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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MARTIN PERNLEITNER,
CHRISTIAN BICHLMAIER, and
CARSTEN ZSCHERP

Appeal 2020-001148
Application 15/299,005
Technology Center 3700

Before CHARLES N. GREENHUT, MICHAEL L. HOELTER, and
ANNETTE R. REIMERS, *Administrative Patent Judges*.

GREENHUT, *Administrative Patent Judge*.

DECISION ON APPEAL

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

We REVERSE.

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 MTU Aero Engines AG. Appeal Br. 2.

STATEMENT OF THE CASE

The claims are directed to a method for machining a workpiece. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A method for machining a workpiece, an electrode being situated at a distance from the workpiece to be machined and moved linearly in a first direction toward the workpiece to be machined and then moving in the first direction to pass over a surface to be machined to cause material to be removed from the workpiece, the method comprising:

moving the electrode at least partially with an electrode surface parallel to the surface to be machined, so that as the electrode surface passes over the surface to be machined, areas of the workpiece having an irregular edge include first areas first experiencing machining by the electrode and second areas experiencing the machining after the first areas so that the first areas are machined at a different intensity than the second areas, the difference in intensity of machining of the first and second areas being compensated in that the surface to be machined is provided with a height profile adapted to the shape of the end of the surface to be machined.

REFERENCE

The prior art relied upon by the Examiner is:

Name	Reference	Date
Warner	US 2004/0120823 A1	June 24, 2004

REJECTIONS²

Claims 1–6 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. Final Act. 2.

Claims 1–5 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant’s Admitted Prior Art (“AAPA”)³ and Warner. Final Act. 6.

OPINION

Enablement

The Examiner’s enablement rejection is premised on the determination that despite “the intended method . . . provid[ing] a preliminary/anticipatory height profile into the workpiece (e.g. in the original casting) in order to compensate, in advance, for the additional material removal (intensity),” such that “[t]he profile provides more material in the area (protrusions)” and that “the resulting surface is flat,” a skilled artisan “would not have been fully enabled to have executed the method of the claimed invention as they would have not been clearly informed as to the exact nature of the invention.” Final Act. 3–5.

We agree with Appellant that the Examiner’s non-enablement determination, based on this reasoning, is erroneous. We first note that in the Final Office Action, the Examiner does not appear to explain why particular subject matter requires undue experimentation—a prerequisite in determining that the claimed subject matter is not enabled by the disclosure. *See Nat’l Recovery Techs., Inc. v. Magnetic Separation Sys., Inc.*, 166 F.3d

² The rejection of claim 2 under 35 U.S.C. § 112, second paragraph, as being indefinite, has been withdrawn. *See* Adv. Act. 4; Final Act. 5.

³ Spec. ¶¶ 3, 4, 22, 23, 27; Figs. 1, 4a, 4b. *See* Final Act. 6.

1190, 1196 (Fed. Cir. 1999) (“The scope of enablement . . . is that which is disclosed in the specification plus the scope of what would be known to one of ordinary skill in the art without undue experimentation.”).

In the Final Office action, in regard to paragraph 12 of the Specification, the Examiner appears to question why it matters which side the height profile (annular space delimiting surface 6 in Figure 5) is located (i.e., on the pressure side or on the suction side of the blade profiles 3 and 4 of Appellant’s Figure 5) and how the height profile affects the fluid flow properties. Final Act. 3. However, these questions concerning fluid flow properties are *not* relevant to the issue at hand—whether undue experimentation is required for *any* aspects of the claimed subject matter.

The Examiner also finds that the terms “correct” and “adjust” in paragraph 28 of the Specification imply that a change in height profile “is made after the fact, rather than before,” i.e., more material is added to blade profile 4 *after* machining the workpiece with an electrode, rather than *before* this step. *Id.*; *see also* Ans. 9–10. As such, the Examiner questions “how the interface between” components, such as that of the two blade profiles 3 and 4 depicted in Appellant’s Figure 5, “would be step-free (i.e. flush) based upon the disclosure.” Final Act. 4. In the Answer, the Examiner questions how the height profile (added material) of the annular space delimiting surface 6 in Figure 5 is achieved. Ans. 7. The Examiner reiterates the difficulty in “understanding . . . the intended invention” and finds that the claims “are broad beyond the scope of the enabled invention.” *Id.* at 8.

We agree with Appellant that the Examiner’s understanding is not a “proper reading [of] the present specification.” Appeal Br. 4. Paragraph 28 discloses that “[t]he present invention now proposes to *correct* the height

profile at the edge or *adjust* it to an adjacent blade ring segment, so that a wavy height profile is established on at least one annular space delimiting surface of a blade ring segment.” Spec. ¶ 28; emphases added. It is understandable that this sentence is confusing because of the phrase “so that.” However, after a careful reading of the entire disclosure, a skilled artisan would understand this sentence to mean that an added “height profile” is provided before electrodischarge machining, rather than after. The Specification discloses that “during the approach to the workpiece, areas of the workpiece having an irregular edge occur as a result of being machined at a different intensity.” Spec. ¶ 2. The Specification further discloses that

a difference in material removal and a corresponding development of an edge which is irregular with respect to the height profile may be *counteracted* in that, in the area of the machining of the edge at a different intensity, the surface *to be machined* is formed *with a correspondingly counter-directional height profile according to the course of the edge*.

Spec. ¶ 6; emphases added. Thus, reading the above passages together, a skilled artisan would understand that the Specification discloses the height profile represented by the hatched surface of annular space delimiting surface 6 in Appellant’s Figure 5—rather than the otherwise smooth surface represented by the non-hatched surface of annular space delimiting surface 6 in Appellant’s Figure 1—would counteract electrodischarge machining that creates “an irregular edge” at step 7 shown in Figure 1. This understanding is consistent with the claim language “height profile *adapted* to the shape of the end [product] of the surface to be machine.” Appeal Br. 7 (Claims App.); emphasis added. Further, even if crediting the Examiner’s question whether the hatched surface of annular space delimiting surface 6 in Appellant’s Figure 5 would itself be affected by the EDM machining (Final Act. 3), that

does not detract from the fact that removal of material during electrodischarge machining is counteracted by increasing a “height profile” of the blade profile 4 beforehand as shown in Figure 5. *See* Appeal Br. 4 (explaining that “[a]ll claim 1 requires is that [the] first areas, which can for example be protruding areas of a Z-profile experiencing a linear EDM machining so that different intensities are experienced, be provided with a compensating height profile adapted to that shape” and that “[t]his compensating height profile is more than easy for one of skill in the art to provide, for example via casting”). Although the Examiner, understandably, finds that certain portions of the disclosure are confusing, that does not mean that the claimed subject matter is not enabled by virtue of such portions of the disclosure. Thus, the Examiner fails to establish that, upon reading the Specification, undue experimentation is required to enable the claimed subject matter.

For these reasons, we reverse the Examiner’s rejection of claims 1–6 as failing to comply with the enablement requirement.

Obviousness over AAPA and Warner

Claim 1 requires, among other things, “the difference in intensity of machining of the first and second areas being *compensated* in that the surface to be machined is provided with *a height profile adapted to the shape of the end of the surface to be machined.*” Appeal Br. 7 (Claims App.); emphasis added. The Examiner relies on Warner for this limitation. Final Act. 6–7 (citing Warner ¶¶ 1, 5–7; Figs. 2a–2b).⁴

⁴ The Examiner relies on AAPA for limitations other than those discussed above. Final Act. 6.

Appellant argues that “Warner appears to disclose a surface that is flat before being machined, and then machined to create a flush edge using a simple parallelogram shape.” Appeal Br. 5 (citing Warner ¶ 26).

We are unable to find any disclosure in Warner, including the passages cited by the Examiner, that intensity of machining is compensated via a height profile that is adapted to the shape of the end product of the surface to be machined.

[T]he precise language of 35 U.S.C. § 102 that ‘(a) person shall be entitled to a patent unless,’ concerning novelty and unobviousness, clearly places a burden of proof on the Patent Office which requires it to produce the factual basis for its rejection of an application under sections 102 and 103.

In re Warner 379 F.2d 1011, 1016 (CCPA 1967). All words in a claim must be considered in judging the obviousness of the claimed subject matter. *See In re Wilson*, 424 F.2d 1382, 1385. Because the rejection does not adequately address this aspect of the claim, the rejection of claims 1–5 as being unpatentable over AAPA and Warner cannot stand. Thus, the obviousness rejection is not sustained.

CONCLUSION

The Examiner's rejections of claims 1-6 are reversed.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1-6	112, First Paragraph	Enablement		1-6
1-5	103(a)	AAPA, Warner		1-5
Overall Outcome				1-6

REVERSED