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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte XINTIAN E. LIN and QINGHUA LI

Appeal 2015-007034
Application 13/648,585
Technology Center 2600

Before LARRY J. HUME, CATHERINE SHIANG, and STEVEN M. AMUNDSON, *Administrative Patent Judges*.

SHIANG, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1–20, which are all the claims pending and rejected in the application. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

STATEMENT OF THE CASE

Introduction

The disclosed and claimed inventions relate to communication systems. *See generally* Spec. 1. Claim 1 is exemplary:

> 1. An apparatus, comprising:
> a processor circuit arranged to select a precoding matrix based on an index received from a remote device over a communication channel of a closed-loop multiple-input and multiple-output (MIMO) orthogonal frequency-division multiple access (OFDMA) system, the precoding matrix constructed by applying a transform to one or more vectors, and precode information with the precoding matrix for transmission over multiple transmitter antennae.

References and Rejections[1]

Claims 1–20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over AAPA (Applicant Admitted Prior Art: Background Section of the Specification), IEEE 802.16 (IEEE Std. 802.16-2004, *IEEE Standard for Local and metropolitan area networks, Part 16: Air Interface for Fixed Broadband Wireless Access Systems*), Tong (US 2008/0108310 A1, May 8, 2008), and Giaimo (US 2004/0090924 A1, May 13, 2004).

Alternatively, claims 1–20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over AAPA, IEEE 802.16, Roh (June Chul Roh & Bhaskar D. Rao, *Channel Feedback Quantization Methods for MISO and MIMO Systems*, 15th IEEE Int'l Symposium on Personal, Indoor and Mobile Radio Communications, PIMRC 2004, Vol. 2, 805–809 (Sept. 5–8, 2004)), and Giaimo.

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[1] The Examiner withdrew an obviousness-type double patenting rejection. Ans. 18.

Alternatively, claims 1–20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over AAPA, IEEE 802.16, Ansari (Mehdi Ansari et al., *Unified MIMO Pre-Coding based on Givens Rotation*, IEEE C802.16e-04/516 Nov. 4, 2004)), and Giaimo.

ANALYSIS

We disagree with Appellants' arguments, and agree with and adopt the Examiner's findings and conclusions in (i) the action from which this appeal is taken and (ii) the Answer to the extent they are consistent with our analysis below.[2]

On this record, and by a preponderance of evidence, the Examiner did not err in rejecting claim 1.

First, Appellants contend the Examiner fails to explain what constitutes the cited AAPA. App. Br. 11. The Examiner explains "as indicated in the previous Office action, the AAPA are in the specification page 1 line 15 to page 2 line 12." Ans. 19. Appellants do not dispute that explanation.

Second, Appellants contend the cited references fail to teach "a *closed-loop multiple-input and multiple-output (MIMO)* orthogonal frequency-division multiple access (OFDMA) system," as recited in claim 1 (emphasis added). *See* App. Br. 12–13. In particular, Appellants argue "the Wikipedia MIMO reference ('Wikipedia-MIMO') is not available as prior art," "the cited portions of 802.16-2004 also fail[] to disclose a closed-loop MIMO OFDMA system," and "although these portions of 802.16-2004

[2] To the extent Appellants advance new arguments in the Reply Brief without showing good cause, Appellants have waived such arguments. *See* 37 C.F.R. § 41.41(b)(2).

pertain to various features related to MIMO, they are silent with respect to closed-loop MIMO." App. Br. 12.

Appellants have not persuaded us of error. In response to Appellants' arguments, the Examiner provides further findings showing AAPA teaches "a closed-loop multiple-input and multiple-output (MIMO)" system. *See* Ans. 19; AAPA ¶ 3 ("[c]losed loop multiple-input-multiple-output (MIMO) systems"). Therefore, Appellants' argument that 802.16-2004 does not teach a closed-loop MIMO is unpersuasive of error. Further, Appellants' argument about Wikipedia is moot, because the Examiner's further findings do not cite Wikipedia.

Third, Appellants generally assert the identified references fail to teach "OFDMA" and the following limitation recited in claim 1:

> a processor circuit arranged to select a precoding matrix based on an index received from a remote device over a communication channel of a closed-loop multiple-input and multiple-output (MIMO) orthogonal frequency-division multiple access (OFDMA) system, the precoding matrix constructed by applying a transform to one or more vectors, and precode information with the precoding matrix for transmission over multiple transmitter antennae.

See App. Br. 11–13.

Appellants' general assertion is unpersuasive of error. *See* 37 C.F.R. § 41.37(c)(1)(iv) ("A statement which merely points out what a claim recites will not be considered an argument for separate patentability of the claim."); *see also In re Lovin*, 652 F.3d 1349, 1357 (Fed. Cir. 2011) (holding that "the Board reasonably interpreted Rule 41.37 to require more substantive arguments in an appeal brief than a mere recitation of the claim elements and

a naked assertion that the corresponding elements were not found in the prior art").

Because Appellants have not persuaded us the Examiner erred, we sustain the Examiner's rejection of claim 1. For similar reasons, we sustain the Examiner's rejection of independent claims 8 and 16.

We also sustain the Examiner's rejection of corresponding dependent claims 2–7, 9–15, and 17–20, which Appellants do not separately argue with substantive contentions.

DECISION

We affirm the Examiner's decision rejecting claims 1–20.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED