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Kinney & Lange, P.A. 312 South Third Street Minneapolis, MN 55415			GREENLUND, JOSEPH A	
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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JOE OTT, GARY A. SCHIRTZINGER, LEXIA KIRONN,
DENNIS M. MOURA, STANLEY J. FUNK, and ROGER O. COFFEY

Appeal 2019-002560
Application 15/112,985
Technology Center 3700

Before KEVIN F. TURNER, STEFAN STAICOVICI, 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), Appellant,¹ United Technologies Corporation, appeals from the Examiner's decision to reject claims 1, 2, 4, 9, 10, and 14, the only claims currently pending in the application. Ans. 3. 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(a). Appellant identifies the real party in interest as United Technologies Corporation. Appeal Br. 2.

CLAIMED SUBJECT MATTER

The claims are directed “to gas turbine engines, and more particularly, to fuel injectors used in gas turbine engines.” Spec. 1, ll. 5–6. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A fuel injector comprising:
 - a conduit for conveying fuel from a fuel inlet to a nozzle;
 - a support in which the conduit is located;
 - a heat shield on an exterior of the support, wherein the conduit, the nozzle, the support, and the heat shield are a single unitary piece; and
 - a thermally compliant feature at the nozzle which allows the fuel injector to adjust for differential thermal expansion;wherein the thermally compliant feature comprises a gap in the nozzle, wherein the gap axially separates the heat shield and a nozzle tip structure along a fluid axis.

REFERENCE

The prior art relied upon by the Examiner is:

Donlan	US 5,361,578	Nov. 8, 1994
McMasters	US 2009/0255262 A1	Oct. 15, 2009

REJECTION

Claims 1, 2, 4, 9, 10, and 14 stand rejected under 35 U.S.C. § 103as being unpatentable over McMasters and Donlan. Ans. 3.

OPINION

Appellant asserts that the Examiner’s rejection is flawed because a) “the insulation gaps taught by McMasters et al. serve to reduce temperature at a braze joint” but they “do not allow for thermal expansion and they do not ‘axially separate[] the heat shield and the nozzle tip structure,” and b)

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“Donlan does not teach or suggest a gap that ‘axially separates the heat shield and a nozzle tip structure along a fluid axis.’” Reply Br. 2. Appellant is correct on both points.

First, Appellant points out that Donlan’s “passages 18 and 19 are clearly radially offset from outer sleeve 24” rather than being axially offset as claimed. *Id.* As pointed out by Appellant, in, for example, Figure 2 of Donlan, passages 18 and 19 are in fact spaced apart radially from outer sleeve 24 and there is no axial gap as claimed. Appellant next notes that the Examiner offers a modified interpretation of Donlan pointing to alleged gaps in the folds of the bellows. Reply Br. 3 (citing Ans. 8). Appellant is again correct that the alleged gaps “are folds within a single unbroken component (bellows).” *Id.* Given that the bellows is unbroken, there can be no gaps that *separate* the heat shield from the nozzle tip as required by the claims.

As to McMasters, the Examiner finds that pilot flow passage 104 “axially separates the heat shield and the nozzle tip structure along a fluid axis.” Ans. 7–9. As Appellant correctly argues, however, “pilot flow passage 104 is axially extending, but radially separates the nozzle and swirler (heat shield) along the fluid axis.” Reply Br. 4. Responding to the Examiner’s suggested incorporation of Donlan’s bellows into McMaster’s nozzle, Appellant is also correct that “incorporation of the bellows would not ‘axially separate[] the heat shield and a nozzle tip structure along a fluid axis,’” again because the bellows is a continuous piece and therefore connects rather than separates the nozzle and heat shield. Ans. 5. These errors apply to the rejection of both of independent claims 1 and 10 and we, therefore, do not sustain the Examiner’s rejection.

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DECISION

The Examiner's rejection is reversed.

DECISION SUMMARY

Claims Rejected	Basis	Affirmed	Reversed
#1, 2, 4, 9, 10, and 14	§ 103 over McMasters and Donlan	None	All

REVERSED