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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MING C. SHEN and WERNER SCHNEIDER

Appeal 2015-005262
Application 12/621,552
Technology Center 1700

Before CATHERINE Q. TIMM, JULIA HEANEY, and LILAN REN,
Administrative Patent Judges.

REN, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants¹ appeal under 35 U.S.C. § 134(a) from a rejection² of claims 1–7, 15, and 19–22. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm-in-part.

¹ The real party in interest is identified as ZIMMER GMBH. (Appeal Brief, filed December 12, 2014 (“App. Br.”), 2.)

² Final Office Action mailed July 16, 2014 (“Final Act.”).

CLAIMED SUBJECT MATTER

The claims are directed to “a composition comprising an ultra high molecular weight polyethylene material and a cross-linked polymeric material that has a different average molecular weight than an average molecular weight of the ultra high molecular weight polyethylene material.” Spec. ¶ 4.³ Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A composition comprising:
 - one or more crystalline and one or more amorphous regions, the crystalline regions together comprising at least 62% by volume of the composition, the crystalline and amorphous regions together comprising an irradiation cross-linked form of a blend comprising
 - a first ultra high molecular weight polyethylene and a cross-linked polymeric material, the cross-linked polymeric material comprising a cross-linked form of a blend of a second antioxidant and a second ultra high molecular weight polyethylene material; and
 - a first antioxidant, at least some of the first antioxidant present in the blend of the first ultra high molecular weight polyethylene material and the cross-linked polymeric material prior to the irradiation;
 - wherein the second ultra high molecular weight polyethylene material has a different average molecular weight than the first ultra high molecular weight polyethylene material, and *wherein the irradiation cross-linked form of the blend is free of annealing with melting after the cross-linking of the blend* comprising the first ultra high molecular weight polyethylene, the cross-linked polymeric material, and the first antioxidant.

(Claim Appendix, App. Br. 13 (emphasis added).)

³ Application 12/621,552, *Polyethylene Materials*, filed November 19, 2009. We refer to the “’552 Specification,” which we cite as “Spec.”

REFERENCES

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Wang	US 6,414,086 B1	July 2, 2002
Abt	US 2007/0059334 A1	Mar. 15, 2007

REJECTIONS

Claims 1 and 15 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. (Final Act. 2.)

Claims 1–7, 15, and 19–22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Abt. (Final Act. 3.)

OPINION

Findings of fact throughout this Opinion are supported by a preponderance of the evidence of record.

*Indefiniteness*⁴

The Examiner rejects claim 1 under 35 U.S.C. § 112, second paragraph, as being indefinite. In particular, the Examiner finds that the term “annealing with melting” recited in claim 1 is indefinite because it is unclear what it entails. (Final Act. 3.)

Appellants, on the other hand, argue that the claim term “annealing with melting” is clear because the ’552 Specification “recites ‘melt annealing’ throughout[.]” (App. Br. 7.) Appellants argue that “melt-annealing” and “melt annealed” “are terms that readily indicate on their own

⁴ Because Appellants do not make separate arguments for claim 15 for the indefiniteness rejection, claim 15 stands or falls with claim 1 with respect to the indefiniteness rejection. (See App. Br. 7.)

to one of ordinary skill in the art annealing at a temperature sufficient to induce melting.” (Reply 3.)⁵

35 U.S.C. § 112, second paragraph “puts the burden of precise claim drafting squarely on the applicant.” *In re Morris*, 127 F.3d 1048, 1056 (Fed. Cir. 1997). Therefore, when an examiner advances a reasonable basis to believe that those of ordinary skill in the art would not be able to determine the scope of the claim, the burden shifts to the applicant to show otherwise. *Id.* at 1054 (“Once the PTO has made an initial determination that specified claims are not patentable . . . , the burden of production falls upon the applicant to establish entitlement to a patent.”) (citations omitted).

The specification informs the meaning of the claims. “[I]f a claim is amenable to two or more plausible claim constructions, the USPTO is justified in requiring the applicant to more precisely define the metes and bounds of the claimed invention by holding the claim unpatentable under 35 U.S.C. § 112, second paragraph, as indefinite.” *Ex parte Miyazaki*, 2008 WL 5105055, at *5 (BPAI 2008) (precedential). Claims may be indefinite when a conflict between the claimed subject matter and the specification disclosure renders the scope of the claims uncertain. *See In re Cohn*, 438 F.2d 989, 993 (CCPA 1971) (reading the claims in light of the disclosure results in “an inexplicable inconsistency . . . requiring that the rejection under 35 U.S.C. 112 on the grounds of indefiniteness be sustained”).

In this case, the ’552 Specification discloses:

In certain embodiments, the methods described herein can be used to produce a composition without subjecting the composition to post-cross-linking melt annealing. In particular, desirable properties can be achieved in the absence of post-

⁵ Reply Brief filed April 14, 2015 (“Reply”).

cross-linking melt annealing. Further, melt-annealing can alter the desired level of crystallinity in a non-desired manner. In certain embodiments where no post-cross-linking melt annealing is performed, the compositions described herein may be referred to as non-annealed compositions.

(Spec. ¶ 70.) Based on the disclosure of the '552 Specification, Appellants thus argue that “annealing can be performed at temperatures above the melting point and can include melting.” (Reply 4.)

Whether “annealing can be performed at temperatures above the melting point and can include melting” (*id.*), however, does not necessarily show that the statutory requirement for precision and definiteness of claim language has been satisfied in this case. *See In re Hammack*, 427 F.2d 1378, 1382 (1970) (the definiteness “requirement is that the language of the claims must make it clear what subject matter they encompass”).

Claim 1, as currently written, is not clear whether the prepositional phrase is “with melting” or “with melting after the cross-linking of the blend” It is also unclear which term the prepositional phrase modifies.

Moreover, the difference in the language between the '552 Specification and the claim heightens the ambiguity. The '552 Specification discloses methods “to produce a composition without subjecting the composition to post-cross-linking melt annealing” (Spec. ¶ 70) indicating that “post-cross-linking melt annealing” is referring to a method of annealing. The claim language “free of annealing with melting after the cross-linking of the blend” is not a clear reference to the annealing step recited in the '552 Specification. Thus, the claim language is not as reasonably precise as the circumstances permit and the Examiner’s rejection has given Appellants an opportunity to bring the necessary clarity to the

claim language. Thus, the rejection is proper. *See In re Packard*, 751 F.3d 1307, 1314 (Fed. Cir. 2014) (Affirming an indefiniteness rejection because Packard had been given the opportunity to bring clarity to his claim language stating that “[i]n some cases it is difficult enough for courts to construe claims when the draftsman has made every effort to be clear and concise, let alone when the claims have readily observable ambiguities or incoherencies within them.”).

On this record, Appellants have not identified error in the Examiner’s determination that claim 1, when read in light of the ’552 Specification, fails to “set out and circumscribe a particular area with a reasonable degree of precision and particularity.” *In re Moore*, 439 F.2d 1232, 1235 (CCPA 1971). We also decline to attempt to harmonize Appellants’ interpretation with the ’552 Specification. “Such an approach puts the burden in the wrong place. It is the applicants’ burden to precisely define the invention, not the PTO’s. *See* 35 U.S.C. § 112, ¶ 2. . . . [T]his section puts the burden of precise claim drafting squarely on the applicant.” *In re Morris*, 127 F.3d 1048, 1056 (Fed. Cir. 1997).

In further support of the contention that “the term ‘melt annealing’ is commonly used in the art,” Appellants provide two articles: one entitled “The Effect of Aging on Mechanical Properties of Melt-Annealed Highly Crosslinked UHMWPE” by Bhambri and another entitled “Evaluation of oxidation and fatigue damage of retrieved crossfire polyethylene acetabular cups” by Carrier. (App. Br. 7.)

Appellants, however, acknowledge the Examiner’s finding that the Bhambri article uses a different term – “melt-annealed” which is not recited in claim 1. Appellants nonetheless urge that such “slight differences . . .

do[] not mean that Bhambri fails to give any meaning to ‘annealing with melting[.]’ (*Compare* Ans. 2 with Reply 2.)⁶ Without citation to Bhambri or any other factual evidence, Appellants assert: “It would be readily apparent to one of ordinary skill in the art that Bhambri’s usage of ‘melt-annealed’ indicates a material that has been annealed in a way that the material has melted; therefore, Bhambri evidences that, contrary to the Examiner’s position, annealing can occur above melting temperature.” (Reply 2.)

With regard to the Currier article, Appellants also acknowledge the Examiner’s finding that it does not use the term “annealing with melting” as recited in claim 1. (*Compare* Ans. 2 with Reply 3). Appellants instead argue that while the Currier article provides that “a below-melt anneal does not quench all of the free radicals,” it nonetheless shows that “annealing can occur above the melting temperature as well.” (Reply 3.)

From the outset, Appellants do not indicate – and we do not find – that these articles were entered into the record during prosecution. We therefore do not consider these articles as Appellants’ reliance on new evidence submitted with the Appeal Brief is improper. 37 CFR § 41.33(d)(2).

Even if the articles were properly entered into the prosecution record, Appellants have not identified reversible error in the Examiner’s findings that these articles do not show the recited “annealing with melting” is a term commonly used in the art.

For these reasons, we sustain the rejection of claim 1 under 35 U.S.C. § 112, second paragraph.

⁶ Examiner’s Answer mailed March 11 2015 (“Ans.”).

*Obviousness*⁷

Because we sustain the Examiner's indefiniteness rejection, we procedurally reverse the rejections under 35 U.S.C. § 103(a) of claims 1–7, 15, and 19–22 because the claims are indefinite or depend from claims that are indefinite. *In re Steele*, 305 F.2d 859, 862, 134 USPQ 292, 295 (CCPA 1962) (analysis of prior art rejection would require considerable speculation as to meaning of the terms employed and assumptions as to the scope of such claims). Because a review of the prior art rejection would require speculation, we are unable to decide whether the Examiner erred, and we are unable to reach the merits. Thus, our reversal is on procedural grounds only.

DECISION

The Examiner's rejection of claims 1 and 15 under 35 U.S.C. § 112, second paragraph is sustained.

The Examiner's rejection of claims 1–7, 15, and 19–22 under 35 U.S.C. § 103(a) is reversed *pro forma*.

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

⁷ Because Appellants do not make separate arguments for claims 2–7, 15, and 19–22 for the obviousness rejection, these claims stand or fall with claim 1 with respect to the obviousness rejection. (*See* App. Br. 8–11.)