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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MARK SIRAVO and GLEN PIERSON

Appeal 2016-000492
Application 13/222,904
Technology Center 3700

Before LYNNE H. BROWNE, JEFFREY A. STEPHENS, and
BRENT M. DOUGAL, *Administrative Patent Judges*.

DOUGAL, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134 from a final rejection of claims 1, 3, 5–12, 15, and 17–24. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

CLAIMED SUBJECT MATTER

The claims are directed to an intramedullary nail. Claims 1 and 11 are independent. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. An intramedullary nail [600]¹, comprising:
 - a longitudinal core [602] extending along a longitudinal axis from a proximal portion [622] of the nail to a distal portion [624] thereof, the core including a plurality of interlocking features [628] around a circumference thereof, the longitudinal core including first and second elongated recesses [628]² extending along an outer wall thereof, the first and second elongated recesses defining an hourglass shape of the core; and
 - a polymeric casing [604] extending about at least a portion of the circumference of the core including the interlocking features to mechanically interlock the casing and the core, at least a portion of a length of the core being embedded within the casing offset from a longitudinal axis of the nail so that a thickness of the casing varies about a circumference of the nail, a maximum thickness of the casing being located at a site at which a polymeric locking element [106] is to be bonded to the nail.

¹ We remind Appellants that our rules require that Appellants' Appeal Brief include "[a] concise explanation of the subject matter defined in each of the rejected independent claims, which shall refer . . . to the drawing . . . by reference characters." 37 C.F.R. § 41.37 (iii) (emphasis added). As reference to the drawings is missing in Appellants' Appeal Brief, we include the relevant reference numbers in brackets herein. *See also Ex parte Grady*, No. 2015-006553, 2 (BPAI May 11, 2017) and *Ex parte Powell*, No. 2015-006533 (BPAI May 11, 2017) (not previously highlighted), which together with the above-referenced application suffer from this same failing and appear to be owned by DePuy Synthes Products, Inc.

² If prosecution continues, the Examiner may want to consider whether the Specification provides support for the "first and second recesses" being separate from the "plurality of interlocking features" as claimed. For example, in contrast, original claim 2 states "the interlocking features include a plurality of recesses formed in the core."

REFERENCES

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Fixel	US 5,112,333	May 12, 1992
Cole	US 2007/0100343 A1	May 3, 2007
Bonutti	US 2008/0021474 A1	Jan. 24, 2008
Siravo	US 2010/0114097 A1	May 6, 2010

REJECTION

Claims 1, 3, 5–12, 15, and 17–24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Siravo, Bonutti, Cole, and Fixel.

OPINION

The Examiner finds that Siravo discloses the basic structure of the intramedullary nail of claim 1 with, among other things, a longitudinal core and polymeric casing. Final Act. 2. The Examiner relies on Cole and Fixel for teaching intramedullary nails with interlocking features and elongated recesses (*id.* at 2–3) “to mechanically interlock the core and the casing” (*id.* at 3). The Examiner determines that it would have been obvious to modify Siravo according to the teachings of Cole and Fixel “in order to more securely attach the core and the casing together by preventing displacement of one relative to the other.” *Id.*

The Examiner then finds that “Bonutti discloses a rod and fastener assembly, wherein a site on the rod at which the fastener is bonded has a projection of extra material such that the rod is asymmetrical about a longitudinal axis of the rod.” *Id.* (citing Bonutti ¶¶ 506 and 507). Finally, the Examiner determines that in view of Bonutti’s teachings,

- it would have been obvious: “to modify the *casing* of Siravo in view of Cole and Fixel to have a varied thickness around the circumference of the nail;”
- this would be done “in order to allow for extra welding material while maintaining a desired size of the nail;”
- and would result in “the core [being] offset from a longitudinal axis of the nail and a maximum thickness of the casing [being] located at a side at which a polymeric locking element is to be bonded to the nail.” *Id.* at 3–4 (emphasis added).

Appellants’ arguments primarily focus on Bonutti’s teachings and the Examiner’s related findings and determinations. *See* Appeal Br. 4–7. In particular, Appellants argue that “Bonutti never discloses an intramedullary nail, but rather describes only a fastener post with a polymeric coating that includes a projection of extra material extending outward from at least a portion of the fastener post.” Appeal Br. 4; *see also id.* at 4–5. This argument is unconvincing as it focuses on Bonutti’s teaching of the extra material on the fastener (similar to the claimed “polymeric locking element”), which, though mentioned in the rejection, is not relied upon. Rather, the rejection relies on Bonutti’s teaching “wherein a site on the rod . . . has a projection of extra material,” which the Examiner determines suggests modifying the casing as outlined above. Final Act. 3.

Appellants also argue that Bonutti does not “discuss or suggest an intramedullary nail” and that the combined rod and fastener post is not “analogous to or suitable for use as an intramedullary nail.” Appeal Br. 5. Appellants later undermine this argument by stating that “Bonutti . . . is related to IM [intramedullary] nails” (Reply Br. 3) and further describe

Bonutti's rod and fastener as an "intramedullary rod" (Appeal Br. 5) and an "IM rod/fastener post" (Reply Br. 3). Appellants do not provide any evidence as to why an intramedullary rod and fastener post that is "related to" intramedullary nails is not analogous or similar to an intramedullary nail. Thus, we are not informed of error in the Examiner's rejection.

Next, Appellants argue that "Bonutti does not in its entirety teach anything resembling a 'casing' for an intramedullary nail," and therefore it would not be obvious to modify a casing based on Bonutti's teachings. Appeal Br. 6. Appellants further argue that "extra bonding material in no way suggests a polymeric casing around an intramedullary nail offset as claimed." *Id.*; *see also* Reply Br. 3 (Appellants' similarly argue that Bonutti only teaches extra bonding material on the rod, not "any difference in thickness of a polymeric casing.").

The Examiner's rejection relies on Siravo, not on Bonutti, to teach a core surrounded by a casing. Final Act. 2. Further, as noted by the Examiner, both Siravo and Bonutti teach similar systems where an intramedullary nail or rod has a polymeric outer surface that is fused to a polymeric fastener to ensure the intramedullary nail or rod remains implanted. Ans. 9–10. These similarities are directly related to the Examiner's proffered reason to combine. Final Act. 4 ("in order to allow for extra welding material while maintaining a desired size of the nail"). Further, Appellants' arguments are against Bonutti individually, where the rejection is based on a combination of references. One cannot show nonobviousness by attacking references individually where the rejection is based on a combination. *See In re Keller*, 642 F.2d 413, 425 (CCPA 1981) (citations omitted) (explaining that obviousness must be considered in light

of “what the combined teachings of the references would have suggested to those of ordinary skill in the art”). Thus, Appellants’ argument does not inform us of error in the Examiner’s reason to combine or in the rejection itself.

Appellants then state that “none of the references shows or suggests any offset coating of an intramedullary nail or how this would be arranged.” Appeal Br. 6. But this statement does not explain why the Examiner’s stated combination of Siravo, Cole, Fixel, and Bonutti does not result in “the core [being] offset from a longitudinal axis of the nail.” Final Act. 4; *see also* Ans. 10–11 (offering further explanation of the resulting combination).

Finally, Appellants state that “[d]ue to the size constraints in the medullary canal . . . any changes to the structure and/or outer profile of the nail would be made only for serious reasons.” Appeal Br. 6; *see also* Reply Br. 4. Even if true,³ Appellants provide no evidence that “allow[ing] for extra welding material” is not a serious reason for changing “the structure and/or outer profile of the nail,” or how such a change would be impacted by the size constraints in the medullary canal. Thus, we are not informed of error in the rejection.

For all of the above reasons, we are not informed of error in the rejection of claim 1. As Appellants argue all of the claims together, claims 3, 5–12, 15, and 17–24 fall with claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv).

³ *See In re Pearson*, 494 F.2d 1399, 1405 (CCPA 1974) (“Attorney’s argument in a brief cannot take the place of evidence.”).

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DECISION

The Examiner's rejection of claims 1, 3, 5–12, 15, and 17–24 is affirmed.

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