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EXAMINER	
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JORGE I. FARAH, STEVEN D. PORTER, PAUL K. SANCHEZ, and JOSEPH J. SEDOR

Appeal 2018-005179
Application 14/598,574
Technology Center 3700

Before MICHAEL C. ASTORINO, NINA L. MEDLOCK, and PHILIP J. HOFFMANN, *Administrative Patent Judges*.

HOFFMANN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellants[1] appeal from the Examiner's rejection of claims 1, 3–5, 7–10, 12, 14, 15, and 21–28. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

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[1] According to Appellants, United Technologies Corporation is the real party in interest. Appeal Br. 1.

According to Appellants, the invention "relates . . . to a mid-turbine frame (MTF) included in a gas turbine engine." Spec. ¶ 1. Claims 1 and 10 are the independent claims on appeal. Below, we reproduce claim 1 as representative of the appealed claims.

> 1. A mid-turbine frame for a gas turbine engine comprising:
>
> an inner frame case including a bolt opening;
>
> at least one spoke for connecting an outer frame case to the inner frame case including an inlet passage extending in a radial direction, wherein a radially inner end of the at least one spoke includes at least two tabs; and
>
> a central bolt extending through the bolt opening for securing the at least one spoke to the inner frame case, wherein the central bolt includes an airflow passage extending radially through the central bolt aligned with the inlet passage.

REJECTION AND PRIOR ART

The Examiner rejects claims 1, 3–5, 7–10, 12, 14, 15, and 21–28 under 35 U.S.C. § 103 as unpatentable over Palmer (US 2013/0074518 A1, pub. Mar. 28, 2013) and Durocher et al. (US 8,347,500 B2, iss. Jan. 8, 2013) ("Durocher").

ANALYSIS

Appellants argue that the Examiner's rejection is in error because, among other reasons,

> the [Examiner's] proposed combination would change the principle of operation of Palmer. In particular, Palmer is directed to a connector having a hollow body for aligning with a hollow length of a tie rod. Palmer [¶ 5]. Incorporating [Durocher's] connector lugs 52 and 54 would be contrary to the principle of

> Palmer of forming a connection and flow path with a hollow connector aligned with a hollow length of the tie rod. . . .
>
> The change in principle of operation of Palmer is further supported by the Examiner now adding fasteners to the combination to secure the mounting lugs 56, 58 to the tabs 52, 54 [as disclosed in Durocher] (*[see]* Examiner's Answer [3] and Final [Office Action 6]). . . . As discussed above, the focus of Palmer is to use a connector for both connecting a tie rod and forming a flow path with a tie rod.

Reply Br. 2. Based on our review of the record, including Palmer, we agree with Appellants.

Palmer describes that

> [e]ach tie rod 60 has . . . hexagonally[-]shaped body 65 extending along . . . longitudinal axis 70. Cooling passageways 75 extend along . . . axis 70 within . . . hexagonally[-]shaped body 65 of each tie rod 60.
>
> [T]ie rod 60 has . . . widened base 200 that is 30 percent wider than [a prior art] base . . . (see F[igure] 3), and . . . counterbore 205 that is concentric with cooling passageway 75 and axis 70. . . [C]ounterbore 205 has threads 210 disposed therein for receiving bolt 215. [B]olt 215 has . . . cooling passageway 230 extending through the bolt along axis 70, and threads 235 that cooperate with threads 210 within the counterbore.

Palmer ¶¶ 14–15 (bold omitted). Consistent with Palmer's description, Palmer's figures illustrate that the cooling passageways extend through tie rods 60 and the bolts. *See, e.g.*, *id.* at Fig. 4.

Thus, as set forth above, Palmer's principle of operation is to provide cooling passageways extending through each tie rod 60 and bolt 215, and this principle would be changed by using Durocher's fasteners, lugs, and tabs to connect tie rod 60 to a frame casing (*see* Answer 2–3), inasmuch as the included fasteners do not include cooling passageways, and further the

fasteners apparently would obstruct a large portion of the tie rods' cooling passageways. Although not argued by Appellants, for reasons similar to those discussed above, the Examiner's proposed modification would make Palmer unsuitable for its intended purpose of providing cooling passageways through tie rods and fasteners; and in view of the differences between Palmer and Durocher, the Examiner does not provide an articulated reasoning with some rational underpinning sufficient to establish that it would have been obvious to reconfigure Palmer's arrangement to use Durocher's tabs, lugs, and fasteners. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

Therefore, based on the foregoing, we do not sustain claim 1's rejection. We also do not sustain independent claim 10's rejection, based on a similar analysis, and we do not sustain the rejection of dependent claims 3–5, 7–9, 12, 14, 15, and 21–28.

DECISION

We REVERSE the Examiner's obviousness rejection of claims 1, 3–5, 7–10, 12, 14, 15, and 21–28.

REVERSED