



ATHALONZ

Patent Owner's Presentation

IPR2024-00639, IPR2024-00640

U.S. Patent Nos. 11,375,768; 11,510,456

Under Armour, Inc. v. Athalonz LLC

June 17, 2025

“Density Patents” IPR Proceedings

- **IPR2024-00639:** U.S. Patent No. 11,375,768 (768)
- **IPR2024-00640:** U.S. Patent No. 11,510,456 (456)



“Density Patents” Alleged Unpatentability Grounds

- **IPR2024-00639: U.S. Patent No. 11,375,768 (768)**
 - Ground 1: 103 based on Umezawa (claims 1-5, 8)
 - Ground 2: 103 based on Umezawa in view of Gallas (claims 1-5, 8)
 - Ground 3: 103 based on Norton [and Giese/Matthews/AAPA] (claims 1-5, 8)
 - Ground 4: 103 based on Won in view of Norton (claims 1-5, 8)
 - Ground 5: 103 based on Won in view of Talarico '911 (claims 1-5, 8)
 - Ground 6: 103 based on Won in view of Talarico '911/Gallas (claims 1-5, 8)
- **IPR2024-00640: U.S. Patent No. 11,510,456 (456)**
 - Ground 1: 103 based on Won (claims 10, 11, 15, 17)
 - Ground 2: 103 based on Won in view of Norton (claims 1-5, 7, 9, 12-14)
 - Ground 3: 103 based on Won in view of Talarico '911 (claims 1-5, 7, 9, 12-14)
 - Ground 4: 103 based on Umezawa (claims 1-5, 7, 9-15, 17)
 - Ground 5: 103 based on Norton [and Giese] (claims 1-5, 7, 9-15, 17)
 - Ground 6: 103 based on Talarico '911 (claims 1-5, 7, 9-15, 17)



Density Patents Primary Prior Art References

- **Umezawa (EX1006):** U.S. Publication No. 2007/0107258
- **Norton (EX1007):** U.S. Patent No. 7,464,428
- **Won (EX1005):** U.S. Patent No. 6,158,151
- **Talarico (EX1008) '911:** U.S. Pat. No. 4,642,911*

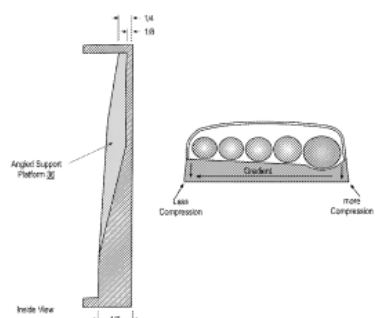
Won is the **only** primary reference not previously before the Patent Office.

*Primary reference only in IPR2024-00640



'768 Patent

(12) United States Patent Adair et al.	(10) Patent No.: US 11,375,768 B2 (45) Date of Patent: *Jul. 5, 2022
(54) ADJUSTABLE ATHLETIC POSITIONING APPARATUS AND APPLICATIONS THEREOF	<i>A43B 7/144</i> (2022.01) <i>A43B 7/145</i> (2022.01) <i>A43B 7/24</i> (2006.01)
(71) Applicant: Athalonz, LLC , Mesa, AZ (US)	(52) U.S. CL. CPC <i>A43B 7/14</i> (2013.01); <i>A43B 7/141</i> (2013.01); <i>A43B 7/142</i> (2013.01); <i>A43B 7/143</i> (2013.01); <i>A43B 7/144</i> (2013.01); <i>A43B 7/145</i> (2013.01); <i>A43B 7/24</i> (2013.01); <i>A43B 13/14</i> (2013.01); <i>A43B 13/143</i> (2013.01); <i>A43B 13/148</i> (2013.01)
(72) Inventors: Michael R. Adair , Woodruff, SC (US); Timothy W. Markison , Mesa, AZ (US)	(58) Field of Classification Search CPC ... A43B 13/143; A43B 13/145; A43B 13/146; A43B 7/24 USPC 36/142-144 See application file for complete search history.
(73) Assignee: Athalonz, LLC , Mesa, AZ (US)	(56) References Cited U.S. PATENT DOCUMENTS 4,620,376 A * 11/1986 Talarico, II A43B 7/14 36/103 4,642,911 A * 2/1987 Talarico, II A43B 13/12 36/142 (Continued)
(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days. This patent is subject to a terminal disclaimer.	<i>Primary Examiner</i> — Marie D Buys (74) <i>Attorney, Agent, or Firm</i> — Garlick & Markison; Timothy W. Markison
(21) Appl. No.: 16/555,171	(57) ABSTRACT A pair of shoes that includes a left foot shoe and a right foot shoe. Each of the shoes include an upper shoe portion and a sole coupled to the upper shoe portion. The sole provides an athletic positioning of a left big toe area of the left shoe at a lower position than a left heel area of the left shoe and at a lower position than an outer small toe area of the left shoe and wherein, from an inner edge to an outer edge of the left shoe, the left heel area has substantially no slope.
(22) Filed: Aug. 29, 2019	8 Claims, 92 Drawing Sheets
(65) Prior Publication Data US 2019/0380429 A1 Dec. 19, 2019	
Related U.S. Application Data (63) Continuation of application No. 16/152,538, filed on Oct. 5, 2018, now Pat. No. 11,064,760, which is a continuation of application No. 14/159,860, filed on Jan. 21, 2014, now Pat. No. 10,092,061, which is a continuation of application No. 13/867,406, filed on Apr. 22, 2013, now Pat. No. 8,631,592, which is a continuation of application No. 13/355,778, filed on Jan. 23, 2012, now Pat. No. 8,938,893. (Continued)	
(51) Int. Cl. <i>A43B 7/14</i> (2022.01) <i>A43B 13/14</i> (2006.01) <i>A43B 7/1405</i> (2022.01) <i>A43B 7/142</i> (2022.01) <i>A43B 7/143</i> (2022.01)	



IPR2024-00639

Title: Adjustable athletic positioning apparatus and applications thereof

Assignee: Athalonz, LLC

Priority Date: March 8, 2011

Petitioned Claims: 1-5, 8

IPR2024-00639: EX1001

'768 Patent: Claim 1

An athletic shoe comprises:

an upper section; and

a sole section coupled to the upper section, wherein the sole section includes:

a heel platform having a first height that is substantially uniform around a perimeter of the heel platform, wherein the heel platform is constructed of a first material having a first compression factor; and

a forefoot platform juxtaposed to the heel platform, wherein the forefoot platform is constructed of a second material having a gradient compression factor, wherein when the athletic shoe is worn by an athlete and weight of the athlete is applied to the athletic shoe, the second material compresses to a first level near an outer edge of the sole section and the second material compresses to a second level near an inner edge of the sole section, wherein the second level of compression is greater than the first level of compression, wherein the forefoot platform, at the outer edge, has a first thickness at a position proximal to the heel platform and a second thickness at a toe portion, wherein the first thickness is greater than the second thickness.

IPR2024-00639: EX1001, claim 1



'768 Patent: Claim 1

An athletic shoe comprises:

an upper section; and

a sole section coupled to the upper section, wherein the sole section includes:

a heel platform having a first height that is substantially uniform around a perimeter of the heel platform, wherein the heel platform is constructed of a first material having a first compression factor; and

a forefoot platform juxtaposed to the heel platform, wherein the forefoot platform is constructed of a second material having a gradient compression factor, wherein when the athletic shoe is worn by an athlete and weight of the athlete is applied to the athletic shoe, the second material compresses to a first level near an outer edge of the sole section and the second material compresses to a second level near an inner edge of the sole section, wherein the second level of compression is greater than the first level of compression, wherein the forefoot platform, at the outer edge, has a first thickness at a position proximal to the heel platform and a second thickness at a toe portion, wherein the first thickness is greater than the second thickness.

IPR2024-00639: EX1001, claim 1



'768 Patent: Claim 5

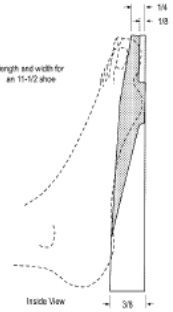
The athletic shoe of claim 1, wherein ***the second material comprises:***

a plurality of materials configured to provide a shape of the forefoot platform and to provide the gradient compression factor, wherein a first material of the plurality of materials is one of a foam, a soft rubber, memory foam, a housing that holds a liquid, and a material that compresses under pressure and substantially returns to its uncompressed shape when the pressure is removed.

IPR2024-00639: EX1001, claim 5



'456 Patent

(12) United States Patent Adair et al.		(10) Patent No.: US 11,510,456 B2 (45) Date of Patent: *Nov. 29, 2022
(54) ATHLETIC POSITIONING APPARATUS AND APPLICATIONS THEREOF		A43B 7/1445 (2022.01) A43B 7/24 (2006.01)
(71) Applicant: Athalonz, LLC, Mesa, AZ (US)		(52) U.S. CL. CPC A43B 7/14 (2013.01); A43B 7/141 (2013.01); A43B 7/142 (2013.01); A43B 7/143 (2013.01); A43B 7/144 (2013.01); A43B 7/1445 (2013.01); A43B 7/24 (2013.01); A43B 13/14 (2013.01); A43B 13/143 (2013.01); A43B 13/148 (2013.01)
(72) Inventors: Michael R. Adair, Woodruff, SC (US); Timothy W. Markison, Mesa, AZ (US)		(58) Field of Classification Search CPC ... A43B 13/143; A43B 13/145; A43B 13/146; A43B 7/24 USPC 36/142-144 See application file for complete search history.
(73) Assignee: Athalonz, LLC, Mesa, AZ (US)		(56) References Cited U.S. PATENT DOCUMENTS 1,477,825 A 12/1923 Heiter 2,616,190 A 11/1952 Darby 2,909,854 A 10/1959 Edelfstein 4,124,946 A 11/1978 Tomlin 4,399,620 A 8/1983 Funck 4,620,376 A * 11/1986 Talarico, II A43B 7/14 36/114 4,642,911 A * 2/1987 Talarico, II A43B 13/12 36/142 (Continued) Primary Examiner: Marie D. Buys (74) Attorney, Agent, or Firm — Gartick & Markison; Timothy W. Markison
(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 25 days. This patent is subject to a terminal disclaimer.		(57) ABSTRACT An apparatus includes a heel section, a mid-foot section, and a toe section. The heel section, the mid-foot section, and the toe section collectively have a geometric shape having a first slope of a polarity along an inner edge of the apparatus from the toe section to the heel section and a second slope of the polarity along the inner edge of the apparatus to an outer edge of the apparatus at the toe section.
(21) Appl. No.: 17/327,054		
(22) Filed: May 21, 2021		
(65) Prior Publication Data US 2021/0274878 A1 Sep. 9, 2021		
Related U.S. Application Data (63) Continuation of application No. 16/397,605, filed on Apr. 29, 2019, now Pat. No. 11,013,291, which is a continuation of application No. 14/563,135, filed on Dec. 8, 2014, now Pat. No. 10,271,611, which is a continuation of application No. 13/355,778, filed on Jan. 23, 2012, now Pat. No. 8,938,893. (60) Provisional application No. 61/450,485, filed on Mar. 8, 2011.		
(51) Int. Cl. A43B 13/14 (2006.01) A43B 7/14 (2022.01) A43B 7/1405 (2022.01) A43B 7/142 (2022.01) A43B 7/143 (2022.01) A43B 7/144 (2022.01)		
		17 Claims, 92 Drawing Sheets
		

IPR2024-00640

Title: Adjustable athletic positioning apparatus and applications thereof

Assignee: Athalonz, LLC

Priority Date: March 8, 2011

Petitioned Claims: 1–5, 7, 9–15, and 17

IPR2024-00640: EX1001



'456 Patent: Claim 1

An athletic shoe comprises:

an upper section; and

a sole section coupled to the upper section, wherein the sole section includes:

a ***heel platform having a first height that is substantial uniform from an inner edge*** of the sole section ***to an outer edge*** of the sole section, wherein the heel platform is constructed of a ***first material***; and

a forefoot platform juxtaposed to the heel platform, wherein ***the forefoot platform is constructed of a second material having a gradient compression factor***, wherein, when the athletic shoe is worn by an athlete and weight of the athlete is applied to the athlete shoe, the second material compresses to a first level near an outer edge of the sole section and the second material compresses to a second level near an inner edge of the sole section, wherein the second level of compression is greater than the first level of compression.

IPR2024-00640: EX1001, claim 1



'456 Patent: Claim 5

The athletic shoe of claim 1, wherein ***the second material comprises:***

a plurality of materials configured to provide a shape of the forefoot platform and to provide the gradient compression factor.

IPR2024-00640: EX1001, claim 5



CLAIM CONSTRUCTION



“first material”/ “second material”

Totality of Petition's Support for "Same Material" Construction

¹ While claim 1 recites that the heel platform is constructed of a "first material" and the forefoot platform of a "second material," Athalonz contends that they can be the same material, see, e.g. Ex. 1012, Ex. E, pp. 38-53, accusing shoes with the heel platform and forefoot platform constructed of the same material(s) as infringing claim 1. Without conceding alternative arguments, Under Armour applies Athalonz's apparent construction. NEC, IPR2019-01123, pp. 12-14.

IPR2024-00639: Paper 1, 25 n.1; Paper 12, 16-18
IPR2024-00640: Paper 1, 27 n.1 (almost identical); Paper 12, 17-19



Board Correctly Recognized That Two Separately Claimed Materials Must Be Different

We agree with Patent Owner. As our reviewing court has previously explained, the terms “first” and “second” are conventionally used in patent claims to distinguish between different elements. *See Gillette Co. v. Energizer Holdings, Inc.*, 405 F.3d 1367, 1373 (Fed. Cir. 2005) (“The terms ‘first, second, and third’ are terms to distinguish different elements of the claim”). Petitioner does not dispute that convention, but nonetheless

IPR2024-00639: Paper 8, 12-13; Paper 12, 15-19
IPR2024-00640: Paper 8, 7-8, Paper 12, 16-21



Plain Language of Claims Shows Materials Must be Different

An athletic shoe comprises:

an upper section; and

a sole section coupled to the upper section, wherein the sole section includes:

a heel platform having a first height that is substantially uniform around a perimeter of the heel platform, wherein the heel platform is constructed of a **first material having a first compression factor**; and

a forefoot platform juxtaposed to the heel platform, wherein the forefoot platform is constructed of a **second material having a gradient compression factor**, wherein when the athletic shoe is worn by an athlete and weight of the athlete is applied to the athletic shoe, the second material compresses to a first level near an outer edge of the sole section and the second material compresses to a second level near an inner edge of the sole section, wherein the second level of compression is greater than the first level of compression, wherein the forefoot platform, at the outer edge, has a first thickness at a position proximal to the heel platform and a second thickness at a toe portion, wherein the first thickness is greater than the second thickness.

IPR2024-00639: Paper 12, 15-16; Paper 26, 6-7
IPR2024-00640: Paper 12, 16-17; Paper 25, 10-11



Petitioner's New Reply Evidence is Improper

6. Claim Construction: If a petitioner believes that a claim term requires an express construction, the petitioner must include a statement identifying a proposed construction of the particular term and where the intrinsic and/or extrinsic evidence supports that meaning. On the other hand, a petitioner may include a statement that the claim terms require no express construction. The patent owner may then respond to these positions and/or propose additional terms for construction, with corresponding statements identifying a proposed construction of any particular term or terms and where the intrinsic and/or extrinsic evidence

Patent Trial and Appeal Board Consolidated Trial Practice Guide ("CTPG") at 44
IPR2024-00639: Paper 12, 18-19
IPR2024-00640: Paper 12, 19-21



Petitioner's New Reply Evidence is Improper

if necessary to respond to petitioner's reply. Petitioner may not submit new evidence or argument in reply that it could have presented earlier, e.g. to make out a prima facie case of unpatentability. A party also may submit rebuttal evidence in support of its reply. *See Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1077–78 (Fed. Cir. 2015). If a party submits a

Federal Circuit: Petitioners Must “Make Their Case” in the Petition

“It is of the utmost importance that petitioners in the IPR proceedings adhere to ***the requirement that the initial petition identify ‘with particularity’ the ‘evidence that supports the grounds for the challenge to each claim.’*** 35 U.S.C. § 312(a)(3).”

“Unlike district court litigation—where parties have greater freedom to revise and develop their arguments over time and in response to newly discovered material—***the expedited nature of IPRs bring with it an obligation for petitioners to make their case in their petition to institute.*** While the Board's requirements are strict ones, they are requirements of which petitioners are aware when they seek to institute an IPR.”

Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd., 821 F.3d 1359, 1367 (Fed. Cir. 2016)

IPR2024-00639: Paper 12, 20-23

IPR2024-00640: Paper 12, 22-24



Petitioner's New Claim Differentiation Argument Off Base

6. The athletic shoe of claim 1 further comprises:
the first and second materials are constructed of the same
one or more materials.

- First and second materials still different—second material has “gradient compression factor”
- Does not address ratio of materials, relative composition

IPR2024-00639: Paper 26, 5-6
IPR2024-00640: Paper 25, 9-10



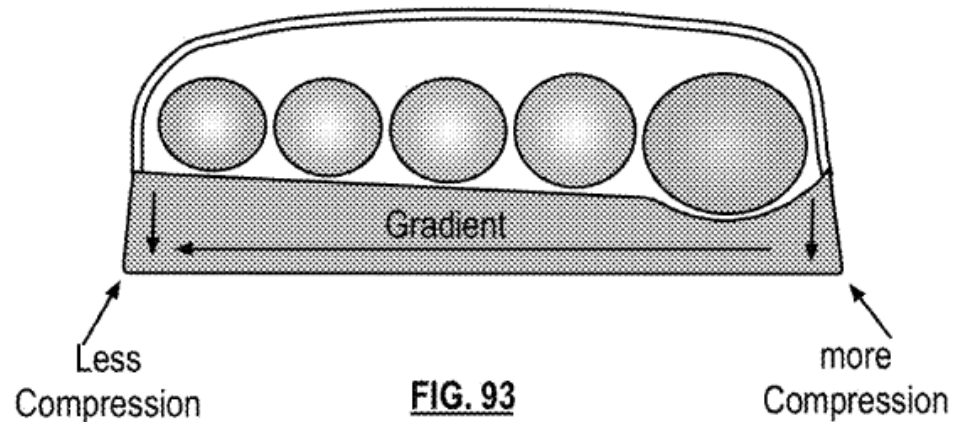
Petitioner's Specification Cites Provide No Support for Same Material Construction

FIG. 43 illustrates a cross-sectional side view diagram of another embodiment of an athletic positioning sole 10 and/or insole 12 that includes a first compressible material section 150, a second compressible material section 152, and a recoil material section 144. In this embodiment, the first compressible material section 150 is layered above the recoil material section 144, which is layered above the second compressible material section 152. The first compressible material section 150 includes one or more of the athletic positioning shapes and comprises a first compressible material. The second compressible material section 152 includes one or more of the athletic positioning shapes and comprises a second compressible material. For example, the first compressible material may be more compressible material than that of the second compressible material.

IPR2024-00639: EX1001, 17:48-62; Paper 26, 6
IPR2024-00640: EX1001, 17:40-54; Paper 25, 10



Petitioner's Specification Cites Provide No Support for Same Material Construction

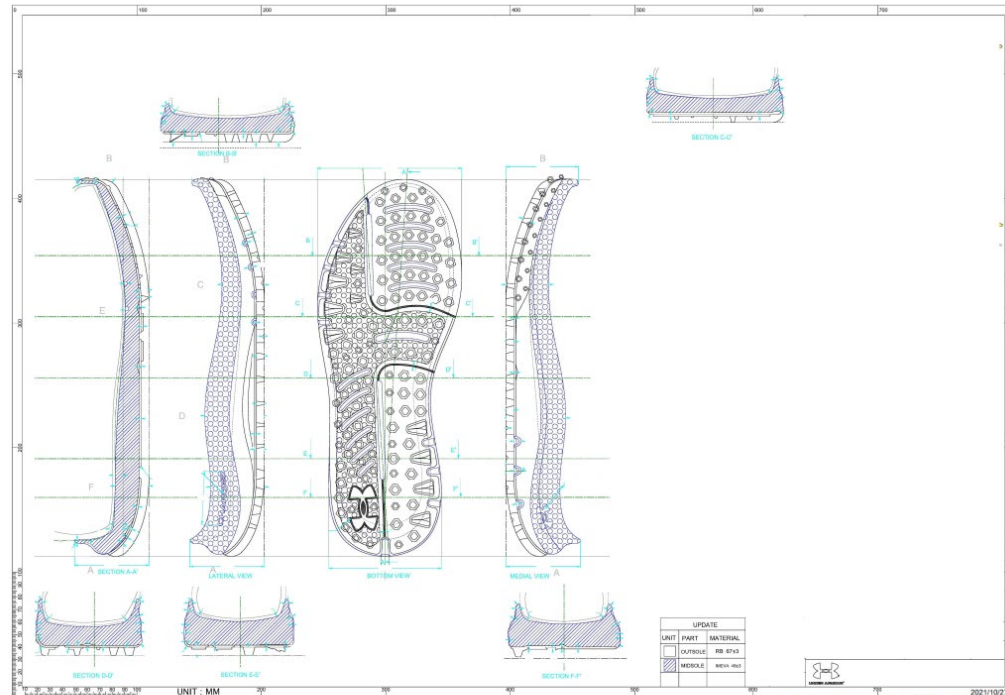


FIGS. 93 and 94 illustrate a cross-sectional front view diagram and a cross-sectional side view diagram of another embodiment of an integrated athletic positioning sole and insole. The integrated sole 10 and insole 12 is comprised of one or more materials that provides a more compressible area towards the big toe/ball of foot area and increasingly less compressible away from the big toe/ball of foot area to facilitate an athletic position. The integrated sole and insole may be adjustable to adjust the athletic position (e.g., include removable plates, air bladders, etc.).

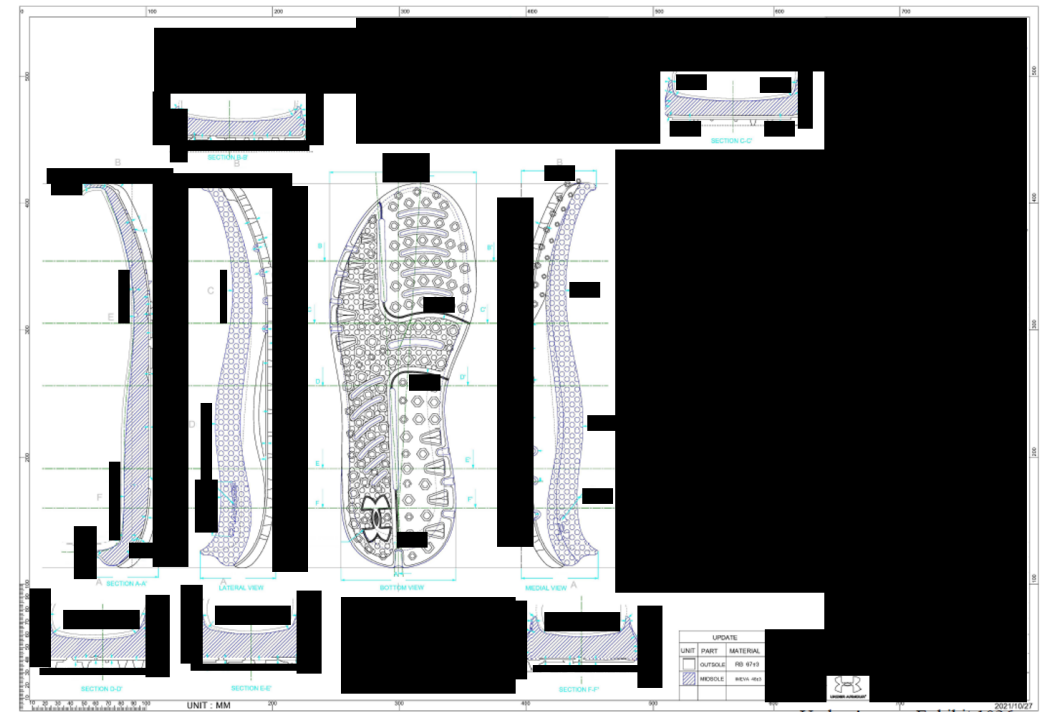
IPR2024-00639: EX1001, Fig. 93, 27:50-59; Paper 26, 6
IPR2024-00640: EX1001, Fig. 93, 27:47-56; Paper 25, 11

Petitioner's Contentions Argument Hinges on Altered Evidence

Exhibit 1026



Reality



IPR2024-00639: Paper 32, 5

IPR2024-00640: Paper 35, 5

Petitioner's Contentions Argument Relies on Distorting Testimony

21 BY MR. BUGG:

22 Q This is Markison Exhibit 10. Take a look

1 at this document. I don't think you've ever seen it²¹⁴

2 before, but just take a look at it and I'm going to

3 ask you some questions.

4 A It's hard to read.

10 Q So I'll point here, there's a material
11 listing here. And if you can't read that, maybe
12 you'll blow that up too.

13 And do you see there's a midsole and it's
14 showing some cross hatching there?

15 MR. HOUGHTON: Objection. Scope,
16 relevance.

17 THE WITNESS: It came out really
18 fuzzy. I mean, if you're telling me
19 that's midsole, I mean, I can't disagree,
20 but I can't read it either.

16 Q Do you understand, you know, what these
17 different images are showing for the specific Under
18 Armour shoe shown on Exhibit 10?

19 MR. HOUGHTON: Objection. Scope,
20 relevance.

21 THE WITNESS: I'm having a really
22 hard time reading this document. Even

3 So my question is, for each of the
4 cross-sections that you blew up, does it show the
5 midsole being made of the same material?

6 MR. HOUGHTON: Objection. Scope,
7 relevance, foundation.

8 THE WITNESS: It keeps rotating on
9 me. It appears that each of these
10 cross-sections have hash marks, or these
11 have the hash that seem similar to what's
12 in this table.

IPR2024-00639: Paper 26, 7-8
IPR2024-00640: Paper 25, 11-12



Petitioner's New Merits Arguments Should Be Stricken

Petition Contains No Arguments Under Correct Construction of First Material/Second Material

- Global defect that provides independent basis for rejecting virtually all unpatentability grounds in 639/640 IPRs
- Petitioner concedes that Petition does not include unpatentability arguments under Patent Owner's construction.
- Petitioner was aware of construction at Petition filing and chose not to address it
- Board should not permit Petitioner to effectively amend Petition in its Reply.

IPR2024-00639: Paper 12, 20-25; Paper 20, 1-2

IPR2024-00640: Paper 12, 21-27; Paper 19, 1-2



Petitioner's New Merits Arguments in Reply Improper

if necessary to respond to petitioner's reply. Petitioner may not submit new evidence or argument in reply that it could have presented earlier, e.g. to make out a prima facie case of unpatentability. A party also may submit rebuttal evidence in support of its reply. *See Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1077–78 (Fed. Cir. 2015). If a party submits a

Federal Circuit: Petitioner Must Identify Unpatentability Theories in Petition

“It is of the utmost importance that petitioners in the IPR proceedings adhere to ***the requirement that the initial petition identify ‘with particularity’ the ‘evidence that supports the grounds for the challenge to each claim.’*** 35 U.S.C. § 312(a)(3).”

“Unlike district court litigation—where parties have greater freedom to revise and develop their arguments over time and in response to newly discovered material—***the expedited nature of IPRs bring with it an obligation for petitioners to make their case in their petition to institute.*** While the Board's requirements are strict ones, they are requirements of which petitioners are aware when they seek to institute an IPR.”

Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd., 821 F.3d 1359, 1367 (Fed. Cir. 2016)

IPR2024-00639: Paper 12, 20-23

IPR2024-00640: Paper 12, 22-24



Petitioner Admits That Its Reply Arguments Are New and Not in Petition

- **§§VI.A; VI.C – Norton invalidates claims 1 and 5 under PO’s construction**
 - Petition: §§VII.E.i.4-5 (claim 1); VII.E.v (claim 5) - **invalidity under UA’s construction**; disclosure of different first / second materials in Norton.
 - ID: §§III.C.3; III.F.2.a-b - Norton discloses different first / second materials.
 - POR: §§ VI.C; VII.A; VII.D.1; VII.D.4 – PO arguing Norton fails to disclose different first and second materials; UA’s claim 5 arguments fail.
- **§§VII.A-B - Won + Norton Invalidates Claim 1 under PO’s construction**
 - Petition: - §§VII.F; VII.F.i.4-5 - **invalidity under UA’s construction**; disclosure of different first / second materials in references.

IPR2024-00639: Paper 20, 1-2; Paper 26, 4
IPR2024-00640: Paper 19, 1-2; Paper 25, 8



Axonics Distinguishable

“We hold that where a patent owner in an IPR ***first proposes a claim construction in a patent owner response***, a petitioner must be given the opportunity in its reply to argue and present evidence of anticipation or obviousness under the new construction, at least where it relies on the same embodiments for each invalidity ground as were relied on in the petition.”

Axonics, Inc. v. Medtronic, Inc., 75 F.4th 1374, 1384 (Fed. Cir. 2023)

IPR2024-00639: Paper 26, 4-5

IPR2024-00640: Paper 25, 8-9



Athalonz First Proposed Construction in POPR

1. “First Material” and “Second Material”

The “first material” and “second material” are set forth as separate limitations and so should be required to be met by different materials. “[T]he use of the terms ‘first’ and ‘second’ is a common patent-law convention to distinguish between repeated instances of an element or limitation.” *Free Motion Fitness, Inc. v. Cybex Int’l, Inc.*, 423 F.3d 1343, 1348 (Fed. Cir. 2005); *Gillette Co. v. Energizer Holdings, Inc.*, 405 F.3d 1367, 1373 (Fed. Cir. 2005) (“The terms ‘first, second, and third’ are terms to distinguish different elements of the claim”). The Federal Circuit has

IPR2024-00639: Paper 6, 20
IPR2024-00640: Paper 6, 16



Petitioner Contemplated Construction in Petition

¹ While claim 1 recites that the heel platform is constructed of a “first material” and the forefoot platform of a “second material,” Athalonz contends that they can be the same material, see, e.g. Ex. 1012, Ex. E, pp. 38-53, accusing shoes with the heel platform and forefoot platform constructed of the same material(s) as infringing claim 1. Without conceding alternative arguments, Under Armour applies Athalonz’s apparent construction. NEC, IPR2019-01123, pp. 12-14.

IPR2024-00639: Paper 1, 25 n.1; Paper 12, 16-18
IPR2024-00640: Paper 1, 27 n.1 (almost identical); Paper 12, 17-19



Mr. Delgatty's Flawed Conventional Shoe Opinions

Mr. Delgatty's Flawed "Conventional" Shoe Opinions Doom All Grounds

- Mr. Delgatty's opinions regarding purportedly "conventional" shoes essential to all grounds.
- Without them, Petitioner has no basis for "finding" missing heel and forefoot dimension limitations in prior art.
- Mr. Delgatty's opinions are internally incoherent, lacking in rigor, and contradicted by his own deposition testimony.

IPR2024-00639: Paper 12, 25-32; Paper 26, 11-13
IPR2024-00640: Paper 12, 27-32; Paper 25, 15-17



Mr. Delgatty's Flawed Original Declaration

- ✗ Measurements of “conventional” shoe dimensions
- ✗ Pictures of the inside of “conventional” shoes
- ✗ Other evidence of interior structure of “conventional” shoes
- ✗ Scientific Rigor

IPR2024-00639: Paper 12, 25-32

IPR2024-00640: Paper 12, 27-32



Mr. Delgatty's Flawed Reply Declaration

-  Measurements of cutaway dimensions
-  Camera angles for cutaway pictures
-  Pictures of all cutaway faces
-  Scientific Rigor

IPR2024-00639: Paper 26, 11-13

IPR2024-00640: Paper 25, 15-17



“Conventional” Golf Shoe Doesn’t Have Purportedly Conventional Feature



IPR2024-00639: Paper 12, 29; EX1002, ¶67 (annotated); EX2008 ¶172



Mr. Delgatty Admits Forefoot Thicknesses Are “Similar” in Conventional Golf Shoe He Relied Upon

8 Here. So just also for the record, so
9 we're looking at a picture of the 1970 FootJoy
10 Style 51409. Correct?

11 A Yes.

12 Q And just for the record, this is a
13 picture that appears below Paragraph 67 of your
14 original declaration?

15 A Yes.

16 Q Now, would you agree that visually at
17 least in this image, the thickness of the sole
18 material here where my cursor is, which is just
19 adjacent to the heel section, is equivalent to the
20 thickness here in the forefoot section closer to
21 the toe?

22 MR. BUGG: Objection. Vague. Calls for

1 speculation.

2 A I would say that the -- where you are
3 pointing to on the cursor with the section that's
4 closest to the heel and the section in the front
5 where it's closest to the toe, that the sole
6 material thickness looks relatively similar, but
7 the heights are significantly different.

IPR2024-00639: Paper 26, 12-13; EX2022, 28:8-29:7

IPR2024-00640: Paper 25, 16-17; EX2022, 28:8-29:7



Mr. Delgatty Testified That Shoe Exteriors Have “No Bearing” on Interior

Q. Right here towards the front, there's a sort of upwards dip in the outsole. And so if you look at the exterior of the shoe, it looks like it's thicker here than just before it here. Correct?

A. Again, that is a detail of a sidewall design. Shoes -- typical athletic shoes have lots of variability on what that top silhouette line would look like. It has no bearing on where the actual foot sits inside the shoe where the top of the midsole would be.

IPR2024-00639: Paper 12, 27; EX2010, 37:3-13
IPR2024-00640: Paper 12, 29; EX2011, 37:3-13



Yet Mr. Delgatty's Original Opinions Hinge on Images of Shoe Exteriors



IPR2024-00639: Paper 12, 27-28; EX1002, ¶¶63-65, 67

IPR2024-00640: Paper 12, 28-29; EX1002, ¶¶55-57



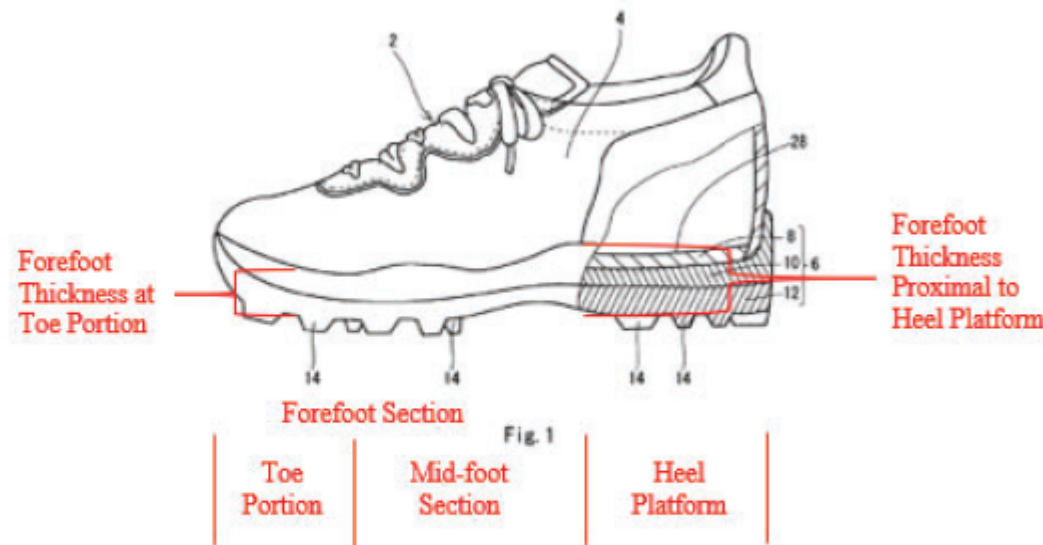
New Shoe Cutaway Pictures Improper and Add Nothing of Substance



IPR2024-00639: EX1022, 5, 10; Paper 26, 11-13
IPR2024-00640: EX1022, 4, 6 (similar) Paper 25, 15-17

Mr. Delgatty Relied on Shoe Exteriors in His Unpatentability Opinions

a second thickness at a toe portion, wherein the first thickness is greater than the second thickness.



Id., Fig. 1.

IPR2024-00639: Paper 12, 44; EX2008, ¶204; EX1002, ¶74

Petitioner's Umezawa-Based Grounds

IPR2024-00639: Grounds 1 & 2
IPR2024-00640: Ground 4



Umezawa Missing Multiple Key Limitations

- ❌ Forefoot platform with “gradient compression factor”
- ❌ More compressible “near” or “proximal” to inner edge than outer edge
- ❌ Heel and forefoot platforms with claimed dimensional features

IPR2024-00639: Paper 12, 33-45; Paper 26, 13-19

IPR2024-00640: Paper 12, 44-54; Paper 25, 22-26



Umezawa: Overview

(19) **United States**
 (12) **Patent Application Publication** (10) **Pub. No.: US 2007/0107258 A1**
 Umezawa et al. (43) **Pub. Date: May 17, 2007**

(54) **SHOE**

Publication Classification

(75) **Inventors:** Ikuko Umezawa, Kobe-shi (JP); Tetsuo Yamaguchi, Kobe-shi (JP); Kunio Niwa, Kobe-shi (JP); Toshihiro Horii, Kobe-shi (JP); Koichi Fujisawa, Kobe-shi (JP)

(51) **Int. Cl.**
 A43B 13/18 (2006.01)
 A43B 13/12 (2006.01)
 (52) **U.S. Cl.** 36/30 R; 36/28

Correspondence Address:
BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747 (US)

(73) **Assignee:** SRI Sports Limited

(21) **Appl. No.:** 11/505,338

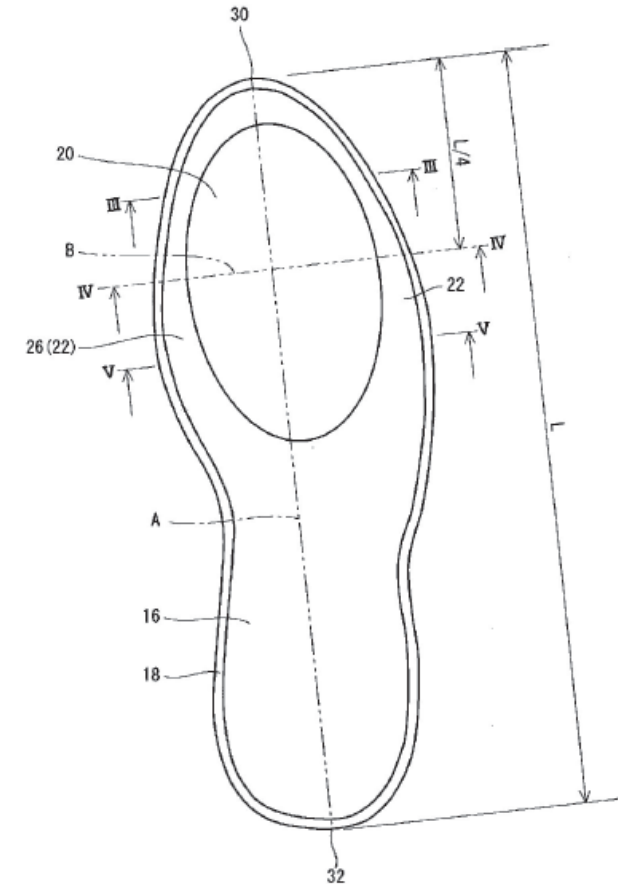
(22) **Filed:** Aug. 17, 2006

(30) **Foreign Application Priority Data**

Nov. 17, 2005 (JP) 2005-332893

ABSTRACT

A midsole of a shoe has a low elastic part 20, a high elastic part 22 and an inclined surface 24. The low elastic part 20 and the high elastic part 22 include air bubbles. An ethylene-vinyl acetate copolymer (EVA) is used as a base polymer in the low elastic part 20 and the high elastic part 22. The inclined surface 24 is inclined upward from the inside to the outside. The low elastic part 20 is located to the inside of the inclined surface 24. The high elastic part 22 is located to the outside of the inclined surface 24. An inner high elastic part 26 is located to the inside of a low elastic part 20. The thickness of the low elastic part 20 becomes gradually larger from the outside to the inside along the inclined surface 24. The thickness of the high elastic part 22 becomes gradually larger from the inside to the outside along the inclined surface 24. The width Wa of the inclined surface 24 in left and right direction is 5 mm or more and 100 mm or less.



IPR2024-00639: EX1006

IPR2024-00640: EX1006

Umezawa: Less Compressible “High Elastic” Surrounds “Low Elastic”

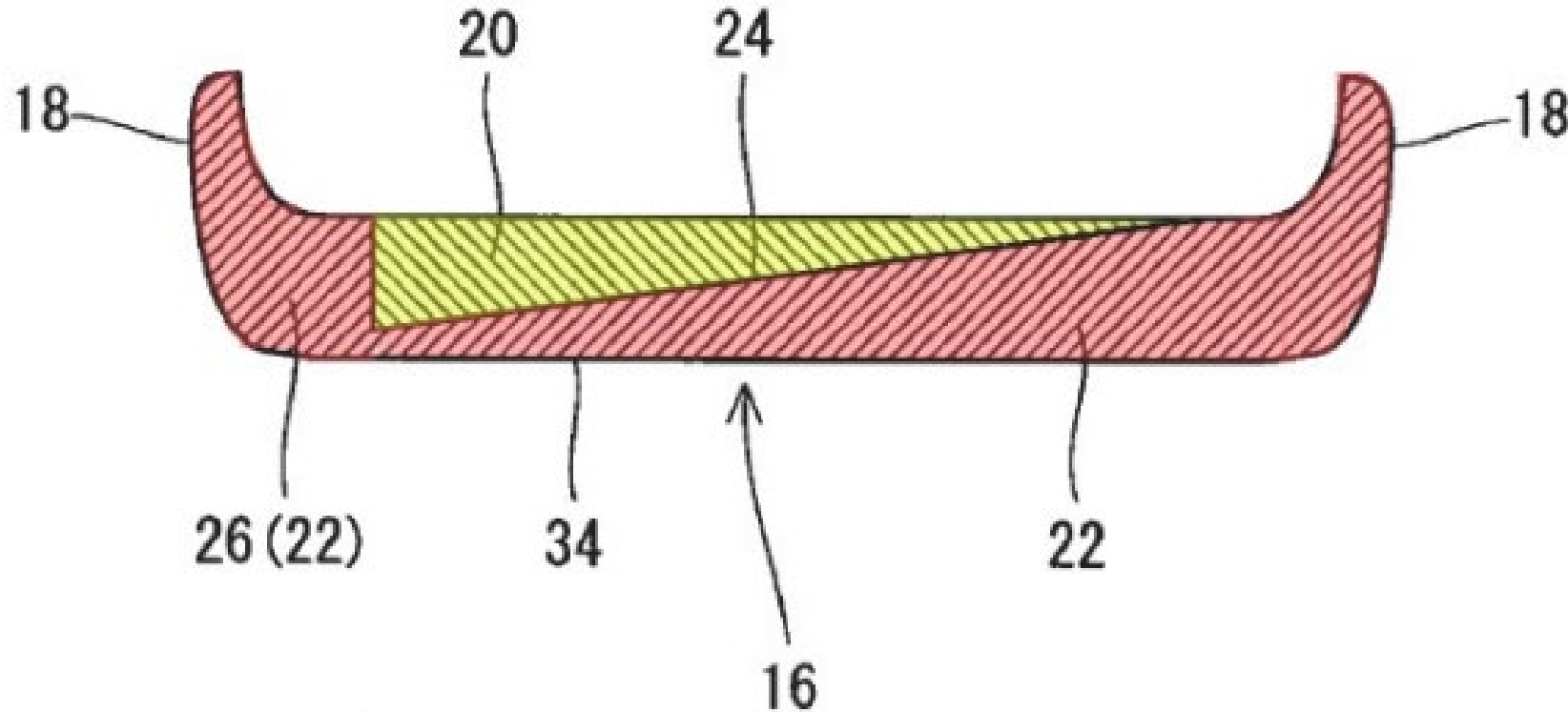


Fig. 3

IPR2024-00639: EX1006 Fig 3 (annotated); Paper 6, 11-12; Paper 12, 7; EX2008 ¶115

IPR2024-00640: EX1006 Fig 3 (annotated); Paper 6, 8; ; Paper 12, 8; EX2009 ¶114

Umezawa: Less Compressible “High Elastic” Surrounds “Low Elastic”

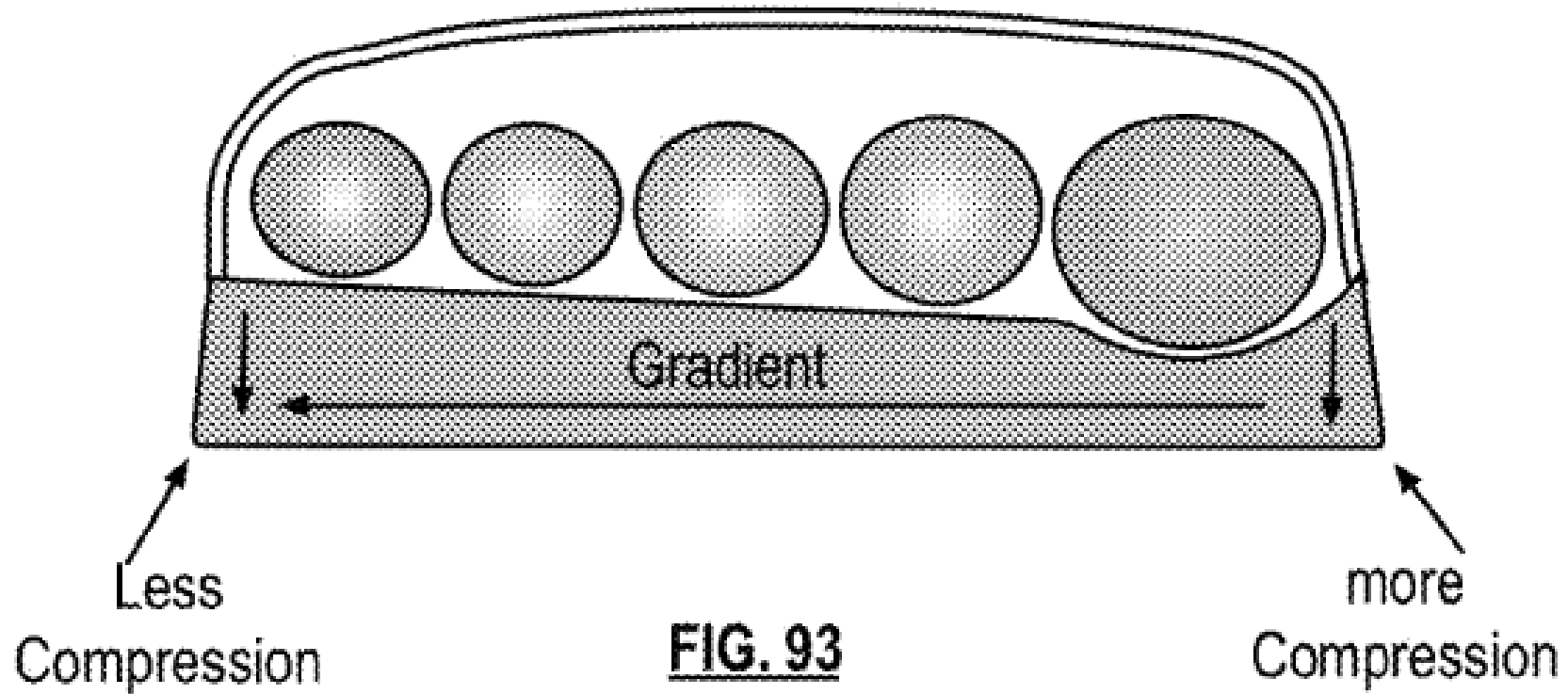
to the inside of the inclined surface 24. The high elastic part 22 is located to the lower side of the inclined surface 24. The high elastic part 22 is located to the outside of the inclined surface 24. The high elastic part 22 is also located to the inside of the low elastic part 20. A high elastic part 22 which is located to the inside of the low elastic part 20 is hereinafter referred to as “inner high elastic part 26”. The thickness of the low elastic part 20 becomes gradually larger along the inclined surface 24 from the outside to the inside. The thickness of the high elastic part 22 becomes gradually larger along the inclined surface 24 from the inside to the outside.

IPR2024-00639: EX1006 ¶10037(annotated); Paper 12, 7-8; EX2008 ¶116

IPR2024-00640: EX1006 ¶10037(annotated); Paper 12, 8-9; EX2009 ¶115

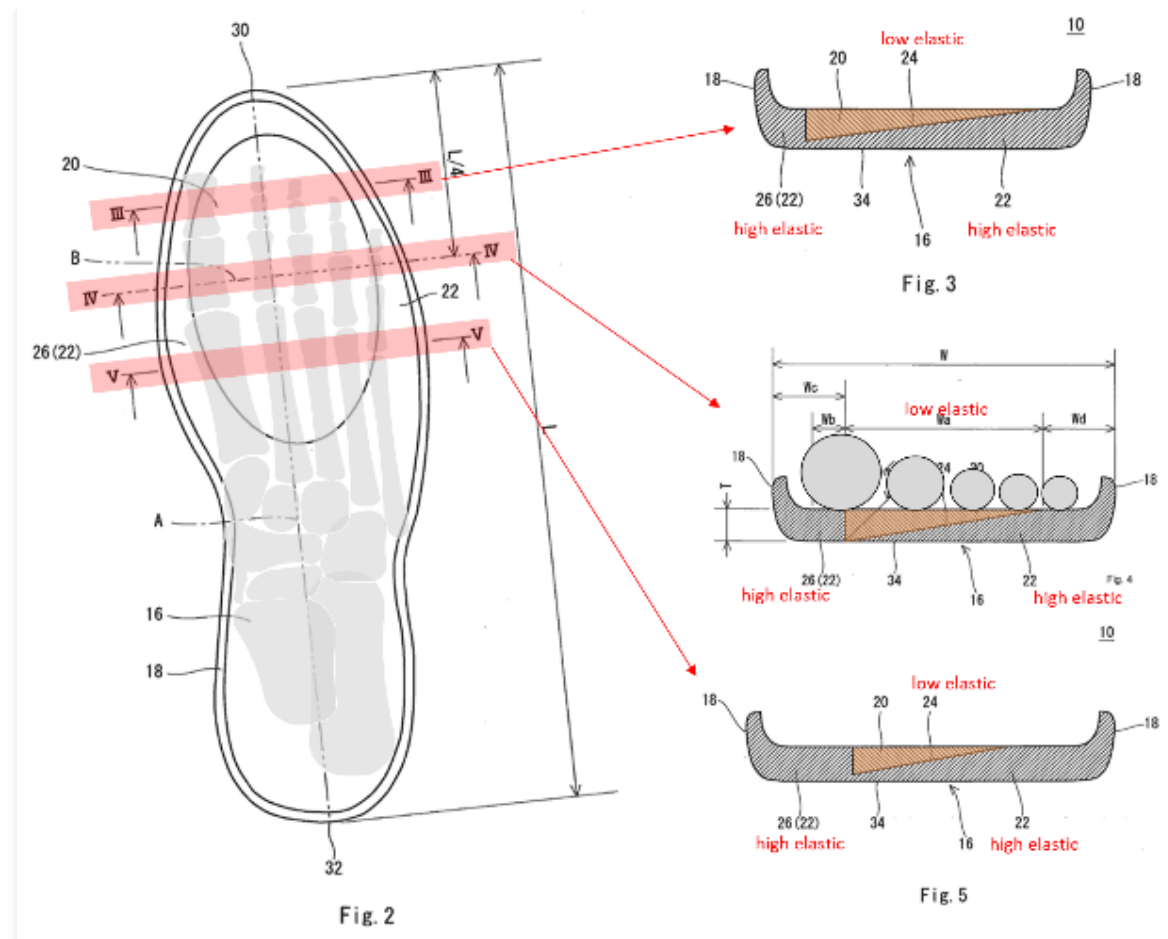


Umezawa: Fundamentally Different Configuration from Patents



IPR2024-00639: EX1001, Fig. 93; Paper 1, 17; Paper 12, 4
IPR2024-00640: EX1001, Fig. 93; Paper 1, 14-15; Paper 12, 4

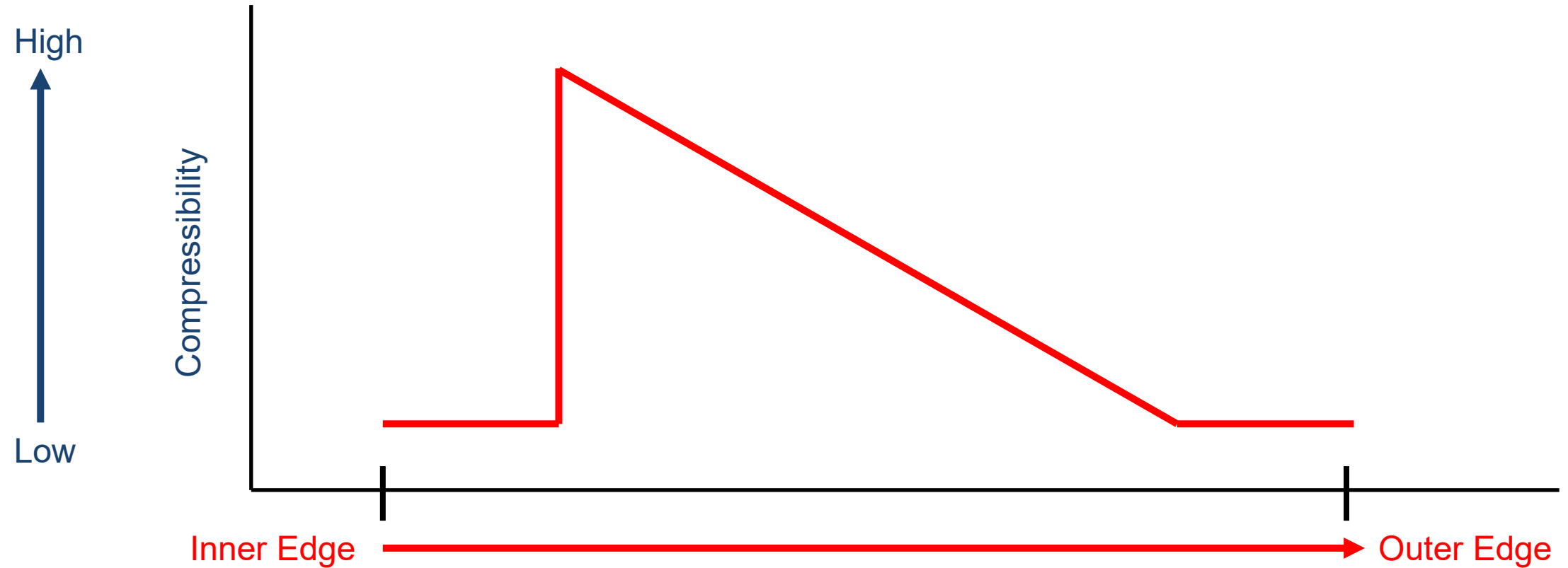
Umezawa: Less Compressible “High Elastic” Surrounds “Low Elastic”



IPR2024-00639: EX1006 Figs 2-5 (combined and annotated); Paper 12, 7; EX2008 ¶114

IPR2024-00640: EX1006 Figs 2-5 (combined and annotated); Paper 12, 8; EX2009 ¶114

Umezawa: Forefoot Compressibility Profile



IPR2024-00639: Paper 12, 38; EX2008 ¶189
IPR2024-00640: Paper 12, 50-51; EX2009 ¶222



Umezawa: “High Elastic Part” is Substantial

[0049] The length designated by both-oriented arrow Wb in FIG. 4 is a width of a flat top surface of the inner high elastic part 26. The width Wb is measured along the lateral line B. The width Wb is preferably 3 mm or more and 25 mm or less. By setting the width Wb to be 3 mm or more, sufficient force is transferred from the foot to the ground. From this viewpoint, the width Wb is more preferably 5 mm or more, still more preferably 7 mm or more and particularly preferably 10 mm or more. By setting the width Wb to be 25

IPR2024-00639: EX1006 ¶0049; Paper 12, 35-36; EX2008 ¶¶ 118, 184

IPR2024-00640: EX1006 ¶0049; Paper 12, 46-48; Paper 25, 22-23; EX2009 ¶¶ 117, 218



Umezawa: Inner High Elastic Part 26 Supports Foot and Key to Invention

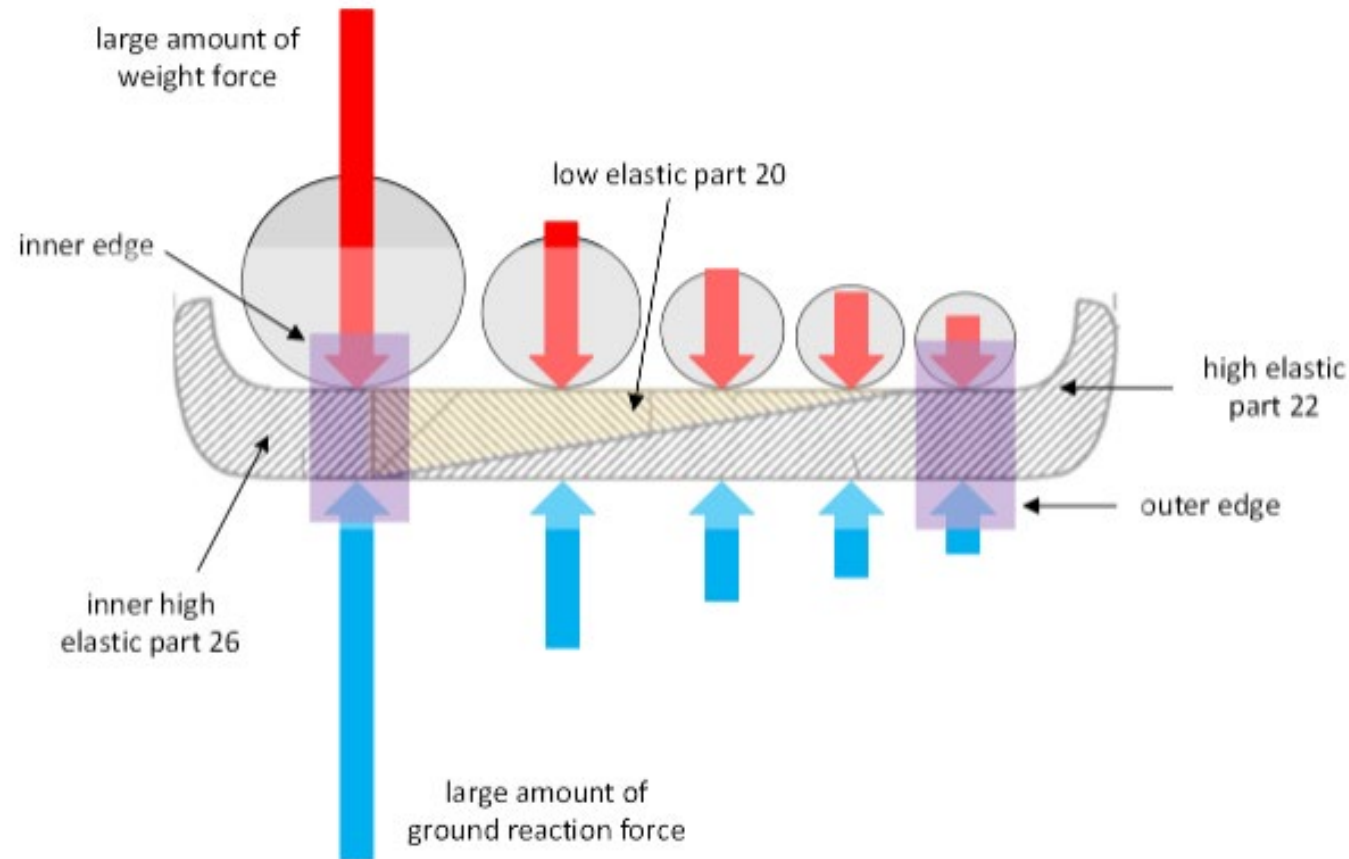
[0039] Even if the body weight of a golf player is applied to the bottom part 6, the inner high elastic part 26 is not deformed so much. This inner high elastic part 26 does not absorb a force transferred from the foot to the ground so much. A large amount of force is transferred from the foot to the ground through this inner high elastic part 26. This inner high elastic part 26 contributes to generation of great head speed.

IPR2024-00639: EX1006 ¶0039; Paper 12, 36-38; EX2008 ¶185

IPR2024-00640: EX1006 ¶0039; Paper 12, 48-50; EX2009 ¶219



Umezawa: Inner High Elastic Part 26 Supports Foot and Key to Invention



IPR2024-00639: EX1006 Fig. 4(annotated); Paper 12, 36-38; EX2008 ¶¶ 187-189

IPR2024-00640: EX1006 Fig. 4(annotated); Paper 12, 48-50; EX2009 ¶¶ 221-223

Umezawa: No Possible “Gradient Compression Factor” Under Petitioner’s Construction

Ex. 1001, 27:47-67 (emphasis added). Based on this disclosure, a POSITA would understand that a forefoot platform constructed of a second material having a “gradient compression factor” would become “increasingly less compressible” from the inner edge to the outer edge of the forefoot platform.

This definition is also supported by the plain meaning of the term “gradient,” which is defined as “change in value of a quantity (as temperature, pressure, or concentration) with change in a given variable and esp. per unit distance in a specified direction.” Ex. 1019, Merriam-Webster’s Collegiate Dictionary.

IPR2024-00639: Paper 1, 18; Paper 12, 33-39; Paper 26, 13-16
IPR2024-00640: Paper 1, 15; Paper 12, 44-51; Paper 25, 22-25



Board's Adoption of Petitioner's Construction

Based on this description, one of ordinary skill in the art would have likely understood “gradient compression factor” to mean that the insole material may have varying levels of compressibility. And, when read in the context of claim 1, it means that the second material is increasingly less compressible from the inner edge to the outer edge of the forefoot platform. *See* Pet. 17–18. Patent Owner does not dispute that understanding of “gradient compression factor” as used in claim 1. *See* Prelim. Resp. 18. From our review, the parties’ agreed-upon construction of the term “gradient compression factor” appears consistent with the plain language of the claim and the Specification. Thus, we adopt it for purposes of this Decision.

IPR2024-00639: Paper 8, 11
IPR2024-00640: Paper 8, 6



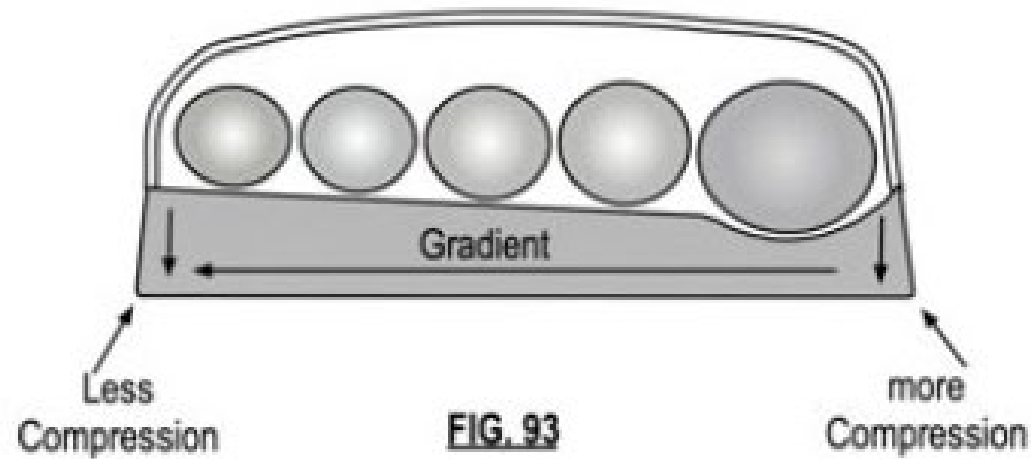
Petitioner Improperly Attempts to Amend Its Own Construction

⁵ Petitioner’s proposed construction for “gradient compression factor” does not alter this analysis, as Athalonz urges. POR, 33-34. A POSITA would understand that the proposed construction requiring that the forefoot platform be “increasingly less compressible” does not change the position at which the claimed compressibility is measured and does not require that the gradient extend to the “edges” of the forefoot, but rather that the forefoot platform gets increasingly less compressible as you move from the inside to the outside between those measurement positions.

IPR2024-00639: Paper 15, 9 n.5; Paper 26, 15
IPR2024-00640: Paper 15, 16 n.7; Paper 25, 23-24



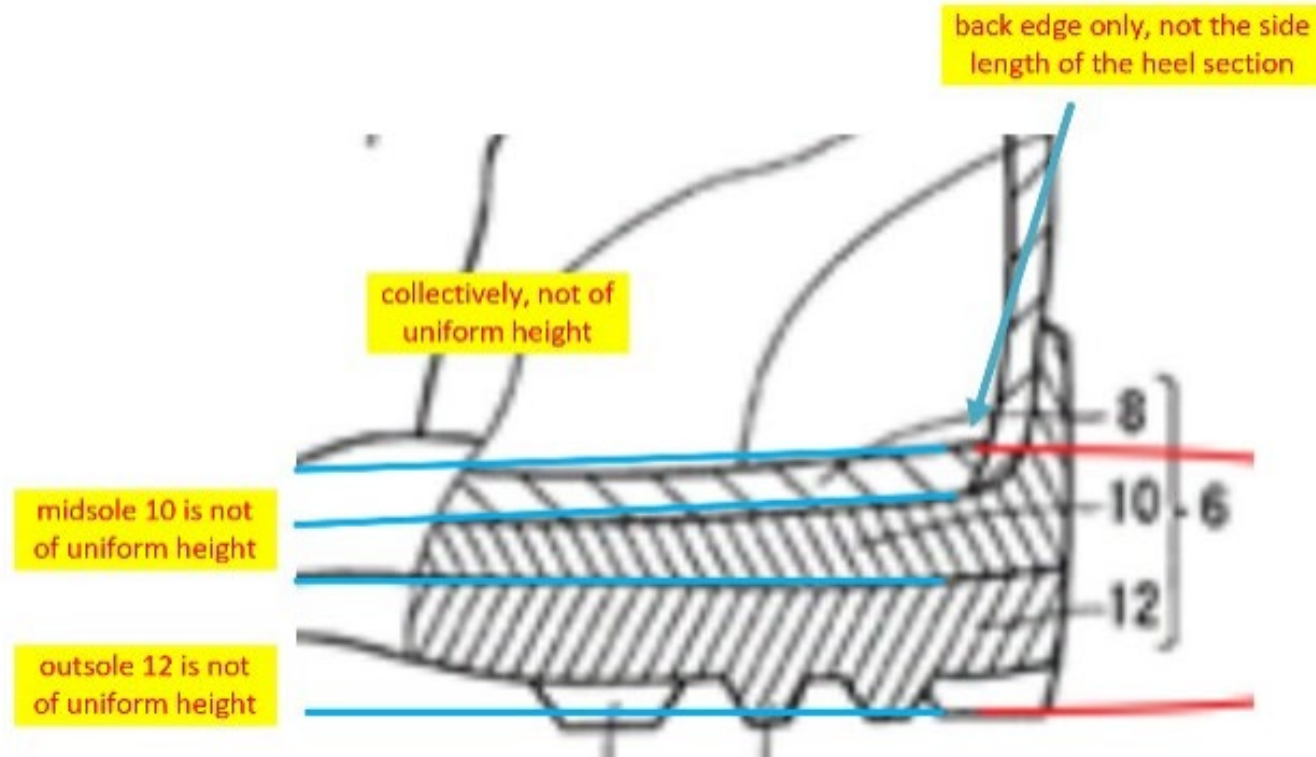
Petitioner's Own Citations Show Gradient Extends to Edge



FIGS. 93 and 94 illustrate a cross-sectional front view diagram and a cross-sectional side view diagram of another embodiment of an integrated athletic positioning sole and insole. The integrated sole 10 and insole 12 is comprised of one or more materials that provides a more compressible area towards the big toe/ball of foot area and ***increasingly less compressible*** away from the big toe/ball of foot area to facilitate an athletic position. ... For example, the integrated sole and insole may include a rigid material as an outsole (e.g., a sport specific bottom) to provide a base. On top of the base, the integrated sole and insole includes one or more varying compressible materials. For example, the next layer is a single resilient material (e.g., rubber, gel, foam, synthetic material, etc.) of varying density to provide a ***compressible gradient***. As another example, the next layer includes a plurality of materials, each having a shape to collectively provide the athletic positioning shape. In addition, at least some of the materials have a different level of compressibility to facilitate the ***compressible gradient***.

IPR2024-00639: Paper 1, 17 (emphasis in original), Ex. 1001, 27:47-67, Fig.93; Paper 12, 4
IPR2024-00640: Paper 1, 14-15 (emphasis in original); Ex. 1001, 27:47-67, Fig.93; Paper 12, 4

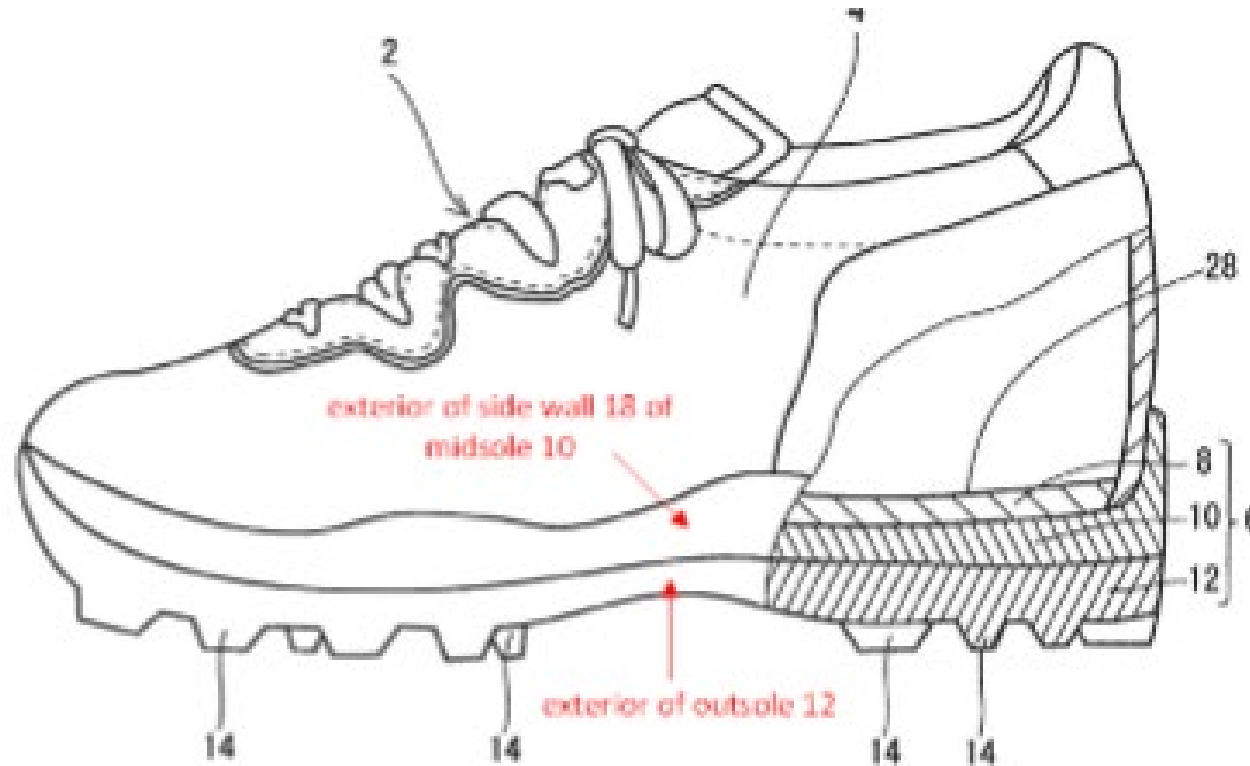
Umezawa: No disclosure of claimed heel platform



IPR2024-00639: Paper 12, 39-40; EX2008 ¶¶191-196

IPR2024-00640: Paper 12, 51-52; EX2009 ¶¶224-228

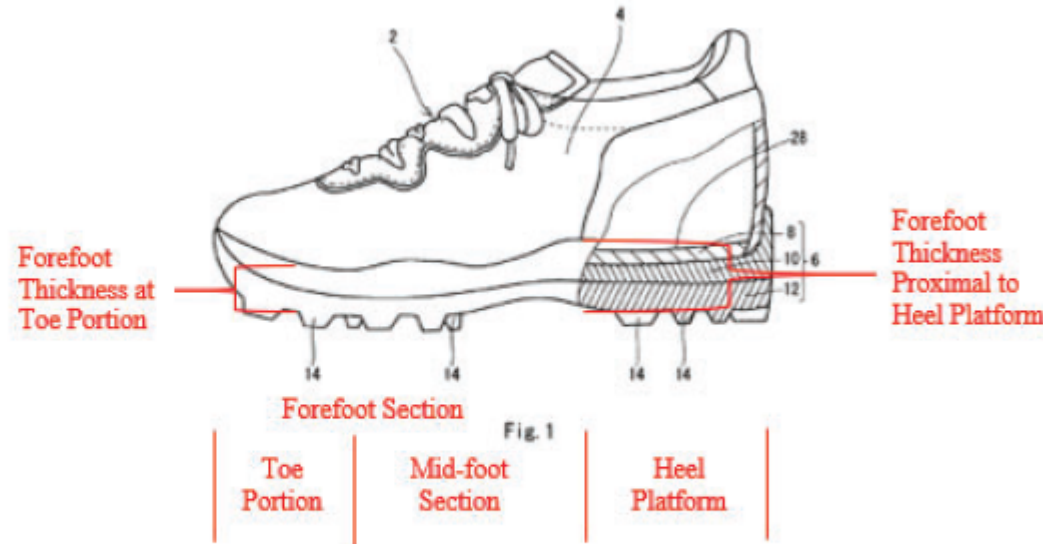
Umezawa: No disclosure of claimed forefoot thicker proximal to heel



IPR2024-00639: Paper 12, 44-45; EX2008 ¶¶203-204

Umezawa: Petitioner Improperly Relies on Exterior Sidewall

a second thickness at a toe portion, wherein the first thickness is greater than the second thickness.



Id., Fig. 1.

IPR2024-00639: Paper 12, 44; EX2008, ¶204; EX1002, ¶74

Umezawa: Mere reference to “known” insoles and outsoles provides no basis for reading limitations into reference

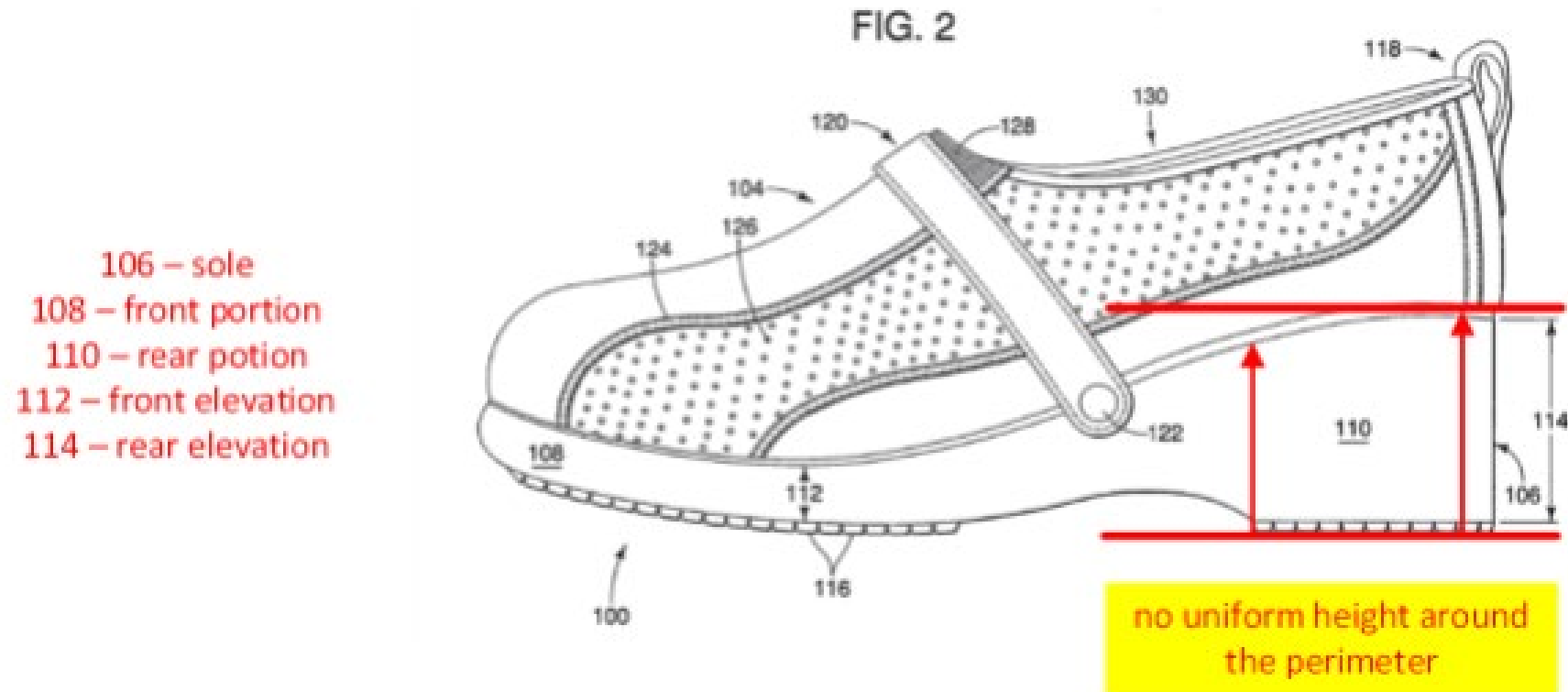
[0032] A golf shoe 2 illustrated in FIG. 1 comprises an upper 4 and a bottom part 6. The bottom part 6 has an insole 8, a midsole 10 and an outsole 12. The insole 8 is laminated with the midsole 10. The midsole 10 is laminated with the outsole 12. The outsole 12 has a number of projections 14 protruding downward on the lower surface. The material and structure for the upper 4 are equal to those of known upper. The material and structure for the insole 8 are equal to those of known insole. The material and structure for the outsole 12 are equal to those of known outsole.

IPR2024-00639: Paper 12, 40-41, 44; EX2008 ¶¶205-206

IPR2024-00640: Paper 12, 51-53; EX2009 ¶229



Umezawa/Gallas: Gallas' Heel Plainly Not Substantially Uniform in Height



IPR2024-00639: Paper 12, 41-43; Paper 26, 18; EX2008 ¶¶199-201

Petitioner's Norton-Based Grounds

IPR2024-00639: Ground 3
IPR2024-00640: Ground 5



Norton Missing Multiple Key Limitations



Teaching or suggestion of using more than one material for heel and forefoot



Teaching or suggestion of using more than one material for forefoot (claim 5)



Heel and forefoot platforms with claimed dimensional features

IPR2024-00639: Paper 12, 45-55; Paper 26, 19-21

IPR2024-00640: Paper 12, 54-62; Paper 25, 26-28



Norton: Overview

(12) United States Patent Norton			(10) Patent No.: US 7,464,428 B2	
			(45) Date of Patent: Dec. 16, 2008	
(54)	SOLE ELEMENTS OF VARYING DENSITY AND METHODS OF MANUFACTURE		4,316,335 A	2/1982 Giese et al.
			4,372,059 A	2/1983 Ambrose
			4,378,642 A	4/1983 Light et al.
(75)	Inventor: Daniel Eugene Norton , El Paso, TX (US)		4,418,483 A	12/1983 Fujita et al.
			4,476,180 A	10/1984 Wnuk
(73)	Assignee: adidas International Marketing B.V. , Amsterdam (NL)		4,615,126 A *	10/1986 Mathews 36/102
			4,640,797 A	2/1987 Goguen
			4,642,911 A	2/1987 Talarico, II
(*)	Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 305 days.		4,694,589 A *	9/1987 Sullivan et al. 36/44
			4,747,989 A *	5/1988 Peterson 264/223
(21)	Appl. No.: 10/978,828		4,779,359 A	10/1988 Fansolare, Jr.
			4,823,483 A *	4/1989 Chapnick 36/43
(22)	Filed: Nov. 1, 2004		4,864,739 A	9/1989 Macstri
			4,910,886 A *	3/1990 Sullivan et al. 36/44
			4,936,030 A	6/1990 Rennes
(65)	Prior Publication Data		(Continued)	
	US 2005/0166423 A1 Aug. 4, 2005		FOREIGN PATENT DOCUMENTS	
(30)	Foreign Application Priority Data			
	Nov. 11, 2003	(DE) 103 52 658	EP	128 1506 2/2003
(51)	Int. CL A43D 25/00 (2006.01)		(Continued)	
(52)	U.S. CL 12/146 B ; 12/146 BR; 12/142 R; 36/142		<i>Primary Examiner</i> —Marie Patterson	
(58)	Field of Classification Search 012/146 R, 012/146 B, 146 BR, 142 R; 36/43, 44, 142, 36/143, 144, 25 R, 30 R, 31		(74) <i>Attorney, Agent, or Firm</i> —Goodwin Procter LLP	
	See application file for complete search history.		(57)	ABSTRACT
(56)	References Cited		The invention relates to sole elements and methods for manufacturing sole elements for shoes, in particular for sport shoes, with a specific density distribution in a transverse and/or longitudinal direction. The methods include the steps of manufacturing a sole element preform from a polymer material with a thickness varying in the transverse and/or longitudinal direction depending on the desired density distribution and the press-forming of the sole element preform in a forming tool to form the finished sole element from the sole element preform.	
	U.S. PATENT DOCUMENTS		27 Claims, 10 Drawing Sheets	
	2,099,418 A 11/1937 Bradley et al.			
	2,917,842 A * 12/1959 Scholl 36/178			
	3,418,732 A * 12/1968 Marbach 36/44			
	3,576,911 A 4/1971 Maxey			
	3,591,882 A * 7/1971 Pearsall 12/146 B			
	3,738,373 A * 6/1973 Glancy 36/144			
	3,766,669 A * 10/1973 Pearsall 36/43			
	4,076,876 A * 2/1978 Bowles 428/71			
	4,216,131 A 8/1980 Himes et al.			

IPR2024-00639: EX1007
IPR2024-00640: EX1007



Norton: Cited During Prosecution of Both Challenged Patents

US 11,510,456 B2
Page 2

(56) **References Cited**

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4,677,766	A	7/1987	Gudas	
4,685,227	A	8/1987	Simmons	
4,689,898	A	9/1987	Fahey	
4,862,605	A	9/1989	Gardner	
5,345,701	A *	9/1994	Smith	 A43B 7/24 36/144
5,632,104	A	5/1997	Zohar	
6,131,311	A	10/2000	Brown	
6,604,301	B1	8/2003	Manoli	
6,725,578	B2	4/2004	Kerrigan	
7,299,568	B2	11/2007	Tager	
7,464,428	B2	12/2008	Norton	

US 11,375,768 B2
Page 2

Related U.S. Application Data

(60) Provisional application No. 61/450,485, filed on Mar. 8, 2011.

(56) **References Cited**

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6,604,301	B1 *	8/2003	Manoli, II	 A43B 7/141 36/144
7,464,428	B2 *	12/2008	Norton	 A43B 13/04 12/142 R
8,631,592	B2 *	1/2014	Adair	 A43C 15/162 36/142
8,707,586	B2 *	4/2014	Adair	 A43B 7/142 36/67 R
2009/0293307	A1 *	12/2009	Koyama	 A43B 13/145 36/88

Norton: Prior Art Problem to be Solved

TECHNICAL FIELD

The present invention relates to sole elements for shoes and other articles of footwear and methods for their manufacture. The present invention relates in particular to sole elements for shoes having a specific density distribution in a transverse and/or longitudinal direction.

BACKGROUND OF THE INVENTION

It is generally known that injuries may arise if the moving parts of the body are subjected to high stress during walking or running. Such injuries arise in particular with sports requiring a great amount of movement. This applies for both contact sports, for example soccer, and non-contact sports, for example running or jogging.

In particular, long distance runners are often concerned with injuries or stress on the moving parts of the body, which may reduce performance and may lead to the inability to further perform this sport. The most serious of these injuries

IPR2024-00639: EX1007, 1:14:32; Paper 1, 10; EX2008, ¶¶119-120

IPR2024-00640: EX1007, 1:14-32; Paper 1, 9; EX2009, ¶¶118-119



Norton: Prior Art Problem to be Solved

To address the above-mentioned problems, several approaches have been suggested in the prior art. For example,

Giese



Another known solution, as shown for example in U.S. Pat. No. 5,025,573, the disclosure of which is hereby incorporated herein by reference in its entirety, relates to a sole unit with different parts made out of substances with different elastic properties. The described sole unit consists of two layers, i.e.,

IPR2024-00639: EX1007, 1:47-48; 1:63-67; Paper 12, 50-51; EX2008, ¶222

IPR2024-00640: EX1007, 1:47-48; 1:63-67; Paper 12, 60-61; EX2009, ¶242



Norton: Prior Art Problem to be Solved

To address the above-mentioned problems, several approaches have been suggested in the prior art. For example,

In addition, U.S. Pat. No. 4,642,911, the disclosure of which is hereby incorporated herein by reference in its entirety, discloses a sole construction that is to be further described with reference to FIG. 12 of the present application. In particular, the '911 patent discloses a sole unit that is suggested to control pronation consisting of a material with a dual density. To this end, the sole unit is made out of two different materials A and B, where material A has a higher density compared to that of material B. FIG. 12 depicts in cross-section such a sole unit, including two wedge-like elements 150, 155 that may be glued or melted to each other. The

Talarico 911

IPR2024-00639: EX1007, 1:47-48; 2:20-30; Paper 1, 48-49; Paper 12, 10, 54; EX2008, ¶121
IPR2024-00640: EX1007, 1:47-48; 2:20-30; Paper 1, 10-11, 28; Paper 12, 10, 61; EX2009, ¶261



Norton: Direct Criticism of Prior Art Multi-Material Method

The above mentioned techniques, however, have a severe disadvantage that for achieving the desired density variation over a transverse and/or longitudinal area of the sole unit, two different materials of different densities are at first formed and subsequently connected to each other. This requires not only increased labor consumption, but also leads to interconnection problems, since the two materials with different densities have to be compatible with each other. Furthermore, it has to be taken into account that shoes, in particular sport shoes, are mass-produced products that are produced by machines.

For at least these reasons, the complex forming of two materials to be interconnected for achieving a desired density variation is only possible with a high expenditure.

IPR2024-00639: EX1007, 2:54-67; Paper 1, 48-49; Paper 12, 46; EX2008, ¶227

IPR2024-00640: EX1007, 1:47-48; 2:54-67; Paper 1, 10-11, 28; Paper 12, 61; EX2009, ¶261



Norton: Proposes Single-Material Design

Thus, it is an object of the present invention to provide a sole unit for shoes, in particular for sport shoes, that can be produced in a simple and, therefore, convenient manner with respect to the production technology, and still allow a predetermined density variation in a transverse and/or longitudinal direction over a complete area of the sole element.

One aspect of one embodiment of the present invention is to not use two different materials with different densities to create the density variation over the sole element and to connect these materials subsequently, but to use a single material being supplied as a preform and having a thickness distribution that is transformed by pressure forming into the desired density distribution.

One advantage of this embodiment of the invention is that all subsequent problems of the interconnection of different sole elements are no longer present and the complete sole element is finished in a single production step. Since the

IPR2024-00639: EX1007, 3:3-24; Paper 1, 48-49; Paper 12, 10, 46, 54; EX2008, ¶121

IPR2024-00640: EX1007, 1:47-48; 3:3-24; Paper 1, 28; Paper 12, 10, 41; EX2009, ¶120



Norton: Focused on Manufacturing Method

20 - perform
a - width (e.g., 149 mm or 5.8 inches)
b - length (250 mm or 9.8 inches)

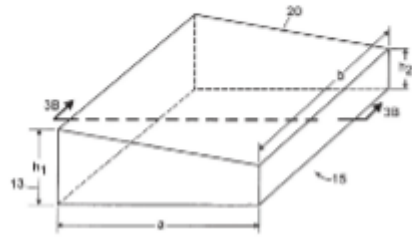


FIG. 3A

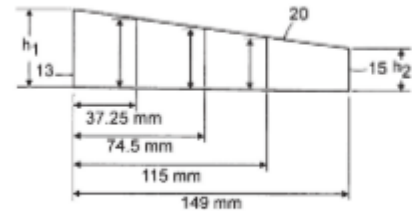
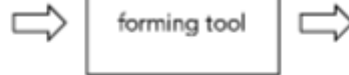


FIG. 3B



25 - sole element
a' - width (e.g., 149 mm or 5.8 inches)
b' - length (250 mm or 9.8 inches)
h - height (e.g., 13 mm or 0.51 inches)

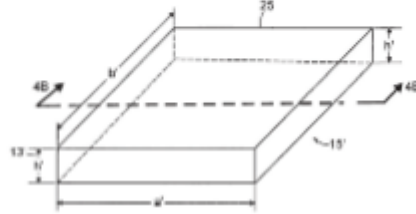


FIG. 4A

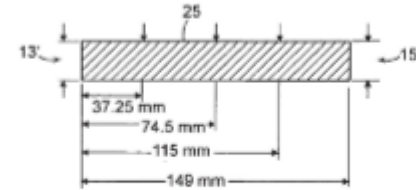


FIG. 4B

IPR2024-00639: EX1007, Figs. 3A-4B (annotated); EX2008 ¶122

IPR2024-00640: EX1007, Figs. 3A-4B (annotated); EX2009 ¶121

Petitioner: Norton Directed to “Sole” That Provides Density Variation “Using Only a Single Material”

(rotation of the foot from the inside to the outside). *Id.*, 1:22-46. Norton also recognizes that prior art shoes existed that attempted to address these potential injuries by including dual density soles constructed of two different materials of different densities that were separately formed and subsequently connected together. *Id.*, 1:47-2:50. But Norton recognized that the use of two materials has many drawbacks, such as problems associated with the interconnection of the materials, increased labor costs and more complex production requirements, so Norton invented a method of providing a variably density sole using only a single material. *Id.*, 2:51-67, 3:1-24; Ex. 1002, ¶ 44.

IPR2024-00639: Paper 1, 10; Paper 12, 45-46
IPR2024-00640: Paper 1, 10; Paper 12, 54-55



Petitioner: “Norton teaches a single-material sole”

Norton identifies several prior art shoes having varied compression soles that consist of two materials used side-by-side (Ex. 1007, 1:63-2:50, Figs. 11A-11C, 12), like that disclosed in Won, and suggests several advantages that its single-material sole provides. For example, Norton explains that its prescribed manufacturing technique avoids the “severe disadvantage” associated with connecting two different materials of different densities together, which “requires not only increased labor consumption, but also leads to interconnection problems, since the two materials with different densities have to be compatible with each other.” *Id.*, 2:54-67; 3:9-24. Norton teaches a single-material sole to overcome these problems:

IPR2024-00639: Paper 1, 48-49; Paper 12, 45-46

IPR2024-00640: Paper 1, 28-29; Paper 12, 41-42



Also Petitioner: It Would Have Been Obvious to Implement Norton in Precisely the Manner Norton Criticizes

v. Claim 5

See limitation 1.4 above, describing the sole elements configured to provide a shape of the forefoot platform and the gradient compression factor disclosed in Norton, and see claim 4 above describing the forefoot platform materials. Ex. 1002, ¶ 105. It would have been an obvious design choice to use either one or a plurality of materials to achieve the benefits of the gradient compression factor, as disclosed in both Norton and in Talarico '911, incorporated by reference in Norton. *Id.*

IPR2024-00639: Paper 1, 47; Paper 12, 53-54
IPR2024-00640: Paper 1, 62; Paper 12, 41



Pronation/Supination Affects Entire Foot

119. Norton is generally addressed to the problem of manufacturing a sole that includes density variations to reduce the risk of knee and other injuries associated with the repetitive impacts of running sports—especially long-distance running—that are caused by pronation or supination. EX1007, 1:28-37, 3:3-24. Notably, as I discuss above with reference to EX2020, which Mr. Delgatty validated in his deposition (EX2010, 115:18-116:2), pronation and supination affect the entire foot, including the heel.

IPR2024-00639: EX2008 ¶119; Paper 12, 53-54

IPR2024-00640: EX2009 ¶118; Paper 12, 10



Norton: Depictions of Heel and Forefoot Platform

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IPR2024-00639: Paper 12, 48-53

IPR2024-00640: Paper 12, 58-62



Norton: Petitioner's Backup Theories for Heel/Forefoot Dimensional Limitations Plagued with Legal/Factual Defects

- No disclosure of claim limitations in backup references
- Improper reliance on AAPA
- De facto inherency theory
- No proper obviousness analysis
- All theories ultimately hinge on Mr. Delgatty's failed effort to show that claimed features were "conventional"

IPR2024-00639: Paper 12, 48-53

IPR2024-00640: Paper 12, 58-62



Petitioner's Won-Based Grounds

IPR2024-00639: Grounds 4-6
IPR2024-00640: Grounds 1-3



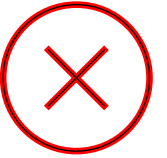
Won Missing Multiple Key Limitations



Forefoot platform constructed of second material with “gradient compression factor”



Motivation to import this limitation from Norton or Talarico



Likelihood of success in such a combination



Heel and forefoot platforms with claimed dimensional features

IPR2024-00639: Paper 12, 55-66; Paper 26, 21-25

IPR2024-00640: Paper 12, 32-44; Paper 25, 17-22



Won: Overview

United States Patent

Won

[19]

[11]

Patent Number:

6,158,151

[45]

Date of Patent:

*Dec. 12, 2000

[54]

GOLF SHOES

[76]

Inventor:

Jong-Pil Won, 60-1304, 5th Hyundai Apt., 161-1 Garak-Dong, Songpa-ku, Seoul, Rep. of Korea

[*]

Notice:

This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

[21]

Appl. No.:

09/186,590

[22]

Filed:

Nov. 5, 1998

[30]

Foreign Application Priority Data

Jul. 29, 1998

[KR]

Rep. of Korea

98-30595

Oct. 1, 1998

[KR]

Rep. of Korea

98-41409

[51]

Int. Cl.⁷

A43B 5/00; A43B 13/14

[52]

U.S. Cl.

36/127; 36/103; 36/25 R

[58]

Field of Search

36/103, 127, 25 R, 36/31

[56]

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WIPO .

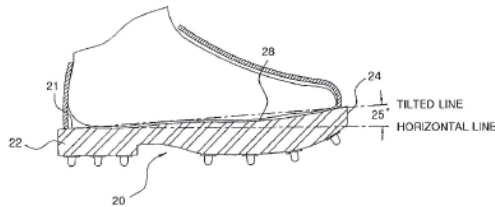
Primary Examiner—Ted Kavanaugh

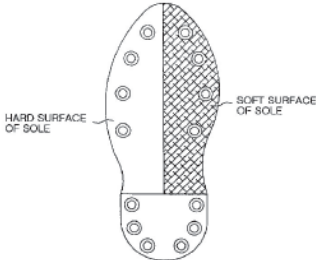
[57]

ABSTRACT

This invention is related to a golf shoe that naturally shifts the center of weight into a heel portion and cause smooth swing. The golf shoes according to this invention comprises a sole having a heel portion (30), a toe portion (34) formed continuously forwardly from the heel portion (30) and an intermediate metatarsal portion (32) formed between the heel portion (30) and the toe portion (34), wherein the toe portion (34) is angled 1~5° upward from a horizontal line taking the intermediate metatarsal portion (32) as pivot point and the heel portion is angled ~7~9° from the horizontal line taking the intermediate metatarsal portion as pivot point.

4 Claims, 5 Drawing Sheets





IPR2024-00639: EX1005
IPR2024-00640: EX1005



Won: Focused on Heel Tilt

SUMMARY OF THE INVENTION

It is therefore an object of the present invention to improve the above problems of the conventional golf shoes. An object of the present invention is to provide golf shoes helpful in smoothly swing without a golfer having to think about weight transfer by smoothly placing the center of body weight on the heel portion.

To accomplish the above object, a golf shoe according to the present invention comprises a heel portion and a toe portion extended continuously forwardly from the heel portion, and a sole on which an intermediate metatarsal portion being formed between said heel portion and toe portion, wherein said toe portion is tilted $1\sim 5^\circ$ upwardly from a horizontal line taking said intermediate metatarsal portion as pivot point, more preferable, substantially 4° , and said heel portion is tilted $-7\sim 7^\circ$ from the horizontal line taking said intermediate metatarsal portion as pivot point. It is preferred that said heel portion is tilted $-5\sim 5^\circ$ and more preferable, substantially 0° .

IPR2024-00639: EX1005, 2:36-53; EX2008 ¶¶130-136

IPR2024-00640: EX1005, 2:36-53; EX2009 ¶¶129-135



Won: Focused on Heel Tilt

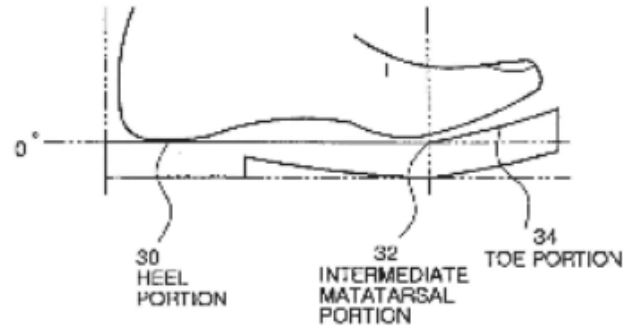


FIG. 2

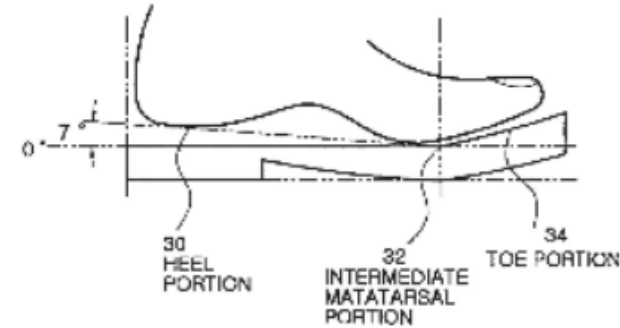


FIG. 3

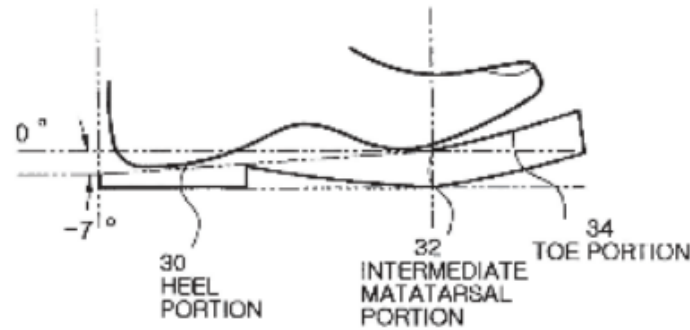


FIG. 4

IPR2024-00639: EX1005, Figs. 2-4; EX2008 ¶¶130-136

IPR2024-00640: EX1005, Figs. 2-4; EX2009 ¶¶129-135

Won: Isolated Fig. 5 Embodiment

In yet another embodiment of the present invention as shown in FIG. 5, the golf shoes can be formed such that the inside surface and outside surface separated by a central longitudinal axis of the sole (or mid sole) are different from each other. The inside surface is soft surfaced and outside surface is hard surfaced, both of which are made from elastic materials. When a golfer puts his both feet together to take a stance for swing, the spikes fitted on the part of the soft surface are pressed down because they are fixed on soft surface. But spikes formed on the hard surface remain the same position so that the sole is tilted toward the soft surface. Therefore the pair of shoes facing each other can be easily tilted to the insides of the shoes.

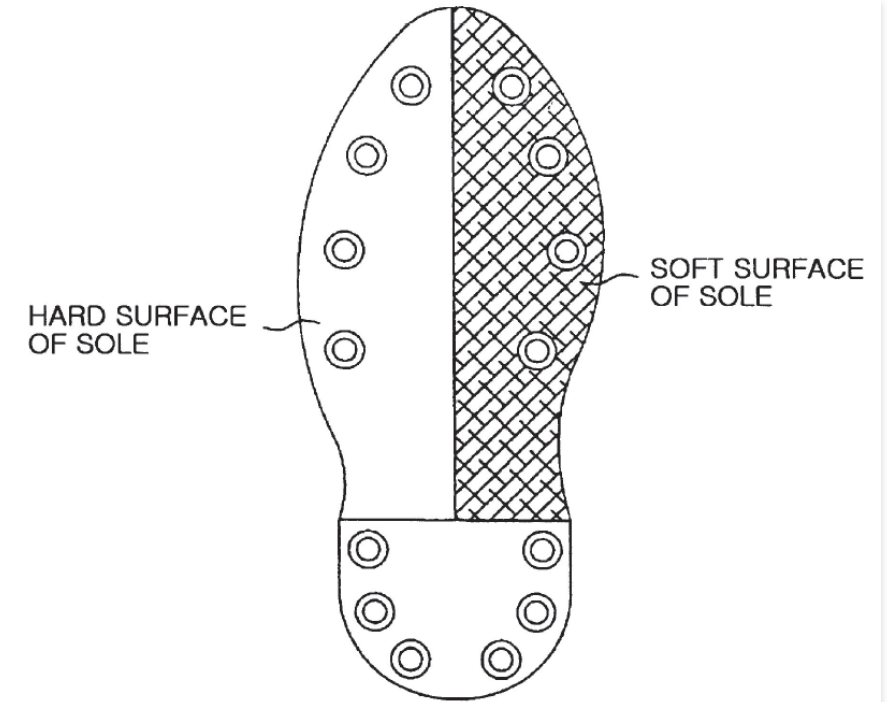
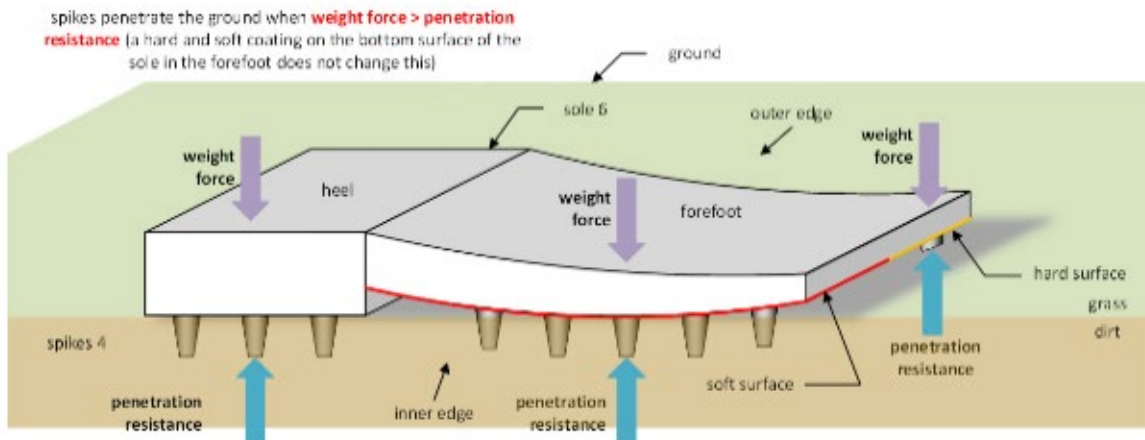
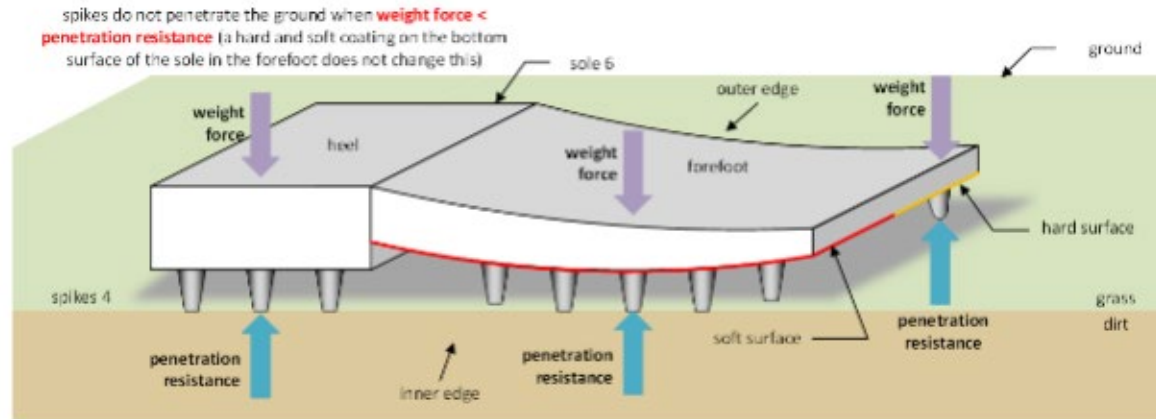


FIG. 5

IPR2024-00639: EX1005, 4:46-58 Figs. 5; Paper 12, 55-57; EX2008 ¶¶139-145, 250, 252
IPR2024-00640: EX1005, 4:46-58 Figs. 5; Paper 12, 32-35; EX2009 ¶¶139-144, 173-174, 179

Won: Isolated Fig. 5 Embodiment



IPR2024-00639: Paper 12, 55-57; EX2008 ¶¶141-142

IPR2024-00640: Paper 12, 32-35; EX2009 ¶¶140-141

Won: No Discussion of Compression as Mechanism for Tilt

In yet another embodiment of the present invention as shown in FIG. 5, the golf shoes can be formed such that the inside surface and outside surface separated by a central longitudinal axis of the sole (or mid sole) are different from each other. The inside surface is soft surfaced and outside surface is hard surfaced, both of which are made from elastic materials. When a golfer puts his both feet together to take a stance for swing, the spikes fitted on the part of the soft surface are pressed down because they are fixed on soft surface. But spikes formed on the hard surface remain the same position so that the sole is tilted toward the soft surface. Therefore the pair of shoes facing each other can be easily tilted to the insides of the shoes.

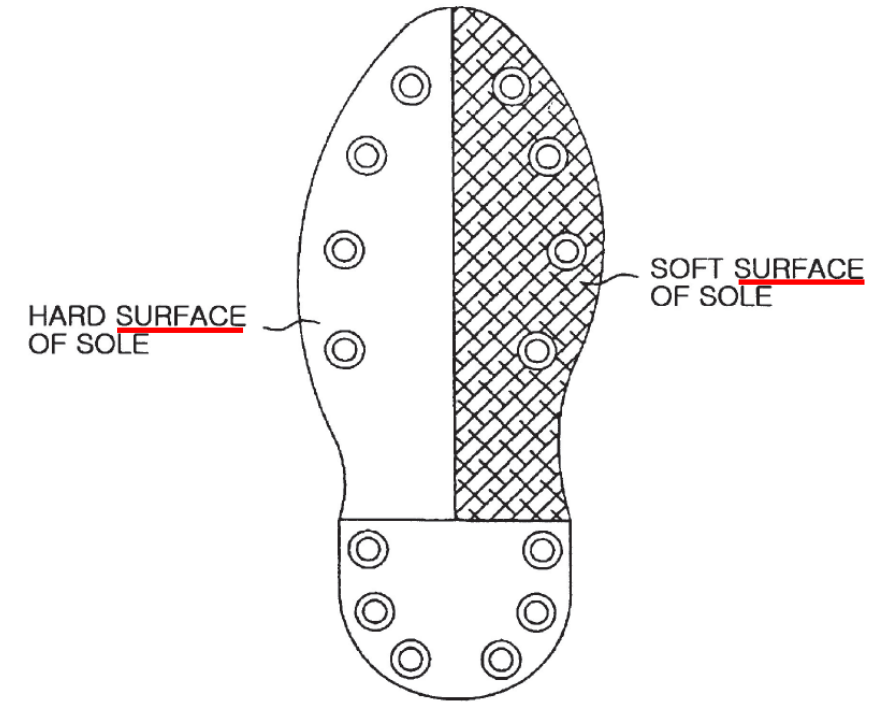


FIG. 5

IPR2024-00639: EX1005, 4:46-58, Fig. 5; Paper 12, 57; Paper 26, 21-22; EX2008, ¶140

IPR2024-00640: EX1005, 4:46-58, Fig. 5; Paper 12, 34; Paper 25, 17-18; EX2009, ¶139

Won: “Downward” Means Toward The Ground

According to another embodiment as shown in FIG. 4, the heel portion is tilted downward 7° from horizontal line taking said intermediate metatarsal portion as pivot point and said toe portion (34) is tilted upward 4° from the horizontal line taking said intermediate metatarsal portion (32) as pivot point so that the center of weight is transferred to heel portion.

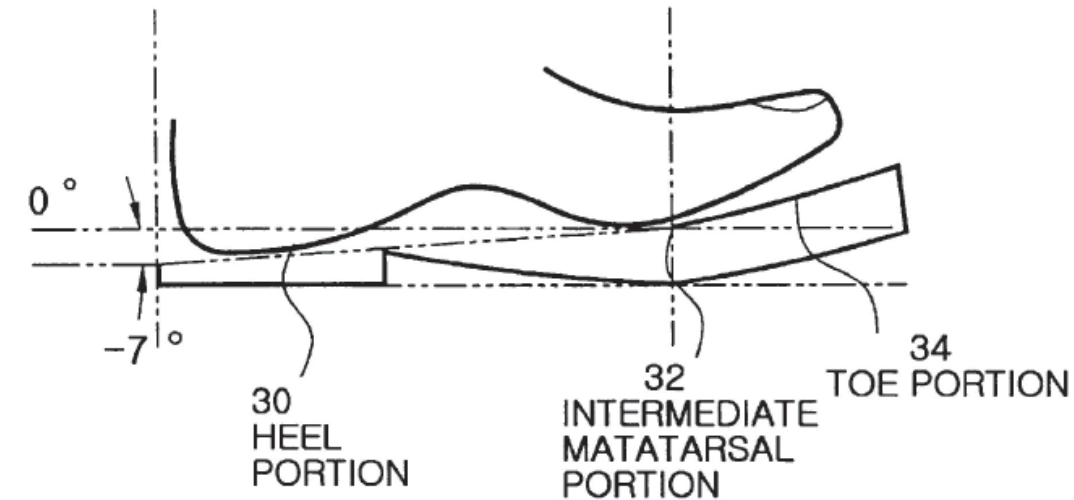


FIG. 4

IPR2024-00639: EX1005, 3:53-59; Fig. 4; Paper 12, 10-11
IPR2024-00640: EX1005, 3:53-59; Fig. 4; Paper 25, 17-18

Definition of “Surface”

sur·face \ˈsər-fəs\ *n* [F, fr. *sur-* + *face* face, fr. OF — more at FACE] (ca. 1611) **1** : the exterior or upper boundary of an object or body **2** : a plane or curved two-dimensional locus of points (as the boundary of a three-dimensional region) <plane ~> <~ of a sphere> **3 a** : the external or superficial aspect of something **b** : an external part or layer <sand down the damaged ~> — **on the surface** : to all outward appearances

IPR2024-00639: EX2014; Paper 12, 57; EX2008, ¶250

IPR2024-00640: EX2015, Paper 12, 34; EX2009, ¶174



Won/Norton: No Motivation to Combine/Reasonable Expectation of Success

- Norton teaches single-material design, as Petitioner itself touted
- Norton directed to fundamentally different problem/sports
- Petitioner never explains how modification would be implemented
- Petitioner never engages with spikes, Won's mechanism for generating tilt

IPR2024-00639: Paper 12, 55-65; Paper 26, 21-25; EX2008, ¶¶ 119, 249-259

IPR2024-00640: Paper 12, 37-42; Paper 25, 19-21; EX2009, ¶¶ 118, 179-207



Won/Talarico 911: No Motivation to Combine/Reasonable Expectation of Success

- Petitioner admits combination is similar to Norton
- Directed to fundamentally different problem/sports
- Petitioner never explains how modification would be implemented
- Petitioner never engages with spikes, Won's mechanism for generating tilt

IPR2024-00639: Paper 12, 65-66; Paper 26, 25; EX2008, ¶¶ 269-273
IPR2024-00640: Paper 12, 42-44; Paper 25, 21-22; EX2009, ¶¶ 209-213



Won: Petitioner's New Theory—Any Shoe Modification is Obvious

39. A POSITA would know how to incorporate the variably-compressible insole, midsole or outsole disclosed in Norton with the sole or midsole taught in Won, and expect success in doing so, based on the teachings of those references and the knowledge of a POSITA. Indeed, many shoe designs used a harder material in the heel platform than the forefoot. The design of athletic shoe soles is highly predictable and typically includes three common components: an outsole, a midsole and an insole. Combining different designs of any one of these components (including changes in size, shape or material), with the other components, and ensuring that all of the components of the sole work well together, is commonplace during the shoe design process. A POSITA is easily capable of making any necessary modifications to the shoe or any of its individual sole components to implement this Ground.

IPR2024-00639: Paper 26, 24; EX1022 ¶¶39-40

IPR2024-00640: Paper 25, 21; EX1022 ¶¶24-25



As Mr. Markison Explained, Athletic Shoe Forefoot/Heel Components Not So Easily Interchangeable

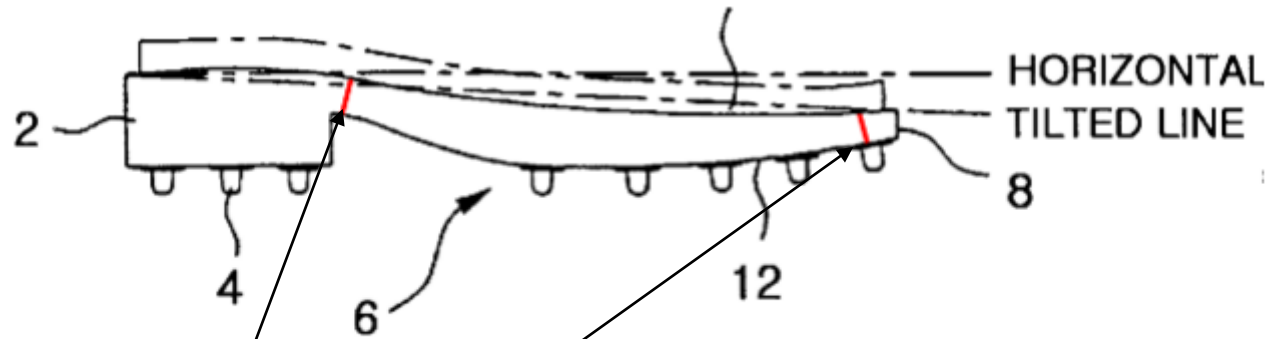


IPR2024-00639: Paper 12, 51; EX2008, ¶239

IPR2024-00640: Paper 12, 61; EX2009, ¶258



Won: Figures Similar to “Conventional” Golf Shoe With No Appreciable Forefoot Thickness Difference Near Heel/Toe



EX1005, Fig. 6 (annotated).

No appreciable difference between thickness proximal to heel and toe



No appreciable difference between thickness proximal to heel and toe

IPR2024-00639: EX1005, Fig. 6 (annotated); Paper 12, 63-64; EX2008, ¶¶266-267

Won: Petitioner's Multiple Backup Theories for Heel Limitations All Fail

- Won does not disclose claimed heel platform
- Talarico 911 does not disclose claimed heel platform—
Petitioner's reliance on Gallas as second backup confirms
as much.
- Gallas plainly does not disclose claimed heel platform.

IPR2024-00639: Paper 12, 61-63; 65-66 EX2008, ¶¶260-264, 271-273

IPR2024-00640: Paper 12, 36; EX2009, ¶¶175-177



Petitioner's Talarico-Based Ground

IPR2024-00640: Ground 6



Talarico: Overview

United States Patent [19] Talarico, II

[11] Patent Number: 4,642,911
[45] Date of Patent: Feb. 17, 1987

[54] DUAL-COMPRESSION FOREFOOT COMPENSATED FOOTWEAR

[76] Inventor: Louis C. Talarico, II, 116 Wood St.,
P.O. Box 180, Lewiston, Me. 04240

[21] Appl. No.: 706,582

[22] Filed: Feb. 28, 1985

[51] Int. Cl.⁴ A43B 13/12

[52] U.S. Cl. 36/30 R; 128/583

[58] Field of Search 36/28, 30 R, 31, 32 R,
36/44; 128/581, 582, 583, 584

[56] References Cited

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The Master Shoe Rebuilder, vol. X, No. 10, Oct. 1950;
vol. XIII, No. 1, Jan. 1953.

Primary Examiner—Henry S. Jaudon

Assistant Examiner—T. Graveline

Attorney, Agent, or Firm—Caesar, Rivise, Bernstein,
Cohen & Pokotilow, Ltd.

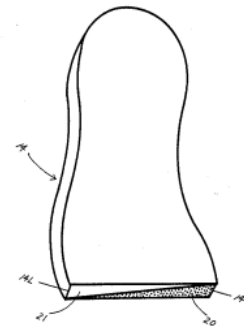
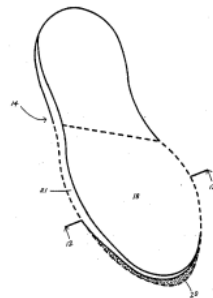
[57] ABSTRACT

An article of footwear is provided. The article includes

a sole which has forefoot and rearfoot portions. The sole forefoot portion has both a medial and a lateral aspect. The sole forefoot portion is comprised of different compressibilities of materials selected and arranged across the width thereof such that the sole effectively slopes at an angle upwardly from the lateral aspect to the medial aspect when weight-bearing forces are exerted on the forefoot and thereby providing an effective inclined surface of resultant thickness greater at the medial aspect of the forefoot than at the lateral aspect as a result of less compressible material at the medial aspect of the forefoot than at the lateral aspect when the sole of said article of footwear is intended for use by individuals whose feet have a tendency toward compensation in a pronated direction due to their inherent inverted forefoot varus foot type.

Conversely, whereby the sole forefoot portion is comprised of different compressibilities of materials selected and arranged across the width thereof such that the sole effectively slopes at an angle upwardly from the medial aspect to the lateral aspect when weight-bearing forces are exerted on the forefoot and thereby providing an effective inclined surface of resultant thickness greater at the lateral aspect of the forefoot than at the medial aspect as a result of less compressible material at the lateral aspect of the forefoot than at the medial aspect when the sole of said article of footwear is intended for use by individuals whose feet have a tendency toward compensation in a supinated direction due to their inherent everted forefoot valgus foot type.

17 Claims, 15 Drawing Figures



IPR2024-00639: EX1008

IPR2024-00640: EX1008



Talarico Ground Fails for Multiple Reasons

- Cumulative of prosecution (cited in both density patents' prosecutions)
- Cumulative of other grounds – Petition admits Talarico 911 is similar to other art
- No contentions under correct first material/second material construction
- Lacks claimed heel platform

IPR2024-00640: Paper 12, 62-64; EX2009, ¶¶ 263-266



Secondary Considerations

IPR2024-00640: Ground 6



Copying

Athletic Positioning Shoe TM

Presentation to Under Armour
August 22, 2013

AdMark Athletic Ventures Confidential Information

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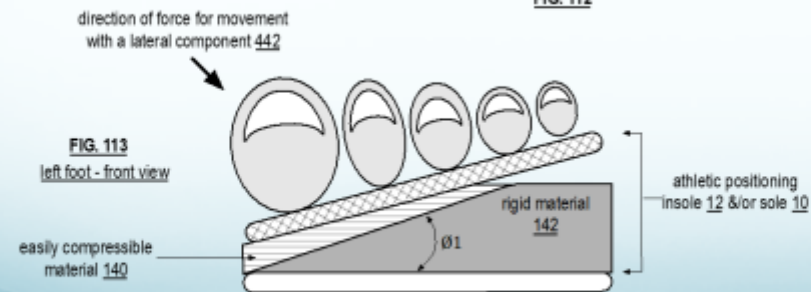
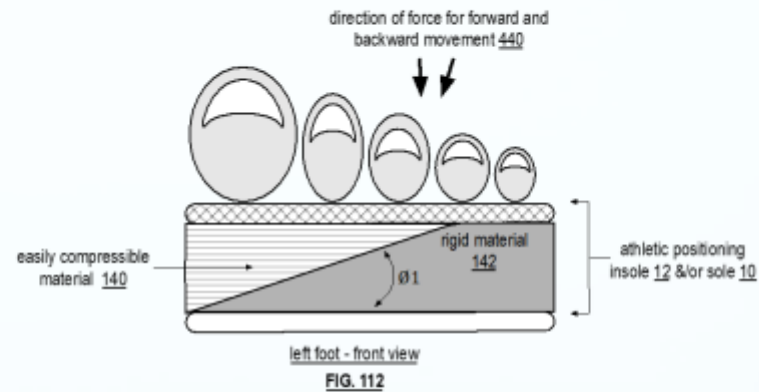
IPR2024-00639: EX2012; Paper 12, 68-71; EX2008 ¶¶ 279-286

IPR2024-00640: EX2013; Paper 12, 67-70; EX2009 ¶¶ 271-278



Copying

Normal to athletic positioning



AdMark Athletic Ventures Confidential Information

68

IPR2024-00639: EX2012, 68; Paper 12, 68-71; EX2008 ¶¶ 279-286

IPR2024-00640: EX2013, 68; Paper 12, 67-70; EX2009 ¶¶ 271-278

EXPERT QUALIFICATIONS

Person of Ordinary Skill in the Art

- At least a B.S. or equivalent degree related to industrial or product design and at least two years' experience designing or developing athletic shoes

OR

- At least five years' experience designing or developing athletic shoes

IPR2024-00639: EX2008, ¶40

IPR2024-00640: EX2009, ¶40



Mr. Markison is a Qualified Expert

Timothy W. Markison

Garlick & Markison
2025 Guadalupe Street
Suite 260
Austin, TX 78705

Athalonz, LLC
2716 N Ogden Road
Suite 101
Mesa, AZ 85215

MPP, Inc.
20 N Upper Wacker Drive
Suite 4200
Chicago, IL 60606

Timothy W. Markison

Founding Partner of Garlick & Markison
Founder & CEO of Athalonz, LLC
Co-Founder & CEO of MPP, Inc.

FIELDS OF SPECIALIZATION

Legal

- **Patent application preparation and prosecution:** Covering a wide range of technologies as listed below
- **Patent value generation:** Support clients in building a valuable patent portfolio and support clients in licensing, selling, and/or enforcing patents of their portfolios

Technology

- **Physics of footwear:** How forces traversing through footwear affect human movement
- **Physics of body impact:** How impact forces can be diffused to reduce risk of injury
- **Monitoring athletic movement in concert with physics of footwear:** Monitoring forces through footwear directly corresponds to athletic movement
- **Wireless communications:** new hardware, software, and/or protocols for Bluetooth, wi-fi, cellular, broadcast, point-to-point, and RFID (Radio Frequency IDentification)
- **Database system:** supporting new hardware design and new software architecture
- **Capacitive touch sensing:** for touch screen applications, bio-medical sensing applications, and bio-medical stimulation
- **Wired communication:** using low analog voltage signaling
- **Erasure encoding dispersed storage:** for safely and securely storing Big Data
- **Quantum computing:** new quantum mechanics approach to qubits and supporting circuitry thereof
- **Artificial Intelligence** based system for code enhancement
- **Intra & Inter wireless communications for ICs** to substantially reduce power consumption of ICs due to digital data conveyances
- **Battery technologies** regarding charging, discharging, and modeling of batteries

Business

- **Consulting** regarding the business value of patents
- **Strategic patent portfolio development:** regarding the number of inventions to patent protect, when, where, and how to protect inventions, the business objectives of patent portfolio, and the business justification for developing patent portfolio
- **Inventing** independently, on behalf of G&M clients, on behalf of Athalonz, on behalf of MPP, or on behalf of MPP clients

DEGREES

- B.S.E.E. Electrical Engineering & Computer Design from Illinois Institute of Technology, 1984
- Juris Doctorate from Loyola University Chicago School of Law, 1993

PROFESSIONAL MEMBERSHIPS

- Member of USPTO patent bar since 1989
- Member of the Illinois State bar since 1993
- Licensed to practice in the Federal District Courts of Illinois since 1993
- Member of IEEE

PROFESSIONAL POSITIONS

Current Positions

2000 – Present Founding Partner of Garlick & Markison (G&M)

Responsibilities include:

- Managing the preparation and prosecution of patent applications by other attorneys agents of G&M on behalf of its clients
- Managing quality program to maintain a firm-wide issuance rate of over ninety percent and a maintaining an office action to allowance ratio of two or less
- Personally preparing and prosecuting thousands of patent applications for G&M clients
- Creating patent strategies that resulted in billions of dollar in value for clients (spun out patent strategy in 2023, when MPP was launched)
- Supporting clients in licensing, selling, and/or enforcing patents of their portfolios
- Inventing with, and/or on behalf of, clients to expand their respective patent portfolio

2011 – Present Founder & CEO of Athalonz, LLC

Responsibilities include:

- Overseeing business operations
- Leading research & development of footwear that leverages the principles of physics to improve human movement and athletic performance
- Leading the design of physics footwear
- Managing patent protection of physics footwear innovations

UNDER ARMOUR, INC. v. ATHALONZ, LLC
IPR2024-00639
ATHALONZ EXHIBIT 2009
Page 1 of 47

Timothy W. Markison

UNDER ARMOUR, INC. v. ATHALONZ, LLC
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ATHALONZ EXHIBIT 2009
Page 2 of 47

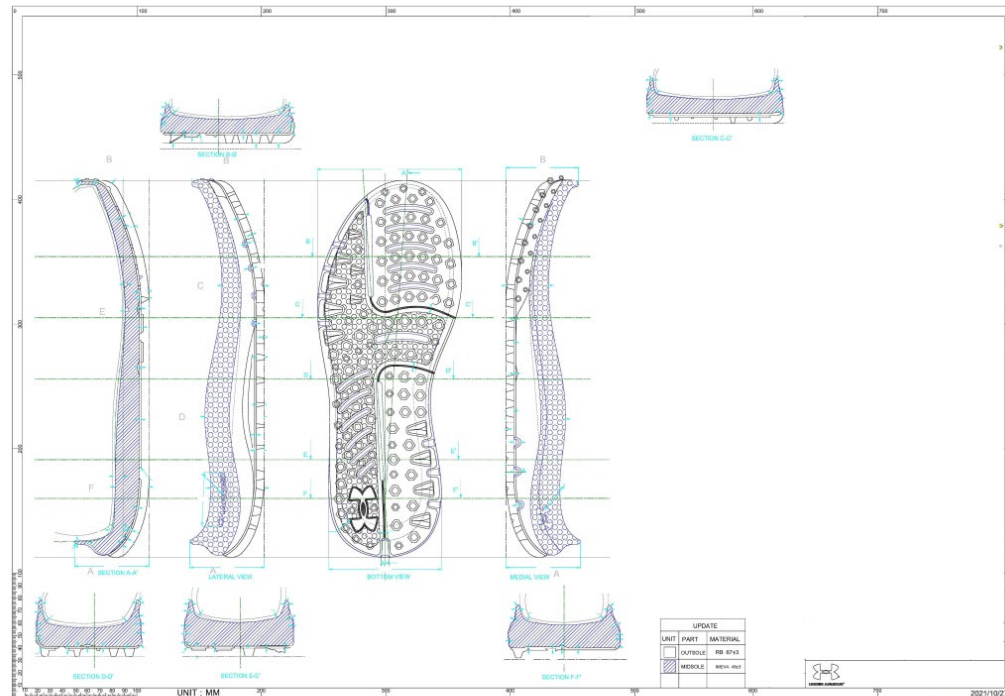
IPR2024-00639: EX2009
IPR2024-00640: EX2010



Motions to Exclude

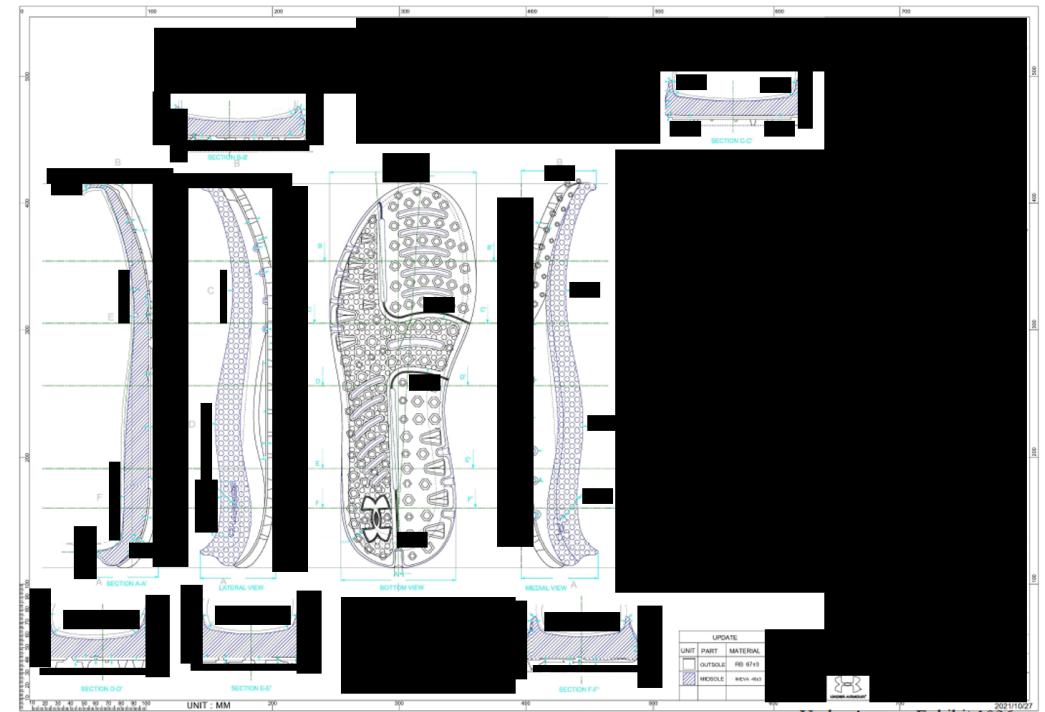
Exhibit 1026 Is Not Authentic

Exhibit 1026



Under Armour Exhibit 1026
Under Armour v. Athalonz, IPR2024-00640
Markison Ex. 10

Reality



Under Armour v. Athalonz, IPR2024-00640
Markison Ex. 10

IPR2024-00639: Paper 32, 5
IPR2024-00640: Paper 35, 5