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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte PAUL HISCOCK and NICOLAS GRAUBE

Appeal 2018-009033
Application 15/273,115
Technology Center 2600

Before JEAN R. HOMERE, JEREMY J. CURCURI, and
DAVID J. CUTITTA II, *Administrative Patent Judges*.

HOMERE, *Administrative Patent Judge*.

DECISION ON APPEAL

I. STATEMENT OF THE CASE¹

Pursuant to 35 U.S.C. § 134(a), Appellant appeals from the Examiner’s decision to reject claims 1–30, which constitute all of the claims pending in this appeal.² Claims App. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

¹ We refer to the Specifications filed Oct. 6, 2017 and Sep. 22, 2016 (“Spec.”); the Final Office Action, mailed Nov. 29, 2017 (“Final Act.”); the Appeal Brief, filed May 23, 2018 (“Appeal Br.”); the Examiner’s Answer, mailed Aug. 29, 2018 (“Ans.”), and the Reply Brief, filed Sep. 18, 2018 (“Reply”).

² We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). Appellant identifies QUALCOMM, Inc. as the real party-in-interest. Appeal Br. 3.

II. CLAIMED SUBJECT MATTER

According to Appellant, the claimed subject matter is directed to a method and system for determining a region of a user equipment (UE, 800) (e.g., key fob, 800C) using directional receive antenna arrays. Spec. ¶¶ 1, 4. One particular embodiment of the claimed subject matter relates to determining whether a key fob is located inside or outside a vehicle. *Id.* ¶ 57

Figure 8, discussed and reproduced below, is useful for understanding the claimed invention:

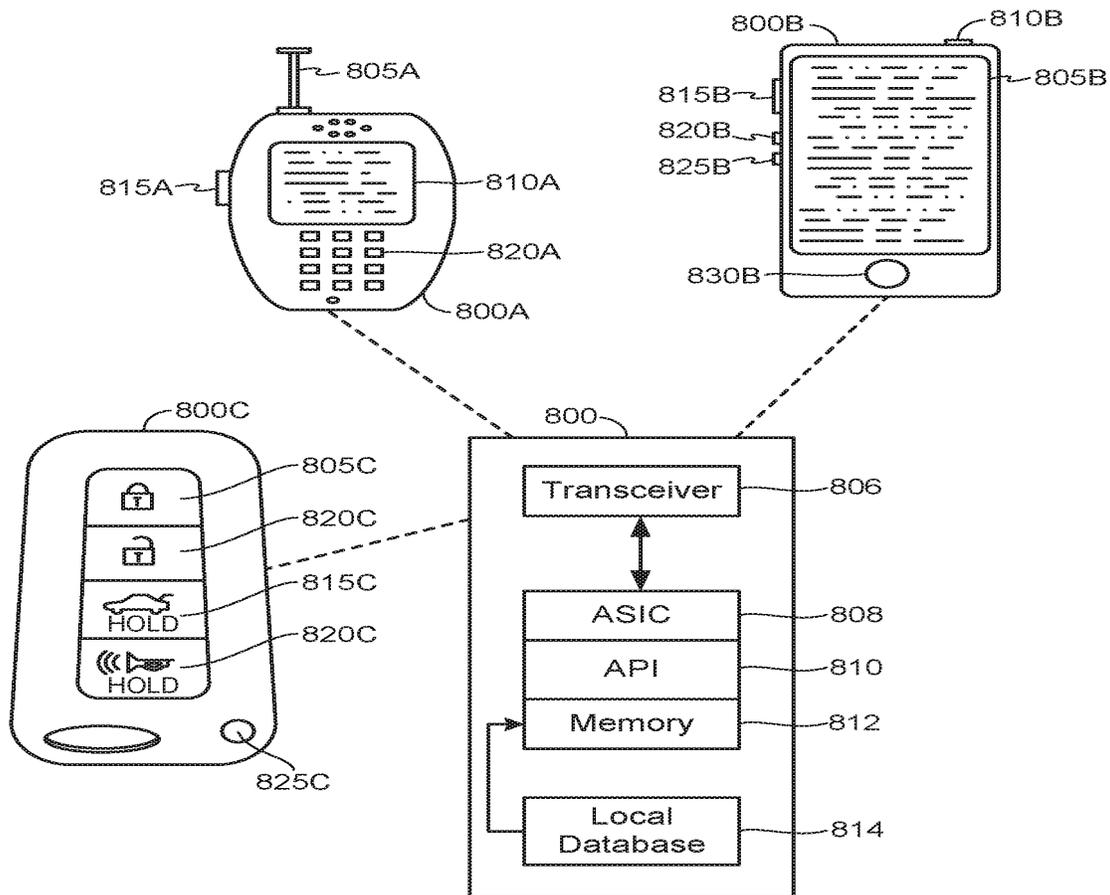


FIG. 8

Figure 8 illustrates UE (800) including transceiver (806) coupled to application specific integrated circuit (ASIC, 808), application programming interface (API 810), memory (812) and local database (814). *Id.* ¶¶ 53, 54.

Claims 1, 18, 23, and 28 are independent. Claim 1, reproduced below with disputed limitations emphasized in *italics*, is illustrative of the claimed subject matter:

1. A method of determining a region of a user equipment (UE), comprising:

measuring, via a first directional receive antenna array coupled to an apparatus, one or more signals that are transmitted by one or more transmitters of the UE;

measuring, via a second directional receive antenna array coupled to the apparatus, the one or more signals that are transmitted by the one or more transmitters, wherein the first and second directional receive antenna arrays are oriented towards different directions;

determining a first representative value for the first directional receive antenna array based on some or all of the measurements of the one or more signals by the first directional receive antenna array;

determining a second representative value for the second directional receive antenna array based on some or all of the measurements of the one or more signals by the second directional receive antenna array; and

determining whether the UE is within a given region based on the first and second representative values, wherein *the first directional receive antenna is oriented towards an interior region of an enclosed environment and the second directional receive antenna is oriented towards an exterior region of the enclosed environment, wherein the given region is the enclosed environment.*

Appeal Br. 15 (Claims Appendix) (emphasis added).

III. REFERENCES

The Examiner relies upon the following references.³

Name	Reference	Date
Gail	US 5,313,210	May 17, 1994
Hagerman	US 2009/0023447 A1	Jan. 22, 2009
Tadayon	US 2012/0214472 A1	Aug. 23, 2012
Alizeh-Shabdiz	US 2013/0252631 A1	Sep. 26, 2013

IV. REJECTIONS

The Examiner rejects claims 1–30 as follows:

1. Claims 2 and 24 stand rejected under 35 U.S.C. § 112(b) as being indefinite for failing to particularly point and distinctly claim the subject matter which the Applicant regards as the invention. Final Act. 2–3.
2. Claims 1–12, 15, and 19–30 stand rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Hagerman and Tadayon. Final Act. 4–22.
3. Claims 13, 14, and 18 stand rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Hagerman, Tadayon, and Gail. Final Act. 23–26.
4. Claims 16 and 17 stand rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Hagerman, Tadayon, Gail, and Alizadeh-Shabbiz. Final Act. 27–29.

³ All reference citations are to the first named inventor only.

V. ANALYSIS

We consider Appellant’s arguments *seriatim*, as they are presented in the Appeal Brief, pages 6–14 and the Reply Brief, pages 2–5.⁴

1. Indefiniteness Rejection

The Examiner concludes that the recitation of “BLUETOOTH” in claims 2 and 24 renders the claims indefinite under 35 U.S.C. § 112(b). Final Act. 2. The Examiner cites to the decision in *Ex parte Simpson*⁵ for the proposition that “[w]here a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph.” (*Id.*) According to the Examiner, “BLUETOOTH” is a trademark or a tradename used in the claims to identify or describe a particular material or product, namely “antenna arrays”, as opposed to identifying the source thereof. *Id.* The Examiner nonetheless proposes that Appellant amend the claim language to recite “wherein the first and second directional receive antenna arrays uses (sic) BLUETOOTH communication (or protocol)” to overcome the indefiniteness rejection. Ans. 2.

In response, Appellant argues that the Examiner’s conclusion of indefiniteness is in error because “BLUETOOTH” is very well-known communication protocol, which would be understood by one of ordinary

⁴ We have considered in this Decision only those arguments Appellant actually raised in the Briefs. Any other arguments Appellant could have made but chose not to make in the Briefs are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(iv) (2014).

⁵ 218 USPQ 1020 (Bd. App. 1982)

skill in the art. Appeal. Br. 6 (citing *Ex. Parte Nikolai*⁶ (sic), *Ex Parte O'Farrell*⁷). *Id.* In particular, Appellant argues that consistent with the cited PTAB decisions holding that the recitation of Java does not render the claims indefinite because Java is a well-known programming language, the ordinarily-skilled artisan would likewise recognize BLUETOOTH as a well-known communication protocol, and thereby does not render the claims indefinite. *Id.* at 6–7.

Appellant's arguments are persuasive. As an initial matter, we note that although the cited PTAB decisions are not precedential, they are persuasive. The test for definiteness under 35 U.S.C. § 112, second paragraph, is whether “those skilled in the art would understand what is claimed when the claim is read in light of the specification.” *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576, 1 USPQ2d 1081, 1088 (Fed. Cir. 1986). Further, our reviewing court has held that the claim as a whole must be considered to determine whether the claim apprises one of ordinary skill in the art of its scope, and therefore serves the notice function required by 35 USC 112, second paragraph by providing clear warning to others as to what constitutes the infringement of the patent. *Solomon v. Kimberly-Clark Corp.*, 216 F.3d 1372, 1379, 55 USPQ2d 1279, 1283 (Fed. Cir. 2000). If the language of the claim is such that a person of ordinary skill in the art could not interpret the metes and bounds of the claims so as to understand how to avoid infringement, a rejection of the claim under 35 USC 112, second paragraph is deemed appropriate. *Morton Int'l, Inc. v. Cardiinal Chemical Co.*, 5 F.3d 1464, 1470, 28 USPQ2d 1190,

⁶ *Ex Parte Nikolov*, Appeal 2013-000274 (PTAB March 25, 2015).

⁷ Appeal 2011-011075, WL 2112325 (PTAB May 19, 2014).

1195 (Fed. Cir. 1993). We agree with Appellant that because BLUETOOTH is a well-known communication protocol, the ordinarily skilled artisan would readily recognize that the recitation “BLUETOOTH antenna arrays” connotes antenna arrays that use the BLUETOOTH communication protocol, as suggested by the Examiner’s proposed amendment. Appeal Br. 7, Ans. 2. Because the record before us supports that the ordinarily-skilled artisan including the Examiner, after having read the Specification, would be apprised of the scope of the claims, we are persuaded of error in the Examiner’s indefiniteness rejection of claims 2 and 24.

2. Obviousness Rejections

Appellant argues the Examiner erred in finding that the combination of Hagerman and Tadayon teaches or suggests a first directional receive antenna is oriented towards an interior region of an enclosed environment and a second directional receive antenna is oriented towards an exterior region of the enclosed environment, as recited in independent claim 1. Appeal Br. 9–13. In particular, Appellant argues Tadayon does not cure the admitted deficiencies of Hagerman because Tadayon’s disclosure of a transceiver does not teach the *second directional receive antenna oriented toward an exterior region of the closed environment*. *Id.* at 10 (citing Tadayon ¶¶ 77, 88, 93). According to Appellant, Tadayon’s transceiver using power level measurement to calculate the distance to the UE to determine when the UE is inside or outside of the vehicle qualifies as a non-directional antenna capable of outdoor detection, and therefore does not teach a second directional antenna oriented toward an exterior region of the vehicle. *Id.* at 11–13. Further, according to Appellant, Tadayon discloses directional antennas arranged with narrow ranges specifically inside of the

vehicle as outside mobile devices, which are two or more feet away from the vehicle out of range. *Id.* at 11–12 (citing ¶¶ 42, 58). Likewise, Appellant argues that Tadayon also discloses remaining directional antennas specifically oriented towards indoor sections of the vehicle. *Id.* at 13. Appellant therefore submits that Tadayon’s disclosure of directional antennas facing an interior region of a vehicle does not cure Hagerman’s disclosure of directional antennas facing an outside environment without being oriented towards an indoor region in a closed environment. *Id.*

Appellant’s arguments are not persuasive of reversible Examiner error. As an initial matter, we note that the disputed limitations require analyzing a first directional receive antenna oriented towards an interior region of an enclosed environment (e.g. a vehicle) and a second directional receive antenna directed towards an exterior region of the vehicle. Appellant admits that Hagerman teaches a directional antenna oriented towards the exterior of a closed environment. Appeal Br. 13. Further, Appellant admits that Tadayon discloses a directional receive antenna directed towards the interior of the closed environment. *Id.* In particular, Tadayon discloses using the transceiver inside a vehicle to track the location of a mobile device as it moves around and inside of the vehicle. Tadayon ¶¶ 58, 77. Tadayon further describes the transceiver as a directional antenna for tracking the mobile device location inside and outside of the vehicle. *Id.* ¶¶ 93,176.

We agree with the Examiner that it would have been obvious to one of ordinary skill in the art to combine the cited teachings of Hagerman and Tadayon because the proposed combination would have predictably resulted in a transceiver transmitting a first directional receive antenna oriented

towards an interior region of a vehicle and a second directional receive antenna oriented towards an exterior region of the vehicle to determine the location of a mobile device. Ans. 13. We find the Examiner’s proposed combination of the cited teachings of Hagerman and Tadayon is no more than a simple arrangement of old elements with each performing the same function it had been known to perform, yielding no more than one would expect from such an arrangement. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007); *see also* Tadayon ¶¶ 58, 77, Hagerman Fig. 1. Therefore, the ordinarily skilled artisan, being “a person of ordinary creativity, not an automaton,” would be able to fit the teachings of the cited references together like pieces of a puzzle to predictably result in a transceiver that emits a first directional receive antenna oriented towards the interior of a vehicle and a second directional receive antenna oriented towards the exterior of the vehicle to determine the location of a mobile device. *Id.* at 420–21. Because Appellant has not demonstrated that the Examiner’s proffered combination would have been “uniquely challenging or difficult for one of ordinary skill in the art,” we agree with the Examiner that the proposed modification would have been within the purview of the ordinarily skilled artisan. *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007) (citing *KSR*, 550 U.S. at 418). Consequently, we are satisfied that, on the record before us, the Examiner has established by a preponderance of the evidence that the combination of Hagerman and Tadayon renders claim 1 unpatentable. Accordingly, we are not persuaded of error in the Examiner’s obviousness rejection of claim 1.

Regarding the rejections of claims 2–30, Appellant has not presented separate patentability arguments or reiterated substantially the same

arguments as those previously discussed for patentability of claim 1. As such, claims 2–30 fall therewith. *See* 37 C.F.R. § 41.37(c)(1)(iv).

VI. CONCLUSION

We affirm the Examiner’s obviousness rejections of claims 1–30 under 35 U.S.C. § 103. However, we reverse the Examiner’s indefiniteness rejection of claims 2 and 24 under 35 U.S.C. § 112(b)

Because we have affirmed at least one ground of rejection with respect to each claim on appeal, the Examiner’s decision is affirmed. *See* 37 C.F.R. § 41.50(a)(1).

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
2, 24	112(b)	Indefiniteness		2, 24
1–12, 15, 19–30	103	Hagerman, Tadayon	1–12, 15, 19–30	
13, 14, 18	103	Hagerman, Tadayon, Gail	13, 14, 18	
16, 17	103	Hagerman, Tadayon, Gail, Alizadeh-Shabbiz	16, 17	
Overall Outcome			1–30	2, 24

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). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED