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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte YU-HSUAN GUO

Appeal 2019-002680
Application 14/080,179
Technology Center 2600

Before KARA L. SZPONDOWSKI, SCOTT B. HOWARD, and
STEVEN M. AMUNDSON, *Administrative Patent Judges*.

HOWARD, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant¹ appeals under 35 U.S.C. § 134(a) from the Examiner’s Final Rejection of claims 1, 3–6, 8–12, 14–16, and 18–20, which constitute all of the claims pending in this application. Claims 2, 7, 13, and 17 have been cancelled. Final Act. 2.² We have jurisdiction under 35 U.S.C. § 6(b).

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Innovative Sonic Corporation. Appeal Br. 2.

² We refer to the Specification filed Nov. 14, 2013 (“Spec.”); Final Office Action mailed June 5, 2018 (“Final Act.”); Appeal Brief filed Oct. 2, 2018

We affirm in part.

THE INVENTION

The disclosed and claimed invention is directed “to wireless communication networks, and more particularly, to methods and apparatuses for proximity service discovery in a wireless communication system.”

Spec. ¶ 2.

Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A method for proximity service discovery in a wireless communication system, the method comprising:

receiving, by a second user equipment (UE), a discovery signal sent from a first UE for discovering or being discovered, wherein the discovery signal includes a Public Land Mobile Network (PLMN) identity and a first indication to indicate an application or service in the first UE which is using proximity service discovery; and

transmitting, from the second UE, a discovery check signal to an access network, which is operatively connected to the second UE, in response to the discovery signal to find an identity in the application or service corresponding to the first UE,

wherein the discovery check signal includes the first indication and the PLMN identity received from the first UE; and

receiving, by the second UE, a response signal that the access network sends in response to receiving the discovery check signal from the second UE, wherein the response signal includes a discovery result and the discovery result includes the identity in the application or service corresponding to the first UE.

(“Appeal Br.”); Examiner’s Answer mailed Dec. 20, 2018 (“Ans.”); and the Reply Brief filed Feb. 15, 2019 (“Reply Br.”).

REFERENCES

The prior art relied upon by the Examiner as evidence in rejecting the claims on appeal is:

Name	Reference	Date
Mallik et al. ("Mallik")	US 2011/0258313 A1	Oct. 20, 2011
3GPP TR 22.803 V1.0.1	<i>3rd Generation Partnership Project; Technical Specification Group SA; Feasibility Study for Proximity Services (ProSe) (Release 12)</i>	Aug. 2012

REJECTIONS

Claims 1, 3–6, 8–12, 14–16, and 18–20 stand rejected under pre-AIA 35 U.S.C. § 112, paragraph 2, as indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor regards as the invention. Final Act. 7.

Claims 1, 3–6, 8–12, 14–16, and 18–20 stand rejected under pre-AIA 35 U.S.C. § 103(a) as unpatentable over Malik and 3GPP TR 22.803 V1.0.1. Final Act. 9.

ANALYSIS

We have reviewed the Examiner's rejection in light of Appellant's arguments that the Examiner erred. In reaching this decision, we have considered all evidence presented and all arguments made by Appellant.

Section 112, Second Paragraph, Rejection

Claim 1 recites “transmitting, from the second UE, a discovery check signal to an access network, which is operatively connected to the second UE, in response to the discovery signal *to find an identity in the application or service corresponding to the first UE*” and “receiving, by the second UE, a response signal that the access network sends in response to receiving the discovery check signal from the second UE, wherein the response signal includes a discovery result and the discovery result includes *the identity in the application or service corresponding to the first UE*” (emphases added). The Examiner concludes that “it is unclear” what is meant by “an identity *in the application or service corresponding to the UE.*” Final Act. 8. According to the Examiner, the “specification does not provide sufficient disclosure to explain what is meant by said limitation.” *Id.*

Appellant argues that the disputed limitations are clear and “supported by at least Paragraphs [0099]–[0115] of the present application.” Appeal Br. 8. According to Appellant, the Specification provides “examples of specific information that can be included in the first signaling for the discovery purposes.” *Id.*

We are persuaded by Appellant’s arguments. “A claim is indefinite if, when read in light of the specification, it does not reasonably apprise those skilled in the art of the scope of the invention.” *Amgen, Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1342 (Fed. Cir. 2003). “As the statutory language of ‘particular[ity]’ and ‘distinct[ness]’ indicates, claims are required to be cast in clear – as opposed to ambiguous, vague, indefinite – terms. It is the claims that notify the public of what is within the

protections of the patent, and what is not.” *In re Packard*, 751 F.3d 1307, 1313 (Fed. Cir. 2014).

Here, the claim language recites an “identity in the application or service corresponding to the first UE.” Appellant’s Specification describes that “signaling may be used to... *find an identity in a specific application or service corresponding to the first UE and/or the second UE.*” Spec. ¶ 99 (emphasis added). The “specific information” that is transmitted to the network includes “(a) A cell identity... (b) A PLMN identity... (c) A global cell identity.” *Id.* ¶¶ 100–103. Then, “the information... could be *used to identify the UE* to save the complexity of new identity design and new identity allocation procedure. Based on information... the *identity and location of the UE* can be known by other UEs or the network.” *Id.* ¶ 116 (emphases added).

In light of this disclosure in the Specification, the Examiner does not sufficiently explain why the claimed “identity in the application or service corresponding to the first UE” is indefinite. We agree with Appellant that the claim, based on the claim language (i.e., “identity in the application or service corresponding to the first UE”) and in light of Appellant’s Specification (i.e., information can be “used to identify the UE” such that “the identity and location of the UE can be known”), is sufficiently clear.

Accordingly, we do not sustain the Examiner’s 35 U.S.C. § 112, paragraph 2, rejection of claims 1, 3–6, 8–12, 14–16, and 18–20.

Section 103 Rejection

Claims 1, 3–5, 11, 12, 14, and 19

Claim 1 recites a method comprising

receiving, by a second user equipment (UE), a discovery signal sent from a first UE for discovering or being discovered, wherein the discovery signal includes a Public Land Mobile Network (PLMN) identity and a first indication to indicate an application or service in the first UE which is using proximity service discovery;

transmitting, from the second UE, a discovery check signal to an access network, which is operatively connected to the second UE, in response to the discovery signal to find an identity in the application or service corresponding to the first UE,

...

and receiving, by the second UE, a response signal that the access network sends in response to receiving the discovery check signal from the second UE, wherein the response signal includes a discovery result and the discovery result includes the identity in the application or service corresponding to the first UE.

Claim App. 12 (emphasis added).

The Examiner finds that Mallik’s peer/PHY discovery to detect other devices in its vicinity teaches sending a discovery signal and a discovery check signal to find an identity in the application or service corresponding to a UE. Final Act. 9–11 (citing Mallik ¶¶ 39, 41, 47, Fig. 3). The Examiner also finds that Mallik’s identifying device 120x and services offered teaches receiving a response signal that includes the identity in the application or service corresponding to the UE. Final Act. 11 (citing Mallik ¶¶ 31, 35–36, 43, Fig. 3).

Appellant argues that “Mallik fails to teach the need for Device Y to transmit PLMN identity to Device X in proximity detection signal and also

fails to teach the need for Device X to report the received PLMN identity to the directory agent.” Appeal Br. 10. According to Appellant, “Mallik discloses that device x transmits the device ID/service ID to the network for the network to identify a service for requesting match . . . and the network sends a notification to inform Device X and Device Y to initiate peer discovery.” *Id.*; *see also* Reply Br. 6–7. Appellant argues that, in Mallik, “the notification is transmitted before peer discovery and is not transmitted due to reception of the results of peer discovery.” Reply Br. 7; *see also* Reply Br. 8.

We are persuaded by Appellant’s argument as the Examiner has not identified sufficient evidence or provided sufficient explanation as to how the combination of Mallik and 3GPP TR 22.803 V1.0.1 teaches (1) a second UE receiving a discovery signal from a first UE, (2) the second UE *transmitting a discovery check signal to an access network in response to the discovery signal from the first UE*, and (3) the second UE *receiving a response signal from the access network in response to transmitting the discovery check signal*.

For example, the cited sections of Mallik disclose “[d]irectory agent . . . perform[ing] P2P registration of devices and . . . maintain[ing] a list of active P2P requests from those devices,” and “send[ing] a notification of the match to device 120x.” Mallik ¶¶ 35–36. In Mallik, the devices “may *[then] perform peer discovery in response to receiving the matching notifications from directory agent*.” *Id.* ¶ 37 (emphasis added). In other words, in Mallik, the directory agent notifies the devices *prior* to peer discovery, and peer discovery is *in response to* receiving the notifications from the directory agent.

In another example, “the device 120x may first perform peer/PHY discovery to detect other devices in its vicinity,” and “*then report* the received signal strength and a *device ID and/or a service ID* of each detected device along with a P2P request *to directory agent 140.*” Mallik ¶ 47. However, in this example, although Mallik’s notification takes place after peer discovery, it is the directory agent that receives the notification. There is no teaching of a transmission of a *response signal from the access network* to the second UE. There is also no teaching that this response signal is *in response to a discovery check signal*, which is *in response to a discovery signal*. We agree with Appellant that Mallik’s notification “is not transmitted *due to reception of the results of peer discovery*,” as required by the claim. Reply Br. 7; *see* Reply Br. 8.

Therefore, we agree with Appellant that the Examiner’s finding that the combination of Mallik and 3GPP TR 22.803 V1.0.1 teaches the disputed limitations is in error because it is not supported by a preponderance of the evidence. *See In re Caveney*, 761 F.2d 671, 674 (Fed. Cir. 1985) (The Examiner’s burden of proving unpatentability is by a preponderance of the evidence.); *see also 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, because it may doubt that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in its factual basis.”).

Accordingly, we are constrained on the record before us to reverse the Examiner’s § 103 rejection of claim 1, as well as claims 3–5, 11, 12, 14, and 19, which are not separately argued. *See* Appeal Br. 10.

Claims 6, 8–10, 15, 16, 18, and 20

Claim 6 recites a *second user equipment (UE)* for proximity service discovery comprising:

a processor installed in the control circuit;

...

wherein the processor is configured to execute a program code stored in the memory to:

receive a discovery signal sent from a first UE for discovering or being discovered, wherein the discovery signal includes a Public Land Mobile Network (PLMN) identity and a first indication to indicate an application or service in the first UE which is using proximity service discovery;

transmit a discovery check signal to an access network, which is operatively connected to the second UE, in response to the discovery signal to find an identity in the application or service corresponding to the first UE,

...

and receive a response signal that the access network sends in response to receiving the discovery check signal from the second UE, wherein the response signal includes a discovery result and the discovery result includes the identity in the application or service corresponding to the first UE.

Emphasis added. Appellant presents the same arguments as presented with respect to claim 1, above. Appeal Br. 10.

Our reviewing court has held that nonfunctional descriptive material cannot lend patentability to an invention that would have otherwise been anticipated by the prior art. *In re Ngai*, 367 F.3d 1336, 1339 (Fed. Cir. 2004); *In re Gulack*, 703 F.2d 1381, 1385 (Fed. Cir. 1983) (noting that when descriptive material is not functionally related to the substrate, the descriptive material will not distinguish the invention from the prior art in

terms of patentability); *King Pharm., Inc. v. Eon Labs, Inc.*, 616 F.3d 1267, 1279 (Fed. Cir. 2010) (“[T]he relevant question is whether ‘there exists any new and unobvious functional relationship between the printed matter and the substrate.’”) (citations omitted); *see also Ex parte Nehls*, 88 USPQ2d 1883, 1889 (BPAI 2008) (precedential) (“[T]he nature of the information being manipulated does not lend patentability to an otherwise unpatentable computer-implemented product or process.”); *Ex parte Mathias*, 84 USPQ2d 1276, 1279 (BPAI 2005) (informative), *aff’d*, 191 F. App’x 959 (Fed. Cir. 2006) (“[N]onfunctional descriptive material cannot lend patentability to an invention that would have otherwise been anticipated by the prior art.”); *Ex parte Curry*, 84 USPQ2d 1272, 1274 (BPAI 2005) (informative), *aff’d*, No. 2006-1003 (Fed. Cir. June 12, 2006) (Rule 36) (“Nonfunctional descriptive material cannot render nonobvious an invention that would have otherwise been obvious.”). Although we will not disregard any claim limitations and will assess the claimed invention as a whole, we will follow the Federal Circuit’s guidance from the *Gulack* decision and will “not give patentable weight to printed matter absent a new and unobvious functional relationship between the printed matter and the substrate.” *In re Lowry*, 32 F.3d 1579, 1582 (Fed. Cir. 1994) (discussing *Gulack*). Here, we consider that the claimed “response signal that the access network sends” (including “a discovery result” including “the identity in the application or service corresponding to the first UE” that the second UE is “configured to . . . receive”) is directed to nonfunctional descriptive material that should not be given patentable weight.

“The first step of the printed matter analysis is the determination that the limitation in question is in fact directed toward printed matter.” *In re*

Distefano, 808 F.3d 845, 848 (Fed. Cir. 2015). Material is printed matter if it is “claimed for what it communicates.” *Id.* at 850. The disputed limitation of claim 6 (that the UE’s processor is *configured to receive a signal* that is a response signal including a discovery result) pertains to the ability of the UE to receive a signal with specific *content*. Therefore, the disputed claim limitation is directed to printed matter. *See id.* at 848 (A claim limitation is directed to printed matter “if it claims the content of information.”).

If a claim in a patent application claims printed material, “one must then determine if the matter is functionally or structurally related to the associated physical substrate, and only if the answer is ‘no’ is the printed matter owed no patentable weight.” *Distefano*, 808 F.3d at 851. Here, the claimed received response signal is not interrelated or explicitly used in the claim—such as, by the UE using the received signaling to discover the identity in the application or service corresponding to the first UE. Rather, the received response signal is not functionally distinct from any other received signal. Therefore, we find that the disputed claim limitation constitutes nonfunctional descriptive material and is not entitled to patentable weight. This is analogous to *Curry*, where we found the type of data to be nonfunctional descriptive material when it “does not functionally change either the data storage system or communication system used in the method of claim 81.” 84 USPQ2d at 1274.

As recognized in *Curry*, “if the prior art suggests storing a song on a disk, merely choosing a particular song to store on the disk would be presumed to be well within the level of ordinary skill in the art at the time the invention was made.” *Id.* at 1275. Choosing the content of the signal/data that the claimed processor is able to receive is no different, in

that the content of the signal/data does not alter how the claimed processor functions.

Because the signal in the last clause of claim 6 is nonfunctional descriptive material, the broadest reasonable interpretation of a processor “configured to execute a program code stored in the memory to . . . receive a response signal that the access network sends in response to receiving the discovery check signal from the second UE, wherein the response signal includes a discovery result and the discovery result includes the identity in the application or service corresponding to the first UE” as recited in claim 6 is broad enough to encompass a processor configured to execute program code to receive any signal. The Examiner finds—and Appellant does not dispute—that the processor in Malik is configured to receive data. *See* Final Act. 11 (citing Malik ¶¶ 31, 35–36, 43–44, 47); Appeal Br. 9. Therefore, Appellant has not persuaded us that the Examiner erred.³

Accordingly, we sustain the Examiner’s rejection of independent claim 6, along with the rejection of dependent claims 8–10, 15, 16, 18, and 20, for which Appellant relies on the same arguments as discussed above for claim 6. *See* Appeal Br. 10–11.

CONCLUSION

We reverse the Examiner’s § 112(b) rejection of claims 1, 3–6, 8–12, 14–16, and 18–20.

We affirm the Examiner’s § 103 rejections of claims 6, 8–10, 15, 16, 18, and 20.

³ Although Appellant argues claims 1 and 6 as a group (*see* Appeal Br. 9–10), there is no inconsistency with our different treatment of the claims. Claim 1 is a method that describes the actions of multiple devices. On the other hand, claim 6 is directed solely to the second user equipment.

We reverse the Examiner's § 103 rejection of claims 1, 3–5, 11, 12, 14, and 19.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	References/Basis	Affirmed	Reversed
1, 3–6, 8–12, 14–16, 18–20	112(b)	Indefiniteness		1, 3–6, 8–12, 14–16, 18–20
1, 3–6, 8–12, 14–16, 18–20	103	Mallik, 3GPP TR 22.803 V1.0.1	6, 8–10, 15, 16, 18, 20	1, 3–5, 11, 12, 14, 19
Overall Outcome			6, 8–10, 15, 16, 18, 20	1, 3–5, 11, 12, 14, 19

TIME PERIOD FOR RESPONSE

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

AFFIRMED- IN- PART