

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. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JAMES W. CADDELL JR.
and JAMES M. CALDWELL

Appeal No. 2003-0455
Application No. 09/438,969

ON BRIEF

Before COHEN, STAAB, and MCQUADE, Administrative Patent Judges.
STAAB, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal from the examiner's final rejection of claims 1-18. An amendment after final rejection (Paper No. 10, filed January 31, 2002) canceling claims 19-21 has been approved for entry.¹ No other claims are currently pending.

¹Although the examiner stated in an advisory action (Paper No. 11, mailed January 31, 2002) that the amendment after final would be entered for purposes of appeal, no clerical entry of this amendment has in fact been made.

Appellants' Invention

Appellants' invention is directed to a method of repairing turbine nozzle segments used in gas turbine engines. A further understanding of the invention can be derived from a reading of exemplary claim 1, which reads as follows (with emphasis added):

1. A method of repairing a turbine nozzle segment having at least two vanes disposed between outer and inner bands, said method comprising the steps of:

separating said nozzle segment into a first singlet containing one of said vanes and a second singlet containing another one of said vanes; and

joining said first singlet to a *newly manufactured* singlet having a configuration that is similar to said second singlet.

The Prior Art

The prior art relied upon by the examiner as evidence of obvious is "Applicant's Admitted Prior Art (AAPA) on page 2 second paragraph [of the specification of the present application]" (answer, page 2). The paragraph reads as follows (with emphasis added):

One such technique [of repairing damaged turbine nozzle segments] is described in U.S. Patent No. 4,176,433 issued December 4, 1979 to Jack W. Lee, et al. This patent discloses a method of repairing nozzle segments (referred to therein as turbine vane clusters) in which the repairable vane from a damaged segment is separated from the non-repairable portion of the segment. The salvaged vane is then combined with a complementary repairable vane *that has been similarly salvaged from another damaged segment*. While this technique salvages

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repairable vanes that would otherwise be scrapped, the service life of the repaired nozzle segment is not prolonged very long because it contains used vanes that are limited in the number of future repairs that can be made. Furthermore, this technique is viable only as long as suitably complementary salvaged vanes are available to combine.

The Rejection

Claims 1-18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over AAPA.²

The examiner's rationale is found on page 3 of the initial office action (Paper No. 5, mailed January 4, 2001), wherein the examiner states:

. . . [T]he only difference between this method [i.e., the repair method of AAPA] and applicants['] method is that applicant[s] use[] a new vane for the second vane instead of using two salvageable vanes. However, it is considered that it would have been obvious to one of ordinary skill in the art a[t] the time the invention was made to modify the method as taught by AAPA, by using a new vane in place [sic] of one of the used vanes since any one would know that to achieve a longer service life it would be desirable to use a new part rather than a used part.

²In the body of the answer on page 4, the examiner also referred to prior art reference 6,154,959 (presumably U.S. Patent 6,154,959), but that patent has been given no consideration since it was not positively included in the rejection. *Ex parte Raske*, 28 USPQ2d 1304, 1304-05 (Bd. Pat. App. & Int. 1993); *In re Hoch*, 428 F.2d 1341, 1342 n.3, 166 USPQ 406, 407 n.3 (CCPA 1970).

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In responding to appellants' argument, the examiner further contends (answer, page 3) that "to use new parts rather than used parts for achieving longer service life of articles is a matter of common sense which anyone would do for that desired result, and is not a matter of impermissible hindsight."

Discussion

Rejections based on 35 U.S.C. § 103 must rest on a factual basis. In making such a rejection, the examiner has the initial duty of supplying the requisite factual basis and may not, because of doubts that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in the factual basis. *In re Warner*, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967), cert. denied, 389 U.S. 1057 (1968). Moreover, while common knowledge and common sense may be applied to the analysis of evidence relied upon in making a rejection under 35 U.S.C. § 103, they are not a substitute for evidence. *In re Lee*, 277 F.3d 1338, 1345, 61 USPQ2d 1430, 1435 (Fed. Cir. 2002).

In the present case, the examiner concedes that AAPA is deficient in that it does not disclose a method of repairing turbine nozzle segments that involves separating a first singlet from a second singlet and then joining the first singlet to a

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"newly manufactured" singlet. The examiner's attempt to bridge the evidentiary gap between AAPA and the claimed invention under the cover of what "any one would know" and/or "common sense" is unavailing in this particular situation as it rests on undue speculation and unfounded assumptions as to how the artisan might have gone about repairing a damaged turbine nozzle segment. In this regard, it seems just as likely to us that the ordinarily skilled artisan would have considered the marriage of a "newly manufactured" singlet and a salvaged singlet to be an undesirable and costly alternative for refurbishing a nozzle segment as compared to the method of AAPA because the service life of a refurbished nozzle segment utilizing new and salvaged singlets would appear to be a function of the life of the salvaged singlet rather than the new singlet. Moreover, a review of the Lee patent referenced in the second paragraph on page 2 of appellants' specification reveals no hint whatsoever of using anything other than salvaged vane clusters for remanufacturing turbine vane clusters. See, for example, column 1, lines 10-12 ("This invention relates to . . . methods for remanufacturing turbine vane clusters from salvageable vane components"); column 1, lines 46-50 ("To reduce replacement costs of vanes, designers and manufacturers of gas turbine engines have sought techniques for salvaging reusable

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portions of vane clusters and combination of salvaged portions to form remanufactured components"); and column 2, lines 9-12 ("A principal advantage of the invention is the ability to produce low cost vane clusters from undamaged components of damaged clusters").

For these reasons, we shall not sustain the standing 35 U.S.C. § 103(a) rejection of claims 1-18 as being unpatentable over AAPA.

The decision of the examiner is reversed.

REVERSED

IRWIN CHARLES COHEN)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
LAWRENCE J. STAAB)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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)	
JOHN P. MCQUADE)	
Administrative Patent Judge)	

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