

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(2) is not binding precedent of the Board.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 JAMES D. MAYO and CHENG-KUO HSIAO

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Appeal No. 1997-4107  
Application No. 08/510,730

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ON BRIEF

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Before WARREN, WALTZ, and LIEBERMAN, Administrative Patent  
Judges.

LIEBERMAN, Administrative Patent Judge.

**DECISION ON APPEAL**

This an appeal under 35 U.S.C. § 134 from the examiner's  
refusal to allow claims 1, 2, 5 through 17 and 19 through 25  
which are all the claims remaining in the application.

### **THE INVENTION**

The invention is directed to a photo conductive imaging member having a photo generating layer. This layer contains a specific mixture of hydroxy gallium phthalocyanine and tetrafluoro hydroxy gallium phthalocyanine. Each of five specified types of tetrafluoro hydroxy gallium phthalocyanine is characterized by x-ray powder diffraction traces having major and minor peaks characterized by specific Bragg angles.

### **THE CLAIM**

Claim 1 is illustrative of appellants' invention and is reproduced below.

A photoconductive imaging member consisting essentially of a supporting substrate, a photogenerating layer, and a charge transport layer, and wherein said photogenerating layer is comprised of a mixture of a hydroxygallium phthalocyanine and a tetrafluoro hydroxygallium phthalocyanine selected from the group consisting of Type I tetrafluoro hydroxygallium phthalocyanine with an X-ray powder diffraction trace having a major peak at Bragg angles of 6.5, and minor peaks at 15.6, and 26.5 degrees  $2\theta$ , Type II tetrafluoro hydroxygallium phthalocyanine with an X-ray powder diffraction trace having a major peak at Bragg angles of 6.6, and minor peaks at 12.7, 15.4, 26.3, and 27.0 degrees  $2\theta$ , Type III tetrafluoro hydroxygallium phthalocyanine with an X-ray powder diffraction trace having a major peak at Bragg angles of 7.5, and minor peaks at 9.1, 15.6, 16.5, 19.5, 21.8, 22.6, and 27.3 degrees  $2\theta$ , Type IV tetrafluoro hydroxygallium phthalocyanine with an

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X-ray powder diffraction trace having a major peak at Bragg angles of 6.5, and minor peaks at 7.5, 15.2, 15.7, and 26.5 degrees 2 $\theta$ , and Type V tetrafluoro hydroxygallium phthalocyanine with an X-ray powder diffraction trace having a major peak at Bragg angles of 6.6 and minor peaks at 6.0, 13.4, 14.7, 15.9, 16.9, 26.1, and 27.0 degrees 2 $\theta$ .

#### **THE REFERENCES OF RECORD**

As evidence to support the rejection, the examiner relies upon the following references.

National Bureau of Standards, "Tables for Conversion of X-ray Diffraction Angles to Interplanar Spacing," (9/1950) Washington, US Government Printing Office, pp. 1, 7, 21, 27, 41, 47, 61, 67, 81, 87, 101, and 107.

Klug, Harold and Leroy Alexander. X-ray Diffraction Procedures, (1974) New York: John Wiley and Sons. p. 69.

Cullity, B. D., Elements of X-ray Diffraction. (1978) Reading, MA: Addison-Wesley Publishing Co., Inc., pp. 3, 4, and 21.

Ladd, M. and R. Palmer. Structure Determination by X-ray Crystallography, (1985) New York: Plenum Press. pp. 120-124.

#### **THE REJECTIONS**

Claims 1, 2, 5 through 17, and 19 through 25 stand 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 applicants regard as the invention.

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### OPINION

We have carefully considered all of the arguments advanced by appellants and the examiner, and agree with the appellants that the aforementioned rejection under 35 U.S.C. § 112, second paragraph, is not well founded. Accordingly, we will not sustain this rejection.

#### ***The Rejection under Section 112 -- Indefiniteness***

"The legal standard for definiteness under the second paragraph of 35 U.S.C. § 112 is whether a claim reasonably apprises those of ordinary skill in the art of its scope."

#### **See**

**In re Warmerdam**, 33 F.3d 1354, 1361, 31 USPQ2d 1754, 1759 (Fed. Cir. 1994). The inquiry is to determine whether the claim sets out and circumscribes a particular area with a reasonable degree of precision and particularity. The definiteness of the language employed in a claim must be analyzed not in a vacuum, but in light of the teachings of the particular application as it would be interpreted by one possessing the ordinary level of skill in the pertinent art.

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See In re Moore, 439 F.2d 1232, 1235,  
169 USPQ 236, 238 (CCPA 1971).

It is the examiner's position that the claims are indefinite because the wavelength of radiation required by the Bragg equation has not been specified in the specification. Hence, the Bragg equation cannot be satisfied and the claims are necessarily indefinite. The examiner further submits evidence that different Bragg angles are obtained dependent on the use of a specific target. Hence, the Bragg angle is dependent on the specific target utilized. See Answer, pages 4 to 6. Six different targets are described, each of which provides a different wavelength and results in a different Bragg angle. *Id.* Accordingly, the omission by appellants of the target used in the determination of the Bragg angles results in claims which are indefinite. We disagree.

We find that the specification refers to two U. S. Patents incorporated by reference, each of which determine the **2** values of the Bragg equation using Cu alpha radiation having a wavelength equal to 0.1542 nanometers. See Duff, U.S. Patent No. 5,166,339, column 12, lines 31-33 and Mayo, U.S. Patent No. 5,189,156, column 16, line 29-30. Furthermore, we

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find that Daimon, U.S. Patent 5,302,479, dated April 12, 1994, Column 4, lines 59-66, discloses the measurement of x-ray diffraction patterns using copper alpha radiation having a wavelength of 1.541 D.

Based upon the above findings, the person skilled in the art, to whom the disclosure in the specification is directed, would have understood that the "Bragg angles" as used in the claimed subject matter provide for measurements using copper alpha radiation having a wavelength of 1.541 D.

On this record, we conclude that the specification provides a reasonable standard for understanding the metes and bounds of the term of the claimed subject matter when the claim is read in light of the specification as it would be interpreted by one of ordinary skill in the art. **See Seattle Box Co. v. Industrial Crating & Packing, Inc.**, 731 F.2d 818, 826, 221 USPQ 568, 573-574 (Fed. Cir. 1983). Accordingly, we reverse the rejection of the examiner.

#### **DECISION**

The rejection of claims 1, 2, 5 through 17, and 19 through 25 under 35 U.S.C. § 112, second paragraph as being

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indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention is reversed.

The decision of the examiner is reversed.

**REVERSED**

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| CHARLES F. WARREN           | ) |                 |
| Administrative Patent Judge | ) |                 |
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|                             | ) | BOARD OF PATENT |
| THOMAS A. WALTZ             | ) |                 |
| Administrative Patent Judge | ) | APPEALS AND     |
|                             | ) |                 |
|                             | ) | INTERFERENCES   |
|                             | ) |                 |
| PAUL LIEBERMAN              | ) | )               |
| Administrative Patent Judge | ) |                 |

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