

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte THOMAS E. SCHOENER and JEFFREY B. HOUSENICK

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Appeal No. 1997-3563  
Application No. 08/321,460

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ON BRIEF

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Before, GARRIS, OWENS and KRATZ, Administrative Patent Judges.  
KRATZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 33-49, 52, 53 and 56-64, which are all of the claims pending in this application.

BACKGROUND

Appellants' invention relates to a bonding method utilizing a curable adhesive composition. The claimed process includes the steps of: (1) providing an isocyanate component; (2) providing a catalyzed component that includes a hydroxyl functional component, a specified heat activatable amine or aza catalyst and an activatable metal containing catalyst that

was formed by complexing tin or bismuth catalysts with excess mercapto compound; (3) admixing those components to form a curable composition; (4) applying the curable composition to a bondline intermediate adherends; and (5) bonding the adherends by heating the curable composition above a threshold temperature.

According to appellants (specification, page 2), employing the particular catalyst combination as used in their claimed process results in long open and fast cure times. Exemplary claim 33 is reproduced below.

33. A method for bonding a pair of adherends with a curable adhesive composition, which comprises the steps of:

- (A) providing an isocyanate component;
- (B) providing a catalyzed component comprising:
  - (1) a hydroxyl functional component;
  - (2) a heat-activatable amine or aza catalyst which is activatable at temperatures above a threshold temperature of about 65°C, said heat activatable amine or aza catalyst selected from the group consisting of; 1,8-diazabicyclo(5,4,0)undecene-7; 1,5-diazabicyclo(5,4,0)undec-5-ene; derivatives and mixtures thereof; and
  - (3) an activatable complexed metal catalyst comprising the reaction product of a metal catalyst selected from the group consisting of tin catalysts, bismuth catalysts, and mixtures thereof, and a molar excess of a mercapto compound complexing agent;

(C) admixing said isocyanate component and said catalyzed component to form said curable composition;

(D) applying said curable adhesive composition to a bondline intermediate said adherends; and

(E) bonding said adherends at said bondline by heating said curable adhesive composition above said threshold temperature to effect its curing by activating said amine or amine-like catalyst and said complexed metal catalyst.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Chang 1986	4,598,103	Jul. 01,
Dammann et al. (Dammann) 28, 1988	4,788,083	Nov.
Chung 1991	5,002,806	Mar. 26,

Claims 33-49, 52, 53 and 56-64 stand rejected under 35 U.S.C. § 103 as being unpatentable over Chung in view of Dammann and Chang.

#### OPINION

Upon careful review of the entire record including the respective positions advanced by appellants and the examiner, we find ourselves in agreement with appellants that the examiner has failed to carry the burden of establishing a prima facie case of obviousness. See In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); In re Piasecki, 745 F.2d 1468, 1471-1472, 223 USPQ 785, 787-788

(Fed. Cir. 1984). Accordingly, we will not sustain the examiner's rejection.

As explained by appellants (brief, page 7), the examiner's position appears to be "that it would have been obvious to employ the catalyst system disclosed in the Dammann et al. reference in the Chung adhesive composition . . . ." See Paper No. 16, pages 5-10 for the examiner's complete statement of the rejection as referred to at page 3 of the answer. However, as correctly pointed out by appellants (brief, page 10), Dammann is directed to a catalyst used for a coating composition and Dammann discloses using a separate liquid or vapor phase of an amine catalyst for curing a mixture of an isocyanate component with a hydroxyl functional component that contains a complexed metal catalyst. See Dammann at column 2, lines 37-40, column 3, lines 55-61, column 4, lines 41-62 and column 10, line 50 through column 11, line 29. Consequently, Dammann together with Chung would not suggest applying an admixture of an isocyanate component with a catalyzed component including a hydroxyl functional component and both an amine and complexed metal catalyst to a bondline intermediate adherents as required by appellants'

claims. This is so since Dammann (Figure 1 and column 4, lines 53-56) suggests that doing so would result in the immediate curing of such an admixture by way of the amine catalyst triggering the formation of the unhindered or active catalyst species II and IV, which immediate curing is not desired according to Chung (column 1, lines 46-48 and column 2, lines 23-25). Nor has the examiner established that the additionally applied Chang patent cures the above-noted deficiencies.

"It is well established that before a conclusion of obviousness may be made based on a combination of references, there must have been a reason, suggestion or motivation to lead an inventor to combine those references." Pro-Mold and Tool Co. v. Great Lakes Plastics Inc., 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1629 (Fed. Cir. 1996). Here, the examiner has not established any convincing reason, suggestion or motivation for combining the references as proposed (see the Brief, pages 10-13). The examiner has essentially only made general statements that Dammann suggests extended pot life and rapid cure in the presence of an amine activator (Paper No. 16, pages 6-8) and that the benefits of such would have been

applicable to the bonding method disclosed in Chung without considering the requirement for adequate "open time" as discussed in Chung.

The mere fact that the prior art could be modified as proposed by the examiner is not sufficient to establish a prima facie case of obviousness. See In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992). The examiner must explain why the prior art would have suggested to one of ordinary skill in the art the desirability of the modification. See Fritch, 972 F.2d at 1266, 23 USPQ2d at 1783-84. The examiner has not provided such an explanation.

Concerning this matter, the examiner's comments at page 4 of the answer beg the question as to why one of ordinary skill in the art would have been led to utilize only a portion of Dammann's teachings regarding the activatable complexed metal catalyst in combination with Chung while ignoring the other teachings of Dammann regarding the amine activator addition resulting in rapid curing, which would be contrary to the "open time interval" desired by Chung. When it is necessary to select elements of various teachings in order to form the

claimed invention, it must be ascertained whether there is any suggestion or motivation in the prior art to make the selection made by the applicant. Interconnect Planning Corp. v. Fell, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1985). In essence, the examiner's obviousness conclusion appears to be based upon impermissible hindsight derived from the appellants' own disclosure rather than a teaching, suggestion or incentive derived from the applied prior art. It follows that the rejection under 35 U.S.C. § 103 of the appealed claims as being unpatentable over the applied references should not be sustained.

CONCLUSION

The decision of the examiner to reject claims 33-49, 52, 53 and 56-64 under 35 U.S.C. § 103 as being unpatentable over Chung in view of Dammann and Chang is reversed.

REVERSED

BRADLEY R. GARRIS	)	
Administrative Patent Judge	)	
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	)	
	)	
	)	BOARD OF PATENT
TERRY J. OWENS	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
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PETER F. KRATZ	)	
Administrative Patent Judge	)	

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APPEAL NO. - JUDGE KRATZ  
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DECISION: **ED**

Prepared By:

**DRAFT TYPED:** 27 Mar 02

**FINAL TYPED:**