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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte GABOR FODOR, BENGT LINDOFF, QIANXI LU, QINGYU MIAO, and PONTUS WALLENTIN

Appeal 2018-007124
Application 14/898,163
Technology Center 2400


BELISLE, Administrative Patent Judge.

DECISION ON APPEAL

Appellants' appeal under 35 U.S.C. § 134(a) from a final rejection of all pending claims, namely, claims 26–49. App. Br. 2. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

1 Appellants identify Telefonaktiebolaget L M Ericsson as the real party in interest. App. Br. 2.
STATEMENT OF THE CASE

The Claimed Invention

Appellants’ invention generally relates to a method, a wireless device, and a computer program for cluster head selection in a communications network. Spec. 1:4–6. According to Appellants, a cluster head provides, for example, synchronization and radio resource management within its cluster, and also acts as a central node to create a tree topology for communication with the cluster. Spec. 2:24–28.

Claim 26, reproduced below, is illustrative of the claimed subject matter on appeal:

26. A method for cluster head selection in a communications network, the method comprising a wireless device:

   receiving a respective beacon signal from each one of at least one further wireless device, each beacon signal comprising a cluster head capability metric;

   comparing each of the received cluster head capability metrics to at least one qualifying criterion; and

   selecting one of the at least one further wireless devices as the cluster head of the wireless device based on the comparison.

References

The Examiner relies on the following references as evidence of unpatentability of the claims on appeal:


2 Yamazaki’s provisional application No. 61/718,869 was filed Oct. 26, 2012.
Rejections

The Examiner made the following rejections of the claims on appeal:


Claim 39 stands rejected under 35 U.S.C. § 103 as obvious over Liu and Yamazaki.

ANALYSIS

35 U.S.C. § 102(a)(1)

Appellants argue claims 26–49 as a group. See App. Br. 2, 7, 8. We select claim 26 as representative of the group. Any claim not argued separately will stand or fall with our analysis of the rejection of claim 26. See 37 C.F.R. § 41.37(c)(1)(iv) (2017).

Appellants argue, inter alia, Liu “fails to disclose the claimed selection of one [of the] at least one further wireless device as the cluster head . . . .” App. Br. 7.

Liu is generally directed to “a method and an apparatus for negotiating a master station and pertains to the field of communication

technologies.” Liu ¶ 2. More specifically, Liu’s disclosed method comprises the following steps:

First, an ‘ordinary station B’ receives a beacon frame that carries a master identity, where the beacon frame is sent by a ‘master station A’ in broadcast mode. Liu ¶ 30 (step 201). Second, ordinary station B obtains a maximum time interval (Tm) between receiving of the beacon frame and receiving of a next beacon frame from the master station. Liu ¶ 33 (step 202). Third, if the next beacon frame is not received from master station A after the time interval (Tm), and the capability of ordinary station B is higher than a preset threshold capability (i.e., ordinary station B could be competent as a master station), ordinary station B sends an Announcement Master Indication Message (“AMIM”) frame to other ordinary stations, “declaring that ordinary station B becomes a new master station in the network.” Liu ¶ 35 (step 203). Fourth, ordinary station B judges whether any “NOWAY” frame is received in response to the AMIM from other ordinary stations (e.g., stations C, D, etc.) within a beacon interval (“BI”), where the NOWAY frame is sent through a backoff contention mechanism. Liu ¶ 38 (step 204). Fifth, absent receiving a NOWAY frame, ordinary station B sends a beacon frame that carries a master identity to other ordinary stations in broadcast mode, where the beacon frame is used to determine the ordinary station B as a new master station. Liu ¶ 39 (step 205). Alternatively, if a NOWAY frame is received, ordinary station B returns an “ACK” frame to the station which succeeds in contending to send the NOWAY frame, and does so without changing the ordinary station identity of the ordinary station B. Liu ¶ 42 (step 206).
Appellants argue, *inter alia*, Liu does not anticipate the “selecting” limitation of claim 26:

> [The] independent claims recite the selection of one or more further wireless devices (i.e., one of the devices transmitting the beacon signal to the wireless device performing the claimed comparison and the claimed selection) based on the comparison, whereas Liu teaches that ordinary station B (i.e., the station receiving the beacon signal) selects itself (the station receiving the beacon and performing the comparison) as the master station based on a comparison. In other words, the independent claims recite that a wireless device performing the comparison selects a wireless device different from the one performing the comparison, while Liu teaches that a wireless device performing the comparison selects itself responsive to the comparison.

App. Br. 7.

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros., Inc. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987). Additionally, to anticipate, a prior art reference must disclose more than “multiple, distinct teachings that the artisan might somehow combine to achieve the claimed invention.” *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1371 (Fed. Cir. 2008); *see also In re Arkley*, 455 F.2d 586, 587 (CCPA 1972) (“[T]he [prior art] reference must clearly and unequivocally disclose the claimed [invention] or direct those skilled in the art to the [invention] without any need for picking, choosing, and combining various disclosures not directly related to each other by the teachings of the cited reference.”).

As relevant here, the Examiner finds “as a result of no answering by the ordinary station C [after ordinary station B sends an AMIM frame], the ordinary station B becomes [a] new master station by default,” citing Liu
appeal 2018-007124
application 14/898,163

43 (“so as to regard station B as a new master station by default”), and
finds this defaulting action “teaches” the claim 26 limitation of ‘selecting
one of the at least one further wireless devices as the cluster head of the
In other words, the Examiner finds that because ordinary station C did not
stop ordinary station B from becoming a master station, this teaches
ordinary station C “selecting” ordinary station B as the master station. But
the rejection at issue here is anticipation, not obviousness; therefore, the
proper inquiry is what Liu discloses, not teaches.4 See Net Money!,
545 F.3d at 1371 (“[D]ifferences between the prior art reference and a
claimed invention, however slight, invoke the question of obviousness, not
anticipation.”).

Appellants respond that neither station B nor station C of Liu
discloses the “selecting” limitation of claim 26:

Station B does not disclose the claimed selection. While
Station B clearly receives some kind of beacon and performs
some kind of comparison, Station B at best either selects itself as
the master station or does not select itself as the master station
(allowing Station A to remain as the master station). Nothing in
Liu discloses that Station B selects any station other than itself
as the master. As such, the selection made by Station B is not
the same as the claimed selection, which requires the wireless

4 As the Examiner rejected the subject independent claims under 35 U.S.C.
§ 102(a)(1), we do not opine herein on whether Liu, alone or in combination
with other prior art, would render those claims obvious, and leave it to the
Examiner to further consider this issue in any further prosecution on the
merits. Although the Board is authorized to reject claims under 37 C.F.R.
§ 41.50(b), no inference should be drawn when the Board elects not to do so.
See MPEP § 1213.02.
device doing the selection to select one of at least one further wireless devices.

Reply Br. 4.

Station C does not make any selection of any station, much less of any other station. ** * * * When Station B does not receive another beacon frame from Master Station A, Station B sends an [AMIM] frame to Station C. If Station C receives a beacon frame from Master Station A during the same beacon interval (BI) as it receives the AMIM frame, this indicates to Station C that Station B failed to receive the beacon frame, causing Station B to mistakenly regard Station A as disconnected and to mistakenly declare itself as the new master station. In this case, Station C sends a NOWAY frame to Station B to force Station B to reverse course. If after a predetermined time interval (Tm) after receiving the AMIM Station C does not receive a beacon frame from Station A, Station C does not answer Station C [sic: B] and regards Station B as the new master station.

Reply Br. 6.

We find Appellants’ arguments here persuasive, and agree with Appellants that the Examiner has not shown by a preponderance of the evidence that Liu discloses a wireless device “selecting one of the at least one further wireless devices as the cluster head of the wireless device based on the comparison” as recited in claim 26. In particular, we find the Examiner has not provided sufficient evidence or technical reasoning to show that silence or no action by Liu’s station C clearly and unequivocally discloses station C selecting station B as a master station or cluster head, where, importantly, station B already has selected itself as the master station (and has not selected a device other than itself, i.e., the claimed “further wireless device”). See In re Arkley, 455 F.2d at 587 (“reference must clearly and unequivocally disclose the claimed [invention]”). Because we find this
“selecting” limitation dispositive here, we do not address Appellants’ other arguments.

For the reasons discussed supra, we are persuaded of Examiner error. Accordingly, we do not sustain the Examiner’s rejection of independent claim 26 under 35 U.S.C. § 102(a)(1). For similar reasons, we do not sustain the Examiner’s rejection of independent claims 41 and 49, which recite similar limitations. Further, we do not sustain the Examiner’s rejection under 35 U.S.C. § 102(a)(1) of claims 27–38, 40, and 42–48, which depend directly or indirectly therefrom.

35 U.S.C. § 103

Moreover, the Examiner has not identified how the additional reference, namely, Yamazaki, remedies the noted deficiency above. As a result, we do not sustain the Examiner’s rejection of claim 39 under 35 U.S.C. § 103 for the same reasons discussed above.

DECISION

We reverse the Examiner’s anticipation rejection of claims 26–38 and 40–49.

We reverse the Examiner’s obviousness rejection of claim 39.

REVERSED