

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte DENNIS CHILSON

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Appeal No. 95-4733  
Application No. 08/091,030<sup>1</sup>

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HEARD: April 5, 1999

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

WALTZ, Administrative Patent Judge.

**DECISION ON APPEAL**

This is an appeal under 35 U.S.C. § 134 from the examiner's refusal to allow claims 1 and 8 as amended subsequent to the final rejection, along with finally rejected dependent claims 2-7 and 9-15. Applicant submitted an amendment dated Aug. 4, 1994 (Paper No. 6), after the final

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<sup>1</sup> Application for patent filed July 14, 1993.

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rejection, which amended claims 1 and 8. This amendment was entered by the examiner and has overcome the rejection under the second paragraph of 35 U.S.C.

§ 112 regarding the claimed term "ballistic defeat capability" (see the Advisory Action dated Aug. 22, 1994, Paper No. 8). Claim 16, the only other claim in this application, stands withdrawn from further consideration by the examiner as being drawn to a nonelected invention (Brief, page 1).

According to appellant, the invention is directed to an improved ballistic composite material comprising a high strength ballistic steel having a borosilicate glass coating fused to the surface of the steel (Brief, page 2). Claim 1 is illustrative of the subject matter on appeal and is reproduced below:

1. A high-strength, high toughness composite material comprising:

an air hardened steel element having a normalization temperature of approximately 1650°F and a composition consisting essentially of:

0.20 - 0.30 wt.% Carbon,  
0.80 - 1.20 wt.% Manganese,

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3.25 - 4.00 wt.%	Nickel,
1.25 - 2.00 wt.%	Chromium,
0.25 - 0.50 wt.%	Molybdenum,
0.20 - 0.50 wt%	Silicon,
0.04 max. wt%	Sulfur,
0.04 max. wt%	Phosphorous, and

the balance iron;

said composite material further comprising a borosilicate glass coating fused to a surface of said steel element over at least a portion of said steel element, whereby said portion of said composite material has a V50 value which is greater than a V50 value of the steel element alone.

The examiner relies upon the following references as evidence of obviousness:

Dickinson	3,379,582	Apr. 23, 1968
Rion	4,110,487	Aug. 29, 1978
Okai et al. (Okai)	5,037,478	Aug. 6, 1991

Claims 1 through 15 stand rejected under 35 U.S.C. § 112, second paragraph, as failing to particularly point out and distinctly claim that which appellant regards as the invention (Answer, paragraph bridging pages 3-4).<sup>2</sup> Claims 1 through 15

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<sup>2</sup>The final rejection of claims 8-15 under the first paragraph of 35 U.S.C. § 112 has been withdrawn by the examiner (Answer, page 3).

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stand rejected under 35 U.S.C. § 103 as unpatentable over Okai or Rion in view of Dickinson (Answer, pages 4 and 6, a combination of rejections "C" and "D"). We reverse all of the examiner's rejections for reasons which follow.

#### OPINION

##### *A. The Rejection under § 112, Second Paragraph*

It is the examiner's position that the relative phrase "greater than" in claims 1 and 8 is indefinite (Answer, page 4). The examiner does not present any reasons for this statement in the Answer but notes in the final rejection (Paper No. 4) that "[t]his term ["greater than"] is relative and has not been defined in the specification." (Page 2, Paper No. 4).

Appellant submits that a V50 value (probable ballistic limit) is a "readily quantifiable property" and there is absolutely no merit in asserting that the term "greater than" is indefinite when used as a comparator for the V50 values of the coated and uncoated steel (Reply Brief, page 3).

The legal standard for definiteness under paragraph two of

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§ 112 is whether a claim reasonably apprises those of skill in the art of its scope. *In re Warmerdam*, 33 F.3d 1354, 1361, 31 USPQ2d 1754, 1759 (Fed. Cir. 1994). "The definiteness of the language employed must be analyzed, not in a vacuum, but always in light of the teachings of the prior art and the application disclosure as it would be interpreted by one possessing the ordinary level of skill in the pertinent art." *In re Angstadt*, 537 F.2d 498, 501, 190 USPQ 214, 217 (CCPA 1976). The initial burden of presenting a *prima facie* case of unpatentability rests with the examiner. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

We determine that the examiner has not met this initial burden. The examiner has not presented any reasoning or evidence why one of ordinary skill in this art would not have been apprised of the scope of the appealed claims. The examiner has not presented any reasoning or evidence why the artisan would not have been able to compare the V50 values of a steel element alone with the fused glass steel composite material and determine if the composite material had a V50 value "greater than" the steel element alone. Although the

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term "greater than" has not been defined in the specification, the normal meaning of this term is well known and, in conjunction with the comparative showings of V50 values on pages 5 and 12 of the specification, would have apprised the artisan of the scope of appealed claim 1.

Accordingly, the rejection of claims 1-15 under the second paragraph of 35 U.S.C. § 112 is reversed.

*B. The Rejections under § 103*

The composite material of appealed claim 1 comprises an air hardened steel element of a specified composition with a borosilicate glass *fused* to a surface of the steel element.

The examiner states that "Okai discloses articles comprising a steel substrate *coated* with a layer comprising borosilicate glass." (Answer, page 4, emphasis added). The examiner submits that Okai provides the glass coating to give the steel substrate improved corrosion resistance (*Id.*). Thus the examiner concludes that

Since Okai explicitly discloses applying a layer comprising borosilicate glass to high strength steel to impart thereto corrosion resistance, it would have been obvious to one having ordinary skill in the art to employ, as the high strength steel,

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that disclosed by Dickinson.<sup>3</sup> (Answer, paragraph bridging pages 4-5).

The examiner does not explain in the Answer why the coating of Okai would have rendered obvious the "fused" borosilicate glass coating on the steel element as recited in appealed claim 1. The examiner, in the final rejection, states that "[t]he term 'fused' is a process limitation and is not being given patentable weight." (Page 2, Paper No. 4). However, all limitations recited in the claims must be given effect. *In re Angstadt*, 537 F.2d at 501, 190 USPQ at 217. The examiner, on page 5 of the Answer, improperly attempts to shift the burden to appellant to show that a "fused" borosilicate glass coating produces better results than the painting or coating of Okai. As noted previously, the initial burden of establishing a *prima facie* case of unpatentability rests with the examiner. *In re Oetiker, supra*. The examiner has not presented any reasoning or evidence that the artisan would have reasonably believed that the "coating" of Okai would be the same or substantially the same as the

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<sup>3</sup>It is not contested by appellant that Dickinson discloses the steel composition recited in the claims on appeal. See the Brief, page 2, and the specification, page 4.

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"fused" product of appealed claim 1. The examiner has not shown that the pigment or coating of Okai undergoes a heat treatment similar to the heat needed to "fuse" the layers of the product recited in appealed claim 1. See *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977).

The examiner also has not shown or explained why the teachings of the applied prior art should be combined in the proposed manner. "Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination. [Citations omitted]." *In re Bond*, 910 F.2d 831, 834, 15 USPQ2d 1566, 1568 (Fed. Cir. 1990). The examiner states that Okai adds a glass layer to a steel substrate<sup>4</sup> to impart corrosion resistance (Answer, page 4) but no teaching, suggestion or motivation is given by the examiner for substituting the high strength steel of Dickinson for the substrate of Okai. The examiner does not point to any disclosure or teaching in Dickinson regarding a corrosion

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<sup>4</sup>Okai discloses that the steel substrate is selected from steels including "high strength steel" (column 6, lines 32-35).

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problem or any other suggestion for the proposed combination with Okai.

Similarly, the examiner does not present any teaching, suggestion or motivation to support the proposed combination of Rion and Dickinson.<sup>5</sup> Rion teaches a dual coat, coherent ceramic layer overlying a substrate where the dual coat comprises a first coat of an amorphous glass adherent or fused to the substrate and a second coat of a glass coherent with the first coat. The first coat is selected so that the reaction (fusing) and stabilizing is completed to form a stable base for the second coat (column 3, lines 4-34). The ultimate dual coat ceramic layer is applied over kitchen or lavatory appliances (column 4, lines 43-46). The examiner has stated that "[t]o select the old and well known steel disclosed by Dickinson would have been well within the purview of the ordinary artisan in order, for example, to exploit Dickinson's steels [sic, steel's] high strength characteristics" (Answer, sentence bridging pages 6-7).

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<sup>5</sup>Rion does teach that the first or base glass layer "fuses" with a substrate such as steel (abstract, Figure 1, column 2, lines 21-43, and column 3, lines 12-41).

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However, the examiner has not shown or established any teaching, suggestion, or motivation to make the proposed combination. *In re Bond, supra*. The examiner has not established why the artisan would have been motivated to employ the high strength steels of Dickinson as the substrate in the kitchen or lavatory appliances of Rion.

For the foregoing reasons, we determine that the examiner has failed to establish a *prima facie* case of obviousness in view of the disclosures and teachings of the applied prior art. In view of this determination, we need not address the sufficiency of the rebuttal evidence presented by appellant in the Chilson Declaration under 37 CFR § 1.132 (attachment to Paper No. 6 dated Aug. 4, 1994 see the Brief, pages 17-18). *In re Geiger*, 815 F.2d 686, 688, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987). Accordingly, the rejection of claims 1 through 15 under 35 U.S.C. § 103 as unpatentable over Okai or Rion in view of Dickinson is reversed.

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The decision of the examiner is reversed.

**REVERSED**

TERRY J. OWENS	)	
Administrative Patent Judge	)	
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	)	
	)	
	)	BOARD OF PATENT
THOMAS A. WALTZ	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
	)	
	)	
PAUL LIEBERMAN	)	
Administrative Patent Judge	)	

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APJ WALTZ

APJ OWENS

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DECISION: REVERSED  
Send Reference(s): Yes No  
or Translation (s)  
Panel Change: Yes No  
Index Sheet-2901 Rejection(s): \_\_\_\_\_

Prepared: July 25, 2000

Draft    Final

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PALM / ACTS 2 / BOOK  
DISK (FOIA) / REPORT