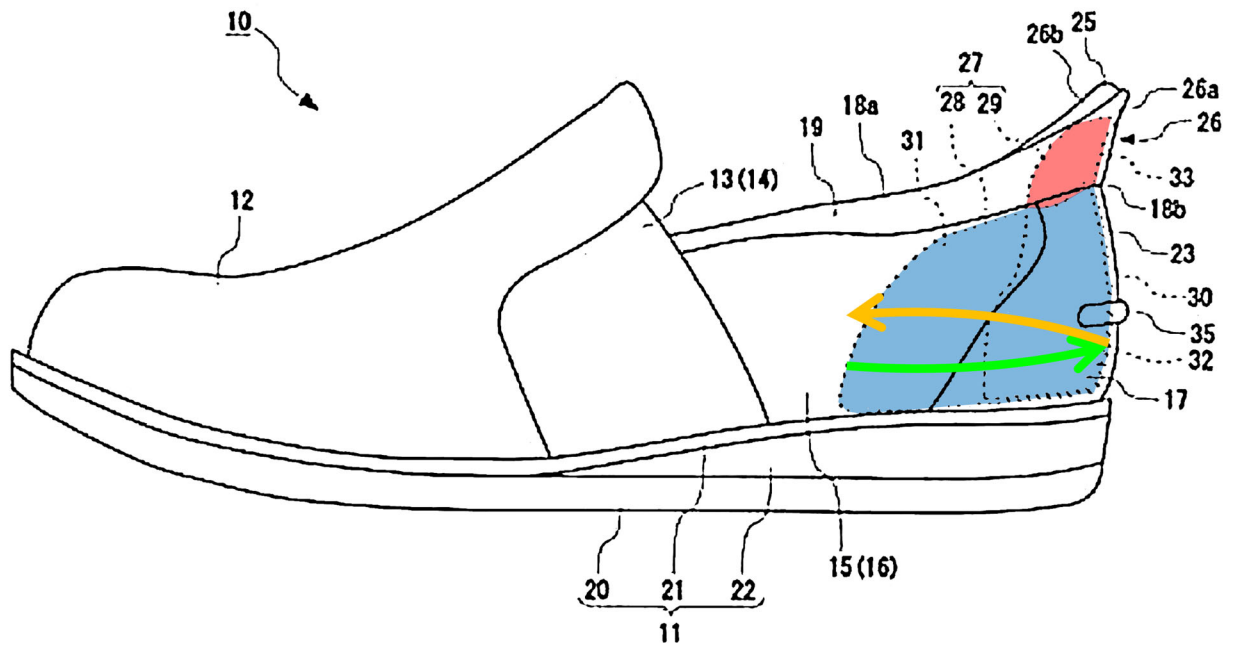


Id., Fig. 4(A).

- ***1[h]: “a medial portion extending from the midportion of the base portion to a medial side of the sole;”***

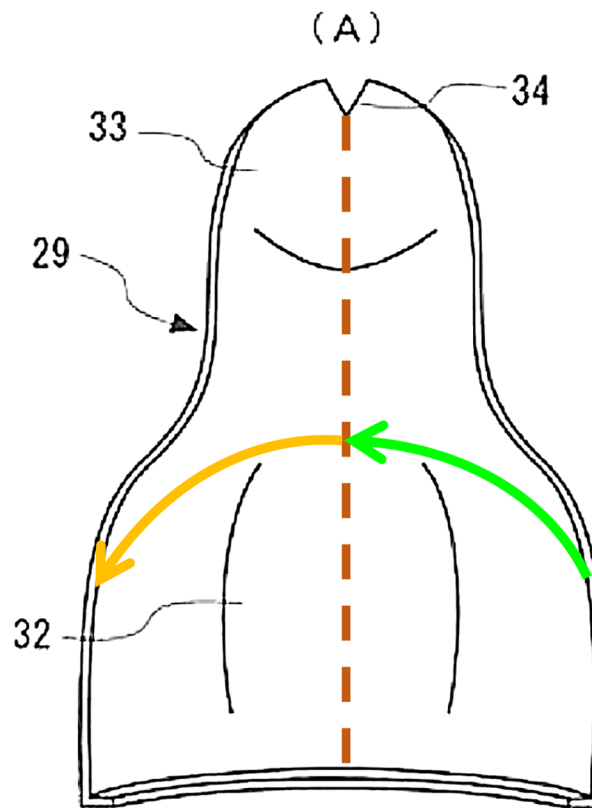
Takahashi discloses 1[h]. For example, though Figure 1 does not show the medial side of Takahashi’s shoe, a POSITA would clearly understand that “lateral surface portion 31” extends from the midportion around the heel to the medial side of the sole. This is shown by the orange arrow on Figure 1 below (the medial portion being on the far side of the shoe relative to Figure 1’s perspective):

[FIG. 1]



Id., Fig. 1. Figure 4(A) also depicts a medial portion of second counter 29 extending from a midportion of the base portion to a medial side of the sole, as annotated below:

[FIG. 4]



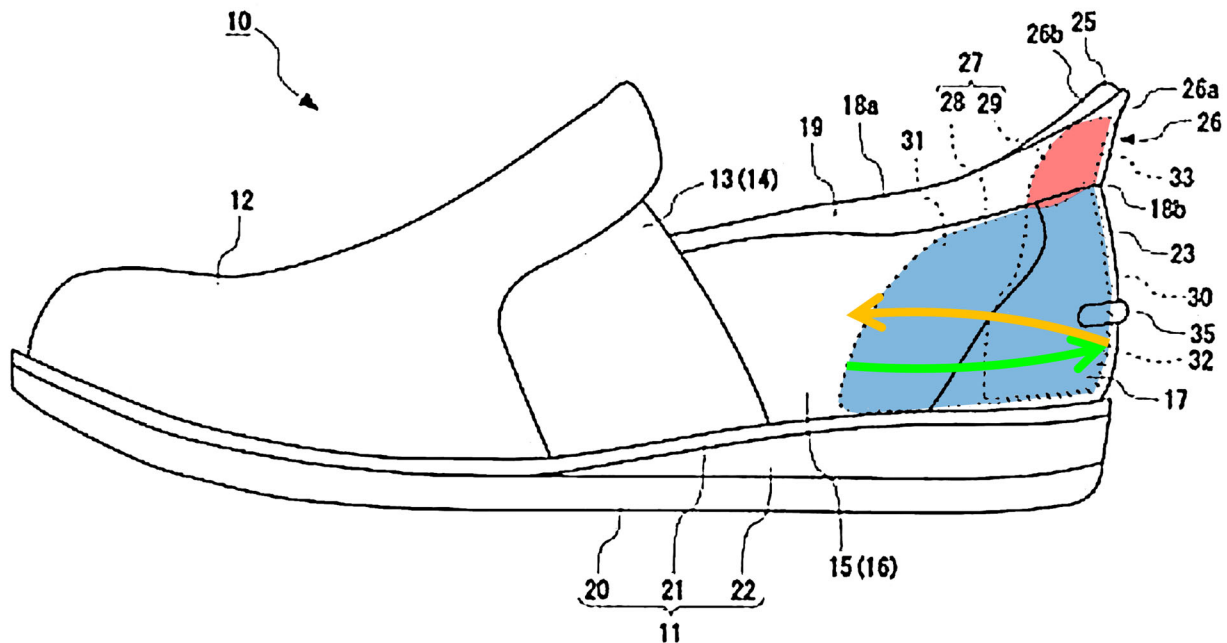
Id., Fig. 4(A).

- **1[i]:** “*wherein the lateral portion of the base portion, the midportion of the base portion and the medial portion of the base portion form a convex structure;*”

Takahashi discloses 1[i]. For context, the '325 patent explains, “the stabilizer 150 comprises a curvature extending between its medial side portion and its lateral side portion, the curvature being *convex toward the rear portion (i.e., concave toward* or angled relative to *the forward portion*).” EX1001, 6:51-55. Takahashi similarly explains, “[a]t the heel portion 17, a heel curve 23 is integrally formed which is *concave on the inside (convex on the outside)* to follow the heel of a

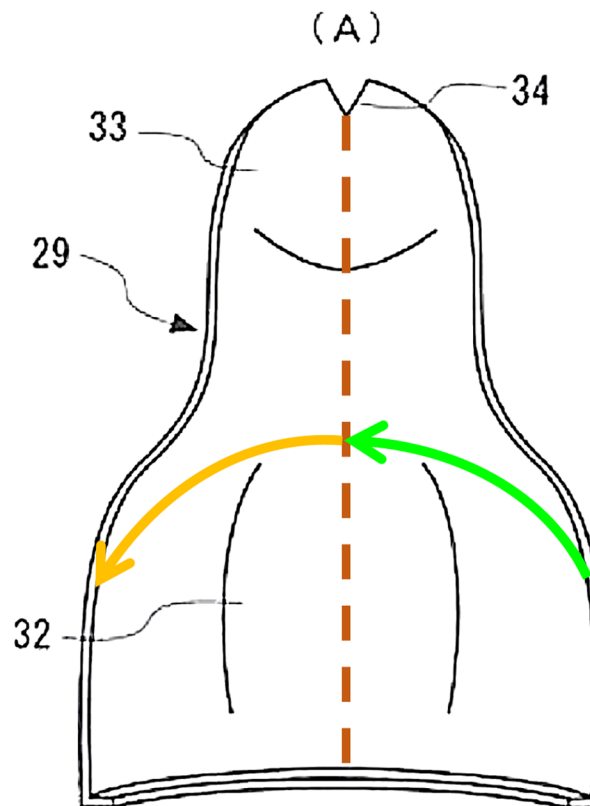
person's foot.” *Id.*, ¶49. Moreover, Takahashi's “counter is a double structure including a first counter having a *lateral surface portion that wraps around* from a concave curved surface portion *to the left and the right*, as well as a second counter located inside the first counter and integrally having an overlapping concave curved surface portion following the concave curved surface portion.” *Id.*, ¶15. This convex structure is shown by added orange and green arrows below:

[FIG. 1]



Id., Fig. 1. Moreover, the convex structure of second counter 29 is shown in Figure 4(A):

[FIG. 4]

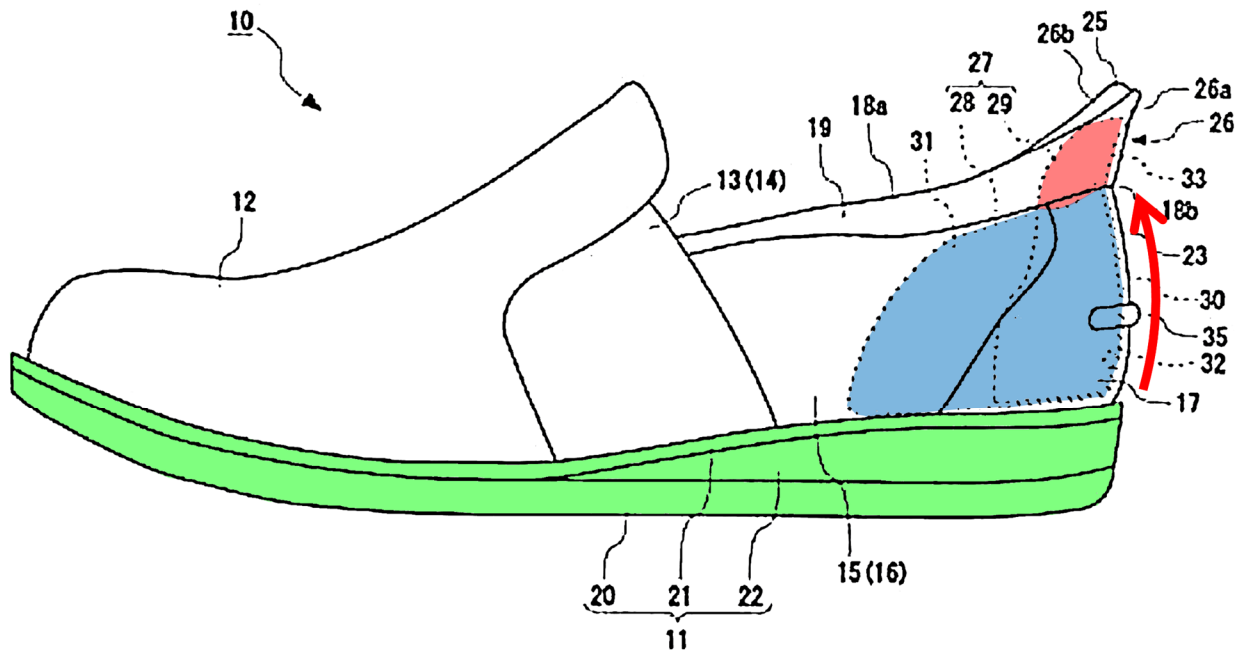


Id., Fig. 4(A).

- ***1[j]: “wherein the midportion of the base portion of the stabilizer extends upward from the sole continuously between the sole and the elevated portion and at least partially surrounds a heel portion of the rapid-entry shoe, and wherein:”***

Takahashi discloses 1[j]. For example, as shown in Figure 1 below, Takahashi discloses that “the midportion of the base portion of the stabilizer” (highlighted blue) “extends upward from the sole” (green) “continuously between the sole and the elevated portion” (red) “and at least partially surrounds a heel portion of the rapid-entry shoe” (indicated by the red arrow):

[FIG. 1]

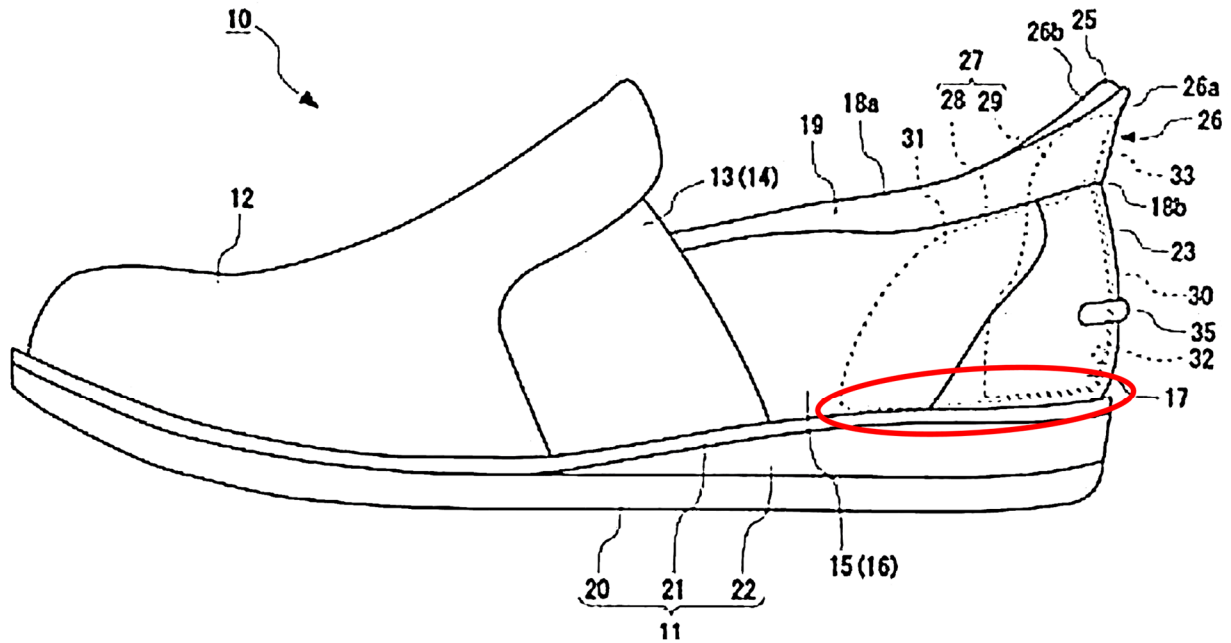


Id., Fig. 1. Takahashi’s description is consistent, explaining that “heel curve 23” has “a concave cup shape when viewed from lateral side, or may slope upward and inward from the midsole 21 side in a substantially linear manner,” and “the upper edge forming the shoe opening 18 inclines inward, thereby holding (hooking) the heel to prevent the shoe from slipping off unexpectedly.” *Id.*, ¶¶51-52.

Any argument that Takahashi’s stabilizer does not “extend[] upward from the sole” as recited in 1[j], merely because Figure 1 includes some imprecision, would be misplaced. A POSITA would have readily understood that Figure 1 is a conceptual hand drawing and thus would not expect it to be mechanically precise. The same type of imprecision regarding the stabilizer and sole is also present in the

'325 patent's figures, which are also conceptual hand drawings. *Compare, e.g.,*
Takahashi, Fig. 1 (annotated),

[FIG. 1]



with EX1001, Fig. 1C (annotated):

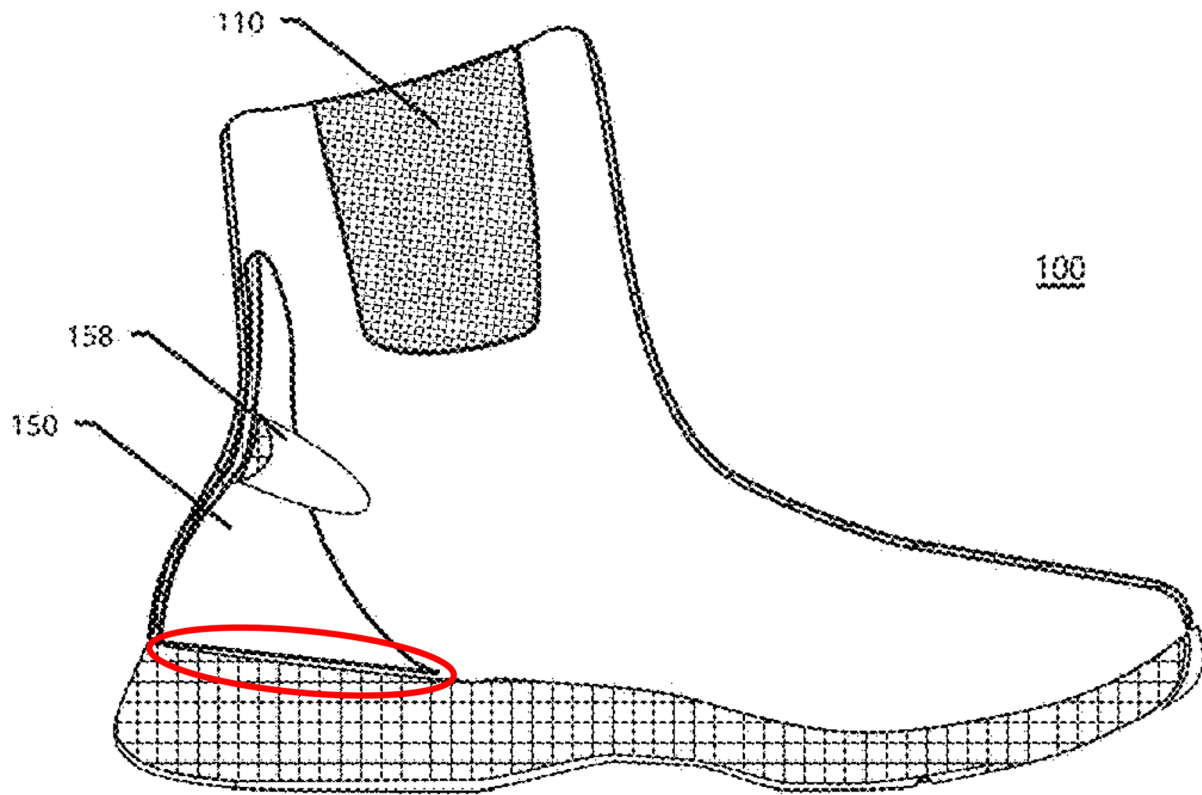
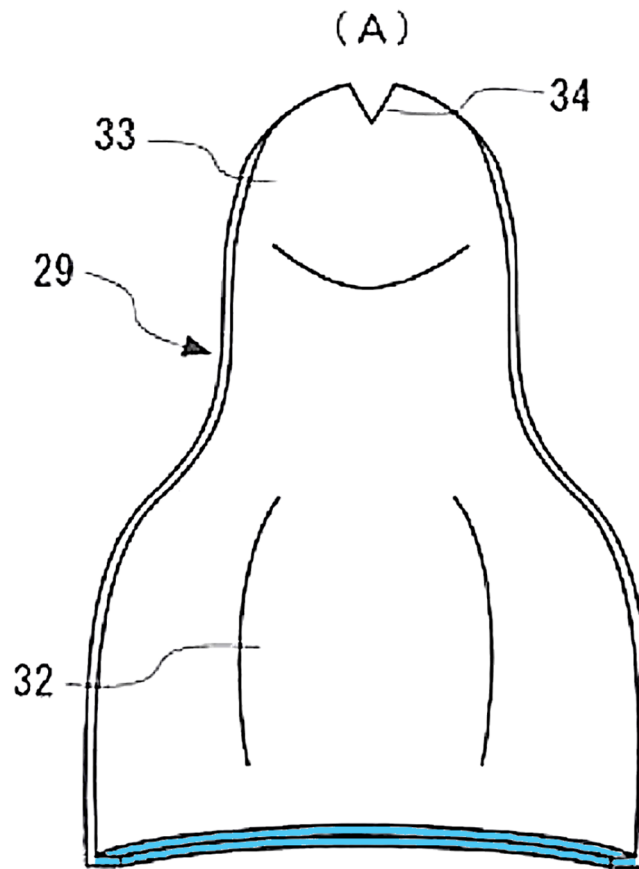


FIG. 1C

Moreover, the Applicant expressly argued during prosecution that Figure 1C depicts this element, stating that “FIG. 1C also shows ‘the midportion of the base portion of the stabilizer extends upward from the sole continuously between the sole and the elevated portion.’” EX1002, p.98.

Additionally, as discussed for 1[f], Figure 4(A) shows that the stabilizer has an inwardly-extending flange, indicated in blue below:

[FIG. 4]

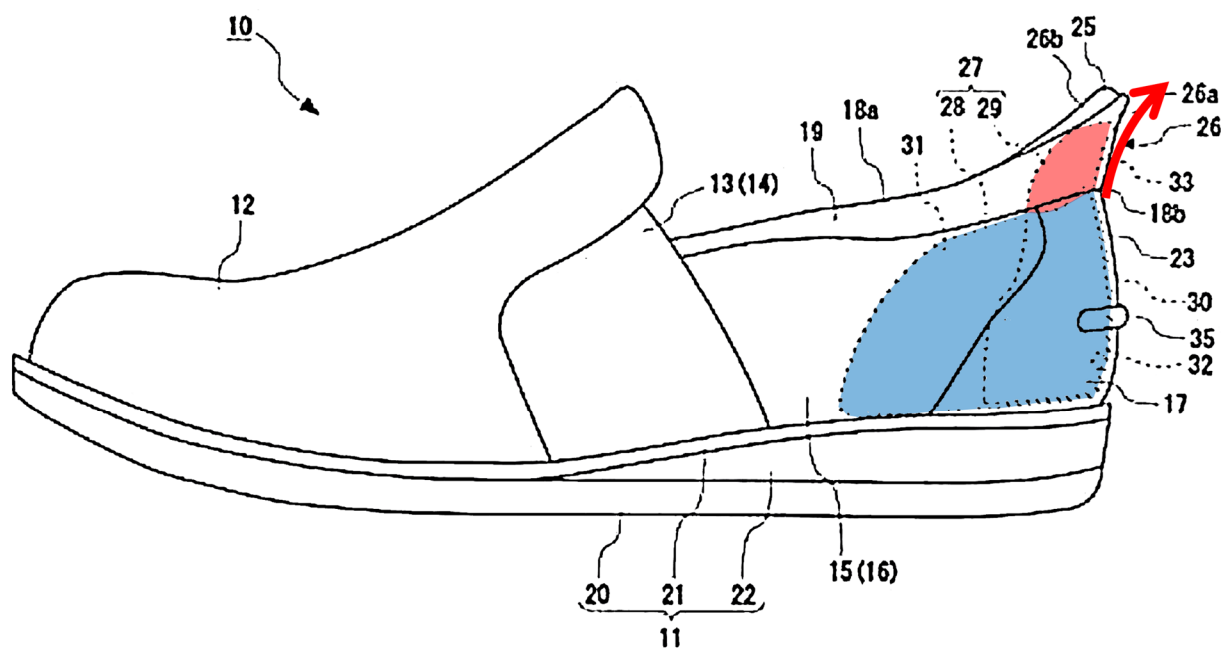


Id., Fig. 4(A). A POSITA would have understood that this flange sits underneath the insole of Takahashi's shoe, EX1005, ¶¶22-31, further confirming that Takahashi's stabilizer "extends upward from the sole."

- ***1[k]: "the elevated portion extends rearward from a rear portion of the convex structure and acts as a shoehorn; and"***

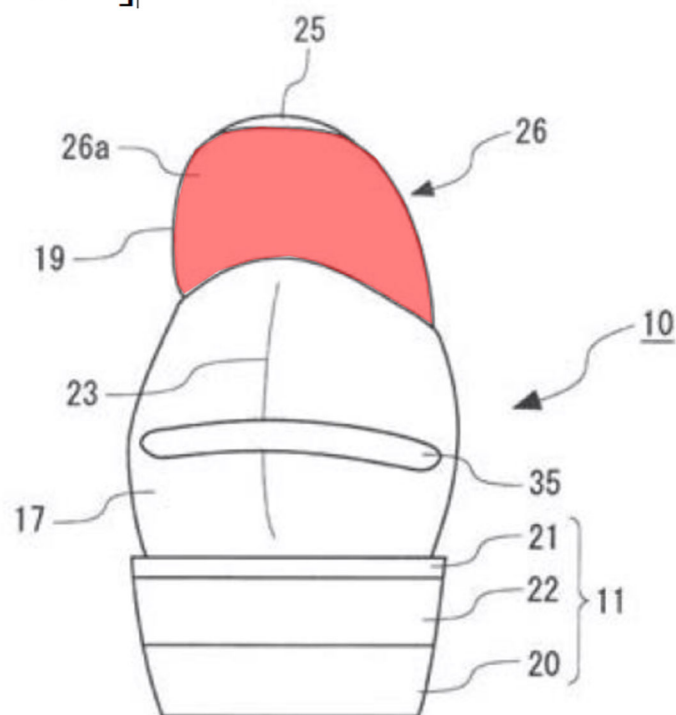
Takahashi discloses 1[k]. For example, Takahashi's counter has an elevated portion (in red below) defining "guide portion 26" and extending rearward from the convex structure, as shown by the red arrow below:

[FIG. 1]

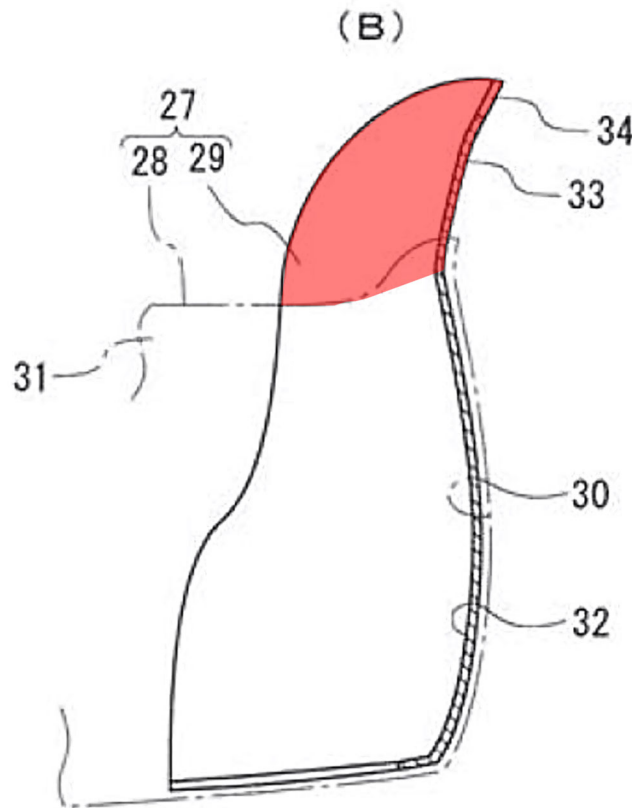


Id., Fig. 1. Additionally, Takahashi Figure 3 shows “a rear view” with “guide portion 26” highlighted red:

[FIG. 3]

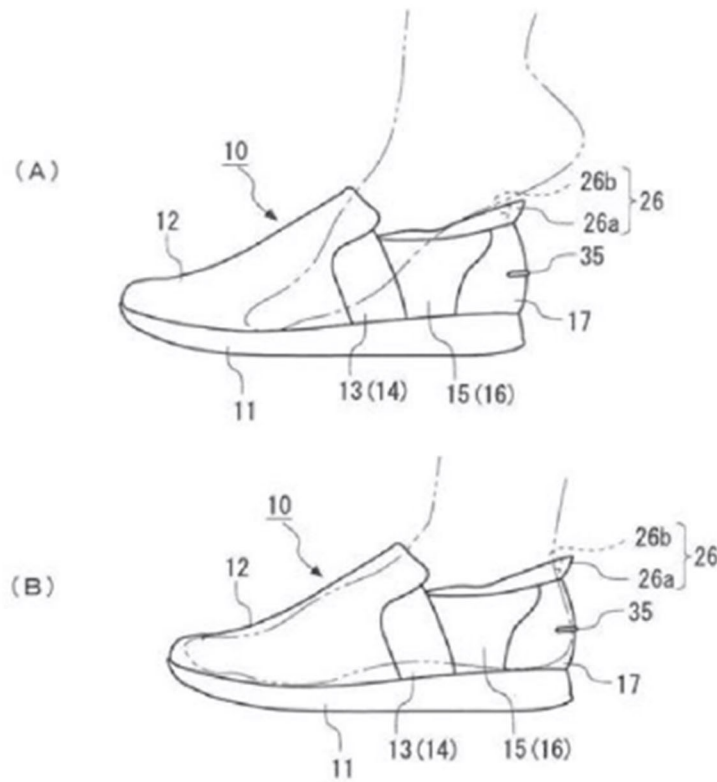


Id., Fig. 3. Further, Figure 4(B) shows “a sectional view” of “second counter” 29, *id.* ¶35, including the elevated portion (in red) extending rearward of concave curved surface portion 32:



Id., Fig. 4(B); ¶64 (“The guide core portion 33 slopes in a direction opposite to the heel curve 23 sloping inward as it approaches the rear edge 18b.”). This acts as a shoehorn, guiding the foot into the shoe: “as shown in FIG. 5(A), when the shoe 10 is put on and a foot is inserted from the shoe opening 18, the foot can be easily put in as shown in FIG. 5(B) by providing near the heel a guide portion 26 for **guiding the foot in.**” *Id.*, ¶71.

[FIG. 5]



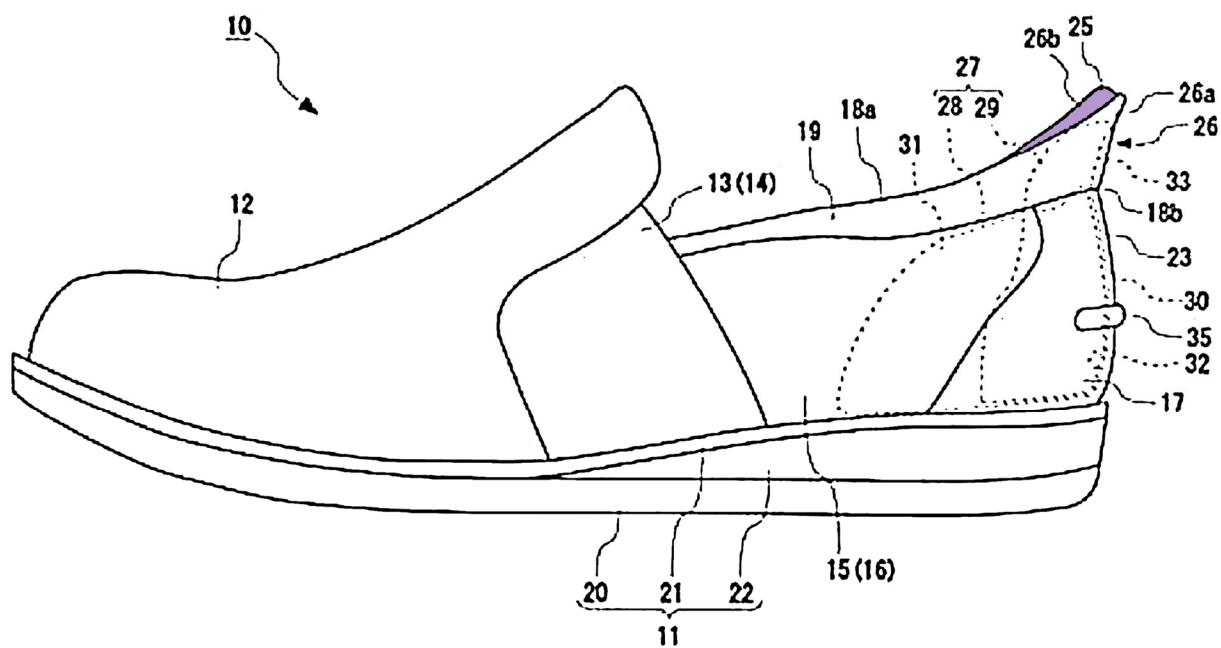
Id., Fig. 5(A)-(B).

- **1[l]:** “a foam liner coupled to the stabilizer between the medial portion of the base portion and the lateral portion of the base portion along the convex structure, at least a portion of the foam liner extending beyond at least one of the medial portion of the base portion and the lateral portion of the base portion and oriented downward toward the sole such that the foam liner acts to retain a heel within the heel portion of the rapid-entry shoe.”

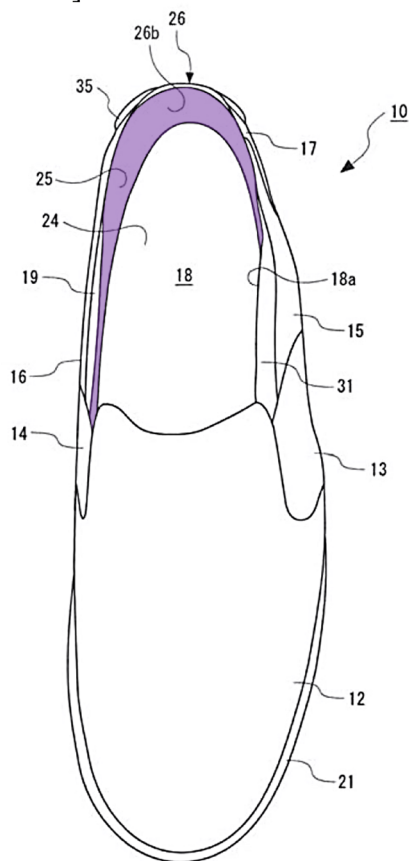
Takahashi discloses 1[l].

First, Takahashi discloses “a foam liner.” For example, Takahashi includes “lining 25” with a “cushion body (e.g., sponge),” *id.*, ¶54, colored purple in Figures 1 and 2 below:

[FIG. 1]



[FIG. 2]

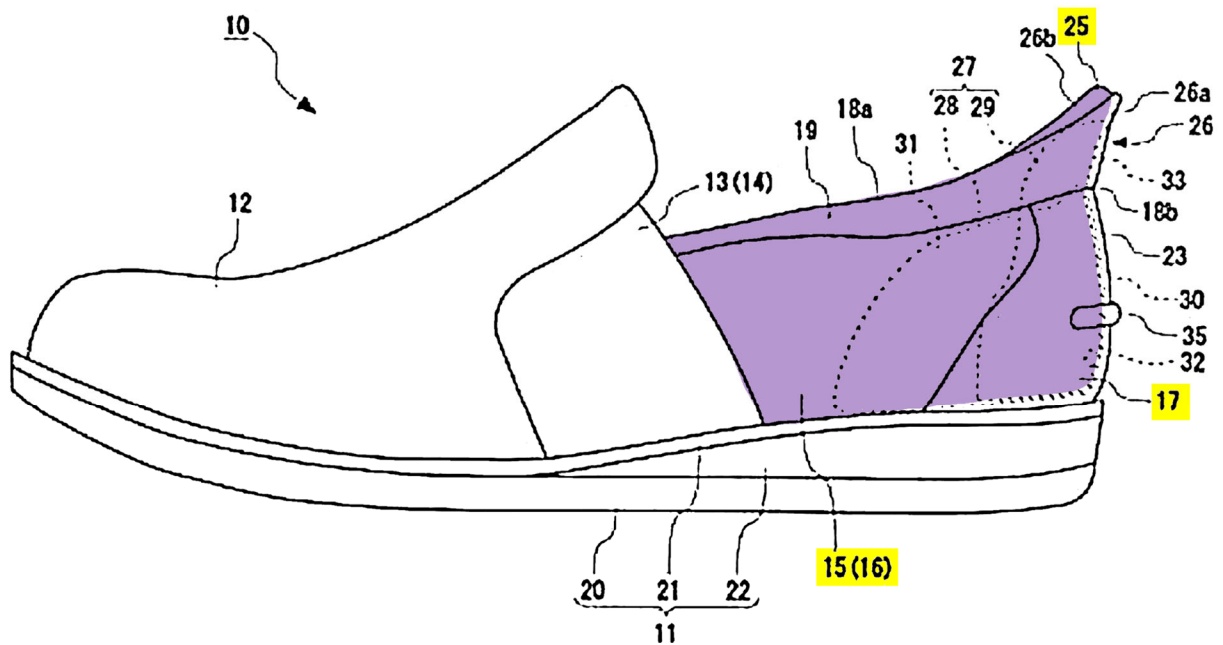


Id., Figs. 1 & 2. Takahashi explains: “The material and thickness of the **lining 25** are set to have an appropriate cushioning property. In this embodiment, two or more layers of cloth (inner surface skin), **cushion body (e.g., sponge)** or the like are used” *Id.*, ¶54. A POSITA would have understood that “sponge” is one type of foam,⁶ and thus Takahashi’s “lining 25” is a “foam liner.”

Second, Takahashi’s foam liner is “coupled to the stabilizer between the medial portion of the base portion and the lateral portion of the base portion along the convex structure” as recited in 1[1]. For example, although not explicitly shown in Figure 1, Takahashi’s accompanying description explains that “[t]he **inner surfaces** of the **sides 15, 16** and the **heel portion 17** are provided with [the] **lining (covering for inside surface) 25.**” *Id.*, ¶54. This description makes clear that the “lining 25” extends downward to cover the entire inside surface of “heel portion 17,” and extends forward to cover the entire inner surface of “sides 15, 16,” as Petitioner has illustrated in Figure 1 below:

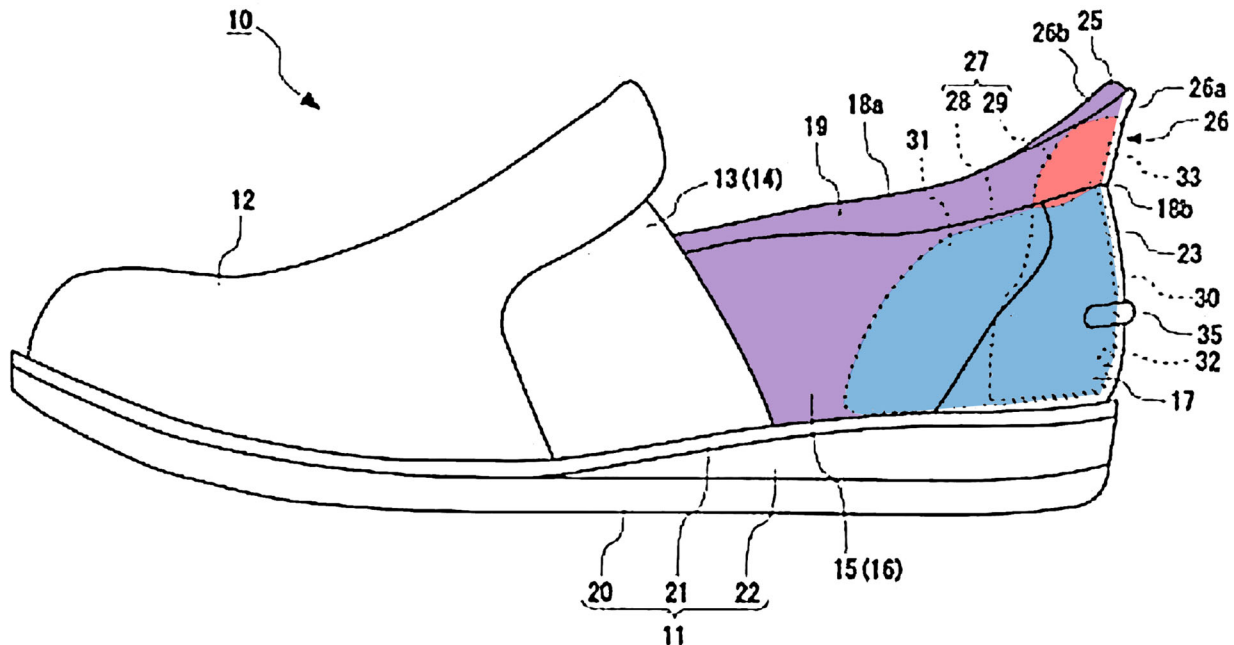
⁶ EX1017, p.10 (“foam” is “[a]ny of various resins in sponge or cellular form with an open or closed cellular pattern”; “[s]ofter foams such as polyurethanes are used for shoe cushioning”), p.16 (“sponge.... [A]rtificial sponge—for many years used as a shoe cushioning material—consists of foam-type rubber filled with air pockets.”); EX1005, ¶¶32-39.

[FIG. 1]



Id., Fig. 1. 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. This is shown in Figure 1 below, annotated to highlight “counter 27” (including its blue base portion and red elevated portion) disposed between “lining 25” (purple) and “heel portion 17”:

[FIG. 1]

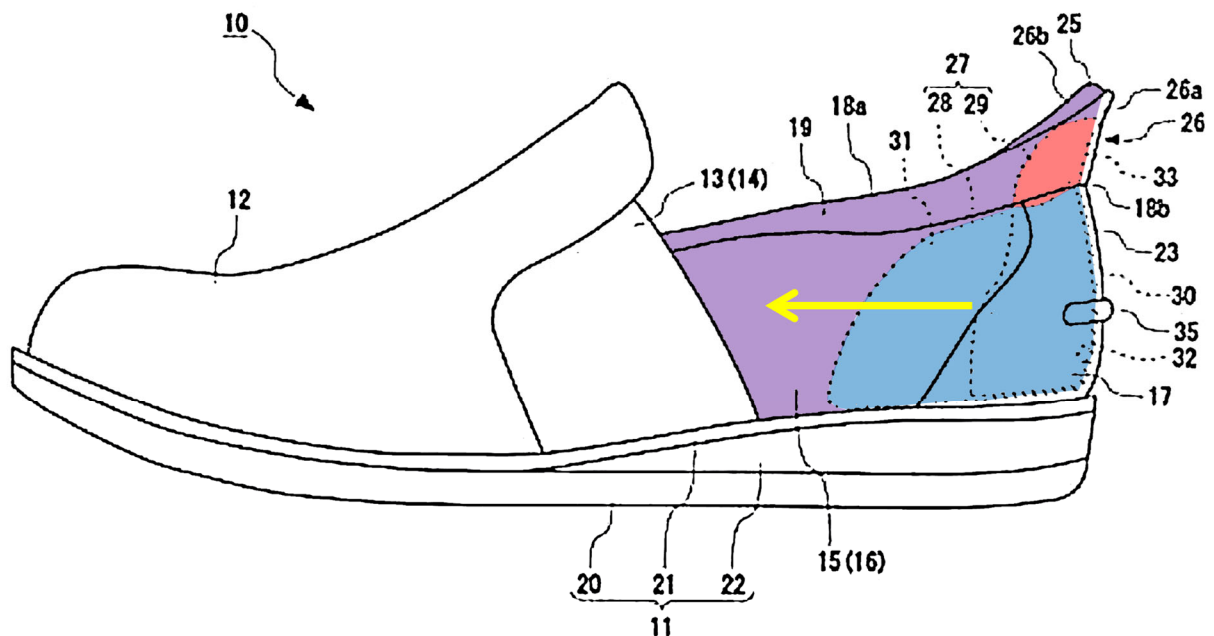


Id., Fig. 1. Takahashi's description thus makes clear that its "foam liner" (purple) is "coupled to the stabilizer between the medial portion of the base portion and the lateral portion of the base portion along the convex structure" (counter 27's base portion shown above in blue, which has lateral and medial sides and a convex structure) as recited in 1[1]. For clarity, because Takahashi discloses that "counter 27 is *disposed between* the heel portion 17 and the lining 25," *id.*, ¶59, a POSITA would have understood that Takahashi's lining 25 is coupled to the base portion of counter 27 along its convex structure. EX1005, ¶¶32-40.

Third, Takahashi discloses "at least a portion of the foam liner extending beyond at least one of the medial portion of the base portion and the lateral portion of the base portion" as recited in 1[1]. As discussed, "[t]he *inner surfaces* of the

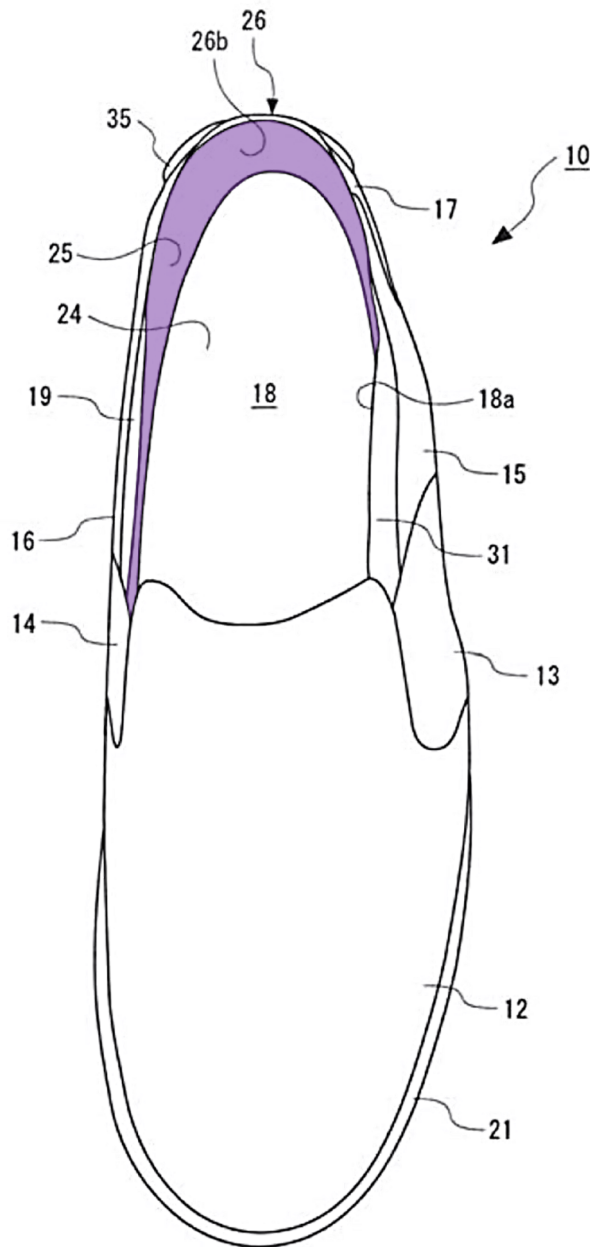
sides 15, 16 and the heel portion 17 are provided with [the] **lining (covering for inside surface) 25.**” *Id.*, ¶54. This makes clear that Takahashi’s “foam liner” (lining 25, highlighted purple) “extend[s] beyond at least one of the medial portion of the base portion and the lateral portion of the base portion” (the lateral and medial sides of counter 27’s base portion, highlighted blue):

[FIG. 1]



Id., Fig. 1. This is readily apparent in Figure 2’s top-down view:

[FIG. 2]

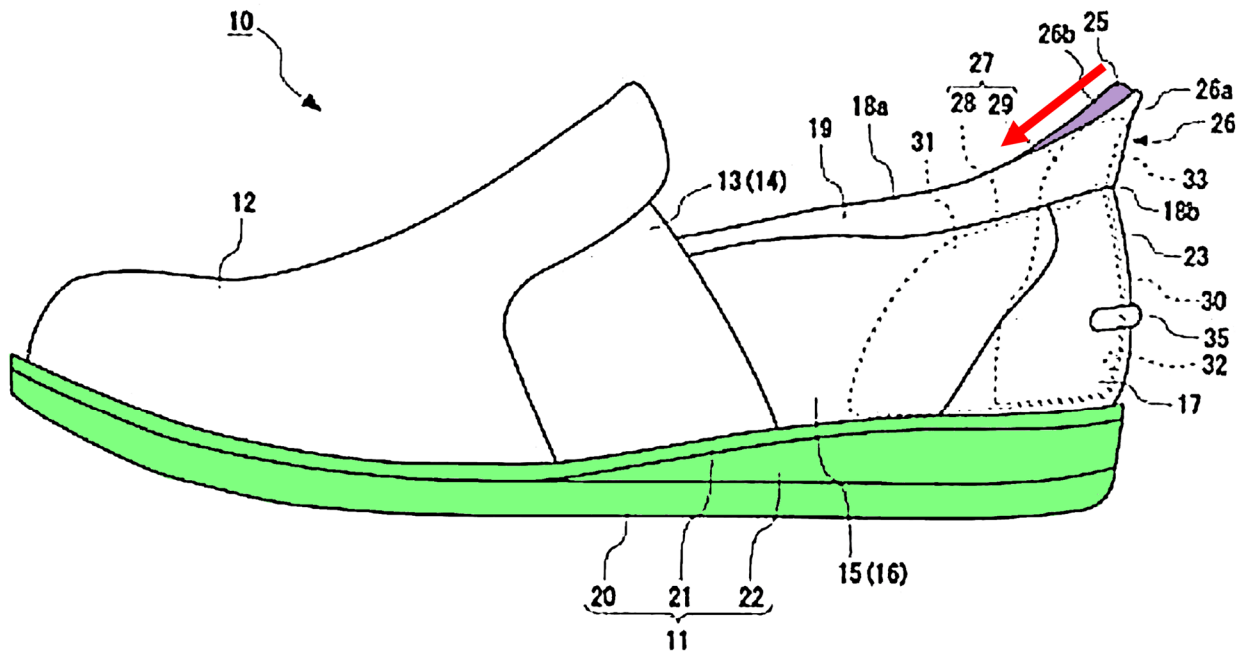


Id., Fig. 2.

Fourth, Takahashi's foam liner is "oriented downward toward the sole such that the foam liner acts to retain a heel within the heel portion of the rapid-entry shoe." For example, Figure 1 shows that the foam liner (highlighted purple) wraps

around the inside of heel portion 17, forming a U shape oriented downwards toward the sole (green):

[FIG. 1]



Id., Fig. 1. Further, Takahashi’s “heel portion” functions to “hold a person’s heel and make it difficult for the shoe to slip off” of a foot. *Id.*, ¶24. A POSITA would have understood that Takahashi’s foam liner provided on the inside of the heel portion would facilitate heel retention. EX1005, ¶¶32-41.

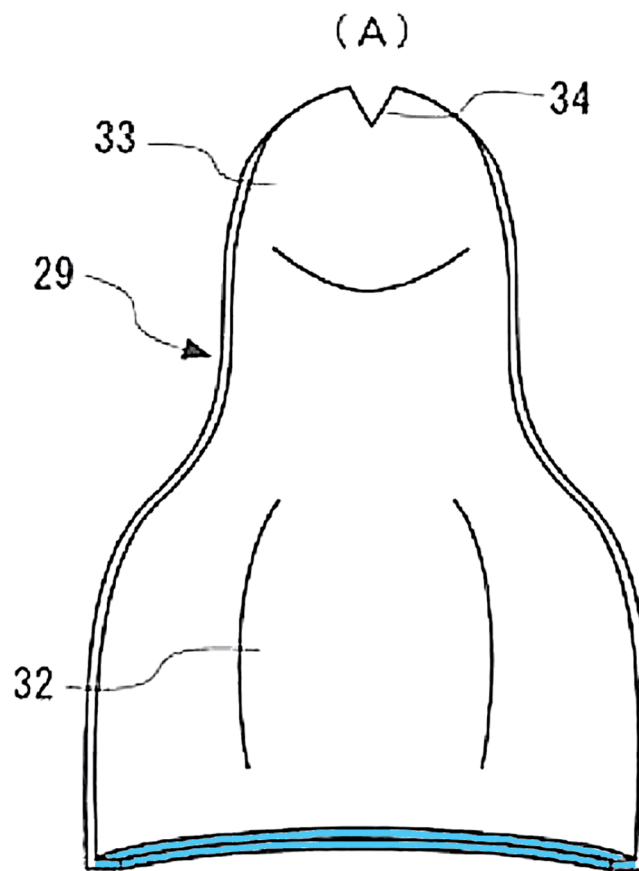
Thus, Takahashi expressly discloses the “foam liner” limitation—the ’325 patent’s sole basis for allowance over the art cited by the Examiner. Takahashi accordingly anticipates claim 1.

C. Claim 2

- **2:** *“The rapid-entry shoe of claim 1, wherein the base portion of the stabilizer extends into the sole.”*

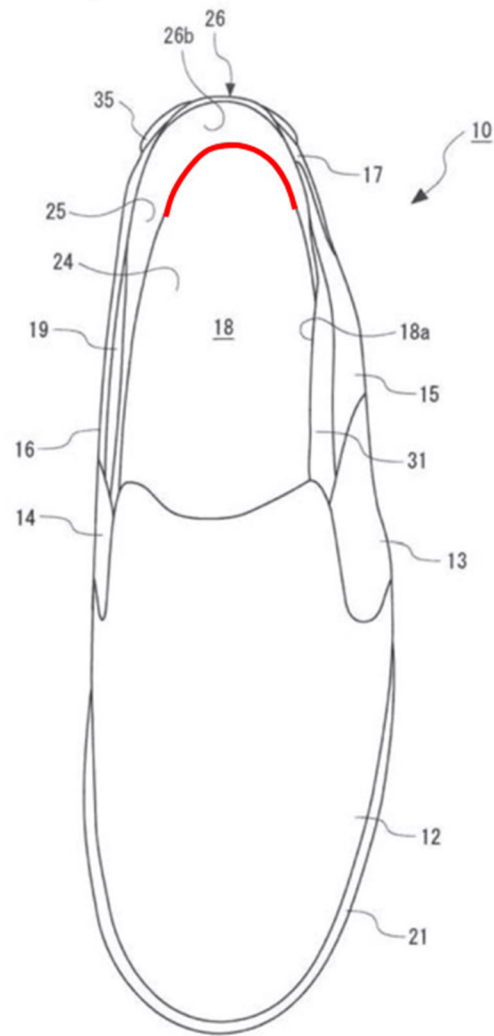
Takahashi discloses dependent claim 2’s added limitations. As discussed for 1[f] and 1[j], Figure 4(A) shows that the counter stabilizer comprises an inwardly-extending flange at its bottom portion:

[FIG. 4]



Takahashi, Fig. 4(A). A POSITA would have understood that this flange sits underneath at least insole 24 of Takahashi’s shoe, as annotated by Petitioner below:

[FIG. 2]



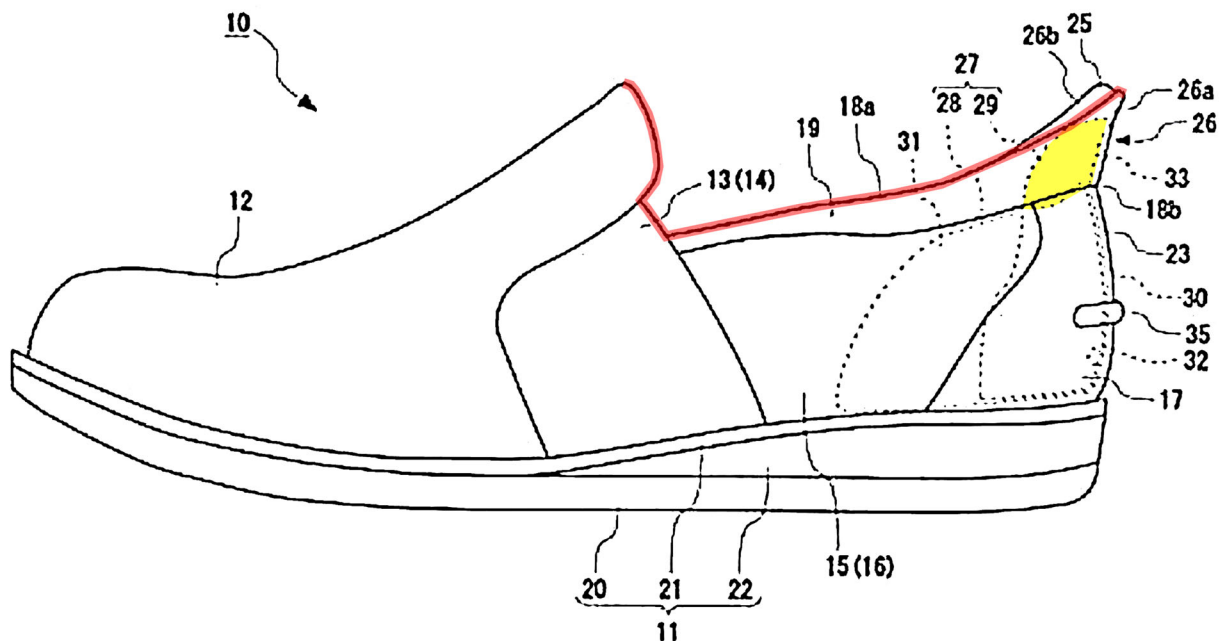
Id. Fig. 2; EX1005, ¶¶22-31. As explained by the '325 patent, the shoe's insole is part of its sole. EX1001 4:20-21 ("a rapid-entry shoe comprises a 'sole portion' (e.g., footbed, ***insole***, midsole, outsole.)").

D. Claim 3

- **3: “The rapid-entry shoe of claim 1, wherein the elevated portion of the stabilizer extends to a top collar of the upper of the rapid-entry shoe.”**

Takahashi discloses claim 3’s added limitations. For example, as shown below, “the elevated portion of the stabilizer” (highlighted yellow) “extends to a top collar of the upper of the rapid-entry shoe” (red):

[FIG. 1]



Takahashi, Fig. 1. This is consistent with Takahashi’s description and claims. For example, claim 2 recites, “the *heel guide portion* is provided at the *rear end of a top line* forming the periphery of the opening” of the shoe. *Id.*, Cl. 2. Takahashi further explains, “*the rear edge of the opening edge* of the shoe opening is provided with a

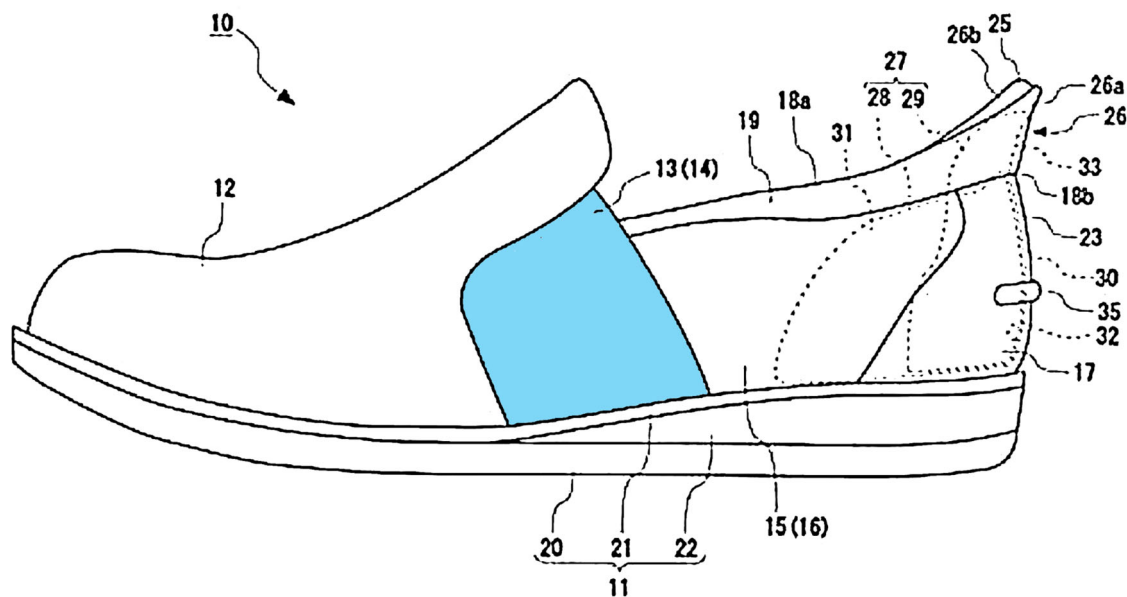
guide portion sloping upward as it goes away from the rear edge of the shoe opening.” *Id.*, ¶8.

E. Claim 4

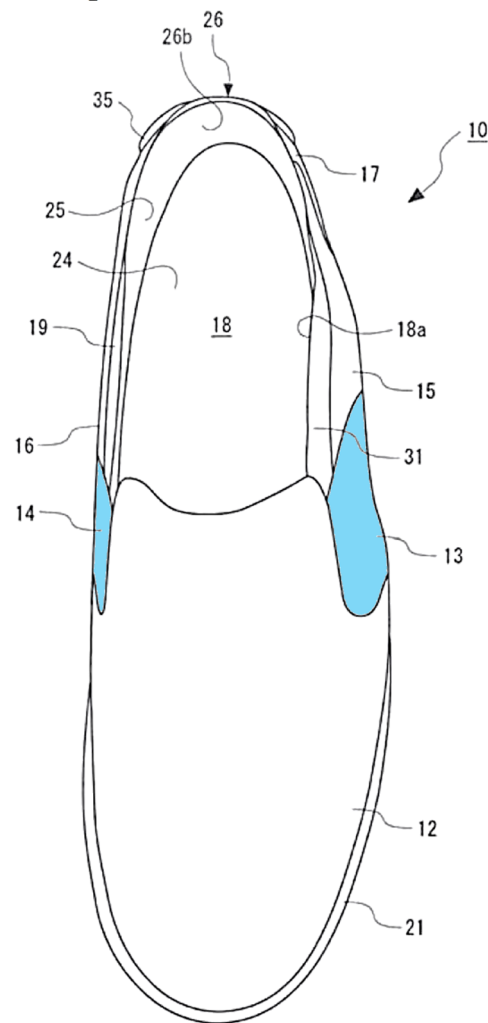
- 4: “The rapid-entry shoe of claim 1, further comprising an elastic element disposed on a side portion of the upper and forward relative to the rear portion.”

Takahashi discloses claim 4’s added limitations. Takahashi includes “stretchable portions 13, 14 located on both the left side and the right side to allow the deformation of the upper 12,” *id.*, ¶37, “made of, for example, a stretchable cloth or rubber sheet,” *id.*, ¶45, highlighted blue below:

[FIG. 1]



[FIG. 2]



Id., Figs. 1, 2.

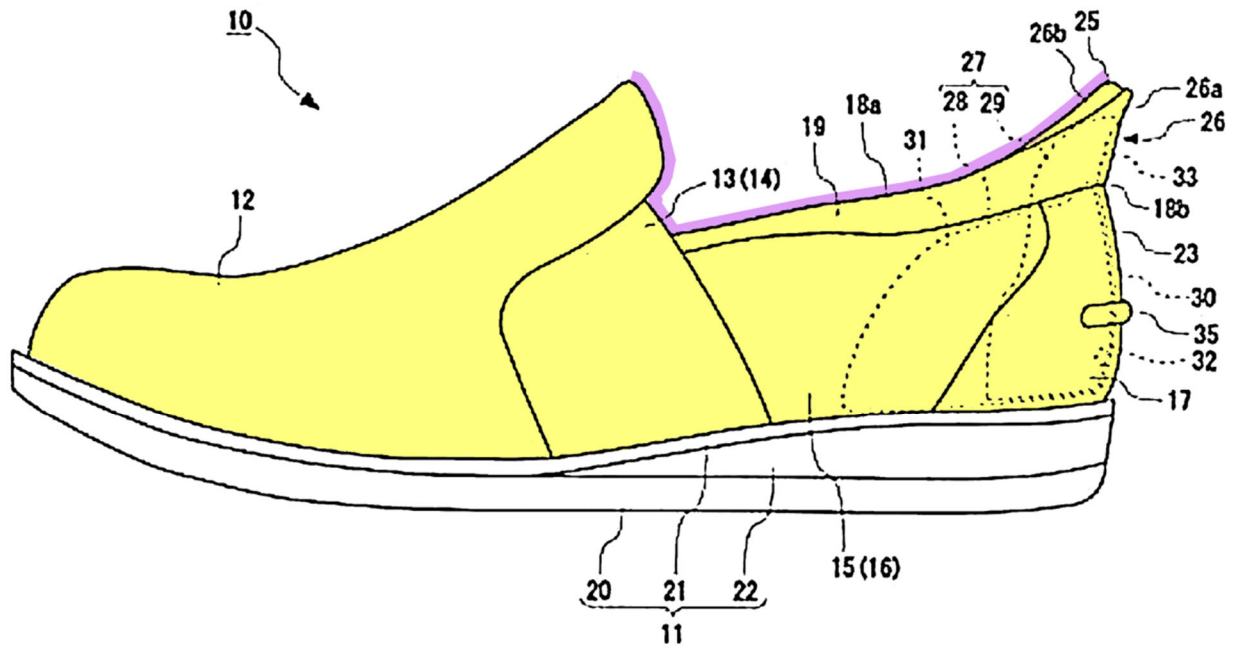
F. Claim 5

- **5:** “The rapid-entry shoe of claim 4, wherein the upper defines a foot opening and wherein the elastic element enlarges the foot opening of the rapid-entry shoe in response to a foot being inserted into the opening and contacting at least a portion of the upper.”

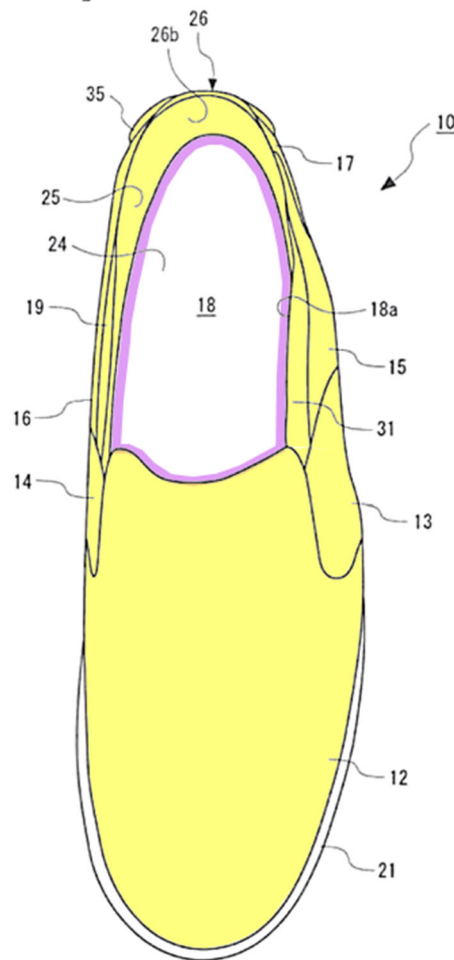
Takahashi discloses claim 5’s added limitations.

First, Takahashi discloses the shoe of claim 4 “wherein the upper defines a foot opening.” For example, Figures 1 and 2 below show that the upper (highlighted yellow) defines a foot opening (pink):

[FIG. 1]



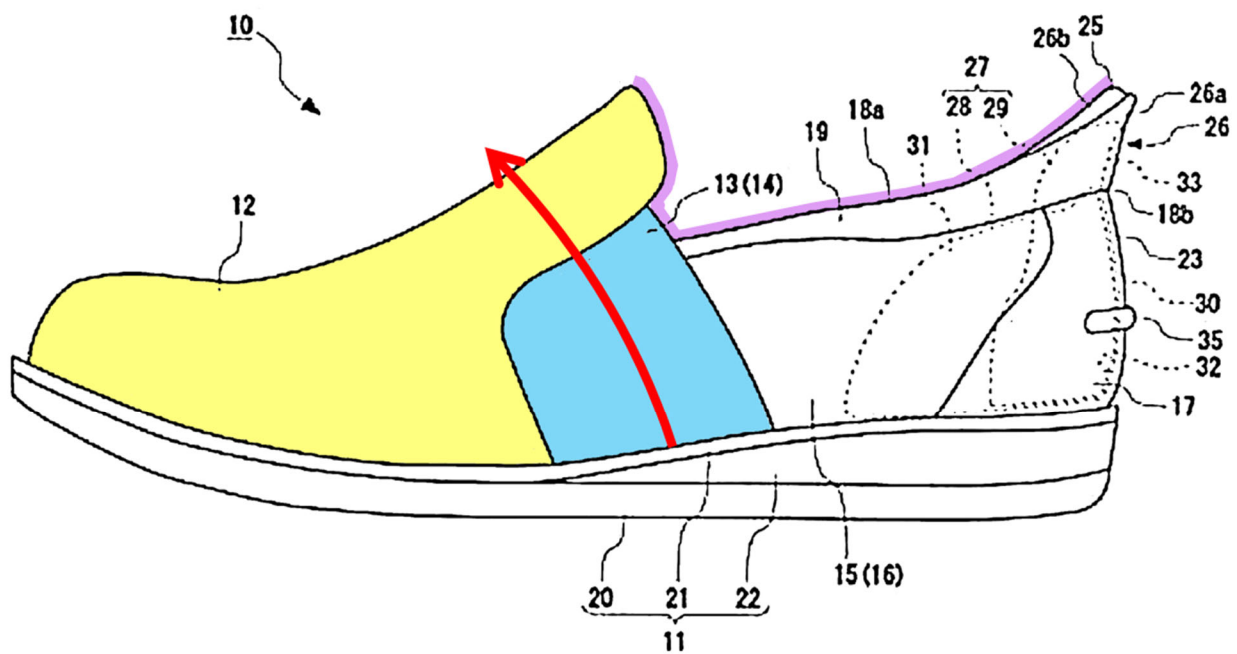
[FIG. 2]



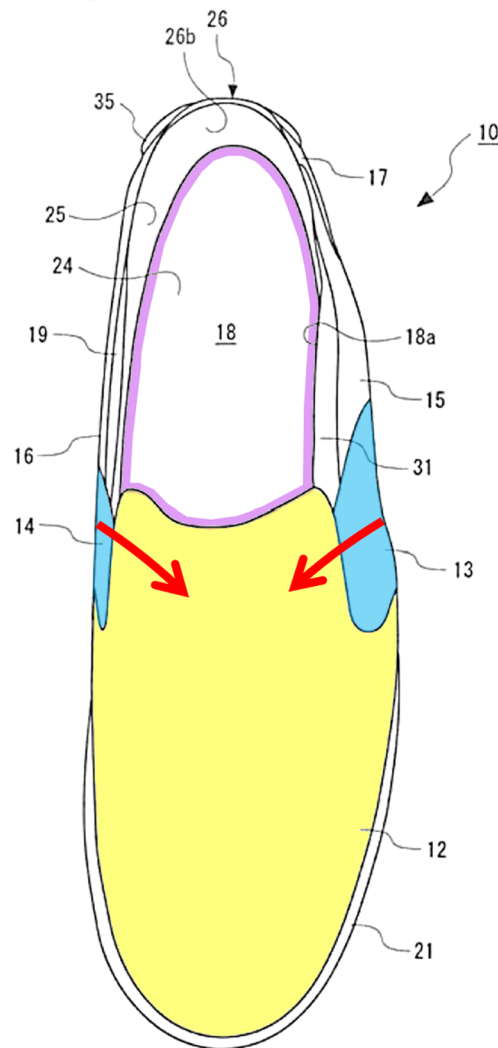
Takahashi, Figs. 1 & 2

Second, Takahashi discloses the shoe of claim 4 “wherein the elastic element enlarges the foot opening of the rapid-entry shoe in response to a foot being inserted into the opening and contacting at least a portion of the upper.” For example, as shown in Figures 1 and 2 below, the “elastic element” (highlighted blue) “enlarges the foot opening” (pink) “in response to a foot being inserted into the opening and contacting at least a portion of the upper” (e.g., the elastic enlarges the foot opening when a foot contacts at least the yellow portion of the upper):

[FIG. 1]



[FIG. 2]



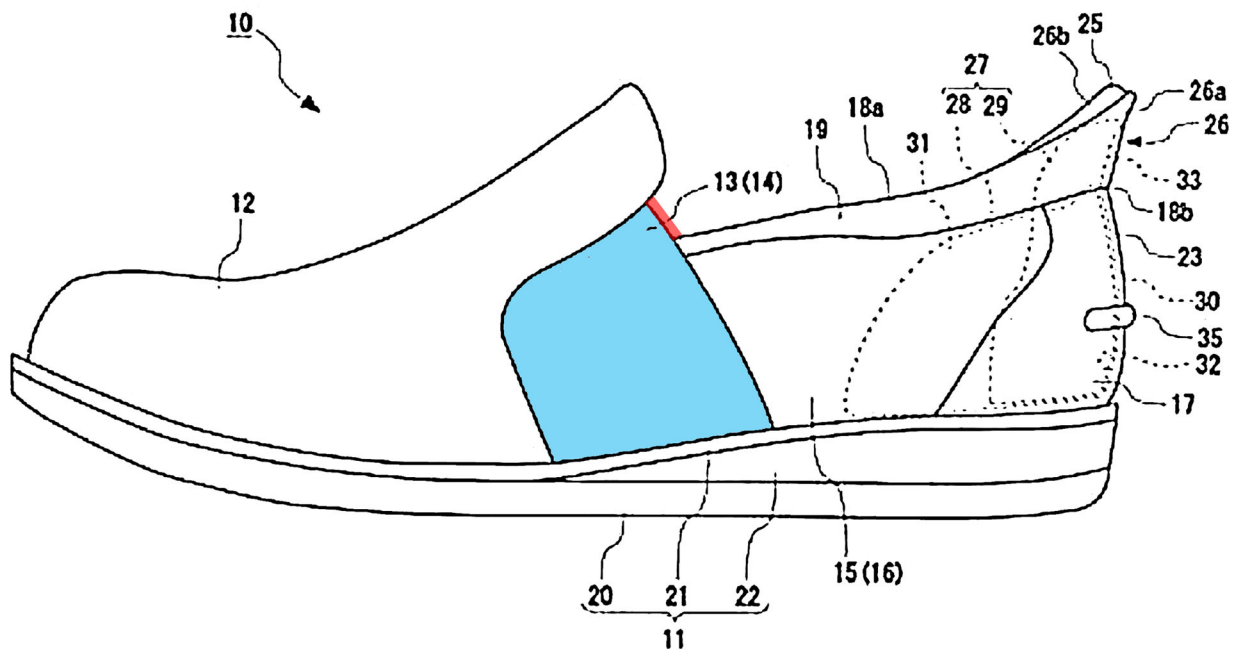
Id., Figs. 1, 2. Consistent with Petitioner’s annotations, Takahashi explains that the stretchable portions “allow the deformation of the upper 12,” *id.*, ¶37, and that “[t]he rear edge of the upper 12 is a free end capable of being displaced and deformed (warped) upward during the insertion of foot, and constitutes the front side of the shoe opening 18,” *id.*, ¶44.

G. Claim 6

- **6:** *“The rapid-entry shoe of claim 4, wherein the elastic element forms at least a portion of a top collar of the upper of the rapid-entry shoe.”*

Takahashi discloses claim 6’s added limitations. For example, as denoted by the red line added to Figure 1, the stretchable portions’ top edges form a portion of a top collar of the upper:

[FIG. 1]



Id., Fig. 1.

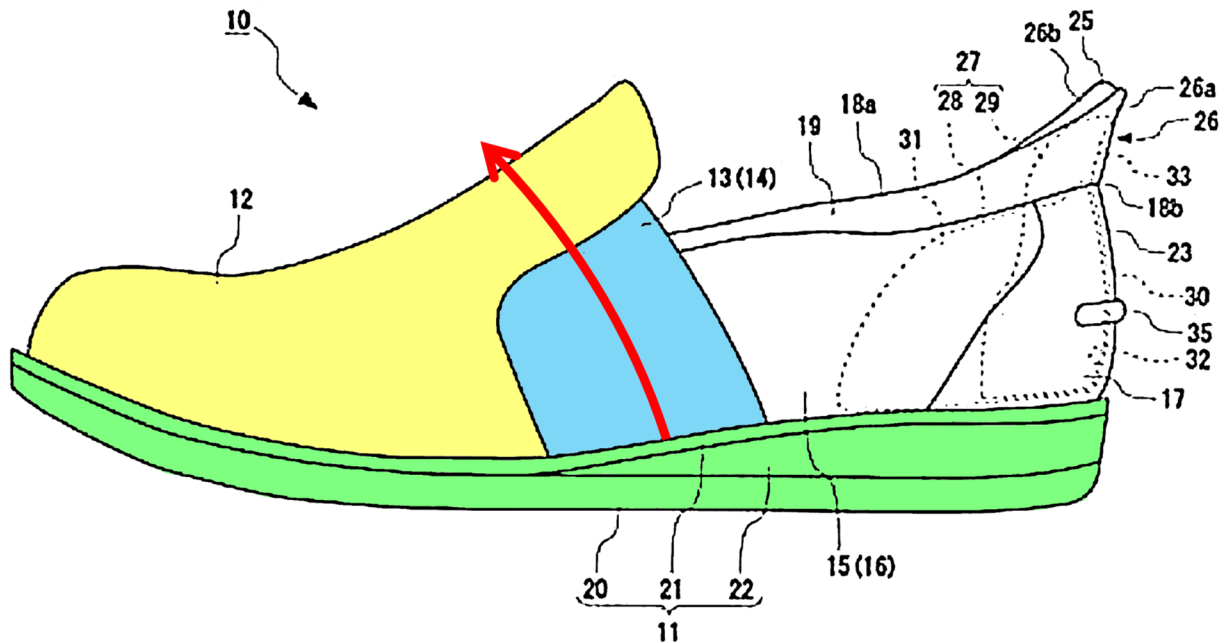
H. Claim 7

- **7:** *“The rapid-entry shoe of claim 4, wherein the elastic element enables a forward portion of the upper to flex relative to the sole of the rapid-entry shoe.”*

Takahashi discloses claim 7’s added limitations. For example, annotated Figure 1 below shows the “elastic element” (highlighted blue) “enables a forward

portion of the upper” (yellow) “to flex relative to the sole of the rapid entry shoe” (green):

[FIG. 1]



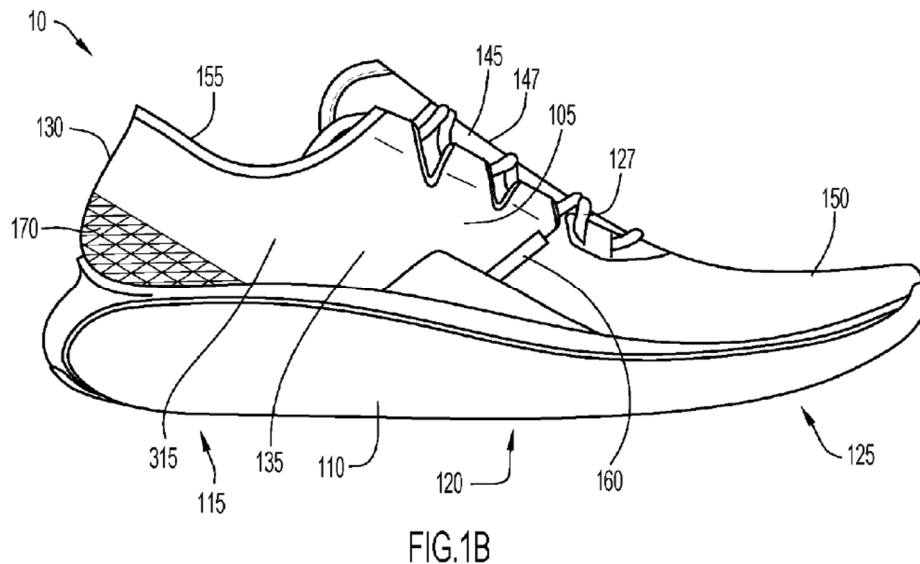
Id., Fig. 1. Takahashi’s description is consistent, stating that the stretchable portions “allow the *deformation* of the upper 12,” *id.*, ¶37, and “[t]he rear edge of the upper 12 is a free end capable of being *displaced and deformed (warped) upward* during the insertion of foot,” *id.*, ¶44.

VIII. GROUND 2: CLAIMS 8 AND 9 ARE OBVIOUS OVER TAKAHASHI AND DOENGES

Claims 8 and 9 depend from claim 1, which is anticipated by Takahashi. *See supra*, Part VII.B. Claim 8 adds a “lattice structure adjacent the stabilizer,” and claim 9 further adds that the lattice structure “is visible on an outside surface of the rapid-entry shoe.” Both are obvious over Takahashi in view of Doenges.

A. Overview of Doenges (EX1009)

Doenges discloses footwear and methods of their manufacture wherein “[a]t least a portion of the upper comprises a fabric laminate.” Doenges, ¶5. A fabric laminate “is a thermoformable, textile laminate” that “compris[es] a plurality of layers” and is “shaped via compression molding.”⁷ *Id.*, ¶38. The layers “include one or more internal structural support members,” such as “an internal heel counter 420 located at the heel end 130 ... of the upper,” *id.*, ¶44, and further include “one or more foam layers” for cushioning, *id.*, ¶¶38-42. Doenges explains that this process can create “an external surface pattern 170” at the rear portion of the upper:



Id., Fig. 1B, ¶62.

⁷ Compression molding is a standard manufacturing process consisting of “[s]haping materials by heat and pressure.” EX1017, p.5.

Doenges's compression-molded laminate is an improvement over "conventional uppers" that are "constructed via stitching" by avoiding the "significant number of seams" required to "stitch[] the individual pieces ... together to form the upper," causing friction and discomfort. *Id.*, ¶¶2-4. Doenges's laminate also provides "rigidity or support in certain areas of the shoe (e.g., the heel section) while maintaining lightweight characteristics of the footwear." *Id.*

B. Claim 8

- **8: "*The rapid-entry shoe of claim 1, further comprising a lattice structure adjacent the stabilizer.*"**

Takahashi anticipates claim 1, which discussion is incorporated here by reference. *See* Part VII.B, *supra*. Furthermore, a POSITA would have found it obvious to combine Takahashi with Doenges's "compression-molded laminate," meeting claim 8's limitation of "a lattice structure adjacent the stabilizer."

For example, Doenges's "compression molding process" creates a "pattern of depressions and/or protrusions along a surface of the fabric laminate that defines an exterior surface portion of the upper." Doenges, ¶62. "[T]he heel cup 305 of the upper 105 can include an *external surface pattern 170* that forms an uneven contour of indentations and/or raised ridges (e.g., a pattern 170 having generally concave

depressions, such as *polygonal or diamond shaped depressions*)." *Id.* Doenges provides example heel regions bearing a diamond-shaped lattice pattern:⁸

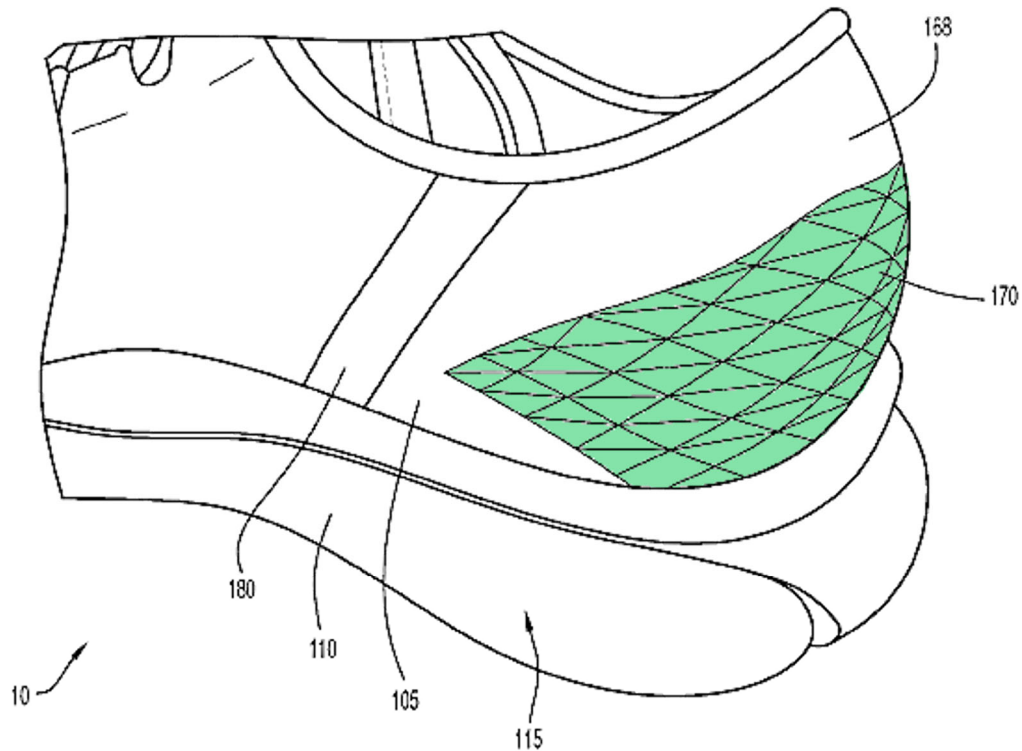


FIG.1A

⁸ Under the plain meaning of “lattice,” Doenges’s diamond-shaped pattern clearly qualifies as a lattice structure. *See, e.g.*, EX1030 (“a structure consisting of strips of wood or metal crossed and fastened together with square or diamond-shaped spaces left between, used as a screen or fence or as a support for climbing plants. ■ an interlaced structure or pattern resembling a lattice”); EX1031 (“An open framework made of strips of metal, wood, or similar material overlapped or overlaid in a regular, usually crisscross pattern.”); EX1032 (“a structure made from strips of wood or other material which cross over each other with spaces between”); EX1033 (“an openwork structure of crossed strips or bars of wood, metal, etc.”).

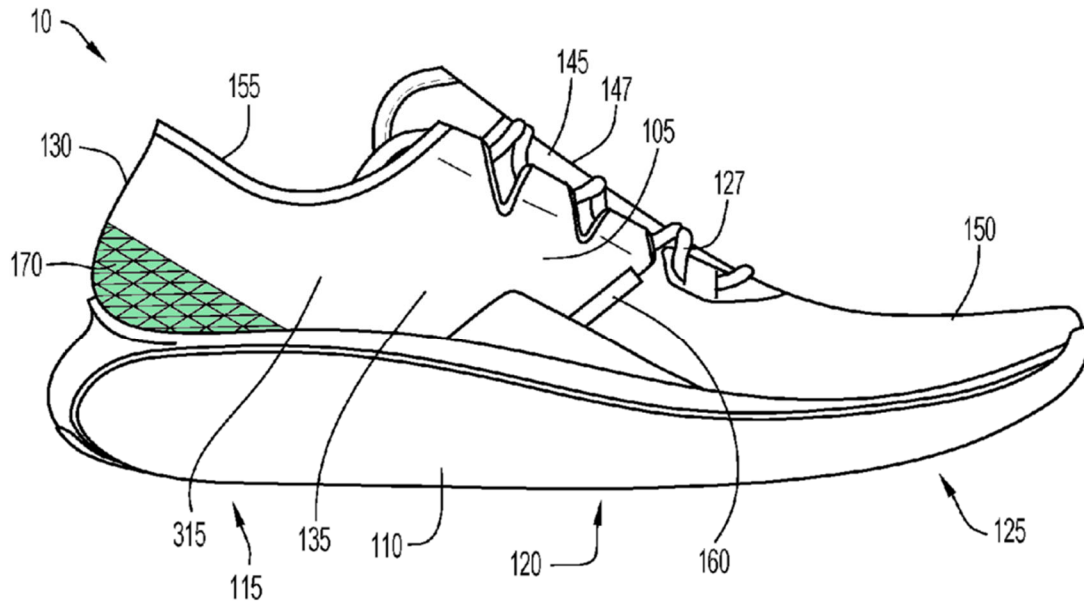
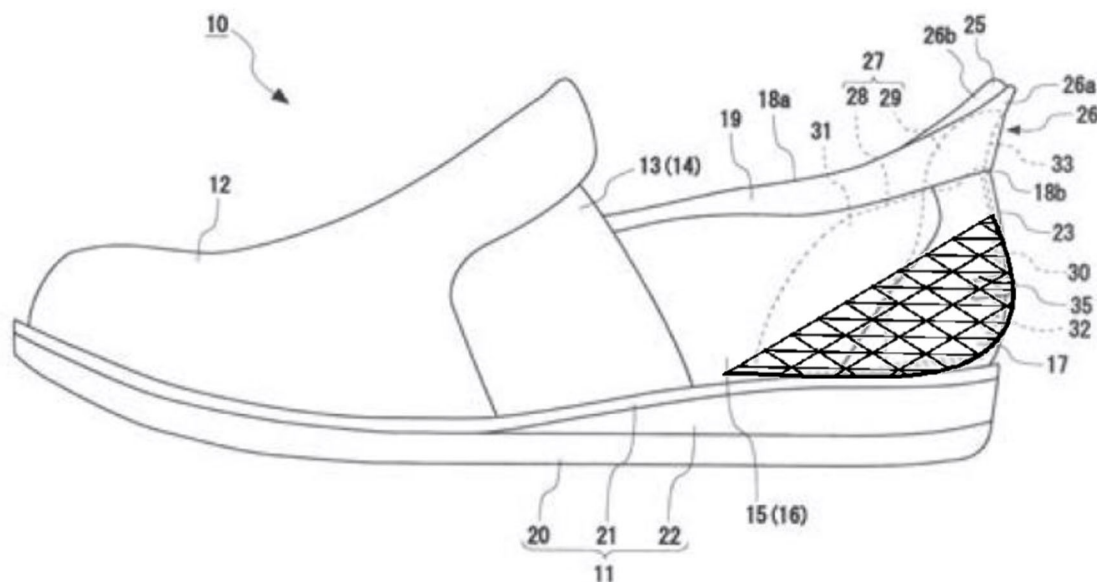


FIG. 1B

Id., Figs. 1A-B. When applied to Takahashi, Doenges's lattice structure would clearly be "adjacent the stabilizer," located around Takahashi's heel portion 17, as shown below in Figure 1 of Takahashi in which Petitioner has overlaid Doenges's lattice pattern for illustration:

[FIG. 1]



Takahashi, Fig. 1 (with Doenges's "external surface pattern 170" overlaid).

A POSITA's motivations to make this combination, and reasonable expectation of success, are discussed in Part VIII.D below.

C. Claim 9

- **9: “*The rapid-entry shoe of claim 8, wherein the lattice structure is visible on an outside surface of the rapid-entry shoe.*”**

Claim 9 is obvious over Takahashi and Doenges for the same reasons as claim 8. Doenges's lattice structure “defines an *exterior surface portion* of the upper.” Doenges, ¶62. It is plainly “visible on an *outside surface* of the rapid-entry shoe.”

D. Combining Takahashi and Doenges

A POSITA would have been motivated to combine Takahashi and Doenges, with a reasonable expectation of success, by simply adding Doenges's “fabric laminate” lattice structure to Takahashi's shoe.

Forming at least the heel region of Takahashi's upper using Doenges's compression-molded fabric laminate would have been “the mere application of a known technique to a piece of prior art ready for the improvement.” *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007). Doenges teaches that its fabric laminate would improve the heel portion of a shoe upper by preventing friction and discomfort caused by “seams and/or stitches in the heel” area. *Id.*, ¶4. Notably, Takahashi's “heel portion 17” is explicitly “joined by sewing” to the rest of the shoe. Takahashi, ¶49. Doenges, however, explains that using its fabric laminate to form a

heel portion “provides a seamless connection that minimizes and/or eliminates the friction caused by conventional (exposed) seams.” Doenges, ¶¶34, 60 (“[F]ormation of the upper in this manner results in a heel cup 305 ... that is seamless. This differs from conventional footwear, which typically includes a seam ... within the heel cup.”). A POSITA would have recognized that Doenges’s fabric laminate would improve Takahashi’s heel portion, avoiding friction caused by traditional sewing. *See Intel Corp. v. PACT XPP Schweiz AG*, 61 F.4th 1373, 1380-81 (Fed. Cir. 2023) (“[I]f there’s a known technique to address a known problem using ‘prior art elements according to their established functions,’ then there is a motivation to combine.”); *KSR*, 550 U.S. at 402 (“When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill in the art has good reason to pursue the known options within his or her technical grasp.”).

A POSITA would further have been motivated to apply Doenges’s diamond-shaped external surface pattern to Takahashi’s heel. Doenges explains that the “protrusions” of the lattice pattern formed “at outer surface portions of the upper” provide “abrasion resistance or impact protection in specified areas of the upper,” and further that the lattice pattern “function[s] as an auxetic material” which “enhanc[es] the mechanical properties such as high energy absorption characteristics and greater ability to stretch without tearing/fracturing.” Doenges, ¶¶63-64. A

POSITA would have been motivated to incorporate these added benefits to Takahashi's heel portion. *See DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1368 (Fed. Cir. 2006) ("implicit motivation to combine exists" when "the 'improvement' is technology-independent" and "results in a product or process that is more desirable, for example because it is stronger, cheaper, cleaner, faster, lighter, smaller, more durable, or more efficient.").

A POSITA would have had a reasonable expectation of success in incorporating Doenges's fabric laminate into Takahashi's heel portion. Doenges explicitly teaches that its method can be readily applied to manufacture shoes like Takahashi's. For example, Doenges's fabric laminate can include "an internal structural support member in the form of an *internal heel counter* 420 located at the heel end 130 (i.e., at the heel cup 305) of the upper" that "spans continuously from the lateral side to the medial side of the upper, as well as from a point proximate the collar to a point proximate the sole structure." *Id.*, ¶44.

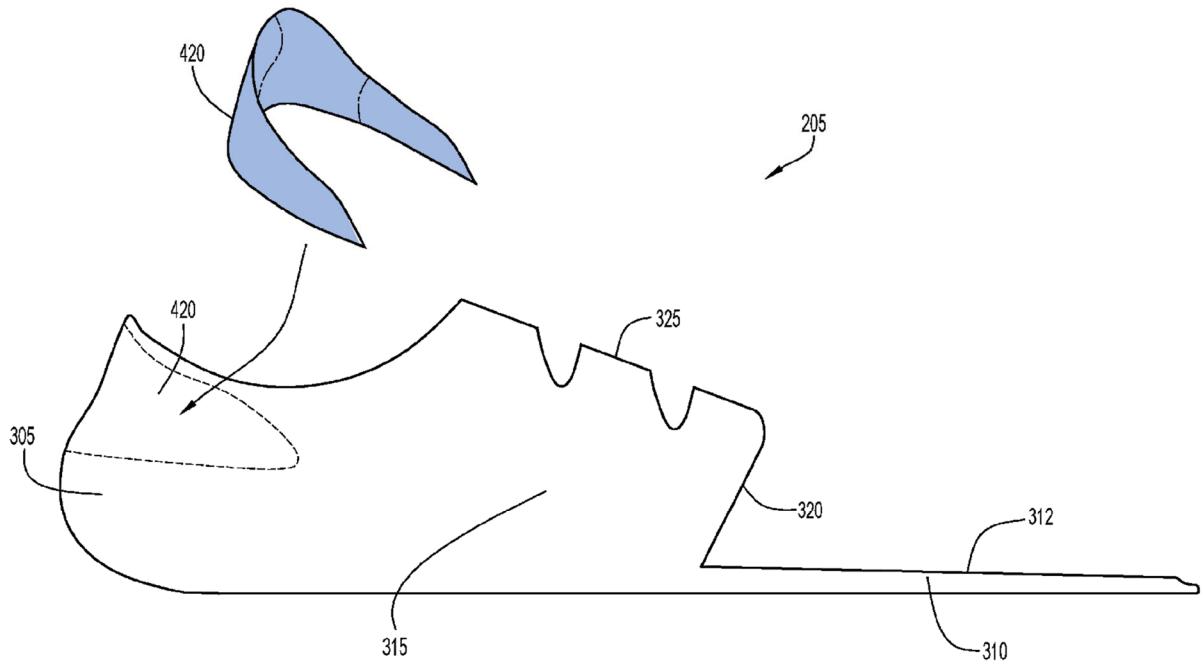


FIG.3

Id., Fig. 3. A POSITA would have understood that this teaching is applicable to Takahashi’s “counter 27” that “is disposed between the heel portion 17 and the lining 25” of its shoe. Takahashi, ¶59. Both have a highly similar shape, are formed of the same materials,⁹ and provide similar stability and heel-retention benefits.¹⁰ Doenges

⁹ See, e.g., Takahashi, ¶¶61-62 (counter may be made from “thermoplastic polyurethane” or “polyamide”); Doenges, ¶43 (counter may be made from “polyurethanes” or “polyamides”).

¹⁰ See, e.g., Takahashi, ¶¶75-76 (“the heel portion 17 is provided with a heel curve 23 ... to hold a person’s heel and make it difficult for the shoe to slip off” and “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.”); Doenges ¶57 (“heel counter 420 ... functions to strengthen the heel area of the upper, stabilize the user’s heel inside the shoe, provide support around the user’s ankle and/or control and stabilize the

also teaches that its method can be applied to manufacture Takahashi's foam cushioning, as the laminate comprises "one or more foam layers" incorporated into the upper to "provide adequate cushioning and comfort" to the shoe. Doenges, ¶¶38-42. Doenges explains:

The fabric laminate 405 used to form the upper 105 at the heel end 130 includes a plurality of layers that are oriented or "stacked" in the following alignment (from interior or upper cavity/foot-facing side to exterior side of upper, or from right to left as shown in FIG. 4): (inner) fabric layer 408/foam layer 410/reinforcing fabric layer 415/internal structural support member layer 420/foam layer 410/(outer) fabric layer 408.

Id., ¶48. Doenges further provides significant guidance on the selection of foam and reinforcing materials and how to arrange them during the formation of the fabric laminate. *See, e.g., id.*, ¶¶42, 47-55. A POSITA would thus have had a reasonable expectation of success in combining them, as each component would act in the same way it did in the original reference (e.g., Takahashi's heel portion manufactured by Doenges's method would continue to support the heel region and direct the foot into the shoe). Forming Takahashi's heel portion from Doenges's fabric laminate would not require substantial experimentation or modification, as Doenges provides detailed instructions concerning the required equipment and materials and how to assemble them. *See, e.g., id.* ¶¶38-46, 50-55. Furthermore, the reasonable

user's heel inside the shoe and to minimize excessive supination or pronation of the foot.").

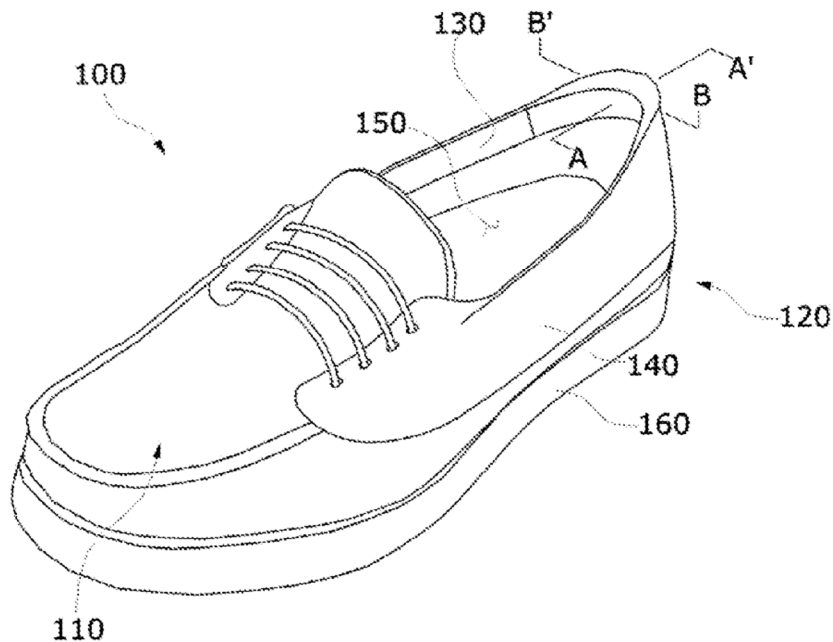
expectation of success is implicitly shown through the references themselves and the further obviousness analysis herein.

IX. GROUND 3: CLAIMS 1-3 ARE ANTICIPATED BY SHIN

A. Overview of Shin (EX1010)

Shin teaches “an easy-to-wear functional shoe that a wearer may easily put on without bending his/her waist and without using his/her finger or an auxiliary tool such as a shoehorn.” Shin, 1:47-50; EX1012, ¶10; EX1015, ¶8.

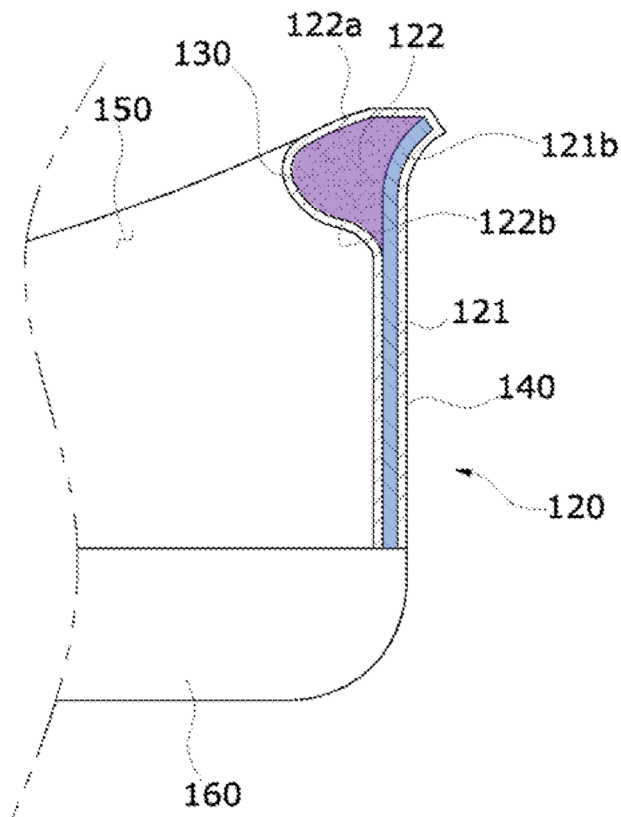
[FIG. 1]



Shin, Fig. 1. A “support member 121” is provided “between the inner skin 130 and the outer skin 140” of the shoe that “support[s] the shoe’s heel 120,” Shin, 4:4-20, EX1012, ¶¶41-46, EX1015, ¶¶47-51, and “guide[s] a wearing path so that the foot 10 of the wearer may easily slide into the wearing groove 150.” Shin, 6:65-67;

EX1012, ¶93, EX1015, ¶92. The support member has “hardness sufficient to not allow the shoe heel to fold inward even by the external force applied by the wearer.” Shin, 2:3-5; EX1012, ¶19, EX1015, ¶15. Shin also discloses an “elastic member 122” coupled to the support member, made of “rubber material” or “urethane having elasticity”—both of which, as discussed below, a POSITA would have known refer to foam materials—that is “deformed by a pushing force of the foot heel” during donning and “restored to an original shape again after the foot heel 11 of the wearer has passed” into the shoe. Shin, 5:34-55; EX1012, ¶¶65-69, EX1015, ¶¶68-72. Figure 11 illustrates the support member 121 (highlighted blue) and elastic member 122 (purple):

[FIG. 11]



Shin, Fig. 11.

As discussed below, Shin discloses all elements of claims 1-3, including the foam liner limitation that was the sole basis for the '325 patent's issuance. Yet Shin was never cited by the Examiner, likely because it was buried amongst 247 other references in an IDS. *See* EX1002, p.1-24.

B. Claim 1

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

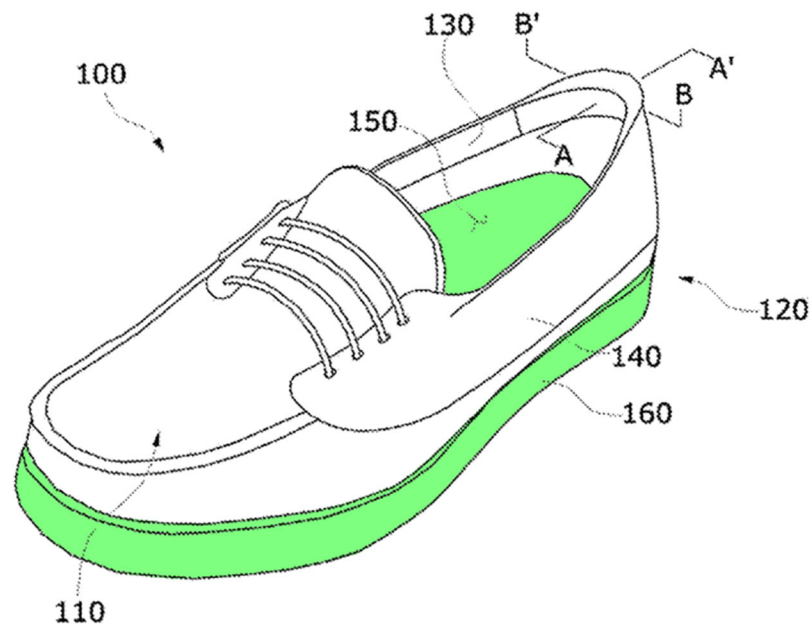
To the extent that the preamble is limiting, Shin satisfies it. As noted, a “rapid-entry shoe” refers to any “suitable type of shoe.” EX1001, 4:8-13. Shin provides

such a shoe, namely, “an easy-to-wear functional shoe that a wearer may easily put on without bending his/her waist” or “using his/her finger or an auxiliary tool such as a shoehorn.” Shin, 1:47-50; EX1012, ¶10; EX1015, ¶8.

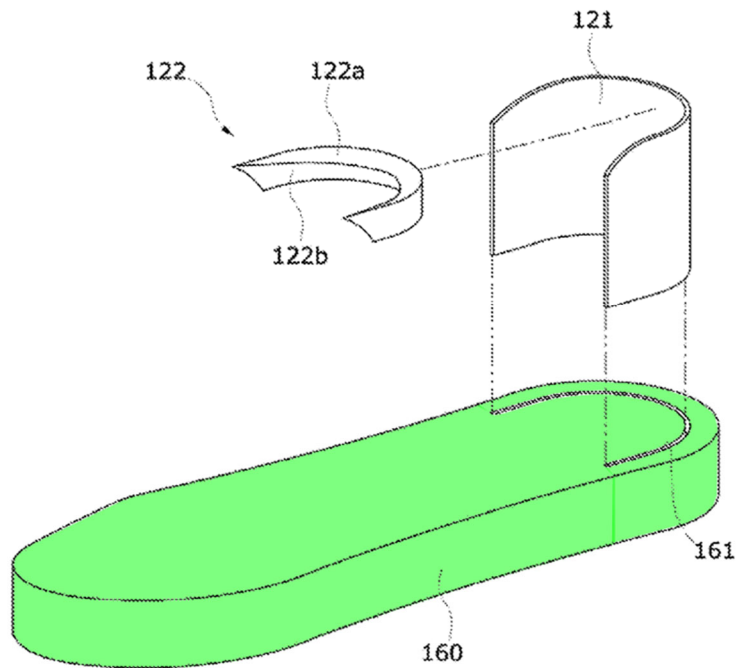
- *1[a]*: “a sole;”

Shin discloses 1[a]. For example, Shin’s “shoe 100 includes a wearing groove 150, on which a foot of the wearer is seated, and a sole 160.” Shin, 4:7-9; EX1012, ¶¶41-42; EX1015, ¶¶47-48. Figures 1 and 8 show the sole, highlighted green:

[FIG. 1]



[FIG. 8]



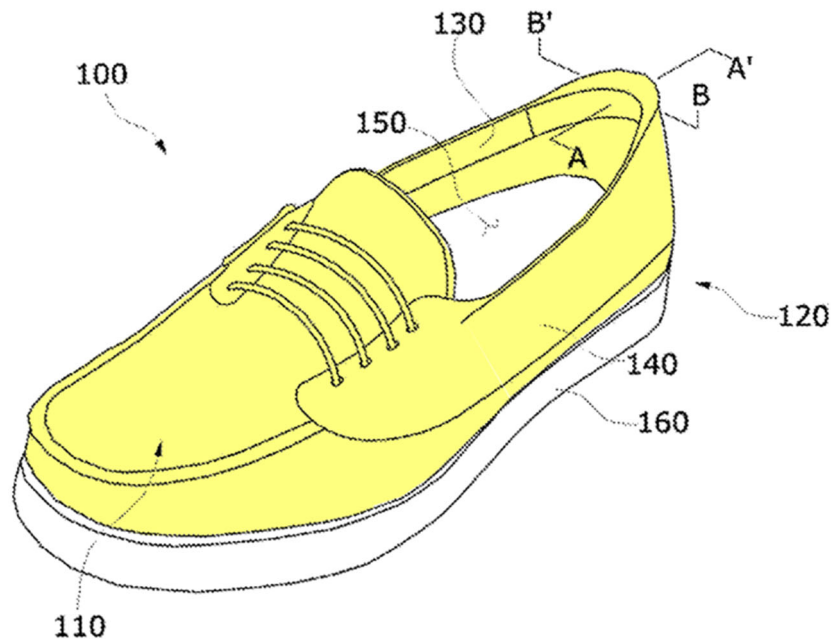
Shin, Figs. 1, 8.

- 1[b]: “an upper;”

Shin discloses 1[b]. Petitioner has annotated Shin’s upper, which includes everything above the sole,¹¹ in yellow in Figure 1:

¹¹ See, e.g., EX1017, p.20.

[FIG. 1]

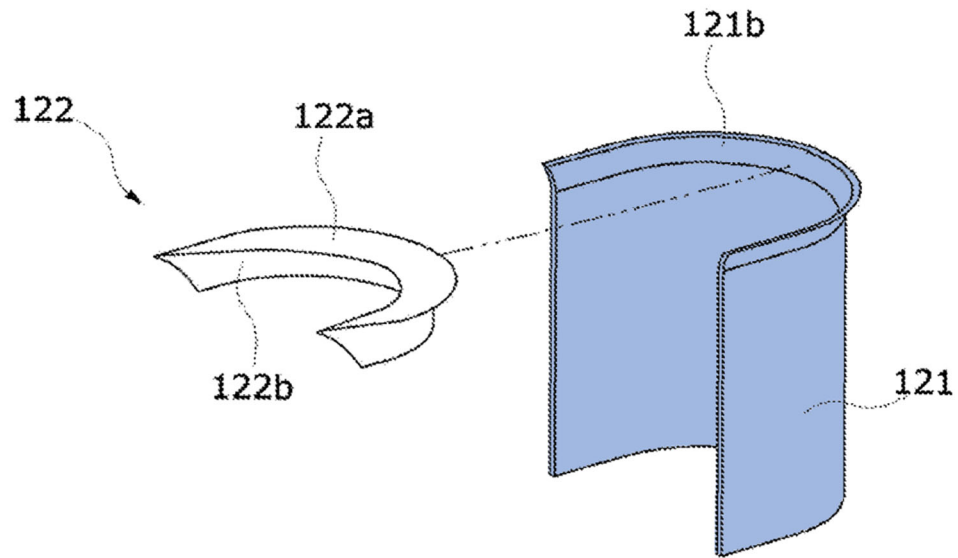


Shin, Fig. 1.

- *1[c]: “a stabilizer provided at a rear portion of the sole and comprised of a rigid material, the stabilizer comprising:”*

Shin discloses 1[c]. For example, Shin’s 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” during donning. Shin, 4:17-24; EX1012, ¶46; EX1015, ¶51. Further, “[t]he support member may be made of a material having *hardness sufficient to not allow the shoe heel to fold inward*” and “may be made of a reinforced plastic material.” Shin, 2:3-6; EX1012, ¶19; EX1015, ¶15. Figure 12 shows a “schematic view” of the support member:

[FIG. 12]

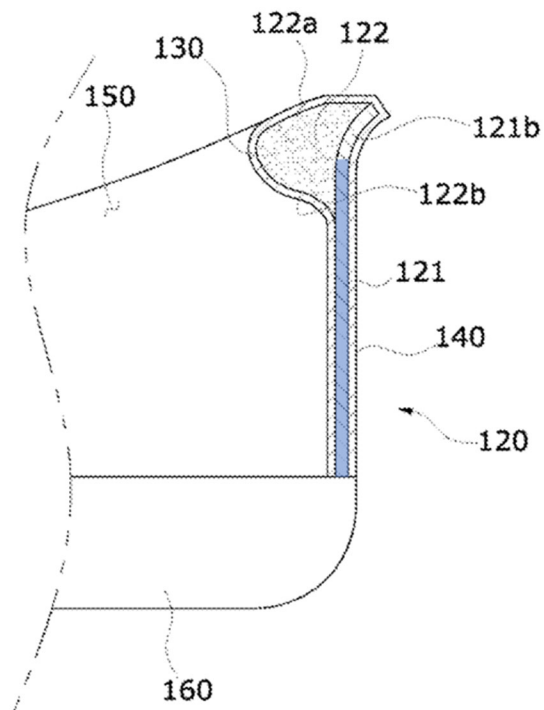


Shin, 6:44-47; Fig. 12.

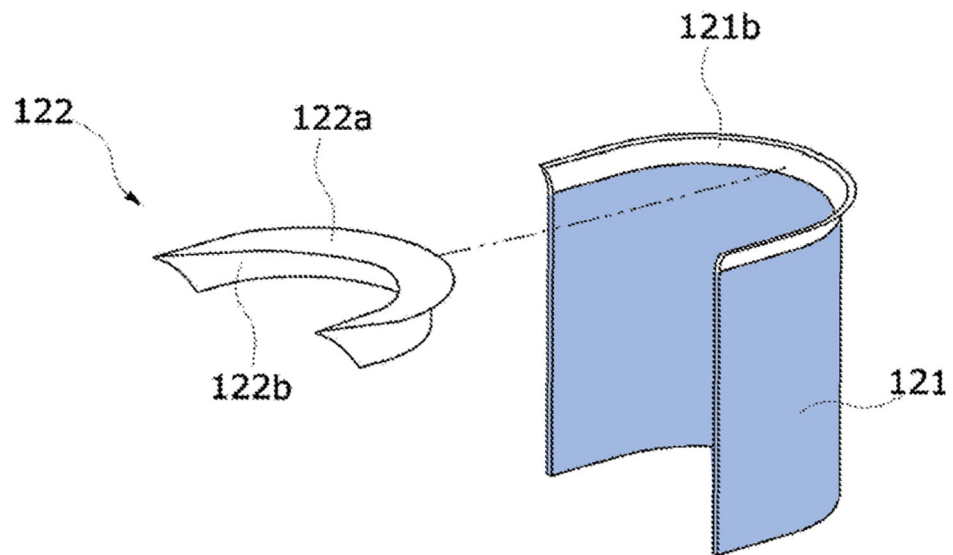
- *1[d]: “a base portion; and”*

Shin discloses 1[d]. For example, Figures 11 and 12 show “the upper end of the support member 121 is bent outward,” extending upward and rearward from “shoe heel 120.” Shin, 6:48-51; EX1012, ¶89; EX1015, ¶88. “That is, an *inclined section 121b* extending outward is provided at the *upper end of the support member 121*.” Shin, 6:52-53; EX1012, ¶90; EX1015, ¶89. The base portion extends downwards from this inclined section, as shown below (base portion highlighted blue):

[FIG. 11]

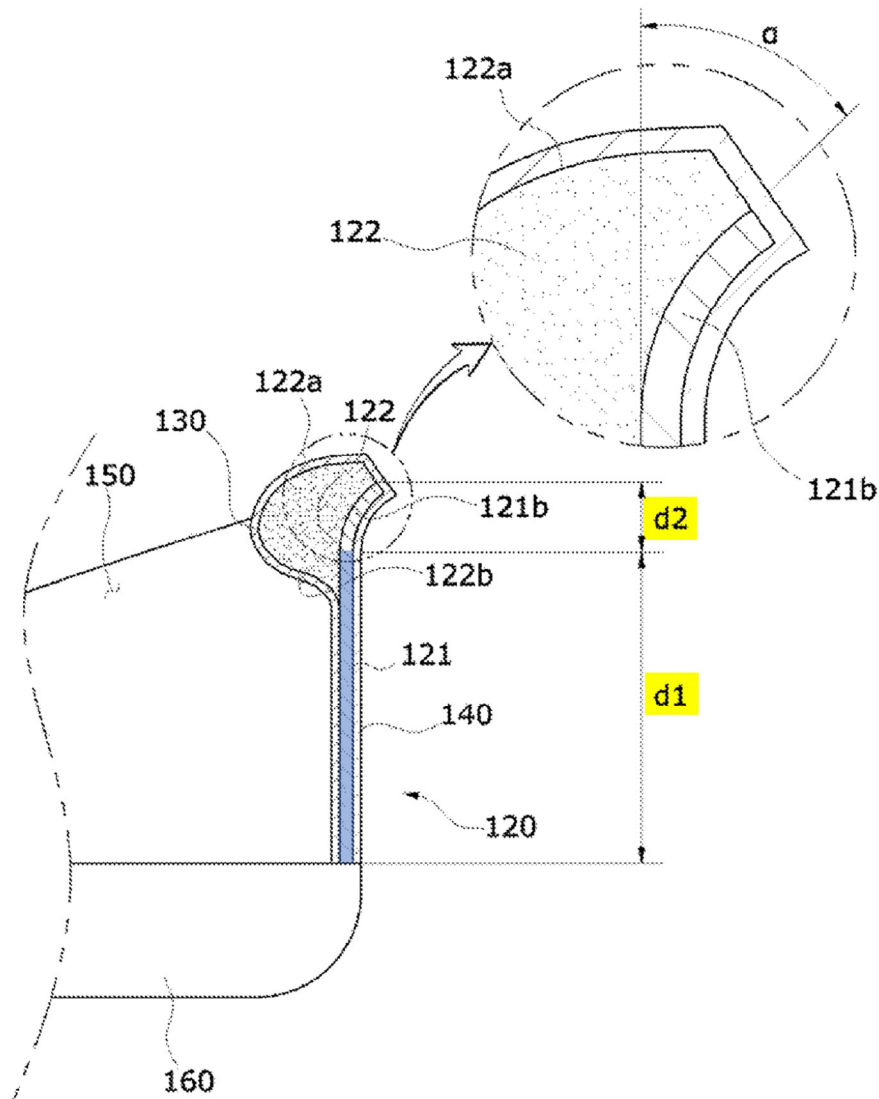


[FIG. 12]



Shin, Figs. 11, 12. Figure 15 shows a “modification of the elastic member,” illustrating this division with “lengths d1 and d2”:

[FIG. 15]

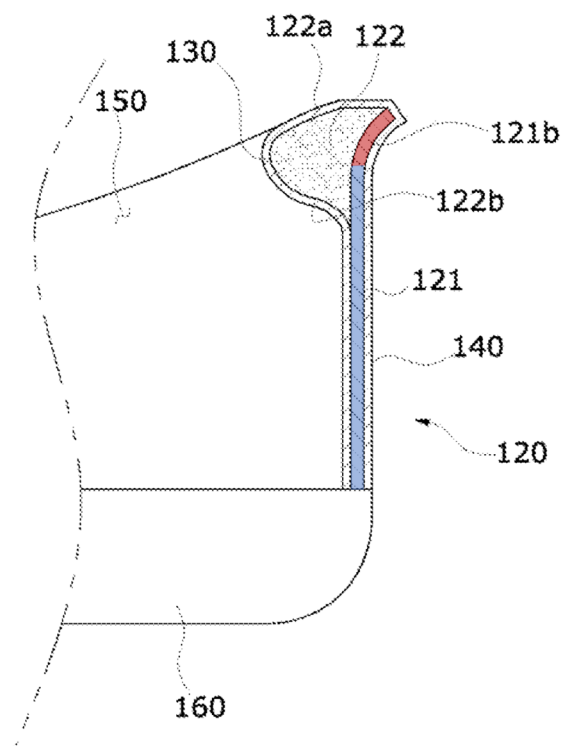


Shin, 7:42-64, Fig. 15; EX1012, ¶¶108-12; EX1015, ¶¶104-08.

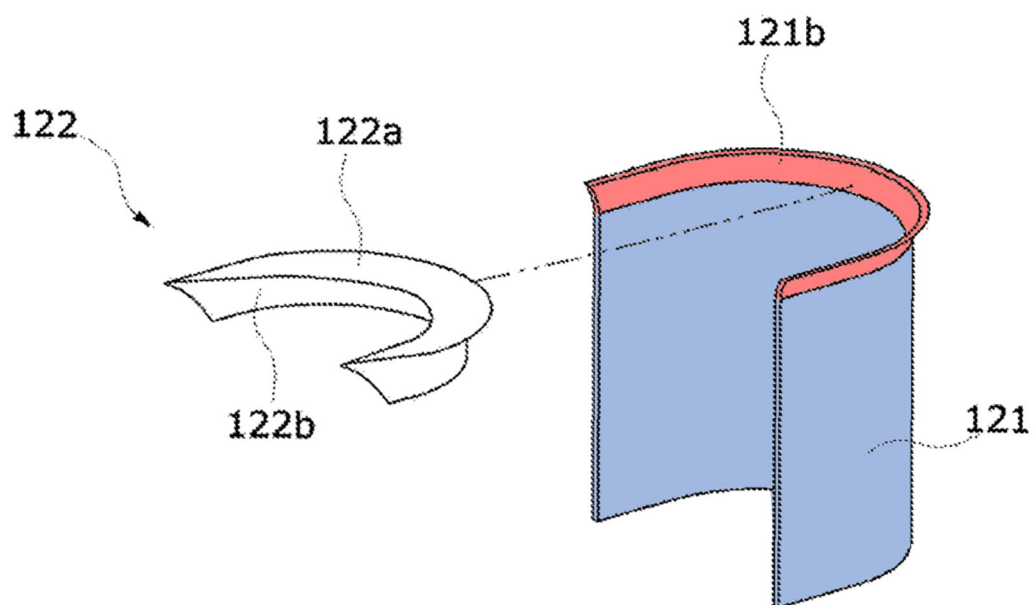
- **1[e]: “an elevated portion extending upward from the base portion, wherein:”**

Shin discloses 1[e]. “[T]he upper end of the support member 121” has “inclined section 121b extending outward” and rearward from the shoe opening, Shin, 6:52-64; EX1012, ¶90; EX1015, ¶88, as further shown below:

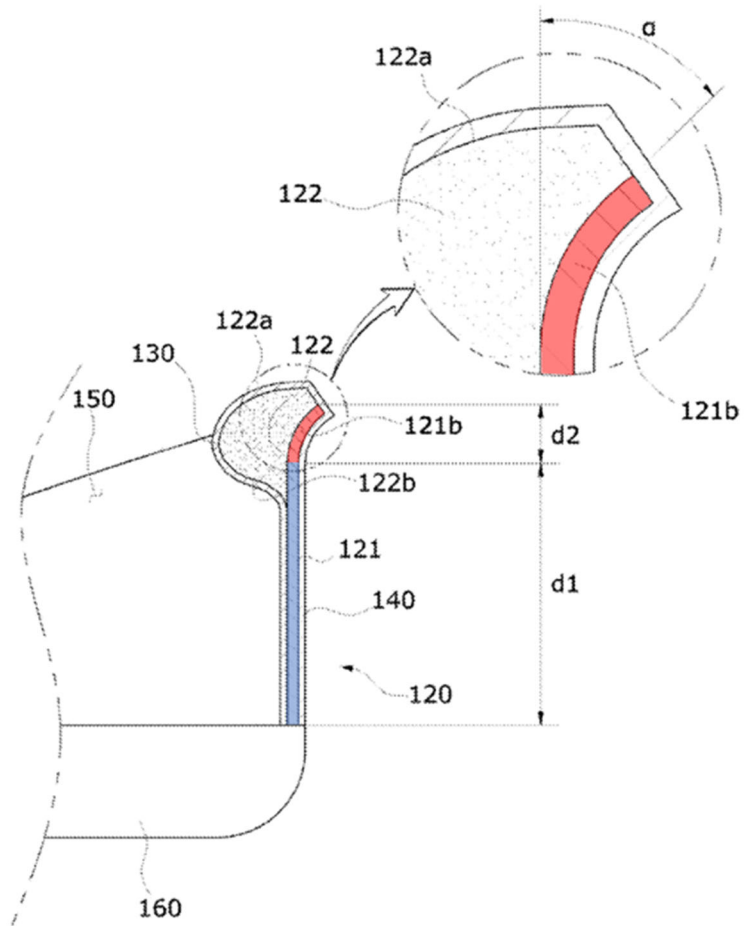
[FIG. 11]



[FIG. 12]



[FIG. 15]

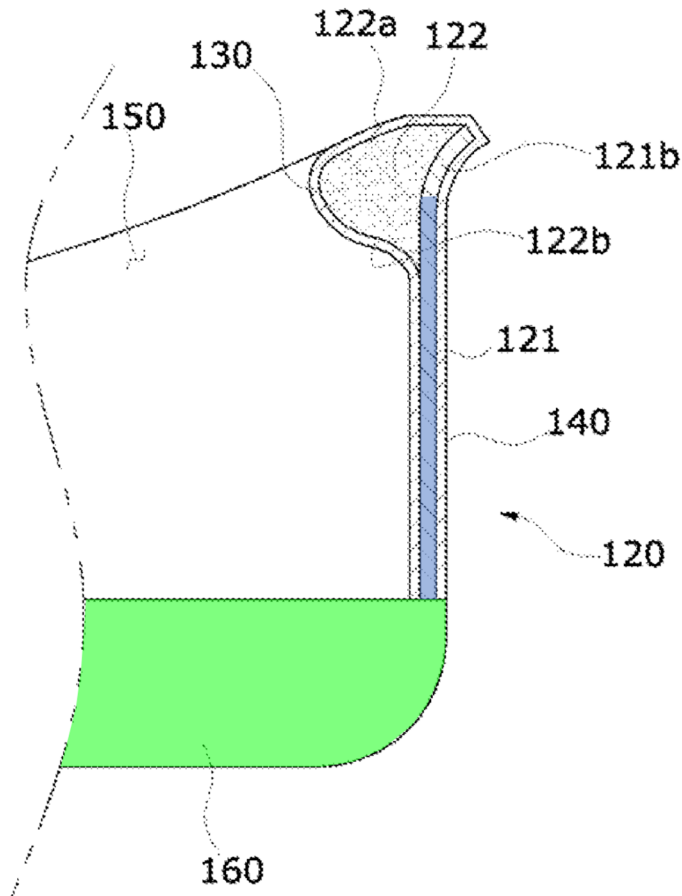


Shin, Figs. 11, 12, 15.

- 1[f]: “the base portion is proximate the sole and comprises:”

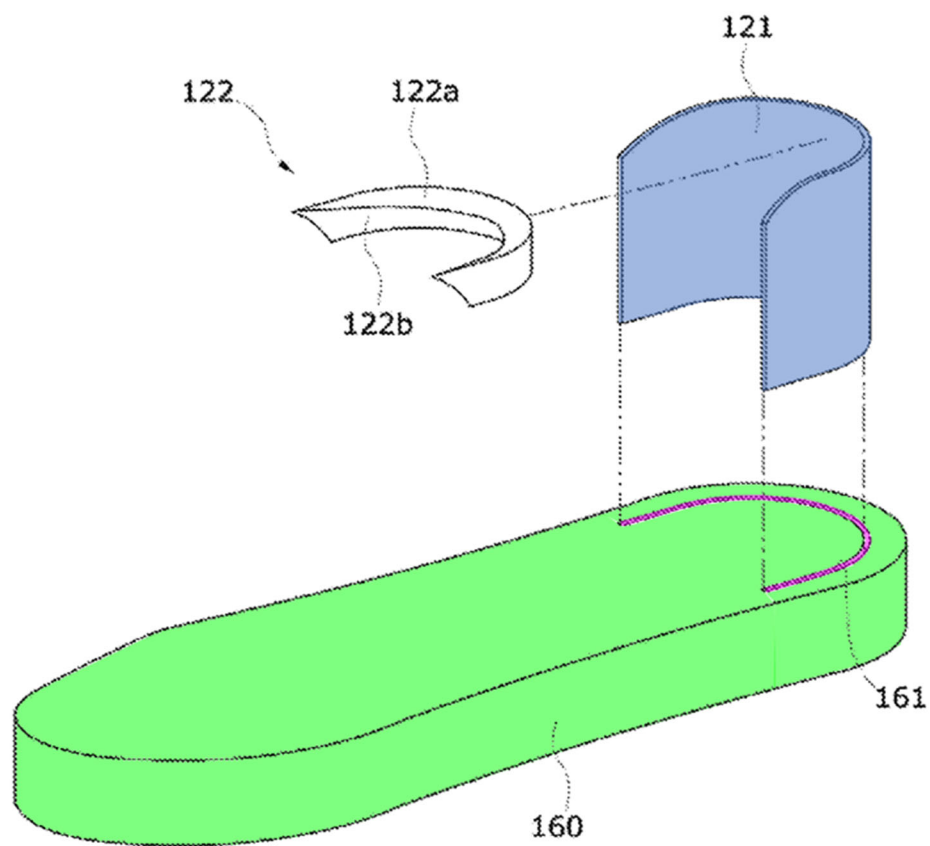
Shin discloses 1[f]. Figure 11 shows the base portion (blue) of the support member 121 is proximate the sole 160 (green):

[FIG. 11]

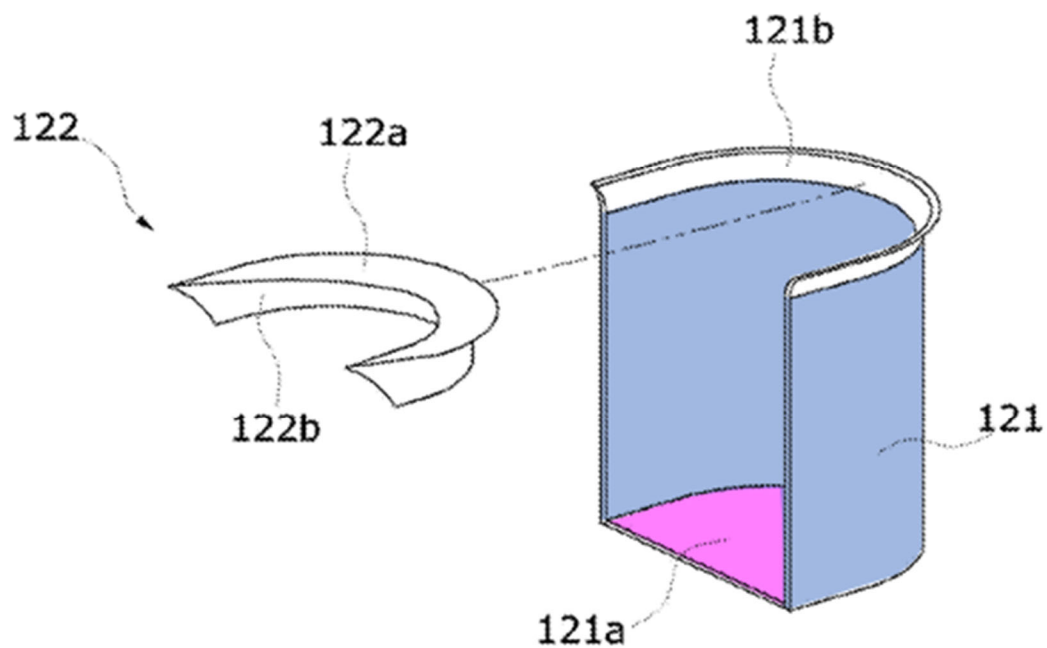


Shin, Fig. 11. Further, the support member is “fitted in a *slot 161*” that is “*provided in the sole 160* so that the shoe heel is vertical.” Shin, 5:65-67; EX1012, ¶73; EX1015, ¶75. Additionally, the support member “may be provided with a *bottom surface 121a*” that is “*fitted in* or unevenly coupled to the sole 160,” Shin, 7:33-45; EX1012, ¶¶104-06; EX1015, ¶¶101-103. The bottom surface 121a “functions to supplement the strength” of the support member “so that [it] may maintain [its] shape.” Shin, 6:38-41; EX1012, ¶85; EX1015, ¶87. Figures 8 and 14 show “slot 161” and “bottom surface 121a,” highlighted pink:

[FIG. 8]



[FIG. 14]

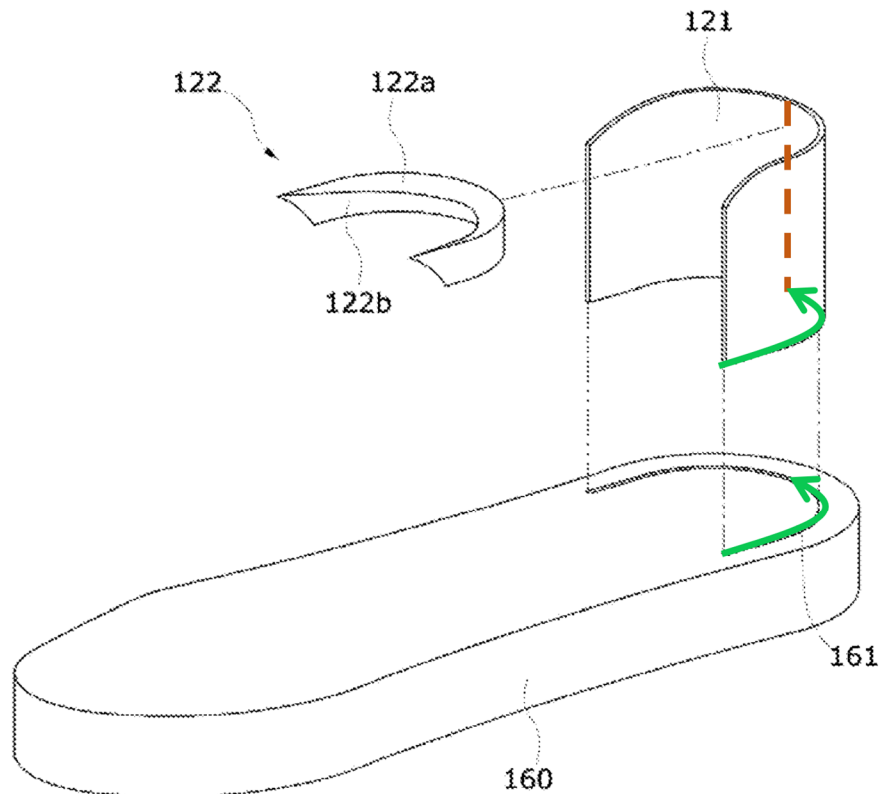


Shin, Figs. 8, 14.

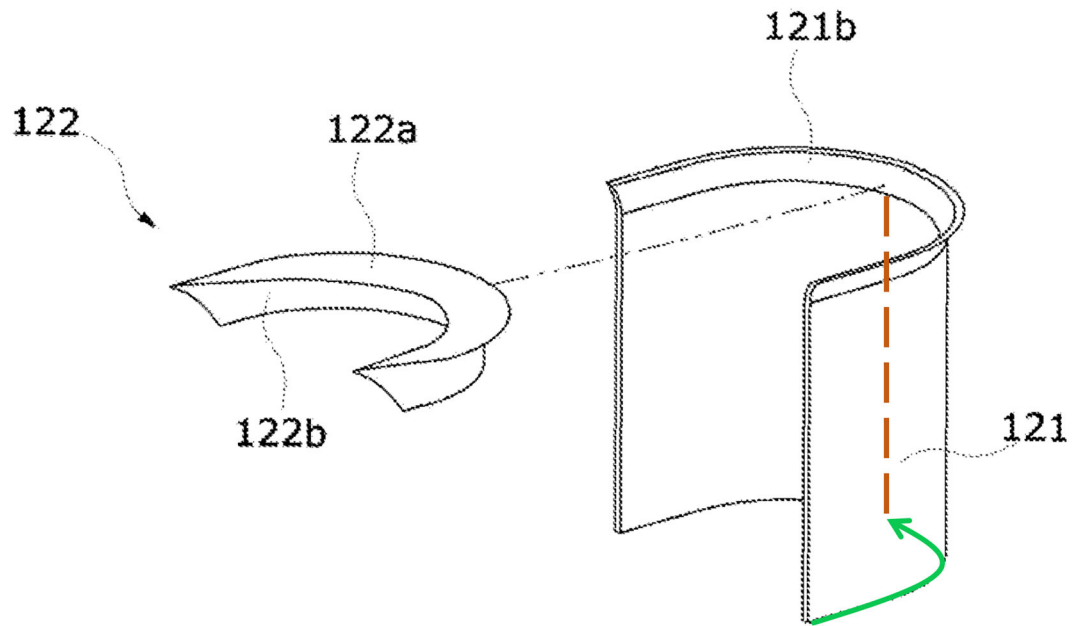
- *1[g]: “a lateral portion extending from a lateral side of the sole to a midportion of the base portion; and”*

Shin discloses 1[g]. Shin's "support member 121 is fitted in a slot 161 having a semicircular arch shape and provided in the sole 160 so that the shoe heel 120 is vertical," and itself has "a semicircular arch shape corresponding to the slot 161." Shin, 5:65-6:2; EX1012, ¶73; EX1015, ¶75. As illustrated below, one side of the "semicircular arc shape" corresponds to the lateral portion of the base portion (outlined green), extending from a lateral side of the sole to the midportion of the base portion (denoted by a dashed line):

[FIG. 8]



[FIG. 12]

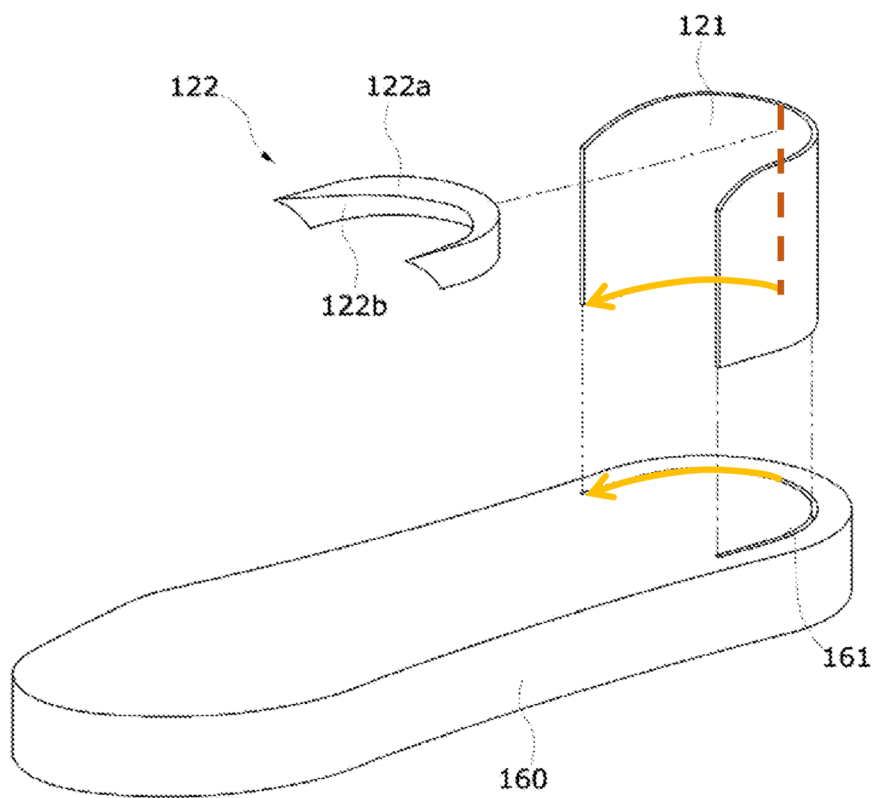


Shin, Figs. 8, 12.

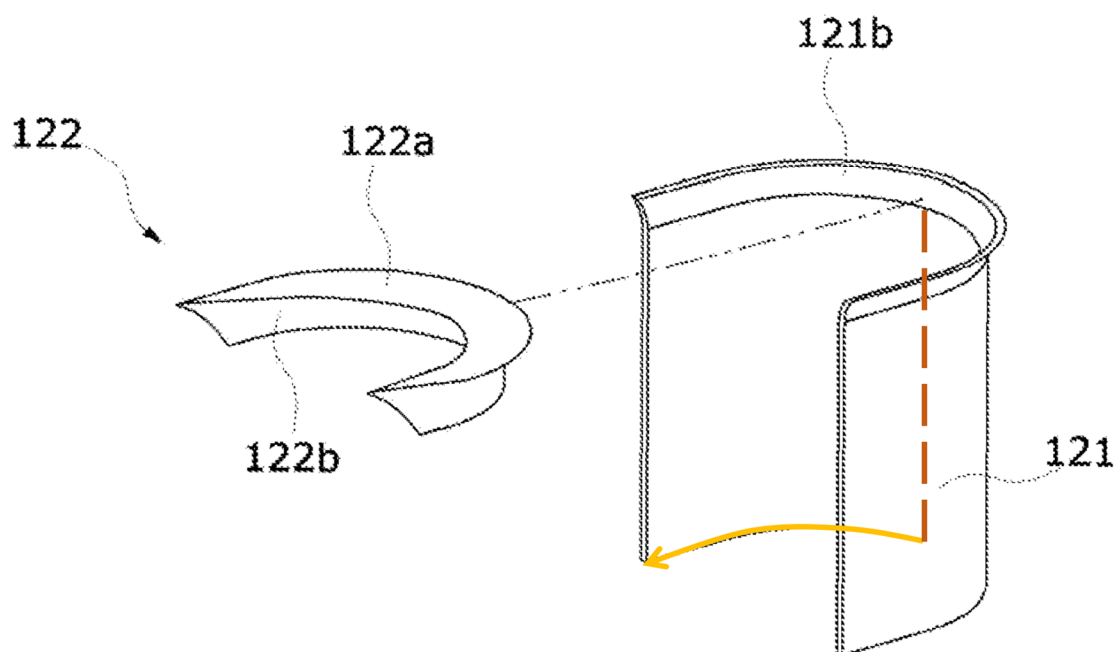
- ***1[h]: “a medial portion extending from the midportion of the base portion to a medial side of the sole;”***

Shin discloses 1[h]. Similar to 1[g], the opposite side of the “semicircular arc shape” corresponds to the medial portion of the stabilizer’s base portion (orange), extending from the midportion to a medial side of the sole:

[FIG. 8]



[FIG. 12]

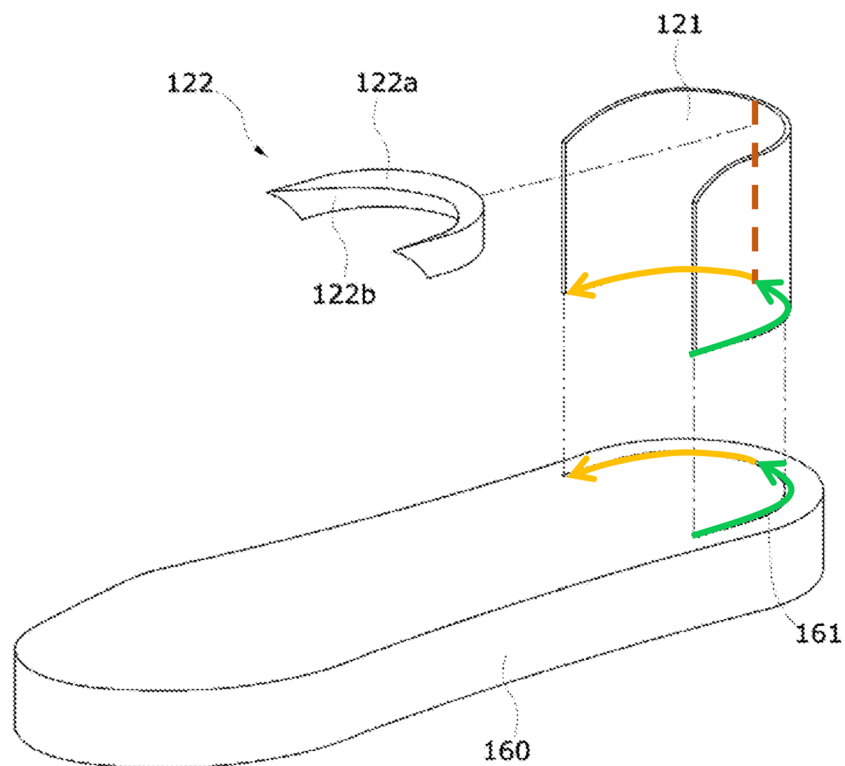


Shin, Figs. 8, 12.

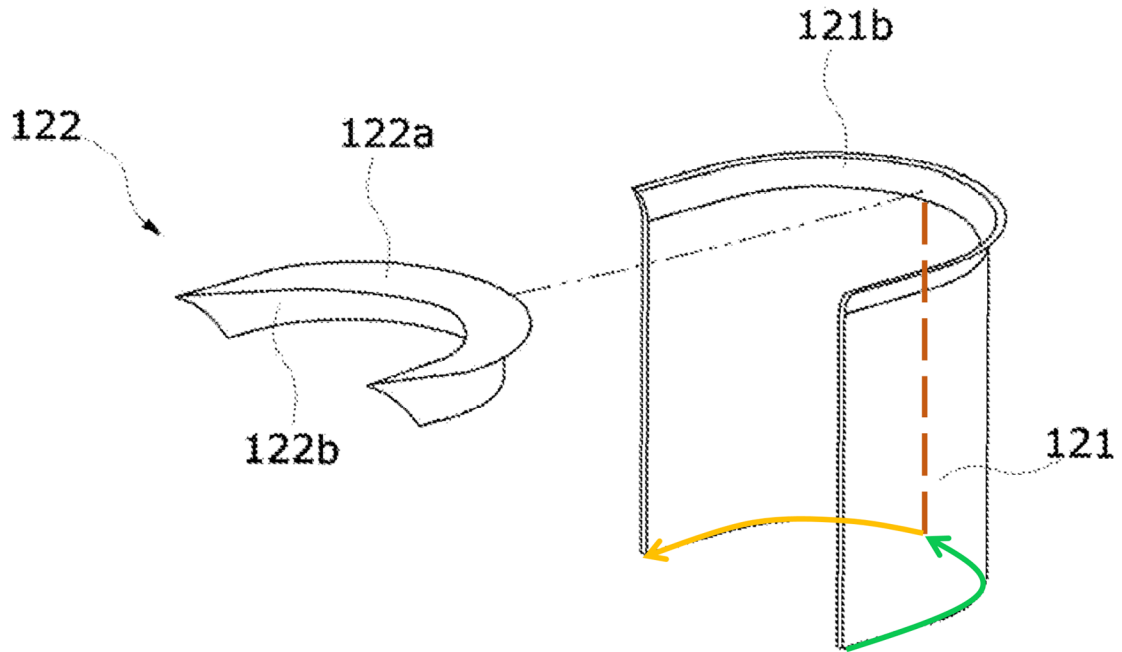
- *1[i]: “wherein the lateral portion of the base portion, the midportion of the base portion and the medial portion of the base portion form a convex structure;”*

Shin discloses 1[i]. As discussed in Part VII.A, the '325 patent explains that the stabilizer is convex in a mediolateral plane. EX1001, 6:51-55 (“the stabilizer 150 comprises a curvature extending between its medial side portion and its lateral side portion, the curvature being convex toward the rear portion”). Shin discloses precisely that structure with its support member forming a “*semicircular arc shape* to surround and support the shoe heel 120.” Shin, 4:31-33; EX1012, ¶48; EX1015, ¶53.

[FIG. 8]



[FIG. 12]

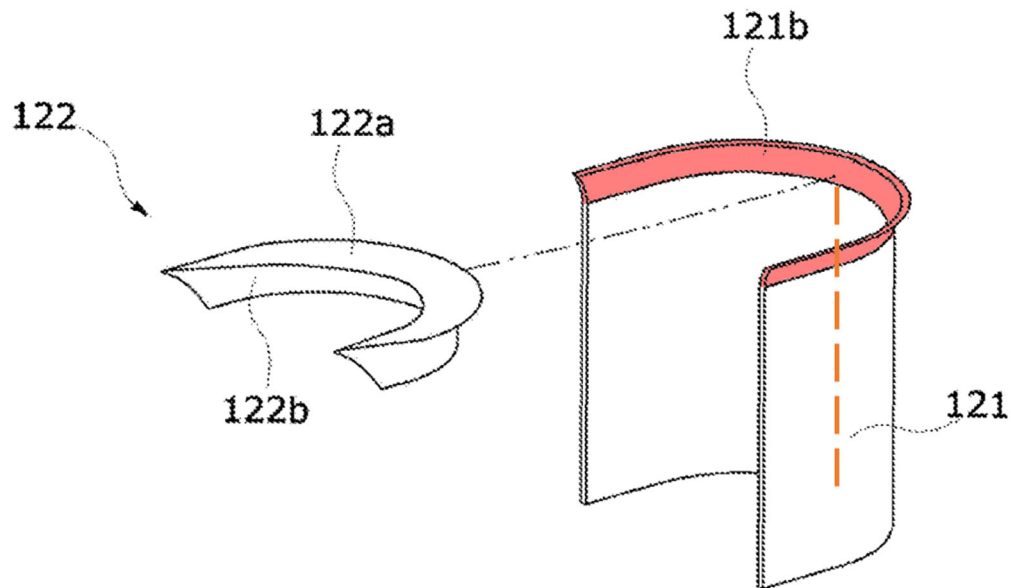


Shin, Figs. 8, 12.

- **1[j]:** “wherein the midportion of the base portion of the stabilizer extends upward from the sole continuously between the sole and the elevated portion and at least partially surrounds a heel portion of the rapid-entry shoe, and wherein:”

Shin discloses 1[j]. Shin’s “support member 121 is formed in a semicircular arc shape to **surround** and support **the shoe heel** 120,” Shin, 4:31-33; EX1012, ¶48; EX1015, ¶53, and thus “at least partially surrounds a heel portion of the rapid-entry shoe” as required by this element. Moreover, the midportion of the base portion, which is between the lateral and medial portions, plainly “extends upward from the sole continuously between the sole and the elevated portion,” as shown by the dashed line and red highlighting:

[FIG. 12]

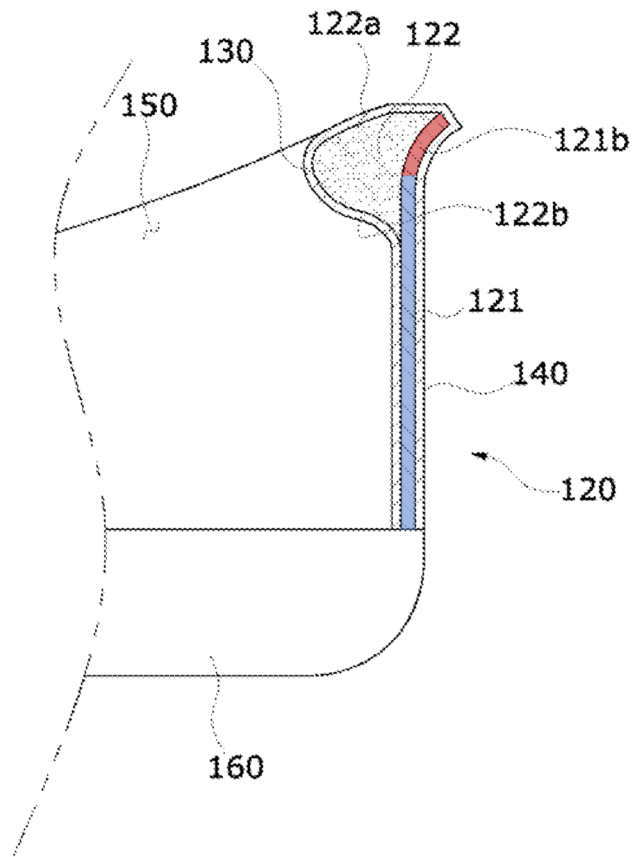


Shin, Fig. 12.

- *1[k]: the elevated portion extends rearward from a rear portion of the convex structure and acts as a shoehorn; and*

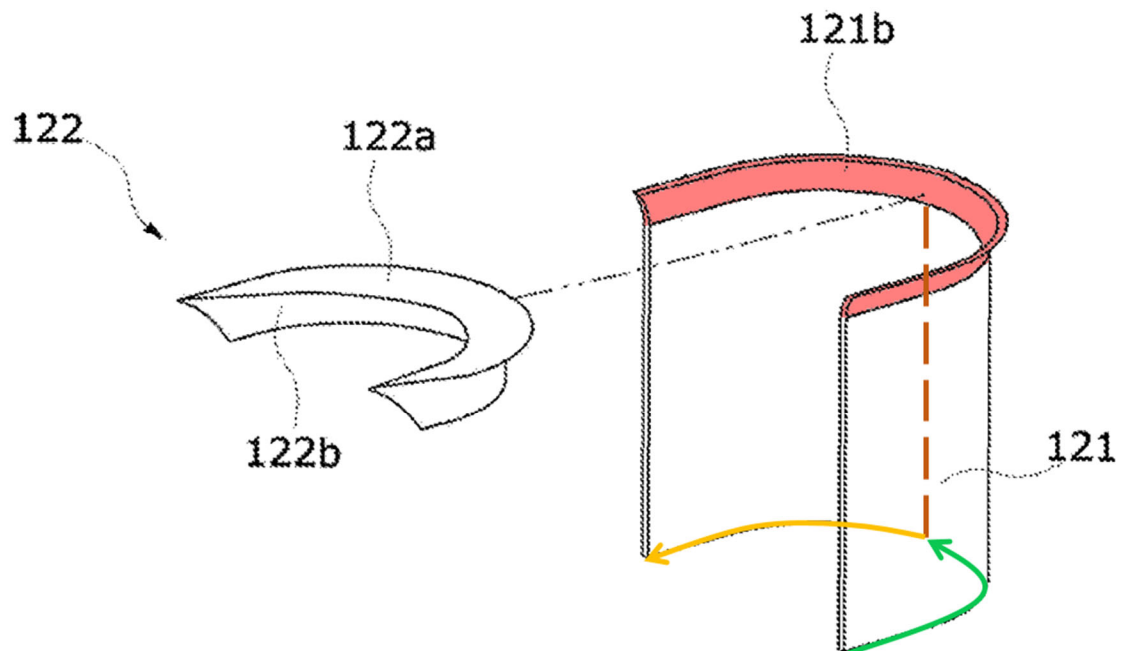
Shin discloses 1[k]. Figures 11 and 12 show “an inclined section 121b extending outward is provided at the upper end of the support member 121,” and “the inclined section 121b may *guide a wearing path* so that the foot 10 of the wearer may *easily slide into the wearing groove 150*” of the shoe. Shin, 6:52-67; EX1012, ¶¶90-93; EX1015, ¶¶89-92.

[FIG. 11]



Shin, Fig. 11. Inclined section 121b extends rearward from the convex structure formed by the mid-, medial, and lateral portions of the base portion, as shown below:

[FIG. 12]



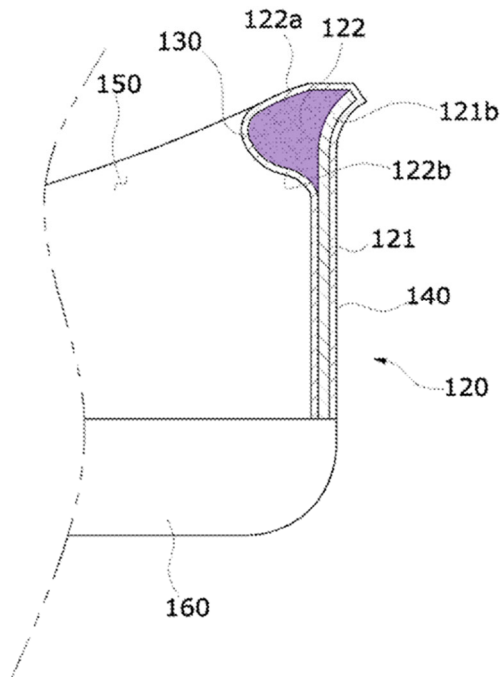
Shin, Fig. 12.

- *1[l]: a foam liner coupled to the stabilizer between the medial portion of the base portion and the lateral portion of the base portion along the convex structure, at least a portion of the foam liner extending beyond at least one of the medial portion of the base portion and the lateral portion of the base portion and oriented downward toward the sole such that the foam liner acts to retain a heel within the heel portion of the rapid-entry shoe.*

Shin discloses 1[l].

First, Shin discloses “a foam liner.” For example, Shin’s “elastic member 122” engages, and is compressed by, the wearer’s heel during donning. The elastic member 122 in Figure 11 is highlighted below in purple:

[FIG. 11]

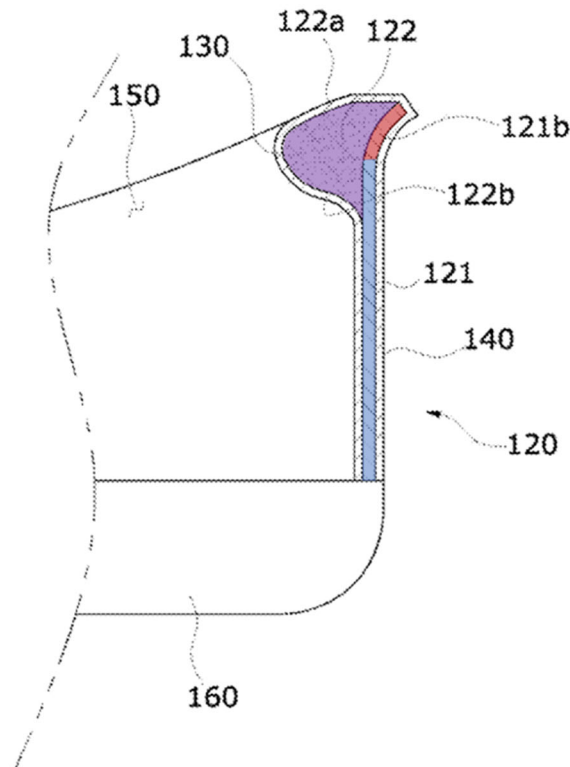


Shin, Fig. 11. “The elastic member 122 ... may be made of a rubber material” or “a highly elastic material such as urethane having elasticity.” Shin, 5:34-37; EX1012, ¶65; EX1015, ¶68. A POSITA would have understood these disclosures to include foam rubber and urethane foams, which were ubiquitous in shoemaking at the time of the invention. *See, e.g.*, EX1005, ¶¶32-38; EX1017, p.10, 20 (“urethane” can “be chemically manipulated to become urethane foam for shoe cushioning.”).

Second, Shin’s foam liner is “coupled to the stabilizer between the medial portion of the base portion and the lateral portion of the base portion along the convex structure.” Shin explains, “the elastic member 122 and the support member 121 may be coupled in one of adhesion, Velcro detachable coupling, and uneven coupling methods.” Shin, 6:6-8; EX1012, ¶74; EX1015, ¶76. As shown below, the

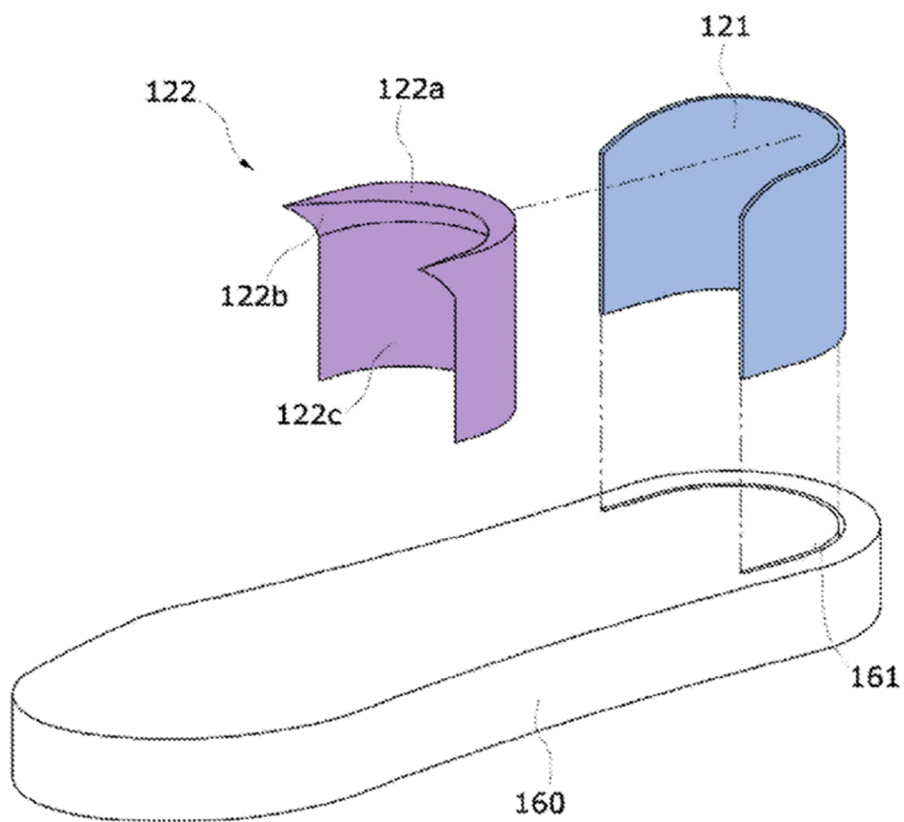
elastic member 122 (purple) is coupled along the base portion of the support member (blue), just underneath the inclined section 121b elevated portion of the support member (red):

[FIG. 11]

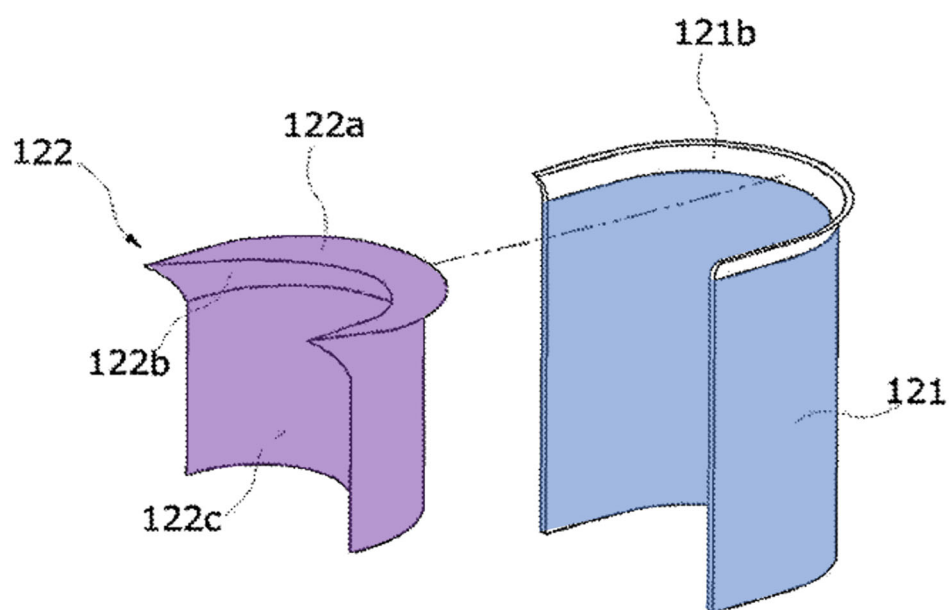


Shin, Fig. 11. Shin further discloses a “modification of the elastic member” including “protective surface 122c” extending “to the slot 161 ... provided in the sole 160 and may thus be coupled to the slot 161.” Shin, 6:9-29; EX1012, ¶¶76-81; EX1015, ¶¶77-82. Figures 9 and 13 show this modification, in which the foam liner (purple) is coupled along the entire base portion (blue):

[FIG. 9]



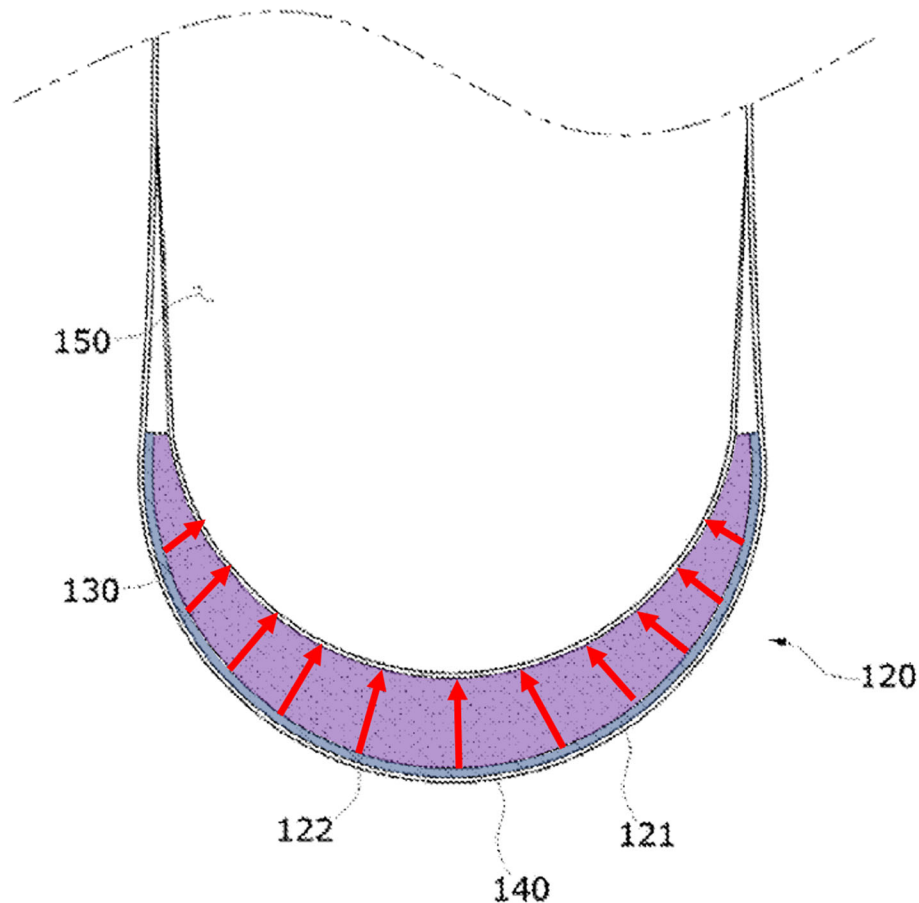
[FIG. 13]



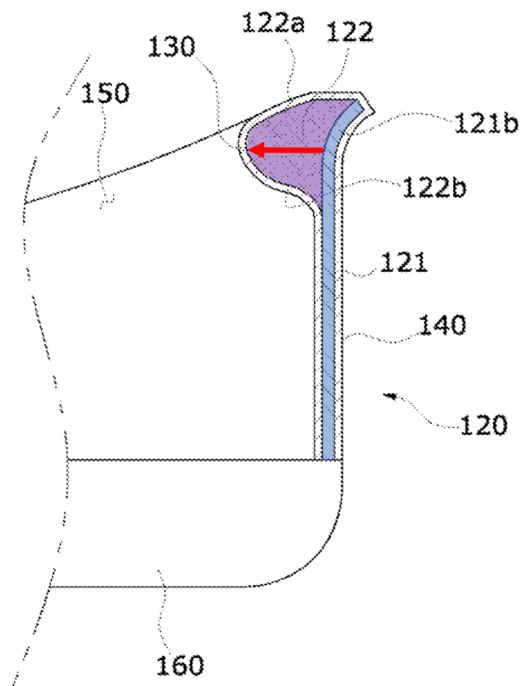
Shin, Figs. 9, 13.

Third, Shin discloses “at least a portion of the foam liner extending beyond at least one of the medial portion of the base portion and the lateral portion of the base portion.” Shin explains, “[t]he elastic member 122 *protrudes from the support member 121 in an inward direction*. In this case, the inward direction refers to an inner side on which the wearing groove 150 is located.” Shin, 4:41-44; EX1012, ¶50; EX1015, ¶55. As shown below, Shin’s foam liner protrudes inward beyond the medial and lateral portions of the base portion of the support member:

[FIG. 3]

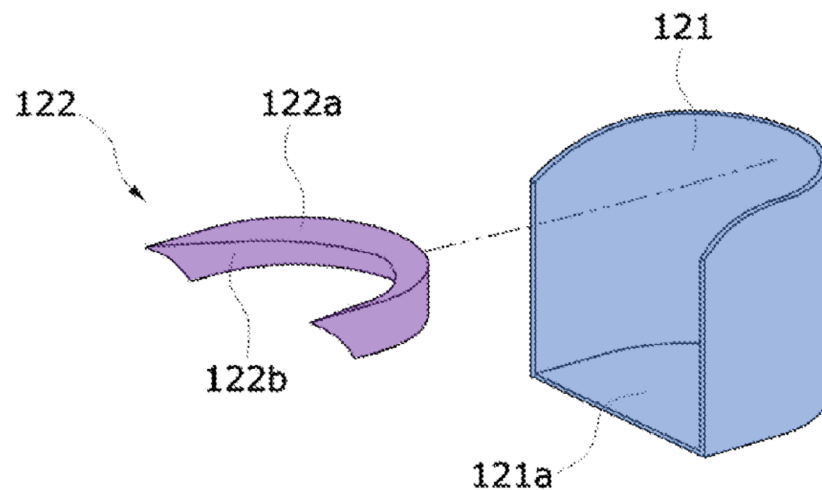


[FIG. 11]

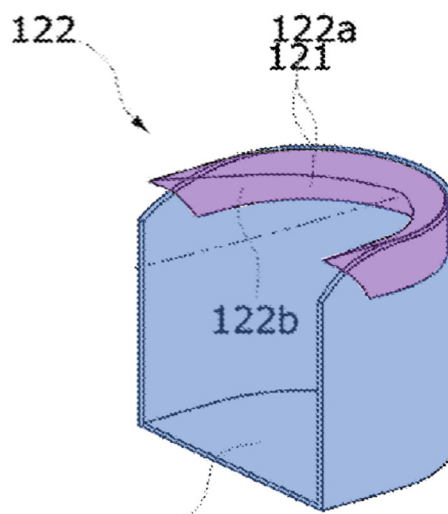


Shin, Figs. 3, 11. Moreover, Shin's elastic member extends medially and laterally beyond the base portion of the support member. For example, Petitioner has cropped and reoriented Figures 9 and 10 to position the elastic member 122 as if coupled to the support member 121 as indicated by the figures' dashed lines:

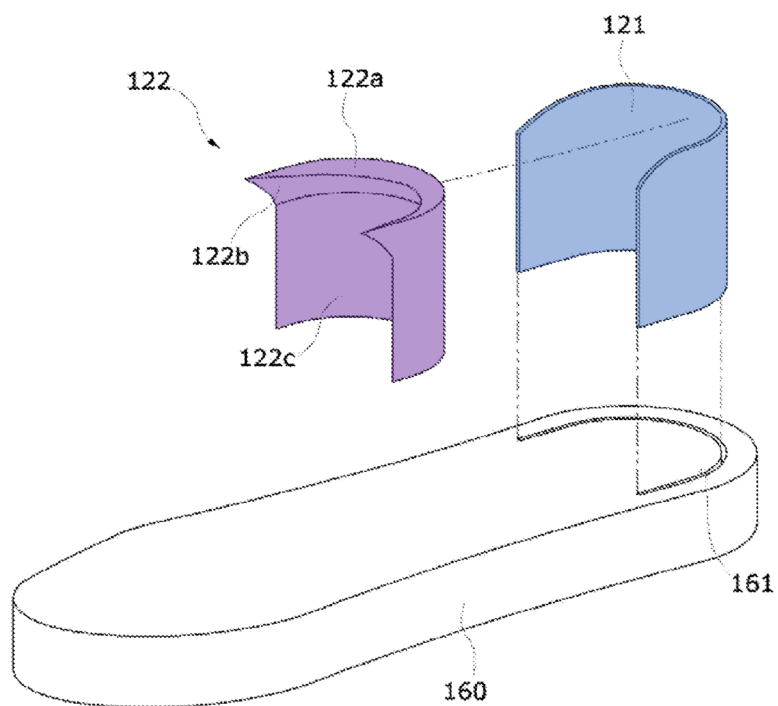
[FIG. 10]



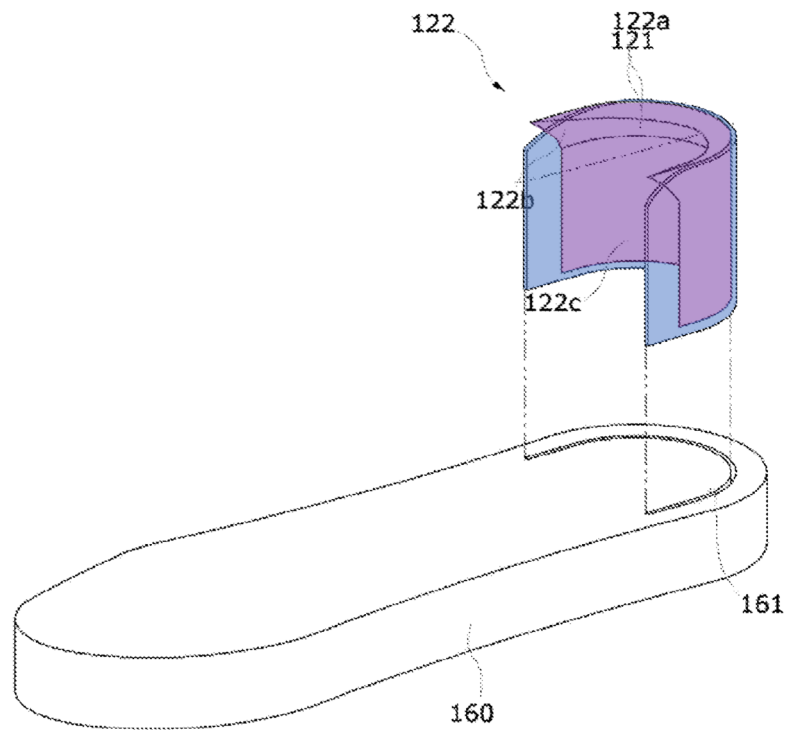
[FIG. 10]



[FIG. 9]



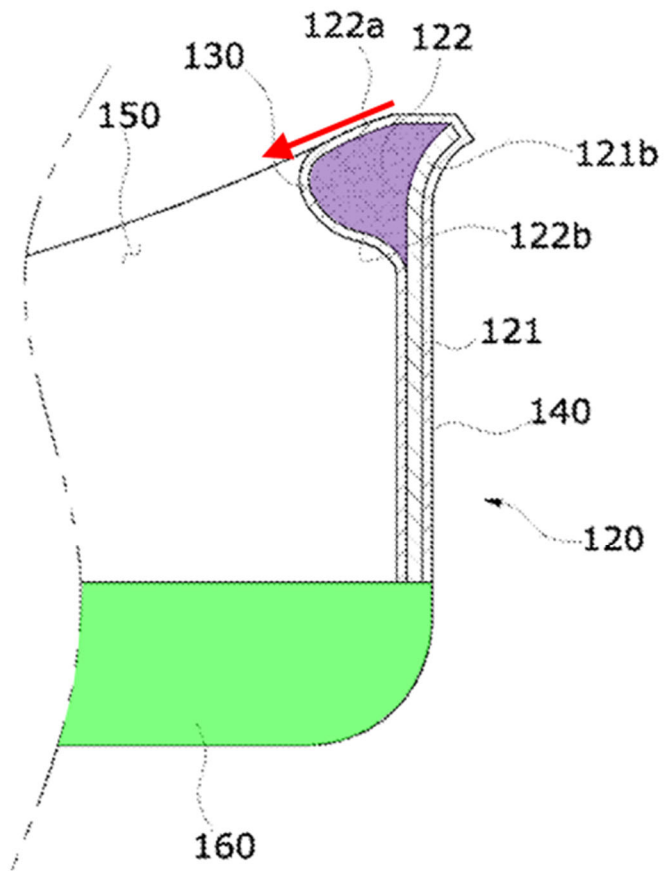
[FIG. 9]



Shin, Figs. 9, 10 (cropped, overlaid).

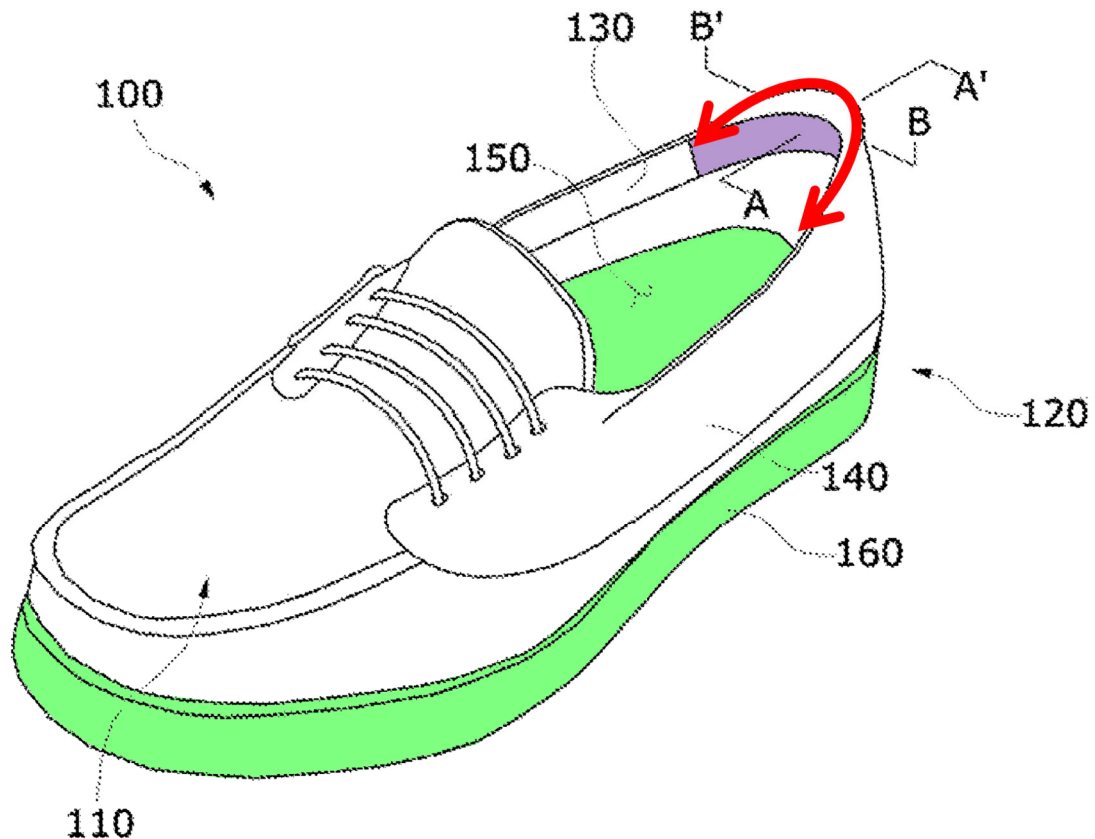
Finally, Shin's foam liner is "oriented downward toward the sole such that the foam liner acts to retain a heel within the heel portion of the rapid-entry shoe." For example, in Figure 11, the elastic member 122 slopes downward towards the sole:

[FIG. 11]



Shin, Fig. 11. This is further shown in Figure 1, illustrating Shin's elastic member sloping downward toward the sole as it wraps the heel:

[FIG. 1]

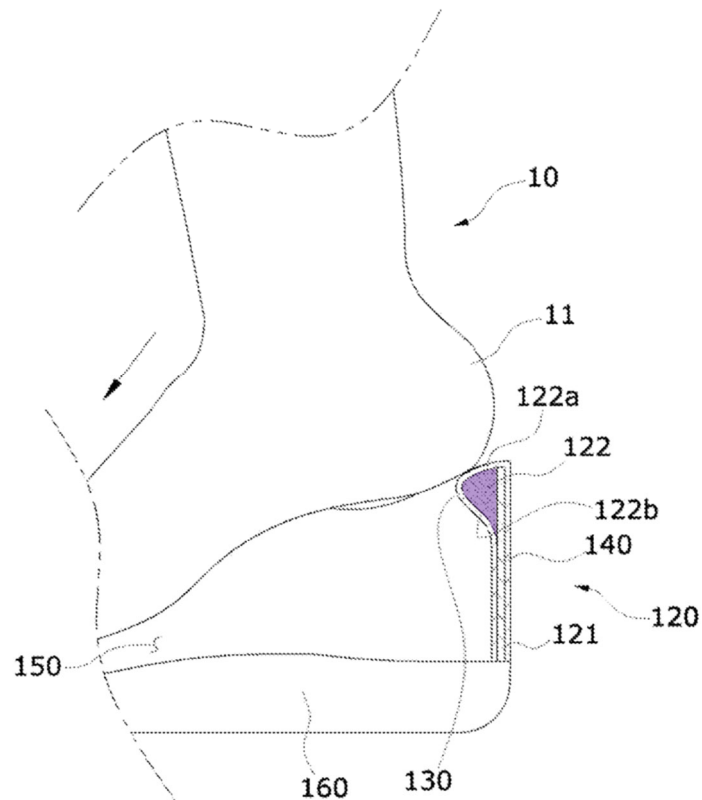


Shin, Fig. 1; *see also id.* 2:64-65 (explaining that the cross-sectional views of Shin’s heel are “taken along line A-A’ of FIG. 1.”); EX1012, ¶36; EX1015, ¶30.

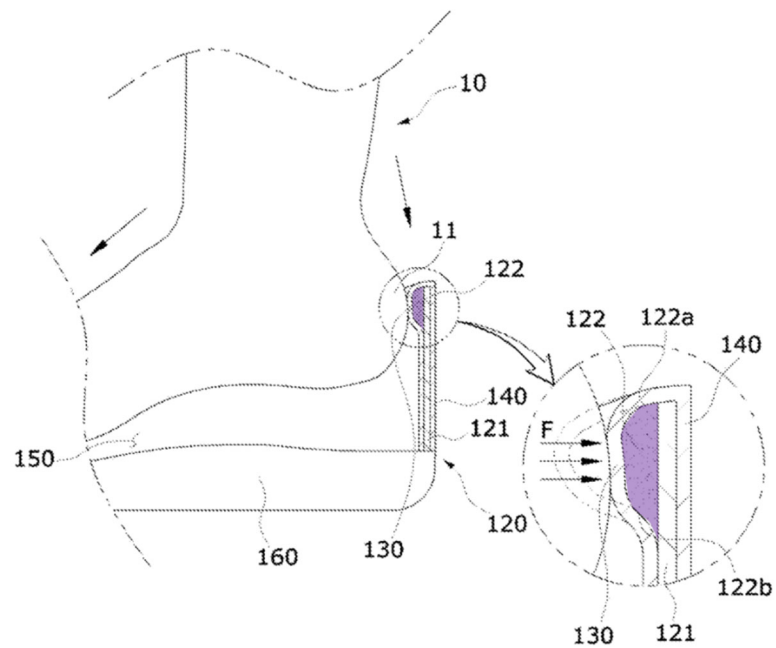
This “acts to retain a heel within the heel portion of the rapid-entry shoe” as recited in 1[l]. “When the wearer inserts a foot 10,” the “heel 11 comes into contact with the inner skin 130 surrounding the elastic member 122” and “applies an external force F to the inner skin 130” such that the “elastic 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;

EX1012, ¶¶60-63; EX1015, ¶¶63-67. “[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” and “is not easily separated” from the shoe. Shin, 5:46-54; EX1012, ¶¶68-69; EX1015, ¶¶71-72. Figures 5-7 illustrate this heel-retaining function:

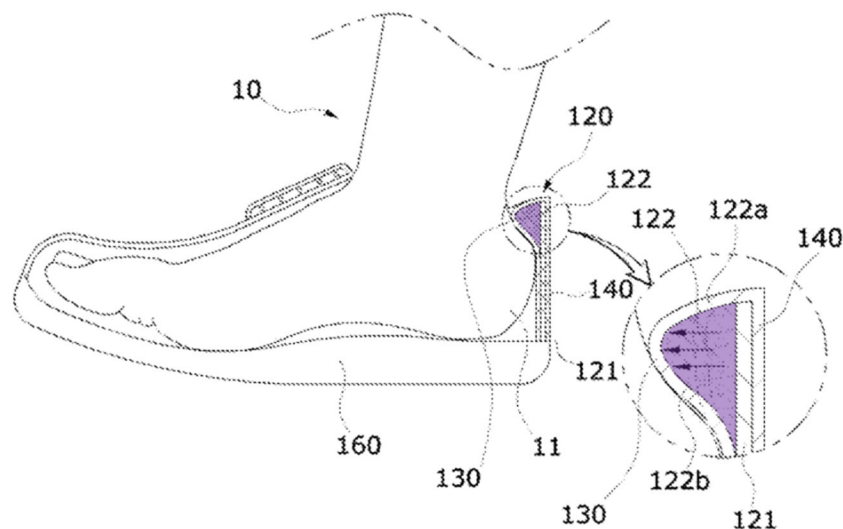
[FIG. 5]



[FIG. 6]



[FIG. 7]



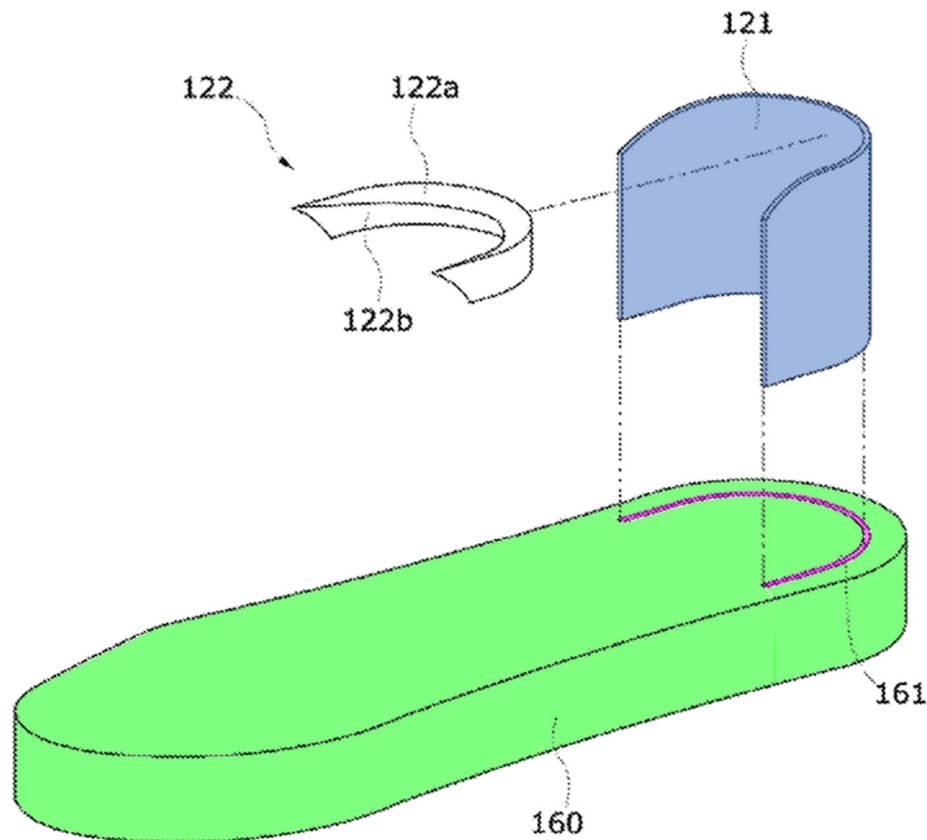
Shin, Figs. 5-7. Thus, the “foam liner” limitation—the ’325 patent’s sole basis for allowance over the art cited by the Examiner—is expressly disclosed by Shin. Shin accordingly anticipates claim 1. And though Shin was disclosed to the Examiner (along with 247 other references in one IDS), the Examiner never cited it.

C. Claim 2

- *The rapid-entry shoe of claim 1, wherein the base portion of the stabilizer extends into the sole.*

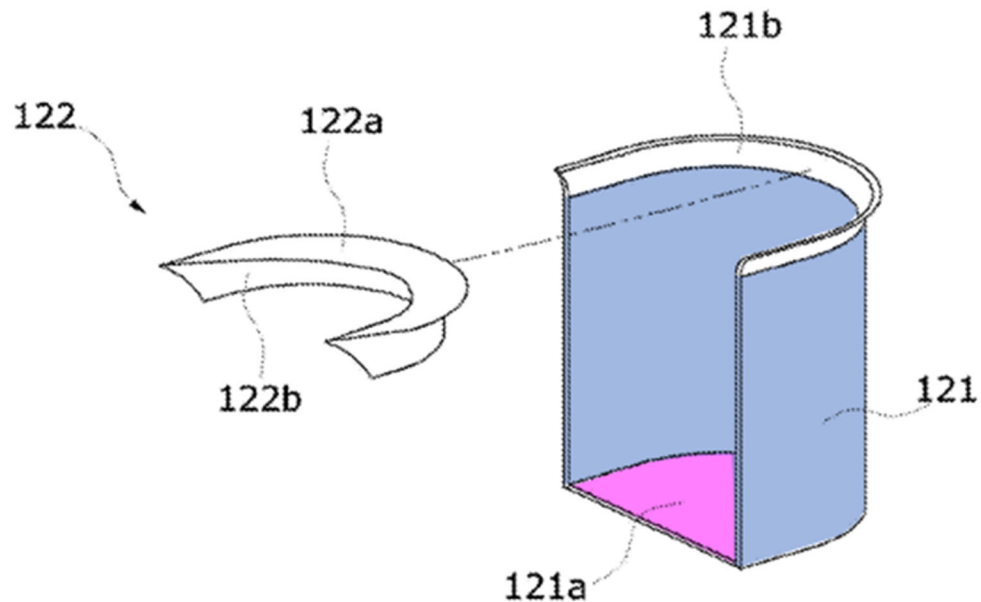
Shin discloses claim 2's added limitations. As explained for 1[f], Shin's support member is "*fitted in* a slot 161" that is "provided in *the sole* 160." Shin, 5:65-67; EX1012, ¶73; EX1015, ¶75. This plainly meets claim 2's limitation that "the base portion of the stabilizer extends into the sole." For example, Figure 8 shows slot 161 (pink) provided in sole 160 (green), into which support member 121 (blue) is fitted:

[FIG. 8]



Shin, Fig. 8. Additionally, Shin's support member "may be provided with a bottom surface 121a" that is "*fitted in ... the sole,*" Shin, 7:33-45; EX1012, ¶¶104-06; EX1015, ¶¶101-103, further disclosing claim 2. Figure 14 shows bottom surface 121a highlighted pink:

[FIG. 14]



Shin, Fig. 14.

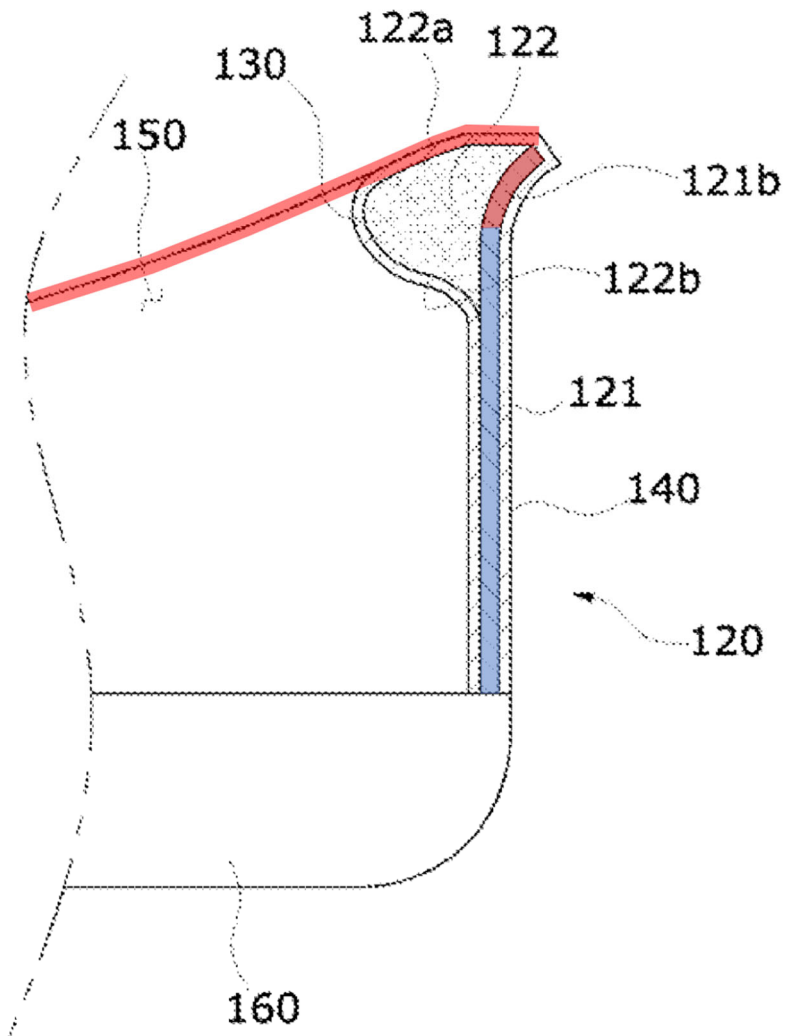
D. Claim 3

- *The rapid-entry shoe of claim 1, wherein the elevated portion of the stabilizer extends to a top collar of the upper of the rapid-entry shoe.*

Shin teaches claim 3's added limitations. For example, "the inclined section 121b may be *formed up to the upper end of the shoe heel 120* so that the shoe heel 120 is not bent." Shin 7:1-7; claim 2 ("The easy-to-wear functional shoe of claim 1, wherein the support member is *formed up to an upper end of the shoe heel.*");

EX1012, ¶94, claim 3; EX1015, ¶93, claim 3. Figure 11 shows the top collar of Shin's shoe, highlighted red:

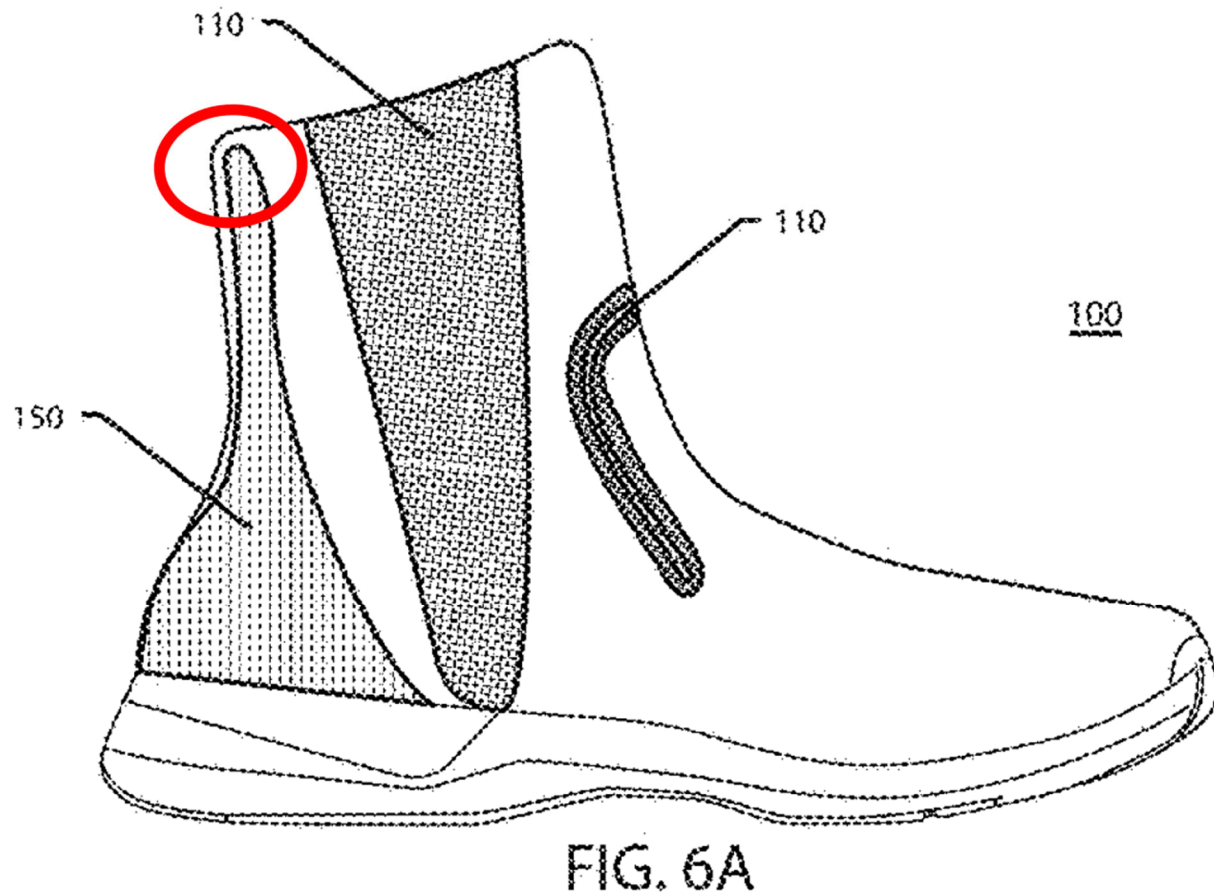
[FIG. 11]



Shin, Fig. 11.

Any argument that Shin's stabilizer does not extend to a top collar because it is "provided between the inner skin 130 and the outer skin 140," Shin, 4:18-19, is misplaced. First, a POSITA would have understood that the "top collar" in Shin

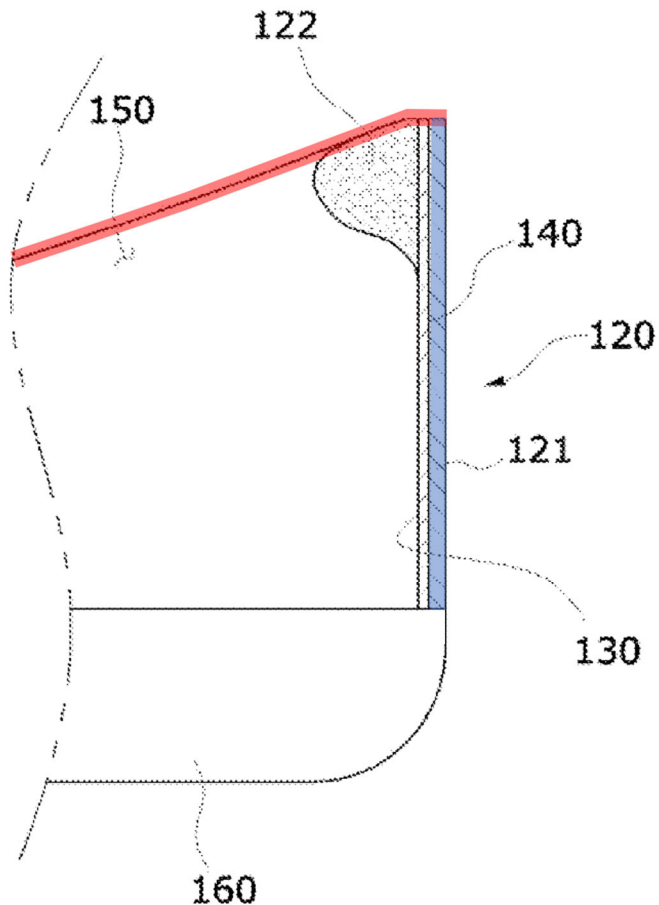
Figure 11 includes at least “inner skin 130,” and the elevated portion of the stabilizer 121b plainly “extends to” that top collar. Indeed, similar figures are disclosed in the ’325 patent:



EX1001, Fig. 6A (annotated). In other words, claim 3 does not require that the stabilizer *is part of* the top collar, merely that the stabilizer extends *to* it. Cf. ’325 pat., cl. 6 (“wherein the elastic element *forms at least a portion of a top collar*”). Second, in any event, Shin teaches a further embodiment in which “the support member 121 may be formed not between the inner skin 130 and the outer skin 140

of the shoe heel 120 but outside the outer skin 140,” Shin, 8:8-11; EX1012, ¶¶115-16; EX1015, ¶¶110-11, as shown in Figure 16:

[FIG. 16]



Shin, Fig. 16.

X. GROUND 4: CLAIMS 1-7 ARE OBVIOUS OVER SHIN AND TAKAHASHI

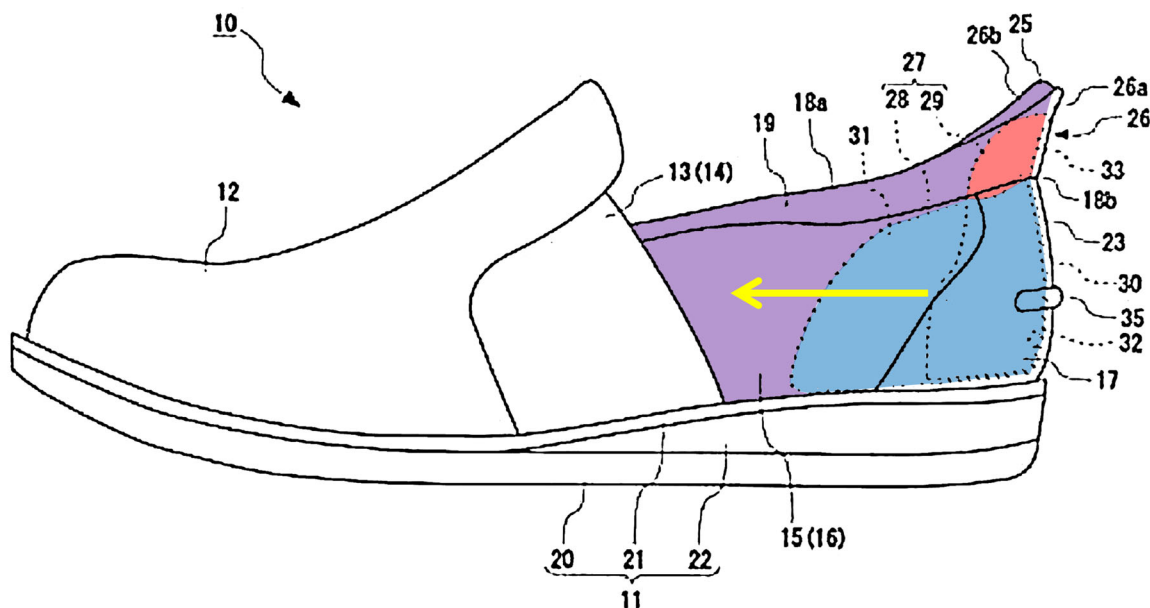
A. Claims 1-3

As detailed in Ground 3, Petitioner maintains that Shin anticipates claims 1-3. *See* Part IX.B-D, *supra*. However, if the Board disagrees that Shin discloses 1[l]’s requirement of a “foam liner extending beyond at least one of the medial

portion of the base portion and the lateral portion of the base portion,” Petitioner alternatively submits that a POSITA would have found it obvious to incorporate Takahashi’s “lining (covering for inside surface) 25” on “[t]he inner surfaces of the sides 15, 16 and the heel portion 17.” Takahashi, ¶54. The remaining limitations of claims 1-3 are obvious for the same reasons that Shin anticipates them as discussed in Part IX.B-D, which is incorporated here by reference.

As explained in Part VII.B, Takahashi’s “counter 27 is disposed between the heel portion 17 and the lining 25.” *Id.*, ¶59. The “lining 25” comprises “two or more layers of cloth (inner surface skin)” and a “cushion body (e.g., sponge),” and extends downward and forward to cover the entire inner surface of “heel portion 17” and “sides 15, 16,” as shown in annotated Figure 1:

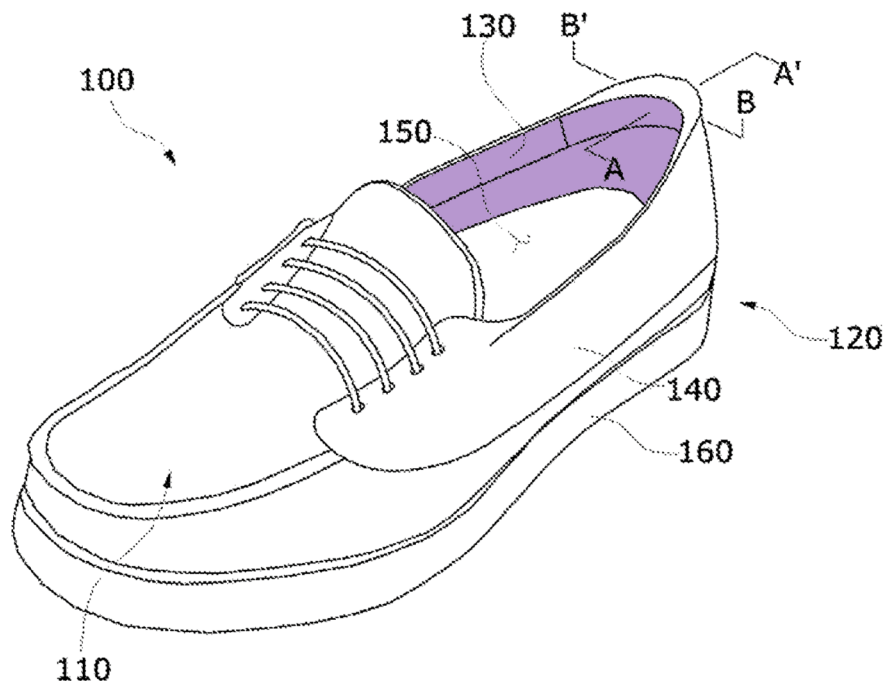
[FIG. 1]



Id., ¶54, Fig. 1.

A POSITA would have been motivated to line the inside surface of Shin's shoe in this fashion, with a reasonable expectation of success. Shin's shoe has "a fore sole 110 and a shoe heel 120 which are surrounded by an inner skin 130 and an outer skin 140," and the "support member 121" and "elastic member 122" are "*provided between*" the inner and outer skins. Shin, 4:4-43; EX1012, ¶¶41-50; EX1015, ¶¶47-55. This is the same configuration taught by Takahashi—i.e., a stabilizer "*disposed between* the heel portion 17 and the lining 25" and provided with a "cushion body (e.g., sponge)." Takahashi, ¶¶54, 59. Accordingly, a POSITA considering Shin and Takahashi together would have simply extended Shin's foam lining along the shoe's inside surface, as shown by annotated Figure 1:

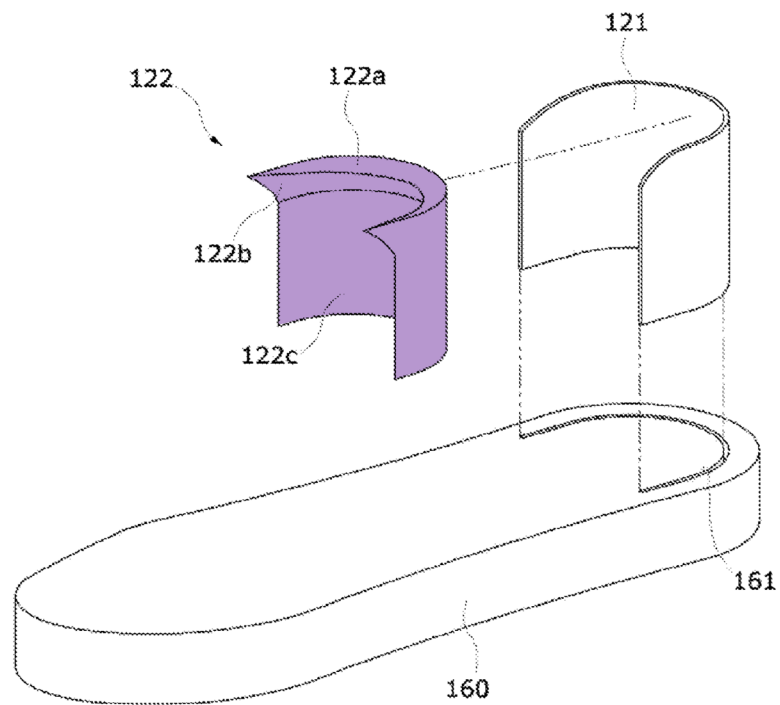
[FIG. 1]



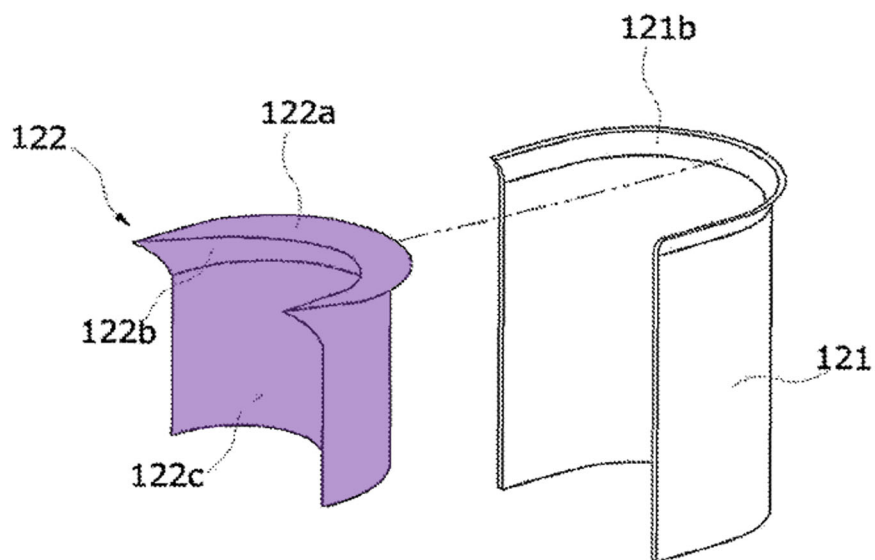
Shin, Fig. 1.

Shin provides a teaching, suggestion, and motivation to make this modification. In particular, Figures 9 and 13 provide the elastic member 122 with a “protective surface 122c” that is “coupled to the entire support member 121”:

[FIG. 9]



[FIG. 13]



Id., 7:26-27, Figs. 9, 13; EX1012, ¶101; EX1015, ¶99. The “protective surface 122c improves [the] wearing sensation of the foot heel,” Shin, 6:22-24; EX1012, ¶80; EX1015, ¶81, and functions to “attenuate an impact transmitted to the foot heel 11 of the wearer,” Shin, 7:26-28; EX1012, ¶101; EX1015, ¶99. A POSITA would have recognized that incorporating Takahashi’s lining 25, which is “set to have an appropriate cushioning property,” Takahashi, ¶54, would complement and enhance Shin’s protective surface. Indeed, cushioning components like Shin’s protective surface and Takahashi’s lining were well-established in the art long before the invention, and a POSITA would have understood their predictable benefit of improving user comfort. *See, e.g.*, EX1017 p.14 (defining pad: “A cushioned layer or piece of material to prevent pressure or friction of the shoe against the foot.”), p.155 (describing “special shoe components or materials, such as cushioning, to aid in the absorption of step shock.”). Incorporating Takahashi’s lining along the inside surfaces of Shin’s shoe would have been an obvious use of “a known technique” to “improve similar devices in the same way, using the prior art elements according to their established functions.” *See Intel*, 61 F.4th at 1380-81 (cleaned up).

Additionally, Shin and Takahashi’s interrelated teachings would have motivated a POSITA to apply Takahashi’s well-known teachings when making Shin’s shoe. As this concerns claims 1-7, this is discussed in Part X.F below.

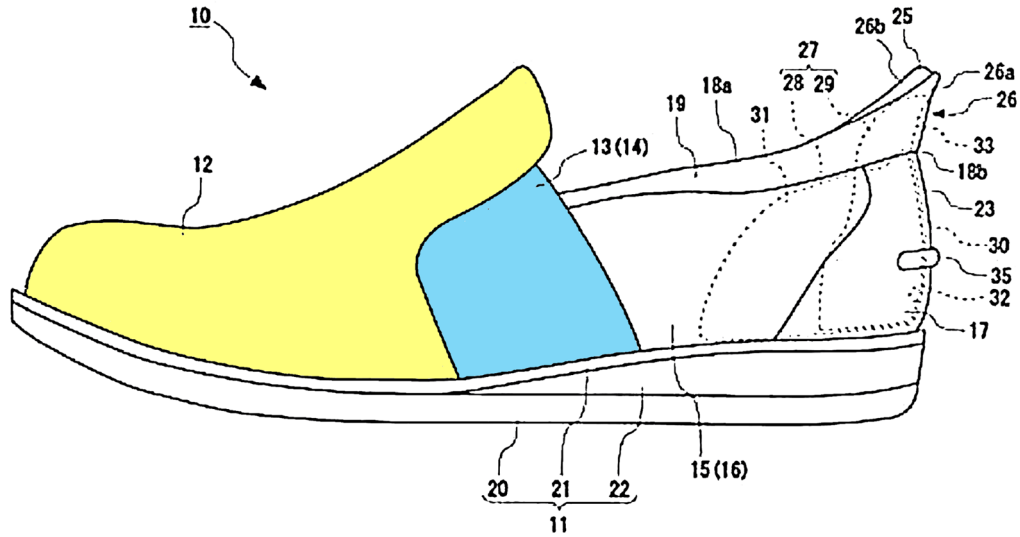
B. Claim 4

- **4: “*The rapid-entry shoe of claim 1, further comprising an elastic element disposed on a side portion of the upper and forward relative to the rear portion.*”**

Dependent claim 4 is obvious over Shin and Takahashi. As detailed in Parts IX.B and X.A, Shin anticipates claim 1 and/or renders it obvious in combination with Takahashi, which discussions are incorporated here by reference. Furthermore, a POSITA would have found it obvious to incorporate Takahashi’s “stretchable portions 13, 14” into Shin’s shoe, meeting claim 4’s limitation of “an elastic element disposed on a side portion of the upper and forward relative to the rear portion.”

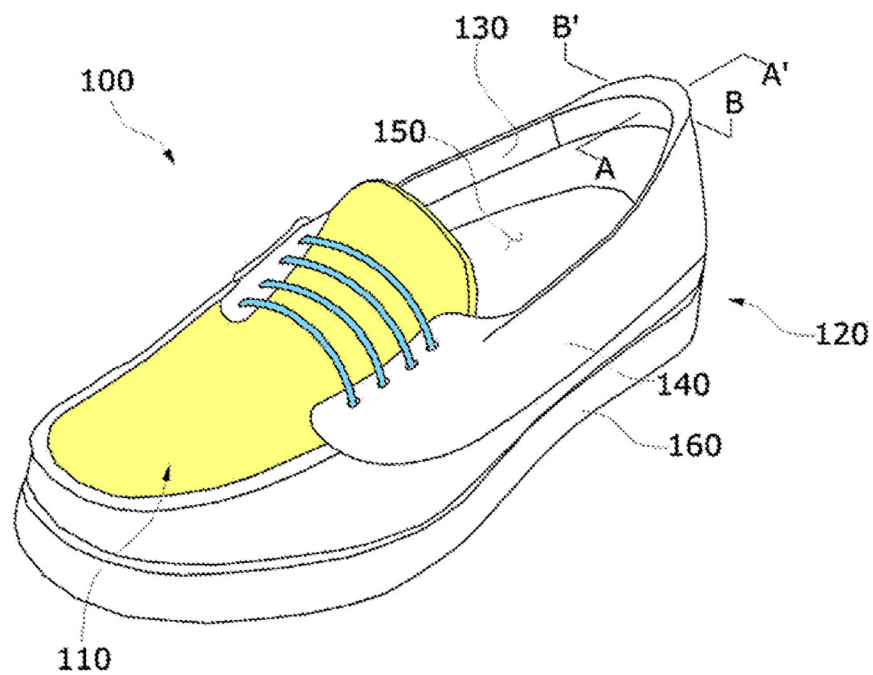
In particular, Takahashi teaches an “upper 12” forming a portion “located on the toe side to cover the instep of a foot,” and a “pair of stretchable portions 13, 14 located on both the left side and the right side to allow the deformation of the upper 12.” Takhashi, ¶37. The “stretchable portions 13, 14 have their upper edges joined to the side edges of the upper 12 by sewing etc., and their lower edges joined to the midsole 21 by adhesion etc.” *Id.*, ¶46. Figure 1 shows the instep portion highlighted yellow and stretchable portions blue:

[FIG. 1]



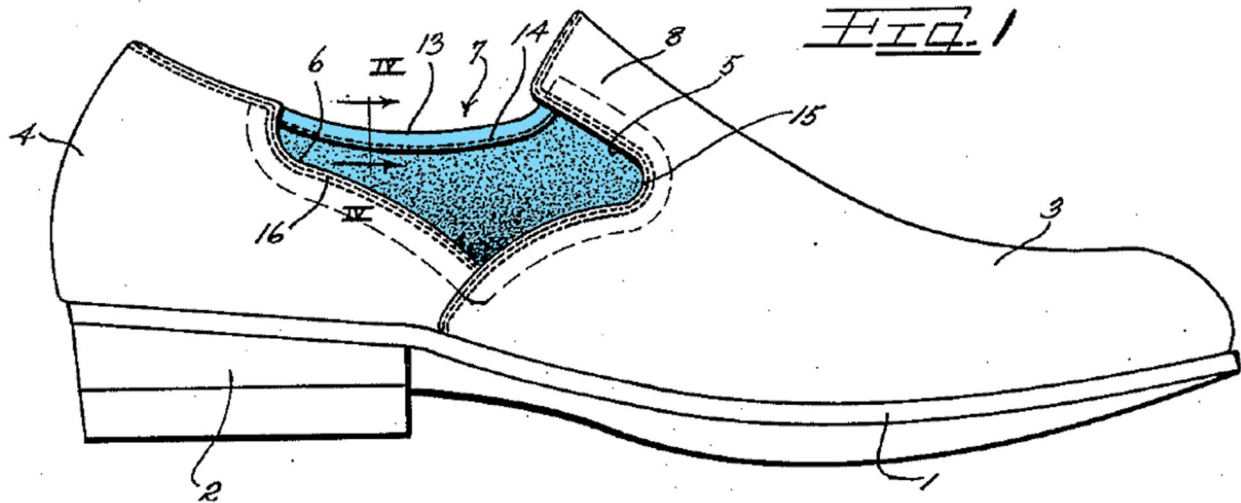
Id., Fig. 1. Shin's shoe has a similar loafer-style construction—it has a “fore sole 110” covering the instep (yellow), overlaid by fixed laces (blue):

[FIG. 1]



Shin, Fig. 1. A POSITA would have recognized that Takahashi's stretchable portions could easily be incorporated into Shin's design in the same fashion taught by Takahashi—"joined" at "their upper edges" to Shin's fore sole 110, highlighted yellow above in a conventional fashion ("sewing, etc."), and further "joined" at "their lower edges" to the sole in a conventional fashion ("adhesion etc."). Takahashi, ¶46.

A POSITA would have been motivated to incorporate Takahashi's stretchable portions into Shin's shoe, and would have had a reasonable expectation of success. The use of elastic elements, like side gorings, in slip-on footwear to enhance ease of entry and foot retention was conventional at the time of the invention. *See, e.g.*, EX1017 p.19 ("step-in. A shoe with a vamp front higher than an ordinary pump, held onto the foot without any visible fastener, but often with a concealed vamp or side goring."); EX1021; EX1019, p.136-37. Indeed, EX1022, a 1962 patent, teaches "a slip-on type of oxford" strongly resembling Takahashi and Shin's shoes, with a "goring on each side thereof ... so as to maintain the shoe on the foot of the user without the aid of lacing or any other holding means":



Id., 1:10-15, Fig. 1. Consistent with this longstanding practice, Takahashi’s stretchable portions enable easier donning and doffing by “allow[ing] the deformation of the upper 12,” Takahashi, ¶37, and enabling “[t]he rear edge of the upper 12” to be “displaced and deformed (warped) upward during the insertion of foot,” *id.*, ¶44, and would continue to operate in this fashion when incorporated into Shin’s shoe. A POSITA would thus have understood that incorporating Takahashi’s stretchable portions into Shin’s shoe was a “combination of familiar elements according to known methods” to “yield predictable results,” and/or a “predictable use of prior art elements according to their established functions.” *KSR*, 550 U.S. at 416.

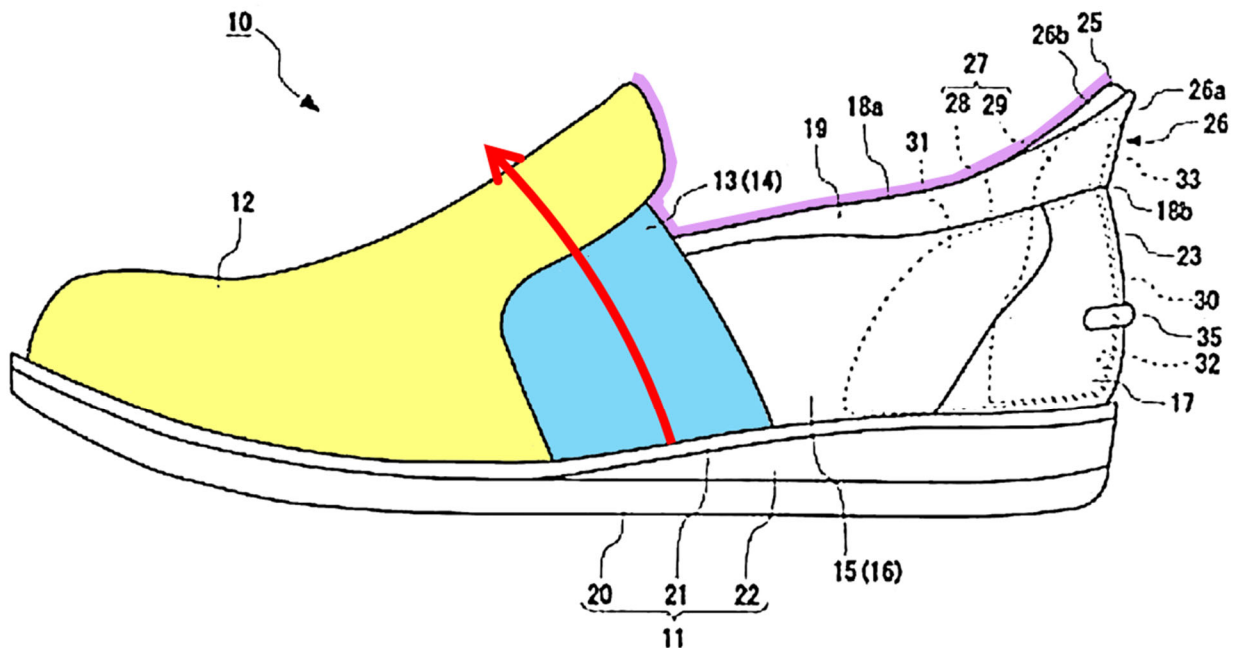
Additionally, Shin and Takahashi’s interrelated teachings would have motivated a POSITA to apply Takahashi’s well-known teachings when making Shin’s shoe. As this concerns claims 1-7, this is discussed in Part X.F below.

C. Claim 5

- **5:** “The rapid-entry shoe of claim 4, wherein the upper defines a foot opening and wherein the elastic element enlarges the foot opening of the rapid-entry shoe in response to a foot being inserted into the opening and contacting at least a portion of the upper.”

Dependent claim 5 is obvious over Shin and Takahashi. The combination renders claim 4 obvious as discussed in Part X.B, and claim 5’s added limitations are further obvious because Takahashi expressly teaches them as explained in Part VII.F, both of which are incorporated by reference. For example, Takahashi’s stretchable portions “allow the deformation of the upper 12,” *id.*, ¶37, enabling “[t]he rear edge of the upper 12” to be “displaced and deformed (warped) upward during the insertion of foot,” *id.*, ¶44, as shown by annotated Figure 1:

[FIG. 1]



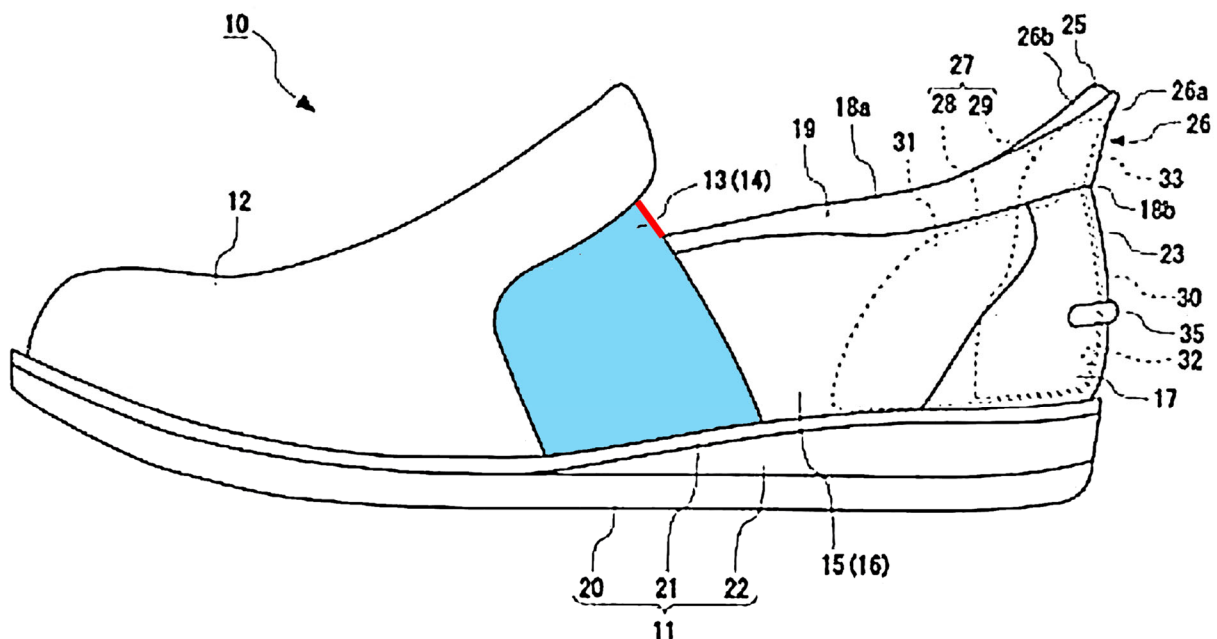
Id., Fig. 1.

D. Claim 6

- **6:** *“The rapid-entry shoe of claim 4, wherein the elastic element forms at least a portion of a top collar of the upper of the rapid-entry shoe.”*

Dependent claim 6 is obvious over Shin and Takahashi. The combination renders claim 4 obvious as discussed in Part X.B, and claim 6’s added limitations are further obvious because Takahashi expressly teaches them as explained in Part VII.G, both of which are incorporated by reference. For example, the red line added to Figure 1 shows the top edges of Takahashi’s stretchable portions forming a portion of a top collar of the upper:

[FIG. 1]



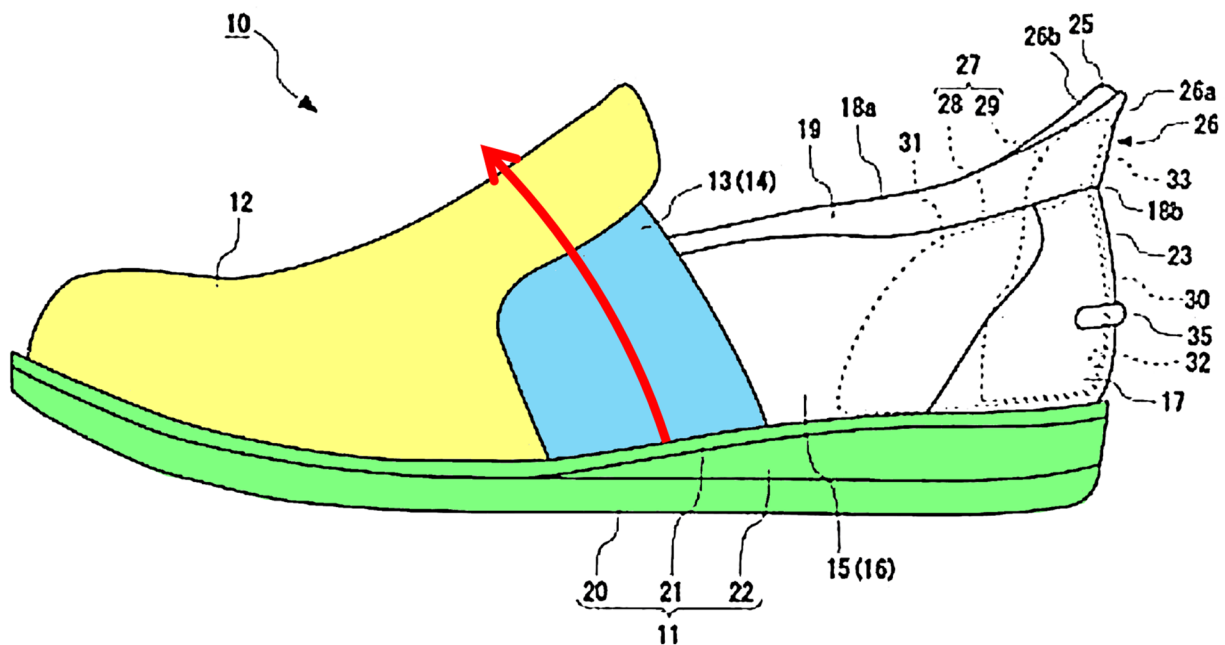
Id., Fig. 1.

E. Claim 7

- 7: “The rapid-entry shoe of claim 4, wherein the elastic element enables a forward portion of the upper to flex relative to the sole of the rapid-entry shoe.”

Dependent claim 7 is obvious over Shin and Takahashi. The combination renders claim 4 obvious as discussed in Part X.B, and claim 7’s added limitations are further obvious because Takahashi expressly teaches them as explained in Part VII.H, both of which are incorporated by reference. For example, Takahashi’s stretchable portions allow “[t]he rear edge of the upper 12” to be “*displaced and deformed (warped) upward*” during the insertion of foot,” *id.*, ¶44, as annotated in Figure 1 below:

[FIG. 1]



F. Combining Shin and Takahashi

As discussed in Parts X.A-F, a POSITA would have found it obvious to make Shin's shoe with Takahashi's foam lining 25 and stretchable portions 13, 14, and would have had a reasonable expectation of success in doing so. Those arguments are incorporated by reference. Additionally, a POSITA would have been motivated to combine Takahashi and Shin based on "the interrelated teachings of [these] patents." *See ZUP, LLC v. Nash Mfg., Inc.*, 896 F.3d 1365, 1371 (Fed. Cir. 2018).

Takahashi and Shin each address similar technology and design goals—shoes that facilitate easier foot entry, allowing donning and doffing without bending down to use 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...."); EX1012, ¶1; EX1015, ¶8. Both teach a heel counter insert and are explicitly intended to alleviate the need for 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."); EX1012, ¶1; EX1015, ¶8. Both further teach rearward-extending heel counters that 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); EX1012, ¶93; EX1015, ¶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 create a shoe that does not require bending over or using hands or a shoehorn would have reason to consider Takahashi and Shin together. *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, Shin and Takahashi are both directed to slip-on footwear that secures the foot once donned. *See, e.g.*, Shin, 5:46-54 (“elastic member 122” ensures that “the foot 10 of the wearer is not easily separated” from the shoe); EX1012, ¶¶68-69; EX1015, ¶¶71-72; Takahashi ¶75 (describing a heel portion that “hold[s] a person’s heel and make[s] it difficult for the shoe to slip off”). Heel retention was a known problem in the art, and heel liners like Takahashi and Shin’s were a recognized solution. *See, e.g.*, EX1017, p.12 (“heel liner. A special lining around the inside back of the heel’s counter, usually to prevent heel slippage.”). EX1025, 5:44-6:3 (“The proper fit and alignment of the heel within the heel counter section 72 of a shoe is critical to the comfort of the wearer.... The padded support collar 14 of the present invention prevents such discomfort by improved fit and more conformal protection to that region of the foot.”); EX1023, 1:54-59; EX1026, 3:4-12. A POSITA would thus have understood that Takahashi’s “lining 25” with “an

appropriate cushioning property” and Shin’s “elastic member 122” are synergistic elements and their combination would create an improved product (e.g., by incorporating Takahashi’s lining on the inside surfaces of Shin’s shoe, as discussed in Part X.A). *See Intel*, 61 F.4th at 1380-81, *KSR*, 550 U.S. at 402.

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 combination would act in the same way as in the original reference from which it was derived (e.g., Shin’s support member would continue to provide securement and stability, and Takahashi’s stretchable portions would continue to facilitate enlargement and flexure of the foot opening). The materials and techniques for making and using these components were conventional, and there would be a good degree of predictability incorporating them. Foam linings, elastic gorings, and heel counters/stiffeners were standard components long before the invention, and it would have been well within POSITA’s skill to modify Shin to incorporate Takahashi’s teachings of these components. *See, e.g.*, EX1017, p.6, 8, 10, 12, 18, 20; EX1005, ¶¶18-44; EX1018; EX1020; EX1021, EX1022, EX1023, EX1026. A POSITA would have been able to easily modify the size, shape, and orientation of these components to accommodate the particularities of Shin’s shoe, heel portion, and counter without substantial experimentation or unconventional modifications.

Furthermore, the reasonable expectation of success is implicitly shown through the references themselves and the further obviousness analysis herein.

XI. GROUND 5: CLAIMS 8 AND 9 ARE OBVIOUS OVER SHIN, DOENGES, AND IF NECESSARY, TAKAHASHI

Claims 8 and 9 depend from claim 1, which is anticipated by Shin. *See* Part IX.B, *supra*. Claim 8's added limitation of a "lattice structure adjacent the stabilizer," and claim 9's addition that the lattice structure "is visible on an outside surface of the rapid-entry shoe," are both obvious over Shin in view of Doenges.

Moreover, if the Board disagrees that Shin discloses 1[l]'s limitation, "foam liner extending beyond at least one of the medial portion of the base portion and the lateral portion of the base portion," Petitioner submits that a POSITA would have found it obvious to incorporate Takahashi's lining 25 as discussed in Part X.A, rendering claims 8 and 9 obvious over Shin, Doenges, and Takahashi.

A. Claim 8

- **8: *"The rapid-entry shoe of claim 1, further comprising a lattice structure adjacent the stabilizer."***

Dependent claim 8 is obvious over Shin in view of Doenges and, if necessary, Takahashi. As detailed above, Shin anticipates claim 1 and/or renders it obvious in view of Takahashi, which discussions are incorporated by reference. *See* Parts IX.B and X.A, *supra*. Furthermore, a POSITA would have found it obvious to incorporate Doenges's compression-molded fabric laminate and external surface pattern, which

satisfies claim 8's further limitation of a "lattice structure adjacent the stabilizer" as described in Part VII.B, which discussion is incorporated here by reference.

In particular, Doenges's "compression molding" creates a "pattern of depressions and/or protrusions along a surface of the fabric laminate that defines an exterior surface portion of the upper." Doenges, ¶62. Figure 1B shows that the "external surface pattern 170" comprises a lattice of "polygonal or diamond shaped depressions" on the outside the heel, adjacent the stabilizer:

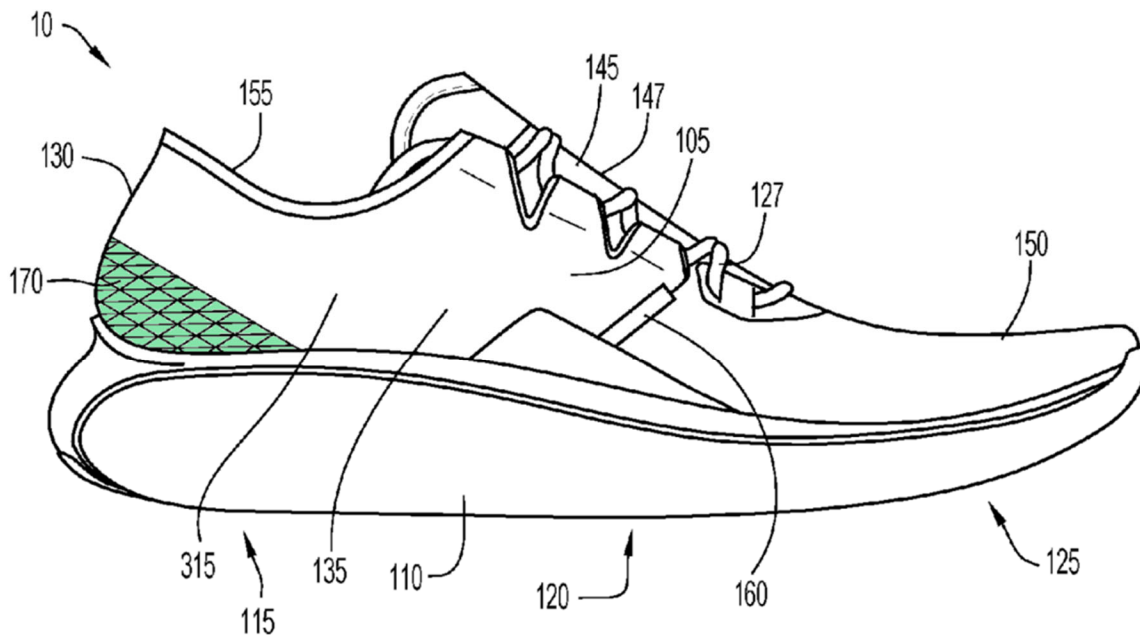
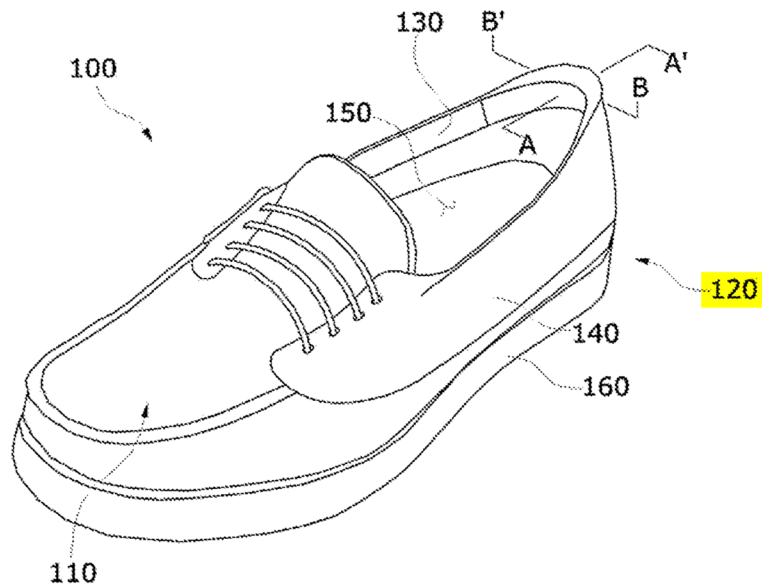


FIG.1B

Id., ¶62, Fig. 1B. When applied to Shin's shoe, Doenges's lattice pattern would clearly be "adjacent the stabilizer," located at or around "the shoe heel 120" highlighted below:

[FIG. 1]



Shin, Fig. 1.

B. Claim 9

- 9: “*The rapid-entry shoe of claim 8, wherein the lattice structure is visible on an outside surface of the rapid-entry shoe.*”

Claim 9 is obvious over Shin, Doenges, and Takahashi if necessary for the same reasons as claim 8. Doenges’s lattice pattern “defines an *exterior surface portion* of the upper,” Doenges, ¶62, and thus plainly “is visible on an *outside surface* of the rapid-entry shoe.”

C. Combining Shin, Doenges, and Takahashi

A POSITA would have found it obvious to combine Doenges’s fabric laminate upper with Shin’s shoe, and if necessary, to further incorporate Takahashi’s lining around the interior of the shoe. As explained in Part VIII.D, which is incorporated by reference, Doenges teaches an improvement to the construction of

shoe uppers that a POSITA would recognize improves similar devices in the same way.

For example, “conventional” shoes “typically include[] a seam (e.g., a welded seam or a stitched seam) within the heel cup,” whereas Doenges’s method “results in a heel cup ... that is seamless.” *Id.*, ¶60. Accordingly, forming at least the heel region of Shin’s upper using Doenges’s compression-molded fabric laminate would prevent friction and discomfort caused by “seams and/or stitches in the heel” area. *Id.*, ¶4, *see also id.*, ¶34 (“a seamless connection that minimizes and/or eliminates the friction caused by conventional (exposed) seams.”). It would further enhance Shin’s “protective surface 122c” provided on “support member 121,” which “improves the wearing sensation of the foot heel.” Shin, 6:15-24; EX1012, ¶¶78-80; EX1015, ¶¶79-81. The improved comfort provided by Doenges “results in a product ... that is more desirable,” providing at minimum “an implicit motivation to combine” with Shin. *See DyStar*, 464 F.3d at 1368.

Similarly, Doenges’s diamond-shaped lattice structure provides “abrasion resistance or impact protection in specified areas of the upper” and “function[s] as an auxetic material” which “enhance[es] the mechanical properties such as high energy absorption characteristics and greater ability to stretch without tearing/fracturing.” Doenges, ¶¶63-64. A POSITA would have been motivated to incorporate these added benefits, as they complement Shin’s teaching of a “support

member” that “functions to support the shoe heel” and does not “break or bend” due to “external force applied by the wearer.” Shin, 4:18-28; EX1012, ¶¶46-47; EX1015, ¶¶51-52.

A POSITA would have had a reasonable expectation of success incorporating Doenges’s fabric laminate into Shin’s heel portion. As explained in Part VIII.D, Doenges’s method can be readily applied to manufacture shoes like Shin’s by providing “an internal structural support member in the form of an *internal heel counter* 420 located at the heel end 130 (i.e., at the heel cup 305) of the upper,” Doenges, ¶44, directly corresponding to Shin’s support member 121 “provided between the inner skin 130 and outer skin 140” of the upper, Shin, 4:18-19; EX1012, ¶46; EX1015, ¶51. Doenges’s method can also be used to create Shin’s elastic member, as the fabric laminate can comprise “one or more foam layers” incorporated into the upper to “provide adequate cushioning and comfort” to the shoe. Doenges, ¶¶38-42. For the same reason, adding Takahashi’s lining with sponge cushioning to supplement Shin’s foam lining would not pose any difficulties or complexity, as Doenges expressly teaches how to incorporate it into the shoe. Indeed, Doenges provides detailed instructions concerning the required equipment and materials and how to assemble them to perform the compression molding. *See, e.g., id.* ¶¶38-46, 50-55. Furthermore, the reasonable expectation of success is implicitly shown

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through the prior art references themselves, as well as within the further obviousness analysis herein.

XII. CONCLUSION

As set forth above, claims 1-9 of the '325 patent are unpatentable.

Dated: May 27, 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 13,971 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: May 27, 2026

/s/ Samuel K. Lu

CERTIFICATE OF SERVICE

I hereby certify, pursuant to 37 C.F.R. sections 42.6 and 42.105, that a complete copy of the Petition for *Inter Partes* Review of U.S. Patent No. 12,274,325 and Exhibits are being served via Priority Mail Express on May 27, 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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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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