

*Ex parte Smith et al.*

MAILED

JUL 26 1996

PAT.&T.M. OFFICE  
BOARD OF PATENT APPEALS  
AND INTERFERENCES

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

This opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

95-0899

Paper No. 15

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

*Ex parte* REBECCA F. SMITH, Y.-D. MARK CHEN,  
R. WOODROW WILSON, JR., and KIM R. SMITH

Appeal No. 95-0899  
Application No. 08/078,500<sup>1</sup>

ON BRIEF

Before GOLDSTEIN, RONALD H. SMITH, and WEIFFENBACH,  
*Administrative Patent Judges.*

WEIFFENBACH, *Administrative Patent Judge.*

DECISION ON APPEAL

<sup>1</sup>Application for patent filed June 21, 1993, which is, according to appellants, a continuation of Application 07/939,812, filed September 3, 1992, which is a continuation-in-part of Application 07/740,063, filed August 5, 1991, now abandoned, which is a continuation-in-part of Application 07/740,409, filed August 5, 1991, now abandoned.

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This appeal is from the examiner's final rejection of claims 15-18, which are all of the claims remaining in the application. We affirm.

The invention is directed to an improved process for preparing a solid amine oxide. It is known in the art to prepare an amine oxide by reacting a tertiary amine with excess hydrogen peroxide in the presence of ethyl acetate. Appellants' improvement is maintaining the amount of CO<sub>2</sub> produced in the reaction to a level of less than or equal to 0.2% by weight throughout the reaction. Claim 18 is illustrative of the claims on appeal:

18. In a high solids process for preparing an amine oxide by the carbon dioxide-promoted reaction of a tert-amine with a 15-20% stoichiometric excess of an aqueous hydrogen peroxide having a concentration of 50-90% by weight in the presence of an amount of ethyl acetate sufficient to maintain the reaction mixture stirrable throughout the reaction, the improvement which comprises maintaining the amount of carbon dioxide in the reaction mixture at a level of less than or equal to 0.2% by weight throughout the reaction to avoid discoloration of the product.

In rejecting the claims, the examiner relies on the following references:

Dankowski	4,795,594	Jan. 3, 1989
Laurenzo et al. (Laurenzo)	4,889,954	Dec. 26, 1989
Smith et al. (Smith I)	4,960,934	Oct. 2, 1990
Smith et al. (Smith II)	5,130,488	Jul. 14, 1992
Günther	EP 0 094 560	Nov. 23, 1983
Smith et al. (Smith III)	EP 0 401 503	Dec. 12, 1990

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Claims 15-18 stand rejected under 35 U.S.C. § 103 as being unpatentable over Smith I and III and Laurenzo in view of Dankowski and Günther.

Claims 15-18 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 of Smith II in view of Smith I, Smith III, Laurenzo, Dankowski and Günther.

Appellant states that the claims "will stand or fall as one."<sup>2</sup> Accordingly, all of the appealed claims are considered to stand or fall with the sole independent claim in the case, claim 18. We will therefore limit our discussion to claim 18. See *In re Burckel*, 592 F.2d 1175, 201 USPQ 67 (CCPA 1979).

#### Opinion

We have carefully reviewed the application record which led to this appeal and the respective positions advanced by appellants and the examiner for patentability of the appealed claims. For the reasons set forth below, we will affirm the examiner's rejection under 35 U.S.C. § 103, albeit on different grounds, and reverse the rejection based on obviousness-type double patenting.

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<sup>2</sup>Page 3 of the appeal brief.

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### Rejection Of Claims 15-18 Under 35 U.S.C. § 103

The claims on appeal have been presented in Jepson format. Under 37 CFR 1.175(e), the preamble of a Jepson claim presents "a general description of all the elements or steps of the claimed combination which are conventional or known" in the prior art. The description following the phrase "the improvement comprises" constitutes that portion of the claimed combination which the applicants consider as the new or improved portion. In the case before us, the applicants' invention is the step of maintaining the amount of CO<sub>2</sub> in the reaction mixture at a level of less than or equal to 0.2% by weight.<sup>3</sup>

The examiner's rejection goes into a lot of detail regarding what applicants already admit is known in the prior art. The examiner does not come to grips with the invention, namely, maintaining a particular CO<sub>2</sub> level in the reaction mixture to avoid discoloration of the reaction product.

We agree with appellants that Smith III is the only reference dealing with the claimed process. Smith III discloses preparing an amine oxide by reacting a tertiary amine such as n-decyldimethylamine or dodecyldiethanolamine and an excess of

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<sup>3</sup>It is not clear from the claim 18 or appellants' specification whether the amount of CO<sub>2</sub> recited in the claim is by weight of one of the components of the reaction mixture or by weight of the total reaction mixture.

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hydrogen peroxide in the presence of CO<sub>2</sub> and ethyl acetate.<sup>4</sup> The CO<sub>2</sub> content in the reaction ranges from 0.01 up to 5 weight percent which encompasses appellants' claimed range.<sup>5</sup> Example 9 of the reference discloses reacting tetradecyldimethylamine and hydrogen peroxide in the presence of ethyl acetate and CO<sub>2</sub> to form a "clear" product consisting of tetradecyldimethylamine oxide. As we view the reference, Smith III is a *prima facie* anticipation of the appealed claims under 35 U.S.C. § 102(a).<sup>6</sup> The disclosure in the prior art of any value within the claimed CO<sub>2</sub> range is an anticipation of that range. *In re Wertheim*, 541 F.2d 257, 267, 191 USPQ 90, 100 (CCPA 1976); *Ex parte Lee*, 31 USPQ2d 1105, 1106 (Bd. Pat. App. & Int. 1993).

Appellants argue that their comparative examples show that the claimed range establishes unexpected results. We are not persuaded by appellants' argument for three reasons. First, where the claims are anticipated by a reference, the rejection cannot be overcome by a showing of unexpected or surprising

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<sup>4</sup>Example 9; column 3, line 42 to column 5, line 19; and column 6, line 56 to column 8, line 23 of Smith III.

<sup>5</sup>Column 5, lines 45-54 of Smith III.

<sup>6</sup>The subject matter claimed in dependent claims 15-17 are limitations further defining the tertiary amine employed in the process. Since the claims further limit what appellants acknowledge is conventional or known in the art, the tertiary amines claimed are considered conventional and known in the art.

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results. *In re Malagari*, 499 F.2d 1297, 1302, 182 USPQ 549, 553 (CCPA 1974). Second, appellants' claim defines the amount of CO<sub>2</sub> in the reaction as being "less than or equal to" which would read on a lower limit of zero. Smith III discloses that "[a]lthough not required, the process is preferably conducted in the presence of carbon dioxide ...."<sup>7</sup> Example 1 of Smith III teaches reacting a tertiary amine with hydrogen peroxide in the presence of ethyl acetate and in the absence of CO<sub>2</sub> to form a non-hygroscopic white crystalline solid tetradecyldimethylamine oxide dihydrate.

Third, even if the claims are considered *prima facie* obvious over Smith III, we agree with the examiner that appellants have not provided objective evidence which demonstrates that a colorless product would have been unexpected by one of ordinary skill in the art when compared to the closest prior art of record, namely, Smith III. *In re Baxter Travenol Labs.*, 952 F.2d 388, 391-392, 21 USPQ2d 1281, 1285 (Fed. Cir. 1991); *In re De Blauwe*, 736 F.2d 699, 705, 222 USPQ 191, 196 (Fed. Cir. 1984).

For the aforementioned reasons, Smith III is at least a *prima facie* anticipation of the claimed subject matter set forth in claims 15-18. Application claims that are anticipated by a

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<sup>7</sup>Column 5, lines 45-46 of Smith III.

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prior art reference are also obvious in view of that reference under 35 U.S.C. § 103. *In re Baxter Travenol Labs.*, 952 F.2d at 391, 21 USPQ2d at 1284-1285. Since anticipation is the epitome of obviousness, we will affirm the examiner's rejection for obviousness. See *In re Grose*, 592 F.2d 1161, 1165, 201 USPQ 57, 61 (CCPA 1979). However, because our affirmance is based on a different rationale than that advanced by the examiner, we denominate our affirmance involving a new ground of rejection under 37 CFR § 1.196(b).

#### Obviousness-Type Double Patenting Rejection

The examiner has rejected all of the claims under the judicially created doctrine of obviousness-type double patenting rejection over claims 1-19 of Smith II in view of Smith I, Smith III, Lorenzo, Dankowsik and Günther. The subject matter claimed in Smith II is directed to a process which comprises (i) preparing a tertiary amine oxide by reacting a tertiary amine with at least a stoichiometric amount of hydrogen peroxide in an organic solvent (claim 8 specifies ethyl acetate), (ii) adjusting the water content of the product formed by the reaction, and (iii) recovering the tertiary amine oxide by cooling a solution of the oxide in the organic solvent until the oxide precipitates.

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Appellants' invention is directed to preparing the amine oxide in the presence CO<sub>2</sub> in an amount less than or equal to 0.2% by weight. We do not find convincing the examiner's reasons for concluding that the present appealed claims are an obvious variation of the invention set forth in claims 1-19 of Smith II. Appellants' claims are in the Jepson format and, therefore, the basic tertiary amine and hydrogen peroxide reaction in an ethyl acetate solvent to form the amine oxide is admitted to be known in the art. Moreover, the amine/peroxide reaction in the present claims is not limited to "at least a stoichiometric amount of hydrogen peroxide and the claimed reaction process does not require adjustment of the water content of the product formed by the reaction or recovering the tertiary amine by cooling the reaction mixture. In addition, none of claims 1-19 in Smith II recite or suggest that CO<sub>2</sub> can be included in the Smith III reaction. For these reasons, we must conclude that the presently claimed invention is not an obvious variation over the invention claimed by Smith and that the obviousness-type double patenting rejection must be reversed.

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### Conclusion

Any request for reconsideration or modification of this decision by the Board of Patent Appeals and Interferences based upon the same record must be filed within one month from the date of the decision. 37 CFR § 1.197.

With respect to the new rejections under 37 CFR § 1.196(b), should appellants elect the alternate option under that rule to prosecute further before the examiner by way of amendment or showing of facts, or both, not previously of record, a shortened statutory period for making such response is hereby set to expire two months from the date of this decision. In the event appellants elect this alternate option, in order to preserve the right to seek review under 35 U.S.C. § 141 or 145 with respect to the affirmed rejection, the effective date of the affirmance is deferred until conclusion of the prosecution before the examiner unless, as a mere incident to the limited prosecution, the affirmed rejection is overcome.

If the appellants elect prosecution before the examiner and this does not result in allowance of the application, abandonment or a second appeal, this case should be returned to the Board for final action on the affirmed rejection, including any timely request for reconsideration thereof.

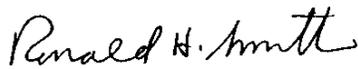
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No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

For the foregoing reasons, the decision of the examiner is affirmed and this application is REMANDED to the examiner pursuant to 37 CFR § 1.196(b).

AFFIRMED & REMANDED; 37 CFR 1.196(b)

  
MELVIN GOLDSTEIN )  
Administrative Patent Judge) )

  
RONALD H. SMITH ) BOARD OF PATENT )  
Administrative Patent Judge) APPEALS AND )  
) INTERFERENCES )

  
CAMERON WEIFFENBACH )  
Administrative Patent Judge)

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