*THIS OPINION WAS NOT WRITTEN FOR PUBLICATION*

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 22

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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*Ex parte* ALAIN PETIT, ROLAND BACHELARD,
RENE CLAIR and YVES CORREIA

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Appeal No. 95-4216
Application 08/035,076[1]

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HEARD: APRIL 5, 1999

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Before OWENS, WALTZ and LIEBERMAN, Administrative Patent Judges.

OWENS, Administrative Patent Judge.

*DECISION ON APPEAL*

This is an appeal from the examiner's refusal to allow claims 17 and 19-28 as amended after final rejection and claim

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[1] Application for patent filed March 22, 1993. According to appellants, the application is a division of Application 07/990,939, filed December 14, 1992, now U. S. Patent No. 5,243,111, issued September 7, 1993, which is a continuation of Application 07/720,642, filed June 25, 1991, now abandoned.

29 which was added after final rejection. These are all of the claims remaining in the application.

*THE INVENTION*

Appellants' claimed invention is directed toward an oxychlorination catalyst composition which includes an oxychlorination catalyst, a specified amount of catalytically and chemically inert solid diluent particles, and a solution or suspension of a catalytically active copper compound. Claim 17 is illustrative and reads as follows:

> 17. An oxychlorination catalyst composition comprising immixture of (a) a catalytically effective amount of an oxychlorination catalyst, (b) a diluent comprising particles of a catalytically and chemically inert solid substance, which diluent is present in an amount ranging from 1 to 20 times by weight of the oxychlorination catalyst (a), and (c) a solution or suspension of a catalytically active copper compound.

*THE REFERENCE*

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| Cowfer et al. (Cowfer) | 4,339,620 | Jul. 13, 1982 |

*THE REJECTIONS*

Claims 17 and 19-29 stand rejected under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103 as being obvious over Cowfer.

*OPINION*

We have carefully considered all of the arguments advanced by appellants and the examiner and agree with appellants that the aforementioned rejections are not well founded. Accordingly, we do not sustain these rejections.

*Interpretation of appellants' independent claims*

During patent prosecution, claims are to be given their broadest reasonable interpretation consistent with the specification, and the claim language is to be read in view of the specification as it would be interpreted by one of ordinary skill in the art. *See In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989); *In re Sneed*, 710 F.2d 1544, 1548, 218 USPQ 385, 388 (Fed. Cir. 1983); *In re Okuzawa*, 537 F.2d 545, 548, 190 USPQ 464, 466 (CCPA 1976).

Appellants' claims 17 and 29, which are the only independent claims, require that the composition includes an oxychlorination catalyst, a diluent, and a solution or suspension of a catalytically active (claim 17) or reactive (claim 29) copper compound. Regarding the solution or suspension of the copper compound, appellants state that

"[t]he formulation can be a suspension rather than a solution, if the concentration of the copper compound is high or if the copper compound is but slightly soluble" (specification, page 6, lines 11-14). Appellants also state that "[t]he solution of the copper compound may be an aqueous solution" (specification, page 6, lines 15-16) and that "[i]n addition to this solution of a copper compound, it is also possible to add powdered copper, a powdered copper compound or fresh catalyst containing copper" (specification, page 6, lines 24-27).

The above statement that if the concentration of the copper compound is high or if the copper compound is only slightly soluble, the copper compound is suspended rather than being in solution, indicates that the suspension recited in appellants' claims is a suspension in a liquid, and not a suspension in a gas. Thus, this teaching indicates that "suspension of a catalytically active copper compound" in appellants' claim 17 and "suspension of a catalytically reactive copper compound" in appellants' claim 29 do not encompass oxychlorination catalyst particles suspended in a fluidized bed. That is, this teaching indicates that the

suspension recited in appellants' claims and the oxychlorination catalyst component in those claims are separate and distinct components of the composition. In addition, because appellants' solution and suspension are used alternatively, the teaching that powdered copper, a powdered copper compound or fresh catalyst containing copper can be added in addition to the solution indicates that appellants' recited suspension, like the solution, is separate and distinct from these powders or catalyst particles.

Thus, appellants' claims, when given their broadest reasonable interpretation consistent with the specification, do not include compositions in which the catalytically active or reactive copper compound is suspended in a gas but, rather, are limited to compositions in which the catalytically active or reactive copper compound is suspended in a liquid.

*The Cowfer reference*

Cowfer discloses a process for inhibiting the stickiness, in fluidized beds, of an oxychlorination catalyst for ethylene composed of cupric chloride on fluidizable alumina support particles (col. 2, lines 61-65). This inhibition of stickiness is accomplished by adding bare support particles to

the catalyst particles, which results in transfer, during operation of the fluidized bed, of a portion of the cupric chloride, particularly that which is concentrated on the surfaces of the catalyst particles, to the bare support particles (col. 3, lines 6-48). The bare support particles can be 5% to about 50% of the weight of the entire bed, provided that the final copper content is not reduced below about 2% (col. 4, lines 46-53).

Regarding the preparation of the catalyst particles, Cowfer states (col. 2, lines 9-19):

> Typically cupric chloride is dissolved in water, and the solution is slowly sprayed on the support with continuous mixing (or alternatively adding the support to the solution with mixing) followed by drying the wet subject until it is free flowing, calcining for a few hours at a temperature of about 110EC., and screening to eliminate large particles. The supported catalyst is then ready for addition to the oxyhydrochlorination reactor to function as the fluidized catalyst bed. The supported catalyst is prepared to contain from about 2 to 10 percent by weight copper.

*Rejection under 35 U.S.C. § 102(b)*

The examiner, relying upon the above excerpt from Cowfer (col. 2, lines 9-19) regarding the preparation of the catalyst particles, argues that "[p]resumably, the catalyst composition

*before drying* contains all three components - the oxychlorination component, the bare support (not all of the support surface is impregnated with limited amount of the copper chloride solution), and the copper chloride solution itself adhering to the support surface" (answer, page 5). The examiner apparently is of the view that as Cowfer's cupric chloride solution is slowly sprayed onto the support, some of the cupric chloride solution which has contacted the support impregnates some of the support particles, although Cowfer does not mention such impregnation, and the impregnated support is an oxychlorination catalyst. Even if such impregnation takes place, the examiner's argument is deficient in that the examiner has not established that such impregnated support particles, before drying and calcining, can function as an oxychlorination catalyst. Cowfer indicates that an oxychlorination catalyst is not formed until after drying and calcining such that a solid catalyst is produced (col. 1, lines 30-34; col. 2, lines 15-18). At this point, no cupric chloride solution, which must be present to meet the requirements of appellants' claims, is present.

For the above reasons, we find that the examiner has not

carried his initial burden of pointing out where each element of appellant's composition is found in one reference. *See In re Spada*, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990); *In re King*, 801 F.2d 1324, 1327, 231 USPQ 136, 138-39 (Fed. Cir. 1986). We therefore do not sustain the rejection under 35 U.S.C. § 102(b).

*Rejection under 35 U.S.C. § 103*

The examiner argues that "[s]ince Cowfer teaches the preparation of the catalyst by impregnating a copper solution into a support, followed by mixing with an additional portion of the bare support, it would have been obvious to one of ordinary skill in the art to add any amount of *any of the three components*, including selective addition of a solution or suspension of a copper compound into the reactor while the oxychlorination process is in progress, knowing well that it will not adversely affect the reaction" (answer, page 5).

In order for a rejection under 35 U.S.C. § 103 to be proper, the prior art must be such that it would have provided one of ordinary skill in the art with both a motivation to make appellants' catalyst and a reasonable expectation of

success in doing so. *See In re Vaeck*, 947 F.2d 488, 493, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991)*; In re O'Farrell*, 853 F.2d 894, 902, 7 USPQ2d 1673, 1680 (Fed. Cir. 1988); *In re Longi*, 759 F.2d 887, 892-93, 225 USPQ 645, 648 (Fed. Cir. 1985).

Even if, as asserted by the examiner, one of ordinary skill in the art would not have expected the presence of a solution of a copper compound to adversely affect Cowfer's oxychlorination reaction, the examiner's argument is not persuasive. The reason is that the examiner has not explained, and it is not apparent, why, in view of Cowfer, wherein the reaction takes place in the presence of a fluidized solid catalyst (col. 1, lines 30-37; col. 2, lines 16-18), one of ordinary skill in the art would have been motivated to add cupric chloride solution to the catalyst.

For the above reasons, we conclude that the examiner has not carried his initial burden of setting forth a *prima facie* case of obviousness of the invention recited in any of appellants' claims. Consequently, we do not sustain the rejection under 35 U.S.C. § 103.

Since no *prima facie* case of obviousness has been

established, we need not address the experimental results relied upon by appellants (brief, page 9). *See 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).

*DECISION*

The rejections of claims 17 and 19-29 under 35 U.S.C. § 102(b) as being anticipated by Cowfer and under 35 U.S.C. § 103 as being obvious over Cowfer are reversed.

*REVERSED*

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| TERRY J. OWENS<br>Administrative Patent Judge | ) | |
| THOMAS A. WALTZ<br>Administrative Patent Judge | ) | BOARD OF PATENT APPEALS AND INTERFERENCES |
| PAUL LIEBERMAN<br>Administrative Patent Judge | ) | |

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