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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* WILLIAM A. SCHUMACHER, LOUIS MELI,  
SHAWN G. QUINN, BRIAN J. SCHACHERMEYER,  
MILIND S. GANDHI, and DAVID B. DECLERCK

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Appeal 2015-000630  
Application 12/968,469  
Technology Center 3600

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Before: CHARLES N. GREENHUT, JEFFREY A. STEPHENS, and  
PAUL J. KORNICZKY, *Administrative Patent Judges*.

GREENHUT, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134 from the Examiner's Final rejection of claims 1–20. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM-IN-PART.

### CLAIMED SUBJECT MATTER

The claims are directed to a reduced-corrosion assembly. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A reduced-corrosion assembly comprising:
  - a first component;
  - a second component;
  - a fastener formed from a first material, the fastener having a fastener head and a fastener body that includes a threaded first portion;
  - a coating that covers a section of the threaded first portion;
  - a washer formed from a second material;
  - a nut arranged on the first component and adapted to engage the threaded first portion of the body to thereby tighten the assembly; and
  - a compression limiter adapted to transfer a load from the fastener when the assembly is tightened;wherein when the assembly is tightened:
  - the compression limiter is arranged on the fastener body between the first component and the second component;
  - the second component is arranged on the fastener body between the compression limiter and the washer;
  - the washer is arranged on the fastener body between the fastener head and the second component; and
  - the coating covers the threaded first portion substantially up to, but not including where the nut engages the threaded first portion, such that galvanic corrosion of the assembly is limited.

### REJECTIONS

Claims 1, 4–11, and 14–20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over DeRees (US 6,394,537 B1, iss. May 28, 2002) and Ando et al. (US 6,979,161 B2, iss. Dec. 27, 2005, hereinafter “Ando”).

Claims 2, 3, 12, and 13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over DeRees, Ando, and Nickerson et al. (US 6,582,172 B2, iss. June 24, 2003, hereinafter “Nickerson”).

### OPINION

The claims subject to the first rejection above are argued as a group (App. Br. 7–10), with separate arguments presented for claims 9 and 10 together (App. Br. 10–11).<sup>1</sup> Claim 1 is representative of Appellants’ first grouping. *See* 37 C.F.R. § 41.37(c)(iv).

Regarding claim 1, the Examiner correctly found DeRees to disclose the basic structure claimed with two exceptions: “DeRees does not disclose that the assembly is a reduced-corrosion assembly having a coating that covers a section of the threaded first portion, or the relative positioning of the [washer].” Final Act. 2, 3. The Examiner cites Ando to account for these differences. Final Act. 3–5.

Appellants initially and correctly point out that DeRees does not mention corrosion or repositioning the washer 31 adjacent the bolt 34 head as opposed to the nut 33. App. Br. 8. However, a conclusion of obviousness under § 103(a) does not require all aspects of the claimed subject matter to be disclosed or suggested by a single reference. Further, “[n]on-obviousness cannot be [shown] by attacking references individually [when] the rejection is [predicated] upon the teachings of a combination of references.” *In re Merck & Co. Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) (citation omitted).

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<sup>1</sup> Though not separately argued, in the interest of fairness and judicial economy, we treat claims 19 and 20 as grouped with claims 9 and 10 because of their similarities.

We agree with the Examiner that although DeRees employs some plastic structures, DeRees's use of at least some metal-to-metal contact would warrant, in the mind of one skilled in the art, at least some concern for galvanic corrosion. Ans. 3.

Appellants next argue that the Examiner's proposal to locate a washer under the DeRees bolt head would defeat the stated purpose of DeRees. App. Br. 8, 10. It is not clear why Appellants reach this conclusion, as we are not apprised as to why DeRees could not achieve the stated goal of optimizing the size of the gap in panel 22 (Abstract, col. 4, ll. 34–38) with a washer positioned between the head of bolt 34 and leg 30. We agree with the Examiner's analysis and conclusion that it is common and obvious to locate a washer on a bolt shaft adjacent a bolt head as is demonstrated by Ando. Ans. 4–5 (citing Ando Fig. 6.).

Appellants also argue that Ando teaches away from covering only a portion of the bolt. App. Br. 9. However, "teaching away" involves actively criticizing or otherwise discouraging a particular solution, not merely suggesting something different from that solution. *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004). The Examiner recognizes that Ando coats the entire bolt. Ans. 5. The Examiner also recognizes that the suggestion in Ando to partially coat a structure was not made in reference to the bolt specifically. Ans. 5–6; *see also* App. Br. 4. "It is well-established that a determination of obviousness based on teachings from multiple references does not require an actual, physical substitution of elements." *In re Mouttet*, 686 F.3d 1322, 1332 (Fed. Cir. 2012). The relevant inquiry is whether the claimed subject matter would have been obvious to those of ordinary skill in the art in light of the *combined teachings* of those

references. *See In re Keller*, 642 F.2d 413, 425 (CCPA 1981). Here, Ando is reasonably regarded as generally demonstrating that skilled artisans knew that the part of a structure that should be coated is that part of the structure which might be subject to corrosion. If the part of a bolt in contact with the nut is unlikely to exhibit such corrosion, for example because it is not in contact with dissimilar metals, then it would have been obvious to one having ordinary skill in the art to leave that portion uncoated, thereby yielding the claimed subject matter. Appellants do not apprise us of error in this reasoning.

For the reasons above, we sustain the Examiner's rejection of independent claims 1 and 11 and those claims depending therefrom that are not separately argued.

Turning to claim 9, the Examiner adopts Appellants' proposed definition of "embed," "to fix into a surrounding mass," but fails to properly apply it. Ans. 6–7. DeRees's metal spacer 38 may be both fixed and *within* floor panel 22. However, we understand the term "into" as it is used in the definition to mean "a position of contact with; against."<sup>2</sup> As there is a gap 50 between the spacer 38 and panel 22 and no contact between these elements, we cannot agree with the Examiner's interpretation that spacer 38 is "embedded" in panel 22. Accordingly, we cannot sustain the rejection of claims 9, 10, 19, and 20 based on the claim construction applied by the Examiner.

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<sup>2</sup> "Into" (2007) In The Penguin English Dictionary, *retrieved from* <http://search.credoreference.com/content/entry/penguineng/into/0>; *see also* "Into" (2011) In The American Heritage Dictionary of the English Language, *retrieved from* <http://search.credoreference.com/content/entry/hmdictenglang/into/0>.

Regarding the claim 2 limitation, the sleeve is “configured to be displaced and thereby fill a space between the head and the nut when the assembly is tightened,” the Examiner turns to Nickerson, in particular Nickerson’s annular polymer section 44. Ans. 7. The Examiner finds:

Nickerson teaches that the “polymer isolator . . . isolates galvanic contact and softens the bearing loads.” See col. 4, lines 36-43 of Nickerson. Polymeric materials such as those taught by Nickerson are well known to be compressible, and as the material of Nickerson satisfies the structural limitations of the claims, so too would it be capable of performing the functions recited with respect to these materials.

Ans. 7–8. However, according to Nickerson:

Smooth section 40 of shaft 36 of bolt 34 will be positioned in third transverse bore 30 and annular polymer section 44 will be allowed to harden between smooth section 40 of shaft 36 and inner peripheral surface 32 adjacent transverse bore 30 of third section 26. A bond will be formed between annular polymer section 44 and inner peripheral wall 32 of third section 26.

Col. 4, ll. 54–58. Thus, in Nickerson’s assembly, the polymer serves a bonding and securing function. This suggests that the polymer 44 would prohibit movement as opposed to exhibit compressibility as the Examiner finds. On the record before us, the Examiner does not provide sufficient evidence or scientific reasoning to explain why, despite Nickerson’s teachings regarding hardening and bonding, the polymer section 44 formed about the bolt is appropriately sized and sufficiently malleable or compressible to reasonably be considered “configured to be displaced and thereby fill a space between the head and the nut when the assembly is tightened.” See *In re Spada*, 911 F.2d 705, 708 (Fed. Cir. 1990) (explaining that the examiner must provide sufficient evidence or scientific reasoning to

establish there is a sound basis for the examiner's belief that the functional limitation is an inherent characteristic of the prior art); *accord Ex parte Skinner*, 2 USPQ 2d 1788, 1789 (BPAI 1986). The polymer section 44, once hardened into a sleeve, might simply break under, or prevent any, tightening. Thus, we cannot sustain the Examiner's rejection of claim 2 or that of claim 12, which contains a similar limitation. The rejection of claims 3 and 13 must also be reversed based on dependency.

#### DECISION

The rejection of claims 1, 4–8, 11, and 14–18 as being unpatentable over DeRees and Ando is affirmed.

The rejection of claims 9, 10, 19 and 20 as being unpatentable over DeRees and Ando is reversed.

The rejection of claims 2, 3, 12, and 13 as being unpatentable over DeRees, Ando, and Nickerson is reversed.

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