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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MICHAEL D. GREENBERG and MARK F. ZELESKY

Appeal 2019-003218
Application 14/769,034
Technology Center 1700

Before MONTÉ T. SQUIRE, AVELYN M. ROSS, and
MICHAEL G. McMANUS, *Administrative Patent Judges*.

SQUIRE, *Administrative Patent Judge*.

DECISION ON APPEAL¹

Appellant² appeals under 35 U.S.C. § 134(a) from the Examiner’s final decision to reject claims 1, 3–5, 7–9, 11, 12, 16, 17, 19, 20, and 22–24, which are all of the claims pending in this application.³ We have jurisdiction under 35 U.S.C. § 6(b).

¹ In this Decision, we refer to the Specification filed Aug. 19, 2015 (“Spec.”); Final Office Action dated Oct. 18, 2017 (“Final Act.”); Appeal Brief filed May 18, 2018 (“Appeal Br.”); and Examiner’s Answer dated Aug. 10, 2018 (“Ans.”). There is no reply brief.

² We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). Appellant identifies United Technologies Corporation as the real party in interest. Appeal Br. 2.

³ Claims 2, 6, 10, 13–15, 18, 21, and 25 are cancelled. Appeal Br. 9–11.

We AFFIRM.

CLAIMED SUBJECT MATTER

Appellant's disclosure relates to a method for determining whether a component, for example, a gas turbine engine component, having a coating thereon has been compromised by visually inspecting detectable changes to the coating. Spec. ¶¶ 2, 6; Abstract. Claim 1 illustrates the claimed subject matter on appeal and is reproduced below from the Claims Appendix to the Appeal Brief:

1. A method for determining if a component having a coating thereon has been compromised, the method comprising the steps of:

a) visually inspecting the coating; and

b) determining that the component has been compromised if the coating is displaced, *wherein the displaced coating is indicative of one or more failed cooling passages of the component*;

wherein determining the component has been compromised comprises determining that a component substrate to which the coating is applied has been subjected to a temperature that exceeds a predetermined threshold;

wherein the coating comprises:

a metallic coating layer; and

a thermal barrier coating applied over the metallic layer; and

wherein the metallic coating layer is applied in a pattern of letters forming a message, and

wherein visual indication of the message as viewed via borescope visual inspection of the component is indicative of the exceeding of the predetermined threshold.

Appeal Br. 9 (key disputed claim language italicized and bolded).

REFERENCES

The Examiner relies on the following prior art references as evidence in rejecting the claims on appeal:

Name	Reference	Date
Hampson	US 2,372,488	Mar. 27, 1945
Olson et al. (“Olson”)	US 5,277,936	Jan. 11, 1994
Williamson et al. (“Williamson”)	US 6,238,183 B1	May 29, 2001
Rigney et al. (“Rigney”)	US 6,274,193 B1	Aug. 14, 2001
Hanley	US 2005/0126001 A1	June 16, 2005
Philip et al. (“Philip”)	US 2005/0235493 A1	Oct. 27, 2005
Tibbott	US 2009/0081024 A1	Mar. 26, 2009
Jabado et al. (“Jabado”)	US 2009/0238693 A1	Sept. 24, 2009
Arikawa et al. (“Arikawa”)	US 2012/0084981 A1	Apr. 12, 2012
Pawlowski et al. (“Pawlowski”)	US 2013/0179356 A1	July 11, 2013

REJECTIONS

On appeal, the Examiner maintains (Ans. 3) the following rejections:

1. Claims 1, 3–5, 7–9, 12, 16, 17, 19, 20, 22, and 23 are rejected under 35 U.S.C. § 103 as being unpatentable over Rigney in view of Olson, and (a) either Williamson and Hanley or Tibbott and Hanley, and (b) either Pawlowski or Philip, and (c) Jabado and Hampson (“Rejection 1”). Final Act. 3.

2. Claims 11 and 24 are rejected under 35 U.S.C. § 103 as being unpatentable over Rigney in view of Olson, and (a) either Williamson and Hanley or Tibbott and Hanley, and (b) either Pawlowski or Philip, and (c) Jabado and Hampson as applied to claims 1, 3–5, 7–9, 12, 16, 17, 19, 20, 22, and 23 above, further in view of Arikawa (“Rejection 2”). *Id.* at 30.

OPINION

Having considered the respective positions advanced by the Examiner and Appellant in light of this appeal record, we affirm the Examiner's rejections based on the fact-finding and reasoning set forth in the Answer and Final Office Action, which we adopt as our own. We add the following primarily for emphasis.

Rejection 1

In response to the Examiner's Rejection 1, stated above (Final Act. 3–30), Appellant argues for the patentability of independent claims 1 and 12 as a group, but does not present separate argument for the patentability of remaining claims 3–5, 7–9, 16, 17, 19, 20, 22, and 23. Appeal Br. 5–7. We select claim 1 as representative and claims 3–5, 7–9, 12, 16, 17, 19, 20, 22, and 23 stand or fall with claim 1. 37 C.F.R. § 41.37(c)(1)(iv).

The Examiner determines that the combination of references, as stated above, suggests a method satisfying the limitations of claim 1 and concludes the combination would have rendered the claim obvious. Final Act. 3–15.

Appellant argues that the Examiner's rejection of claim 1 should be reversed because the cited art does not teach or suggest the metallic coating layer “applied in a pattern of letters forming a message” recitation of the claim. Appeal Br. 5–8. Appellant contends that none of the cited references, including neither Jabado nor Hampson, explicitly disclose that element of the claim. *Id.* at 5.

Appellant further contends that, in contrast to the disclosures in the cited references relied upon by the Examiner, the claim requires that a pattern of letters forming a message, such as, for example, “WARRANTY

VOIDED,” be visible when a primary metallic coating layer of a component has become displaced. *Id.* at 6 (citing Fig. 10 of the Spec.). Appellant also contends that the claimed “coating layer is not merely a design choice” and “provides considerable advantage over the coating layer of the cited references.” *Id.* at 6.

We do not find Appellant’s arguments persuasive of reversible error in the Examiner’s rejection based on the Examiner fact-finding and reasoning provided at pages 5–7 of the Answer and pages 4–15 of the Final Office Action. Rather, we find a preponderance of the evidence and sound technical reasoning support the Examiner’s finding that the cited art suggests “the metallic coating layer is applied in a pattern of letters forming a message,” as recited in the claim. Rigney 3:25–4:5, 4:20–25, 6:54–7:5, 7:25–60, 7:35–65, Figs. 1, 8; Jabado ¶¶ 18, 22, 63, 69, 86, 87, 89, 92, Figs. 3C, 4; Hampson 2, Figs. 1–5.

As the Examiner finds (Ans. 12; Final Act. 4), Rigney describes a method for determining if a component having a coating has been damaged (e.g., at areas 16 and 18 of Fig. 1), which includes providing a metallic coating 22 on a substrate turbine blade in layers 24 and 26, and visually inspecting the coating to determine whether it has been damaged or otherwise displaced. Rigney 3:25–4:5, 4:20–25, 6:54–7:5, 7:25–60, 7:35–65, Figs. 1, 8.

As the Examiner further finds (Final Act. 12–13), Jabado teaches components, such as turbine blades, having a metallic coating and that it is desirable to keep the component from operating above specified temperatures to prevent damage to the coating, such as peeling, and to know whether the component has been operated above a specified temperature.

Jabado ¶¶ 6–8. As the Examiner further finds (Final Act. 13), Jabado teaches that the metallic coating may be applied electrolytically (electroplated) and include particles that provide a color change in a first layer when a certain temperature limit is exceeded. Jabado ¶¶ 18, 22, 63, 69, 86, 87, 89, 92, Figs. 3C, 4. As the Examiner also finds (Final Act. 13), Hampson teaches that it was well known in the art to one of ordinary skill to use electroplating to apply coating in desired patterns by, for example, masking the surface of a component to prevent coating unwanted areas. Hampson 2, Figs. 1–5.

The Examiner also provides a reasonable basis, which is supported by a preponderance of the evidence in the record, to evince why one of ordinary skill would have combined the teachings of the cited art to arrive at the claimed invention. Final Act. 13–14 (explaining it would have been obvious to one of ordinary skill to have modified Rigney’s method to apply an additional layer of the metallic coating, such that there would be another lower layer beneath layer 24 of Rigney, and a color change can be provided and visually detected to signal that a certain temperature limit is exceeded, as suggested by Jabado, and the metallic coating be applied in a desired pattern, as taught by Hampson); *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 416 (2007) (“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”).

As the Examiner determines (Ans. 5; Final Act. 15), based on the teachings of the prior art, it would have been merely a matter of obvious design choice as to what specific application pattern can be used for a layer to indicate such temperature change. As the Examiner explains (Ans. 5;

Final Act. 15), although the desired pattern may be in the form of, for example, “a pattern of letters forming a message,” as claimed, the use of such pattern would have no mechanical function to patentably distinguish the claimed invention from the prior art. *In re Seid*, 161 F.2d 229, 231 (CCPA 1947) (explaining that matters relating to aesthetic appearance and having no mechanical function cannot be relied upon to patentably distinguish the claimed invention from the prior art).

In that regard, we observe that the metallic coating layer “applied in a pattern of letters forming a message” element of claim 1 is informational printed matter and imparts no mechanical function to the claimed subject matter and, apart from the coating’s color change appearing in a specific pattern of letters forming a message, appears to be structurally the same as that of the prior art. *See Seid*, 161 F.3d at 231; *cf. In re Distefano*, 808 F.3d 845, 848-51 (Fed. Cir. 2015) (reaffirming the principle that no patentable weight is to be given to information recorded in any substrate if that printed matter is for informational content only and not functionally or structurally related to the substrate).

Appellant’s arguments do not reveal reversible error in the Examiner’s factual findings or obviousness analysis in this regard. Appellant’s contention that the “coating layer is not merely a design choice” and “provides considerable advantage over the coating layer of the cited references” (Appeal Br. 6) is not persuasive because it is conclusory and unsupported by persuasive evidence in the record. *In re De Blauwe*, 736 F.2d 699, 705 (Fed. Cir. 1984); *see also In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997) (explaining that mere lawyer’s arguments or conclusory statements, which are unsupported by concrete factual evidence, are entitled

to little probative value). Moreover, the fact that Appellant may have “recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the difference would otherwise [have been] obvious.” *Ex parte Obiaya*, 227 USPQ 58, 60 (BPAI 1985).

Next, Appellant argues the Examiner’s rejection should be reversed because the cited art does not teach or suggest the “wherein the displaced coating is indicative of one or more failed cooling passages of the component” recitation of the claim. *Id.* at 7. Appellant contends that neither Williamson nor Tibbott discloses this element of the claim because both references describe cooling passages becoming clogged or blocked due to particulates in the airflow, which leads to rumpling or displacement of the coating, and that is not the mechanism or type of “failed cooling passages” recited by the claim. *Id.* at 7.

We do not find this argument persuasive of reversible error in the Examiner’s rejection because it is conclusory and Appellant does not adequately explain it. *De Blauwe*, 736 F.2d at 705; *see also In re Lovin*, 652 F.3d 1349, 1356–57 (Fed. Cir. 2011) (holding that a “naked assertion” that the references fail to teach a claim limitation is not an argument in support of separate patentability).

Moreover, based on the fact-finding and reasoning provided by the Examiner at pages 7–9 of the Answer and pages 4–7 of the Final Office Action, we find a preponderance of the evidence supports the Examiner’s determination that the combined teachings of the cited art suggests the “the displaced coating is indicative of one or more failed cooling passages of the component,” as recited in the claim. Rigney 3:25–4:5, 4:20–25, 6:54–7:5,

7:25–60, 7:35–65, Figs. 1, 8; Olson 1:58–2:5, 5:35–6:15; Williamson 1:1–30; Tibbott ¶¶ 1, 2.

As the Examiner finds and explains at pages 8–9 of the Answer, the claim merely requires that “the displaced coating is indicative of one or more failed cooling passages of the component,” and not necessarily the same mechanism or type of failed cooling passages Appellant describes in its Specification. *See In re Van Geuns*, 988 F.2d 1181, 1184-85 (Fed. Cir. 1993) (“[L]imitations are not to be read into the claims from the specification.”).

As the Examiner further finds (Ans. 8–9), the Specification does not limit or provide a specific definition of the phrase “failed cooling passages” beyond the language recited in the claim. Appellant also does not identify or direct us to any description in the Specification indicating that the phrase must be construed narrowly to mean only the mechanism or type of failure discussed in the Specification. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). Thus, absent any special or scope-limiting definition in the Specification, we find the Examiner correctly applied the broadest reasonable interpretation consistent with the Specification and discern no reversible error in the Examiner’s finding that the cited art suggests that element of the claim. Ans. 9 (finding that the blockages in the cooling holes described by Williamson and Tibbott would have been understood by one of ordinary skill as reasonably falling within the scope of the “failed cooling passages” recitation of claim 1).

Accordingly, we affirm the Examiner’s rejection of claims 1, 3–5, 7–9, 12, 16, 17, 19, 20, 22, and 23 under 35 U.S.C. § 103 as obvious over the combination of Rigney, Olson, and (a) either Williamson and Hanley or

Tibbott and Hanley, and (b) either Pawlowski or Philip, and (c) Jabado and Hampson (Rejection 1).

Rejection 2

In response to the Examiner's Rejection 2, stated above (Final Act. 30–32), Appellant does not present any new or additional substantive arguments in the Appeal Brief, and apparently intends to rely on the same arguments previously presented above in response to the Examiner's rejection of claim 1.

Accordingly, based on the fact-finding and reasoning provided by the Examiner at pages 3–9 of the Answer and pages 3–32 of the Final Office Action, and for principally the same reasons discussed above for affirming the Examiner's rejection of claim 1, we affirm the Examiner's rejection of claims 11 and 24 under 35 U.S.C. § 103 as obvious over the combination of Rigney, Olson, and (a) either Williamson and Hanley or Tibbott and Hanley, and (b) either Pawlowski or Philip, and (c) Jabado and Hampson, and further in view of Arikawa (Rejection 2).

CONCLUSION

In summary:

Claim(s) Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 3–5, 7–9, 12, 16, 17, 19, 20, 22, 23	103	Rigney, Olson, Williamson, Hanley, Tibbott, Pawlowski, Philip, Jabado, Hampson	1, 3–5, 7–9, 12, 16, 17, 19, 20, 22, 23	

Claim(s) Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
11, 24	103	Rigney, Olson, Williamson, Hanley, Tibbott, Pawlowski, Philip, Jabado, Hampson, Arikawa	11, 24	
Overall Outcome			1, 3-5, 7-9, 11, 12, 16, 17, 19, 20, 22-24	

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

AFFIRMED