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EXAMINER
LEONARD, MICHAEL L

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte CHRISTOPH GURTLER and MATTHIAS WINTERMANTEL

Appeal 2012-000652
Application 11/301,626
Technology Center 1700

Before FRED E. McKELVEY, RICHARD TORCZON, and
KAREN M. HASTINGS, *Administrative Patent Judges*.

McKELVEY, *Administrative Patent Judge*.

DECISION ON APPEAL

Statement of the case

Bayer MaterialScience AG ("applicant"), the real party in interest (Brief, page 1), seeks review under 35 U.S.C. § 134(a) of a final rejection dated 4 November 2010.

The application was filed in the USPTO on 13 December 2005 and claims priority under § 119 of German patent application 102004060284.0, filed 15 December 2004.

The application has been published as U.S. Patent Application Publication 2006/0128927 A1.

In support of prior art rejections, the Examiner relies on the following evidence.

Ward	U.S. Patent 3,915,923	28 Oct. 1975
Krebs	U.S. Patent Application Publication 2004/0162385 A1	19 Aug. 2004

Applicant does not contest the prior art status of the evidence relied upon by the Examiner.

We have jurisdiction under 35 U.S.C. § 134(a).

Claims on appeal

Claims 3-7 are on appeal. Brief, page 2; Answer, page 3. We note that the Answer does not contain a page numbered page 2.

1 Claim 3

2 Claim 3, which we reproduce from page 5 of the Claim Appendix of the
3 Brief, reads [matter in brackets and some indentation added; principal limitation in
4 issue in italics]:

5 Process for preparing NCO-functional polyurethane
6 prepolymers having an NCO [isocyanate] content of 0.2% - 12% by
7 weight, in which
8 A) at least one monomeric asymmetric diisocyanate having a
9 molecular weight of 160 g/mol to 500 g/mol and
10 B) at least one polyetherpolyol and/or polyesterpolyol
11 C) are reacted with one another in the presence of [a]
12 *zirconium(IV) acetylacetonate complexes* [catalyst[1]], *at least one*
13 *acetylacetonate ligand present in the catalyst bearing a fluorine*
14 *substituent*,
15 in a ratio of isocyanate groups to hydroxyl groups of 1.05 : 1 to
16 2.0 : 1
17 wherein the polyurethane prepolymers contain less that 1.0% of
18 residual monomeric asymmetric isocyanate content following the
19 reaction and prior to any subsequent steps being performed.

20 Examiner's rejection

[1] The words "a" and "catalyst" are added to provide an antecedent for "the catalyst" which appears subsequently in Claim 3. Any appropriate correction can take place if prosecution resumes before the Examiner.

In the Answer, the Examiner maintains a rejection of the claims on appeal as being unpatentable under § 103(a) over Krebs and Ward. Answer, page 4.

In presenting its appeal, applicant does not argue the separate patentability of Claims 4-7 apart from Claim 3. Accordingly, we decide the appeal on the basis of Claim 3. 37 C.F.R. § 41.37(c)(1)(vii).

Analysis

Krebs describes a process [¶¶ 0015-0023] similar to that of Claim 3.

According to Krebs, suitable catalysts "include . . . organometallic compounds of . . . zirconium." ¶ 0039 (page 4, col 1:1-3). The use of organometallic catalysts is said to lead to polyurethanes having small residual monomer content. ¶ 0039, page 3, col. 2:last three lines.

Krebs differs in that it does not explicitly describe the use of a zirconium(IV) acetylacetonate complexes catalyst wherein at least one acetylacetonate ligand present in the catalyst having a fluorine substituent.

Ward describes polyurethanes using a variety of catalysts. Col. 2:16-17.

Included among the catalysts described by Ward are chelates of trifluoroacetylacetone with various metals including Zr (zirconium). Col 2:51 and 56.

As revealed by applicant's Specification, zirconium(IV) hexafluoroacetylacetonate (said to be sold by Strem Chemicals, Inc.) and zirconium(IV) tribluoroacetylacetonate (said be be sold by Sigma-Aldrich Chemie GmbH) were known materials at the time applicant made its invention. Specification, page 13:11-15. Both materials fall within the scope of the catalysts described as useful by Ward and Krebs.

The Examiner reasoned, and we agree, that one skilled in the art would have found it obvious to use the known materials as a catalyst in the Krebs process given their suggested use by Ward. Applicant has used a known material for its intended purpose to achieve an expected result. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007) ("The combination of familiar elements [in this case the known commercial materials which Ward teaches are catalysts] according to known methods [the method of Krebs] is likely to be obvious when it does no more than yield predictable results [production of a prepolymer with a low monomer content].").

Applicant argues that one skilled "in the art would not have been motivated to" use the claimed catalysts in the Krebs process. Brief, page 4. In a post-*KSR* environment, we construe applicant's argument to be that the prior art provides no "reason" for using the catalysts in the Krebs process. Applicant's argument collides with the proposition that one skilled in the art has every reason to use known materials for their intended purpose. *Cf.* (1) *Graham v. John Deere Co.*, 383 U.S. 1, 10 (1966) (Quoting Letter to Oliver Evans (Jan. 1814), VI Writings of Thomas Jefferson, at 298 (Washington ed.): "[M]an has a right to use a saw, an axe, a plane separately; may he not combine their uses on the same piece of wood?") and (2) *Dunbar v. Myers*, 4 Otto (94 U.S.) 187, 195 (1876) (Ordinary mechanics know how to use bolts, rivets and screws and it is obvious that anyone knowing how to use such devices would know how to arrange a deflecting plate at one side of a circular saw which had such a device properly arranged on the other side.).

The Examiner found, and we agree, that applicant has not established on this record that the use of the known commercial zirconium complexes is in any way critical to the results obtained. Answer, pages 6-8. The catalysts described by the prior art are known as being useful for reacting isocyanate groups with hydroxyl groups and would be expected to produce a polyurethane.

Applicant further argues that if patentee Krebs would have known of the alleged potency of zirconium(IV) hexafluoroacetylacetone, the patentee certainly would have used and taught its use in place of DBTL [dibutyltin dilaurate]. Brief, page 3; Krebs, ¶ 0039 (page 4, col. 1) and Table 1, Product F (page 8, col. 1). *In re Kleinman*, 484 F.2d 1389, 1392 (CCPA 1973), is a complete answer to applicant's argument. There is no presumption that a patentee [Krebs] had constructive or actual knowledge of that same art [Ward] when the patentee [Krebs] made the invention. However, the hypothetical person skilled in art has constructive knowledge of Krebs, Ward and the commercial materials mentioned in the Specification. What Krebs might have done had Krebs known of Ward is not relevant. Rather, the relevant inquiry is what one skilled in the art knew and would have done as of the date of applicant's invention.

Applicant still further argues that it "was surprising to" applicants that the claimed catalyst "selectively increases the reaction of just one of the two NCO-groups [isocyanate groups] of asymmetric polyisocyanates like 2,4'-MDI [diphenylmethane 2,4'-diisocyanate]." Brief, page 3. The selective reactivity is said to lead to low monomer in prepolymers. Brief, page 3. Krebs describes NCO contents (4-12%) within the scope of Claim 3 (0.2-12%). Krebs further describes the use of (1) 2,4'-MDI in combination with MDI (¶ 0028) and (2) hydrogenated

2,4'-MDI (¶ 0029). Krebs still further describes monomer contents (0.01-0.3%) within the scope of the monomer content of Claim 3 (less than 1.0%). Notably missing from Claim 3 is any requirement for selective reactivity.

Applicant attacks Ward on the ground that it "is entirely different from . . . the present invention, in spite of the fact that . . . [Ward and the present invention] are both polyurethanes." Brief, page 3. Applicant overlooks the fact that the Examiner cited Ward to establish that zirconium complexes of acetylacetonates with fluorine-containing ligands are known polyurethane catalysts. Answer, pages 7-8. An applicant generally does not succeed in a non-obvious argument when it attacks each reference individually. *In re Keller*, 642 F.2d 413, 426 (CCPA 1981) ((1) one cannot show nonobviousness by attacking individual references where a combination of references is used to support rejection; (2) rather, what is relevant is what the combined teachings of the references would have suggested to those of ordinary skill in the art). An attack on each reference may establish a lack of anticipation under § 102, but does not necessarily overcome a rejection based on § 103(a).

Other arguments

We have considered applicant's remaining arguments and find none that warrant reversal of the Examiner's rejection. *Cf. In re Antor Media Corp.*, 689 F.3d 1282, 1294 (Fed. Cir. 2012).

Decision

Upon consideration of the appeal, and for the reasons given herein, it is

ORDERED that the decision of the Examiner rejecting Claims 3-7 under § 103(a) over Krebs and Ward is *affirmed*.

1 **FURTHER ORDERED** that no time period for taking any
2 subsequent action in connection with this appeal may be extended under 37 C.F.R.
3 § 1.136(a)(1)(iv).
4 **AFFIRMED**
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