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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MARK J. MILLER¹

Appeal 2017-001077
Application 14/152,547
Technology Center 2600

Before THU A. DANG, JOHNNY A. KUMAR, and
JOHN P. PINKERTON, *Administrative Patent Judges*.

DANG, *Administrative Patent Judge*.

DECISION ON APPEAL

¹ Appellant identifies ViaSat, Inc. as the real party in interest. App. Br. 2

I. STATEMENT OF THE CASE

Appellant appeals under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1–3, 5–21, which constitute all the claims pending in this application. Claim 4 has been canceled. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

A. INVENTION

According to Appellant, the invention relates to “[t]echniques for providing broadcast services on a spot beam satellite,” in which a spot beam satellite system is “changed from providing spot beam transmission to broadcast transmission, and vice versa” (Spec. [007]).

B. ILLUSTRATIVE CLAIM

Claim 1 is exemplary and is reproduced below:

1. A satellite system, comprising:

a spot beam satellite operable in a first mode to provide broadcast data to a broadcast coverage area via a plurality of spot beams and operable in a second mode to provide spot beam transmissions via the plurality of spot beams to a plurality of spot beam coverage areas, wherein the spot beam satellite transmits using a first frequency to first and second spot beams of the plurality of spot beams;

a first hub configured to transmit first signals associated with the first spot beam to the spot beam satellite; and

a second hub configured to transmit second signals associated with the second spot beam to the spot beam satellite, wherein the second hub is located in a different physical location than the first hub,

wherein, when the spot beam satellite is operating in the first mode, the first and second signals comprise space-time coded signals of a same

input broadcast data, and wherein timing of the first and second signals are pre-corrected to be symbol-synchronized when received at the spot beam satellite, and wherein when the spot beam satellite is operating in the second mode, the first and second signals comprise different data.

C. REJECTIONS

Claims 1–3, 5–9, 13–17, and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Norin et al. (EP 091080A1; published Apr. 21, 1999), Kiesling (US 2007/0082609 A1; published Apr. 12, 2007), and Eroz et al. (US 2007/0022352 A1; published Jan. 25, 2007).

Claims 10–12, and 18–20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Norin, Kiesling, Eroz, and Krebs et al. (US 2003/0054816 A1; published Jan. 25, 2007).

II. ISSUES

The dispositive issues before us are whether the Examiner erred in finding the combination of Norin, Kiesling, and Eroz teaches or suggests (1) “when the spot beam satellite is operating in the first mode” to “provide broadcast data,” the first and second signals transmitted from the spot beam satellite “comprise *space-time coded signals of a same input broadcast data*,” and (2) “timing of the first and second signals are *pre-corrected to be symbol-synchronized when received at the spot beam satellite*” (claim 1, emphasis added).

III. ANALYSIS

With respect to independent claims 1 and 14, Appellant contends that, although the Examiner relies on Kielsing for teaching and suggesting “the first and second signals comprise space-time coded signals of a same input broadcast data,” such “diffusion” according to Kiesling “does not refer to space-time coding of a same input signal for multiple beams” (App. Br. 5). Instead, Appellant argues “‘diffusion,’ according to Kiesling refers to ‘provid[ing] alternative spot-beams which can carry a [Designated Market Area (DMA)]’” (*id.*). Further, according to Appellant, “Eroz simply does not describe, teach or suggest use of space time codes for a satellite system” (Reply Br. 4).

Similarly, although the Examiner relies on Eroz for teaching and suggesting “timing of the first and second signals are pre-corrected to be symbol-synchronized when received at the spot beam satellite,” Appellant contends the Forward Error Correction (FEC) of Eroz “does not refer to techniques for pre-correcting the timing of signals transmitted by different hubs to be symbol-synchronized when received at a satellite” (App. Br. 7). Instead, Appellant argues “FEC as discussed in Eroz relates to a receiver performing error correction to recover the input data from the coded information stream” (*id.*).

We have considered all of Appellant’s arguments and evidence presented. We agree with Appellant that the preponderance of evidence on this record fails to support the Examiner’s finding that Appellant’s claims 1 and 14 as set forth before us in this Appeal would have been obvious over Norin, Kiesling and Eroz.

Although the Examiner “also relies on the Eroz reference for disclosing that it was known in the art to use space time coding with satellite transmissions” (Ans. 3), we agree with Appellant that Eroz simply does not describe, teach or suggest use of space time codes for a *satellite* system” (Reply Br. 4, emphasis added). Here, we cannot find any teaching or suggestion in the cited sections of Eroz of transmitting signals from a spot beam *satellite* which “comprise space-time coded signals of a *same* input broadcast data” when in a broadcast mode (claim 1, emphasis added). That is, the Examiner does not provide a clear mapping to any portion in Kiesling or Eroz that teaches or suggests a “broadcast” mode, or “space-time coded” signals of the “same input broadcast data” being transmitted when in such broadcast mode, as required by claims 1 and 14 (See Final Act. 4—5, Ans. 3—4).

Similarly, although the Examiner finds “Forward Error Correction (‘FEC’) [as set forth in Eroz] is a type of pre-correcting for symbol synchronization” (Ans. 4), we agree with Appellant that “FEC as discussed in Eroz relates to a receiver performing error correction to recover the input data from the coded information stream” (App. Br. 7). Here, we cannot find any teaching or suggestion in the cited sections of pre-correcting or symbol synchronizing of the timing of signals when *received* at a *spot beam satellite* (claim 1, emphasis added). That is, the Examiner does not provide a clear mapping to any portion Eroz that teaches or suggests a “broadcast” mode, or signals being “pre-corrected to be symbol-synchronized” when “received at the spot beam satellite” in such broadcast mode, as required by claims 1 and 14. (See Final Act. 5, Ans. 4—5).

Because the Examiner has not fully developed the record to establish how the combination of Kiesling and Eroz, when combined with Norin, teaches or suggests the disputed limitations, we would be required to speculate regarding how the Examiner applied the teachings of the references to affirm the Examiner on this record. We decline to engage in speculation. “A rejection . . . must rest on a factual basis” *In re Warner*, 379 F.2d 1011, 1017 (CCPA 1967). “The Patent Office has the initial duty of supplying the factual basis for its rejection. It may not. . . resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in its factual basis.” *Id.*

Therefore, on this record, we find a preponderance of the evidence supports Appellant’s contentions (App. Br. 5–9) that the Examiner has not identified a teaching or suggestion of the disputed limitations of claims 1 and 14. We are of the view that the Examiner has not fully developed the record to show unpatentability of claims 1 and 14 pursuant to 35 U.S.C. § 103(a). Therefore, we are constrained to reverse the Examiner’s rejection of independent claims 1 and 14, and claim 2, 3, 5–9, 13, 15–17, and 21, depending respectively therefrom, over Norin, Kiesling, and Eroz. For similar reasons, we also reverse the Examiner’s rejection of claims 10–12, and 18–20 over Norin, Kiesling, and Eroz, in further view of Krebs.

V. CONCLUSION AND DECISION

The Examiner’s rejections of claims 1–3, and 5–21 under 35 U.S.C. § 103(a), are reversed.

REVERSED