

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. 16

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JOSEF PEDAIN,
MANFRED BOCK and CARL-GERD DIERIS

Appeal No. 1999-1415
Application 08/784,875

ON BRIEF

Before WARREN, OWENS and WALTZ, *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 supplemental answer, and appellants, in the brief and first and second reply briefs,¹ and based on our review, find that we cannot sustain the sole ground of rejection of appealed claims 1, 3, 5, 7, 9 through 11, 13, 15, 17 and

¹ The supplemental examiner's answer of November 13, 2002 (Paper No. 12) was prepared in response to our remand entered August 21, 2002 (Paper No. 11), and appellants in turn filed the second reply brief on April 9, 2003 (Paper No. 13) which, after our remand entered April 18, 2003 (Paper No. 14), was entered by the examiner in the communication mailed September 8, 2003 (Paper No. 15).

19 through 22² under 35 U.S.C. § 103(a) over Tate et al. (Tate) in view of Bock et. al. (Bock).³

The same ground of rejection involving the same claims was affirmed by a prior merits panel of this Board in Appeal No. 94-0150 in grandparent application 07/837,299.^{4,5} In the present appeal, appellants admit that a *prima facie* case of obviousness has been established and in rebuttal, rely on the evidence of record, addressing the issues raised by the prior panel with respect to whether the evidence demonstrates unexpected results (*see above* note 4; original decision, pages 8-9; decision on reconsideration, pages 2-5).

Accordingly, we again evaluate all of the evidence of obviousness and nonobviousness based on the record as a whole, giving due consideration to the weight of appellants' arguments with respect to the evidence of record. *See generally, In re Johnson*, 747 F.2d 1456, 1460, 223 USPQ 1260, 1263 (Fed. Cir. 1984); *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); *In re Rinehart*, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976).

The evidence of record relied on by appellants is the Examples and Comparative Examples in the specification; the declaration executed March 20, 1980 by appellant Pedain (Pedain declaration) that was submitted by the common assignee in the prosecution of application serial Number 69,412, filed August 24, 1979, which matured into Bock;⁶ and the translation of a passage from *Römpp Chemie Lexicon*.⁷

We find that Comparative Example 5 represents the closest prior art, as appellants contend (brief, page 6; first reply brief, page 2), but for the reason that it is representative of the

² These claims are all of the claims in the application, even though the examiner states that the ground of rejection involves "Claims 1-22" (answer, page 2). See the appendix to the brief.

³ Answer, pages 3-5.

⁴ Original decision entered October 31, 1995 (Paper No. 15); decision on request for reconsideration entered January 30, 1996 (Paper No. 17).

⁵ The ground of rejection involving essentially the same claimed subject matter was also affirmed by another merits panel in Appeal No. 91-0137 in great grandparent application 07/311,920, filed February 16, 1989 (original decision entered September 30, 1991 (Paper No. 13); decision on request for reconsideration entered January 15, 1992 (Paper No. 15)).

⁶ The Pedain declaration was filed in the present application with the brief.

⁷ The translation was filed with the brief. The citation provided by appellants on the translation is "CD Römpp Chemie Lexicon – Version 1.0, Stuttgart/New York: Georg Thieme Publishing House 199[*sic*]."

process for preparing polyisocyanates disclosed by Tate, the primary reference in the ground of rejection, vis-à-vis the claimed process for preparing polyisocyanates encompassed by representative appealed claim 1. In comparing Comparative Example 5 with appealed claim 1 and Tate, the benzyl substituted ammonium hydroxide catalyst used in the comparative example falls within the catalysts specified in claim 1 and is disclosed by Tate (page 3, lines 10-11), while the hexamethylene diisocyanate (HDI) used in the comparative example contains 38 ppm by weight of carbon dioxide which is outside of the claimed range of less than 10 ppm by weight. In this latter respect, Tate discloses the use of HDI *per se* (page 3, line 22), which we determine would have led one of ordinary skill in this art to use known commercial or technical grade HDI that, on this record, contain more than 20 or more ppm by weight of carbon dioxide (*see* specification, pages 4-5; first reply brief, page 2), and encompasses the carbon dioxide content of the HDI in the comparative example. Appellants further submit that the examples reported in the Pedain declaration are similar to Comparative Example 5 (brief, page 4). We find that the first three declaration examples use the same benzyl substituted catalyst as in Comparative Example 5, but the ppm by weight of carbon dioxide of the HDI used in the declaration examples is not reported.

Comparative Examples 8, 9 and 10, the only other comparative examples in the specification, use the hydroxypropyl substituted ammonium hydroxide catalyst disclosed by Bock (e.g., col. 4, line 10; *see also* col. 3, lines 25-62), and HDI which contain 4, 6 and 2 ppm by weight of carbon dioxide, respectively. In this respect, appellants admit that HDI used in these comparative examples were known (*see* brief, page 3; *see also* prior decision, pages 7-8 (*see above* note 4; Paper No. 15)), and Bock teaches that the HDI used with the hydroxyalkyl substituted catalysts should be “as pure as possible and which is preferably distilled and colorless” (col. 6, lines 10-12). Thus, we find that these comparative examples reasonably represent the teachings of Bock to use highly purified HDI with the hydroxyalkyl substituted catalyst combined with the admitted knowledge that HDI containing such low ppm of carbon dioxide were known. In comparison with the claimed process encompassed by appealed claim 1, these comparative examples differ in the hydroxypropyl substituted catalyst which is not a claimed catalyst.

Accordingly, we determine that the comparisons of Comparative Example 5 with the specification examples representing the invention, particularly Example 4, address the thrust of the rejection based on the modification of the process of Tate by the use of admittedly known HDI containing the amounts of carbon dioxide shown in Comparative Examples 8, 9 and 10, combined with the teaching in Bock to use purified HDI. *See In re Burckel*, 592 F.2d 1175, 1180, 201 USPQ 67, 71 (CCPA 1979). We consider the comparisons provided by Comparative Examples 8, 9 and 10 with the specification examples representing the claimed invention, particularly Examples 11 and 12, to be at best an indirect comparison as the issue of the substitution of the benzyl substituted catalyst of Tate for the hydroxyalkyl substituted catalysts of Bock is not directly addressed in the ground of rejection. *Cf. In re Blondel*, 499 F.2d 1311, 1317, 182 USPQ 294, 298 (CCPA 1974). We note that Examples 4, 6, 7 and 11 use HDI containing 2 ppm carbon dioxide while Example 12 uses HDI containing 10 ppm carbon dioxide.

The process of Comparative Example 5 is reported to produce “a cloudy yellow product” (specification, page 14, line 30; brief, page 3). The similar processes of the Pedain declaration Examples 1 and 3 are reported to produce “turbid products” and “deeply coloured endproducts,” respectively (page 4; brief, page 4).⁸ We find no evidence in the record that such reported results are unreliable. In this respect, we agree with appellants that “[s]ince the product of Comparison Example 5 is not clear it is not possible to measure the [Hazen] color number” because indeed, such a color number is a measure of the color of a transparent substance as seen from the translation of *Römpp Chemie Lexicon* (brief, pages 7-8).

The processes of Comparative Examples 8, 9 and 10 are reported to produce products that have the Hazen color numbers 70, 90 and 70, respectively (specification, page 18). The processes of Examples 4, 6, 7, 11 and 12 are reported to produce products that have the Hazen color numbers 20, 30, 40, 30 and 40 (specification, pages 14-16 and 18). It is apparent that the determination of the Hazen color number establishes that the products are transparent, and indeed, the product of Example 4 is described as “a clear, light polyisocyanate” which can be diluted with xylene “without cloudiness” (specification, page 14, lines 1-2). We find appellants’

⁸ Declarant Pedain reports that the process of Example 2 thereof resulted in an “uncontrolled reaction” (page 4).

explanation of the Hazen color number based on the translation of *Römpp Chemie Lexicon* to be reasonable (brief, pages 7-8).

Based on this evidence, we find that the product of Comparative Example 5, representative of Tate, as well as the products prepared by the similar processes of Pedain declaration Examples 1 and 3, produce turbid products while the products produced by the specification examples representing the claimed process, particularly Example 4, produce transparent products. In this respect, we find that, as appellants point out (brief, pages 7-8), the written description in the specification contains the disclosure that the products of the claimed process “are free from cloudiness and can be dissolved without cloudiness in any of the standard lacquer solvents” (specification, page 3). We agree with appellants that neither Tate (*see, e.g.*, page 5, lines 13-14) nor Bock (*e.g.*, col. 5, lines 19-21, col. 6, lines 59-63, col. 8, line 49, and col. 9, lines 2-3 and 20-21) would have reasonably suggested this result to one of ordinary skill in the art (brief, *e.g.*, pages 6 and 7-8).

We further find that there are differences in the Hazen color number between the products of the examples and the comparative examples. However, we fail to find in the record, including the translation of *Römpp Chemie Lexicon*, any explanation of the *practical* significance of this difference as the examiner points out (supplemental answer), and such an explanation is not provided by appellants’ bare contention that “a product having a color number of 90 has three times the color as a product having a color number of 30” (second reply brief, page 2, citing brief, page 8; *see also* brief, page 4). Indeed, appellants disclose in their written description that the products prepared “are colorless liquids having a color value (HAZEN) . . . below 100, preferably below 50,” without explanation of the significance of the difference (specification, page 9, lines 25-28; *see also* page 3, lines 1-3). In the absence of an explanation of the practical significance of the difference in result obtained in this indirect comparison, it is not apparent on this record that the indirect evidence is sufficient to support appellants’ contention that such results are indeed unexpected in view of the teachings of polyisocyanate products having acceptable color in Tate (*e.g.*, page 5, lines 13-14) and Bock (*e.g.*, col. 5, lines 19-21, col. 6, lines 59-63, col. 8, line 49, and col. 9, lines 2-3 and 20-21). *See generally, In re Geisler*, 116 F.3d 1465, 1470, 43 USPQ2d 1362, 1365-66 (Fed. Cir. 1997); *In re Merck*, 800 F.2d 1091, 1099,

231 USPQ 375, 381 (Fed. Cir. 1986); *In re Longi*, 759 F.2d 887, 897, 225 USPQ 645, 651-52 (Fed. Cir. 1985); *In re Klosak*, 455 F.2d 1077, 1080, 173 USPQ 14, 16 (CCPA 1972); *In re Lindner*, 457 F.2d 506, 508, 173 USPQ 356, 358 (CCPA 1972); *In re D'Ancicco*, 439 F.2d 1244, 1248, 169 USPQ 303, 306 (1971).

Accordingly, upon consideration of the evidence in the record as a whole, we determine that on this record, the evidence of nonobviousness based on Comparative Example 5, along with the additional evidence in Pedain declaration Examples 1 and 2, and the specification examples as a whole, outweighs the evidence of obviousness in the combined teachings of Tate, Bock and the admitted prior knowledge of low carbon dioxide content HDI in the art, and thus, we reverse the ground of rejection.

The examiner's decision is reversed.

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