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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte FLORENT GUICHARD, FABIEN LE MOINE, and SOPHIE LOSTANLEN-NOUY

Appeal 2018-003992[1]
Application 14/842,969
Technology Center 2600

Before HUNG H. BUI, ADAM J. PYONIN, and MICHAEL M. BARRY, *Administrative Patent Judges*.

PYONIN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134(a) from the Examiner's decision to reject all pending claims. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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[1] "The real party in interest is the assignee, SERCEL." Br. 2.

STATEMENT OF THE CASE

Introduction

The Application is directed to "a method for setting frequency channels in a multi-hop wireless mesh network comprising a plurality of nodes." Spec. 8:26–28. Claims 1–22 are pending; of these, claims 1, 11, and 19 are independent. Claim 1 is reproduced below for reference (emphases added):

> 1. A method for communicating data in a seismic wireless network, the method comprising:
>
> providing a frequency channels hopping sequence S to plural seismic nodes that form the seismic wireless network, wherein the frequency channels hopping sequence S has a hop period;
>
> configuring the plural seismic nodes to hop from one frequency to a next frequency in the frequency channels hopping sequence S;
>
> receiving seismic data at a first seismic node;
>
> *selecting, at the first seismic node, a transmit frequency channel for transmitting an entire data packet, wherein the transmit frequency channel has a frequency calculated based on (i) a base frequency, (ii) a channel spacing, and (iii) a sequence of integers*; and
>
> transmitting the entire data packet from the first seismic node to a second seismic node with the selected transmit frequency channel,
>
> *wherein a duration of transmitting any data packet by any seismic node is strictly longer than the hop period*, and
>
> the first seismic node transmitting the data packet to the second seismic node without polling between the first and second nodes.

References and Rejections

Claims 1, 7–9, 11, 15–17, 19, 21, and 22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Woo (US 2013/0013806 A1; Jan. 10, 2013), Menard (US 2007/0025307 A1; Feb. 1, 2007), Qassim Nasir & Maali Albalt, *History Based Adaptive Backoff (HBAB) IEEE 802.11 MAC Protocol*, IEEE Communication Networks and Services Research Conference (2008) (hereafter, "Nasir"), and Kung (US 4,654,859; Mar. 31, 1987). Final Act. 3–6.

Claims 2–6, 10, 12–14, 18, and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over various combinations of Woo, Menard, Nasir, Kung, and other prior art references. Final Act. 7–12.

ANALYSIS

We have reviewed the Examiner's rejections in light of Appellants' arguments. Our review in this appeal is limited only to the issues raised by Appellants. Arguments not made are waived. *See* MPEP § 1205.02; *see also* 37 C.F.R. § 41.37(c)(1)(iv). We are not persuaded the Examiner errs; we adopt the Examiner's findings and conclusions as our own, and we add the following primarily for emphasis.

A. Selecting a Transmit Frequency Channel

Appellants argue the Examiner errs in finding the cited references teach or suggest the "selected transmit frequency channel has a frequency that is calculated based on (i) a base frequency, (ii) a channel spacing, and (iii) a sequence of integers," as required by claim 1. Br. 7. Particularly, Appellants contend that, "in the applied art (either in Woo or in Kung), no

calculation of a frequency of a transmit frequency channel is performed," as "[a]ll the calculations presented by Kung . . . refer to how to generate the frequency hopping scheme (i.e., the frequency channels hopping sequence S) and not to how to select and calculate a transmit frequency channel for transmitting an entire data packet, as recited by the claims." Br. 9. Appellants further argue the calculations taught by Kung do not "depend on N, the asserted sequence of integers" (Br. 8) as Kung teaches "N is a single number and not a sequence of integers" (Br. 10).

First, we are not persuaded the cited references fail to teach or suggest the claimed selection of a transmit frequency channel. Kung, as relied on by the Examiner, discloses methods of calculating output frequency *Fout* for a given time period as part of a frequency hopping scheme. Kung 4:60–67; *see also* Final Act. 5. Particularly, each frequency is calculated based on a numerically-identified time period (for example from 0–15); thus, Kung teaches "based on . . . a sequence of integers" within the scope of the claim. *See* Ans. 2–3, 5; Kung 4:7–36. Woo, as cited by the Examiner, further teaches a "device in the frequency-hopping network configures its receiver to follow a hopping schedule by picking a channel sequence, duration of each time slot, and time base that defines when the first slot in the schedule begins." Woo ¶ 28; *see also* Final Act. 4. Appellants do not show the Examiner errs in finding the combination of Woo and Kung teaches or suggests the selecting limitation of claim 1. *See* Ans. 4.

Second, we note Appellants' contentions are based on a reading of the claim as including a separate *calculating* step. We disagree. Claim 1 recites, *inter alia*, "selecting, at the first seismic node, a transmit frequency channel for transmitting an entire data packet, wherein the transmit

frequency channel *has a frequency calculated*" (emphasis added). *See, e.g.*, Spec. 3:19–20 ("The general principle is that of using a frequency channels hopping sequence (i.e. a 20 FHSS technique) to allow any node to select a transmit frequency channel."). We see no patentable distinction between Kung's teaching of selecting a frequency based on a calculated frequency hopping scheme, and the claimed step of *selecting*. *See* Ans. 4–5; Kung 2:25–47. Appellants' arguments are unpersuasive for not being commensurate with the scope of the claim.

Accordingly, we are not persuaded the Examiner's rejection is in error. *See* Final Act. 4–5.

B. Any Data Packet

Appellants contend "Woo characterizes Figure 7A in paragraph [0052] by saying that '**there are times** when the distributed message (data packet 140) is larger than what can fit within a single MAC frame.'" Br. 11. Appellants argue the Examiner's rejection is in error, because "there is no disclosure in Woo that (1) any packet transmitted by (2) any seismic node is longer than the hop period," as "[t]he fact that 'there are times' when the distributed message is larger than a single MAC frame is not equivalent to the claimed language that a duration of transmitting any packet by any seismic node is strictly longer than the hop period." Br. 11.

The Examiner correctly finds "Woo, as clearly shown in Figures 7A – 7B, teaches . . . a packet (#140, Figures 7A and 7B) transmitted by a node (two time slots, Figures 7 A and 78) that is longer than the hop period." Ans. 6. Appellants do not persuade us that Woo's teaching of data packets being longer than the hop period does not teach or suggest the claimed "a

duration of transmitting any data packet by any seismic node is strictly longer than the hop period." Ans. 6.

Additionally, during prosecution, claims are given their broadest reasonable interpretation consistent with the Specification as they would be understood by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1369 (Fed. Cir. 2004). However, "limitations are not to be read into the claims from the specification." *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993). Here, Appellants do not argue that the method of claim 1 requires communicating more than a single data packet. And even assuming, *arguendo*, the claim requires multiple data packets, we note the Specification describes an embodiment in which "*[a]ll* the data packets" are "longer than the hop period." Spec. 9:17–19 (emphasis added). In contrast, claim 1 recites only that "*any* data packet" is longer (emphasis added). If Appellants wish to claim *all* of *multiple* data packets, the claims can be amended during prosecution to reflect such a requirement. A broad but reasonable interpretation by the Examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. *In re Prater*, 415 F.2d 1393, 1404–05 (CCPA 1969).

C. Reason for Combining

Appellants argue "the reason provided by the final Office Action to combine the teachings of Woo and Kung is mistaken," because "[t]he asserted fact that Kung is calculating a frequency for a transmit frequency channel . . . does not justify the need to 'perform frequency hopping.'" Br. 12. Appellants contend "[c]alculating a frequency of a transmit frequency channel has nothing to do with performing frequency hopping." Br. 12.

We disagree. Both Woo and Kung teach frequency hopping by selecting a channel that has a calculated frequency. *See* Ans. 6; Kung 1:7–10, 6:22–41; Woo ¶ 2. Appellants do not provide any evidence of secondary considerations, or otherwise show the Examiner errs in finding one of ordinary skill would use Kung's particular calculations in the frequency hopping method of Woo. *See* Final Act. 4–5. Thus, we are not persuaded the Examiner's rejection is based on anything other than a combination of familiar elements yielding predictable results. *See KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 416 (2007) ("The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.").

Accordingly, we are not persuaded the Examiner's rejection is in error.

CONCLUSION

We sustain the Examiner's rejection of independent claim 1. Appellants advance no further argument for the remaining claims. Br. 7. Accordingly, we sustain the Examiner's rejection of these claims for the same reasons discussed above.

DECISION

The Examiner's decision rejecting claims 1–22 is affirmed.

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