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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
15/167,763 05/27/2016 Malan de Villiers 29850-703.308 1086

143452 7590 01/31/2019
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EXAMINER

SNOW, BRUCE EDWARD

ART UNIT PAPER NUMBER

3774

NOTIFICATION DATE DELIVERY MODE

01/31/2019

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MALAN de VILLIERS and ULRICH HAHNLE

Appeal 2018-003592¹
Application 15/167,763²
Technology Center 3700

Before MICHAEL C. ASTORINO, KENNETH G. SCHOPFER, and
BRADLEY B. BAYAT, *Administrative Patent Judges*.

SCHOPFER, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the final rejection of claims 1–27, 30, 32–37, and 39–44. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

¹ Our decision references the Appeal Brief (“Appeal Br.,” filed Oct. 9, 2017), the Reply Brief (“Reply Br.,” filed Feb. 14, 2018), the Examiner’s Answer (“Ans.,” mailed Dec. 15, 2017), and the Final Office Action (“Final Act.,” mailed Mar. 31, 2017).

² According to Appellants, the real party in interest is Simplify Medical Pty, Ltd. Appeal Br. 3.

BACKGROUND

According to Appellants, “the invention relates to a prosthetic disc for intervertebral insertion, such as in the lumbar and cervical spine.” Spec. ¶ 2.

CLAIMS

Claims 1, 16, 40, and 41 are the independent claims on appeal.

Claim 1 is illustrative of the appealed claims and recites:

1. An intervertebral prosthetic disc for insertion between adjacent vertebrae, the disc comprising:

first and second plates each having inner surfaces and outer surfaces locatable against the respective vertebrae;

a core located between the inner surfaces of the plates, the core allowing the plates to articulate with respect to one another; and

an elongated flexible tie member engaged with at least one of the first and second plates at a location radially outside of a perimeter of the core, wherein the elongated flexible tie member holds the core captive during movement of the plates in flexion, extension, and translation,

wherein the first plate is formed by coupling two independent members together with one member forming an inner bearing surface and another member forming the outer vertebrae contacting surface, and

wherein the elongated flexible tie member is a single tie member which holds the core captive during sliding movement of the plates over the core in flexion, extension and translation.

REJECTIONS

1. The Examiner rejects claims 16–19, 21–26, 30, 40, 41, and 44 under 35 U.S.C. § 102(e) as anticipated by Ferree.³

³ Ferree, US 7,156,848 B2, iss. Jan. 2, 2007.

2. The Examiner rejects claims 16–19, 21–26, 30, 40, 41, and 44 under 35 U.S.C. § 103(a) as unpatentable over Ferree.
3. The Examiner rejects claims 1–15, 20, 27, 32–37, 39, 42, and 43 under 35 U.S.C. § 103(a) as unpatentable over Ferree in view of Bryan.⁴

DISCUSSION

Anticipation

Claims 16–19, 21–26, 30, and 44

Claim 16 is a method claim, which requires, *inter alia*, an elongated flexible tie member that “is a single tie member which holds the core [of an intervertebral prosthetic disc] captive [between first and second plates] during sliding movement of the plates over the core in flexion, extension and translation.” Appeal Br. 22–23. We are persuaded by Appellants’ argument that Ferree does not disclose a single tie member as required by claim 16.

The Examiner finds Ferree discloses an intervertebral disc and method for its insertion between adjacent vertebrae including first and second plates, a core, and an elongated flexible tie member as claimed. Final Act. 5–6. In particular, the Examiner finds that Ferree discloses

[A]n elongated flexible tie member engaged with at least one of the first and second plates at a location radially outside of a perimeter of the core. See at least 2:35 et seq. teaching using a braided materials. Also, see at least claim 1 teaching “one or more elongated elements.” Further note 2:41-42 teaching “check reins may also be used about all sides of the [artificial disc replacement (‘ADR’)]”.

⁴ Bryan et al., US 2002/0128715 A1, pub. Sept. 12, 2002.

Id. at 6. The Examiner also finds that Ferree discloses that “the elongated flexible tie member holds the core captive during movement of the plates in flexion, extension, and translation (see at least 1:55 et seq.)” *Id.* at 7.

We agree with Appellants that the Examiner has not established that Ferree discloses, either expressly or inherently, a single tie member that acts to hold the core captive during flexion, extension, and translation. Ferree discloses an intervertebral prosthetic with “check reins” used to “limit the extreme range of motion which would otherwise be permitted by some ADR designs.” Ferree col. 2, ll. 24–27. Ferree discloses that check reins may be employed on all sides of an ADR. *Id.* at col. 2, ll. 41–42. However, Ferree does not expressly disclose the use of a single check rein that holds the core captive during sliding movement of the plates in flexion, extension, and translation. At best, we find that Ferree discloses that multiple check reins may be employed to hold the core captive during such movement.

In the Answer, the Examiner asserts

As explained in at least the abstract, an anterior insertion approach of the prosthetic disc removes only the anterior longitudinal ligament and an anterior portion of the annulus fibrosus leaving the lateral and posterior portions of annulus fibrosus and other tissues intact. Therefore, only an anterior tie member is needed to stop extrusion opposite the approach direction. Said natural intact tissues help hold said core captive which brings the examiner to note the scope of the claim.

Ans. 7. However, we agree with Appellants that the claim requires a single tie member that is capable of functioning to hold the core captive as claimed. *See* Reply Br. 2. Although the open ended language of the claim does not preclude other elements from being present, the claim requires that the single tie member acts to hold the core captive during sliding movement of the plates over the core in flexion, extension, and translation. The Examiner

has not shown that the single tie member in Ferree achieves this function, either expressly or inherently.

Based on the foregoing, we are persuaded of reversible error in the rejection of claim 16 as anticipated by Ferree. Accordingly, we do not sustain the rejection of claim 16. For the same reasons, we also do not sustain the rejection of dependent claims 17–19, 21–26, 30, and 44.

Claims 40 and 41

Claim 40 recites, in relevant part, an intervertebral prosthetic disk with first and second plates, a core, and a flexible tie member “configured to be inserted entirely between the adjacent vertebrae in the assembled configuration.” Appeal Br. 25. Claim 41 includes a substantially similar limitation. *Id.* at 26. Regarding this limitation, the Examiner finds that Ferree discloses this configuration in Figure 1. Final Act. 7. The Examiner also finds that this limitation is directed to an intended use of the device and “does not differentiate the claimed apparatus from” the prior art, which satisfies all of the claimed structural limitations. Ans. 9. Appellants argue that Ferree does not teach the claimed configuration because “*Ferree* describes a disc that is assembled *in-situ*.” Appeal Br. 15. We agree and find that the Examiner’s mere assertion that the structure is equivalent is not sufficient to show that Ferree discloses a device that is configured as claimed. Ferree does not expressly or inherently indicate that the device may be preassembled and Ferree provides reasons why *in situ* assembly is preferred. *See* Appeal Br. 15. Thus, we do not sustain the rejection of claim 40 as anticipated by Ferree. For the same reasons, we also do not sustain the rejection of independent claim 41.

Obviousness

Claims 16–19, 21–26, 30, and 44

As an alternative to the anticipation rejection of claim 16, the Examiner finds that “it would have been obvious to have used a single elongated element (rein) to extend about all sides of the ADR [of Ferree] with predictable results.” Final Act. 6 (emphasis omitted). The Examiner also finds that Ferree teaches the use of check reins about all sides of the ADR, and thus, the Examiner determines that it would simply be common sense “to one skilled in the art that a single tie member, in lieu of many, could have been used extending around all sides of the prosthetic disc . . . like a shoe having one shoe lace.” Ans. 8.

We agree with Appellants that the Examiner has failed to establish that the use of a single tie member would have been obvious in view of Ferree. Given the configurations described in Ferree, we do not find adequate support, without further evidence or explanation from the Examiner, that one of ordinary skill in art would have found it feasible, let alone a matter of common sense, to employ a single tie member laced about all sides of the ADR such that it functions to hold the core captive as claimed.

Based on the foregoing, we do not sustain the rejection of independent claim 16. For the same reasons, we do not sustain the rejection of dependent claims 17–19, 21–26, 30, and 44.

Claims 40 and 41

The Examiner does not appear to address claims 40 and 41 in the rejection based on obviousness over Ferree alone. *See* Final Act. 6–7. Rather, as discussed above, the Examiner only asserts that Ferree’s device is

configured as required by the claim. *Id.* at 7. Without further explanation, the Examiner has not established that it would have been obvious to configure Ferree's device as required by claim 40. Accordingly, we also do not sustain the rejection of claim 40 as obvious. For the same reasons, we do not sustain the rejection of claim 41 as obvious.

Claims 1–15, 20, 27, 32–37, 39, 42, and 43

Claim 1 is directed to an intervertebral prosthetic disc including first and second plates, a core, and an elongated flexible tie member that “is a single tie member which holds the core captive during sliding movement of the plates over the core in flexion, extension and translation.” Appeal Br. 21. With respect to these elements of claim 1, the Examiner relies on the same findings relied upon in the rejections including Ferree alone. *See* Final Act. 7. As discussed above, the Examiner has not established that Ferree discloses or, otherwise, renders obvious a single tie member that performs the function of holding the core captive during sliding movement as claimed. Further, the Examiner does not rely on Bryan in a manner that addresses the deficiency discussed above with respect to the rejections of claim 16. Accordingly, for the reasons set forth above, we do not sustain the rejection of independent claim 1 or the rejection of dependent claims 2–15 and 32–37, which depend from claim 1. Similarly, do not sustain the rejection of claims 20, 27, 39, 42, and 43, which ultimately depend from claim 16.

CONCLUSION

We REVERSE the rejections of claims 1–27, 30, 32–37, and 39–44.

REVERSED