

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(2) is not binding precedent of the Board.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. 30

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte MASAYA ITO,  
SEIJI MORI  
and  
TAKAYA YOSHIKAWA

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Appeal No. 96-1651  
Application 07/987,186<sup>1</sup>

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HEARD: June 11, 1998

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Before CALVERT, COHEN and ABRAMS, Administrative Patent Judges.  
COHEN, Administrative Patent Judge.

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<sup>1</sup> Application for patent filed December 8, 1992.

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DECISION ON APPEAL

This is an appeal from the final rejection of claims 13, 18, 20, and 23 through 29. Claims 14 through 17, 19, 21, and 22 stand withdrawn from consideration by the examiner pursuant to 37 CFR § 1.142(b). These claims constitute all of the claims remaining in the application.

Appellants' invention pertains to a ceramic-metal composite rotor. An understanding of the invention can be derived from a reading of exemplary claim 13, a copy of which appears in "APPENDIX A" to the main brief (Paper No. 18).

As evidence, the references listed below have been applied:

Ito et al. (Ito)	5,073,085	Dec. 17, 1991
Oda et al. (Oda)	250,118	Dec. 23, 1987
(published European Patent Application)		

The following rejections of the examiner are before us for review.

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Claims 13, 18, 20, and 23 through 29 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

Claims 13, 20, 23, 26, 27, and 29, as best understood, stand rejected under 35 U.S.C. § 102(b) as being anticipated by Oda.

Claims 13, 18, 20, and 23 through 29, as best understood, stand rejected under 35 U.S.C. § 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. § 103 as being unpatentable over Ito.<sup>2</sup>

The full text of the examiner's rejections and response to the argument presented by appellants appears in the main, supplemental, and second supplemental answers (Paper Nos. 19, 24, and 26),<sup>3</sup> while the complete statement of appellants' argument

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<sup>2</sup> This rejection, stated in the alternative under 35 U.S.C. §§ 102(e) and 103, simply combines the separately recited rejections under 35 U.S.C. § 102(e) and 35 U.S.C. § 103 set forth in the final rejection (Paper No. 13; pages 5 through 7).

<sup>3</sup> We are informed by Paper Nos. 24, 25, and 26 as to an appeal in application Serial No. 08/192,270, a division of the present application on appeal.

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can be found in the main, reply, and supplemental reply briefs (Paper Nos. 18, 21, and 25).<sup>4</sup>

#### OPINION

In reaching our conclusion on the issues raised in this appeal, this panel of the board has carefully considered appellants' specification and claims,<sup>5</sup> the applied teachings,<sup>6</sup> and the respective viewpoints of appellants and the examiner. As a consequence of our review, we make the determinations which follow.

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<sup>4</sup> The issue regarding withdrawn claims 14 through 16, and 19 (main brief, pages 5 and 6) is appropriately resolved by way of petition, not appeal.

<sup>5</sup> The claims on appeal, drawn to a ceramic-metal composite rotor, are claims of elected Group II (Paper No. 4), pursuant to a restriction requirement (Paper No. 3). These claims have also been indicated to be for the elected species of Figures 1A and 1B (Paper No. 7), in accordance with an election of species requirement (Paper No. 6).

<sup>6</sup> In our evaluation of the applied teachings, we have considered all of the disclosure of each teaching 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).

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The indefiniteness issue

We reverse the examiner's rejection under 35 U.S.C. § 112, second paragraph.

The examiner is uncertain as to whether a product *per se* or a process of making a product is being claimed, and specifically refers to clauses (D) and (E) of claim 13 (Paper No. 13, paragraph 4).

Paragraphs (D) and (E) of claim 13 are sixth paragraph (35 U.S.C. § 112) means plus function recitations. Thus, these recitations are construed to cover the corresponding structure described in the specification and equivalents thereof. Read in light of the underlying disclosure (specification, page 3), we understand these recitations as follows.

With respect to the "metallurgical joining means" of paragraph (D), it is clear to us that this recitation denotes a joining structure effected by metallurgical (chemical) interaction between the claimed intermediate member and stub shaft of the ceramic wheel. The specification informs us (page

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3) that this joining structure can be effected by brazing, diffusion joining or welding, joining by the use of oxide, friction welding, hot pressing, and hot isostatic pressing.

Relative to the "mechanical joining means" of paragraph (E), we understand this recitation as denoting a joining structure effected by mechanical interaction between the claimed intermediate member and the socket portion of the metallic shaft. The specification (page 3) instructs us that this joining structure can be effected by press fitting, shrink fitting and fastening with bolts or screws.

Based upon the above claim analysis, we understand independent claim 13 (with clauses (D) and (E) therein) to be clearly drawn to a product, i.e., a ceramic-metal composite rotor. Claim 13, in particular, is therefore definite in meaning under 35 U.S.C. § 112, second paragraph.<sup>7</sup>

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<sup>7</sup> We simply note at this point that the language of the dependent claims is likewise viewed as definite. For example, the recitation that the metallurgical joining means comprises joining by heating while interposing an intermediate layer consisting of a sheet of Ni (claim 18) and the recitation that mechanical joining means comprises press fitting (claim 20) are

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With the above in mind, we now turn to the examiner's prior art rejections.

The anticipation rejection based upon Oda

We reverse this rejection of appellants' claims under 35 U.S.C. § 102(b).

As earlier pointed out, independent claim 13 is addressed to a ceramic-metal composite rotor.

The examiner indicates that the rejection is based upon Figure 6 of Oda, not Figure 5 as referred to by appellants (main answer, page 12).

Simply stated, claim 13 is not anticipated by the showing in Figure 6 of Oda. This figure relates to an engine piston configuration, not a rotor, as claimed. Further, two mechanical joining structures are relied upon in the piston of Figure 5, not the specific metallurgical joining means and the distinct mechanical joining means of claim 13. As to the ceramic

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understood as imposing further structural limitations, i.e., a heated intermediate layer joining structure of Ni (claim 18) and a press fit joining structure (claim 20). See In re Thorpe, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985).

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turbocharger rotor of Figure 5 of Oda, claim 13 is not anticipated thereby since, contrary to the language of claim 13, this figure shows a metallurgical joining means between the inter-mediate member and the metallic shaft and a mechanical joining means between the ceramic wheel and the intermediate member.

The rejection based upon Ito

We reverse the rejection of claims 13, 18, 20, and 23 through 29 under 35 U.S.C. § 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. § 103 as being unpatentable over Ito.

As to the anticipation issue, we find that the Ito patent, addressed to a ceramic turbocharger rotor, relies exclusively upon soldering or brazing (metallurgical joining means) for assembling the rotor parts together. Thus, Ito lacks, at the least, mechanical joining means for joining an intermediate member to a socket portion of a metallic shaft, as required by independent claim 13. Ito is, therefore, not an anticipatory reference within the meaning of 35 U.S.C. § 102(e). Further, in the matter of the obviousness issue, it is clear to

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us that the Ito teaching of exclusive reliance upon soldering or brazing would not have been suggestive of any mechanical joining means, as claimed. Accordingly, the claimed invention would not have been rendered obvious under 35 U.S.C. § 103 by the teaching of Ito.

In summary, this panel of the board has:

reversed the rejection of claims 13, 18, 20, and 23 through 29 under 35 U.S.C. § 112, second paragraph, as being indefinite;

reversed the rejection of claims 13, 20, 23, 26, 27, and 29 under 35 U.S.C. § 102(b) as being anticipated by Oda; and

reversed the rejection of claims 13, 18, 20, and 23 through 29 under 35 U.S.C. § 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. § 103 as being unpatentable over Ito.

The decision of the examiner is reversed.

REVERSED

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Administrative Patent Judge )  
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BOARD OF PATENT  
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