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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* RAJ B. APTE, ERIK JOHN HASENOEHRL, and  
CHRISTOPHER PAULSON

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Appeal 2016-004310  
Application 13/551,551  
Technology Center 2400

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Before ALLEN R. MacDONALD, KARA L. SZPONDOWSKI, and  
PHILLIP A. BENNETT, *Administrative Patent Judges*.

MacDONALD, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF CASE

*Introduction*

Appellants appeal under 35 U.S.C. § 134(a) from a rejection of claims 1–5, 7, 8, 10–13, and 15–22. We have jurisdiction under 35 U.S.C. § 6(b).

*Exemplary Claims*

Exemplary claims 1 and 12 under appeal read as follows (emphasis and bracketing added):

1. A method of building a room list in a structure having at least two rooms, comprising:

[(A)] forming an ad hoc mesh network in the structure with at least two nodes, each node having

[(i)] a room-limited communication module,

[(ii)] a room-transparent communication module;

[(B)] analyzing signals from the room-limited communication modules and the room-transparent communication modules between nodes;

[(C)] ***building the room list of the rooms in the structure based on the signals from the nodes***; and

[(D)] associating each node of the plurality of nodes with one of the rooms.

12. A method of making a list of rooms that are within a structure having at least two rooms:

[(A)] providing at least two nodes forming a mesh network,

[(i)] the nodes each having a room-limited communications module providing room-limited signals and a room-transparent communications module providing room-transparent signals,

[(ii)] at least one of the nodes being associated with a consumer product located in one of the rooms;

- [(B)] measuring the room-limited and room-transparent signals between the nodes, wherein measuring comprises measuring both
  - [(i)] *time of flight for the room-limited signal* and
  - [(ii)] *signal strength for the room-transparent signal*;
- [(C)] analyzing the signals;
- [(D)] associating each of the nodes to one of the rooms based on the analyzing;
- [(E)] determining the location of the consumer product in the structure; and
- [(F)] *creating a list of the rooms in the structure, including a purpose of the room* in which the consumer product is located based on information about the consumer product that is provided to the mesh network from the node associated with the consumer product.

*Rejections on Appeal*

1. The Examiner rejected claims 1, 2, 8, 11–13, 16, 20, and 22, as being unpatentable under 35 U.S.C. § 103(a) over the combination of Park et al. (US 2008/0069008 A1; published Mar. 20, 2008), Suomela (US 2005/0169214 A1; published Aug. 4, 2005), and Sibert (US 2008/0265799 A1; published Oct. 30, 2008).<sup>1</sup>

2. The Examiner rejected claims 3–5, 7, 10, 17–19, and 21 as being unpatentable under 35 U.S.C. § 103(a) over the combination of Park, Suomela, Sibert, and Pitchers et al. (US 2008/0218334 A1; published Sept. 11, 2008).<sup>2</sup>

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<sup>1</sup> Claims 1, 2, 8, 11–13, 16, 20, and 22 are grouped together. We select claim 1 as representative. Except for our ultimate decision, claims 1, 2, 8, 11, 13, 16, 20, and 22 are not discussed further herein.

<sup>2</sup> As to this rejection, claims 3–5, 7, 10, 17–19, and 21 are argued only by repeating the argument for claim 1. Therefore, our decision as to the

3. The Examiner rejected claim 15 as being unpatentable under 35 U.S.C. § 103(a) over the combination of Park, Suomela, Sibert, and Larsen et al. (US 2008/0303707 A1; published Dec. 11, 2008).<sup>3</sup>

*Appellants' Contentions*

1. Appellants contend that the Examiner erred in rejecting claim 1 under 35 U.S.C. § 103(a) because:

A rejection under 35 USC § 103 requires that the cited combination of reference *teach or suggest* each limitation set forth in the claims. In the instant case, the *Park* reference is cited for *inter alia* the teaching of the analysis of differing transmissions. Paragraph 8 of *Park* describes the use of transmission elements in the background art where the differing elements have distinctly different transmission speeds. ***This is not part of the disclosed invention of Park*** and the isolated teaching of different transmission rates for use in a Time of arrival or Time difference of arrival system ***does not teach or suggest*** the use of nodes having room-transparent ***and*** room-limited transmission elements. As the cited portion necessarily requires receipt of multiple signals, elements differentiated by an ability to transmit through a structure, or lack thereof, are not indicated or suggested.

App. Br. 3, emphases added.

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underlying § 103 rejection of claim 1 is determinative. Therefore, except for our ultimate decision, the Examiner's rejection of these claims is not discussed further herein.

<sup>3</sup> As to this rejection, claim 15 is argued only by repeating the argument for claim 1. Therefore, our decision as to the underlying § 103 rejection of claim 1 is determinative. Therefore, except for our ultimate decision, the Examiner's rejection of this claim is not discussed further herein.

2. Appellants also contend that the Examiner erred in rejecting claim 1 under 35 U.S.C. § 103(a) because:

*Park* is also silent with regard to the claimed limitations of: building a room list based upon signals from network nodes, assigning nodes to the built room list and using room-transparent and room limited elements in each network node.

Nothing in the *Suomela* reference teaches or suggests that a room list is built upon or from signals received from devices serving as nodes in a network.

App. Br. 3.

3. Appellants also contend that the Examiner erred in rejecting claim 1 under 35 U.S.C. § 103(a) because:

The *Sibert* reference is added to the underlying combination for the purpose of providing a teaching of nodes comprising room-transparent and room-limited communications. As noted above, the invention of *Park* has **no need** for this combination which is referenced as background art. *Suomela* has **no such need** as there is no communications between nodes other than to user interface points which need access to all nodes. The addition of *Sibert* appears to be **necessitated** only by the vision presented by Applicant's claims.

App. Br. 3–4, emphases added.

#### *Issue on Appeal*

Did the Examiner err in rejecting claim 1 as being obvious because the cited references fail to describe the argued limitations?

#### ANALYSIS

As to Appellants' above contention 1, we disagree. Appellants argue a "rejection under 35 USC § 103 requires that the cited combination of reference **teach or suggest** each limitation set forth in the claims." App.

Br. 3, emphasis added. Appellants' argument does not account for the impact of the *KSR* decision, in which the Supreme Court repudiated any requirement to "teach or suggest each limitation" to show obviousness. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 415 (2007) ("We begin by rejecting the rigid approach of the Court of Appeals."). Rather, the requirement is only that the Examiner show "the subject matter as a whole **would have been obvious** at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." *KSR*, 550 U.S. at 406 (quoting 35 U.S.C. § 103) (emphasis added); *id.* at 418 ("[T]he analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ."). We conclude that as to the argued "use of nodes having room-transparent **and** room-limited transmission elements" limitation, the Examiner articulates just such a showing in the rejection from which this appeal is taken. Final Act. 3–5.

Further, Appellants argue that Park does not disclose, teach, or suggest determining "use of nodes having room-transparent **and** room-limited transmission elements." We find that Examiner did not cite Park for the limitation. Rather, the Examiner cited Sibert ("Sibert teaches each node having a room-limited communication module, a room-transparent communication module."). Final Act. 4. We conclude that Appellants' argument does not address the actual reasoning of the Examiner's rejection. Instead, Appellants attack the Park reference singly for lacking a teaching that the Examiner relied on a combination of references to show. It is well established that one cannot show nonobviousness by attacking references

individually where the rejections are based on combinations of references. *See In re Keller*, 642 F.2d 413, 426 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). Appellants argue a finding the Examiner never made. This form of argument is unavailing to show Examiner error.

As to the Appellants' above contention 3, we disagree. Appellants argue that a rejection under § 103 requires a showing of "need" or "necessity" to establish obviousness. We find no such requirement in the law. Rather, as we stated above, the requirement is only that the Examiner show "the subject matter as a whole *would have been obvious* at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." *KSR*, 550 U.S. at 406 (quoting 35 U.S.C. § 103) (emphasis added).

As to the Appellants' above contention 2, we agree. We conclude, consistent with Appellants' argument, there is insufficient articulated reasoning to support the Examiner's finding that "Suomela teaches a method of building a room list in a structure having at least two rooms." Final Act. 3. Therefore, we conclude there is insufficient articulated reasoning to support the Examiner's final conclusion that claim 1 would have been obvious to one of ordinary skill in the art at the time of Appellants' invention.

#### NEW GROUNDS OF REJECTION

We reject claim 1 herein as obvious under 35 U.S.C. § 103(a) based on new references. We leave it to the Examiner to review the patentability of claims 2–5, 7, 8, 10–13, and 15–22 over the newly cited references and previously applied references.

*Claim 1*

We reject claim 1 as being unpatentable under 35 U.S.C. § 103(a) over Smith et al. (US 7,324,824 B2; issued Jan. 29, 2008).<sup>4,5</sup>

In the art of outlet add-on modules, Smith '824 discloses a method of building a room list in a structure having at least two rooms (column 17, lines 66–67, a facility being a hospital with several floors). Further, Smith '824 discloses each of the following:

[(A)] forming an ad hoc mesh network in the structure with at least two nodes (Figure 5, network appliance 130; at the Abstract the plug-in module is for forming a wireless mesh network; column 5, lines 19–36, the network may be an ad hoc mesh network; column 7, lines 22–24, plural appliances throughout a facility), each node having a communication module comprising

[(A)(i)] a room-limited communication module (column 10, lines 51–54, optical systems may comprise alternative *and/or additional components to antennas 390* to receive and/or transmit optical signals), and

[(A)(ii)] a room-transparent communication module (column 9, line 63, signals may be communicated via an antenna) ;

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<sup>4</sup> Which incorporates by reference Smith et al. co-pending U.S. application Ser. No. 10/968,814 (now US 7,312,752 B2). Smith '824 at column 1, lines 11–15, and column 13, lines 40–41.

<sup>5</sup> In the art of outlet add-on modules, Hazani et al. (US 2008/0231111 A1) also discloses a network device (Figure 32b, module 323; at paragraph 224 the plug-in module is for data networking), comprising a node having a communications element (Figure 20, interface module 250 with connector 258) where the communication element comprises both (at paragraph 175 there may be a mix of multiple interface types) a room-limited communication module (infrared non-wired interface at paragraph 174) and a room-transparent communication module (radio frequency non-wired interface at paragraph 174).

- [(B)] analyzing signals from the room-limited communication modules and the room-transparent communication modules between nodes (column 21, lines 50–51, the network appliance functions as a network monitor; column 23, lines 1–3, network monitors may measure the time of flight (ToF) between them to create a model of the environment where ToF measurements are an embodiment of position location information; column 22, lines 4–5, signal strength may also be used as position location information);
- [(C)] building the room list of the rooms in the structure based on the signals from the nodes (column 13, lines 49–62, a model of an environment in which an object is to be located is maintained, the environment comprises a physically mappable space, and sensors monitor the environment, i.e. position location information, and provide feedback to a positioning engine; column 14, lines 56–63, the sensor is the network appliance; column 17, lines 4–7, RF data from each network monitor is measured and transmitted to the positioning engine); and
- [(D)] associating each node of the plurality of nodes with one of the rooms (column 17, lines 4–7, network monitors are placed at known locations in the facility).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine pre-existing elements disclosed by Smith '824 where the combination does not create some new synergy. “[A] patent ‘simply arranges old elements with each performing the same function it had been known to perform’ and yields no more than one would expect from such an arrangement, the combination is obvious.” *KSR*, 550 U.S. at 416–417 (emphasis added).<sup>6</sup>

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<sup>6</sup> Similarly, to the extent the combinations of Smith’s embodiments involve substitution of elements among the embodiments, it would have been obvious to one of ordinary skill in the art at the time the invention was made

*37 C.F.R. § 41.50(b)*

This Decision contains a new ground of rejection pursuant to 37 C.F.R. § 41.50(b). 37 C.F.R. § 41.50(b) provides “[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review.”

37 C.F.R. § 41.50(b) also provides that Appellants, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new grounds of rejection to avoid termination of the appeal as to the rejected claims:

(1) Reopen prosecution. Submit an appropriate amendment of the claims so rejected or new Evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner. . . .

(2) Request rehearing. Request that the proceeding be reheard under § 41.52 by the Board upon the same Record. . . .

CONCLUSIONS

(1) Appellants have established that the Examiner erred in rejecting claims 1–5, 7, 8, 10–13, and 15–22 as being unpatentable under 35 U.S.C. § 103(a).

(2) We reject claim 1 as being unpatentable under 35 U.S.C. § 103(a).

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to substitute known elements in the embodiments disclosed by Smith ’824 for other analogous known elements disclosed by Smith ’824. “[W]hen a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result.” KSR, 550 U.S. at 416 (emphasis added).

(3) On this record, claims 2–5, 7, 8, 10–13, and 15–22 have not been shown to be unpatentable.<sup>7</sup>

(4) Claim 1 is not patentable.

#### DECISION

The Examiner’s rejections of claims 1–5, 7, 8, 10–13, and 15–22 are reversed.

Claim 1 is newly rejected.

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).

REVERSED  
37 C.F.R. § 41.50(b)

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<sup>7</sup> We leave it to the Examiner to review the patentability of claims 2–5, 7, 8, 10–13, and 15–22 over the newly cited references and previously applied references.