

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board

Paper No. 15

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MAREIKE K. KLEE,
HANS-WOLFGANG BRAND and POUL LARSEN

Appeal No. 1998-1178
Application No. 08/408,753

ON BRIEF

Before GARRIS, JEFFREY SMITH and PAWLIKOWSKI, Administrative Patent Judges.

PAWLIKOWSKI, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-12 and 16-20. Claims 13-15 are directed to non-elected claims.

Claims 1 and 10 are illustrative of the subject matter on appeal, and are reproduced below:

1. A perovskite-containing composite material comprising a substrate, an intermediate layer of a first titanium-containing perovskite and a covering layer of a second perovskite, characterized in that both the first and the second perovskites are quaternary or more complex perovskites.

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10. A method of manufacturing a perovskite-containing composite material as claimed in Claim 1, by providing a substrate with a first titanium-containing quaternary or more complex perovskite intermediate layer, and with a second quaternary or more complex perovskite as a covering layer, the coating forming the intermediate layer being sintered before the covering layer is provided.

The the following reference is applied by the examiner in the art rejection:

Swartz et al. (Swartz) 5,198,269 Mar. 30, 1993

Claims 1-12 and 16-20 stand rejected under 35 U.S.C. § 102(b), as anticipated by Swartz, and under 35 U.S.C. § 103 as obvious over Swartz.

We refer to the brief, and to the answer, for a complete exposition of the opposing viewpoints expressed by the appellants and by the examiner concerning the above-noted rejection.

OPINION

For the reasons expressed by appellants, and for the reasons set forth below, we reverse the rejection of record.

On pages 5-6 of the brief, appellants argue that both claims 1 and 10 require that the intermediate layer (the layer closest to the substrate) is a titanium containing quaternary, or more complex, perovskite. Appellants point out that Swartz provides that the first layer (intermediate layer) is made of lead titanate or strontium titanate, which is a tertiary perovskite.

On page 4 of the answer, the examiner rebuts and states that column 3, line 67 through column 4, line 5 of Swartz suggests that where improved crystallinity is not critical, the second layer may be deposited directly on the substrate. The examiner concludes that when the second layer is closest

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to the substrate, the layer is a titanium containing quaternary perovskite.

Upon our review of Swartz, we observe that Swartz does not indicate that the second layer is deposited on a substrate. Swartz recommends that the second layer be deposited on the first layer (column 3, lines 67-68 and column 4, lines 1-4).

However, assuming *arguendo* that Swartz does suggest to deposit the second layer on the substrate, the examiner has not addressed what the second layer would be made of when the first layer is a titanium containing quaternary perovskite. We observe that possibly the examiner is interpreting that when the titanium containing quaternary perovskite layer is deposited on the substrate, the layer comprises multiple layers of the same material, and that this interpretation would meet appellants' claim 1.

However, upon our review of the specification, for example, on page 3, beginning at line 28 through page 4, line 4, we observe that appellants' first and second layers are not identical. See also Examples 1-7 on pages 7-11 of appellants' specification. Moreover, the method recited in appellants' claim 10 requires that the coating forming the intermediate layer is sintered before the covering layer is provided, which would then require that the layers are not identical. Therefore, in this context, the examiner's interpretation of Swartz would not meet the limitations found in appellants' claim 1 and in claim 10.

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In view of the above, we determine that the examiner has not set forth a *prima facie* case, and therefore reverse the rejection.

REVERSED

Bradley R. Garris)
Administrative Patent Judge)
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) BOARD OF PATENT
Jeffrey T. Smith)
Administrative Patent Judge) APPEALS AND
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) INTERFERENCES
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Beverly Pawlikowski)
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