

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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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PATENT OFFICE  
BOARD OF PATENT APPEALS  
AND INTERFERENCES

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

~~Ex parte UWE NEUMANN, MICHAEL HOENEL,  
PAUL OBERRESSL and MARION KELLER~~

Appeal No. 95-2166  
Application 07/992,856

HEARD: NOVEMBER 15, 1995

Before KIMLIN, JOHN D. SMITH and WARREN, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

**DECISION ON APPEAL**

This is an appeal from the final rejection of claims 1 through 9, 11, and 14 through 18, which are all of the claims remaining in the application.<sup>2</sup> Claim 1 is illustrative:

<sup>1</sup> Application for patent filed December 16, 1992.

<sup>2</sup> As noted by the examiner in his answer and acknowledged by appellants in their reply brief, there are a number of errors in the copy of the claims on appeal appended to the brief. We have included a correct copy of claim 1 in this decision and observe that appellants have appended a correct copy of claim 14 to the reply brief. We note the following corrections to the

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1. A curable binder consisting essentially of:

A. a polyepoxide and

B. a carboxyl group-containing polymer which is obtained by reacting a carboxy-functional polyester b1 with substoichiometric amounts of an epoxy compound b2.

The claims on appeal, as represented by claim 1,<sup>3</sup> are drawn to a curable binder which consists essentially of a mixture of a polyepoxide and a carboxyl group-containing polymer. The carboxyl group-containing polymer is characterized as the reaction product of a carboxy-functional polyester and a substoichiometric amount of an epoxy compound. The curable binders are useful in coating compositions, especially where stoving temperatures are employed.

The references relied on by the examiner are:

Van Den Elshout et al. (Elshout)	5,168,110	Dec. 1, 1992
Steinmann et al. (Steinmann)	5,177,159	Jan. 5, 1993

Claims 17 and 18 on appeal stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly and distinctly claim the subject matter which

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copy of the claims appended to the brief: in claim 3, the word "group" rather than "groups" should appear in line 3, while the word "monomeric" rather than "monomer" should appear in line 4; in claim 4, the phrase "mixtures of at least one polycarboxylic acid" should appear after "d)" in line 8; and, in claim 16, the word "ratio" rather than "ration" should appear in line 2.

<sup>3</sup> We will not discuss here the particulars of the remaining claims on appeal as appellants have stipulated that all of the claims on appeal stand or fall together (Brief, page 5).

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appellants regard as their invention, and, claims 1 through 9, 11, and 14 through 18 on appeal stand rejected under 35 U.S.C. § 103 as being unpatentable over Van Den Elshout in view of Steinmann. Upon careful review of the record presented on appeal, we find that we can sustain the rejection under 35 U.S.C. § 112, second paragraph, but not the rejection under 35 U.S.C. § 103.

Rather than reiterate the respective positions advanced by the examiner and the appellant with respect to the grounds of rejection, we refer to the answer and supplemental answer and to the brief and reply brief for a complete exposition thereof.

*OPINION*

*35 U.S.C. § 112, second paragraph*

We affirm this rejection as we agree with the examiner that the article "the" indicates an antecedence which is not found in claim 1 on which claim 17 is dependent. We note that appellants have indicated a willingness to "use the article 'a' to obviate this ground of rejection" (reply brief, page 4).

*35 U.S.C. § 103*

We find ourselves in agreement with appellants that the examiner has failed to carry his burden of establishing a *prima facie* case of obviousness over the references relied on. This burden may be satisfied by showing some objective teachings or suggestions in the prior art taken as a whole or that knowledge

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generally available to one of ordinary skill in the art would have led that person to combine the relevant teachings of the references in the proposed manner to arrive at the claimed invention without recourse to the teachings in applicants' disclosure. *See generally In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1471-72, 223 USPQ 785, 787-88 (Fed. Cir. 1984); *In re Fine*, 837 F.2d 1071, 1074-1076, 5 USPQ2d 1596, 1598-1600 (Fed. Cir. 1988) and cases cited therein; *In re Warner*, 379 F.2d 1011, 154 USPQ 173 (CCPA 1967), *cert. denied*, 389 U.S. 1057 (1968).

We observe that Van Den Elshout discloses powder coating compositions in which a carboxyl-functional polyester is mixed with a specific epoxy-functional crossing linking agent prepared as described in the reference to form a curable composition.<sup>4</sup> The reference further discloses that the epoxy-functional crossing linking agent is the reaction product of an isocyanate containing compound and a hydroxyglycidyl ester, wherein the isocyanate-containing compound is the reaction product of a polyisocyanate and an active hydrogen-containing compound which

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<sup>4</sup> See, e.g., column 1, lines 6 to 8 and 14 to 20. The reference discloses that the epoxy-functional cross-linking agent is mixed with carboxyl-functional polyester resins, pigments and other additives, and optionally other epoxy-functional cross-linking agents, and then the mixture is cured. See, e.g., column 3, lines 19 to 25; column 7, lines 21 to 25; and Example V.

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may be a hydroxy-functional polyester that may contain carboxyl groups.<sup>5</sup>

Upon careful review of Van Den Elshout, we fail to find in this disclosure any factual support for the examiner's finding that the reference discloses the reaction of a carboxyl functional polyester and an epoxy crosslinking agent to obtain a product which is "considered to be applicants' component B" (answer, page 4). Indeed, it is not apparent to us that the reference would have reasonably suggested any reaction product that would be identical or substantially identical to the reaction product of a carboxy-functional polyester with a substoichiometric amount of an epoxy compound which characterizes the carboxyl group-containing polymer that is component "B" which must be capable of forming a curable binder with a polyepoxide as required by claim 1.<sup>6</sup> See generally *In re Spada*, 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990); *In re Thorpe*, 777 F.2d 695, 227 USPQ 964 (Fed. Cir. 1985); and *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977). This deficiency of Van Den Elshout

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<sup>5</sup> See, e.g., column 1, line 25, to column 3, line 13; column 5 lines 22 to 25 and 54 to 55; column 5, line 59 to column, 6, line 14; column 6, line 53, to column 7, line 10; and Examples I through IV.

<sup>6</sup> Even if an appropriate carboxyl group-containing hydroxy-functional polyester ("an acid number lower than 10 mg KOH/g") would be selected to react with an appropriate polyisocyanate to form a "carboxy-functional" isocyanate-containing polyester, it is not apparent to us that the further reaction thereof with a hydroxy- and epoxy-functional hydroxyglycidyl ester would result in a "carboxyl group-containing polymer" capable of curing a polyepoxide.

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respecting the claimed invention is not cured by Steinmann which is relied on only for the "functional equivalency of certain epoxides" (answer, page 5). Thus, the combination of references would have failed to reasonably suggest the claimed invention to one of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871, 881-82 (CCPA 1981), and the *concurring opinion of Chief Judge Nies in Oetiker*, 977 F.2d at 1447, 24 USPQ2d at 1446.

Although we reverse the examiner's rejection based on Van Den Elshout and Steinmann, we nevertheless conclude that the claimed invention is unpatentable over the prior art. Accordingly, we enter the following new grounds of rejection under the provisions of 37 CFR § 1.196(b).

Claims 1 through 9, 11, and 14 through 18 are rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103 as unpatentable over Steinmann. This reference discloses curable compositions containing an epoxy resin and a polyhydroxy ester containing carboxyl end groups obtained from the reaction of a dicarboxylic acid with a substoichiometric amount of a diepoxide. The curable composition may be used for the production of cured products including, *inter alia*, coating compositions wherein the cured product has very good adhesion to degreased and oiled steel. It is thus apparent to us that the products described in terms of product-by-process format in the reference are identical or substantially identical

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to the presently claimed products defined in similar manner, or are produced by identical or substantially identical processes. *In re Spada*, 911 F.2d at 705; *In re Thorpe*, 777 F.2d at 695; and *In re Best*, 562 F.2d at 1252; see also *Ex parte Gray*, 10 USPQ2d 1922 (Bd. Pat. App. & Inter. 1989). The generic recitation of the curable composition in Steinmann reads on the curable composition of claim 1 on appeal while the specific components and reaction conditions set forth in the reference clearly are identical to or substantially identical to the requirements of the other claims on appeal.<sup>7</sup> We note, for example, that reaction products corresponding to "x" equal 1 in the formula in column 3, line 27, are identical or substantially identical to the condensation products required by claim 4 and produced by a substantially identical process. Consequently, we are of the view that the claimed invention as a whole was either anticipated by or at

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<sup>7</sup> In addition to the recitation of the generic curable composition in Steinmann, e.g., column 1, appellants' attention is directed to, *inter alia*, the preference for the epoxy resins at column 3, lines 1 to 7, which are also preferred for the diepoxide, e.g., column 5, lines 41 to 42, and column 8, lines 23 to 24; the dicarboxylic acids, e.g., column 5, lines 43 to 59, and column 8, lines 41 to 46; the method of preparing the polyhydroxy esters containing carboxyl end groups which may have an acid number at least in the range of 10 to 130, including specific examples, e.g., column 1, lines 28 to 31, column 3, line 16, to column 4, line 12, and column 7, line 62, to column 9, line 53; and the production of the curable compositions including component ratios and resulting properties of the compositions as well as the cured product, e.g., column 1, lines 32 to 39, column 6, line 1 to column 7, line 60, and column 9, line 54 to column 14, line 52.

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least reasonably suggested to one of ordinary skill in this art by Steinmann at the time the claimed invention was made.

In entering this new ground of rejection, we have carefully considered the record as a whole, including appellants' arguments and the Neumann Declaration, filed March 28, 1994 (Paper No. 10), but do not find therein any evidence which would establish that the claimed invention is patentable when considered with the evidence of anticipation and obviousness found in Steinmann.

In summary, we have sustained the rejection of claims 17 and 18 under 35 U.S.C. § 112, second paragraph, but not the rejection of claims 1 through 9, 11, and 14 through 18 under 35 U.S.C. § 103. We have set forth a new ground of rejection of all appealed claims under the provisions of 37 CFR § 1.196(b).

The examiner's decision is affirmed-in-part.

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 hereof. 37 CFR § 1.197.

With respect to the new rejection under 37 CFR § 1.196(b), should appellants elect the alternate option under that rule to prosecute further before the primary 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

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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 us for final action on the affirmed rejection, including any timely request for reconsideration thereof.

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

**AFFIRMED-IN-PART - 37 CFR § 1.196(b)**



EDWARD C. KIMLIN )  
Administrative Patent Judge )



JOHN D. SMITH )  
Administrative Patent Judge )

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CHARLES F. WARREN )  
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