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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ALBRECHT NESTLE

Appeal 2018-004735
Application 15/005,142
Technology Center 3600

Before PHILIP J. HOFFMANN, KENNETH G. SCHOPFER, and
TARA L. HUTCHINGS, *Administrative Patent Judges*.

SCHOPFER, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1–4, 6, 8, 10, 12–19, and 21–23, which constitute all the claims pending in this application. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Aktiebolaget SKF. Appeal Br. 1.

BACKGROUND

The Specification “is directed to a rolling-element bearing cage made of a plurality of cage segments assembled into an annular structure. Each cage segment includes at least two adjacent receiving pockets, and each receiving pocket is delimited by two adjacent bridges.” Spec. ¶ 2.

CLAIMS

Claims 1 and 18 are the independent claims on appeal. Claim 1 is illustrative of the appealed claims and recites:

1. A rolling-element bearing cage comprising a plurality of cage segments,
 - each cage segment including at least two adjacent receiving pockets, and
 - each receiving pocket being delimited by a front cage bridge having a front running surface for contacting a rolling element and a rear cage bridge having a rear running surface for contacting the rolling element,
 - wherein the front running surface and the rear running surface of at least one of the at least two adjacent receiving pockets are asymmetric relative to a center plane that divides the at least one of the at least two adjacent receiving pockets, and
 - wherein each of the plurality of cage segments includes a first circumferential ring segment and a second circumferential ring segment radially inside the first circumferential ring segment.

Appeal Br. 9.

REJECTIONS

1. The Examiner rejects claims 1–4, 6, 10, 12–16, 18, 21, and 22² under 35 U.S.C. § 103 as unpatentable over Husten³ in view of Aramaki.⁴
2. The Examiner rejects claim 8 under 35 U.S.C. § 103 as unpatentable over Husten in view of Aramaki and Fukami.⁵
3. The Examiner rejects claims 17, 19, and 23 under 35 U.S.C. § 103 as unpatentable over Husten in view of Aramaki and Omoto.⁶

DISCUSSION

Rejection 1

As discussed below, we are persuaded of reversible error in this rejection because the Examiner has not set forth an adequate reason to support the combination of art proposed.

With respect to claim 1, for example, the Examiner finds that Husten discloses a rolling-element bearing cage as claimed, except that Husten does not disclose a front running surface and a rear running surface of the receiving pockets that “are asymmetric relative to a center plane that divides the at least one of the at least two adjacent receiving pockets.” Final Act. 2–3. Regarding this claim requirement, the Examiner relies on Aramaki. *Id.* at 3. Specifically, the Examiner finds and concludes:

Aramaki teaches a bearing cage having a pocket with front and rear running surfaces that are shaped to define an asymmetric

² We note that the Examiner also lists claim 8 in the heading for this rejection. Final Act. 2. However, claim 8 is not discussed in the body of this rejection and is separately rejected. *See id.* at 8.

³ Husten et al., US 3,652,141, iss. Mar. 28, 1972.

⁴ Aramaki, JP 6280863 A, pub. Oct. 7, 1994.

⁵ Fukami, US 8,814,440 B2, iss. Aug. 26, 2014.

⁶ Omoto et al., US 8,905,646 B2, iss. Dec. 9, 2014.

pocket (see Figures 3 and 5) relative to a center plane that divides the pocket for the purpose of preventing sliding of the cage to avoid smearing (see translated abstract provided by Applicant).

It would have been obvious to one having ordinary skill in the art at the time of filing to modify Husten and use an asymmetric cage pocket defined by the front and rear surfaces, as taught Aramaki, for the purpose of preventing sliding of the cage to avoid smearing.

Id.

Appellant argues that the Examiner has not established adequately that one of ordinary skill in the art would have recognized that the problems addressed in Aramaki are an issue in Husten's design, such that it would have been obvious to modify Husten's bearing cage in view of Aramaki's teachings. *See* Appeal Br. 4. More specifically, Appellant asserts, and the Examiner appears to agree, that Aramaki and Husten are directed to two different bearing cage designs, i.e. a radial bearing cage and a thrust bearing cage, respectively. *Id.* at 3–4; *see also* Ans. 3. Further, Appellant asserts that Aramaki seeks to solve problems specifically related to the way the rolling elements move in a radial bearing cage and the loads that result from such movement, i.e. sliding that causes the problem of smearing. Appeal Br. at 5; *see also* Ans. 5 (agreeing that the two types of bearing cages “operate under different loading”). Appellant asserts that the record does not show or suggest that Husten's design suffers from the same problems or even the same loads as the radial bearing cage of Aramaki. Appeal Br. 5–6. Thus, Appellant argues that there is insufficient evidence supporting the Examiner's reason for making the proposed modification. *Id.*

We agree with Appellant. An obviousness rejection must be based on “some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR Int'l. Co. v. Teleflex, Inc.*, 550

U.S. 398, 418 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). Here, we agree that the Examiner has not set forth adequate evidence showing that one of ordinary skill in the art would have had a reason to modify Husten in view of the teachings relied upon in Aramaki. Notably, the Examiner acknowledges the differences in the types of bearing cages taught in Husten and Aramaki, as described by Appellant. In spite of this evidence of the differences in the art, the Examiner only asserts that “the same or similar effects” in Aramaki’s design could or may still occur in a thrust bearing such that “Husten could benefit from using the asymmetric pockets being taught by Aramaki.” Ans. 3–4. Yet, there is no evidence in the record indicating how an asymmetric design would affect the operation of Husten’s bearing cage.

Further, Aramaki’s device is designed to prevent a cage from sliding, such that smearing is prevented. *See* Aramaki Abstract. Although the Examiner indicates that such sliding is present in thrust bearings, even to the extent that is true, Husten discloses an advantage of the disclosed design is that it prevents sliding so that wear does not occur. *See* Husten col. 2, ll. 5–10, 54–66. Thus, even if sliding occurs in thrust bearings generally, Husten indicates that this is not an issue in the particular thrust bearing cage disclosed.

Based on the foregoing, we determine that the Examiner has not set forth an articulated reason with adequately-supported underpinnings to support the conclusion that claim 1 would have been obvious. Accordingly, we do not sustain the rejection of claim 1. We also do not sustain the rejection of claims 2–4, 6, 10, 12–16, 18, 21, and 22, which rely on the same reasoning by the Examiner.

Rejections 2 and 3

Regarding the rejections of claims 8, 17, 19, and 23, the Examiner does not indicate how the art of record cures the deficiencies in the rejection of the independent claims, as discussed above. Accordingly, we also do not sustain the rejections of claims 8, 17, 18, and 23.

CONCLUSION

We REVERSE the rejections of claims 1-4, 6, 8, 10, 12-19, and 21-23.

In summary:

Claims Rejected	35 U.S.C. §	Basis	Affirmed	Reversed
1-4, 6, 10, 12-16, 18, 21, 22	103	Husten, Aramaki		1-4, 6, 10, 12-16, 18, 21, 22
8	103	Husten, Aramaki, Fukami		8
17, 19, 23	103	Husten, Aramaki, Omoto		17, 19, 23
Overall Outcome				1-4, 6, 8, 10, 12-19, 21-23

REVERSED