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Getz Balich LLC 10 Waterside Drive, Suite 205 Farmington, CT 06032			FLETCHER III, WILLIAM P	
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte STEVEN W. BURD and RICKEY P. MERCER

Appeal 2019-002543
Application 14/764,842
Technology Center 1700

Before JAMES C. HOUSEL, MICHELLE N. ANKENBRAND, and
LILAN REN, *Administrative Patent Judges*.

REN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1–10 and 14–18. *See* Final Act. 3, 8, 10, 12, 13, 14. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM-IN-PART.

¹ We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as “United Technologies Corp.” Appeal Br. 3.

CLAIMED SUBJECT MATTER

The claims are directed to a coating process for a gas turbine engine component with cooling holes. Spec. ¶ 1. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A method of coating a component having a multiple of cooling holes comprising:
 - removing at least a portion of a prior coating from the component;
 - mapping a location of each of the multiple of cooling holes to generate a map of cooling holes;
 - subsequent to said mapping, applying a coat to the component;
 - subsequent to applying the coat to the component, adjusting the map of cooling holes using said mapping to account for said coat to generate, by a computing device that includes an algorithm, an adjusted map of cooling holes, where the using of said mapping by the algorithm to generate the adjusted map of cooling holes is based on a thickness of the coat and deformation from applying the coat; and
 - drilling the multiple of cooling holes in response to the adjusted map of cooling holes.

Claims Appendix (Appeal Br. 13).

REFERENCES

The prior art references relied upon by the Examiner are:

Name	Reference	Date
Liebert	US 4,402,992	Sept. 6, 1983
Robertson	US 5,422,167	June 6, 1995
Bruce	US 6,210,488 B1	Apr. 3, 2001
Ducotey	US 2003/0037436 A1	Feb. 27, 2003
Bolms	US 2009/0220349 A1	Sept. 3, 2009
Melzer-Jokisch	US 2012/0179285 A1	July 12, 2012

REJECTIONS

Claims 1, 14, and 17 are rejected under pre-AIA 35 U.S.C. § 102(b) as being anticipated by Melzer-Jokisch. Final Act. 3.

Claims 2–5, 15, and 16 are rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Melzer-Jokisch and Bolms. Final Act. 8.

Claims 6 and 7 are rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Melzer-Jokisch and Ducotey. Final Act. 10.

Claims 8 and 9 are rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Melzer-Jokisch, Ducotey, and Bruce. Final Act. 12.

Claim 10 is rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Melzer-Jokisch and Liebert. Final Act. 13.

Claim 18 is rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Melzer-Jokisch and Robertson. Final Act. 14.

OPINION

Claim 1

In rejecting claim 1, the Examiner finds Melzer-Jokisch describes a method with all the recited steps. Final Act. 3. More specifically, the Examiner finds that Figure 3 of Melzer-Jokisch discloses the recited “removing,” “mapping,” “subsequent to said mapping, applying a coat,” and “adjusting” steps by “stripping the blade to remove any coating from the blade” at block 101, “a second geometry of the blade is digitalized” at block 106, “the blade is recoated with a protected coating” at block 113, and “comparing the digitalized geometrical data of the second geometry of the blade obtained at block 106 to stored reference geometry data, to identify the positions at which the cooling holes (or any other such design opening) need to be re-opened” at block 114. Melzer-Jokisch ¶¶ 36, 39, 44; Final Act. 3–4.

Appellant's sole argument on appeal is that the Examiner reversibly erred in finding that Melzer-Jokisch describes a method step of "subsequent to said mapping, applying a coat to the component" as recited in claim 1. Appellant argues that Melzer-Jokisch describes a method in which the mapping of a component occurs after applying the coating. Appeal Br. 7. The record does not support Appellant's argument. As the Examiner finds, Melzer-Jokisch ¶ 39 describes a process step where "at block **106**, in order to capture the geometry of the blade subsequent to the milling operation, a second geometry of the blade is digitalized" See Final Act. 3 (citing Melzer-Jokisch ¶ 39). Appellant does not address the teaching of Melzer-Jokisch ¶ 39 and does not identify reversible error in the Examiner's findings thereof. See Appeal Br. 7–8 (basing arguments solely on Melzer-Jokisch ¶¶ 44, 45). Following the discussion of block 106, Melzer-Jokisch undisputedly describes that "the blade is re-coated" at block 113 (Melzer-Jokisch ¶ 44), thereby meeting the recited step of "subsequent to said mapping, applying a coat to the component."

Appellant does not address the Examiner's finding with regard to block 106, but argues that equating the digitalization at block 106 as the recited "mapping" step "would render the operations of block 114 of Melzer-Jokisch unnecessary/superfluous." Appeal Br. 8. This argument does not persuade us to ignore the disclosure of Melzer-Jokisch and does not identify reversible error in the Examiner's fact findings in support of the rejection.

The rejection of claim 1 is sustained. Appellant does not argue separately the rejection of claim 14 and it is also sustained. Appeal Br. 9 (arguing only that the reference does not disclose the limitations "for at least

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similar reasons as set forth above with respect to claim 1”); *see* 37 C.F.R. § 41.37(c)(1)(iv).

Claim 17

Claim 17 depends from claim 1 and additionally recites “wherein the mapping is performed by at least two techniques selected from the group consisting of: interferometry, optical scanning, laser scanning, digital vision, and part probing.”

The Examiner finds that Melzer-Jokisch ¶ 47 discloses the additional limitations. Final Act. 7–8. In the Examiner’s Answer, the Examiner additionally cites Melzer-Jokisch ¶ 37 for the disclosure of “part probing.” Ans. 20.

Appellant argues, on the other hand, that Melzer-Jokisch does not disclose the recited “part probing” and does not disclose that “the mapping is performed by at least two techniques” as recited in claim 17. Appeal Br. 9.

We find Appellant’s argument persuasive. Contrary to the Examiner’s finding, Melzer-Jokisch ¶ 37 only provides a definition of “digitalizing” without specifically disclosing any particular technique, much less the “part probing” recited in claim 17. Melzer-Jokisch ¶ 47 discloses certain “imaging means” such as “a digital camera” and “scanning means” such as “laser triangulation or tomographic techniques” but does not disclose every limitation of claim 17 including “part probing.” Moreover, although Melzer-Jokisch describes certain mapping techniques, the record before us does not show that “at least two” of such techniques are performed for the “mapping” step as recited in claim 17. *See* Melzer-Jokisch ¶¶ 37, 47. We reverse the rejection of claim 17 as a result.

Remaining Claims

Appellant does not argue separately for the rejections of the remaining claims, namely, the obviousness rejections of claims 2–10, 15, 16, and 18.

Appeal Br. 10–11. These rejections are sustained. *See* 37 C.F.R.

§ 41.37(c)(1)(iv).

CONCLUSION

The Examiner’s rejection of claim 1 and 14 under § 102 is affirmed.

The Examiner’s rejection of claim 17 under § 102 is reversed.

The Examiner’s rejections of claims 2–10, 15, 16, and 18 under § 103 are affirmed.

More specifically,

DECISION SUMMARY

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 14, 17	102(b)	Melzer-Jokisch	1, 14	17
2–5, 15, 16	103(a)	Melzer-Jokisch, Bolms	2–5, 15, 16	
6, 7	103(a)	Melzer-Jokisch, Ducotey	6, 7	
8, 9	103(a)	Melzer-Jokisch, Ducotey, Bruce	8, 9	
10	103(a)	Melzer-Jokisch, Liebert	10	
18	103(a)	Melzer-Jokisch, Robertson	18	
Overall Outcome:			1–10, 14– 16, 18	17

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TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART