

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. 11

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SANJAY SAMPATH
and
JACK E. VANDERPOOL

Appeal No. 1999-2173
Application No. 08/865,952

ON BRIEF

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

WALTZ, **Administrative Patent Judge.**

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1 through 9, 13, 14, 16 through 18, and 21, which are the only claims remaining in this application (Brief, page 2).

According to appellants, the invention is directed to a composite powder for thermal spray applications where the

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powder

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comprises an alloy selected from molybdenum-chromium, molybdenum-tungsten, and molybdenum-tungsten-chromium alloys, dispersion strengthened with molybdenum carbide precipitates (Brief, page 2). A copy of illustrative independent claim 1 is reproduced below:

1. A molybdenum-based composite powder for thermal spray applications, said composite powder comprising an alloy selected from the group consisting of molybdenum-chromium, molybdenum-tungsten, and molybdenum-tungsten-chromium alloys dispersion strengthened with molybdenum carbide precipitates.

The examiner has relied upon the following references as support for the rejections on appeal:

Longo 1967	3,313,633	Apr. 11,
Beyer et al. (Beyer) 1975	3,890,137	Jun. 17,
Buran et al. (Buran) 1988	4,756,841	Jul. 12,
Anand et al. (Anand) 1991	5,063,021	Nov. 05,

The following rejections are before us in this appeal:

(1) claim 1 stands rejected under 35 U.S.C. § 102(b) as anticipated by Beyer (Answer, page 3);

(2) claims 1-3 and 5 stand rejected under 35 U.S.C. § 102(b) as anticipated by Buran (*id.*);

(3) claims 2-4, 13 and 14 stand rejected under 35 U.S.C.

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§ 103(a) as unpatentable over Beyer (Answer, page 4);

(4) claims 6, 7, 13, 14, 16, 17 and 21 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Buran (*id.*);

(5) claims 8, 9 and 18 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Buran in view of either Longo or Anand (Answer, page 5).

We reverse all of the rejections on appeal for reasons which follow.

OPINION

A. *The Rejections under 35 U.S.C. § 102(b)*

Claim 1 stands rejected under section 102(b) over Beyer (Answer, page 3). Claims 1-3 and 5 stand rejected under section 102(b) over Buran (*id.*).

The examiner finds that Beyer discloses molybdenum based powders which may contain a molybdenum-tungsten alloy powder, while further containing carbon "partly in an unbound, dissolved state" (*id.*, citing Beyer, col. 2, l. 42 and ll. 45-55). From these findings, the examiner concludes that Beyer implies that the other part of the carbon is in a bound state, "i.e., [] is present as a carbide, thus defining the

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'molybdenum carbide precipitates' recited in the appealed claim [claim 1]." *Id.*

On this record, we cannot agree with the examiner. Although we agree with the examiner that Beyer implicitly teaches that generally up to 70 weight percent of the carbon is in the bound state (see Beyer, col. 3, ll. 47-48), on this record we determine that the examiner has failed to establish by evidence or convincing reason that the bound carbon of Beyer is bound to *molybdenum*. Therefore the examiner has not convincingly shown that molybdenum carbide would have been present in the welding powder of Beyer. Since claim 1 on appeal requires "molybdenum carbide precipitates," we cannot sustain the examiner's rejection of this claim under 35 U.S.C. § 102(b). See *In re Spada*, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990)(Rejection for anticipation requires that all elements of the claimed invention be described in a single reference).

The examiner finds that Buran discloses a spray coating composition comprising a molybdenum-based powder, a nickel-based alloy, and molybdenum carbide, and further containing

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certain amounts of chromium and carbon (Answer, page 3, citing Buran, col. 2, ll. 40-63, and col. 4, ll. 5-15). From these findings the examiner concludes that the Buran disclosure "fully meets all recited limitations of appealed claims 1, 2, 3, and 5." *Id.*

On this record, we cannot agree with the examiner. Claim 1 on appeal requires that the powder contain an alloy selected from the group of molybdenum-chromium, molybdenum-tungsten, and molybdenum-tungsten-chromium alloys. The examiner has not shown

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that Buran discloses or teaches any of these required alloys. The examiner does find that Buran teaches the possible addition of chromium (see col. 2, ll. 50-53, and the Answer, page 3). If the examiner is implying that the chromium added to the molybdenum spray powder of Buran forms a molybdenum-chromium alloy under the plasma flame spraying conditions, there is no convincing evidence or reasoning advanced by the examiner in the record to support this implication.

Accordingly, we cannot sustain the rejection of claim 1 under section 102(b) over Buran. Similarly, claims 2 and 3, which depend on claim 1 and thus are more limited, and claim 5, which is of the same scope as claim 1 but includes a nickel-based or cobalt-based alloy, are not described by Buran within the meaning of 35 U.S.C. § 102(b).

B. The Rejections under 35 U.S.C. § 103(a)

The examiner's evidence of obviousness in the rejections under section 103(a) includes Beyer alone, Buran alone, or Buran in view of Longo or Anand (Answer, pages 4 and 5). The examiner has not pointed to any additional disclosure or teachings of Beyer or Buran that would remedy the deficiencies discussed above. Furthermore, Longo or Anand have been

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applied by the examiner merely to show conventional nickel-based alloy compositions that are mixed with molybdenum-based powders to produce thermal spray powders (Answer, page 5). Accordingly, the citation of Longo or Anand does not remedy the above discussed deficiencies in the primary reference of Buran.

For the foregoing reasons, we determine that the examiner has failed to establish a *prima facie* case of obviousness based on the cited reference evidence. Therefore the examiner's rejections under section 103(a) are reversed.

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C. Summary

The rejection of claim 1 under 35 U.S.C. § 102(b) over Beyer is reversed. The rejection of claims 1, 2, 3 and 5 under 35 U.S.C. § 102(b) over Buran is reversed.

The rejection of claims 2, 3, 4, 13 and 14 under 35 U.S.C. § 103(a) over Beyer is reversed. The rejection of claims 6, 7, 13, 14, 16, 17 and 21 under 35 U.S.C. § 103(a) over Buran is reversed. The rejection of claims 8, 9 and 18 under 35 U.S.C. § 103(a) over Buran in view of either Longo or Anand is reversed.

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 AND
Administrative Patent Judge)	INTERFERENCES

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