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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MAI NONOGAWA, MASASHI ISOBE, SEIGO NAKAYA,
FUMITAKA KAMIFUKUMOTO, and HIROAKI NISHIMURA

Appeal 2020-002133
Application 14/910,367
Technology Center 3700

Before STEFAN STAICOVICI, BRETT C. MARTIN, and
MICHAEL J. FITZPATRICK, *Administrative Patent Judges*.

Opinion for the Board filed by *Administrative Patent Judge* MARTIN.

Opinion Dissenting-in-part filed by *Administrative Patent Judge* Fitzpatrick.

MARTIN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1, 3–5, 18, 20, 22, 26–28, 33 and 35–41. *See* Final Act. 1. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM IN PART.

CLAIMED SUBJECT MATTER

The claims are directed “to shoes with improved fitting property.” Spec. ¶ 1. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A shoe comprising:
 - a sole which absorbs landing impact, having a bottom surface at its lowest portion that contacts to a ground when the shoe lands on the ground; and
 - an upper which covers an instep of a foot, being disposed over the sole; wherein
 - the upper has a first opening through which the foot is inserted when wearing the shoe; and
 - the upper is made of a combination of
 - a material which has a negative Poisson's ratio in a row direction, wherein the material having the negative Poisson's ratio is a negative Poisson material and the Poisson's ratio is a negative value of a quotient given by dividing a lateral strain by a vertical strain when a stretch force is applied to the material in the row direction, the lateral strain being in a perpendicular direction to the row direction and the vertical strain being in the row direction,

¹ We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as ASICS Corporation. Appeal Br. 2.

another material which does not have a negative Poisson's ratio in any direction, wherein the another material is a positive Poisson material,

the upper further has a second opening, which is covered by a tongue piece above the instep and surround by a tightening region, wherein a shoe lace is arranged in the shoe by passing through the tightening region, and a tightening force by the shoe lace is transmitted to the upper through the tightening region,

the first opening and the second opening are continuous with each other in a fore-aft direction, which runs through a toe and a heel of the foot,

the tightening region is made with the positive Poisson material, which is stiffer than the negative Poisson material,

the upper has a first fore-region covering a first metatarsophalangeal joint of the foot and a second fore-region covering a fifth metatarsophalangeal joint of the foot,

one of the first and second fore-regions, which is a selected fore-region, is made with the negative Poisson material,

the row direction of the selected fore-regions is oriented parallel to an up-down direction of the shoe wherein the up-down direction is perpendicular to the bottom surface, the upper further has a toe region covering the toe of the foot, and

the toe region is made with the negative Poisson material such that the positive Poisson material intervenes between the toe region and the selected fore-region, separating the toe region from the selected fore-region wherein the negative Poisson material of the selected fore-region is not continuous, in the upper, to the negative Poisson material of the toe region.

Appeal Br. 26–27 (Claims App.).

REFERENCES

The prior art relied upon by the Examiner is:

Name	Reference	Date
Nishiwaki	US 2006/0162190 A1	July 27, 2006
Toronjo	US 2014/0059734 A1	Mar. 6, 2014

REJECTIONS

Claims 1, 20, and 35, 37, 39, and 1 are rejected under 35 U.S.C. § 112(a), as failing to comply with the written description requirement.² Final Act. 7.

Claims 1, 3–5, 18, 20, and 22 are rejected under 35 U.S.C. § 112(b) as being indefinite. Final Act. 9.³

Claim 1, 3–5, 18, 20–22, and 33 are rejected under 35 U.S.C. § 103 as being unpatentable over Toronjo in view of Nishiwaki. Final Act. 10.

Claims 26–28 are rejected under 35 U.S.C. § 103 as being unpatentable over Toronjo. Final Act. 17.

Claims 35–41 are rejected under 35 U.S.C. § 103 as being unpatentable over Toronjo and Nishiwaki. Final Act. 20.

Claims Rejected	35 U.S.C. §	Reference(s)/Basis
1, 20, , 35, 37, 39, 41	112(a)	Written Description
1, 3–5, 18, 20, 22,	112(b)	Indefiniteness
1, 3–5, 18, 20, 22, 33, 35–41	103	Toronjo, Nishiwaki
26–28	103	Toronjo

² The Examiner does not list claims 3–5, 18, 36, 38, and 40 as subject to this rejection, but they would be subject to it due to their dependence from one of claims 1, 35, 37, and 39.

³ The Examiner does not include claim 33, but due to its dependence from claim 20 (via claim 22), it suffers from the same problems as claim 20.

OPINION

Objections

The Examiner objects both to the drawings and the Specification over certain claimed features allegedly missing that will be discussed below with regard to written description. For the same reasons as stated below, we do not sustain the Examiner's drawings and Specification objections.

Indefiniteness

Appellant does not argue the rejection of claims 1, 3–5, 18, 20, and 22 as indefinite, specifically stating “[n]o argument is made in the brief” and that “[t]he rejection is to be handled once the examination is reopened.” Appeal Br. 14. Accordingly, we summarily affirm this rejection.

Written Description

We first note that Appellant does not argue this rejection with regard to claims 35 and 39. Accordingly, we summarily affirm the rejection as to these claims as well as claims 36 and 40, which depend from claims 35 and 39, respectively.

As to the Written Description rejection of the remaining claims, the Examiner asserts that there is no support for the claimed intervening positive Poisson material because “any claim limitations drawn to specific locations of the positive Poisson material are entirely unsupported by Appellant's specification and drawings.” Ans. 4. Appellant points out, however, that the Specification notes that the upper 2 as shown in Figures 1–4 is disclosed as being made entirely of positive Poisson material. Reply Br. 2. Figures 15–17, which depict locations of negative Poisson material as claimed, are merely overlays of the shoe shown in Figures 1–4. As such, it is reasonable for a person of ordinary skill in the art to conclude that areas not covered by

negative Poisson material are still positive Poisson material as previously depicted in Figures 1–4. The Dissent points out that not all materials are positive or negative Poisson materials and agrees with the Examiner that it would be improper to conclude that all materials are positive because they are non-negative. Although this is generally true, as noted above, the Specification starts with the disclosure in Figures 1–4 that the shoe is entirely made from positive Poisson materials. Figures 15–17 then overlay negative regions onto the positive Poisson shoe. As such, the disclosure simply does not address zero Poisson materials, but does specifically denote areas as either positive or negative.

The Dissent also asserts that Appellant uses the wrong standard, but this standard only applies when the description is lacking. In this case there is actual disclosure that the entirety of the shoe depicted in Figures 1–4 is constructed of positive Poisson material. There is no need to invoke obviousness here because the disclosure already supports the claim language at issue and one of ordinary skill in the art would understand that changing some materials to negative Poisson does not affect the areas already disclosed as being positive Poisson material. Accordingly, we do not sustain the rejection of claims.

Further, in relation to the above discussion on zero Poisson materials, in arguing this rejection, Appellant asserts “that a material whose Poisson’s ratio is zero is categorized into a positive Poisson material under the definition of the current claims.” Reply Br. 1. Appellant ties this assertion to the fact that the claim recites “another material which does not have a negative Poisson’s ratio in any direction, wherein the another material is a positive Poisson material.” *Id.* We disagree that this amounts to classifying

zero Poisson materials as positive. Zero Poisson materials exhibit unique characteristics that are not shared by either positive or negative Poisson materials. Nonetheless, we agree that the Specification is clear as to negative and positive Poisson materials, but it is merely silent regarding zero Poisson materials. As such Appellant's claims simply do not cover zero Poisson materials nor does the Specification address such materials. Although this does not affect the reversal of the written description rejection, we felt it necessary to clarify this point given Appellant's arguments and the Dissent's discussion regarding zero Poisson materials.

Obviousness

Claim 1

Appellant argues that the Examiner's rejection is in error because "[n]o disclosure in TORONJO is made in which the instep is composed with two or more pieces, especially dividing the toe region from the fore-regions" as is found in claim 1. Appeal Br. 16. Appellant further argues that "NISHIWAKI's structure is, however, all made with a positive Poisson material" and shows "merely a conventional pattern of stiffnesses of materials that includes soft-hard-soft order from the toe to heel." Appeal Br. 17. Lastly, Appellant points out that, although Toronjo discloses negative Poisson material in the fore region, the row direction of these materials is in the horizontal, rather than the vertical direction, which is not what is required by the claims. Appeal Br. 16.

The Examiner contends that Toronjo discloses the claimed negative Poisson material and that Nishiwaki, although it does not include negative Poisson material, does disclose a shoe that has stretchable portions

corresponding to the claimed areas while also including a reinforcing member 6 that is disposed between stretchable part 50 and front part 3. The Examiner acknowledges that Toronjo fails to teach the claimed vertical rows for the Poisson material in the fore region, but relies on Toronjo's boiler-plate language regarding "various alternatives, modifications, variations, or improvements" that may be made to the disclosed shoe. Final Act. 12. The Examiner concludes:

Therefore, it would have been obvious to one having ordinary skill in the art before the effective filing date of the claimed invention to have modified the row orientation of Fig. 7A-7C of Toronjo to be in an up-down direction perpendicular to the bottom surface and for negative Poisson material to be located in the toe region, as taught by Fig. 5A-5D of Toronjo, in order to provide the optimum configuration of material such that it supports the user's foot in the desired manner.

Id.

The Examiner has proffered no reasonable basis with rational underpinnings as to why one of skill in the art would have made such a modification absent the teachings found in Appellant's disclosure. The Examiner merely takes features from one area and applies them to an area that is not disclosed as having those same features and asserts that the broad statement in Toronjo regarding alternatives and modifications would allow for such a change. The "desired" manner highlighted by the Examiner does not appear in the cited prior art, but is taken from Appellant's Specification and claims. The Examiner cannot simply rearrange features of the prior art to achieve a goal set forth in Appellant's invention without some basis in the prior art or knowledge of one of ordinary skill to do so.

Second, regarding Nishiwaki, the Examiner finds that Nishiwaki teaches a stretchable toe region 3. Ans. 13. This is incorrect. Nishiwaki teaches two stretchable regions 50 and 51, but does not describe the toe region as also being stretchable. As such, the Examiner has no basis to assert that it would have been obvious to include a positive Poisson material between negative Poisson material in both the toe and fore regions. The Examiner has thus failed to find support in the prior art for both the vertical rows in the fore region as well as the positive Poisson material separating two negative Poisson materials as claimed. Accordingly, we do not sustain the Examiner's rejection of claim 1 and its dependent claims.

Claim 26

The Examiner admits that Toronjo fails to “teach the central portion is made with the positive Poisson material”. Ans. 19. The Examiner then points out that Toronjo teaches positive Poisson material in the heel region as seen in Figure 7C. The Examiner concludes obviousness stating that one of skill in the art would “have modified the central heel region of Toronjo to include positive Poisson material . . . in order to provide a shoe upper that provides the optimum fit to a user's foot by utilizing some portions which are more supportive than others which stretch more readily.” Final Act. 20. Appellant is correct, however, that Toronjo “fails to teach or suggest a combined component by the positive and negative Poisson materials” in the heel region. Appeal Br. 20. The Examiner has found only that Toronjo teaches a heel comprised of either all negative or all positive Poisson material. Claim 26 requires a heel having a positive Poisson material flanked by negative Poisson material on either side. The Examiner has provided no basis for a heel having a combined structure as claimed in claim

26 given that the prior art shows heels made only of a single material having a single Poisson ratio value. Accordingly, we do not sustain the rejection of claim 26 or its dependent claims. We also do not sustain the rejection of claims 37, 38, and 41 over Toronjo and Nishiwaki because Nishiwaki does not cure the deficiencies described above with respect to Toronjo.

CONCLUSION

The Examiner's rejections are **AFFIRMED IN PART**.

More specifically,

DECISION SUMMARY

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 20, 35, 37, 39, 41	112(a)	Written Description	35, 39	1, 20, 35, 37, 39, 41
1, 3-5, 18, 20, 22,	112(b)	Indefiniteness	1, 3-5, 18, 20, 22	
1, 3-5, 18, 20, 22, 33, 35-41	103	Toronjo, Nishiwaki	35, 36, 39, 40	1, 3-5, 18, 20, 22, 33, 37, 38, 41
26-28	103	Toronjo		26-28
Overall Outcome			1, 3-5, 18, 20, 22, 33, 35, 36, 39, 40	26-28, 37, 38, 41

TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED IN PART

FITZPATRICK, *Administrative Patent Judge*, dissenting in part.

I dissent from the majority's ruling on the Examiner's written description rejection. I would affirm that rejection as to all claims rejected.

The gist of the rejection is that the Specification does not describe *positive* Poisson material "between" or "intervening" other specified regions of the shoe upper that are *negative* Poisson material. For example, with respect to claim 1, the Final Action states: "Claim 1 recites 'such that the positive Poisson material intervenes between the toe region and the selected fore-region'. . . . [T]here appears to be no support for the claimed location/arrangement of the positive Poisson material. The claimed limitation(s) is regarded as new matter." Final Act. 7.

The majority reverses the Examiner, citing as persuasive page two of the Reply Brief. *See supra* (citing Reply Br. 2). Page two of the Reply Brief states, in relevant part, the following:

The Examiner points out, "the specification mentions the positive Poisson material one single time." Appellant notes that the one time description is fully adequate to explain any materials other than the negative Poisson material means the positive Poisson material. Conventionally, normal materials of shoe uppers were the positive Poisson materials. Only special designed materials were realized to obtain the negative Poisson characteristics. Accordingly, it is *obvious for a skilled person in the art* to use the positive Poisson material in a case where there is no description regarding a type of material.

In order to make the specification compact and to avoid redundancy, it is believed that one time description for the blank space is good enough to describe the type of material in the current invention.

Reply Br. 2 (emphasis added).

Appellant's arguments invoke the wrong standard. Whether a claim element would have been obvious is insufficient for purposes of the written description requirement. *See Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1352 (Fed. Cir. 2010) (“[W]hile the description requirement does not demand any particular form of disclosure, or that the specification recite the claimed invention *in haec verba*, a description that merely renders the invention obvious does not satisfy the requirement.” (en banc) (citations omitted)). Instead, “the test for sufficiency is whether the disclosure of the application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.” *Id.*

Applying the latter standard, I do not find the Specification conveys the concept of employing *positive* Poisson material “between” or “intervening” other specified regions of the shoe upper that are *negative* Poisson material. Although Appellant asserts that all non-hatched areas disclosed in Figures 15, 16, and 18, are positive Poisson materials (*see* Appeal Br. 13), I do not agree that the Specification adequately conveys that. As the Examiner has pointed out: “[N]ot all materials are positive or negative Poisson, some materials are in fact zero Poisson materials. Therefore, it would be incorrect to assume that the blank spaces would indicate a positive Poisson material, simply because they aren't negative Poisson.” Ans. 3.

I would affirm the Examiner's written description rejection as to all claims rejected.