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PEARNE & GORDON LLP 1801 EAST 9TH STREET SUITE 1200 CLEVELAND, OH 44114-3108			MALATEK, KATHERYN A	
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JINGO TATEIWA

Appeal 2019-002781
Application 14/552,605
Technology Center 3700

Before JENNIFER D. BAHR, DANIEL S. SONG, and
BRETT C. MARTIN, *Administrative Patent Judges*.

MARTIN, *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 1–17 and 20–22. Claims 18 and 19 were canceled during prosecution. 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 Mitsubishi Aircraft Corporation. Appeal Br. 2.

CLAIMED SUBJECT MATTER

The claims are directed “to arrangement of an engine oil cooler and a pre-cooler.” Spec. 1. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. An aircraft comprising a turbofan engine provided with an engine body, a core cowl surrounding the engine body, a fan located anterior to the engine body, and a nacelle surrounding the core cowl and the fan, the fan producing a fan stream flowing from the fan into a gap between the core cowl and the nacelle, the fan stream dividing into at least a first fan stream portion and a second fan stream portion, the aircraft further comprising:

an engine oil cooler that is a first heat exchanger for cooling engine oil used in the engine body by using the first fan stream portion as a first cooling source, the engine oil cooler defining a first passageway that the first fan stream portion flows through; and

a pre-cooler that is a second heat exchanger for cooling bleed air from the engine body by using the second fan stream portion as a second cooling source, the pre-cooler defining a second passageway that the second fan stream portion flows through,

wherein the engine oil cooler and the pre-cooler are in one position in a circumferential direction of the nacelle,

the engine oil cooler and the pre-cooler are longitudinally arranged along an axial direction of the engine body such that the engine oil cooler is located anterior to the pre-cooler along the axial direction of the engine body, and

a duct wall separates the first fan stream portion from the second fan stream portion, the duct wall having a first portion that defines an intake port of the engine oil cooler, a second portion that defines an exhaust port of the engine oil cooler, and an intermediate portion between the first portion and second portion that extends oblique to the axial direction.

REFERENCE

The prior art relied upon by the Examiner is:

Name	Reference	Date
Banthin	US 5,239,830	Aug. 31, 1993
Stretton	US 2007/0245739 A1	Oct. 25, 2007
Porte	US 2008/0230651 A1	Sept. 25, 2008
Suciu	US 2009/0188234 A1	July 30, 2009
Bartolomeo	US 2010/0061839 A1	Mar. 11, 2010
Welch	US 2012/0187214 A1	July 26, 2012

REJECTIONS

Claims 5–7 stand rejected under 35 U.S.C. § 112(b) as being indefinite.² Final Act. 3.

Claims 1–4, 8–11, 13–17, and 20–22 stand rejected under 35 U.S.C. § 103 as being unpatentable over Suciu and Banthin. Final Act. 4.

Claim 5 stands rejected under 35 U.S.C. § 103 as being unpatentable over Suciu, Banthin, and Welch. Final Act. 15.

Claim 6 stands rejected under 35 U.S.C. § 103 as being unpatentable over Suciu, Banthin, and Porte. Final Act. 17.

Claim 7 stands rejected under 35 U.S.C. § 103 as being unpatentable over Suciu, Banthin, and Stretton. Final Act. 18.

Claim 12 stands rejected under 35 U.S.C. § 103 as being unpatentable over Suciu, Banthin, and Bartolomeo. Final Act. 19.

² According to the Examiner, amendments made to the claims after the Final Action have overcome indefiniteness rejections of other claims set forth in the Final Action. *See* Advisory Act. 2; Final Act. 2–3.

OPINION

Indefiniteness

The Examiner rejects claim 5 as indefinite because it is allegedly unclear whether “the fan stream” in claim 5 refers to “a fan stream,” “a first fan stream portion,” or “a second fan stream portion” recited in claim 1.

Ans. 3. The statement of the basis for the rejection alone almost clarifies that the rejection is in error. Claim 1 clearly recites “a fan stream.”

Although other fan stream *portions* are recited, standard claim construction rules dictate that “the fan stream” of claim 5 refers to “a fan stream” in claim 1. We agree with Appellant that the “Examiner has failed to provide any reasoning as to why a person of ordinary skill in the art should interpret ‘the fan stream’ recited in claim 5, contrary to its plain language.” Appeal Br. 13. Accordingly, we do not sustain this rejection.

As to claims 6 and 7, however, we agree with the Examiner that “[i]t is unclear how the pre-cooler can provide a passageway for the second fan stream portion and have an exhaust port (which would be part of the passageway) which opens in a direction crossing the second fan stream portion.” Final Act. 3. The Examiner is correct that the exhaust port is part of the passageway, so it defines the path of the second fan stream portion. At the location of the exhaust port, the second fan stream portion extends in a direction with the fan stream, not crossing it. Appellant may be attempting to claim that the exhaust port redirects the second fan stream portion in a different direction from the flow prior to the exhaust port, but this language does not encompass such an interpretation. We agree that the language is not only indefinite, but is actually opposite of what is depicted in Fig. 5A. As such, we sustain the rejection of claims 6 and 7.

Obviousness

All of the Examiner’s art-based rejections rely on the interpretation of Suciu as including the claimed intermediate portion of the duct wall “that extends oblique to the axial direction.” Ans. 6. The Examiner asserts that Suciu’s intermediate portion, which has a lower surface that appears to be slightly angled relative to the axial direction, demonstrates the intermediate portion extends oblique to the axial direction. Ans. 6. We agree with Appellant that “a person of ordinary skill in the art would not construe Suciu’s wall 102 as ‘extending oblique’ to the axial direction of its engine body.” Appeal Br. 16. Suciu’s wall 102 has an axial thickness that tapers slightly, but the wall itself extends along the axial direction, not oblique to it. The slight taper noted by the Examiner is insufficient to be considered “extending” in a direction oblique to the axis. Accordingly, we do not sustain the Examiner’s prior art rejections.

CONCLUSION

The Examiner’s rejections are AFFIRMED-IN-PART.

More specifically,

DECISION SUMMARY

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
5	112(b)	Indefinite		5
6, 7	112(b)	Indefinite	6, 7	
1–4, 8–11, 13–17, 20–22	103	Suciu/Banthin		1–4, 8–11, 13–17, 20–22
5	103	Suciu/Banthin/Welch		5
6	103	Suciu/Banthin/Porte		6
7	103	Suciu/Banthin/Stretton		7

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
12	103	Suciu/Banthin/ Bartolomeo		12
Overall Outcome:			6, 7	1-5, 8-17, 20-22

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