

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 26

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* WEI-HSIN HOU and FREDERIC E. SCHUBERT

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Appeal No. 1997-0646  
Application 08/383,667<sup>1</sup>

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ON BRIEF

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

OWENS, *Administrative Patent Judge.*

*DECISION*

This is an appeal from the examiner's refusal to allow claims 1, 3, 5-13, 15, 22-26 and 28 as amended after final

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<sup>1</sup> Application for patent filed February 3, 1995. According to the appellants, the application is a continuation of Application 08/065,871, filed May 21, 1993, now abandoned.

rejection. These are all of the claims remaining in the application.

*THE INVENTION*

Appellants' claimed invention is directed toward a dielectric dispersion which contains two types of particles having different colors and opposite charges and which is useful in electrophoretic image displays and electrostatic printing

(specification, page 1, lines 2-6). Claim 1 is illustrative and reads as follows:

1. A dielectric dispersion, comprising:

(a) a dielectric fluid;

(b) a first plurality of particles of a first color having a surface charge of a selected polarity dispersed within said dielectric fluid; and

(c) a second plurality of particles of a second color which contrasts substantially with said first color, having a surface charge of opposite polarity to that of said first plurality of particles; and

(d) means for preventing coagulation of said first and second plurality of particles, wherein said means includes a charge control agent for positively charging said first plurality of particles, a second charge control agent for negatively charging said second plurality of particles, and a

Appeal No. 1997-0646  
Application 08/383,667

stabilizer for thermodynamically stabilizing said first plurality of particles and said second plurality of particles, wherein said stabilizer is selected from the group consisting of homopolymers, copolymers, graft polymers, block polymers, and natural high molecular weight compounds.

*THE REFERENCE<sup>2</sup>*

Carter et al. (Carter)	4,093,534	Jun. 6,
1978		

*THE REJECTIONS*

Claim 1 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which appellants regard as their invention. Claims 1, 3, 5-13, 15, 22-26 and 28 stand rejected under 35 U.S.C. § 103 as being unpatentable over Carter.

*OPINION*

We have carefully considered all of the arguments advanced by appellants and the examiner and agree with

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<sup>2</sup>The examiner refers to disclosures in Chang (U.S. 4,285,801) and Müller et al. (U.S. 4,298,448) (answer, pages 6 and 10-13). These references are not included in the statement of the rejection and, therefore, are not properly before us. See *In re Hoch*, 428 F.2d 1341, 1342 n.3, 166 USPQ 406, 407 n.3 (CCPA 1970).

Appeal No. 1997-0646  
Application 08/383,667

appellants that the aforementioned rejections are not well founded. Accordingly, we reverse these rejections.

*Rejection under 35 U.S.C. § 112, second paragraph*

The relevant inquiry under 35 U.S.C. § 112, second paragraph, is whether the claim language, as it would have been interpreted by one of ordinary skill in the art in light of appellants' specification and the prior art, sets out and circumscribes a particular area with a reasonable degree of precision and particularity. See *In re Moore*, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971). Claims are analyzed not in a vacuum but, rather, in light of the application disclosure and the prior art. See *In re Kroekel*, 504 F.2d 1143, 1146, 183 USPQ 610, 612 (CCPA 1974); *In re Moore*, 439 F.2d 1232, 1235, 169 USPQ 236, 238-39 (CCPA 1971).

The examiner argues that the term "charge control agent" appears to overlap the term "stabilizer" in appellants' claim

1 (answer, pages 6-9). The examiner, however, does not explain why these terms would have caused appellants' claim 1, when interpreted by one of ordinary skill in the art in light of appellants' specification and the prior art, to fail to set out and circumscribe a particular area with a reasonable degree of precision and particularity. We therefore reverse the rejection under 35 U.S.C. § 112, second paragraph.

*Rejection under 35 U.S.C. § 103*

Carter discloses working fluids for electrophoretic image display devices (col. 1, lines 5-6). The fluids include at least two species of finely divided opaque particles, wherein the particles are transportable within a suspension medium under the influence of an electric field, the species and the suspension medium are of contrasting colors, and the species are adapted to acquire opposite charges (col. 1, lines 8-27). Carter states that charge control agents can be incorporated into the working fluid (col. 4, lines 12-14), but does not provide any details regarding the charge control agents. The finely divided opaque particles are coated with a compound

which increases the attractive force between the particles themselves or between the particles and an electrode, and which preferably is capable of forming hydrogen bonds or strong dipoles (col. 2, lines 54-62). Carter teaches that one class of such compounds is polyols such as pentaerythritol, poly(ethylene glycol) and poly(vinyl alcohol), and that the compound also can be poly(ethylene oxide) (col. 3, lines 1-2).

The examiner argues (answer, page 6) that Carter discloses that both poly(vinyl alcohol) and poly(ethylene oxide) can be used to coat the particles, and that appellants' specification (page 11, lines 15 and 19) states that these compounds both are preferred charge control agents. Appellants' specification (page 11, lines 13-20) states that the desirable charge control agents for positive charging include polyvinyl alcohol, and that the desirable charge control agents for negative charging include polyethylene oxide. Appellants' claim 1 requires that both a charge control agent for positive charging and a charge control agent for negative charging are used. The examiner has not

Appeal No. 1997-0646  
Application 08/383,667

explained, however, why Carter would have fairly suggested, to one of ordinary skill in the art, use of poly(vinyl alcohol) and poly(ethylene oxide) in combination such that the dispersion recited in appellants' claim 1 is obtained. The examiner, therefore, has not carried her burden of establishing a *prima facie* case of obviousness of the invention recited in claim 1. Accordingly, we reverse the rejection under 35 U.S.C. § 103 of this claim and claims 3, 5-13, 15, 22-26 and 28 which depend, directly or indirectly, therefrom.

*DECISION*

The rejections of claim 1 under 35 U.S.C. § 112, second paragraph, and claims 1, 3, 5-13, 15, 22-26 and 28 under 35 U.S.C. § 103 over Carter, are reversed.

*REVERSED*

Appeal No. 1997-0646  
Application 08/383,667

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