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EXAMINER

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte THOMAS GAMACHE, MICHAEL VARIEUR,
and KENNETH CONNELL

Appeal 2018-004301¹
Application 12/140,412²
Technology Center 3700

Before PHILIP J. HOFFMANN, CYNTHIA L. MURPHY, and
KENNETH G. SCHOPFER, *Administrative Patent Judges*.

SCHOPFER, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134(a) from the Examiner’s Final Rejection of claims 1, 15, and 17, which constitute all the claims pending in this application. Claims 2–14, 16, and 18–23 have been cancelled. We have jurisdiction under 35 U.S.C. § 6(b). We AFFIRM-IN-PART.

¹ Our decision references the Appeal Brief (“Appeal Br.,” filed Nov. 14, 2017), the Reply Brief (“Reply Br.,” filed Mar. 16, 2018), the Examiner’s Answer (“Ans.,” mailed Jan. 16, 2018), and the Final Office Action (“Final Act.,” mailed Apr. 11, 2017).

² According to Appellants, the real party in interest is DePuy Synthes Products, Inc. Appeal Br. 3.

BACKGROUND

According to Appellants, the Specification provides embodiments of “an adjustable implant assembly that provides for controlled adjustment of a spinal connection element, such as a spinal rod, received in a body of the implant assembly relative to the body of the bone screw.” Spec. ¶ 6.

CLAIMS

Claims 1 and 15 are the independent claims on appeal. Claim 1 is illustrative of the appealed claims, and recites:

1. An implant assembly comprising:

a bone anchor having a distal shaft extending along a longitudinal axis configured to engage bone;

a proximal head portion connected to the bone anchor wherein the proximal head portion is a closed-type screw head, wherein the longitudinal axis of the bone anchor aligns with a longitudinal axis extending through the proximal head portion, and the proximal head portion is integral with the bone anchor and includes a central bore;

a cradle within the proximal head portion for receiving a spinal fixation element, wherein the cradle can move relative to the proximal head portion allowing the spinal fixation element to pivot relative to the head portion, wherein the cradle comprises a spherical body with a central bore for receiving the spinal fixation element, the body being formed by an upper element that is a half sphere in shape and a lower element that is a half sphere in shape, wherein the upper element and the lower element have interlocking surface configurations to assist in mating the upper element and lower element; and

a locking mechanism for locking a position of the cradle in the central bore of the proximal head portion and for, in conjunction with side walls of the central bore, mating the upper element and the lower element of the cradle.

Appeal Br. 11.

REJECTIONS

1. The Examiner rejects claims 15 and 17 under 35 U.S.C. § 112, second paragraph, as indefinite.
2. The Examiner rejects claim 1 under 35 U.S.C. § 103(a) as unpatentable over Lowery³ in view of Ely.⁴
3. The Examiner rejects claims 15 and 17 under 35 U.S.C. § 103(a) as unpatentable over Lowery in view of Ely and Kwak.⁵

DISCUSSION

Indefiniteness

The Examiner finds claim 15 “indefinite for referring to ‘the locking element’ with improper antecedent basis.” Final Act. 2. We agree and note that Appellants do not appear to respond to this rejection. Accordingly, we sustain the rejection of claim 15 as indefinite, and we also sustain the rejection of claim 17 as indefinite based on its dependence from claim 15.

Obviousness

Claim 1

Claim 1 requires the implant assembly to include a “cradle” that comprises a “body” which is “formed by an upper element that is a half sphere in shape and a lower element that is a half sphere in shape.” Appeal Br. 11. Claim 1 also requires these half-spherical elements to have “interlocking surface configurations.” *Id.*

³ Lowery et al., US 2007/0161994 A1, pub. July 12, 2007. (“Lowery”)

⁴ Ely, US 2009/0005815 A1, pub. Jan. 1, 2009.

⁵ Kwak et al., US 2007/0118118 A1, pub. May 24, 2007. (“Kwak”)

With respect to claim 1, we are persuaded by Appellants' argument that the Examiner has not established that the art of record shows or suggests the cradle required by claim 1. *See* Appeal Br. 5–7.

In the rejection, the Examiner finds that Lowery teaches a cradle with a body that is formed of upper and lower elements that are half-spheres. Final Act. 3–4. The Examiner acknowledges that Lowery “is silent with regards to the lower and upper elements including interlocking surface configurations to assist in mating the lower element and the upper element.” *Id.* at 4. However, the Examiner finds that Ely teaches “a cradle/bearing” that may be a complete bearing, a split bearing, or a slotted bearing, which “are known equivalents.” *Id.* at 5 (citing Ely ¶ 69). The Examiner concludes that it would have been obvious to modify Lowery “to have the cradle comprised of separate elements that operably connect via interlocking surface configurations (e.g.,] a split bearing) . . . based on the recognized equivalence in the art.” *Id.* The Examiner also concludes that because Appellants have not disclosed that this feature of the claim “solves any particular problem or is done for a special reason,” the modification would be an obvious design choice and “would perform equally well with the cradle disclosed by Lowery.” *Id.*

We agree with Appellants that the rejection includes reversible error at least because the Examiner has not established that the combination of art would result in a cradle including upper and lower elements that have interlocking surface configurations, as required by the claim. In the rejection, the Examiner appears to indicate that Ely is relied upon to teach interlocking surface configurations, but the Examiner has not pointed to any portion of Ely that shows such interlocking surfaces. *See, e.g.,* Ely Fig. 4C;

¶ 69. In the Answer, the Examiner appears to rely on Lowery as disclosing “interlocking features 380,” and that “the [c]ombination suggested actually results in the cradle of Lowery (Figure 1a item 380) to be split along its swirling slit so that it is actually two, mating (operably coupled), semi-spherical halves that interlock along the swirling slit.” Ans. 11–12 (emphasis omitted). However, without further explanation by the Examiner, it cannot be concluded that Ely’s mere disclosure of complete bearings or bearings including a split or slot establishes sufficiently that it would have been “obvious to simply snip through those slots 380 to create a complete split” in Lowery’s cradle. *Id.* at 12. Further, it is not clear how snipping through the slots in Lowery would either result in two half spherical members or members with interlocking surface configurations; i.e. we are uncertain where the Examiner proposes that one of ordinary skill would have found it “obvious to snip” Lowery’s cradle to arrive at the claimed configuration.

Based on the foregoing, we are persuaded of error in the rejection of claim 1. Accordingly, we do not sustain the rejection of claim 1 as obvious.

Claims 15 and 17

Independent claim 15 includes similar limitations to those discussed above with respect to claim 1. *See* Appeal Br. 11–12. In particular, claim 15 claim requires a spherical body that comprises upper and lower half spherical elements with interlocking surface configurations, similar to the cradle of claim 1. *Id.* The rejection with respect to these features of claim 15 is substantially similar to the rejection of claim 1. *See* Final Act. 5–7. The Examiner additionally relies on Kwak in this rejection. *Id.* at 8–9. However the Examiner only relies on Kwak insofar as “Kwak teaches a polyaxial

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bone screw that includes a cradle element . . . that locks the position of the screw in place . . . with direct contact with the upper element of the cradle.” *Id.* at 8. Thus, the Examiner does not rely on Kwak in a manner that cures the deficiency in the combination of Lowery and Ely as discussed above. Accordingly, for the reasons discussed above, we also do not sustain the rejection of independent claim 15 or dependent claim 17.

CONCLUSION

We AFFIRM the rejection of claims 15 and 17 under 35 U.S.C. § 112, second paragraph. We REVERSE the rejections of claims 1, 15, and 17 under 35 U.S.C. § 103(a).

AFFIRMED-IN-PART