

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UNDER ARMOUR, INC.
Petitioner

v.

ATHALONZ, LLC
Patent Owner

Case No. TBD
Patent No. 11,013,291

DECLARATION OF GRANT DELGATTY

I. ENGAGEMENT AND COMPENSATION

1. My name is Grant Delgatty. I have been retained by Under Armour, Inc. for the purpose of providing my opinion with respect to the unpatentability of U.S. Patent No. 11,013,291 (“‘291 Patent”). I am being compensated for my time in preparing this declaration at my standard hourly rate of \$400, and my compensation is not dependent upon my opinions or the outcome of the proceedings. My curriculum vitae is attached as Ex. 1003.

II. QUALIFICATIONS

2. I have designed and developed performance athletic shoes, among other types of shoes, for more than 25 years, and have extensive experience studying sole design, as well as the effects of cushioning and stability, particularly in the context of performance athletic footwear.

3. Early in my career, as an athletic footwear designer, I had the opportunity to be mentored and work directly under the tutelage of the legendary Bill Peterson, who worked as one of the first industrial designers at Nike and its prior name of Blue Ribbon Sports. Bill was originally given the task of developing the methodology by which Frank Rudy’s patented airbag technology could be commercialized into a viable construction application for mass production. It was under Bill’s guidance where I first learned to apply principles in shoe construction methodologies of performance footwear and the aspects of how biomechanics

influenced new and innovative solutions for constructing performance athletic footwear including innovative sole designs.

4. From 1996 to 1999, I worked as the only employee at E-West Designs, an athletic footwear design and development consulting firm started by Bill Peterson and ex-Nike Olympic trial runner, Mark Feig. At E-West Designs, I worked on many commissioned projects within the performance footwear industry, including being credited for designing the 50th anniversary PUMA CELL 5-0 basketball shoe. In addition, I worked on the Avia cantilever system, the first line of Shaquille O'Neal's basketball shoe company, DUNK.NET, an internal harness technology for Vans step-in snowboard boots, and many other shoe-related innovations.

5. In 1999, I became the in-house Director of Design for the DVS Shoe Company, which was a startup performance skate shoe company focused on developing cutting edge technologies to address the performance needs of professional skateboarders. While at DVS, I developed many new performance technologies, including the Shock pad, Dual Lacing Technology, and the DIM (Drop In Midsole) system, which utilized an innovative over-lasted upper technology to allow for an insole containing an integrated combination airbag/impact pad cushioning technology to address heel bruising that the company's professional team riders were experiencing.

6. From 2001-2008, I was the Senior Director of Product Design at Vans, where I managed a team of 5 Designers, 6 Senior Designers, and 1 Design Director and was responsible for overseeing the design of all Vans shoes across all product categories in the Vans portfolio.

7. More recently, I have been working on a new shoe technology that provides an innovative sustainable construction methodology for performance athletic shoe soles. This work has yet to be released and is subject to a nondisclosure agreement, therefore I cannot provide further details at this time.

8. Additional details of my education and employment history, recent professional service, patents, publications, and other testimony are set forth in my current curriculum vitae, attached to this Declaration as Appendix A (*See Delgatty CV*).

III. MATERIALS REVIEWED AND EXHIBITS

Exhibit No.	Description
1001	U.S. Patent No 11,013,291 (“the ‘291 patent”)
1004	Prosecution History Excerpts of U.S. Patent Application No. 16/397,605
1005	U.S. Patent Publication No. 2004/0040181 (“Kim”)
1006	U.S. Patent No. 4,754,561 (“Dufour”)

1007	U.S. Patent No. 3,789,523 (“Rubin”)
1008	Reserved
1009	Excerpts from Athalonz’s Infringement Contentions, served in <i>Athalonz, LLC v. Under Armour.</i> , Case No. 2:23-cv-00193 (E.D. Tex.).
1010	Reserved
1011	Reserved
1012	Reserved
1013	1977 Nike Boston Running Shoe
1014	FootJoy 51409
1015	FootJoy 1970 Product Catalog
1016	U.S. Patent No. D275146
1017	U.S. Patent No. D310294
1018	1971 Nike Cortez
1019	Reserved
1020	U.S. Patent No. 2,616,190 (“Darby”)

IV. LEGAL STANDARDS

9. In forming my opinions and considering the subject matter of the '291 Patent and its claims in light of the prior art, I am relying on certain legal principles that counsel explained to me. My understanding of these concepts is summarized below.

A. Claim Construction

10. I have been informed that the United States Patent and Trademark Office interprets claim terms in an *inter partes* review proceeding under the same claim construction standard that is used in a United States federal court. I have been informed that under this standard, the meaning of claim terms is considered from the viewpoint of a person of ordinary skill in the art at the time of the alleged invention.

11. I have been informed that claim terms are generally given their ordinary and customary meaning as understood by one of ordinary skill in the art in light of the specification and the prosecution history pertaining to the patent. I have been informed, however, that claim terms are generally not limited by the embodiments described in the specification.

12. I have been informed that in addition to the claims, specification, and prosecution history, other evidence may be considered to ascertain the meaning of claim terms, including textbooks, encyclopedias, articles, and dictionaries. I have

been informed that this other evidence is often less significant and less reliable than the claims, specification, and prosecution history.

B. Obviousness

13. I have been informed that a patent claim can be unpatentable under 35 U.S.C. § 103(a) if it is obvious. A claim is unpatentable for obviousness if the differences between the claimed subject matter and the prior art are such that the subject matter as a whole would have been obvious at the time the alleged invention was made to a person having ordinary skill in the art to which the subject matter pertains. I further have been informed that a hypothetical person of ordinary skill in the art is assumed to know and have all relevant prior art in the relevant subject matter covered by the patent at issue and all analogous prior art.

14. I have been informed that obviousness does not require that every element of the claim be in a single prior art reference. Instead, claim elements can be described in different prior art references, so long as there is motivation or sufficient reasoning to combine the references and a reasonable expectation of success in achieving what is set forth in the claims.

15. I have been informed that one must consider the claim “as a whole” when evaluating obviousness. This consideration must be made from the perspective of the hypothetical person of ordinary skill in the relevant art, and that such perspective must be considered as of the time the invention was made.

16. I have been informed that in considering the obviousness of a claim, one must consider the scope and content of the prior art, the level of ordinary skill in the art at the relevant time, the differences between the prior art and the claim, and any “secondary considerations.”

17. I have been informed that “secondary considerations” include real-world evidence that can tend to make a conclusion of obviousness either more probable or less probable. For example, the commercial success of a product embodying a claim of the patent could provide evidence tending to show that the claimed invention is not obvious. To understand the strength of the evidence, one would want to know whether the commercial success is traceable to a certain aspect of the claim not disclosed in a single prior art reference (a “nexus”). One would also want to know how the market reacted to disclosure of the invention and whether commercial success might be traceable to things other than innovation, for example, the market power of the seller, an advertising campaign, or the existence of a complex system having many features beyond the claims that might be desirable to a consumer. One would also want to know how the product compared to similar products not embodying the claim. I have been informed that commercial success evidence should be reasonably commensurate with the scope of the claim, but that is not necessary for a commercial product to embody the full scope of the claim.

18. Other kinds of secondary considerations are possible. For example, evidence that the relevant field had a long-established, unsolved problem or need that was later provided by the claimed invention could be indicative of nonobviousness. Evidence that others had tried but failed to make an aspect of the claim might indicate that the art lacked the requisite skill to do so. Evidence of copying the patent owner's products before the patent was published might also indicate that its approach to solving a particular problem was not obvious. Evidence that the art recognized the value of products embodying a claim, for example, by praising the named inventors' work, might tend to show that the claim was non-obvious.

19. I further have been informed that prior art references can be combined where there is an express or implied rationale to do so. Such rationale might include an expected advantage to be obtained or might be implied under the circumstances. For example, a claim is likely obvious if design needs or market pressures existing in the prior art make it natural for one or more known components to be combined where each component continues to function in the expected manner when combined (i.e., when there are no unpredictable results). A claim is also likely unpatentable where it is the combination of a known base system with a known technique that can be applied to the base system without an unpredictable result. In these cases, the combination must be within the capabilities of a person of ordinary skill in the art.

20. I have been informed that when considering obviousness, one must not refer to teachings in the specification of the patent itself. One may, however, refer to portions of the specifications admitted to being prior art, including the “BACKGROUND” section.

V. THE ‘291 PATENT

A. Overview

21. The ‘291 patent relates to “athletic positioning footwear.” Ex. 1001 at 1:40. The ‘291 patent explains that previous athletic footwear were known to include an upper, a sole, an insole, cleats or spikes. *Id.* at 1:57-62. Previous athletic shoes were also known to have a “sole and/or padded insole [that] provide a relatively flat platform for the foot” or alternatively, provide a “heel portion of the shoe [that is] higher than the toe portion of the shoe from a side perspective.” *Id.*, 1:61-67, Figs. 1-2.

22. Unlike previous shoes, those described in the ‘291 patent have an “athletic positioning shape” that includes a first height at the heel section which is greater than a second height at the outside edge of the shoe at the toe section which is greater than a third height at the inside edge of shoe at the toe section.

23. As discussed below, footwear having a sole with this shape well-known to a person of ordinary skill in the art (“POSITA”) prior to the filing date of the ‘291 patent.

B. Summary of the Prosecution History

24. During the prosecution of the ‘291 patent, claims 1-5 of the application were rejected as obvious over U.S. Patent No. 4,620,376 (“Talarico ‘376”) in view of U.S. Patent No. 2,616,190 (“Darby”), and claims 1-8 were for non-statutory double patenting over U.S. Patent Nos. 8,938,893 and 10,271,611, but that claims 6-8 were otherwise found to be allowable. Ex. 1004, pp. 41-44.

25. To overcome the obviousness rejection, the Applicant amended independent claim 1 to add “wherein a first slope is formed by the first height and the second height, wherein a second slope is formed by the first height and the third height, and wherein a third slope is formed by the second height and the third height,” and argued that “applicant amended claim 1 to include similar limitations of claim 6 and 7,” which were directed to linear and non-linear slopes between the first, second and third heights. *Id.*, pp. 28-32, 74.

26. The application was subsequently allowed after the Applicant filed a Terminal Disclaimer to overcome the double patenting rejection over the claims of U.S. Patent Nos. 8,938,893 and 10,271,611. *Id.*, pp. 8, 31.

VI. CLAIM CONSTRUCTION

27. I was asked by counsel to apply the plain and ordinary meaning of the terms in the ‘291 Patent and prior art.

VII. PERSON OF ORDINARY SKILL IN THE ART

A. Understanding of the Test

28. In rendering the opinions set forth in this declaration, I was asked to consider the patent claims and the prior art through the eyes of a POSITA as of the time of the alleged invention, which I understand is March 8, 2011, the filing date of Provisional Application No. 61/450,485, to which the '291 patent claims priority.

29. I have been informed that the factors considered in determining the ordinary level of skill in a field of art include the level of education and experience of persons working in the field, the types of problems encountered in the field, the teachings of the prior art, and the sophistication of the technology at the time of the alleged invention.

30. I have been informed that a person of ordinary skill in the art is not a specific real individual, but instead is a hypothetical individual having the qualities reflected by the factors above. I have been informed that a person of ordinary skill in the art would also know the teachings of the prior art, including the art cited below.

B. Definition

31. Based on my education, experience, and knowledge of problems encountered in the field, the POSITA would have (1) 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 (2) at least five years designing or developing athletic shoes.

32. I believe I would meet (or exceed) this definition and would have met this definition in the relevant timeframe. I have also worked with and managed many individuals who would meet this definition, including at the date of filing of the '291 patent. My testimony is offered from this perspective.

VIII. PRIOR ART

A. Effective Prior Art Dates

33. U.S. Patent Publication No. 2004/0040181 ("Kim", Ex. 1005) published on March 4, 2004.

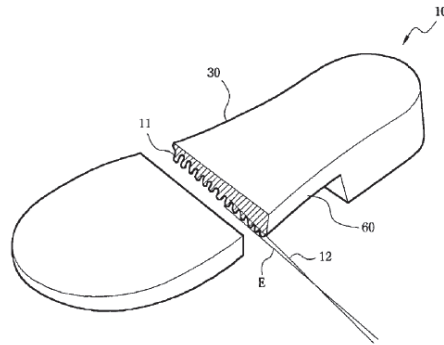
34. U.S. Patent No. 4,754,561 ("Dufour", Ex. 1006) issued July 5, 1988.

35. U.S. Patent No. 3,789,523 ("Rubin", Ex. 1007) issued February 5, 1974.

B. Overview of Kim

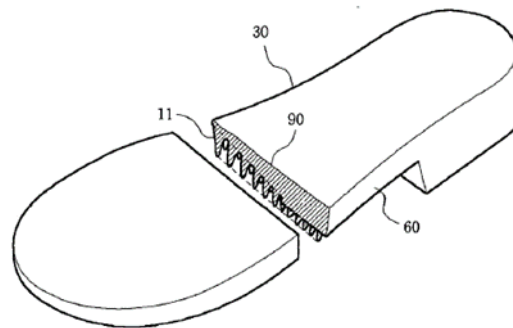
36. Kim discloses a pair of golf shoes that allow golfers to concentrate their weight balance on the inner edges of the soles of the feet. Ex. 1005, ¶ 12. Kim explains that such a position "allow[s] the golfer to perform the swing motion while maintaining his/her stable motion." *Id.*, ¶ 12, Fig. 2.

FIG. 2



37. Kim discloses golf shoes that include an upper leather portion and an outsole. *Id.*, ¶ 27. The outsole “includes a lower surface inclined from its outer edge to its inner edge so that the outer edge has a thickness larger than that of the inner edge,” as shown in Figure 3a. ¶¶ 16 (“[p]referably, the lower surface of the outsole may be stepped upward from the outer edge to the inner edge.”), 27. *Id.* Here, the inclined lower surface “may be formed only at the front portion of the outsole.” *Id.*, ¶ 46.

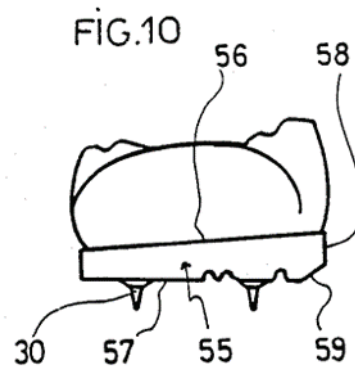
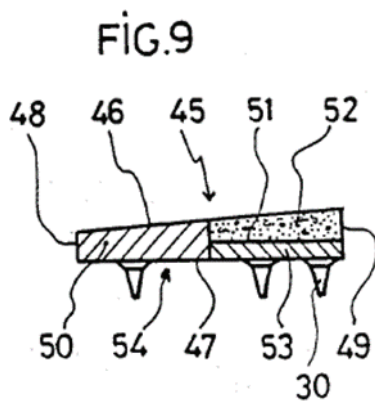
FIG. 3a



38. Kim explains that “[e]xcept for the outsole including the inclined lower surface, the golf shoe ... is substantially the same as conventional golf shoes.” *Id.*, ¶ 27.

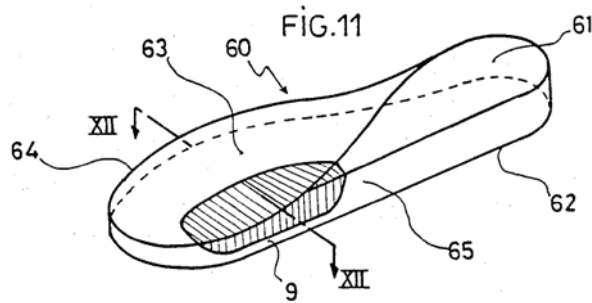
C. Overview of Dufour

39. Dufour discloses a golf shoe with a sole that “has a traverse section in which the inside support surface is inclined with respect to the walking surface.” *Id.*, 4:51-54. For the left shoe, Dufour explains that “the incline of the surface rises from the right inner edge of said sole to to the outer edge thereof,” as shown in Figures 9 and 10. *Id.*, 4:54-57.



40. As shown in Figure 10, the sole transversely has a plantar support surface 56 for the foot that provides the foot with a seating inclined with respect to the walking surface 57. *Id.*, 4:54-57.

41. Dufour also discloses a plantar support zone at the level of the heel that is substantially parallel to the to the walking surface, while the support surface in the front area is inclined upwards from the inner edge towards the outer edge. *Id.*, 5:7-14., Fig 11.

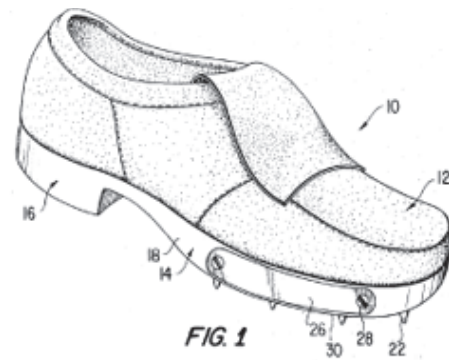
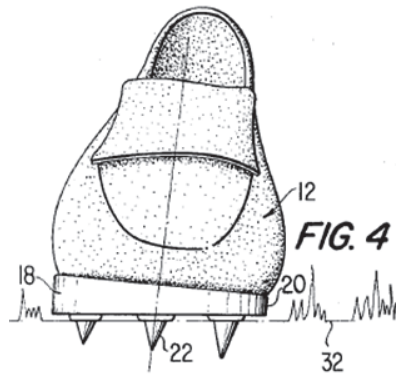


42. Dufour also discloses a sole that is provided with a shock absorbing element, which extends from the front portion of the golf shoe up to the heel zone. *Id.*, 5:15-24. The shock absorbing element has a “variable thickness so that the front part is thinner than the part at the heel.” *Id.* Dufour explains that the “thickness of the sole ... also increases as it goes towards the heel zone,” as shown in Figure 13. *Id.*

D. Overview of Rubin

43. Rubin discloses a golf shoe designed to aid a golfer in assuming a proper stance, and thus develop a more consistent swing. Ex. 1007, 1:5-22.

44. Rubin explains that the shoe includes a conventional upper molded integrally with a sole, and a conventional heel. *Id.*, 2:0-68. As shown in Figure 4, the outer side of the sole extends to a lower elevation than the inner side, creating a “toe-in effect to aid the golfer during his swing to pivot about a more or less stationary vertical line rather than sway.” *Id.*, 2:5-11, claim 1.



45. Rubin also discloses a plurality of cleats that project downwardly from the bottom of the sole, which serve to anchor the foot of a golfer. *Id.*, 3:24-27.

46. Rubin explains that, when the shoes are worn, “the golfer will imbed cleats in a golf playing surface when addressing a golf ball,” and “[the] rewardmost foot of the golfer will be tilted inwardly because of the wedge-shaped sole of the shoe ... provid[ing] a more satisfactory weight distribution when hitting the ball.” *Id.*, 3:51-61.

E. “Conventional” Shoes

47. A POSITA would understand that shoes in general, including athletic shoes and golf shoes, have several traits and features that are “conventional” or “standard.” These conventional design traits include a heel section having a consistent height throughout, at least based on Patent Owner’s apparent interpretation of this limitation, discussed in Section VI, above. Having a heel section of consistent height throughout is standard shoe design, both before and after the priority date of the ‘291 patent. In fact, over the course of my career, the vast

majority, if not all, of the shoes I designed or oversaw the design of had this feature.

For example, this feature was included in the shoes I designed for Vans that were sold in the United States between 2002 and 2005, as depicted below.







48. In each of the Vans shoes I designed, the heel area has consistent height throughout.

49. Other examples of athletic shoes having a heel area of consistent height throughout are shown in Nike running shoes from the 1970s, including the 1977

Boston running shoe, and 1971 Cortez, both of which I am familiar with and am aware of being sold in the United States during that time:

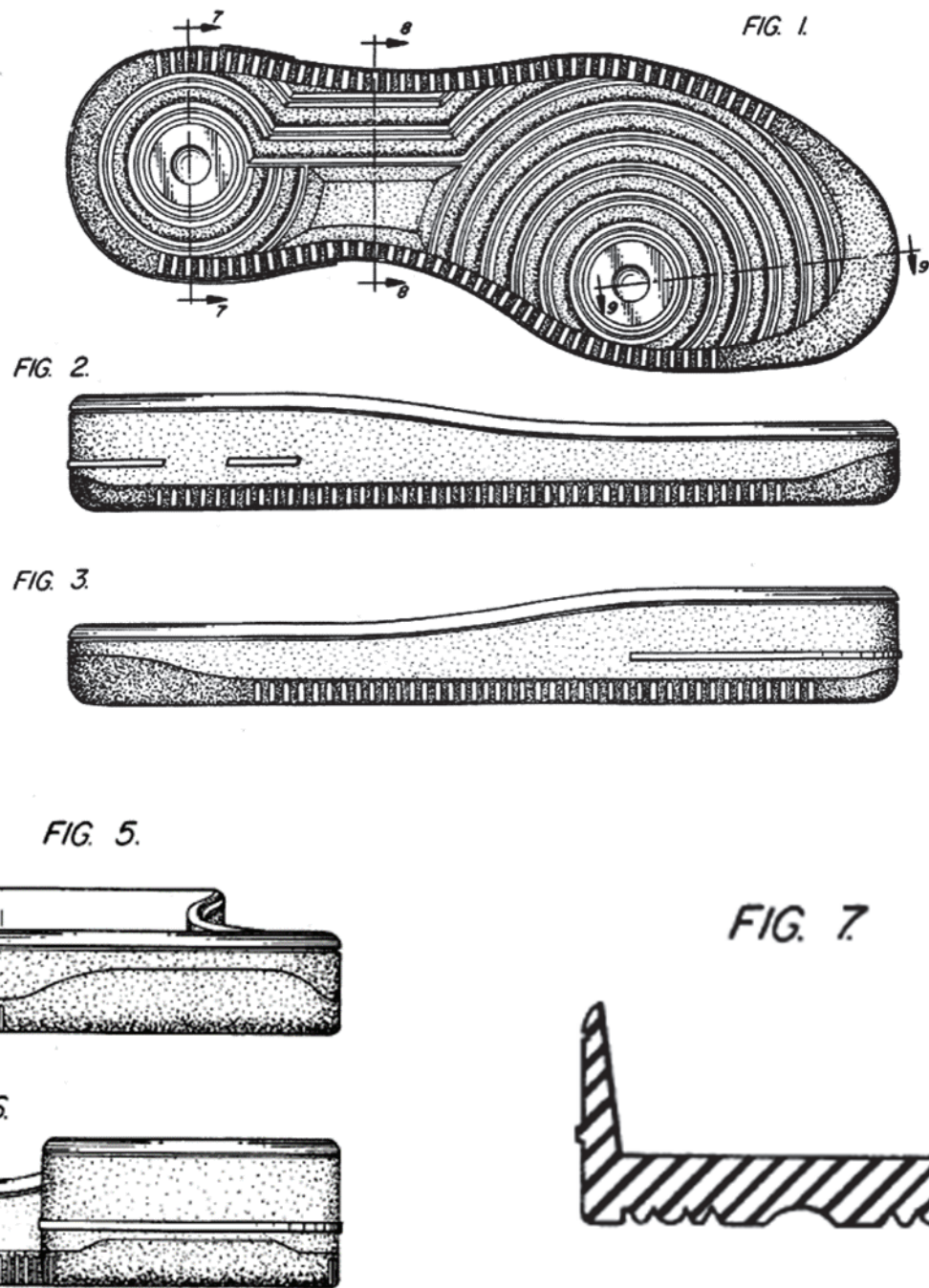


Ex. 1013.



Ex. 1018.

50. A heel section that has a consistent height throughout is also shown in Nike's U.S. Design Patent No. D275146, filed in 1982, which discloses the sole for Nike's "Air Force One" basketball shoe having a heel section of consistent height throughout.



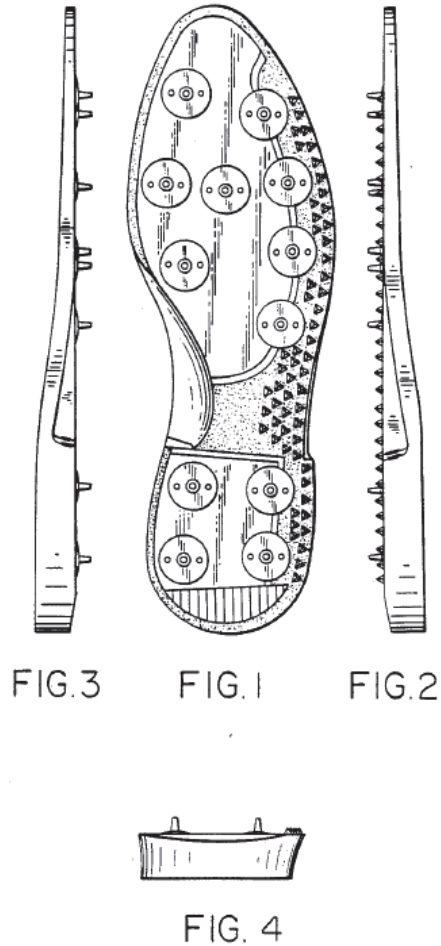
Ex. 1016.

51. Having a heel section of consistent height throughout is also standard in golf shoes, as shown, for example, in the 1970 FootJoy Style 51409:



Ex. 1014; 1015.

52. See also the Golf shoe sole disclosed in Tretorn's U.S. Design Patent No. D310294, filed in 1987:



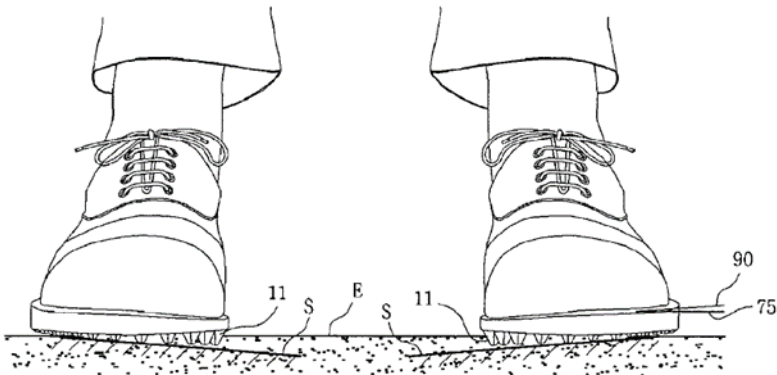
Ex. 1017.

IX. OPINIONS ON UNPATENTABILITY

A. Ground 1: Claims 1-5 are Obvious Based on Kim

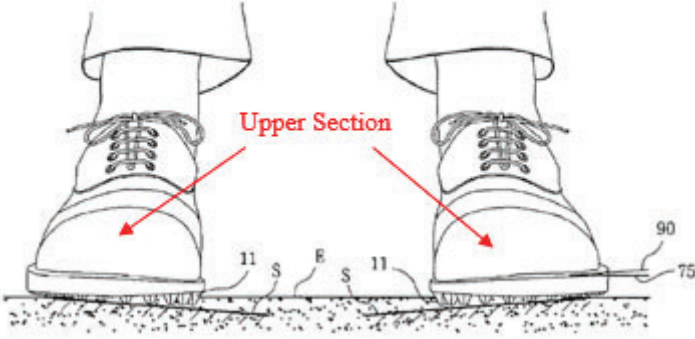
53. It is my opinion that a POSITA would have found claims 1-5 obvious based on Kim.

(a) [1.0] A shoe comprises:

U.S. Patent No. 11,013,291	Kim
[1.0] A shoe comprises:	Kim teaches and/or suggests a pair of golf shoes. FIG. 5b  “Disclosed is a pair of golf shoes, each comprising an outsole provided with a plurality of spikes protruded from a lower surface of the outsole, in which the lower surface of the outsole is inclined from an outer edge of the outsole to an inner edge of the outsole so that the spikes at the inner edge of the outsole have a height larger than that of the spikes at the outer edge of the outsole, and the spikes respectively have heights so that an upper surface of the outsole is substantially parallel with a ground. The golf shoes allow golfer’s feet to be stably mounted on the surface of a green, thereby assisting a golfer in taking a stable position during address and swing motions. thereby assisting a golfer in taking a stable position during address and Swing motions.” Ex. 1005, Abstract.

(b) [1.1] an upper section;

U.S. Patent No. 11,013,291	Kim
[1.1] an upper section;	Kim teaches and/or suggests an upper leather portion for accommodating a golfer’s foot.

	FIG. 5b  “As shown in FIGS. 1 and 2, the golf shoe 100 in accordance with one embodiment of the present invention comprises an upper leather portion 20 and an outsole 10. The outsole 10 includes a lower surface 12 inclined from its outer edge 60 to its inner edge 30 so that the outer edge 60 has a thickness larger than that of the inner edge 30. Except for the outsole 10 including the inclined lower surface 12, the golf shoe 100 of the present invention is substantially the same as conventional golf shoes.” <i>Id.</i>, ¶ 27. “That is, the golf shoe 100 of the present invention comprises the upper leather portion 20 for accommodating a golfer’s foot, and the outsole 10 attached to the lower surface of the upper leather portion 20 and adapted to contact the ground. Further, the golf shoe 100 further comprises an insole (not shown) arranged on the bottom of the inside of the upper leather portion 20.” <i>Id.</i>, ¶ 28.
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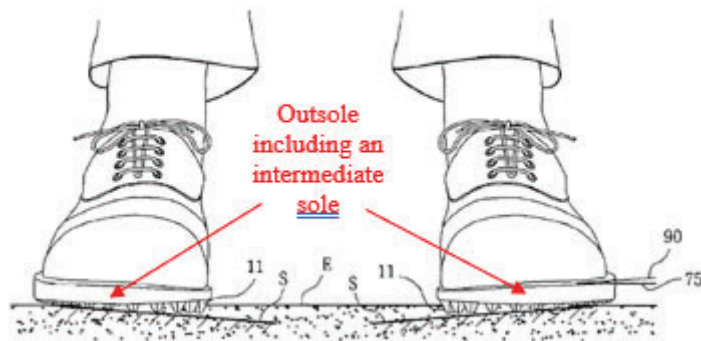
(c) [1.2] a midsole coupled to the upper portion,

U.S. Patent No. 11,013,291	Kim
[1.2] a midsole coupled to the upper portion,	Kim teaches and/or suggests an outsole that includes an intermediate sole.

“That is, the golf shoe 100 of the present invention comprises the upper leather portion 20 for accommodating a golfer’s foot, and the outsole 10 attached to the lower surface of the upper leather portion 20 and adapted to contact the ground. Further, the golf shoe 100 further comprises an insole (not shown) arranged on the bottom of the inside of the upper leather portion 20.” *Id.*, ¶ 28.

“Generally, the outsole 10 includes an intermediate sole and an outer sole. Here, the outsole 10 denotes the intermediate sole and the outer sole.” *Id.*, ¶ 29.

FIG. 5b



54. For limitations 1.2 and 1.4, the ‘291 patent explains that the terms “operably coupled to”, “coupled to”, and/or “coupling” includes “direct coupling between items and/or indirect coupling between items via an intervening item (e.g., an item includes, but is not limited to, a component, an element, a circuit, and/or a module) where, for indirect coupling, the intervening item does not modify the information of a signal but may adjust its current level, voltage level, and/or power level. As may further be used herein, inferred coupling (i.e., where one element is

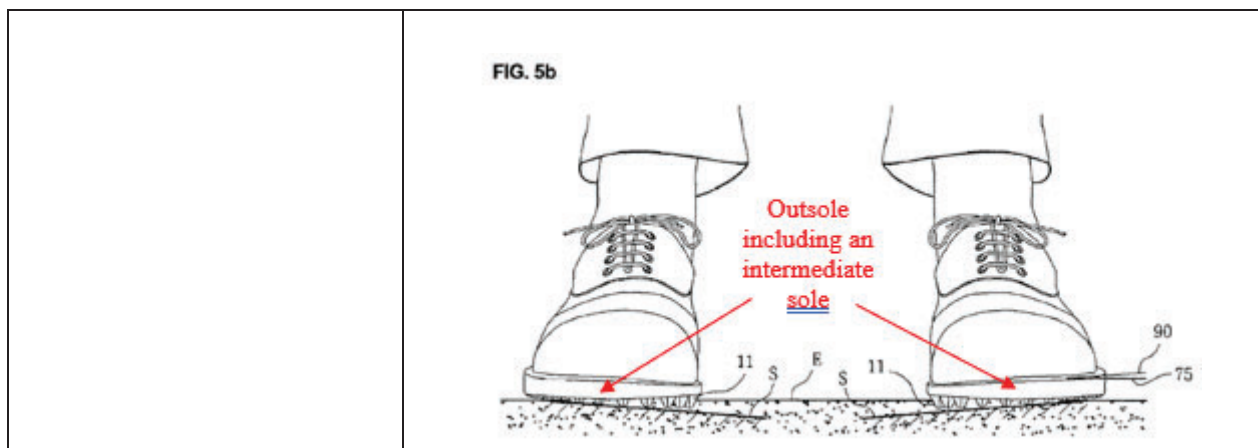
coupled to another element by inference) includes direct and indirect coupling between two items in the same manner as ‘coupled to.’” Ex. 1001, 41:9-21.

(d) [1.3] an insole positioned proximal to the midsole and within the upper section; and

U.S. Patent No. 11,013,291	Kim
[1.3] an insole positioned proximal to the midsole and within the upper section;	Kim teaches and/or suggests an insole at the bottom of the inside of the upper leather portion. “That is, the golf shoe 100 of the present invention comprises the upper leather portion 20 for accommodating a golfer’s foot, and the outsole 10 attached to the lower surface of the upper leather portion 20 and adapted to contact the ground. Further, the golf shoe 100 further comprises an insole (not shown) arranged on the bottom of the inside of the upper leather portion 20.” <i>Id.</i>, ¶ 28.

(e) [1.4] a bottom outsole coupled to the midsole,

U.S. Patent No. 11,013,291	Kim
[1.4] a bottom outsole coupled to the midsole,	Kim teaches and/or suggests an outsole attached to the midsole. “That is, the golf shoe 100 of the present invention comprises the upper leather portion 20 for accommodating a golfer’s foot, and the outsole 10 attached to the lower surface of the upper leather portion 20 and adapted to contact the ground. Further, the golf shoe 100 further comprises an insole (not shown) arranged on the bottom of the inside of the upper leather portion 20.” <i>Id.</i>, ¶ 28. “Generally, the outsole 10 includes an intermediate sole and an outer sole. Here, the outsole 10 denotes the intermediate sole and the outer sole.” <i>Id.</i>, ¶ 29.



55. A POSITA would understand that the outer sole is coupled to the intermediate sole. This is confirmed by Kim’s disclosure that both the intermediate sole and the outer sole are part of outsole 10. *Id.*, ¶ 29.

(f) [1.5] wherein a combination of the midsole, the insole, and the bottom outsole form an athletic positioning shape, wherein the athletic positioning shape has,

56. See limitations 1.6-1.8 below, describing Kim’s disclosure of an “athletic positioning shape.”

(g) [1.6] a first height at an inside edge and at an outside edge of the shoe along a heel section of the shoe,

U.S. Patent No. 11,013,291	Kim
[1.6] a first height at an inside edge and at an outside edge of the shoe along a heel section of the shoe,	Kim teaches and/or suggests a heel section that has a first height at an inside edge and at an outside edge. “As shown in FIGS. 1 and 2, the golf shoe 100 in accordance with one embodiment of the present invention comprises an upper leather portion 20 and an outsole 10. The outsole 10 includes a lower surface 12 inclined from its outer edge 60 to its inner edge 30 so that the outer edge 60 has a thickness larger than that of

the inner edge 30. Except for the outsole 10 including the inclined lower surface 12, the golf shoe 100 of the present invention is substantially the same as conventional golf shoes.” *Id.*, ¶ 27.

“Although the preferred embodiments of the present invention have been disclosed for illustrative purposes, those skilled in the art will appreciate that various modifications, additions and substitutions are possible, without departing from the scope and spirit of the invention as disclosed in the accompanying claims. For example, the inclined plane may be formed only at the front portion of the outsole, or only at parts of the front and/or rear portions of the outsole.” *Id.*, ¶ 46.

FIG. 2

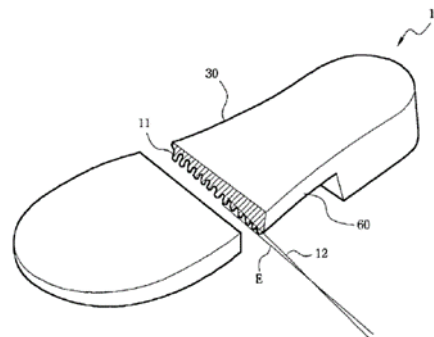
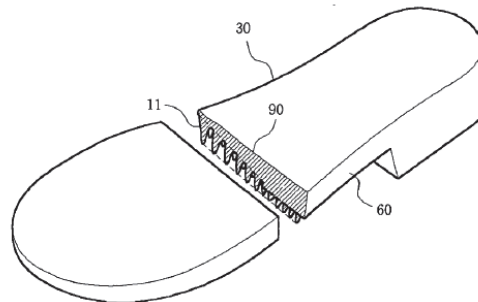


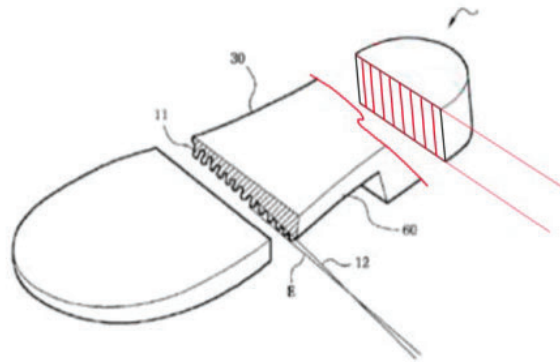
FIG. 3a



57. A POSITA would understand that the heel area shown in Figures 2 and 3a has a first height at an inside edge and at an outside edge. I created the image

below to show how a POSITA would understand the heel platform depicted in Kim to be shaped.

FIG. 2

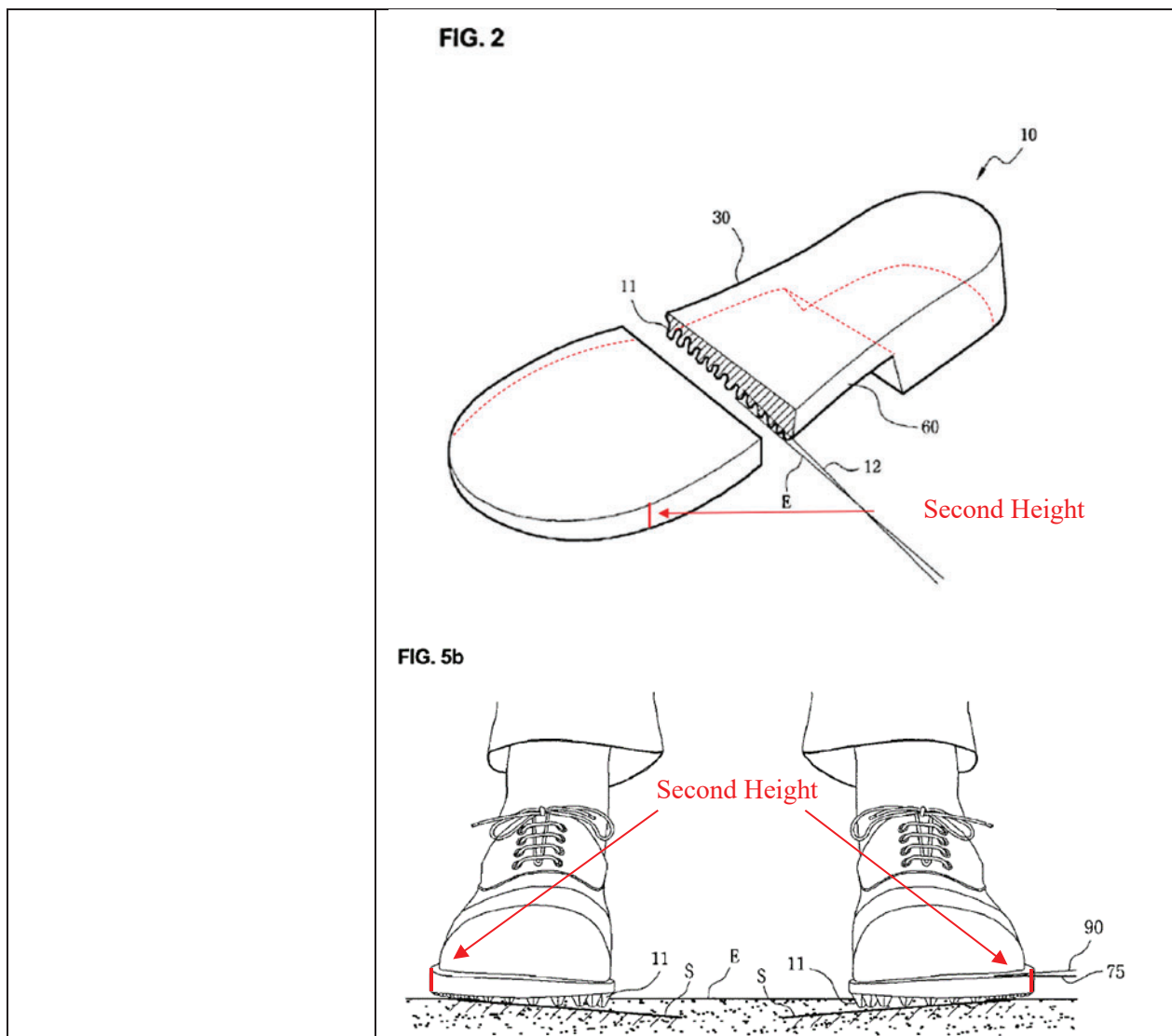


58. This is confirmed by Kim’s disclosure that “the inclined plane may be formed only at the front portion of the outsole, or only at parts of the front and/or rear portions of the outsole.” *Id.*, ¶ 46.

59. Kim also discloses that “[e]xcept for the outsole including the inclined lower surface, the golf shoe of the present invention is substantially the same as conventional golf shoes.” *Id.*, ¶ 27. A POSITA would understand that conventional athletic shoes, including golf, basketball, running and skateboard shoes, include a heel section that has a consistent height throughout based on Patent Owner’s apparent interpretation of this limitation, as described in Section VIII.E, above.

(h) [1.7] a second height on the outside edge of the shoe at a toe section of the shoe,

U.S. Patent No. 11,013,291	Kim
[1.7] a second height on the outside edge of the shoe at a toe section of the shoe,	Kim teaches and/or suggests a second height on the outside edge of the shoe at a toe section of the shoe. “As shown in FIGS. 1 and 2, the golf shoe 100 in accordance with one embodiment of the present invention comprises an upper leather portion 20 and an outsole 10. The outsole 10 includes a lower surface 12 inclined from its outer edge 60 to its inner edge 30 so that the outer edge 60 has a thickness larger than that of the inner edge 30. Except for the outsole 10 including the inclined lower surface 12, the golf shoe 100 of the present invention is substantially the same as conventional golf shoes.” <i>Id.</i>, ¶ 27. “Although the preferred embodiments of the present invention have been disclosed for illustrative purposes, those skilled in the art will appreciate that various modifications, additions and substitutions are possible, without departing from the scope and spirit of the invention as disclosed in the accompanying claims. For example, the inclined plane may be formed only at the front portion of the outsole, or only at parts of the front and/or rear portions of the outsole.” <i>Id.</i>, ¶ 46.



60. A POSITA would understand that sole 10 has the shape indicated by the red dashed line shown in annotated Figure 2, above, based on Kim's description and figures of the sole.

- (i) [1.8] a third height on the inside edge of the shoe at a toe section of the shoe, and,

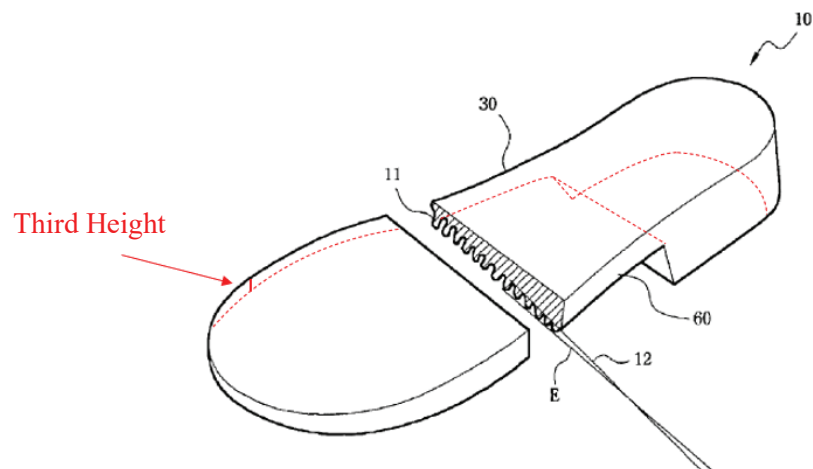
U.S. Patent No. 11,013,291	Kim
[1.8] a third height on the inside edge of the	Kim teaches and/or suggests a third height on the inside edge of the shoe at a toe section of the shoe.

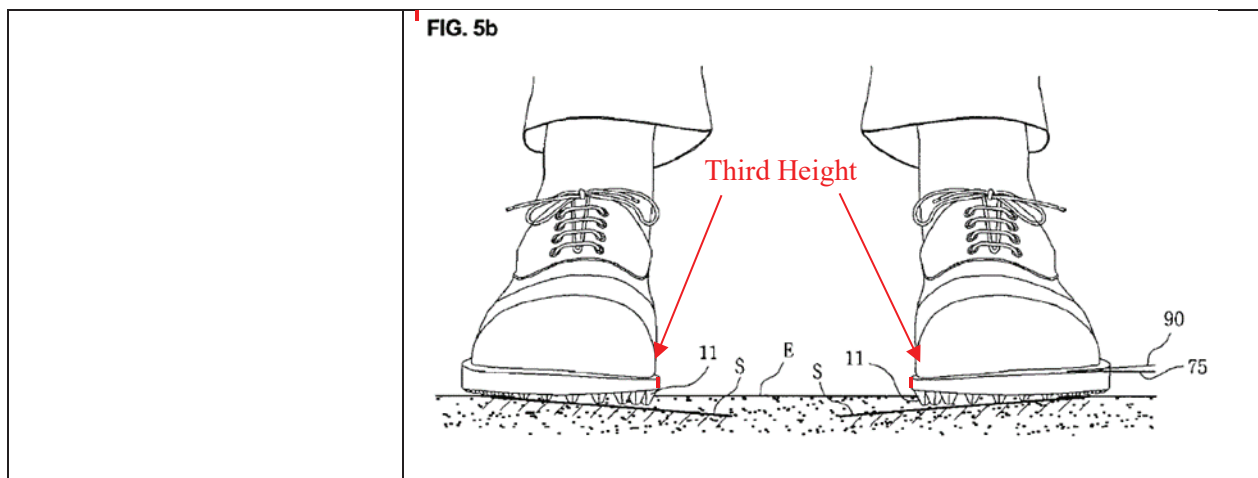
shoe at a toe section of the shoe, and,

“As shown in FIGS. 1 and 2, the golf shoe 100 in accordance with one embodiment of the present invention comprises an upper leather portion 20 and an outsole 10. The outsole 10 includes a lower surface 12 inclined from its outer edge 60 to its inner edge 30 so that the outer edge 60 has a thickness larger than that of the inner edge 30. Except for the outsole 10 including the inclined lower surface 12, the golf shoe 100 of the present invention is substantially the same as conventional golf shoes.” *Id.*, ¶ 27.

“Although the preferred embodiments of the present invention have been disclosed for illustrative purposes, those skilled in the art will appreciate that various modifications, additions and substitutions are possible, without departing from the scope and spirit of the invention as disclosed in the accompanying claims. For example, the inclined plane may be formed only at the front portion of the outsole, or only at parts of the front and/or rear portions of the outsole.” *Id.*, ¶ 46.

FIG. 2





- (j) [1.9] “the first height being greater than the second height and the second height being greater than the third height, wherein a first slope is formed by the first height and the second height, wherein a second sloped is formed by the first height and the third height, and wherein a third slope is formed by the second height and the third height.”

U.S. Patent No. 11,013,291	Kim
[1.9] the first height being greater than the second height and the second height being greater than the third height, wherein a first slope is formed by the first height and the second height, wherein a second sloped is formed by the first height and the third height, and wherein a third slope is formed by the second height and the third height.	Kim teaches and/or suggests the first height being greater than the second height and the second height being greater than the third height, wherein a first slope is formed by the first height and the second height, wherein a second sloped is formed by the first height and the third height, and wherein a third slope is formed by the second height and the third height. “Disclosed is a pair of golf shoes, each comprising an outsole provided with a plurality of spikes protruded from a lower surface of the outsole, in which the lower surface of the outsole is inclined from an outer edge of the outsole to an inner edge of the outsole so that the spikes at the inner edge of the outsole have a height larger than that of the spikes at the outer edge of the outsole, and the spikes respectively have heights so that an upper surface of the outsole is substantially parallel with a ground. The golf shoes allow golfer’s feet to be

	stably mounted on the surface of a green, thereby assisting a golfer in taking a stable position during address and swing motions. thereby assisting a golfer in taking a stable position during address and Swing motions.” <i>Id.</i>, Abstract. “That is, the lower surface of the outsole is inclined so that the thickness of the lower surface of the outsole is decreased from the outer edge to the inner edge, the spikes protruded from the lower surface of the outsole have different heights at outer and inner edges of the outsole (the height of spikes at the inner edge is larger than the height of the spikes at the outer edge), and the bottoms of the spikes are substantially parallel with the ground, thereby allowing a golfer in the golf shoes to concentrating his/her weight during the address and swing phases on the inner edges of soles of feet and assisting the golfer in performing a stable swing motion.” <i>Id.</i>, ¶ 15. “As shown in FIGS. 1 and 2, the golf shoe 100 in accordance with one embodiment of the present invention comprises an upper leather portion 20 and an outsole 10. The outsole 10 includes a lower surface 12 inclined from its outer edge 60 to its inner edge 30 so that the outer edge 60 has a thickness larger than that of the inner edge 30. Except for the outsole 10 including the inclined lower surface 12, the golf shoe 100 of the present invention is substantially the same as conventional golf shoes.” <i>Id.</i>, ¶ 27.
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“FIGS. 3 *a* and 3 *b* illustrate an outsole of a golf shoe in accordance with another embodiment of the present invention. In this embodiment, the height of the spikes 11 at the inner edge 30 of the outsole 10 is larger than that of the spikes 11 at the outer edge 60 of the outsole 10. However, the lower surface 12 of the outsole 10 is not gradually inclined from the outer edge 60 to the inner edge 30, but includes a horizontal plane 80 extended from the outer edge 60, and an inclined plane 40 extended from the end of the horizontal plane 80.” *Id.*, ¶ 41.

FIG. 3a

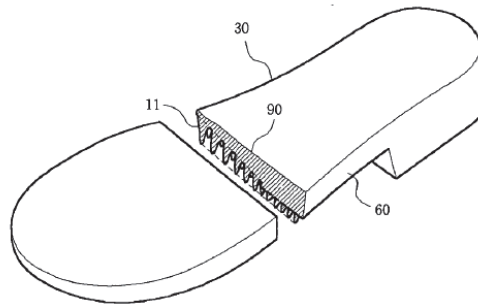
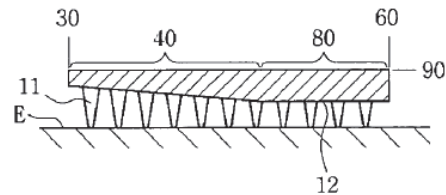


FIG. 3b



“Although the preferred embodiments of the present invention have been disclosed for illustrative purposes, those skilled in the art will appreciate that various modifications, additions and substitutions are possible, without departing from the scope and spirit of the invention as disclosed in the accompanying claims. For example, the inclined plane may be formed only at the front portion of the outsole, or only at parts of the front and/or rear portions of the outsole.” *Id.*, ¶ 46.

FIG. 2

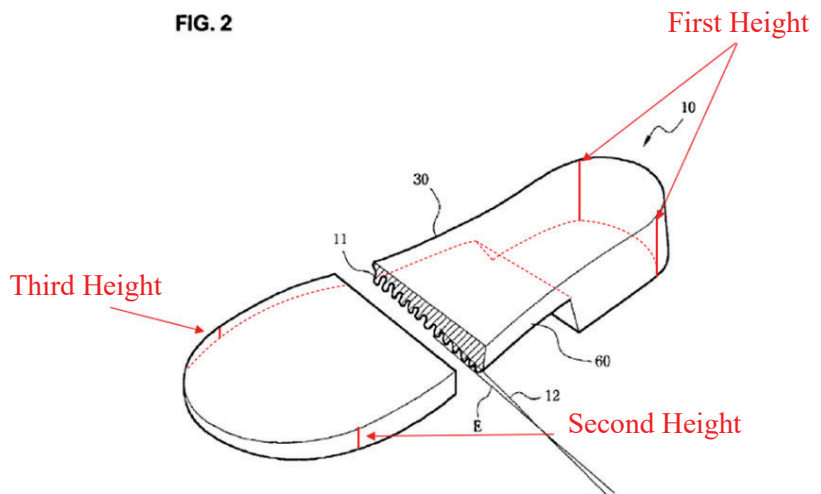


FIG. 2

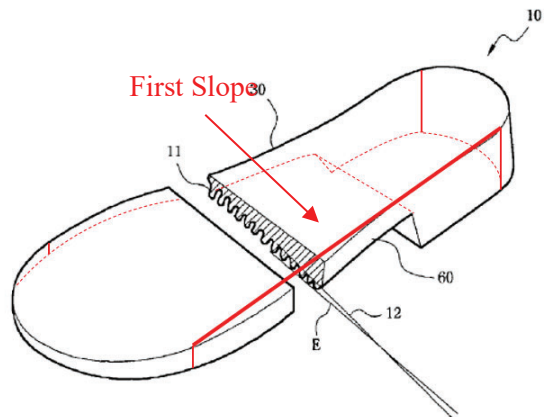


FIG. 2

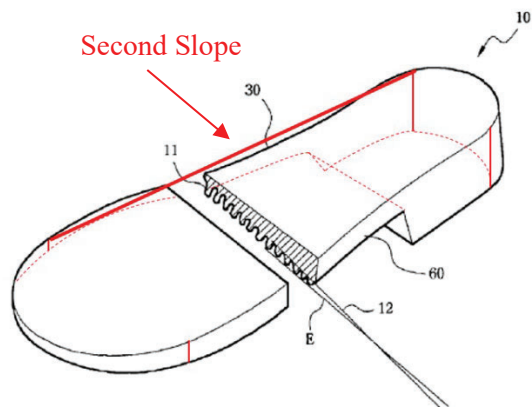
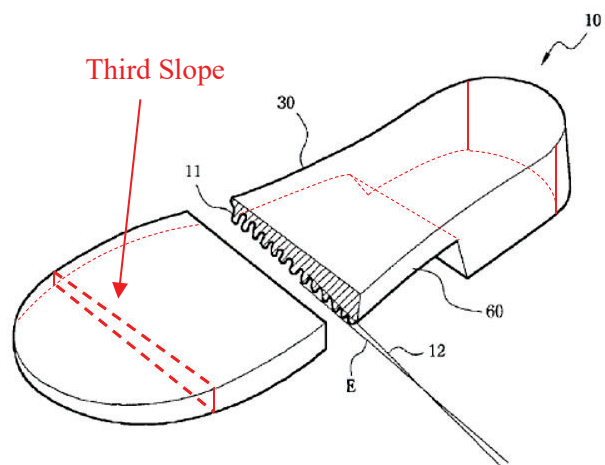


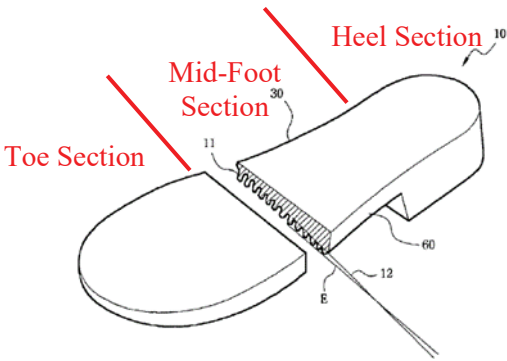
FIG. 2



61. See limitations 1.6-1.8 above, and annotated Figure 2 above, showing Kim's disclosure of the first height being greater than the second height, and the second height being greater than the third height. A POSITA would understand this to be true based on the relative sizes, dimensions and shape of the sole depicted in Kim.

62. A POSITA would understand that slopes inherently form between areas of different heights in a shoe sole, as shown in the figures above.¹

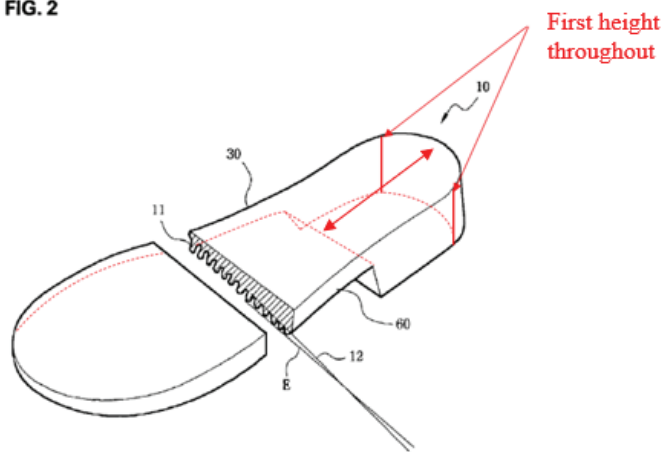
(k) Claim 2: The shoe of claim 1 further comprises: the athletic positioning shape including the heel section, a mid-foot section, and a toe section, wherein the mid-foot section is between the heel section and the toe section, and wherein the heel section has the first height throughout.

U.S. Patent No. 11,013,291	Kim
[2] The shoe of claim 1 further comprises: the athletic positioning shape including the heel section, a mid-foot section, and a toe section, wherein the mid-foot section is between the heel section and the toe section, and wherein the heel section has the first height throughout.	Kim teaches and/or suggests a mid-foot section between the heel section and the toe section and a heel section that has the first height throughout. FIG. 2 

¹ See also Ex. 1009, Infringement Contentions Ex. A at pp. 42-43 alleging infringement based only on 3 different height measurements.

“Although the preferred embodiments of the present invention have been disclosed for illustrative purposes, those skilled in the art will appreciate that various modifications, additions and substitutions are possible, without departing from the scope and spirit of the invention as disclosed in the accompanying claims. For example, the inclined plane may be formed only at the front portion of the outsole, or only at parts of the front and/or rear portions of the outsole.” *Id.*, ¶ 46.

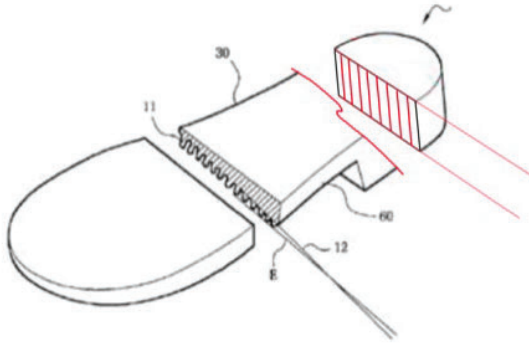
FIG. 2



63. A POSITA would understand that the golf shoes in Figures 1 and 2 include a mid-foot section between the heel section and the toe section. A mid-foot section is a necessary element of any shoe.

64. A POSITA would also understand that golf shoes in Figures 1 and 2 include a heel section that has a consistent height throughout. This is confirmed by Kim’s disclosure that “the inclined plane may be formed only at the front portion of the outsole.” Ex. 1005, ¶ 46.

FIG. 2



65. Kim also explains that “the golf shoe 100 of the present invention is substantially the same as conventional golf shoes” aside from the “the inclined lower surface 12” of the outsole. *Id.*, ¶ 27. A POSITA would understand that conventional athletic shoes, including golf, basketball, running and skateboard shoes included heel areas with a consistent height throughout, as described above.

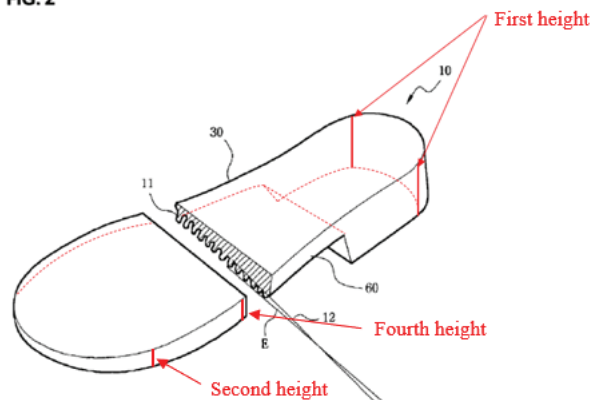
- (l) **Claim 3: The shoe of claim 2 further comprises: a fourth height at the outside edge of the shoe at a transition from the mid-foot section to the toe section, wherein the fourth height is greater than the second height and wherein the fourth height is less than the first height.**

U.S. Patent No. 11,013,291	Kim
[3] The shoe of claim 2 further comprises: a fourth height at the outside edge of the shoe at a transition from the mid-foot section to the toe section, wherein the fourth height is greater than the second height	Kim teaches and/or suggests a fourth height at the outside edge of the shoe at a transition from the mid-foot section to the toe section, wherein the fourth height is greater than the second height and wherein the fourth height is less than the first height. “As shown in FIGS. 1 and 2, the golf shoe 100 in accordance with one embodiment of the present invention comprises an upper leather portion 20 and an

and wherein the fourth height is less than the first height.

outsole 10. The outsole 10 includes a lower surface 12 inclined from its outer edge 60 to its inner edge 30 so that the outer edge 60 has a thickness larger than that of the inner edge 30. Except for the outsole 10 including the inclined lower surface 12, the golf shoe 100 of the present invention is substantially the same as conventional golf shoes.” *Id.*, ¶ 27.

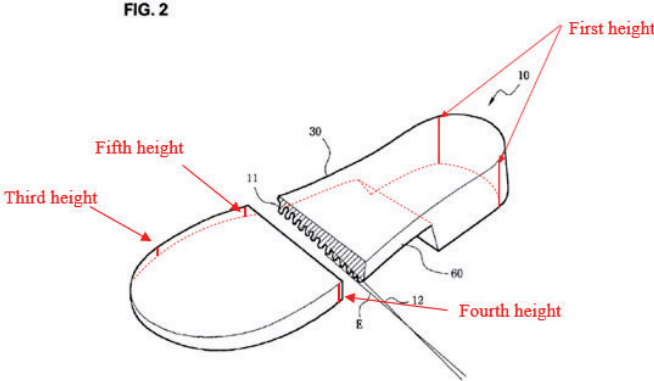
FIG. 2



66. A POSITA would understand that the relative heights of claim 3 are taught and/or suggested by Kim based on the relative sizes, dimensions and shape of the sole depicted in Kim. A POSITA would also understand that the fourth height is necessarily of a height in between the first height and the second height due to the sloped design of the sole downward from the heel section to the toe section.

(m) **Claim 4: The shoe of claim 3 further comprises: a fifth height at the inside edge of the shoe at the transition from the mid-foot section to the toe section, wherein the fifth height is greater than the third height and**

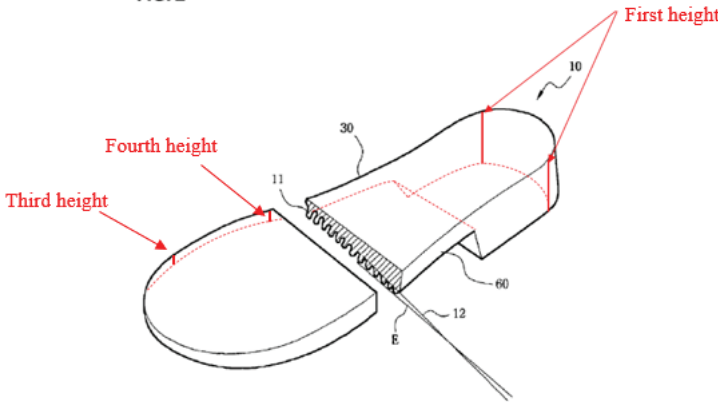
wherein the fifth height is less than the first height and less than the fourth height.

U.S. Patent No. 11,013,291	Kim
[4] The shoe of claim 3 further comprises: a fifth height at the inside edge of the shoe at the transition from the mid-foot section to the toe section, wherein the fifth height is greater than the third height and wherein the fifth height is less than the first height and less than the fourth height.	Kim teaches and/or suggests a fifth height at the inside edge of the shoe at the transition from the mid-foot section to the toe section, wherein the fifth height is greater than the third height and wherein the fifth height is less than the first height and less than the fourth height. 

67. A POSITA would understand that the relative heights of claim 4 are taught and/or suggested by Kim based on the relative sizes, dimensions and shape of the sole depicted in Kim. A POSITA would also understand that the fifth height is necessarily of a height in between the first height and the third height due to the sloped design of the sole downward from the heel section to the toe section, and necessarily less than the fourth height due to the sloped design of the sole downward from the outer edge to the inner edge.

(n) **Claim 5: The shoe of claim 2 further comprises: a fourth height at the inside edge of the shoe at the**

transition from the mid-foot section to the toe section, wherein the fourth height is greater than the third height and wherein the fourth height is less than the first height.

U.S. Patent No. 11,013,291	Kim
[6] The shoe of claim 2 further comprises: a fourth height at the inside edge of the shoe at the transition from the mid-foot section to the toe section, wherein the fourth height is greater than the third height and wherein the fourth height is less than the first height.	Kim teaches and/or suggests a fourth height at the inside edge of the shoe at the transition from the mid-foot section to the toe section, wherein the fourth height is greater than the third height and wherein the fourth height is less than the first height. FIG. 2 

68. A POSITA would understand that the relative heights of claim 5 are taught and/or suggested by Kim based on the relative sizes, dimensions and shape of the sole depicted in Kim. A POSITA would also understand that the fourth height is necessarily of a height in between the first height and the third height due to the sloped design of the sole downward from the heel section to the toe section.

B. Ground 2: Claims 1-5 are Obvious Over Dufour in View of Kim

69. I believe claims 1-5 would be obvious over Dufour in view of Kim.

Overview of the Combination

70. The combination of Dufour and Kim renders claims 1-5 obvious. Dufour teaches and/or suggests a golf shoe, but does not expressly disclose a midsole or an insole. Kim, however, does.

Rationale (Motivation) Supporting Obviousness

71. It would have been obvious to incorporate a midsole and an insole, like that described in Kim, into the golf shoes disclosed in Dufour. A POSITA would have found it obvious to have combined the teachings of Dufour and Kim with predictable outcomes.

72. Dufour and Kim are both in the same field (golf shoe design), and both disclose similar improvements over typical shoes, namely, a sloped sole configured to provide enhanced positioning or support for the wearer's feet. A POSITA would have naturally looked to Kim when considering ways to improve the Dufour sole design. A POSITA would understand that both a midsole and an insole were common shoe components that provide several benefits, such as providing additional cushioning, comfort and/or stability in the shoe. Indeed, Kim explains that, "except for the outsole 10 including the inclined lower surface 12, the golf shoe 100 of the present invention is substantially the same as conventional golf shoes," and include

“an insole ... arranged on the bottom of the inside of the upper leather portion,” and an “intermediate sole.” Ex. 1005, ¶¶ 27-29.

Reasonable Expectation of Success

73. A POSITA would have had a reasonable expectation of success in incorporating a midsole and an insole, like those disclosed in Kim, into the golf shoe disclosed in Dufour. Dufour’s sole could easily be modified to include the midsole and insole disclosed in Kim while maintaining the athletic positioning shape. The art was relatively predictable in the relevant timeframe. A POSITA would also have been able to make any necessary modifications to the shoe or shoe components to implement this Ground.

Analogous Art

74. Dufour and Kim are analogous art, because they are in the same field as the ‘291 patent (Ex. 1001, ‘291 patent at Abstract, Title) (Ex. 1006, Dufour at Abstract, Title) (Ex. 1005, Kim at Abstract, Title), and all three relate to golf shoe designs that incorporate soles that improve foot positioning and/or support.

Claims 1-5 are Obvious Over Dufour in View of Kim

(a) [1.0] A shoe comprises:

U.S. Patent No. 11,013,291	Dufour
[1.0] A shoe comprises:	Dufour teaches and/or suggests a pair of golf shoes.

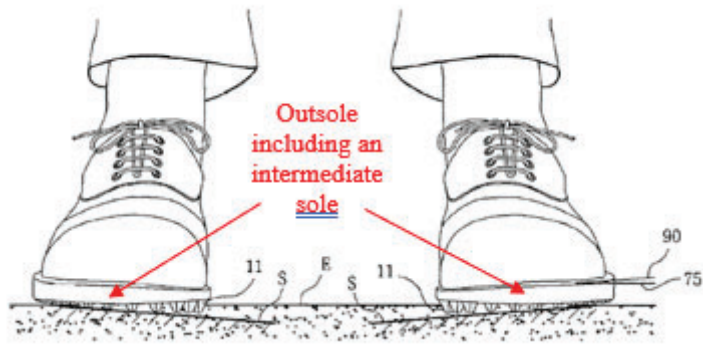
	FIG.10 “This invention pertains to golf shoes, and especially a shoe sole able to facilitate the rolling of the foot (the left foot for a left-handed person; the right for a right-handed person) during the golfer’s swing movement; the term "swing" indicates the kinematics of the golfer’s compound movements in order to hit the ball.” Ex. 1006, Abstract.
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(b) [1.1] an upper section;

U.S. Patent No. 11,013,291	Dufour
[1.1] an upper section;	Dufour teaches and/or suggests an upper shoe section.

(c) [1.2] a midsole coupled to the upper portion,

75. While Dufour does not expressly disclose a midsole coupled to the upper portion, Kim does.

U.S. Patent No. 11,013,291	Kim
[1.2] a midsole coupled to the upper portion,	Kim teaches and/or suggests an outsole that includes an intermediate sole. “That is, the golf shoe 100 of the present invention comprises the upper leather portion 20 for accommodating a golfer’s foot, and the outsole 10 attached to the lower surface of the upper leather portion 20 and adapted to contact the ground. Further, the golf shoe 100 further comprises an insole (not shown) arranged on the bottom of the inside of the upper leather portion 20.” Ex. 1005, ¶ 28. “Generally, the outsole 10 includes an intermediate sole and an outer sole. Here, the outsole 10 denotes the intermediate sole and the outer sole.” <i>Id.</i>, ¶ 29. FIG. 5b 

76. For limitations 1.2 and 1.4, the ‘291 patent explains that the terms “operably coupled to”, “coupled to”, and/or “coupling” includes “direct coupling between items and/or indirect coupling between items via an intervening item (e.g.,

an item includes, but is not limited to, a component, an element, a circuit, and/or a module) where, for indirect coupling, the intervening item does not modify the information of a signal but may adjust its current level, voltage level, and/or power level. As may further be used herein, inferred coupling (i.e., where one element is coupled to another element by inference) includes direct and indirect coupling between two items in the same manner as ‘coupled to.’” Ex. 1001, 41:9-21.

(d) [1.3] an insole positioned proximal to the midsole and within the upper section; and

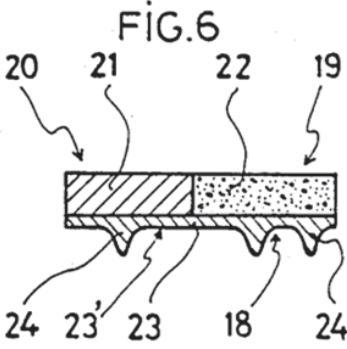
77. While Dufour does not disclose an insole positioned proximal to the midsole and within the upper section, Kim does.

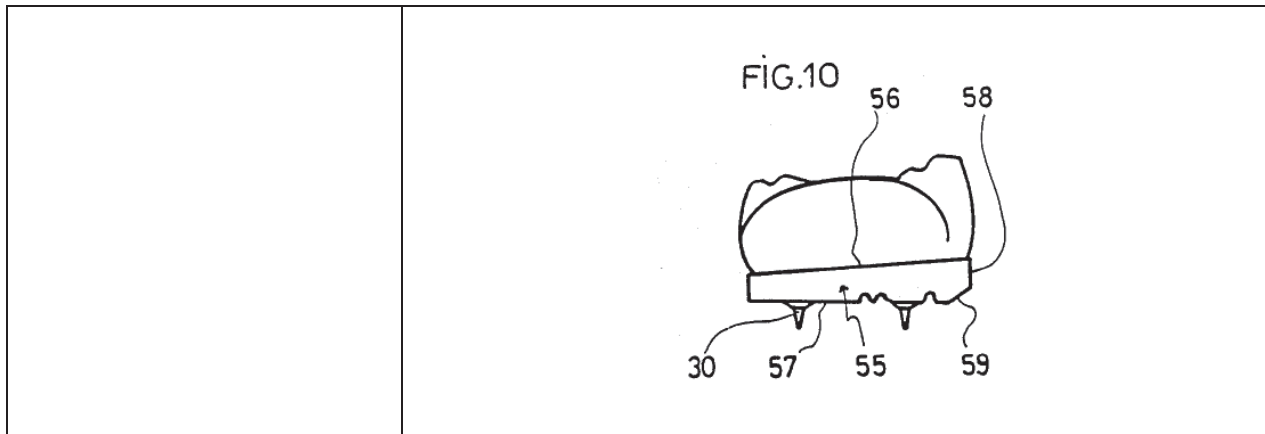
U.S. Patent No. 11,013,291	Kim
[1.3] an insole positioned proximal to the midsole and within the upper section; and	Kim teaches and/or suggests an insole at the bottom of the inside of the upper leather portion. “That is, the golf shoe 100 of the present invention comprises the upper leather portion 20 for accommodating a golfer’s foot, and the outsole 10 attached to the lower surface of the upper leather portion 20 and adapted to contact the ground. Further, the golf shoe 100 further comprises an insole (not shown) arranged on the bottom of the inside of the upper leather portion 20.” Ex. 1005, ¶ 28.

78. While Kim does not expressly disclose the thickness of the insole, it would have been an obvious design choice to include an insole having a uniform thickness that would not impact the athletic positioning shape of the sole disclosed in Dufour, as discussed in limitations 1.5 – 1.9, below. A uniform thickness insole

was conventional and well-known at the time, as disclosed in e.g. U.S. Patent No. 2,616,190 (“Darby, Ex. 1020”).

(e) [1.4] a bottom outsole coupled to the midsole,

U.S. Patent No. 11,013,291	Dufour
[1.4] a bottom outsole coupled to the midsole,	Dufour teaches and/or suggests a shoe with a flexible outsole. “FIG. 6 shows a cross section along line VI--VI in FIG. 1 of the transverse structure of a sole of a golf shoe. In this embodiment, the shock absorbing element of the active zone is juxtaposed with the passive zone while the deformable structure is comprised of a relatively flexible outsole having on the walking surface projections made as a unit with said sole. In this case, the outsole and its projections will be molded by injecting a single material.” Ex. 1006, 4:23-31.  “As assembled in FIG. 10, the sole 55 transversely has a plantar support surface 56 for the foot, providing the latter with a seating inclined with respect to the walking surface 57, as described above in reference to FIG. 9; conversely, in order to facilitate the rolling of the foot on the left outer edge 58 of the sole 55, an inclined plane 59, secant to the walking surface 57, is made on the lower side of said edge 58.”



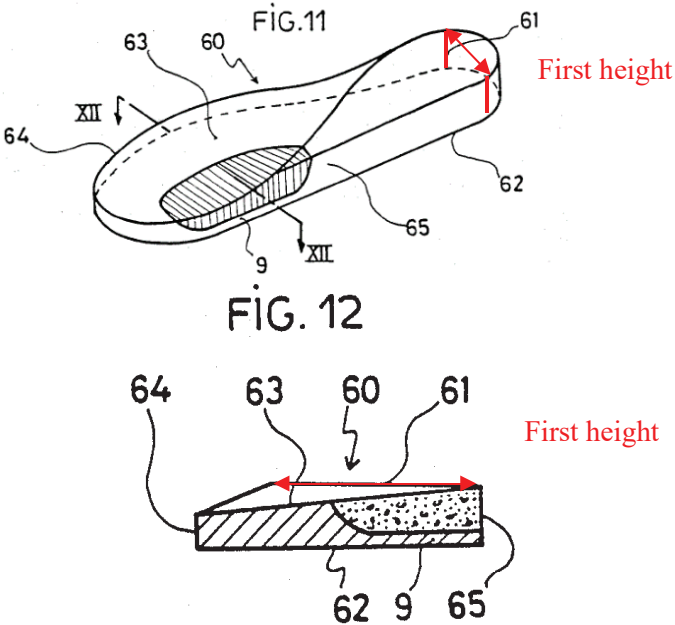
79. To the extent Dufour does not expressly disclose that the outsole is coupled to a midsole, a POSITA would understand that this limitation is obvious based on the teachings of Kim. Kim teaches and/or suggests a golf shoe having an “outsole 10 [that] includes an intermediate sole and an outer sole.” Ex. 1005, ¶ 29. A POSITA would understand that the outer sole is coupled to the intermediate sole since they are described as being part of the same outsole 10.

(f) [1.5] wherein a combination of the midsole, the insole, and the bottom outsole form an athletic positioning shape, wherein the athletic positioning shape has,

80. See limitations 1.6-1.8 below, describing Dufour’s disclosure of an “athletic positioning shape.”

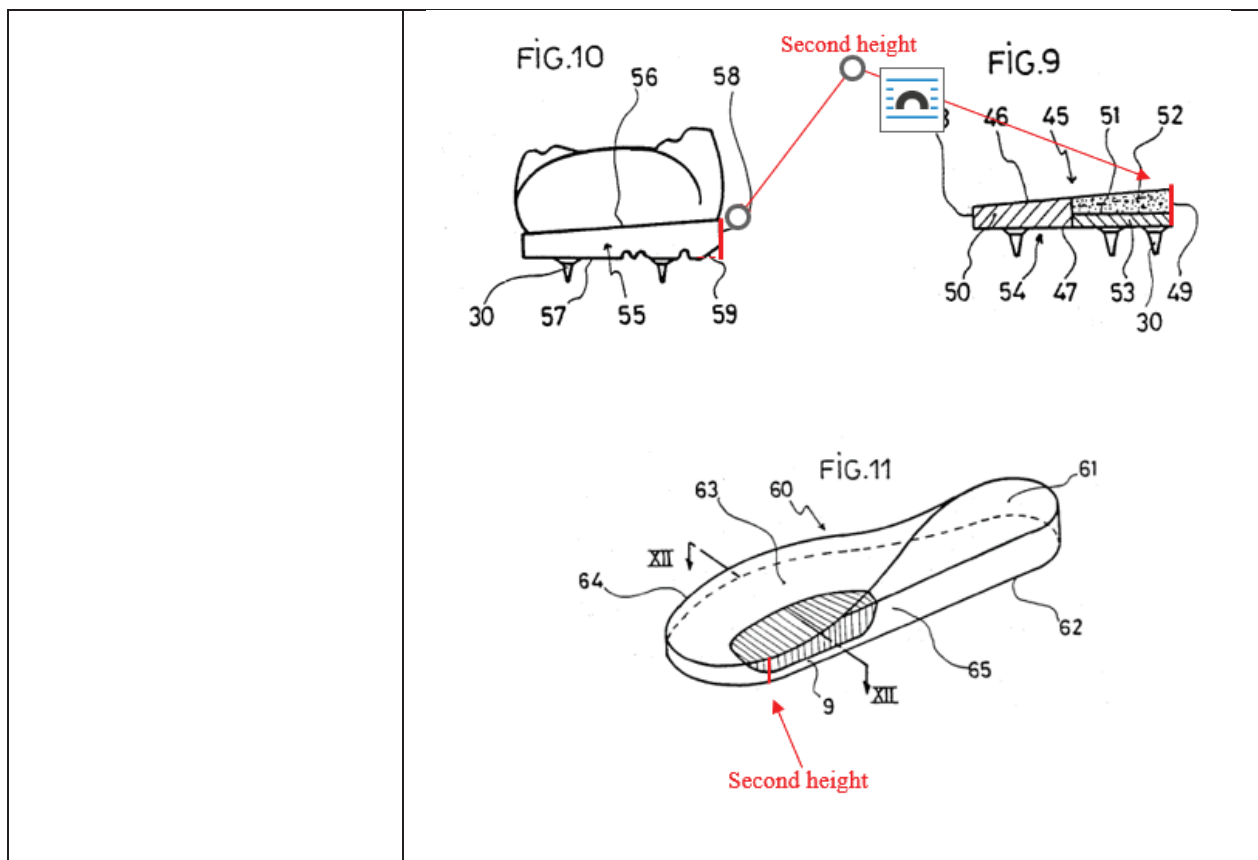
(g) [1.6] a first height at an inside edge and at an outside edge of the shoe along a heel section of the shoe,

U.S. Patent No. 11,013,291	Kim
[1.6] a first height at an inside edge and at an outside edge of the shoe	Dufour teaches and/or suggests a heel section that has a first height at an inside edge and at an outside edge.

along a heel section of the shoe,	“Provision is also made (FIGS. 11 and 12) for the sole to furnish a transverse seating for the foot, having variations in the plantar support surface. As such, the plantar support zone at the level of the heel remains substantially parallel to the walking surface, while the support surface in the front area of the foot is inclined upwards from the inner edge towards the outer edge.” Ex. 1006, 5:7-14. 
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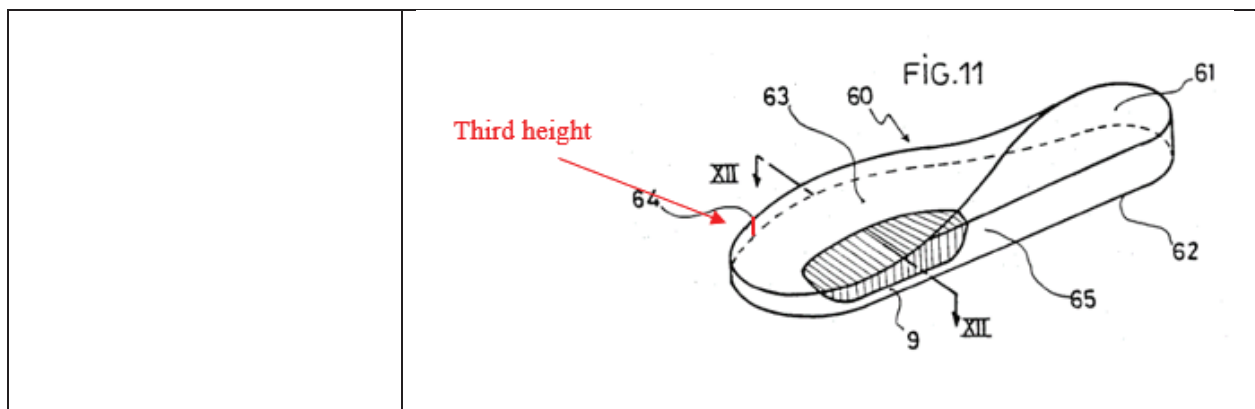
(h) [1.7] a second height on the outside edge of the shoe at a toe section of the shoe,

U.S. Patent No. 11,013,291	Dufour
[1.7] a second height on the outside edge of the shoe at a toe section of the shoe,	Dufour teaches and/or suggests a second height on the outside edge of the shoe at a toe section of the shoe.



- (i) [1.8] a third height on the inside edge of the shoe at a toe section of the shoe, and,

U.S. Patent No. 11,013,291	Dufour
[1.8] a third height on the inside edge of the shoe at a toe section of the shoe, and,	Dufour teaches and/or suggests a third height on the inside edge of the shoe at a toe section of the shoe.



- (j) [1.9] “the first height being greater than the second height and the second height being greater than the third height, wherein a first slope is formed by the first height and the second height, wherein a second sloped is formed by the first height and the third height, and wherein a third slope is formed by the second height and the third height.”

U.S. Patent No. 11,013,291	Dufour
[1.9] the first height being greater than the second height and the second height being greater than the third height, wherein a first slope is formed by the first height and the second height, wherein a second sloped is formed by the first height and the third height, and wherein a third slope is formed by the second height and the third height.	Dufour teaches and/or suggests that the first height is greater than the second height and the second height is greater than the third height, wherein a first slope is formed by the first height and the second height, wherein a second sloped is formed by the first height and the third height, and wherein a third slope is formed by the second height and the third height. “Still according to the invention (FIG. 9), the sole 45 has a transverse section in which the inside support surface 46 is inclined with respect to the walking

	surface 47. Considering that this involves the sole 45 of a left shoe, the incline of the surface 46 rises from the right inner edge 48 of said sole to the outer edge 49 thereof. The structure of this sole 45 shows a passive zone 50, one part 54 of which serves as a walking surface, and an active zone 51; the latter is comprised of a shock absorbing element 52 and a walking sole portion 53 corresponding to said element; in this embodiment, the portion of the walking sole 53 has a relative flexibility which, associated with that of the shock absorbing element 52, determines at least in the transverse direction the shock absorbing and deformability characteristics of the sole 45.” <i>Id.</i>, 4:51-66. “As assembled in FIG. 10, the sole 55 transversely has a plantar support surface 56 for the foot, providing the latter with a seating inclined with respect to the walking surface 57, as described above in reference to FIG. 9; conversely, in order to facilitate the rolling of the foot on the left outer edge 58 of the sole 55, an inclined plane 59, secant to the walking surface 57, is made on the lower side of said edge 58.” <i>Id.</i>, 4:66-5:6. “Provision is also made (FIGS. 11 and 12) for the sole 60 to furnish a transverse seating for the foot, having variations in the plantar support surface. As such, the plantar support zone 61 at the level of the heel remains substantially parallel to the walking surface 62, while the support surface 63 in the front area of the foot is inclined upwards from the inner edge 64 towards the outer edge 65.” <i>Id.</i>, 5:7-14.
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FIG.9

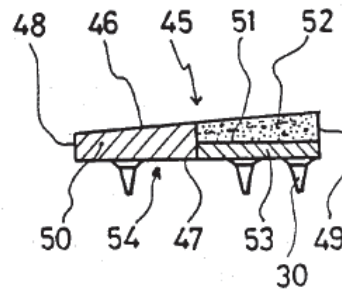
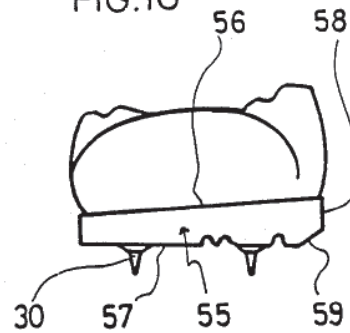
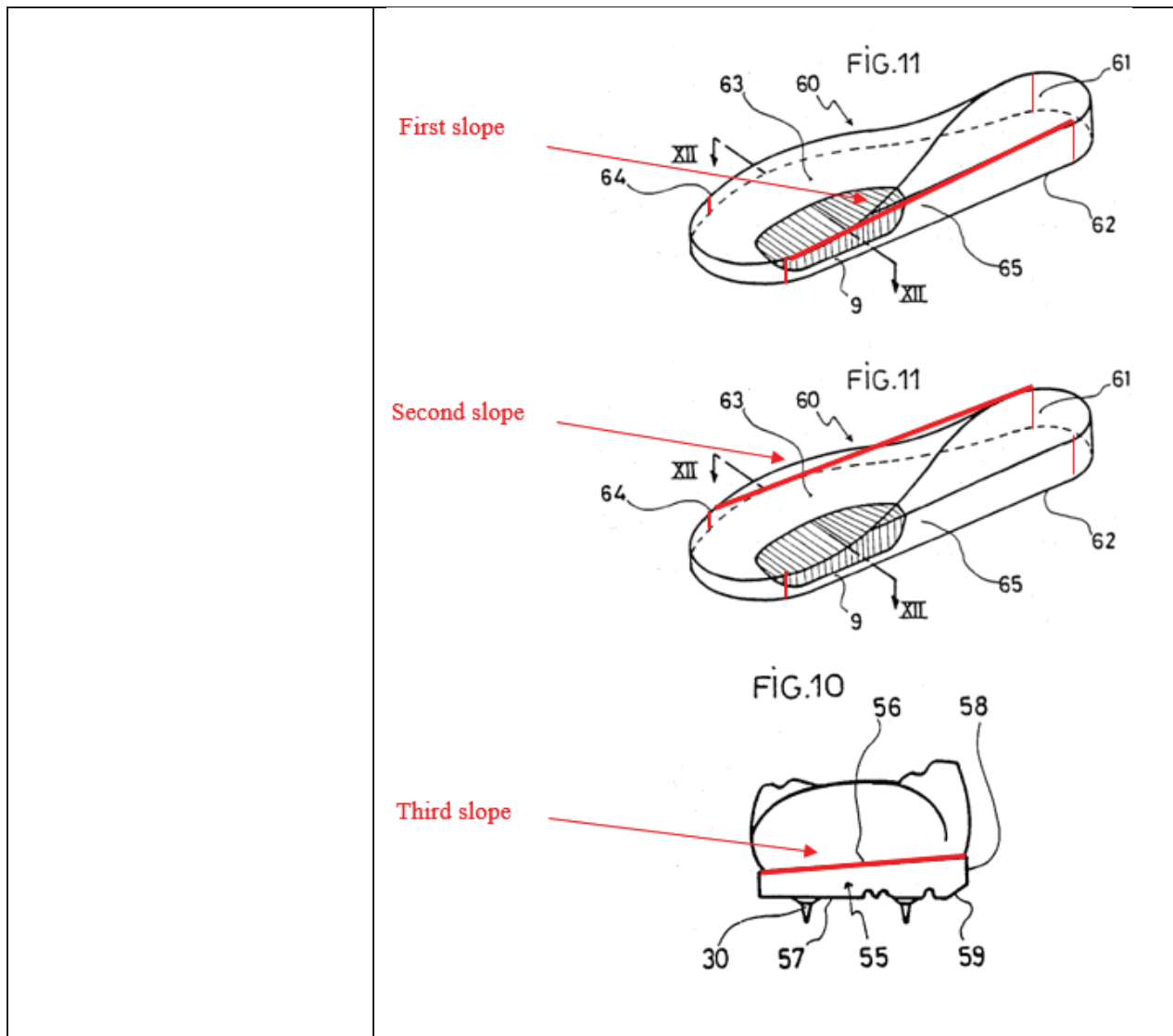


FIG.10



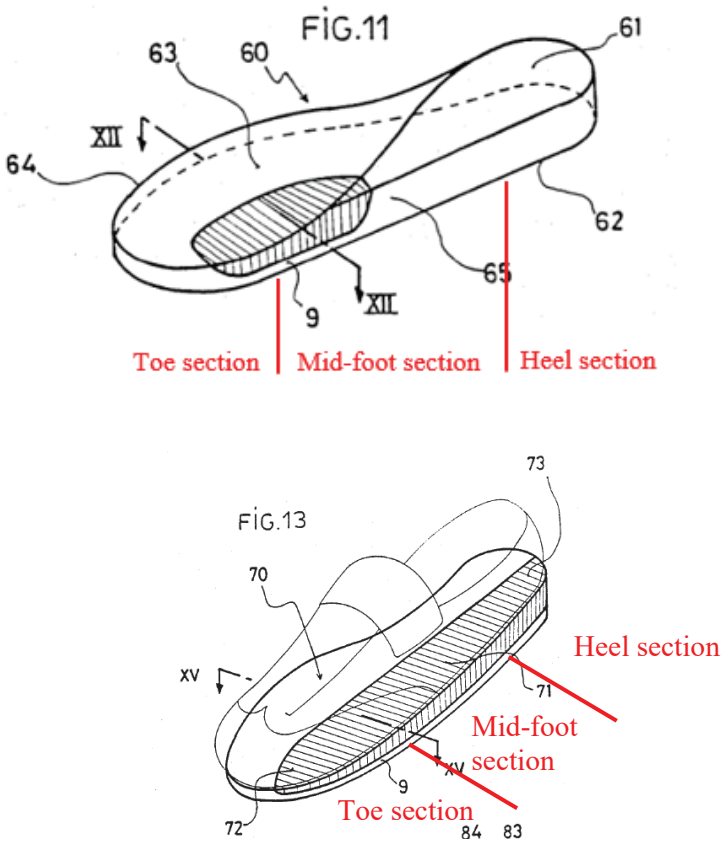
“According to another embodiment, illustrated in FIG. 13, the sole 70 is provided with a shock absorbing element 71 which extends substantially from the front part 72 occupied by the 3rd, 4th and 5th phalanges of the foot up to the heel zone 73; this element 71 has a variable thickness so that the front part 72 is thinner than the part at the heel 73. In this example, the thickness of the sole 70, seen in elevation in its longitudinal direction, also increases as it goes towards the heel zone 73.” *Id.*, 5:15-24.



81. See limitations 1.6-1.8 above, and annotated Figure 11 above, showing Dufour's disclosure of the first height being greater than the second height, and the second height being greater than the third height. A POSITA would understand this to be true based on the relative sizes, dimensions and shape of the sole depicted in Dufour.

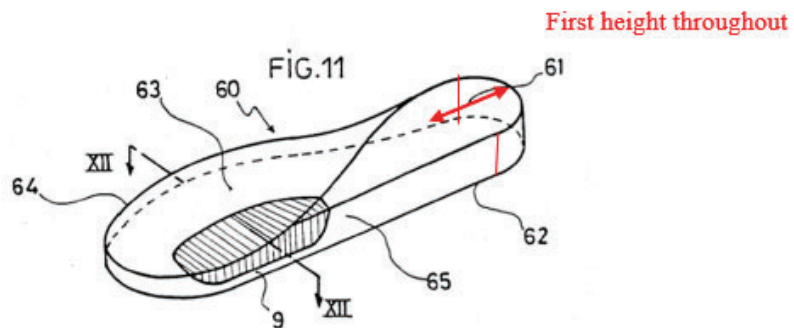
82. A POSITA would understand that slopes inherently form between areas of different heights in a shoe sole, as shown in the figures above.²

- (k) **Claim 2: The shoe of claim 1 further comprises: the athletic positioning shape including the heel section, a mid-foot section, and a toe section, wherein the mid-foot section is between the heel section and the toe section, and wherein the heel section has the first height throughout.**

U.S. Patent No. 11,013,291	Dufour
[2] The shoe of claim 1 further comprises: the athletic positioning shape including the heel section, a mid-foot section, and a toe section, wherein the mid-foot section is between the heel section and the toe section, and wherein the heel section has the first height throughout.	Dufour teaches and/or suggests a mid-foot section between the heel section and the toe section.  FIG. 11 is a perspective view of a shoe sole 60. It shows a heel section 61, a mid-foot section 62, and a toe section 63. A dashed line 64 indicates a boundary. A cross-section line XII-XII is shown. A label 9 points to a feature on the sole. FIG. 13 is a perspective view of a shoe sole 70. It shows a heel section 71, a mid-foot section 72, and a toe section 73. A cross-section line XV-XV is shown. A label 9 points to a feature on the sole. Red labels 'Toe section', 'Mid-foot section', and 'Heel section' are placed below the diagrams to identify the respective areas.

² See also Ex. 1009, Infringement Contentions Ex. A at pp. 42-43 alleging infringement based only on 3 different height measurements.

“Provision is also made (FIGS. 11 and 12) for the sole 60 to furnish a transverse seating for the foot, having variations in the plantar support surface. As such, the plantar support zone 61 at the level of the heel remains substantially parallel to the walking surface 62, while the support surface 63 in the front area of the foot is inclined upwards from the inner edge 64 towards the outer edge 65.” *Id.*, 5:7-14.

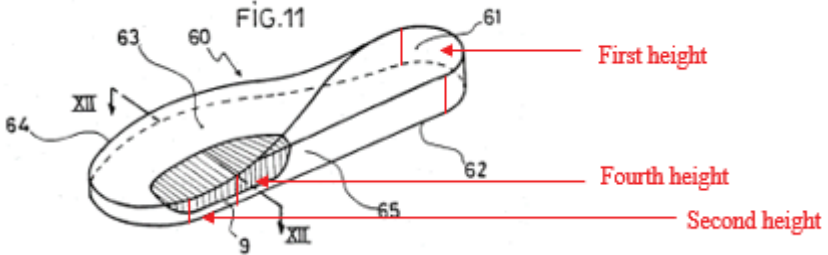


83. A POSITA would understand that the golf shoe in Figures 11 and 13 includes a mid-foot section between the heel section and the toe section. A mid-foot section is a necessary element of any shoe.

84. A POSITA would also understand that golf shoe in Figure 11 includes a heel section that has a consistent height throughout. This is confirmed by Dufour’s disclosure that the “plantar support zone 61 at the level of the heel remains substantially parallel to the walking surface.” Ex. 1006, 5:7-14.

- (l) **Claim 3: The shoe of claim 2 further comprises: a fourth height at the outside edge of the shoe at a transition from the mid-foot section to the toe section, wherein the fourth height is greater than the second**

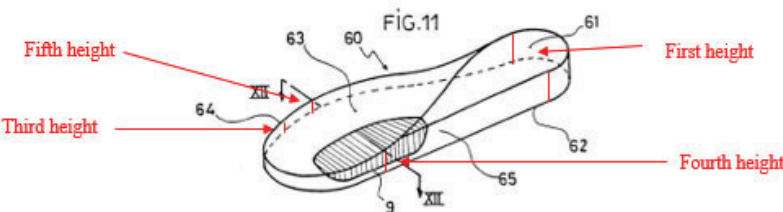
height and wherein the fourth height is less than the first height.

U.S. Patent No. 11,013,291	Dufour
[3] The shoe of claim 2 further comprises: a fourth height at the outside edge of the shoe at a transition from the mid-foot section to the toe section, wherein the fourth height is greater than the second height and wherein the fourth height is less than the first height.	Dufour teaches and/or suggests a fourth height at the outside edge of the shoe at a transition from the mid-foot section to the toe section, wherein the fourth height is greater than the second height and wherein the fourth height is less than the first height. 

85. A POSITA would understand that the relative heights of claim 3 are taught and/or suggested by Dufour based on the relative sizes, dimensions and shape of the sole depicted in Dufour. A POSITA would also understand that the fourth height is necessarily of a height in between the first height and the second height due to the sloped design of the sole downward from the heel section to the toe section.

- (m) **Claim 4: The shoe of claim 3 further comprises: a fifth height at the inside edge of the shoe at the transition from the mid-foot section to the toe section, wherein the fifth height is greater than the third height and**

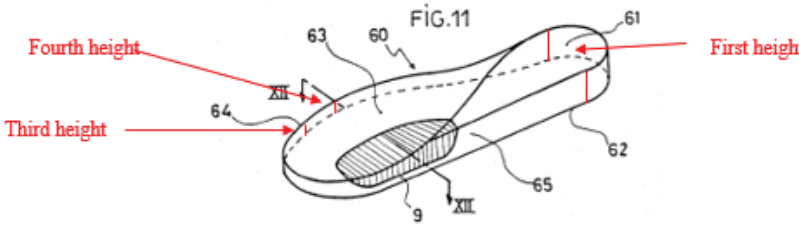
wherein the fifth height is less than the first height and less than the fourth height.

U.S. Patent No. 11,013,291	Dufour
[4] The shoe of claim 3 further comprises: a fifth height at the inside edge of the shoe at the transition from the mid-foot section to the toe section, wherein the fifth height is greater than the third height and wherein the fifth height is less than the first height and less than the fourth height.	Dufour teaches and/or suggests a fifth height at the inside edge of the shoe at the transition from the mid-foot section to the toe section, wherein the fifth height is greater than the third height and wherein the fifth height is less than the first height and less than the fourth height. 

86. A POSITA would understand that the relative heights of claim 4 are taught and/or suggested by Dufour based on the relative sizes, dimensions and shape of the sole depicted in Dufour. A POSITA would also understand that the fifth height is necessarily of a height in between the first height and the third height due to the sloped design of the sole downward from the heel section to the toe section, and necessarily less than the fourth height due to the sloped design of the sole downward from the outer edge to the inner edge.

- (n) **Claim 5: The shoe of claim 2 further comprises: a fourth height at the inside edge of the shoe at the transition from the mid-foot section to the toe section, wherein the fourth height is greater than the third**

height and wherein the fourth height is less than the first height.

U.S. Patent No. 11,013,291	Dufour
[6] The shoe of claim 2 further comprises: a fourth height at the inside edge of the shoe at the transition from the mid-foot section to the toe section, wherein the fourth height is greater than the third height and wherein the fourth height is less than the first height.	Dufour teaches and/or suggests a fourth height at the inside edge of the shoe at the transition from the mid-foot section to the toe section, wherein the fourth height is greater than the third height and wherein the fourth height is less than the first height. 

87. A POSITA would understand that the relative heights of claim 5 are taught and/or suggested by Dufour based on the relative sizes, dimensions and shape of the sole depicted in Dufour. A POSITA would also understand that the fourth height is necessarily of a height in between the first height and the third height due to the sloped design of the sole downward from the heel section to the toe section.

C. Ground 3: Claims 1-5 are Obvious Based on Rubin in View of Kim

88. I believe claims 1-5 would be obvious based on Rubin in view of Kim.

Overview of the Combination

89. The combination of Rubin and Kim renders claims 1-5 obvious. Rubin teaches and/or suggests a golf shoe, but does not expressly disclose a midsole or an insole. Kim, however, does.

Rationale (Motivation) Supporting Obviousness

90. It would have been obvious to incorporate a midsole and an insole, like that described in Kim, into the golf shoes disclosed in Rubin. A POSITA would have found it obvious to have combined the teachings of Rubin and Kim with predictable outcomes.

91. Rubin and Kim are both in the same field (golf shoe design), and both disclose similar improvements over typical shoes, namely, a sloped sole configured to provide enhanced positioning or support for the wearer's feet. A POSITA would have naturally looked to Kim when considering ways to improve the Rubin sole design. A POSITA would understand that both a midsole and an insole were common shoe components that provide several benefits, such as providing additional cushioning, comfort and/or stability in the shoe. Indeed, Kim explains that, "except for the outsole 10 including the inclined lower surface 12, the golf shoe 100 of the present invention is substantially the same as conventional golf shoes," and include "an insole ... arranged on the bottom of the inside of the upper leather portion," and an "intermediate sole." Ex. 1005, ¶¶ 27-29.

Reasonable Expectation of Success

92. A POSITA would have had a reasonable expectation of success in incorporating a midsole and an insole, like those disclosed in Kim, into the golf shoe disclosed in Rubin. Rubin's sole could easily be modified to include the midsole and insole disclosed in Kim while maintaining the athletic positioning shape. The art was relatively predictable in the relevant timeframe. A POSITA would also have been able to make any necessary modifications to the shoe or shoe components to implement this Ground.

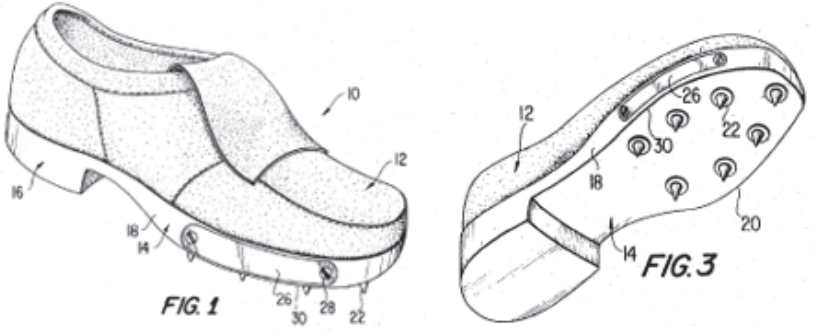
Analogous Art

93. Rubin and Kim are analogous art, because they are in the same field as the '291 patent (Ex. 1001, '291 patent at Abstract, Title) (Ex. 1007, Rubin at Abstract, Title) (Ex. 1005, Kim at Abstract, Title), and all three relate to golf shoe designs that incorporate soles that improve foot positioning and/or support.

Claims 1-5 are Obvious Over Rubin in View of Kim

(a) [1.0] A shoe comprises:

U.S. Patent No. 11,013,291	Rubin
[1.0] A shoe comprises:	Rubin teaches and/or suggests golf shoes. “This invention relates to a golf shoe, and more particularly, a golf shoe designed to aid the golfer in assuming a proper stance on a golf playing surface so that during his swing the golfer will pivot in a proper manner to enhance the change of straight flight of the golf ball when struck.” Ex. 1007, 1:6-11.

	“One of the keys to an improved golf score is for the golfer to develop a proper and consistent swing when addressing the ball. This invention discloses a golf shoe which will aid the golfer to develop a more proper and consistent swing by causing the golfer to pivot properly during his swing about a more or less stationary vertical line, while minimizing the tendency of the golfer to sway during the swing which might result in the ball slicing off the golf club head.” <i>Id.</i>, 1:13-22. “The golf shoe of the present invention is designed to retain the advantages of the prior art shoes of training and automatically accustoming the golfer to assume a proper stance, but allows the golfer to walk normally when not in an assumed stance over the ball.” <i>Id.</i>, 1:63-68. 
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(b) [1.1] an upper section;

U.S. Patent No. 11,013,291	Rubin
[1.1] an upper section;	Rubin teaches and/or suggests a conventional shoe upper. “Shoe 10 includes a conventional upper 12 and a sole 14 which can be molded integrally with upper 12 from such material as poly vinyl chloride. Sole 14 should be

sufficiently flexible to enable the wearer latitude to flex the shoe when walking but yet rigid enough to preclude undue roll of the shoe when used by the golfer once he has assumed a proper stance over a golf ball.

A conventional heel 16 is also molded integrally with sole 14.” *Id.*, 2:60-67.

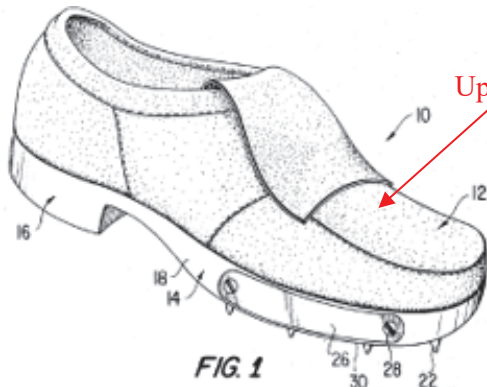
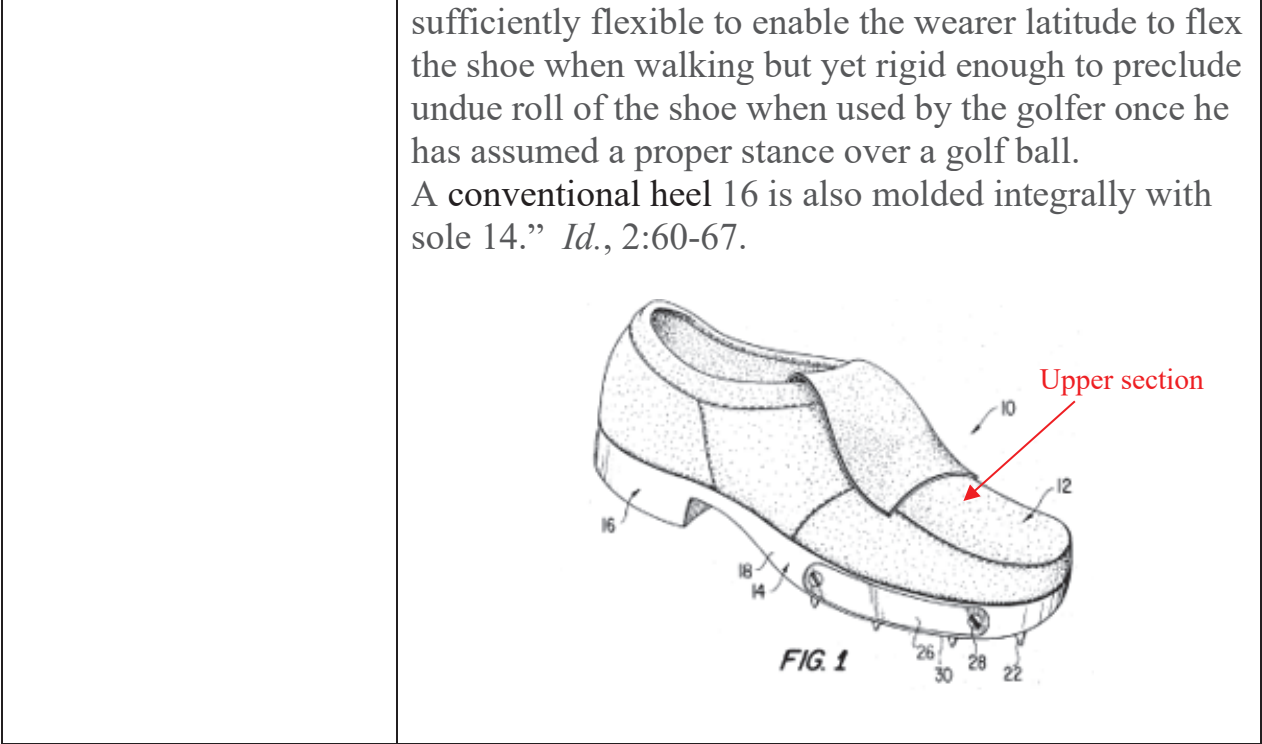


FIG. 1



(c) [1.2] a midsole coupled to the upper portion,

94. While Rubin does not expressly disclose a midsole coupled to the upper portion, Kim does.

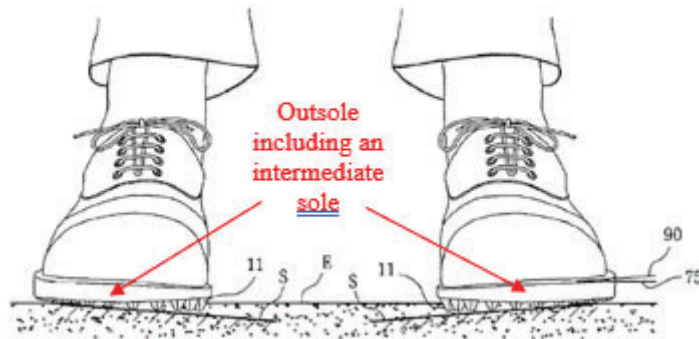
(c) [1.2] a midsole coupled to the upper portion,

94. While Rubin does not expressly disclose a midsole coupled to the upper portion, Kim does.

U.S. Patent No. 11,013,291	Kim
[1.2] a midsole coupled to the upper portion,	Kim teaches and/or suggests an outsole that includes an intermediate sole. “That is, the golf shoe 100 of the present invention comprises the upper leather portion 20 for accommodating a golfer’s foot, and the outsole 10 attached to the lower surface of the upper leather portion 20 and adapted to contact the ground. Further, the golf shoe 100 further comprises an insole (not shown) arranged on the bottom of the inside of the upper leather portion 20.” Ex. 1005, ¶ 28.

“Generally, the outsole 10 includes an intermediate sole and an outer sole. Here, the outsole 10 denotes the intermediate sole and the outer sole.” *Id.*, ¶ 29.

FIG. 5b



95. For limitations 1.2 and 1.4, the ‘291 patent explains that the terms “operably coupled to”, “coupled to”, and/or “coupling” includes “direct coupling between items and/or indirect coupling between items via an intervening item (e.g., an item includes, but is not limited to, a component, an element, a circuit, and/or a module) where, for indirect coupling, the intervening item does not modify the information of a signal but may adjust its current level, voltage level, and/or power level. As may further be used herein, inferred coupling (i.e., where one element is coupled to another element by inference) includes direct and indirect coupling between two items in the same manner as ‘coupled to.’” Ex. 1001, 41:9-21.

(d) [1.3] an insole positioned proximal to the midsole and within the upper section; and

96. While Rubin does not expressly disclose an insole positioned proximal to the midsole and within the upper section, Kim does.

U.S. Patent No. 11,013,291	Kim
[1.3] an insole positioned proximal to the midsole and within the upper section; and	Kim teaches and/or suggests an insole at the bottom of the inside of the upper leather portion. “That is, the golf shoe 100 of the present invention comprises the upper leather portion 20 for accommodating a golfer’s foot, and the outsole 10 attached to the lower surface of the upper leather portion 20 and adapted to contact the ground. Further, the golf shoe 100 further comprises an insole (not shown) arranged on the bottom of the inside of the upper leather portion 20.” Ex. 1005, ¶ 28.

97. While Kim does not expressly disclose the thickness of the insole, it would have been an obvious design choice to include an insole having a uniform thickness that would not impact the athletic positioning shape of the sole disclosed in Rubin, as discussed in limitations 1.5 – 1.9, below. A uniform thickness insole was conventional and well-known at the time, as disclosed in e.g. U.S. Patent No. 2,616,190 (“Darby, Ex. 1020”).

(e) [1.4] a bottom outsole coupled to the midsole,

U.S. Patent No. 11,013,291	Rubin
[1.4] a bottom outsole coupled to the midsole,	Rubin teaches and/or suggests a bottom outsole coupled to the midsole. “Shoe 10 includes a conventional upper 12 and a sole 14 which can be molded integrally with upper 12 from such material as poly vinyl chloride. Sole 14 should be sufficiently flexible to enable the wearer latitude to flex the shoe when walking but yet rigid enough to preclude undue roll of the shoe when used by the golfer once he

has assumed a proper stance over a golf ball.
A conventional heel 16 is also molded integrally with sole 14.” Ex. 1007, 2:60-67.

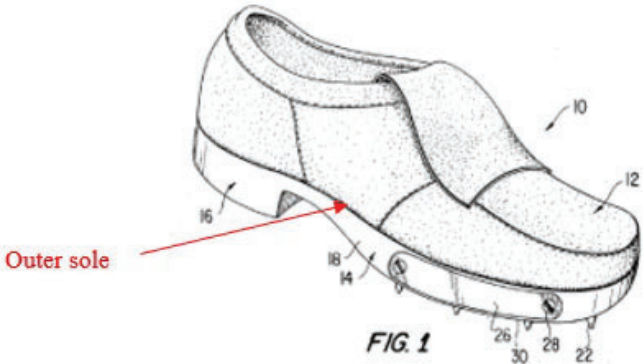
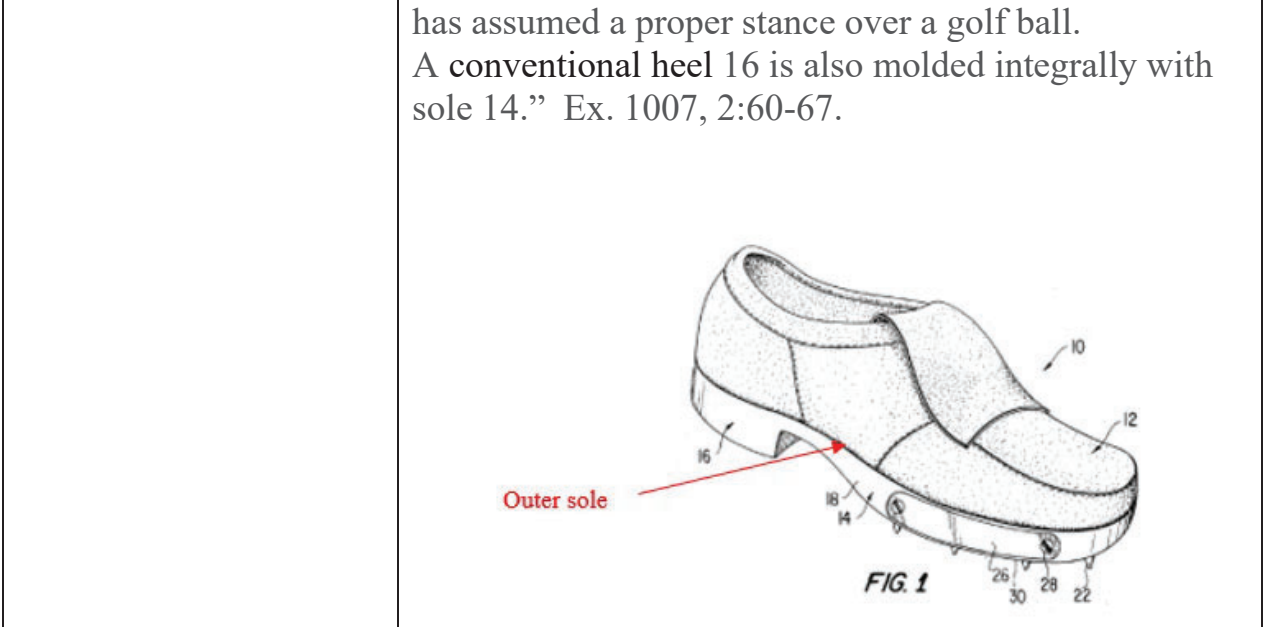


FIG. 1

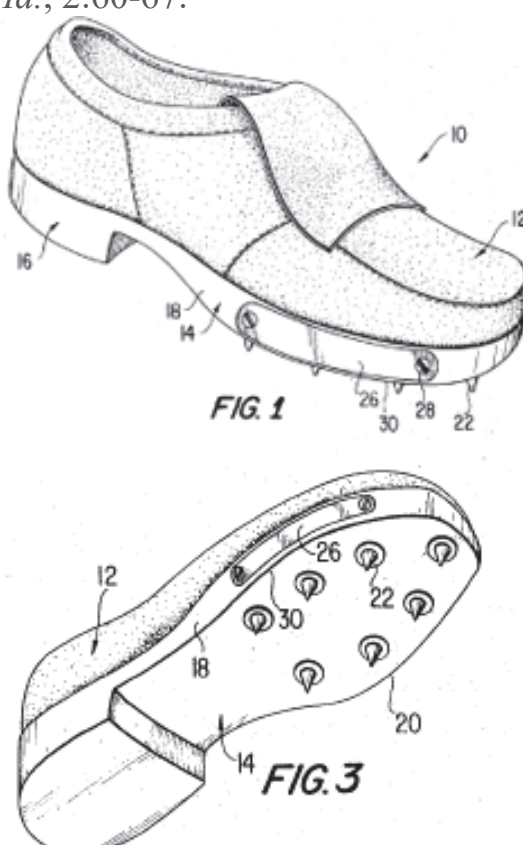


98. To the extent Rubin does not expressly disclose that the outsole is coupled to a midsole, a POSITA would understand that this limitation is obvious based on the teachings of Kim. Kim teaches and/or suggests a golf shoe having an “outsole 10 [that] includes an intermediate sole and an outer sole.” Ex. 1005, ¶ 29. A POSITA would understand that the outer sole is coupled to the intermediate sole since they are described as being part of the same outsole 10..

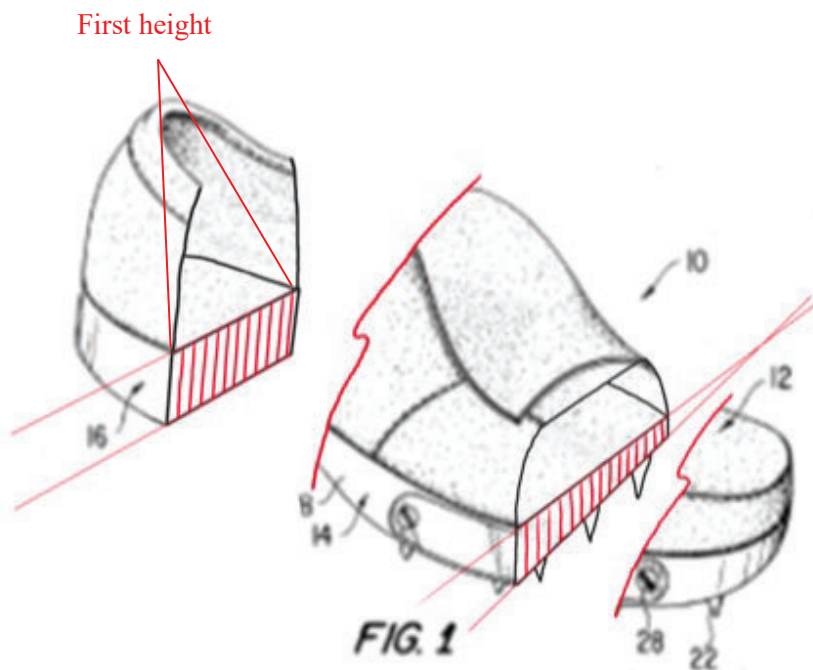
(f) [1.5] wherein a combination of the midsole, the insole, and the bottom outsole form an athletic positioning shape, wherein the athletic positioning shape has,

99. See limitations 1.6-1.8 below, describing Rubin’s disclosure of an “athletic positioning shape.”

- (g) [1.6] a first height at an inside edge and at an outside edge of the shoe along a heel section of the shoe,

U.S. Patent No. 11,013,291	Rubin
[1.6] a first height at an inside edge and at an outside edge of the shoe along a heel section of the shoe,	Rubin teaches and/or suggests a heel section that has a first height at an inside edge and at an outside edge. “Shoe 10 includes a conventional upper 12 and a sole 14 which can be molded integrally with upper 12 from such material as poly vinyl chloride. Sole 14 should be sufficiently flexible to enable the wearer latitude to flex the shoe when walking but yet rigid enough to preclude undue roll of the shoe when used by the golfer once he has assumed a proper stance over a golf ball. A conventional heel 16 is also molded integrally with sole 14.” <i>Id.</i>, 2:60-67.  FIG. 1 is a perspective view of a shoe 10. It shows an upper 12 and a sole 14. A heel 16 is molded integrally with the sole 14. The sole 14 has a series of small, rounded protrusions 22, 26, 28, and 30 along its length. FIG. 3 is a cross-sectional view of the sole 14, showing the upper 12 and the sole 14. The sole 14 has a series of small, rounded protrusions 22, 26, 28, and 30 along its length. The sole 14 is shown in a cross-section, revealing the internal structure and the protrusions 22, 26, 28, and 30.

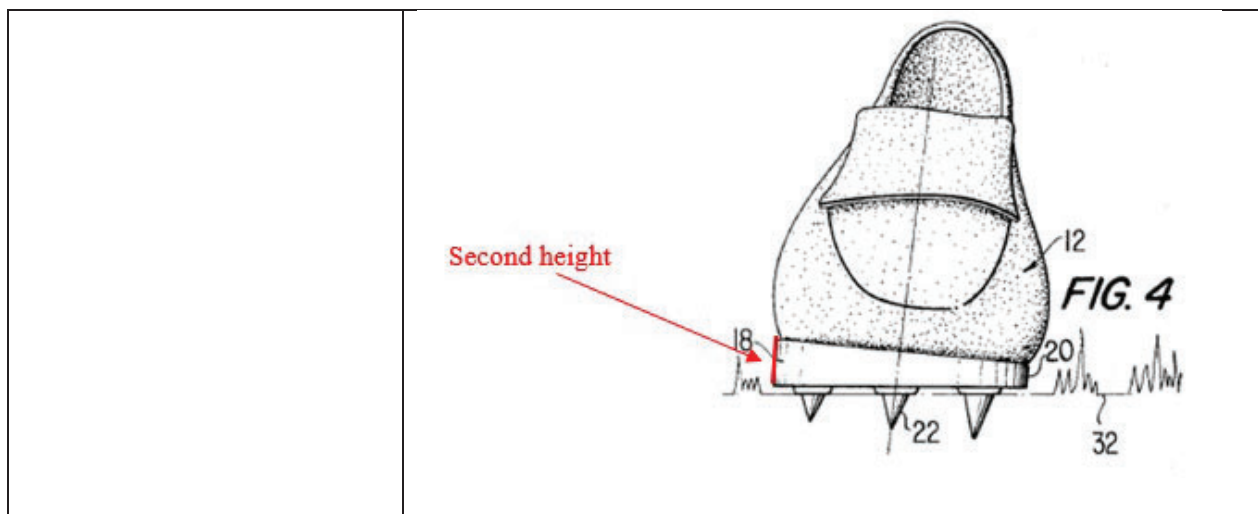
100. I created the image below to show how a POSITA would understand the sole of Rubin to be shaped, which includes a heel section that has a first height at an inside edge and at an outside edge.



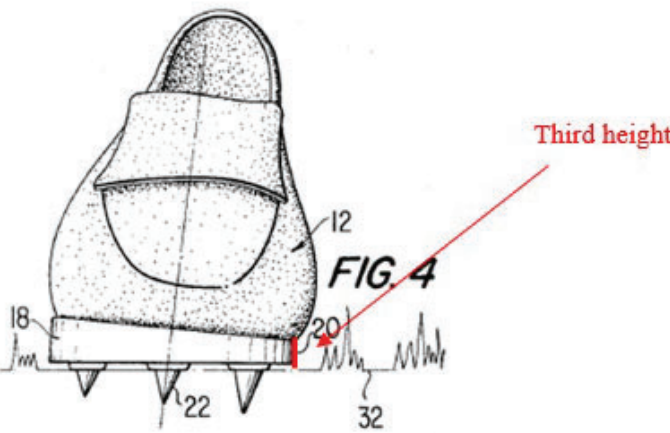
101. Rubin also discloses that a “conventional heel is molded integrally with the sole.” Ex. 1007, 2:60-67. A POSITA would have known that conventional athletic shoes, including golf, basketball, running and skateboard shoes included heel areas with a consistent height throughout, as discussed in Section VIII.E.

(h) [1.7] a second height on the outside edge of the shoe at a toe section of the shoe,

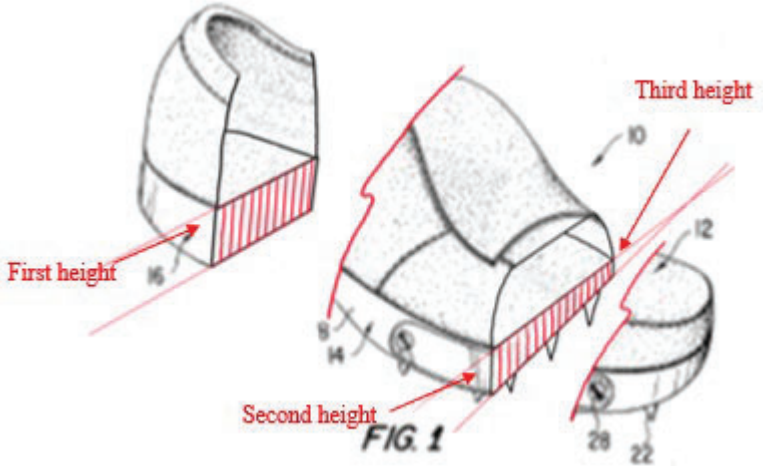
U.S. Patent No. 11,013,291	Dufour
[1.7] a second height on the outside edge of the shoe at a toe section of the shoe,	Rubin teaches and/or suggests a second height on the outside edge of the shoe at a toe section of the shoe.

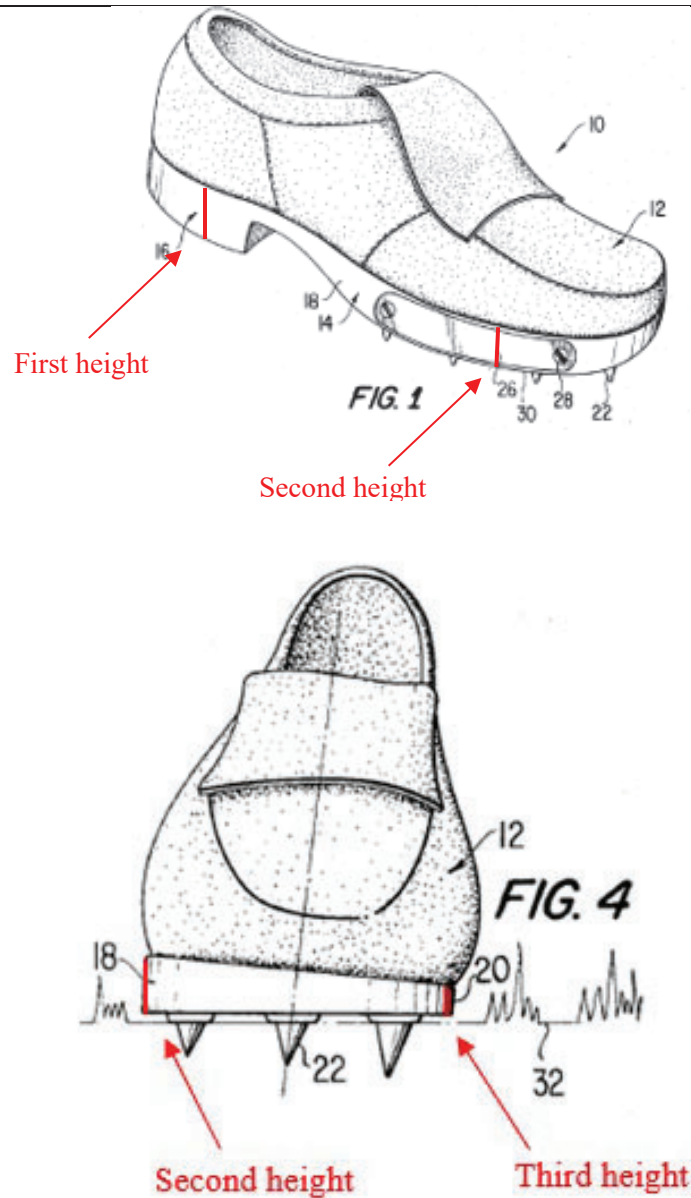


- (i) [1.8] a third height on the inside edge of the shoe at a toe section of the shoe, and,

U.S. Patent No. 11,013,291	Rubin
[1.8] a third height on the inside edge of the shoe at a toe section of the shoe, and,	Rubin teaches and/or suggests a third height on the inside edge of the shoe at a toe section of the shoe. 

- (j) [1.9] “the first height being greater than the second height and the second height being greater than the third height, wherein a first slope is formed by the first height and the second height, wherein a second sloped is formed by the first height and the third height, and wherein a third slope is formed by the second height and the third height.”

U.S. Patent No. 11,013,291	Rubin
[1.9] the first height being greater than the second height and the second height being greater than the third height, wherein a first slope is formed by the first height and the second height, wherein a second sloped is formed by the first height and the third height, and wherein a third slope is formed by the second height and the third height.	Rubin teaches and/or suggests the first height being greater than the second height and the second height being greater than the third height, wherein a first slope is formed by the first height and the second height, wherein a second sloped is formed by the first height and the third height, and wherein a third slope is formed by the second height and the third height. 

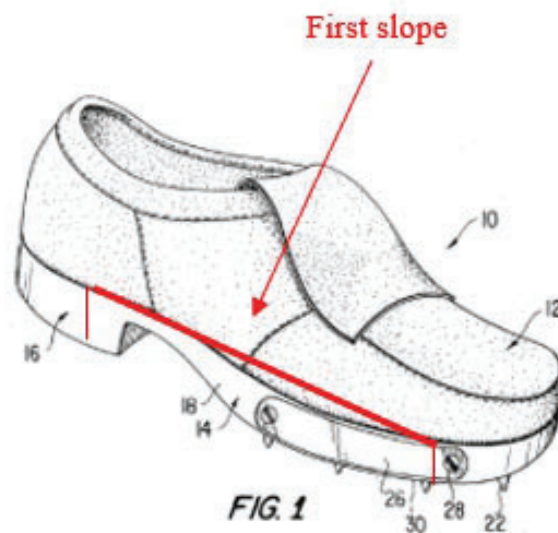


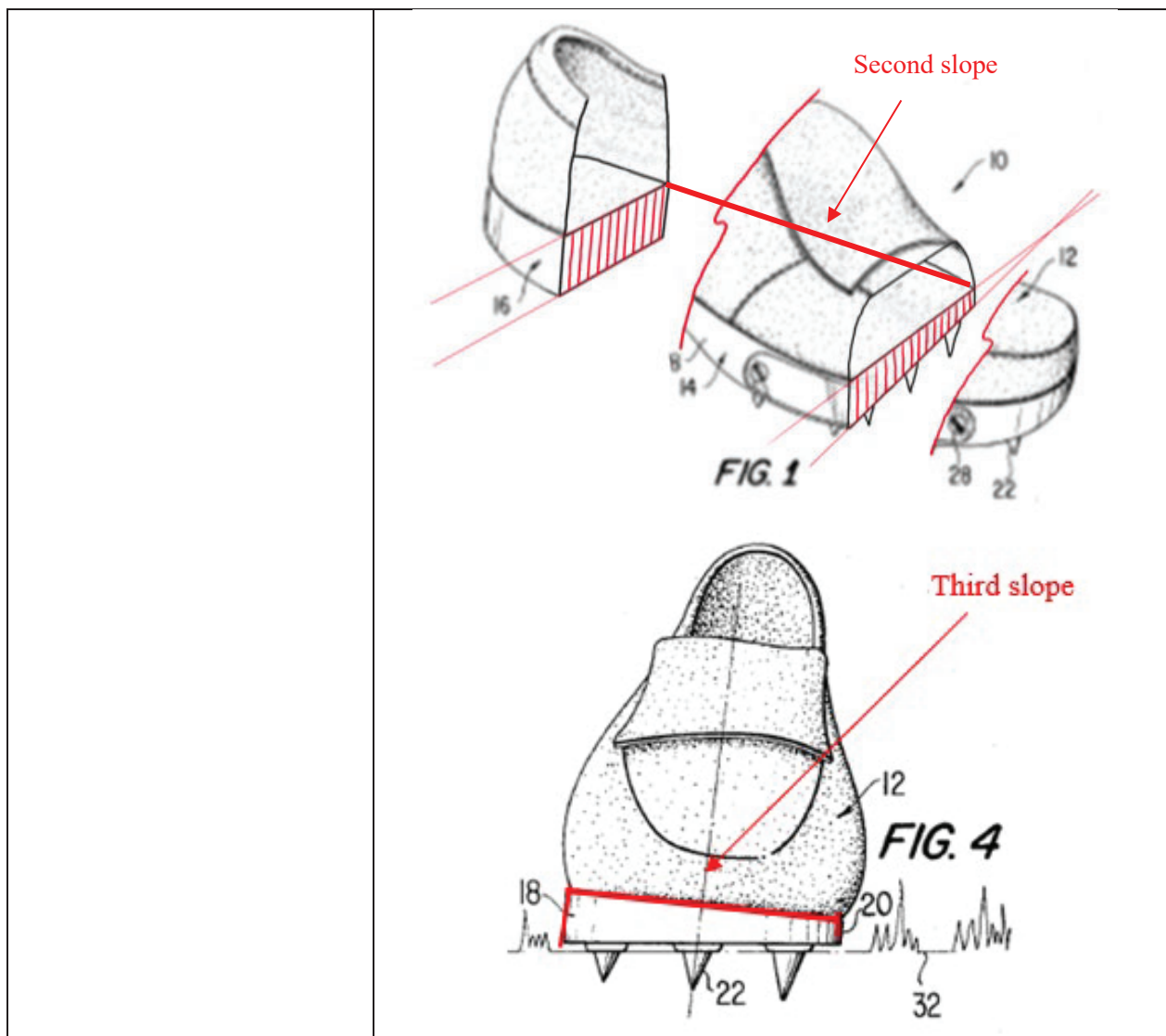
“The outer side 18 of sole 14 extends downwardly from the shoe upper 12 to a lower elevation than the inner side of sole 14. The sole portion 14 of shoe 10 will therefore have the appearance of having a built-up sole along outer side 18 so that the planar bottom of sole 14 will converge towards inner side 20 of sole 14.” *Id.*, 3:9-14.

“FIGS. 2 and 4 illustrate the manner of use of the shoe 10. Specifically, in FIG. 4, the golfer will imbed cleats 22 in a golf playing surface 32 when

addressing a golf ball. The rearwardmost foot of the golfer will be tilted inwardly because of the wedge-shaped sole 14 of shoe 10. This will tend to provide a more satisfactory weight distribution when hitting the ball. Furthermore, it has been found that a more desirable pivot will result when a golfer assumes the stance illustrated in FIG. 4. *Id.*, 3:56-65.

“1. A golf shoe for aiding a golfer to assume a proper stance on a golf playing surface, said shoe comprising a shoe upper, a sole attached to said shoe upper, said sole having opposed inner and outer sides, the outer side of said sole extending from said shoe upper to a lower elevation than the inner side so that when said shoe is worn on the foot of a golfer and the golfer assumes his stance on a golf playing surface it will create a toe-in effect to aid the golfer during his swing to pivot about a more or less stationary vertical line rather than swaying; and a metal plate inserted into said sole along the outer side thereof so as to be substantially flush therewith and to preclude undue bending and wear of the sole edge during the pivotal portion of the golfer's swing.” *Id.*, claim 1.

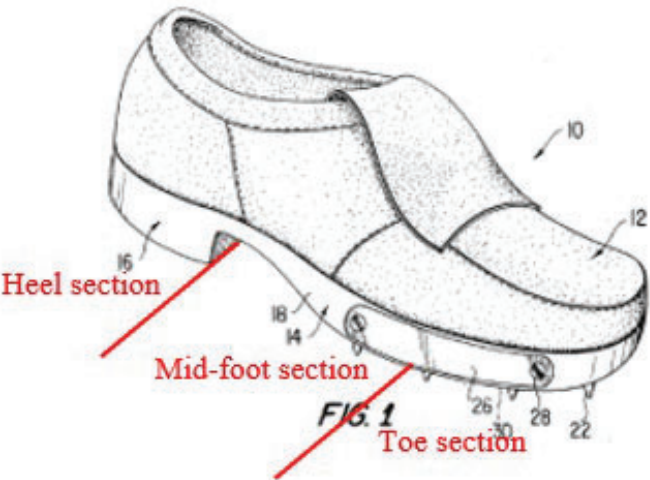




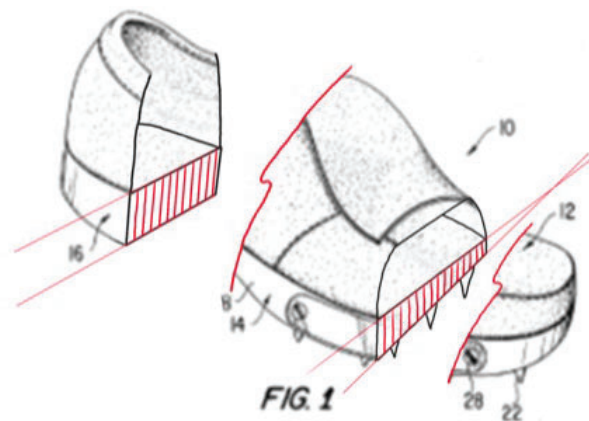
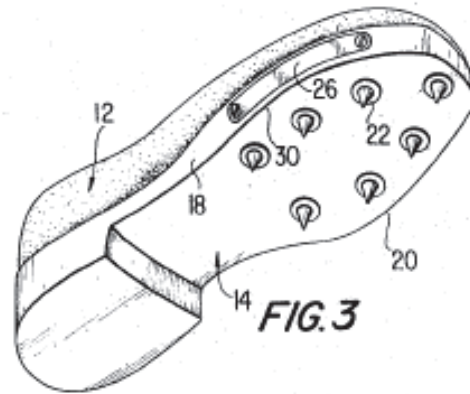
102. See limitations 1.6-1.8 above, and annotated Figures 1 and 4 above, showing Rubin's disclosure of the first height being greater than the second height, and the second height being greater than the third height. A POSITA would understand this to be true based on the relative sizes, dimensions and shape of the sole depicted in Rubin.

103. A POSITA would understand that slopes inherently form between areas of different heights in a shoe sole, as shown in the figures above.³

- (k) **Claim 2: The shoe of claim 1 further comprises: the athletic positioning shape including the heel section, a mid-foot section, and a toe section, wherein the mid-foot section is between the heel section and the toe section, and wherein the heel section has the first height throughout.**

U.S. Patent No. 11,013,291	Rubin
[2] The shoe of claim 1 further comprises: the athletic positioning shape including the heel section, a mid-foot section, and a toe section, wherein the mid-foot section is between the heel section and the toe section, and wherein the heel section has the first height throughout.	Rubin teaches and/or suggests a mid-foot section between the heel section and the toe section and wherein the heel section has the first height throughout.  The diagram shows a shoe sole with three distinct sections: a heel section, a mid-foot section, and a toe section. Red lines and labels point to each section. The heel section is the highest, followed by the mid-foot section, and the toe section is the lowest. Various parts of the sole are numbered with small circles.

³ See also Ex. 1009, Infringement Contentions Ex. A at pp. 42-43 alleging infringement based only on 3 different height measurements.

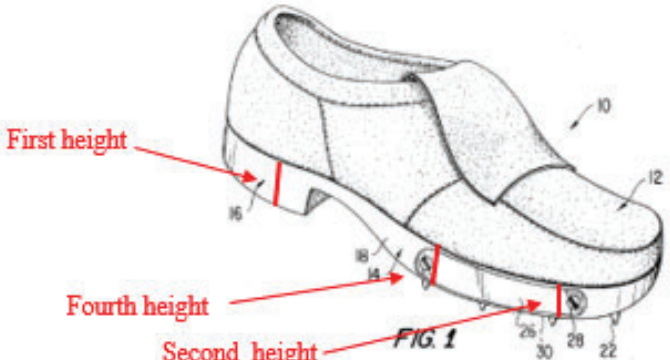


“Shoe 10 includes a conventional upper 12 and a sole 14 which can be molded integrally with upper 12 from such material as poly vinyl chloride. Sole 14 should be sufficiently flexible to enable the wearer latitude to flex the shoe when walking but yet rigid enough to preclude undue roll of the shoe when used by the golfer once he has assumed a proper stance over a golf ball. A conventional heel 16 is also molded integrally with sole 14.” *Id.*, 2:60-67.

104. A POSITA would understand that the shoes shown in Figures 1 and 3 include a mid-foot section between the heel section and the toe section, as is necessary in any shoe.

105. Rubin also discloses that a “conventional heel is molded integrally with the sole.” Ex. 1007, 2:60-67. A POSITA would have known that conventional athletic shoes, including golf, basketball, running and skateboard shoes included heel areas with a consistent height throughout, as discussed in Section VIII.E.

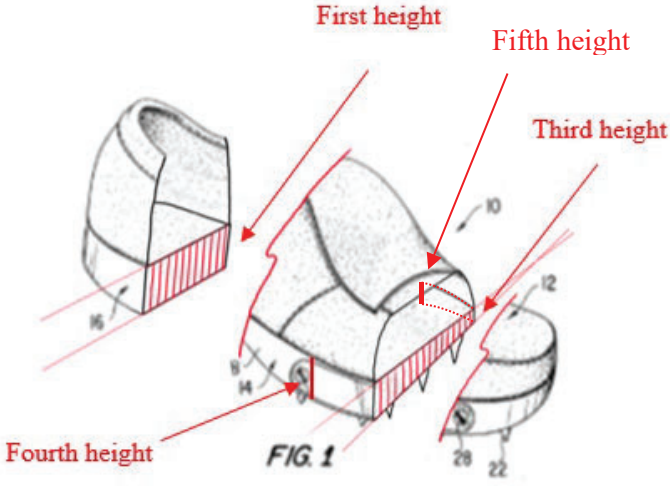
- (l) **Claim 3: The shoe of claim 2 further comprises: a fourth height at the outside edge of the shoe at a transition from the mid-foot section to the toe section, wherein the fourth height is greater than the second height and wherein the fourth height is less than the first height.**

U.S. Patent No. 11,013,291	Rubin
[3] The shoe of claim 2 further comprises: a fourth height at the outside edge of the shoe at a transition from the mid-foot section to the toe section, wherein the fourth height is greater than the second height and wherein the fourth height is less than the first height.	Rubin teaches and/or suggests a fourth height at the outside edge of the shoe at a transition from the mid-foot section to the toe section, wherein the fourth height is greater than the second height and wherein the fourth height is less than the first height. 

106. A POSITA would understand that the relative heights of claim 3 are taught and/or suggested by Rubin based on the relative sizes, dimensions and shape of the sole depicted in Rubin. A POSITA would also understand that the fourth

height is necessarily of a height in between the first height and the second height due to the sloped design of the sole downward from the heel section to the toe section.

- (m) **Claim 4: The shoe of claim 3 further comprises: a fifth height at the inside edge of the shoe at the transition from the mid-foot section to the toe section, wherein the fifth height is greater than the third height and wherein the fifth height is less than the first height and less than the fourth height.**

U.S. Patent No. 11,013,291	Rubin
[4] The shoe of claim 3 further comprises: a fifth height at the inside edge of the shoe at the transition from the mid-foot section to the toe section, wherein the fifth height is greater than the third height and wherein the fifth height is less than the first height and less than the fourth height.	Rubin teaches and/or suggests a fifth height at the inside edge of the shoe at the transition from the mid-foot section to the toe section, wherein the fifth height is greater than the third height and wherein the fifth height is less than the first height and less than the fourth height.  FIG. 1

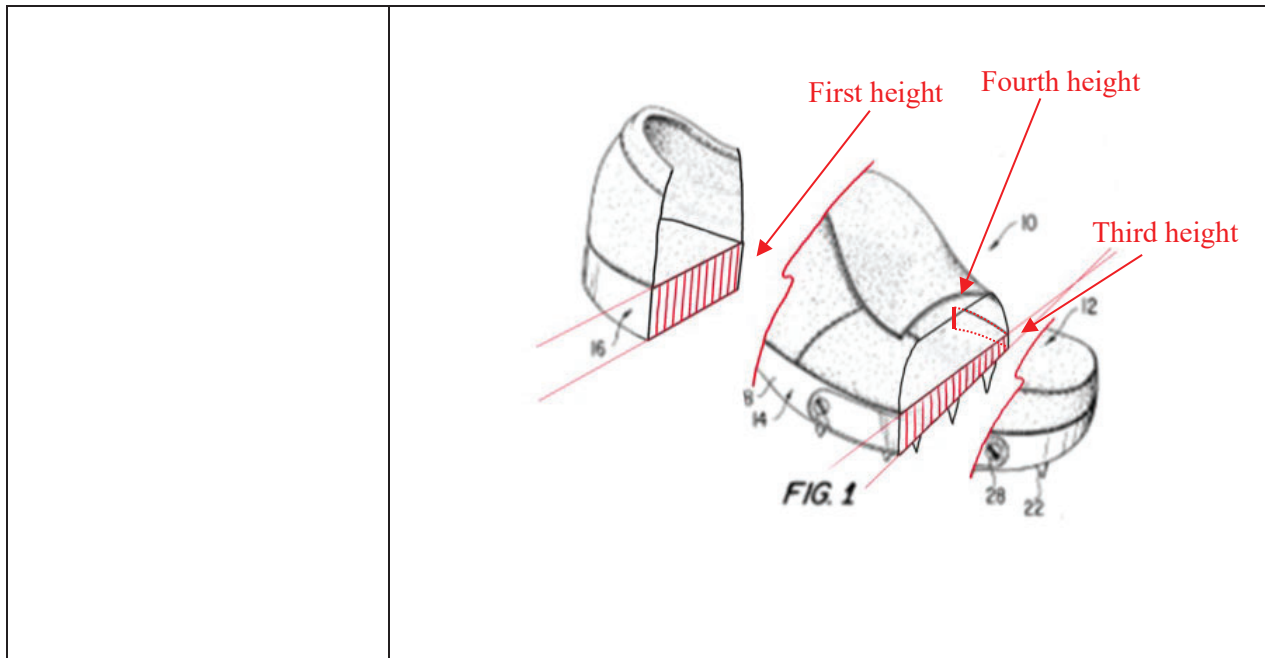
107. A POSITA would understand that the relative heights of claim 4 are taught and/or suggested by Rubin based on the relative sizes, dimensions and shape of the sole depicted in Rubin.

108. A POSITA would understand that because the shoe described in Rubin and shown, e.g., in Figure 1, decreases in height between the first height at the heel section and the third height at the toe section on the inside edge of the shoe, a fifth height is necessarily present at the transition from the mid-foot section to the toe section that is less than the first height, but greater than the third height.

109. A POSITA would also understand that because “the outer side of the sole extends downwardly from the shoe upper to a lower elevation than the inner side of the sole,” that the fifth height is less than the fourth height. *Id.*, 3:9-12; *see* limitation 1.9 above.

- (n) **Claim 5: The shoe of claim 2 further comprises: a fourth height at the inside edge of the shoe at the transition from the mid-foot section to the toe section, wherein the fourth height is greater than the third height and wherein the fourth height is less than the first height.**

U.S. Patent No. 11,013,291	Rubin
[6] The shoe of claim 2 further comprises: a fourth height at the inside edge of the shoe at the transition from the mid-foot section to the toe section, wherein the fourth height is greater than the third height and wherein the fourth height is less than the first height.	Rubin teaches and/or suggests a fourth height at the inside edge of the shoe at the transition from the mid-foot section to the toe section, wherein the fourth height is greater than the third height and wherein the fourth height is less than the first height.



110. A POSITA would understand that the relative heights of claim 5 are taught and/or suggested by Rubin based on the relative sizes, dimensions and shape of the sole depicted in Rubin.

111. A POSITA would understand that because the shoe described in Rubin and shown, e.g., in Figure 1, decreases in height between the first height at the heel section and the third height at the toe section on the inside edge of the shoe, a fourth height is necessarily present at the transition from the mid-foot section to the toe section that is less than the first height, but greater than the third height.

X. CONCLUSION

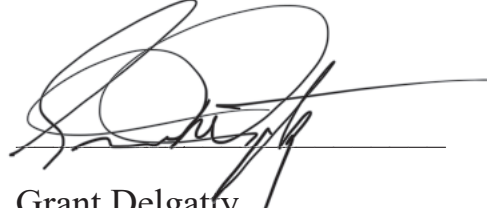
112. For the reasons set forth above, it is my opinion that claims 1-5 of the '291 patent are rendered obvious by the prior art.

113. In signing this declaration, I understand that the declaration will be filed as evidence in a contested case before the Patent Trial and Appeal Board of the United States Patent and Trademark Office. I acknowledge that I may be subject to cross-examination in this case.

I declare that all statements made herein of my knowledge are true, that all statements made on information and belief are believed to be true, and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

DATED: 3/1/24

Respectfully submitted,



Grant Delgatty