

**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(2) is not binding precedent of the Board.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. 21

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte YUAN-SHENG TYAN,  
PRANAB K. RAYCHAUDHURI, KEE-CHUAN PAN,  
and GEORGE R. OLIN

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Appeal No. 1997-0495  
Application 08/399,787

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ON BRIEF

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

DECISION ON APPEAL

This is a decision on an appeal from the final rejection  
of claims 1 through 4 which are all of the claims in the  
application.

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The subject matter on appeal relates to a recordable element having a substrate and on the surface of the substrate, a recording layer comprising material having a certain formula and a light reflecting layer, wherein the light reflecting layer and the recording layer are selected such that the element reflectivity is about or greater than 70% at about 780 nm. Further details of this appealed subject matter are set forth in representative independent claim 1 which reads as follows:

1. A recordable element having a substrate and on the surface of the substrate, a recording layer and a light reflecting layer, the improvement comprising:

a) a recording layer including material given by the formula  $(Te_aGe_bC_cH_dO_e)$ , a, b, c, d, and e are atomic percents and  $(c + d) > 40$ ,  $d > 10$ ,  $a > 5$ ,  $b > 5$ , and  $e \geq 0$  such that  $a + b + c + d + e = 100$ ; and

b) the light reflecting layer and the recording layer being selected such that the element  $R_{max}$  (element reflectivity) is about or greater than 70% at about 780 nm.

The references relied upon by the examiner as evidence of obviousness are:

Chen et al. (Chen)	5,242,784	Sep. 7, 1993 (filed Jun. 22, 1992)
Yamada et al. 1993	5,273,861	Dec. 28, 1993

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(Yamada)

(filed Dec. 28, 1992)

Kuroiwa et al.

1-137437

May 30,

1989

(Kuroiwa) (JP)

All of the claims on appeal stand rejected under 35  
U.S.C.  
§ 103 as being unpatentable over Kuroiwa and Chen in view of  
Yamada.<sup>1</sup>

We refer to the brief and to the answer for the  
respective positions advocated by the appellants and the  
examiner respectively concerning the above noted rejection.

OPINION

For the reasons set forth below, we cannot sustain this  
rejection.

The examiner concludes that "[i]t would have been obvious  
to one skilled in the art to add a reflective layer alone or  
with a dielectric layer as taught by Yamada . . . or Chen . . .

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<sup>1</sup>As indicated by the appellants on page 4 of the brief,  
the appealed claims will stand or fall together.

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. to the recording medium of Kuroiwa" (answer, page 6). From our perspective, however, the examiner has failed to carry his initial burden of establishing a reason or motivation coupled with a reasonable expectation of success in support of this proposed addition. In re O'Farrell, 853 F.2d 894, 903-904, 7 USPQ2d 1673, 1680-1681 (Fed. Cir. 1988).

For example, Chen addresses a temperature problem exhibited by certain active (i.e., recording) layer materials which exhibit a lower reflectivity in the amorphous and liquid states than in the crystalline state whereby the material absorbs more light and becomes hotter as it transforms from a crystalline to a liquid phase (e.g., see lines 7 through 27 in column 2). This problem is avoided by providing an optical recording media having such an active material layer with a certain structure including a dielectric layer and a reflective layer and including certain layer thicknesses such that the reflectivity of the liquid state is higher than of the crystalline state thereby avoiding the aforementioned temperature problem. On this record, there is no basis for concluding that the recording or active material of Kuroiwa exhibits the temperature problem addressed and solved by Chen.

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It follows that Chen's reasons for providing an optical recording media with certain layers including dielectric and reflecting layers and certain thicknesses have no apparent applicability to the optical recording medium taught by Kuroiwa. Moreover, we perceive no other reason, and the examiner points to none specifically, for providing Kuroiwa's medium with layers including dielectric and reflecting layers of the type taught by Chen.

Similar rationale applies to the Yamada patent. While Yamada's recording medium includes dielectric and optional reflecting layers, the examiner refers to no specific teaching in this reference which would have suggested providing the optical recording medium of Kuroiwa with such layers. Certainly, the problem/solution addressed by Yamada (equal temperature-rise profiles of the recording layer in the recorded and erased states; see lines 48-54 in column 3) has no apparent applicability to Kuroiwa's recording medium.

Even if we were to assume that providing Kuroiwa's medium with a reflecting layer would be potentially beneficial for some unknown reason, the examiner's obviousness conclusion still would be improper. This is because the examiner has

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failed to establish that an artisan with ordinary skill would have had a reasonable expectation of success in providing Kuroiwa with a reflecting layer. Indeed, the aforementioned fact that Kuroiwa's recording materials do not correspond to those of Chen or Yamada and seemingly do not suffer the problems addressed by Chen or Yamada militates against such an expectation. In re O'Farrell, id.

In addition to the foregoing, the examiner has not advanced any probative evidence in support of his conclusion that "[i]t would have been obvious to one skilled in the art . . . to optimize the thicknesses of the layers [of the modified Kuroiwa recording medium] to increase the reflectivity in excess of 70%" (answer, pages 6-7) as required by the appealed claims. More fundamentally, the examiner has not even pointed to any specific teaching in the applied prior art which evinces that the here claimed element reflectivity characteristic constitutes a perimeter recognized in the prior art as being result effective.<sup>2</sup> Moreover, the examiner has

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<sup>2</sup>We recognize that Chen discloses certain reflectivities. However, these reflectivities relate to the active material in crystalline, amorphous and liquid states whereas the reflectivity of the appealed claims relates to the recordable element reflectivity. Further, as previously indicated, the

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proffered no evidence that reflectivities of the type here claimed would be desirable (or even possible) in Kuroiwa's medium.

For the above stated reasons, we cannot sustain the examiner's section 103 rejection of claims 1 through 4 as being unpatentable over Kuroiwa and Chen in view of Yamada.

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reflectivities and consequent temperature problems addressed by Chen have no apparent applicability to the optical recording medium of Kuroiwa.

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The decision of the examiner is reversed.

REVERSED

	Bradley R. Garris	)	
	Administrative Patent Judge	)	
		)	
		)	
		)	
	Terry J. Owens	)	BOARD OF
PATENT		)	
	Administrative Patent Judge	)	APPEALS AND
		)	INTERFERENCES
		)	
		)	
	Thomas A. Waltz	)	
	Administrative Patent Judge	)	

tdl

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