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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte WALTER JOHN KELLER, BOGDAN AMARU PATHAK, ANDREW RICHARD PORTUNE, and TODD ERIC CHORNENKY

Appeal 2018-005987
Application 14/663,156[1]
Technology Center 2400

Before JUSTIN BUSCH, CATHERINE SHIANG, and LINZY T. McCARTNEY, *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, 3–11, 13–30, 33, and 34, which are all the claims pending and rejected in the application. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm-in-part.

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[1] Appellants identify Nokomis, Inc. as the real party in interest. App. Br. 2.

STATEMENT OF THE CASE

Introduction

According to the Specification, the present invention relates to "detecting a modification of the electrically powered devices and/or a modification of the results generated by electrically powered devices." Spec. 3:4–6. Claim 1 is exemplary:

> 1. An apparatus comprising:
>
> a sensor comprising a hollow enclosure with an access to an interior thereof, said access configured to allow insertion of one or more electrical devices therethrough, one or more antennas, low noise amplifier(s) coupled to said one or more antennas, RF tuner(s) and analog to digital converter(s), said sensor configured, to capture unintended emitted electromagnetic energy and/or unintended conducted energy from one or more electrical devices inserted into said interior through said access and disposed, during operation of said apparatus, within said interior;
>
> one or more processors or logic devices; and
>
> a computational medium comprising executable instructions that, when executed by said one or more processors or logic devices, cause said one or more processors or logic devices to perform the following steps on said captured unintended emitted electromagnetic energy and/or said unintended conducted energy:
>
> measuring a feature value in at least one spectral frequency region of said captured unintended emitted electromagnetic energy and/ or unintended conducted energy from said one or more electrical devices, calculating a difference value between said measured feature value and a baseline feature value,
>
> verifying, based on said calculated difference value, whether at least one of sub-threshold and super-threshold values have been exceeded in one or more of amplitude, frequency, phase and time domains of signature(s) elements of said captured unintended emitted electromagnetic energy and/or unintended conducted energy, and
>
> determining, based on said calculated difference value, a presence or an absence of at least one of malicious software,

> anomalous software, modified software, malicious firmware, anomalous firmware, modified firmware, malicious circuitry, anomalous circuitry and modified circuitry within the one or more electrical devices.

References and Rejections[2]

Claims 1, 3–11, and 13–30 are rejected under 35 U.S.C. § 103 as being unpatentable over Keller (US 2012/0223403 A1, published Sept. 6, 2012) and Telewski (US 6,021,315, issued Feb. 1, 2000). Final Act. 5–25.

Claim 33 is rejected under 35 U.S.C. § 103 as being unpatentable over Keller, Telewski, and Robertazzi (US 2015/0247892 A1, published Sept. 3, 2015). Final Act. 25–26.

Claim 34 is rejected under 35 U.S.C. § 103 as being unpatentable over Robertazzi and Keller. Final Act. 26–28.

ANALYSIS[3]

Claims 1, 3–11, 13, and 33

We have reviewed the Examiner's rejection in light of Appellants' contentions and the evidence of record. We concur with Appellants' contention that the Examiner erred in determining the cited portions of Keller teach "verifying, based on said calculated difference value, whether at least one of sub-threshold and super-threshold values have been exceeded *in*

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[2] Throughout this opinion, we refer to the (1) Final Rejection dated June 7, 2017 ("Final Act."); (2) Appeal Brief dated January 8, 2018 ("App. Br."); (3) Examiner's Answer dated March 20, 2018 ("Ans."); and (4) Reply Brief dated May 21, 2018 ("Reply Br.").

[3] Appellants raise additional arguments. Because the identified issues are dispositive of the appeal, we do not need to reach the additional arguments.

one or more of amplitude, frequency, phase and time domains of signature(s) elements of said captured unintended emitted electromagnetic energy and/or unintended conducted energy," as recited in claim 1 (emphasis added). *See* Reply Br. 3.

The Examiner initially cites Keller's paragraph 128 for teaching the above limitation. Final Act. 7. The Examiner responds to Appellants' arguments by additionally citing Keller's paragraph 133. Ans. 3–4. Appellants argue:

> Although Keller defines, in [0128], statistical features that may be used in determining baseline characteristics, Appellant respectfully finds that a person of ordinary skill in the art will understand that Keller in [0133] makes a determination/evaluation on the state of the RF energy signature, as "a whole" or as a sum of all features in the EF energy signature.

Reply Br. 3.

> Keller explains:
>
> The output **116** may be configured to indicate two states of the RF energy collection and processing means **18,** whereby one state is indicative of an RF energy signature substantially matching a predetermined standard and whereby a second state is indicative of the RF energy signature deviating from the predetermined standard. Output **116** may be provided as *an analog or digital input.*

Keller ¶ 133 (emphasis added). Keller further explains the "*step of establishing the baseline RF characteristics includes* the step of large scale comparison of spectral emissions and the step of reducing the large scale comparison to narrowband comparisons and *outputting* after comparison and

further reduction *a single scalar value* based on the quality of the comparison match." Keller ¶ 128 (emphases added).

We have reviewed the cited Keller portions, and they do not describe "whether at least one of sub-threshold and super-threshold values have been exceeded *in one or more of amplitude, frequency, phase and time domains of signature(s) elements*" (emphasis added). In particular, while Keller describes a "single scalar value" (Keller ¶ 128), it does not describe that value as one of the elements required by the italicized limitation. Further, the Examiner does not map the italicized limitation to the cited prior art. As a result, to affirm the Examiner on this record would require considerable speculation on our part, and we decline to engage in such speculation.

Because the Examiner fails to provide sufficient evidence or explanation to support the rejection, we are constrained by the record to reverse the Examiner's rejection of claim 1.

We also reverse the Examiner's rejections of corresponding dependent claims 3–11, 13, and 33. Although the Examiner cites an additional reference for rejecting dependent claim 33, the Examiner has not shown the additional reference overcomes the deficiency discussed above in the rejection of claim 1.

Claims 14–23

We have reviewed the Examiner's rejection in light of Appellants' contentions and the evidence of record. We concur with Appellants' contention that the Examiner has not provided the requisite rationale for modifying Keller's system to incorporate Telewski's features for the limitation "integrated antenna enclosure including a hollow enclosure *with a*

door selectively opening and closing an access to an interior thereof . . . one or more electrical devices inserted into said hollow interior through said access and disposed, during operation of said apparatus, within said interior" App. Br. 49 (emphasis added). *See* App. Br. 26–28; Reply Br. 6.

The Examiner maps the recited "integrated antenna enclosure" to Keller's enclosure 112. Final Act. 13. Keller's enclosure 112 is a part of the integrated circuit (IC) 100. Keller ¶ 133, Fig. 1. The Examiner cites Telewski for teaching the italicized limitation, and determines "[t]he motivation is to provide protection against RF leakage." Final Act. 15–16.

"[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be 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).

Contrary to the Examiner's assertion of "provid[ing] protection against RF leakage" (Final Act. 16), one skilled in the art would understand modifying Keller's enclosure to include Telewski's door would have caused RF leakage and achieved the opposite result. Specifically, adding a door to Keller's enclosure 112 would have created an open space in the enclosure, which would have caused RF leakage. And placing a door in that open space would have prevented some, but not all of the RF leakage. *See, e.g.*, Telewski 1:52–53 ("the door 6 is always a source of potential RF leakage"). Because adding a door to Keller's enclosure would have caused RF leakage, the Examiner's determination contradicts the knowledge of one ordinarily skilled in the art. As a result, the Examiner has not provided "some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness," as required by KSR. *KSR*, 550 U.S. at 418.

Therefore, we are constrained by the record to reverse the Examiner's rejection of independent claim 14. We reverse the Examiner's rejection of independent claim 16 for similar reasons.

We also reverse the Examiner's rejection of corresponding dependent claims 15 and 17–23.

Claims 24–30

For similar reasons discussed above with respect to independent claims 1 and 14, we reverse the Examiner's rejection of independent claim 24.

We also reverse the Examiner's rejection of corresponding dependent claims 25–30.

Claim 34

Appellants argue:

> claim 34 is directed to measuring height and/or location of first and second peaks in the captured unintended electromagnetic energy **from the same device** and determining condition of the device based on the change in height or location (bolded for emphasis).
>
> Combination of Keller and Telewski fails to at least teach claimed limitations of "quantifying a feature value in at least one spectral frequency region of said unintended emissions for at least two different physical electrical devices that are determined and/or validated[.] As was shown above, the combination of Robertazzi and Keller compares the measurement between tested device and a corresponding feature in the reference device.

App. Br. 42–43; *see also* Reply Br. 10. Appellants also argue as a result, the "[c]ombination teaches away from the claimed invention" with respect to the claim requirement of "comparing the different measurements from the same device." App. Br. 43.

We disagree with Appellants' arguments. To the extent consistent with our analysis below, we adopt the Examiner's findings and conclusions in (i) the action from which this appeal is taken and (ii) the Answer.[4]

Appellants' arguments are unpersuasive because they are not commensurate with the scope of claim 34. In particular, claim 34 does not recite "quantifying a feature value in at least one spectral frequency region of said unintended emissions for at least two different physical electrical devices that are determined and/or validated." Nor have Appellants shown claim 34 requires "comparing the different measurements from the same device," as Appellants argue (App. Br. 43). As noted by the Examiner, Appellants' proposed amendment was not entered. Ans. 10.

Because Appellants have not persuaded us the Examiner erred, we sustain the Examiner's rejection of independent claim 34.

DECISION

We reverse the Examiner's decision rejecting claims 1, 3–11, 13–30, and 33.

We affirm the Examiner's decision rejecting claim 34.

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[4] 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).

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-IN-PART