

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 18

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* REINER WITKOWSKI, OTTO GANSTER,  
HEINRICH KONIGSHOFEN and RALPH OSTAREK

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Appeal No. 96-1142  
Application 07/939,180<sup>1</sup>

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ON BRIEF

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Before WILLIAM F. SMITH, OWENS and ROBINSON, *Administrative Patent Judges*.

OWENS, *Administrative Patent Judge*.

*DECISION ON APPEAL*

This is an appeal from the examiner's final rejection of claims 7-11, which are all of the claims remaining in the

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<sup>1</sup> Application for patent filed September 2, 1992. According to the appellants, the application is a division of Application 07/641,980, January 16, 1991, now abandoned.

application.

*THE INVENTION*

Appellants claim a process for laminating thermoplastic moldings by use of a recited heat-activatable adhesive.

Appellants indicate that due to the recited weight ratio of the specified dispersions in the adhesive, the adhesive has a low activation temperature (specification, page 3, lines 27-30; page 14, lines 2-7). Claim 7 is illustrative and reads as follows:

7. A process for laminating thermoplastic moldings with heat-activatable adhesive films softened by heat, comprising applying the adhesive to a surface of the molding and contacting the surface with another molding surface to which the adhesive is optionally applied, wherein the heat-activatable adhesive film comprises a mixture containing:

A) at least one aqueous dispersion of a polymer which has a softening point of below 70EC, said dispersion containing 5 to 70% by weight solids and having a film-forming temperature below 70EC, and

B) at least one aqueous dispersion of a polymer based on olefinically unsaturated monomers having a softening point above 70EC, said dispersion containing 5 to 70% by weight solids,  
wherein the weight ratio of dispersions A) to dispersion B) is from 97:3 to 60:40, based on the solids content of said dispersions

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C) at least one polyisocyanate compound containing at least two isocyanate groups.

*THE REFERENCES*

Chao 1987	4,636,546	Jan. 13,
Hombach et al. (Hombach) 1987	4,663,377	May 5,
Henning <sup>2</sup> 1988 (European patent application)	0 276 482	Aug. 3,

*THE REJECTIONS*

Claims 7-11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chao and also over Henning in view of Hombach.<sup>3</sup>

*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

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<sup>2</sup> Citations herein to this reference are to the English translation thereof, which is of record.

<sup>3</sup> These rejections are set forth on page 2 of the supplemental answer mailed on April 12, 1999, paper no. 17.

founded. Accordingly, we do not sustain these rejections.

*Rejection over Chao*

Chao discloses a process which "provides water-based coatings and adhesives which exhibit excellent adhesion to a variety of rigid and non-rigid substrates, including metal, plastic, leather, wood, wood fiber products and non-woven fibers" (col. 5, lines 63-67). The process is a two-step process wherein (1) an aqueous dispersion of a latex polymer containing active hydrogen is mixed with at least one multi-functional isocyanate to form a polymer-isocyanate adduct, and (2) the adduct is subsequently mixed with an aqueous dispersion of a polyurethane polymer (col. 5, lines 40-45; col. 6, lines 10-18). The useful levels of polyurethane polymer and isocyanate in the composition are, respectively, from about 0.1 wt% to about 50 wt% and from about 0.05 wt% to about 10 wt% of the composition on a dry weight basis (col. 9, lines 27-30; col. 10, lines 1-4).

Appellants argue (supplemental reply brief, page 2), and

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the examiner states (answer, page 3), that the ratio of dispersions recited in appellants' independent claim, i.e., 97:3 to 60:40 based on the solids content of the dispersions, is not met by Chao. The examiner argues that once the dispersions are mixed, the water in the dispersions is indistinguishable and that, therefore, one of ordinary skill in the art would have reasonably expected Chao to achieve the same results as appellants (answer, pages 3-4). This argument is not well taken because the mixing

of the water from Chao's dispersions does not change the relative amount of polymer solids from the dispersions which, the examiner states (answer, page 3), is different than that recited in appellants' independent claim.

The examiner argues that it would have been obvious to one of ordinary skill in the art to adjust the relative amount of solids from Chao's dispersions to obtain optimum results (supplemental answer mailed on February 24, 1995, paper no. 12, page 1). Chao indicates that the optimum ratio of

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dispersions, based on their solids content, is within a limited range, and that the optimum should be sought within this range (col. 9, lines 27-30; col. 10, lines 1-4; examples I to III). In such a case, it may not have been obvious to one of ordinary skill in the art to determine optimum values outside this range. See *In re Sebek*, 465 F.2d 904, 907, 175 USPQ 93, 95 (CCPA 1972). The examiner has not explained why, in view of the disclosure by Chao, optimizing Chao's weight ratio of dispersions, based on the solids content of the dispersions, in a manner in which the ratio recited in appellants' independent claim is obtained, would have been obvious to one of ordinary skill in the art.

The examiner argues that if one of ordinary skill in the art wanted to make appellants' composition, that person could do so by changing the relative amounts of solids from the dispersions (supplemental answer mailed on February 24, 1995, paper no. 12, pages 1-2). This argument is not persuasive because in order for a *prima facie* case of obviousness to be

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established, the teachings from the prior art itself must appear to have suggested the claimed subject matter to one of ordinary skill in the art. See *In re Rinehart*, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976). 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 argues, in reliance upon *In re Larsen*, 292 F.2d 531, 130 USPQ 209 (CCPA 1961), *cert. denied*, 370 U.S. 936 (1962), *In re Albertson* 332 F.2d 379, 141 USPQ 730 (CCPA 1964), and *In re Durden*, 763 F.2d 1406, 226 USPQ 359 (Fed. Cir. 1985), that even if Chao's composition differs from that of appellants, the relevant issue is the process steps, not the materials involved in the process (answer, pages 6-8).

The examiner's argument is based on a *per se* rule that use of a new starting material in a prior art process would have been obvious to one of ordinary skill in the art. As stated by the Federal Circuit in *In re Ochiai*, 71 F.3d 1565,

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1572, 37 USPQ2d 1127, 1133 (Fed. Cir. 1995), "reliance on *per se* rules of obviousness is legally incorrect and must cease."

The court further stated:

Mere citation of *Durden*, *Albertson*, or any other case as a basis for rejecting process claims that differ from the prior art by their use of different starting materials is improper, as it sidesteps the fact-intensive inquiry mandated by section 103. In other words, there are not "*Durden* obviousness rejections" or "*Albertson* obviousness rejections," but rather only section 103 obviousness rejections.

*Ochiai*, 71 F.3d at 1570, 37 USPQ2d at 1132.

When an examiner is determining whether a claim should be rejected under 35 U.S.C. § 103, the claimed subject matter as a whole must be considered. See *Ochiai*, 71 F.3d at 1569, 37 USPQ2d at 1131. The subject matter as a whole of process claims includes the starting materials and product made. When the starting and/or product materials of the prior art differ from those of the claimed invention, the examiner has the burden of explaining why the prior art would have led one of ordinary skill in the art to modify the materials of the prior art process so as to arrive at the claimed invention. See *Ochiai*, 71 F.3d at 1570, 37 USPQ2d at 1131. In the present

case, the examiner has not carried this burden.

For the above reasons, we conclude that the examiner has not carried his burden of establishing a *prima facie* case of obviousness over Chao of the process recited in any of appellants' claims. Accordingly, the rejection of claims 7-11 over Chao is reversed.

*Rejection over Henning in view of Hombach*

Henning discloses mixtures of aqueous polymer dispersions which include (A) at least one aqueous dispersion having a film forming temperature below 70°C, with hydrophile groups, preferably a dispersion of polyurethanes having hydrophile groups, and (B) at least one aqueous dispersion of a polymer which does not form a film below 70°C and which has a melting point greater than 70°C, wherein the weight ratio of dispersions (A) to (B) is from 97:3 to 50:50, based on the solids content of the dispersions (pages 2, 3 and 10). The mixtures are disclosed as being useful for forming coatings, especially coatings on flexible substrates such as textile substrates or leather

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(page 2). The coating mixtures "can be used both as base coat or adhesion coat and as finishing or cover coat" (page 11).

Hombach discloses a polyisocyanate composition which is dispersible in water, has an average NCO functionality of about 2.0 to 3.5, and contains 1) an aliphatic polyisocyanate or a mixture of aliphatic polyisocyanates, and 2) a quantity of emulsifier sufficient to ensure the dispersibility of the polyisocyanates (col. 2, lines 13-19). Aqueous dispersions formed by adding the polyisocyanates to aqueous adhesives are useful for bonding a number of materials including plastics (col. 6, lines 25-34). Hombach states that "[t]he polyisocyanate preparations are particularly suitable for modifying aqueous adhesives having a solids content of about 10 to 65% by weight, preferably about 20 to 60% by weight, such as natural latex, aqueous dispersions of homo or copolymers of olefinically unsaturated monomers and the known aqueous polyurethane dispersions" (col. 5, lines 19-25). The polyisocyanates provide improved heat resistance and water resistance and, relative to aromatic polyisocyanates, added pot life (col. 6, lines 35-41).

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Appellants argue that there is no compelling basis for combining Henning and Hombach (brief, page 3).

The examiner argues that "[o]ne of ordinary skill in the art would be motivated to form a laminate coating of Henning employing a polyisocyanate compound which is disclosed by Hombach in order to achieve an adhesive coating which exhibits increased heat resistance and water resistant properties of the laminated product" (answer, page 5).

By "laminate coating of Henning", the examiner apparently means a multi-layer coating which includes an adhesion coat which, as pointed out above, is one type of coating which Henning states can be formed using his composition. The examiner's reasoning is deficient in that the examiner has not explained why one of ordinary skill in the art would have been led by the applied references to add a polyisocyanate to Henning's coating mass, which is disclosed as being useful for coating flexible substrates such as textiles and leather (page 2), and to use the modified coating mass to laminate thermoplastic moldings. The examiner, therefore, has not

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established a *prima facie* case of obviousness over Henning and Hombach of the process recited in any of appellants' claims. Accordingly, the rejection of claims 7-11 over these references is reversed.

*DECISION*

The rejections of claims 7-11 under 35 U.S.C. § 103(a) over Chao, and over Henning in view of Hombach, are reversed.

*REVERSED*

WILLIAM F. SMITH	)	
Administrative Patent Judge	)	
	)	
	)	
	)	BOARD OF PATENT
TERRY J. OWENS	)	)
Administrative Patent Judge	)	APPEALS AND
	)	
	)	INTERFERENCES

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DOUGLAS W. ROBINSON )  
Administrative Patent Judge )

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