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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* JONATHAN E. CARR, MEGAN A. HOOD,  
LARRY G. McCLEARY, and MICHAEL J. FORTIN<sup>1</sup>

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Appeal 2016-003078  
Application 13/440,406  
Technology Center 3700

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Before JEFFREY N. FREDMAN, RICHARD J. SMITH, and  
TAWEN CHANG, *Administrative Patent Judges*.

SMITH, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 involving claims to a distal reamer operable to ream an intramedullary canal of a patient's femur. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm-in-part.

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<sup>1</sup> According to Appellants, the real party in interest is DePuy Synthes Products, Inc., a Johnson & Johnson Company. (Appeal Br. 2.)

STATEMENT OF THE CASE

*Claims on Appeal*

Claims 1–9 are on appeal. (Claim Appendix, Appeal Br. 19–20.)

Claims 1, 5, and 6 are illustrative and read as follows (emphases added):

1. A distal reamer operable to ream an intramedullary canal of a patient's femur during a surgical procedure to implant a distal stem component of a modular orthopaedic hip prosthesis, comprising:

an elongated shank having (i) a cutting head formed in a distal end of the elongated shank, the cutting head having a plurality of helical cutting flutes arranged in a geometry that corresponds with the geometry of the distal stem component, and (ii) a *drive connector* formed in a sidewall positioned at an opposite, proximal end of the elongated shank, the drive connector having (a) a female drive socket extending inwardly from a superior surface of the elongated shank, and (b) a number of locking slots formed in the sidewall so as to open into the female drive socket, *each locking slot extending inferiorly from an opening defined in the superior surface of the elongated shank.*

5. A distal reamer operable to ream an intramedullary canal of a patient's femur during a surgical procedure to implant a distal stem component of a modular orthopaedic hip prosthesis, comprising:

a cutting head having a plurality of helical cutting flutes arranged in a geometry that corresponds with the geometry of the distal stem component,  
a female drive socket, and  
a threaded bore having a superior end that opens into the drive socket and extending inferiorly away therefrom.

6. The distal reamer of claim 5, further comprises a number of *locking slots arranged around, and opening into, the female drive socket.*

*Examiner's Rejection*

Claims 1–9 stand rejected under pre-AIA 35 U.S.C. § 103(a) as unpatentable over Daniels<sup>2</sup> and Rozow.<sup>3</sup> (Final Act. 2–8.)<sup>4</sup>

DISCUSSION

Appellants contest the rejection of claims 1–4 as a group, claims 5 and 9 as a group, and claims 6–8 as a group. (Appeal Br. 4.) Accordingly, we limit our consideration to claims 1, 5, and 6 as representative of the respective groups. Moreover, because Appellants do not contest Daniels's teachings of a distal reamer comprising an elongated shank having a cutting head as claimed, we focus our discussion on the claimed drive connector.

*Issue*

Whether a preponderance of evidence of record supports the Examiner's rejection under 35 U.S.C. § 103(a).

*Analysis*

*Claim 1*

The Examiner concluded that

it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute Daniels's connector with a drive connector formed in a sidewall positioned at an opposite, proximal end of the elongated shank, the drive connector having (a) a female drive socket extending inwardly from a superior surface of the elongated shank, and (b) a number of locking slots formed in the sidewall so as to open into the female drive socket, each locking slot extending inferiorly from an opening defined in the superior surface of the elongated shank as taught by Rozow, since such a modification is a mere substitution of one known connector for another to yield

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<sup>2</sup> Daniels et al., US 2008/0161811 A1, pub. July 3, 2008 (“Daniels”).

<sup>3</sup> Rozow, III et al., US 6,090,146, issued July 18, 2000 (“Rozow”).

<sup>4</sup> Office Action dated Feb. 6, 2015.

predictable results, such as forming a tight connection between the shank and the driver.

(Final Act. 5.) In reaching that conclusion, the Examiner relied on an illustration of Rozow's Figure 7, annotated by the Examiner, as shown below:

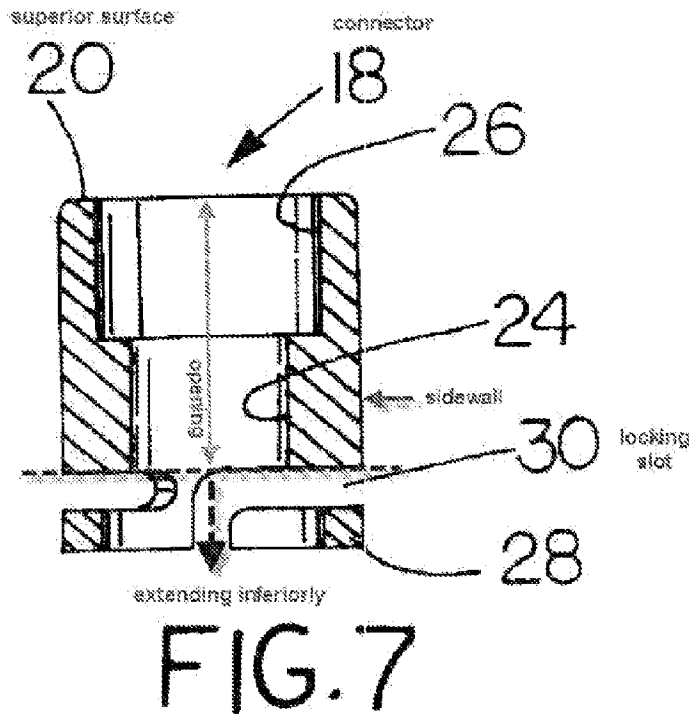


FIG. 7 is an annotated cross-sectional view of Rozow's drive connector.

Appellants argue that "Rozow fails to disclose a locking slot that . . . extends 'inferiorly from an opening defined in the superior surface of the elongated shank'" as required by the claims. (Appeal Br. 6.) In making that argument, Appellants point to Figure 1 of Rozow (*id.* at 7), illustrated below:

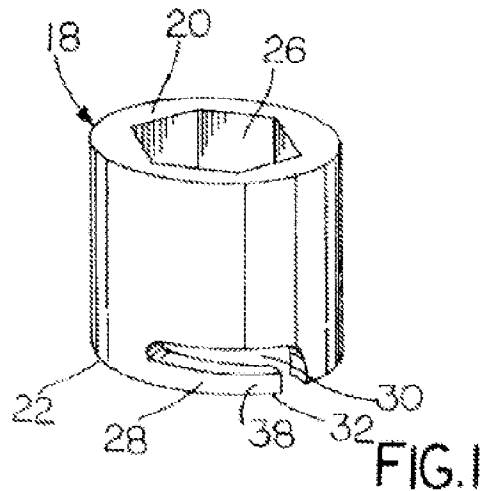


FIG. 1 above is a perspective view of Rozow's drive connector.

We find that Appellants have the better position. In reaching this decision, we interpret claim 1 in light of the Specification. The upper portion of Figure 9 and Figure 10 of the Specification are illustrated below, with a long arrow and shorter arrow added to Figure 9:

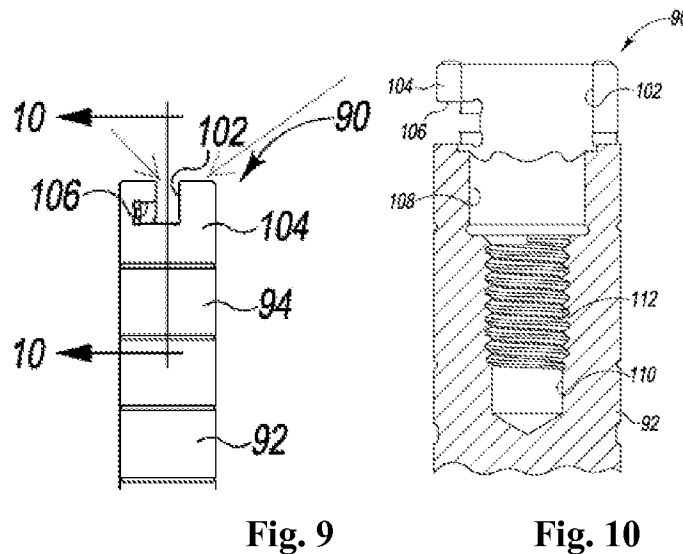


Figure 9 above is an elevation view of an end of Appellants' distal reamer illustrating the drive connector 102. Figure 10 above is a cross-sectional view taken along lines 10-10 of Figure 9. (See Spec. ¶¶ 29, 30, and 104-109.)

The claim limitation at issue is “each locking slot extending inferiorly from an opening defined in the superior surface of the elongated shank.” (Appeal Br. 19.) Referring to Appellants’ Figures 9 and 10 above, we interpret the locking slot as 106, the longer arrow as pointing to the “superior surface,” and the shorter arrow as pointing to the “opening defined in the superior surface.” Thus, the claimed locking slot 106 extends inferiorly (i.e., in a collinear fashion) from the opening defined in the superior surface.

Referring again to Figures 1 and 7 of Rozow, we find that Rozow’s slot 30 extends from a sidewall of the connector 18 rather than from a superior surface 20 of the connector 18. Furthermore, the slot 30 appears to be adjacent to, rather than collinear with, the “opening” identified by the Examiner in annotated Figure 7 of Rozow. Accordingly, we find that the combination of Daniels and Rozow does not teach or suggest the claim limitation of “each locking slot extending inferiorly from an opening defined in the superior surface of the elongated shank.” (Appeal Br. 19.) The rejection of claim 1 is reversed, as well as claims 2–4 that depend therefrom.

*Claim 5*

The Examiner’s rejection of claim 5 was based upon the substitution of Daniels’s connector with Rozow’s connector. (Final Act. 5.)

Furthermore, the Examiner found that

Daniels discloses a connector (78), wherein the connector is in the form of a standard commercially available connector ([0134]). Yet, Daniels lacks a female drive socket and a threaded bore having a superior end that opens into the drive socket and extending inferiorly away therefrom.

However, Rozow teaches a drive connector (18) having a female drive socket (26) and a threaded bore (24) having a

superior end that opens into the drive socket (26) and extending inferiorly away therefrom (figures 2 and 7).  
(Final Act. 6–7; *see also* Figs. 1 and 7 above.)

The Examiner thus found the substitution of Rozow’s connector in place of Daniels’s connector to be “a mere substitution of one known connector for another to yield predictable results, such as forming a tight connection between the shank and the driver.” (Final Act. 7.)

Appellants argue that a person of ordinary skill would not be motivated to combine Daniels and Rozow, and that the rejection fails to provide a proper reason to modify Daniels in view of Rozow. (Appeal Br. 14–15; *see also* Reply Br. 7.) In particular, Appellants argue that “Daniels already discloses a connector that forms a ‘tight connection’ to a driver,” and that a person of ordinary skill would not take the “time and effort to modify Daniels[’s] male connector to include the threaded bore of Rozow.” (Appeal Br. 14–15.) Furthermore, according to Appellants, “the rejection has failed to explain why a person of ordinary skill would also add the internally threaded bore 24 from Rozow,” and the “rejection has not identified a distally-positioned component in Daniels like the stem 6 of Rozow that would require such a threaded connection.” (*Id.* at 15.) Appellants argue further that the rejection “appears to rely on hindsight reasoning.” (*Id.*)

We find that the Examiner has the better position. Moreover, we adopt the Examiner’s findings, analysis, and conclusions regarding claim 5, including with regard to the scope and content of, and motivation to combine, Daniels and Rozow. (*See, e.g.*, Final Act. 6–7; Ans. 2–5.)

As the Supreme Court explained in *KSR*, “when a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination



must do more than yield a predictable result.” *KSR Int’l v. Teleflex Inc.*, 550 U.S. 398, 416 (2007); *see also id.* at 417 (“[W]hen a patent ‘simply arranges old elements with each performing the same function it had been known to perform’ and yields no more than one would expect from such an arrangement, the combination is obvious.”) (quoting *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 282 (1976)). Furthermore, “[t]o justify combining reference teachings in support of a rejection it is not necessary that a device shown in one reference can be physically inserted into the device shown in the other.” *In re Keller*, 642 F.2d 413, 425 (CCPA 1981) (citing cases). That is, “[t]he test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference . . . [r]ather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.” (*Id.*)

Here, Appellants’ arguments are premised on the physical or bodily incorporation of Rozow’s connector in place of Daniels’s connector. (Appeal Br. 14–15.) But that is not the test for obviousness. *See Keller*, 642 F.2d at 425. Rather, Rozow teaches and suggests that a connector “having a female drive socket (26) and a threaded bore (24) having a superior end that opens into the drive socket (26) and extending inferiorly away therefrom” would provide a tight connection between the shank and driver. (Final Act. 7.) Moreover, in light of Daniels’s teaching that “a connector [] in the form of, for example, a standard commercially available connector” capable of receiving a tool for rotating a reamer, may be used with its distal reamer (*see Daniels* ¶ 134), the use of a connector having a female socket and threaded bore, as taught by Rozow, would have been obvious as a mere substitution

of one element for another known in the field, yielding predictable results. *See KSR*, 550 U.S. at 416–17.

We also find Appellants’ argument that the Examiner engaged in “hindsight reasoning” to be unpersuasive. Rather than using hindsight, the Examiner points to specific disclosures in the prior art that describe the limitations of Appellants’ distal reamer as recited in claim 5. (Final Act. 2–7.) We therefore find that the Examiner’s obviousness conclusion is based on sufficiently articulated reasoning to overcome any concerns about hindsight bias. *See KSR*, 550 U.S. at 418.

*Claim 6*

The Examiner found that the modified Daniels’s reamer comprises a number of locking slots (30) arranged around, and opening into the female drive socket (26) of Rozow. (Final Act. 7; *see also* Figures 1 and 7 above.) Appellants contest those findings, referring to Figure 7 of Rozow. (Appeal Br. 16–18.)

We find that slots 30 are neither arranged around nor open into drive socket 26. (*See* Figures 1 and 7 above.) At most, slots 30 are arranged around and open into threaded bore 24 of Rozow.<sup>5</sup> (*Id.*) Accordingly, we reverse the rejection of claim 6, and claims 7 and 8 that depend therefrom.

*Conclusions of Law*

A preponderance of evidence of record fails to support the Examiner’s rejection of claim 1 under 35 U.S.C. § 103(a). Claims 2–4 stand with claim 1.

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<sup>5</sup> We note, but take no position regarding, Appellants’ argument that Rozow’s slots 30 do not open into either driving portion 26 or threaded bore 24. (Appeal Br. 17.)

A preponderance of evidence of record supports the Examiner's rejection of claim 5 under 35 U.S.C. § 103(a). Claim 9 was not argued separately and falls with claim 5.

A preponderance of evidence of record fails to support the Examiner's rejection of claim 6 under 35 U.S.C. § 103(a). Claims 7 and 8 stand with claim 6.

#### SUMMARY

We affirm the rejection of claims 5 and 9, and reverse the rejection of claims 1–4 and 6–8.

#### 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).

AFFIRMED-IN-PART