

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 16

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte THOMAS P. SCHNEIDER

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Appeal No. 98-2559  
Application 08/633,101<sup>1</sup>

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ON BRIEF

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Before COHEN, MEISTER and CRAWFORD, Administrative Patent Judges.

COHEN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 10 through 13. These claims constitute all of the claims remaining in the application.

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<sup>1</sup> Application for Patent filed April 16, 1996.

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Appellant's invention pertains to a method for casting a composite article. An understanding of the invention can be derived from a reading of exemplary claim 10, as it appears in the amendment filed May 6, 1997 (Paper No. 7).<sup>2</sup>

As evidence of obviousness, the examiner has applied the document specified below:

Kawai et al	63-242461	Oct. 7, 1988
Japan (Kawai) <sup>3</sup>		

The following rejection is before us for review.

Claims 10 through 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawai (Japan 63-242461).

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<sup>2</sup> The copy of the claim in the APPENDIX to the main brief was not an accurate copy of claim 10.

<sup>3</sup> Our understanding of this foreign language document is derived from a reading of a translation thereof prepared in the United States Patent and Trademark Office. A copy of the translation is appended to this opinion.

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The full text of the examiner's rejection and response to the argument presented by appellant appears in the answer (Paper No. 11), while the complete statement of appellant's argument can be found in the main<sup>4</sup> and reply briefs (Paper Nos. 10 and 12).

On page 2 of the main brief (Paper No. 10), appellant indicates that claims 11 through 13 will stand or fall with claim 10. Therefore, we focus exclusively upon claim 10, infra.

#### OPINION

In reaching our conclusion on the obviousness issue raised in this appeal, this panel of the board has carefully considered appellant's specification<sup>5</sup> and claims, the applied

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<sup>4</sup> A supplement to the brief was submitted by appellant (Paper No. 15) to provide information, responsive to an order for compliance (Paper No. 14).

<sup>5</sup> We are informed by appellant's specification (page 5) that the insert 24 of the present invention is fabricated from a low density foamed metal material of the type disclosed in  
(continued...)

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document,<sup>6</sup> and the respective viewpoints of appellant and the examiner. As a consequence of our review, we make the determination which follows.

We reverse the examiner's rejection of claim 10 under 35 U.S.C. § 103(a). It follows that we likewise reverse the rejection of claims 11 through 13 since they stand or fall with claim 10.

Claim 1 is drawn to a method of casting a composite article comprising, inter alia, the step of performing a low density foamed metal material insert including forming a

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<sup>5</sup>(...continued)  
U.S. Patent No. 5,221,324. It is noted that this patent teaches a product having a porous interior structure and a smooth exterior skin (column 2, lines 18 and 19).

<sup>6</sup> In our evaluation of the applied document, we have considered all of the disclosure thereof for what it would have fairly taught one of ordinary skill in the art. See In re Boe, 355 F.2d 961, 965, 148 USPQ 507, 510 (CCPA 1966). Additionally, this panel of the board has taken into account not only the specific teachings, but also the inferences which one skilled in the art would reasonably have been expected to draw from the disclosure. See In re Preda 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

nonporous preformed skin and fusing the skin of the insert to a metallic substance shell.<sup>7</sup>

The Kawai document teaches a casting method which involves wrapping the perimeter of a core, formed from a bubbled body of metal such as aluminum, with a layer of Styrofoam. The bubbling magnification is about 10 times, with the aluminum bubbled body being extremely lightweight. When melt is poured into a mold with the wrapped core therein, the

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<sup>7</sup> In appellant's specification (page 5), it is indicated that

[p]referably, but not necessarily, the insert 24 is preformed to a final or net shape in an earlier operation such that a nonporous skin 26 forms completely about the exterior surfaces of the cellular array. This skin 26 helps limit over absorption or infusion of the molten metal 22 into the interstices of the insert 24.

As the molten metal 22 is poured or otherwise introduced into the mold cavity 18, it contacts the skin 26 of the insert 24 and causes shallow or localized melting of the skin 26. In this manner, the skin 26 (and perhaps a few layers of cells in the foamed metal) fuses together with the molten metal 22, forming a good mechanical bond.

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Styrofoam layer gradually disappears, delaying contact with the core (bubbled body of aluminum), and without melting and deforming of the core.

The examiner is of the view that since the purpose of the Kawai invention was to produce a lightweight composite, it would have been obvious to preform the core with a nonporous skin to prevent molten metal from infiltrating the pores during the casting process (final rejection, Paper No. 8; page 4 of the answer, Paper No. 11).

Setting aside what appellant has taught us in the present application, it is clear that the applied Kawai teaching alone would not have provided one having ordinary skill in the art with a suggestion for preforming a nonporous skin on the core 1 of the reference. Since the only evidence of obviousness before us would not have been suggestive of the claimed invention, we must reverse the rejection of appellant's claims under 35 U.S.C. § 103.

In summary, this panel of the board has reversed the

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examiner's rejection of claims 10 through 13.

REVERSED

IRWIN CHARLES COHEN	)	)
Administrative Patent Judge	)	)
	)	)
	)	)
JAMES M. MEISTER	)	BOARD OF PATENT
Administrative Patent Judge	)	APPEALS AND
	)	)
	)	INTERFERENCES
	)	)
MURRIEL E. CRAWFORD	)	)
Administrative Patent Judge	)	)

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