

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

Paper No. 42

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ANDERS SODERGARD,
JOHAN-FREDRIK SELIN, MARIA NIEMI,
CARL-JOHAN JOHANSSON and KERSTIN MEINANDER

Appeal No. 2000-1620
Application 08/507,326

HEARD: October 8, 2002

Before WARREN, LIEBERMAN and KRATZ, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

Decision on Appeal and Opinion

We have carefully considered the record in this appeal under 35 U.S.C. § 134, including the opposing views of the examiner, in the answer, and appellants, in the brief, and based on our review, find that we cannot sustain either of the rejections of appealed claims 24 through 36,¹ all of the claims in the application, under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention, and under 35 U.S.C. § 103(a) as being unpatentable over Sinclair et al. (Sinclair ‘158) in view of Sinclair ‘418 and ‘537.²

¹ See the amendments of January 22, 1999 (Paper No. 27) and October 27, 1999 (Paper No. 32).

² Answer, pages 3-5.

The dispositive issue with respect to both grounds of rejection is the interpretation of the claim language “said homopolymer polylactide is composed of L-lactide monomers” appearing in appealed claim 24. We must interpret this claim language in light of the written description in appellants’ specification as it would be interpreted by one of ordinary skill in this art, giving the claim terms their broadest reasonable interpretation consistent with the written description in the specification. *See, e.g., In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000); *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997), *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989). With respect to the ground of rejection under § 112, second paragraph, the examiner finds that it is “unclear whether the claimed ‘homopolymer’ is intended to refer to a polymer formed from only one enantiomer, e.g., L-lactide, or to lactide polymers which are mixtures of such comonomers (i.e. a copolymer of lactide enantiomers),” and that the phrase we quoted above “is not considered to clearly limit the homopolymer to only L-lactide monomer since ‘composed of’ is open language similar to ‘comprising’” (answer, pages 3-4).

Appellants submit that

they have demonstrably illustrated that the claims encompass polylactides [sic, polylactide] homopolymers to the exclusion of lactide copolymers. Furthermore, by the language “lactide copolymers” Appellants intend to refer to copolymers of lactide monomers with other non-lactide monomers. Appellants do not intend to exclude copolymers of L-lactide with, for example D-lactide. Appellants have merely entered amendments of this nature in an attempt to satisfy the Examiner’s rejections concerning 35 U.S.C. § 112, second paragraph. [Brief, page 7.]

The examiner responds that

for lactide polymers the terms “homopolymer” and “copolymer” must be clarified to specify whether “homopolymer” means a polymer of only one lactide enantiomer, e.g., poly(L-lactide), and whether a polymer formed from mixtures of lactide monomers (e.g. D-lactide, L-lactide and meso-lactide) is a “homopolymer” or “copolymer.” Applicant’s {sic, Appellants’} general reference to having ‘demonstrably illustrated’ what is meant by “homopolymer” is noted, however, as noted above, none of the examples of the specification evidently make use of this term and the specification does not define what is meant by “homopolymer.” It is therefore not clear what basis is relied upon to support the statement that “the claims encompass polylactides [sic] homopolymers to the exclusion of lactide copolymers.” [Answer, page 6.]

We find that appellants disclose in the written description in the specification that “[p]oly lactide or polylactic acid . . . is most often prepared from lactic acid dimer, lactide” (page 1, lines 11-12), and that with respect to the claimed invention, “[t]he polylactide . . . can be made from L-, D- or D,L-lactide *or their blends* with any polymerization method” (pages 4-5; emphasis supplied), with poly-L-lactide used throughout the specification for illustration. The interpretation of the transitional phrase “composed of” with respect to the extent that it opens the scope of the claim must be determined “based on the specification and other evidence” in the record. *AFG Industries, Inc. v. Cardinal IG Company, Inc.*, 239 F.3d 1239, 1245-46, 57 USPQ2d 1776, 1780-81 (Fed. Cir. 2001).

Based on appellants’ specification and this record, considered in light of the positions advanced by appellants and the examiner, we determine that the claimed phrase “said homopolymer polylactide is composed of L-lactide monomers” limits the claimed “polylactide homopolymer composition” to a polylactide prepared from a “homopolymer . . . composed of L-lactide,” wherein the transitional phrase “composed of” opens the term “homopolymer” to include monomers of the other possible lactides, D- and D,L-lactide, in addition to the L-lactide monomer.

We recognize that, as pointed out by the examiner, the term “homopolymer” ordinarily has the common dictionary meaning of “[a] natural or synthetic high polymer derived from a single monomer,”³ and does not appear in the written description in the specification. However, on the facts of this case, we find that the claim language complies with § 112, second paragraph, because it sets out and circumscribes the particular area of the claimed invention with a reasonable degree of precision and particularity, *In re Moore*, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971), such that “those skilled in the art would understand what is claimed when the claim is read in light of the specification.” See *The Beachcombers, Int’l. v. WildeWood Creative Prods.*, 31 F.3d 1154, 1158, 31 USPQ2d 1653, 1656 (Fed. Cir. 1994), quoting *Orthokinetics, Inc v. Safety Travel Chairs Inc.*, 806 F.2d 1565, 1576, 1 USPQ2d 1081, 1088 (Fed. Cir. 1986).

³ *The Condensed Chemical Dictionary* 535 (10th ed., Gessner G. Hawley, ed., New York, Van Nostrand Reinhold Company, 1981)

Accordingly, we reverse the ground of rejection under § 112, second paragraph.

In the explanation of the ground of rejection under § 103(a), the examiner advances three reasons for holding the claimed invention to be *prima facie* obvious over Sinclair '158 and Sinclair '418 and '537 (answer, page 5). The first reason is that it would have been *prima facie* obvious to crosslink polylactides based solely on the alleged disclosure in Sinclair '418 and '537 of using peroxides, such as dibenzoyl peroxide, as “crosslinking agents” for polylactides. We fail to find any basis in either of these references for the examiner’s position because both references disclose a copolymer of epsilon caprolactone and either D,L-lactide or L-lactide, respectively, which is not a “polylactide” encompassed by appealed claim 24 as we have interpreted it above, and the peroxide is used as a “curing agent” as opposed to a “crosslinking agent.” In any event, the examiner has not explained why one of ordinary skill in this art would have been motivated by the disclosure in Sinclair '418 and '537 with respect to curing a copolymer of epsilon caprolactone and either D,L-lactide or L-lactide with a peroxide, to cure a polylactide in the same manner.

The second reason is that in view of the use of t-butyl peroxide in each of the three Sinclair references and the teachings of the equivalence of t-butyl peroxide and benzoyl peroxide in Sinclair '418 and '537, it would have been *prima facie* obvious to use benzoyl peroxide as a crosslinker for polylactide. The difficulty that we have with the examiner’s position is that, as pointed out by appellants in the brief, the disclosure at col. 41, lines 48-60, of Sinclair '158 sets forth a failed experiment wherein a polylactide falling within appealed claim 24 as we have interpreted it above, is soaked at 110°C with the result that “[n]o swelling was observed and this experiment was terminated.” The examiner has not explained why one of ordinary skill in the art would have been motivated to combine the failed experiment of Sinclair '158, which in any event involves a polylactide, with the use of a peroxide as a curing agent for a copolymer of epsilon caprolactone and either D,L-lactide or L-lactide in Sinclair '418 and '537.

The third and last reason with respect to *prima facie* obviousness is the bare allegation that “[i]n view of the level of skill in the art, it would have been obvious to one of ordinary skill in the art to vary the amount of the added peroxide in order to control the amount or degree of

crosslinking.” Indeed, the examiner does not point to any evidence with respect to the level of ordinary skill in this art in support of his position.

Accordingly, on this record, we must reverse the ground of rejection under § 103(a) because we conclude that the examiner’s position is based on hindsight. *See generally, In re Lee*, 277 F.3d 1338, 1343, 61 USPQ2d 1430, 1433-34 (Fed. Cir. 2002), and cases cited therein (the requirement for objective factual underpinnings for a rejection under § 103(a) extends to the determination of whether the references can be combined); *In re Rouffet*, 149 F.3d 1350, 1358, 47 USPQ2d 1453, 1458 (Fed. Cir. 1998) (“hindsight” is inferred when the specific understanding or principal within the knowledge of one of ordinary skill in the art leading to the modification of the prior art in order to arrive at appellant’s claimed invention has not been explained); *In re Dow Chem. Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1531-32 (Fed. Cir. 1988) (“The consistent criterion for determination of obviousness is whether the prior art would have suggested to one of ordinary skill in the art that [the claimed process] should be carried out and would have a reasonable likelihood of success viewed in light of the prior art. [Citations omitted] Both the suggestion and the expectation of success must be founded in the prior art, not in the applicant’s disclosure.”); *cf. Ex parte Levengood*, 28 USPQ2d 1300, 1301-02 (Bd. Pat. App. & Int. 1993) (“At best, the examiner’s comments regarding obviousness amount to an assertion that one of ordinary skill in the relevant art would have been able to arrive at appellant’s invention because he had the necessary skills to carry out the requisite process steps. This is an inappropriate standard for obviousness. . . . That which is within the capabilities of one skilled in the art is not synonymous with obviousness. *Ex parte Gerlach*, 212 USPQ 471 (Bd. App. 1980).”).

The examiner’s decision is reversed.

Reversed

