

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 15

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte EMIKO HAMADA, YUJI ARAI, YOSIKAZU TAKAGISI and  
TAKASHI ISHIGURO

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Appeal No. 1996-1876  
Application No. 08/344,663<sup>1</sup>

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HEARD: December 7, 1999

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Before KIMLIN, JOHN D. SMITH and KRATZ, Administrative Patent Judges.

JOHN D. SMITH, Administrative Patent Judge.

**DECISION ON APPEAL**

This is an appeal pursuant to 35 U.S.C. § 134 from the final rejection of claims 1-22.

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<sup>1</sup> Application for patent filed November 22, 1994. According to the appellants, the application is a continuation of Application No. 08/007,738, filed January 22, 1993, which is a division of Application No. 07/515,421, filed April 27, 1990, now Patent No. 5,213,955.

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Claim 1 is representative and is reproduced below:

1. An optical information recording medium comprising a light transmitting substrate, a light absorptive layer containing at least one light absorbing substance formed on the substrate and light reflective layer made of a metal film formed on the light absorptive layer, wherein an optical parameter represented by  $D = n_{\text{abs}} d_{\text{abs}} / \lambda$  wherein  $n_{\text{abs}}$  is the real part of the complex refractive index of the light absorptive layer,  $d_{\text{abs}}$  is the average thickness in nanometers of the light absorptive layer and  $\lambda$  is the wavelength in nanometers of a reading laser beam, is  $0.6 < D < 1.6$ .

The reference of record relied upon by the examiner is:

Oba et al. (Oba)	4,767,693	August
30, 1988		

The appealed claims stand rejected under 35 U.S.C. § 112, second paragraph. Appealed claims 1-4 also stand rejected under 35 U.S.C. § 102(b) as anticipated by, or in the alternative, under 35 U.S.C. § 103 as obvious over Oba.

The subject matter on appeal is directed to an optical information recording medium structurally defined as comprising a light transmitting substrate, a light absorptive layer containing at least one light absorbing substance formed on the substrate, and a light reflective layer made of a metal film formed on the light absorptive layer. Appellants have allegedly discovered that an optical parameter  $D$  as defined by a recited equation in claim 1 must be greater than 0.6 and

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less than 1.6 to produce a reflectance of at least 70%, a standard property measurement satisfying compact disk (CD) standards. The equation defining the optical parameter **D** relates properties of the light absorptive layer (i.e., "the real part of the complex refractive index" and "the average thickness in nanometers") to a property of a "reading laser beam" (i.e., its wavelength in nanometers). Thus, the equation, in a broad sense, defines a relationship between the device (i.e., the claimed optical recording medium) and a recording laser. In effect, the optical parameter **D** places restrictions on the structure of the claimed device only in the context of a future intended use with respect to the selection of a laser for "reading."

All appealed claims are rejected under 35 U.S.C. § 112, second paragraph, as indefinite. In assessing the indefiniteness issue raised in his appeal, we keep in mind the following principles. A patentee has the right to exclude others from making, using and selling the invention covered by the patent (35 U.S.C. § 154), and the purpose of the second paragraph of

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35 U.S.C. § 112 is to allow the public to know exactly what the patent covers, so that those who would approach the area circumscribed by the claims of a patent may more readily and accurately determine the boundaries of protection involved and

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evaluate the possibility of infringement and dominance. See In re Hammack, 427 F.2d 1378, 1382 , 166 USPQ 204, 207-08 (CCPA 1970).

In the case before us, one would be at a loss to determine whether a particular recording medium is covered by the appealed claims, because the parameters of the light absorptive layer of the recording medium (i.e., the claimed refractive index and the claimed average thickness of the absorptive layer) are defined and limited only by the selection of a "reading laser beam" which is not part of the claimed recording medium. For example, the applied Oba reference describes or suggests a recording medium having a structure identical to that claimed, in terms of the claimed light transmitting substrate, the claimed light absorptive layer, and the claimed light reflective layer. Generally, see Oba at column 8, lines 49-58 and column 9, lines 2-18. When using a cyanine dye as the light absorptive layer of Oba's recording medium, the real part of the complex refractive index is 2.7. See the answer at page 4, the specification at page 34, and the brief at page 6, lines 10-19. As taught by Oba at column 8, lines 35-37, this layer may have a thickness

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of 100 nm. However, this prior art device arguably would not infringe the appealed claims if the device were used in conjunction with a reading laser having a wavelength of 750 nm as preferred by Oba. See Oba at column 12, lines 11-17 and the brief at page 6. However, if the above device happened to be read by a laser having a wavelength of 450 nm or less, the prior art recording medium would be covered by the appealed claims. See the answer at page 5. Accordingly, whether this recording medium is covered by the appealed claims would be determined not on the basis of the structural elements and their interrelationships, but perhaps by an instruction sheet contained in the packaging of the recording medium directing one to use the recording medium with a specified laser. This gives rise to an uncertainty in the interpretation of the claims, which we believe to be exactly what the requirements of 35 U.S.C. § 112, second paragraph, seek to avoid. Thus, we sustain the rejection of the appealed claims under this section of the statute.

We also alternatively sustain the examiner's prior art rejections (35 U.S.C. § 102(b) and 35 U.S.C. § 103) of appealed claims 1-4 based on Oba. In this regard, if the

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"wherein" clause of appealed claim 1 defining the optical parameter **D** is considered as merely setting forth a future intended use of the optical information recording medium with respect to a particular "reading laser", the language of the rejected appealed claims, so construed, would not differentiate appellants' recording medium from the recording medium described or suggested by Oba. In effect, Oba's recording medium would not undergo a metamorphosis to a new recording medium simply by labeling its container with instructions that it should be used with certain lasers having wavelengths that would satisfy the optical parameter formula in the "wherein" clause of the appealed claims. Compare In re Pearson, 494 F.2d 1399, 1403, 181 USPQ 641, 644 (CCPA 1974).

The decision of the examiner is affirmed.

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

**AFFIRMED**

EDWARD C. KIMLIN )  
Administrative Patent Judge )  
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JOHN D. SMITH  
Administrative Patent Judge

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jrg PETER F. KRATZ  
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