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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte KONSTANTINOS DIMOU and WALTER MÜLLER

Appeal 2018-009229
Application 14/236,920
Technology Center 2400

Before ST. JOHN COURTENAY III, LARRY J. HUME, and
PHILLIP A. BENNETT, *Administrative Patent Judges*.

BENNETT, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 20–27 and 29–38. Claim 28 has been cancelled. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as Telefonaktiebolaget LM Ericsson. Appeal Br. 2.

CLAIMED SUBJECT MATTER

The claims relate to information exchanges in cellular radio communications and, in particular, to obtaining information regarding mobility of the user equipment. Spec. 1. Claim 20, reproduced below with the disputed limitation in italics, is illustrative of the claimed subject matter:

20. A method, implemented in a serving node of a radio communications system, for receiving mobility information from a remote terminal, wherein the serving node is configured to establish connection with a plurality of remote terminals through radio links and the method comprises:

receiving a connection request from the remote terminal;

requesting mobility information from the remote terminal in response to receiving the connection request;

receiving the requested mobility information from the remote terminal; and

establishing the requested connection with the remote terminal.

Appeal Br. 20 (Claims Appendix).

REFERENCES

The prior art relied upon by the Examiner is:

Name	Reference	Date
Fodor et al.	US 2002/0155831 A1	Oct 24, 2002
Jeong et al.	US 2007/0287476 A1	Dec. 13, 2007
Koslov et al.	US 2010/0067601 A1	Mar. 18, 2010
Ernstrom	WO 2006/137779 A1	Dec. 28, 2006

REJECTIONS

Claims 20–25, 27, 30, 31, 33, 34, and 36–38 stand rejected under 35 U.S.C. § 103 as being unpatentable over Jeong and Fodor. Final Act. 3–5.

Claims 26 and 35 stand rejected under 35 U.S.C. § 103 as being unpatentable over Jeong, Fodor, and Ernstrom. Final Act. 15–16.

Claims 29 and 32 stand rejected under 35 U.S.C. § 103 as being unpatentable over Jeong, Fodor, and Koslov. Final Act. 16–17.

ISSUES

First Issue: Has the Examiner erred in finding the cited references teach, suggest or otherwise render obvious a “method implemented in a serving node of a radio communications system” with the step of “requesting mobility information from the remote terminal in response to receiving the connection request,” as recited in claim 20?

Second Issue: Has the Examiner provided sufficient reasoning for why a person of ordinary skill in the art would have been motivated to combine the cited references to achieve the invention as claimed?

ANALYSIS

First Issue

Claim 20 recites the limitation “requesting mobility information from the remote terminal in response to receiving the connection request.”

Appeal Br. 20 (Claims Appendix). In rejecting claim 20 under § 103, the Examiner relies on the teachings of Jeong and Fodor for this limitation. Final Act. 3–4. Specifically, the Examiner finds Jeong’s E-RAN node requesting resource allocation for a CQI report teaches all of the limitation

except for “mobility information.” Final Act. 3 (citing Jeong ¶¶ 20–22). To address this deficiency, the Examiner cites Fodor, finding that it demonstrates that it was known to request mobility information from a mobile device. Final Act. 4 (citing Fodor Figs. 3–4, ¶¶ 41, 51).

Appellant argues “The rejection should be reversed because the combination of Jeong and Fodor does not disclose a serving node requesting mobility information from a remote terminal in response to receiving a connection request.” Appeal Br. 7. More specifically, Appellant asserts:

Even if Fodor’s quality measurement information could reasonably be considered “mobility information,” however, what is missing from Jeong’s teachings is not simply “mobility information.” Missing from Jeong is any disclosure or suggestion that a serving node of a radio communication system (e.g., a base station) requests mobility information (rather than CQI information) from a remote terminal, in response to receiving a connection request, and that the requested mobility information is subsequently received.

Appeal Br. 7.

We agree with the Examiner the combined teachings of Jeong and Fodor render this limitation obvious. Specifically, we agree that Jeong’s transmission of an RRC connection request message by the UE teaches a connection request made by a remote terminal. We further agree with the Examiner that the E-RAN transmitting a setup message back to the UE, including the control channel information for the UE, in response to the connection request, teaches or at least suggests the disputed imitation with the exception of the type of information is not specifically “mobility information.” Jeong ¶¶ 20–23. We further agree with the Examiner’s finding that Fodor’s information related to location and tracking information and also information on the velocity and direction of the mobile device

teaches the claimed “mobility information.” Final Act. 4 (citing Fodor Figs 3, 4; ¶¶ 41, 51). As such, when considered together in combination, we do not discern error in the Examiner’s determination that the collective teachings of Jeong and Fodor teach the disputed limitation.

Second Issue

In combining the teachings of Jeong and Fodor, the Examiner provides the following rationale:

Fodor's teaching of requesting the mobility information from the device could apparently be incorporated into Jeong's conventional method of transmitting and receiving CQI report message for connection setup between UE and Base Station for handover type connection.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the claimed invention was made to provide requesting mobility information from the UE as taught by Jeong to have incorporated in the system of Fodor, so that it would provide to evaluate satisfaction of mobile subscribers, to evaluate the location of existing cells and transceivers, and to verify improvements in wireless data network. Fodor Para. [0071].

Final Act. 4–5.

Appellant challenges the Examiner’s rationale. Appellant first argues the rationale is not supported because:

The purported rationale for the combination as provided by the FOA is ‘to evaluate satisfaction of mobile subscribers and the location of existing cells, but also support to verify improvements in wireless data network.’ FOA, p. 19. However, this does not explain why any of Fodor’s information should be included with the CQI requested from a wireless device.”

Appeal Br. 13. Appellant further argues a person of ordinary skill in the art would not have modified Jeong to request mobility information because Figure 3 of Jeong illustrate an embodiment in which the “serving node

already receives a UE stationary indicator or mobility indicator in the first connection request from the terminal to the serving node.” Appeal Br. 15–16. Thus, according to Appellant, there would be no need to modify Jeong to request mobility information as taught by Fodor because Jeong includes an embodiment in which the serving node receives mobility information earlier in the process via the connection request.

We are not persuaded of error. Although not styled as such, Appellant’s argument is effectively an assertion that Jeong teaches away from the modification proposed by the Examiner. That is, Appellant argues that because Jeong includes an embodiment describing one way of providing mobility information to a network, a person of ordinary skill would have been discouraged from considering any other way of doing so. But teaching another way is not the same as teaching away. *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1327 (Fed. Cir. 2009) (“A reference does not teach away, however, if it merely expresses a general preference for an alternative invention but does not ‘criticize, discredit, or otherwise discourage’ investigation into the invention claimed.”) (quoting *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004)).

Jeong recognizes the benefit of providing mobility information from the mobile device to the base station. Jeong Abstract (“In the method, a UE reports mobility information to a network, and the network performs according to the mobility information of the UE.”) Recognizing that benefit, Jeong teaches one way of providing a stationary indicator (mobility information) to a base station—in the initial setup request. Jeong Fig. 3, step 321; ¶ 51. However, nothing in Jeong indicates that providing information about the mobile device’s movement must only be provided in the initial

setup request. In fact, Jeong also teaches that a non-stationary indicator (also mobility information) may be transmitted to the network subsequent to the completed RRC setup. Jeong ¶ 56, Fig. 3, step 331. Separately, Jeong teaches an embodiment where no stationary indicator is included in the initial setup request made by the mobile device—the embodiment described in Figure 2. Jeong Fig. 2; ¶¶ 20–23. In this embodiment, an E-RAN 202 issues an RRC connection setup message requesting information (CQI reports) from the mobile device to be provided in response to that request. Jeong ¶ 20, Fig. 2, step 222. As we noted above, the Examiner cites to Fodor as demonstrating that it was known in the art to transmit mobility information from a mobile device to a network. Fodor ¶¶ 43–44.

We agree with the Examiner that a person of ordinary skill in the art possessing the teachings of Jeong and Fodor would have found it obvious to include mobility information in the RRC connection setup message request and response. Specifically, in the embodiment depicted in Jeong’s Figure 2, a person of ordinary skill in the art would have appreciated that in addition to CQI reports, it would have been useful to provide mobility information such as detailed location information as taught by Fodor. That Jeong teaches another way of delivering mobility information does not negate the obviousness of incorporating the approach taught by Fodor.

The standard for determining whether a claim is obvious is “an expansive and flexible approach.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 415 (2007). Applying the approach set forth in *KSR*, we conclude an artisan would have sought to improve the Figure 2 embodiment described in Jeong by either substituting mobility information for CQI reports and including mobility information additional to CQI reports, as doing so would

not “involve more than the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement.” *KSR*, 550 U.S. at 417. To the extent known alternatives would have been considered and accommodated by an artisan, the Supreme Court guides that courts can “take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *Id.* at 418.

Thus, we find the Examiner's rationale is consistent with the expansive and flexible approach countenanced by *KSR*, as it reflects a mere substitution of known, familiar elements and/or steps that would have yielded a predictable result of connection between the base station and remote terminals. Because we do not find Appellant’s arguments persuasive of Examiner error, we sustain the rejection of independent claims 20, 30, 33 and 38 under § 103. We also sustain the rejection of dependent claims 21–24, 27, 31, 34, 36, and 37, not argued separately. Appeal Br. 17.

Claim 25

Appellant separately argues dependent claim 25, contending the Examiner’s findings say “nothing about requesting an estimated mobility state and says absolutely nothing about radio access capabilities of the remote terminal for different radio frequency band classes.” Appeal Br. 17. Appellant further contends “Nothing here, however, suggests that Jeong’s network requests information regarding the radio access capabilities of the remote terminal, for different radio frequency band classes.” Appeal Br. 18.

We are not persuaded by Appellant’s arguments because Jeong’s resource allocation information includes radio resource information in the time and frequency domain, and its measurement control information

includes measurements between frequencies of the systems, thus teaching or at least suggesting “different radio frequency band classes.” Jeong ¶ 21. Because we do not find Appellant’s arguments persuasive of Examiner error, we sustain the rejection of dependent claim 25 under § 103.

Claim 26

Regarding dependent claim 26, Appellant argues that “moving speed measure” is not requested by the network. However, Appellant is arguing the references separately. The Examiner finds Fodor’s requesting information including tracking information and speed/velocity information of the mobile device teaches or at least suggests the disputed limitation. Final Act. 15 (citing Fodor ¶ 41, 51). Because we do not find Appellant’s arguments persuasive of Examiner error, we sustain the rejection of dependent claim 26 under § 103.

Appellant further argues claims 29 and 32 are erroneously rejected because a “person of ordinary skill in the art would have no reason to modify Jeong’s procedures” and “there is no reason to believe that Jeong’s procedures would even work with combined mobility information.” Appeal Br. 19. For reasons described above regarding claim 20, we are not persuaded by Appellant’s combinability argument regarding the Jeong reference. We, therefore, also sustain the rejection of dependent claims 29 and 32 under § 103.

Appellant does not present a separate argument for patentability of dependent claim 35. We, therefore, also sustain the rejection of claim 35 under § 103.

CONCLUSION

We affirm the Examiner's rejections.

More specifically,

We affirm the rejection of claims 20–25, 27, 30, 31, 33, 34, and 36–38 under 35 U.S.C. § 103 as being unpatentable over Jeong and Fodor.

We affirm the rejection of claims 26 and 35 under 35 U.S.C. § 103 as being unpatentable over Jeong, Fodor, and Ernstrom.

We affirm the rejection of claims 29 and 32 under 35 U.S.C. § 103 as being unpatentable over Jeong, Fodor, and Koslov.

DECISION SUMMARY

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
20–25, 27, 30, 31, 33, 34, and 36–38	103	Jeong and Fodor	20–25, 27, 30, 31, 33, 34, and 36–38	
26 and 35	103	Jeong, Fodor, and Ernstrom	26 and 35	
29 and 32	103	Jeong, Fodor, and Koslov	29 and 32	
Overall Outcome			20–27 and 29–38	

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