

The opinion in support of the decision being entered today was not written for publication in a law journal and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte BANGALORE ASWATHA NAGARAJ and  
IRENE SPITSBERG

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Appeal No. 2006-1631  
Application No. 10/317,759

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ON BRIEF

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

**REMAND TO THE EXAMINER**

Upon review of the image file wrapper record for this application, we determine that this appeal is not ready for decision at this time. Accordingly, pursuant to the authority and provisions of 37 CFR § 41.50(a)(1)(2004), we remand this application to the jurisdiction of the examiner for action consistent with our comments below.

This application involves an appeal under 35 U.S.C. § 134 from the primary examiner's final rejection of claims 3-10, 13-23, and 26-37 (Brief, page 1). There are two rejections under 35 U.S.C. § 103(a) that have been appealed by appellants, both

Appeal No. 2006-1631  
Application No. 10/317,759

of which rely on the U.S. Patent No. 6,558,814 to Spitsberg et al. (Spitsberg) as a primary reference (Answer, pages 3 and 4).

A pivotal issue on this appeal relates to the rejection of claim 35 under 35 U.S.C. § 103(a) over Spitsberg alone. Claim 35 specifically recites that the outer layer of a thermal barrier coating comprises "from about 40 to about 60% of a CMAS-reactive material to protect the thermal barrier coating at least partially against CMAS that becomes deposited on the exposed surface" (Claim 35). CMAS stands for calcium-magnesium-aluminum-silicon oxide system (Specification, page 3). According to the specification, "[a]ll amounts, parts, ratios and percentages used herein are by weight unless otherwise specified" (Specification, page 8). Thus, we interpret the percentages in claim 35 as weight percentages.

One of appellants' preferred CMAS-reactive materials is barium strontium aluminosilicate (BSAS) (Brief, page 6). Spitsberg discloses the use of BSAS particles 26 as a component of an outer layer 22 of a thermal barrier coating 18 (col. 5, lines 41-51). Spitsberg also teaches that the particles 26 "preferably constitute at least 5 volume percent of...layer

Appeal No. 2006-1631  
Application No. 10/317,759

22...and as much as about 50 volume percent of the layer 22"  
(col. 5, lines 52-54).

The examiner states that Spitsberg's "50 volume percent of the layer...is considered to fall within the 40-60 [weight] % range for both the BSAS and the zirconia" of claim 35 (Answer, page 8). In response, appellants point out the different unit proportions (volume % vs. weight %) and argue that the examiner "still does not address how Spitsberg et al. '814 teaches or suggests the claimed relative weight proportions of CMAS-reactive material and ceramic thermal barrier coating material" (Reply Brief, page 8).

The examiner's above quoted statement is speculative since it is not supported by any analysis or evidence that shows Spitsberg's 50 volume percent of BSAS falls within the claim 35 range of "from about 40 to about 60 [weight] % of a CMAS-reactive material" (i.e., BSAS). Thus, we find that the appeal is not ripe for resolution of all the issues on appeal before us.

In responding to this remand, the examiner must choose at least one of the following options:

Option No. 1: Provide the appeal record with evidence disclosing properties such as densities of BSAS and YSZ

Appeal No. 2006-1631  
Application No. 10/317,759

(the preferred matrix material) and, based on these properties, determine whether Spitsberg's 50 volume percent of BSAS falls within the range of "from about 40 to about 60% of a CMAS-reactive material" of claim 35 (and other claims so limited).

In this regard, we note that The General Electric Company is the assignee of both the patent to Spitsberg and the instant application and that the patent and application share a common inventor. Thus, appellants are obliged to come forward with information in their possession or reasonably available to them on the properties of the materials mentioned above to assist the examiner in this determination. See 37 CFR § 1.56 (2005).

Option No. 2: Consider whether claim 35 (and other claims correspondingly limited) should be rejected under 35 U.S.C. § 103(a) over Spitsberg in view of Eaton.

We note that Eaton (U.S. Patent No. 6,254,935) teaches that a thermal barrier layer can comprise "between about 20 to 60 weight % barium strontium aluminosilicate" (col. 3, lines 49-51). In light of this teaching, the examiner should consider whether claim 35 (and other claims so limited) would have been obvious over Spitsberg in combination with Eaton.

Option No. 3: Even if Spitsberg's 50 volume percent of BSAS does not fall within the range of "from about 40 to about 60% of a CMAS-reactive material" of claim 35 (and other claims so limited), consider whether it

Appeal No. 2006-1631  
Application No. 10/317,759

would have been obvious to optimize (for the purposes disclosed by Spitsberg) the amount of Spitsberg's BSAS to fall within the claimed range.

This remand to the examiner pursuant to 37 CFR § 41.50(a)(1) (effective September 13, 2004, 69 Fed. Reg. 49960 (August 12, 2004), 1286 Off. Gaz. Pat. Office 21 (September 7, 2004)) is made for further consideration of a rejection. Accordingly, 37 CFR § 41.50(a)(2) applies if a supplemental examiner's answer is written in response to this remand by the Board.

Appeal No. 2006-1631  
Application No. 10/317,759

This application, by virtue of its "special" status requires an immediate action. Manual of Patent Examining Procedure § 708.01(D) (8<sup>th</sup> Ed., Rev. 3, August 2005). It is important that the Board be promptly informed of any action affecting the appeal in this application.

REMANDED

EDWARD C. KIMLIN	)	
Administrative Patent Judge	)	
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	)	BOARD OF PATENT
BRADLEY R. GARRIS	)	APPEALS AND
Administrative Patent Judge	)	INTERFERENCES
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THOMAS A. WALTZ	)	
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Appeal No. 2006-1631  
Application No. 10/317,759

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