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CARLSON, GASKEY & OLDS/PRATT & WHITNEY 400 West Maple Road Suite 350 Birmingham, MI 48009			SUTHERLAND, STEVEN M	
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte AMR ALI and NIGEL SAWYERS-ABBOTT

Appeal 2019-006348
Application 14/974,220
Technology Center 3700

Before STEFAN STAICOVICI, EDWARD A. BROWN, and
JEREMY M. PLENZLER, *Administrative Patent Judges*.

STAICOVICI, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant¹ appeals under 35 U.S.C. § 134(a) from the Examiner's decision in the Final Office Action (dated Jan. 14, 2019, hereinafter "Final Act.") rejecting claims 1, 4–7, 9, and 16 under 35 U.S.C. § 103 as being unpatentable over Gilson,² Kraft,³ and Vauchel.⁴ We have jurisdiction over this appeal under 35 U.S.C. § 6(b).

¹ We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42. United Technologies Corporation is identified as the real party in interest in Appellant's Appeal Brief (filed July 15, 2019, hereinafter "Appeal Br."). Appeal Br. 1.

² Gilson et al., US 2013/0283821 A1, published Oct. 31, 2013.

³ Kraft et al., US 5,498,127, issued Mar. 12, 1996.

⁴ Vauchel et al., US 2011/0131945 A1, published June 9, 2011.

SUMMARY OF DECISION

We REVERSE.

INVENTION

Appellant's invention is directed "to a gas turbine engine having a noise reduction feature." Spec. para. 1.

Claim 1, the sole independent claim, is representative of the claimed invention and reads as follows:

1. A gas turbine engine comprising:
 - a fan rotor having fan blades received within an outer nacelle, and said outer nacelle having an inner surface, said outer nacelle secured to an inner portion through a mount flange at a first axial location;
 - an acoustic treatment extending inwardly said outer nacelle and across said first axial location of the mount flange and further inwardly toward said fan blades;
 - wherein said acoustic treatment is continuous for 360° about a center axis of the fan rotor, said acoustic treatment is provided with an anti-icing feature;
 - wherein a distance is defined from a plane defined by leading edges of said fan blades to an axial location of a forwardmost part of said outer nacelle, and an outer diameter of said fan blades being defined, and a ratio of said distance to said outer diameter is between 0.2 and 0.5;
 - wherein said acoustic treatment includes a honeycomb material; and
 - wherein said anti-icing feature includes the delivery of air to said nacelle.

ANALYSIS

The Examiner finds that Gilson discloses most of the limitations of independent claim 1 including, *inter alia*, acoustic treatment 70, but “does not teach that the acoustic treatment includes a honeycomb material, or that an anti-icing feature includes delivery of air to the nacelle.” Final Act. 2–3 (citing Gilson, paras. 16, 43). Nonetheless, the Examiner further finds that Kraft discloses an acoustic treatment 22 having a honeycomb structure and Vauchel discloses an acoustic treatment P heated by delivery of hot air via pipe 27 into cavity 19. *Id.* at 3 (citing Kraft, col. 3, ll. 42–44; Vauchel, paras. 62, 83, Fig. 6). Thus, the Examiner concludes that it would have been obvious to a person of ordinary skill in the art

[T]o modify the acoustic treatment of Gilson with the honeycomb material of Kraft, and to [further] modify the nacelle of Gilson with the hot air delivery system of Vauchel, in order to effect a predetermined acoustic impedance to attenuate the noise generated by the engine . . . and to de-ice the air intake.

Id. (citing Kraft, col. 3, ll. 42–46; Vauchel, para. 34).

Appellant argues that because in Vauchel air is provided to the engine inlet, i.e., “forwardmost end,” when modifying Gilson, according to Vauchel, air is supplied forward of, and, not to, Gilson’s acoustic treatment 70. Appeal Br. 3–4. According to Appellant, “claim 1 requires ‘said acoustic treatment is provided with an anti-icing feature,’ and that anti-icing feature is later recited as including the delivery of air.” Reply Br. 1. Thus, Appellant asserts that “[t]he claims require that *the* acoustic treatment *be* provided with an anti-icing feature.” Appeal Br. 4 (emphasis added).

In response, the Examiner takes the position that independent claim 1 does not require “placing the anti-icing feature *within* the acoustic treatment.” Examiner’s Answer (dated Aug. 20, 2019, hereinafter “Ans.”) 3 (emphasis added).

Here, claim 1 recites, *inter alia*, “an acoustic treatment . . . provided with an anti-icing feature . . . wherein said anti-icing feature includes the delivery of air to said nacelle.” Appeal Br. 5, Claims App. During examination of a patent application, pending claims are given their broadest reasonable construction consistent with the Specification. *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). Here, we construe claim 1 to require “an acoustic treatment” with “an anti-icing feature” that “includes the delivery of air to said nacelle.” Such an interpretation is consistent with Appellant’s Specification, which describes pipe 162 delivering air *into* passage 164 of acoustic treatment 160. Spec. para. 53, Fig. 5B.

We appreciate the Examiner’s finding that Vauchel’s Figure 6 discloses providing heated air from pipe structure 25, 27 to acoustic element P at air intake lip 5. Ans. 4. However, modifying Gilson to include the anti-icing feature of Vauchel, provides lip 68 of nacelle 64, not acoustic treatment 70, with “an anti-icing feature” that “includes the delivery of air to said nacelle.” Thus, Appellant is correct that Gilson, as modified by Vauchel, “would not provide air [as an anti-icing feature] to the structure 70 of Gilson.” Appeal Br. 4. Accordingly, the combined teachings of Gilson and Vauchel do not disclose “an acoustic treatment . . . provided with an anti-icing feature . . . [that] includes the delivery of air to said nacelle,” as recited by claim 1. Moreover, we note that Vauchel’s anti-icing feature is

disclosed in conjunction with a sound attenuation panel made from a porous material and *not* a honeycomb structure, like that of Gilson, as modified by Kraft. *See* Vauchel para. 80.

In conclusion, as Kraft does not remedy the deficiency of the Gilson and Vauchel combination discussed *supra*, we do not sustain the rejection under 35 U.S.C. § 103 of independent claim 1, and its dependent claims 4–7, 9, and 16, as unpatentable over Gilson, Kraft, and Vauchel.

CONCLUSION

In summary:

Claim(s) Rejected	35 U.S.C. §	Reference(s)/ Basis	Affirmed	Reversed
1, 4–7, 9, 16	103	Gilson, Kraft, Vauchel		1, 4–7, 9, 16

REVERSED