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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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Ex parte MACIEJ FIEDLER, BARTLOMIEJ ARCICHOWSKI, and ROBERT ZDUNEK

_____

Appeal 2019-002603
Application 14/590,988
Technology Center 2600

_____

Before JEAN R. HOMERE, BRADLEY W. BAUMEISTER, and JAMES B. ARPIN, *Administrative Patent Judges*.

ARPIN, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant[1] appeals under 35 U.S.C. § 134(a) the Examiner's decision rejecting claims 1–18 and 21, all of the pending claims. Final Act. 2.[2] Claims 19 and 20 are canceled. Appeal Br. 37 (Claims App.). We have

[1] "Appellant" refers to "applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies the real party-in-interest as Nice S.p.A. Reply Br. 2.

[2] In this Decision, we refer to Appellant's Response after Final Office Action ("Resp.," filed May 23, 2018), Appeal Brief ("Appeal Br.," filed September 7, 2018), and Reply Brief ("Reply Br.," filed February 11, 2019); the Final Office Action ("Final Act.," mailed April 9, 2018), Advisory Action ("Adv. Act.," mailed June 28, 2018), and the Examiner's Answer ("Ans.," mailed December 10, 2018); and the Specification ("Spec.," filed January 6, 2015). Rather than repeat the Examiner's findings and Appellant's contentions in their entirety, we refer to these documents.

jurisdiction under 35 U.S.C. § 6(b).

We affirm-in-part.

STATEMENT OF THE CASE

The recited devices, control systems, and methods "relate to electronic systems and/or networking. More specifically, certain implementations of the present disclosure relate to an intelligent motion sensor." Spec. ¶ 2.

As noted above, claims 1–18 and 21 are pending. Claims 1, 9, and 18 are independent. Appeal Br. 31 (claim 1), 33–34 (claim 9), 36 (claim 18) (Claims App.).

Claim 18 recites "[a] method of controlling a network device operable to perform a function in a network via a) an intelligent sensing device, and being remote from the network device, and b) a network manager operable to communicate with the network device and the intelligent sensing device." *Id.* at 36. Claim 1 recites, "[a]n intelligent sensing device," comprising a temperature sensor, a motion sensor, and a controller for performing functions substantially as recited in claim 18. *Id.* at 31. Claim 9 similarly recites "[a] control system for use with a sensing device in a wireless network," comprising a control device and an intelligent sensing device that comprises a temperature sensor, a motion sensor, and a controller for performing functions substantially as recited in claim 18. *Id.* at 33. Claims 2–8 and 21 depend directly or indirectly from claim 1, and claims 10–17 depend directly or indirectly from claim 9. *Id.* at 31–37.

Claims 1 and 21, reproduced below with disputed limitations emphasized, are illustrative.

1. An intelligent sensing device comprising:
    a temperature sensor configured to detect a temperature;

a motion sensor configured to detect motion of an object;

a controller configured to receive the temperature and whether motion is detected by the motion sensor; and

wherein the controller is configured to:

adjust a color of a multi-colored LED emitted light in response to the detected temperature;

adjust an intensity of the multi-colored LED emitted light when motion is detected by the motion sensor; and

transmit the detected temperature and the detection of motion on an external network.

Id. at 314 (emphasis added).

21. The intelligent sensing device of claim 1, further comprising:

a wireless transceiver configured to communicate on a network; and

a range tester configured to determine a connectivity status of the intelligent sensing device on the network and to adjust the color of the multi-colored LED emitted light according to the status.

Id. at 37 (emphasis added).

REFERENCES AND REJECTION

The Examiner relies upon the following references:

Name[3]	**Reference**	**Publ'd**	**Filed**
Recker	US 2010/0141153 A1	June 10, 2010	Nov. 26, 2009
Fadell	US 2014/0316581 A1	Oct. 23, 2014	Mar. 15, 2013

The Examiner rejects claims 1–18 and 21 under 35 U.S.C. § 103 as obvious over the combined teachings of Fadell and Recker. Final Act. 2–30. We review the appealed rejection for error based upon the issues identified by Appellant, and in light of the contentions and evidence produced thereon. *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential). The

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

Examiner and Appellant focus their findings and contentions on claims 1 and 21; so do we. *See, e.g.*, Appeal Br. 9–30; Ans. 3–10, 11–16. Arguments not made are waived. *See* 37 C.F.R. § 41.37(c)(1)(iv). Unless otherwise indicated, we adopt the Examiner's findings in the Final Office Action and the Answer as our own and add any additional findings of fact for emphasis. We address the rejection below.

ANALYSIS

Obviousness Over Fadell and Recker

1. Claim 1

As noted above, the Examiner rejects claim 1 under 35 U.S.C. § 103 as obvious over the combined teachings of Fadell and Recker. Final Act. 2–6. The Examiner finds that Fadell teaches or suggests the majority of the limitations of independent claim 1. *Id.* at 2–4. In particular, the Examiner finds Fadell teaches or suggests the controller is configured to "*transmit* the detected temperature and the detection of motion on an external network." *Id.* at 4 (citing Fadell ¶¶ 187, 254, 262, 270, 339).

The Examiner finds that Fadell does not teach or suggest the controller is configured to "*adjust a color* of a multi-colored LED emitted light in response to the detected temperature [and] *adjust an intensity* of the multi-colored LED emitted light when motion is detected by the motion sensor." *Id.* Nevertheless, the Examiner finds Recker teaches or suggests these limitations (*id.* at 4–6 (citing Recker ¶¶ 145, 157, 169, 213, 339)) and a person of ordinary skill in the relevant art would have had reason to combine Fadell's teachings with those of Recker to achieve the devices recited in claim 1 (*id.* at 6 (citing Fadell ¶¶ 7, 15, 167)).

With regard to the "transmit" limitation, Fadell discloses:

> *The central server or cloud-computing system 2264 can collect operation data 2302 from the smart home devices. For example, the devices can routinely transmit operation data or can transmit operation data in specific instances (e.g., when requesting customer support).* The central server or cloud-computing architecture 2264 can further provide one or more services 2304. *The services 2304 can include*, e.g., software update, customer support, *sensor data collection/ logging*, remote access, remote or distributed control, or use suggestions (e.g., based on collected operation data 2304 to improve performance, reduce utility cost, etc.).

Fadell ¶ 187 (emphases added); *see id.* ¶¶ 262 ("Communications interface 3650 provides an interface to other communication networks and devices and may serve as an interface to receive data from and transmit data to other systems, WANs and/or the Internet 3518."), 339 ("Examples include communications events, in which the intelligent controller receives or transmits data to remote entities, such as remote smart-home devices and cloud-computing servers."). Further, Fadell discloses that a device may include one or more sensors including temperature and motion sensors. *Id.* ¶ 167. Thus, the Examiner finds Fadell teaches or suggests a controller that is configured to transmit the detected temperature and the detection of motion on an external network. Final Act. 4; *see* Ans. 7.

With regard to the "adjust" limitations, Recker discloses,

> the input component 1012 can be a radio frequency (RF) receiver that can obtain an RF signal communicated from an RF transmitter (not shown) that can be utilized by the control component 1010 to control operation of the light source 1006. *According to this example, the RF signal can be deciphered by the control component 1010 to effectuate* switching the light source 1006 to an on or off state, *changing a light color or a light intensity provided by the light source 1006*, and the like.

> *Additionally or alternatively, the input component 1012 can be one or more sensors that monitor a condition, and monitored information yielded by such sensor(s) can be utilized to effectuate adjustments associated with the light source 1006.*

Recker ¶ 145 (emphases added); *see id.* ¶ 178 ("At 1702, a condition within an environment can be monitored with a sensor integrated in a light bulb. The sensor, for example, can be one or more . . . motion sensors, . . . thermal sensors, . . . and the like."). Thus, the Examiner finds Recker teaches or suggests a controller configured to adjust the light color in response to the detected temperature and the light intensity when motion is detected. Final Act. 4–6; *see* Ans. 7–10.

Fadell discloses controlling the operation of systems based on sensor data to improve control and to increase energy efficiency. *See* Fadell ¶¶ 7, 15. In particular, Fadell discloses:

> *In some instances, device 2100 includes one or more primary sensors and one or more secondary sensors.* The primary sensor(s) can sense data central to the core operation of the device (e.g., sensing a temperature in a thermostat or sensing smoke in a smoke detector). The secondary sensor(s) can sense other types of data (e.g., motion, light or sound), *which can be used for energy-efficiency objectives or smart operation objectives*. In some instances, an average user may even be unaware of an existence of a secondary sensor.

Id. ¶ 167 (emphases added); *see id.* ¶ 166 ("As described further herein, one or more intelligent, multi-sensing, network-connected devices can be used to promote user comfort, convenience, safety and/or *cost savings*." (emphasis added)). Consequently, the Examiner finds a person of ordinary skill in the relevant art would have had reason to combine the teachings of Fadell and Recker to achieve the devices, as recited in claim 1. Final Act. 33; *see id.* at 6; Ans. 16.

Appellant contends the Examiner errs for three reasons. For the reasons given below, Appellant's reasons are not persuasive.

First, Appellant contends that Fadell fails to teach or suggest, "the controller is configured to . . . transmit the detected temperature and the detection of motion on an external network." Appeal Br. 9–10; Reply Br. 3–4. In particular, Appellant contends that Fadell discloses transmitting "operation data" to a central server or cloud-computing system. Appeal Br. 10 (quoting Fadell ¶ 187). Although the Examiner finds "operation data is equivalent to the detect temperature and detect of motion" (Ans. 7), Appellant contends "there is no disclosure that the detected temperature and the detection of motion is transmitted on an external network (the alleged central server)" (Appeal Br. 10). *See* Reply Br. 4 ("The Examiner, however, does not point to any particular section of Fadell that teaches, suggests, or otherwise discloses that 'operation data' includes temperature data.").

Fadell discloses, however, "*[t]he services 2304 can include*, e.g., software update, customer support, *sensor data collection/logging*, remote access, remote or distributed control, or use suggestions (e.g., *based on collected operation data 2304* to improve performance, reduce utility cost, etc.)." Fadell ¶ 187 (emphasis added); *see id.* ¶¶ 12, 167, 174, 188, 191, 192 (describing examples of the collection and use of operation data). Thus, we are persuaded Fadell teaches or suggests that "operation data" includes sensor data, including detected temperatures and detected motion, and transmitting such data to a network, as recited in claim 1.

Second, Appellant contends, "[w]ith regard to Recker, the Actions do not explicitly point out how **one** light is controlled in **two** different ways

('adjust a color' and 'adjust [an intensity]'[4]) in response to **two** different detected conditions ('temperature' and 'motion')." Appeal Br. 11; *see* Reply Br. 4–5. In particular, Appellant notes Recker discloses, "**the input component 1012 can be one or more sensors that monitor a condition**, and monitored information yielded by such sensor(s) can be utilized to effectuate adjustments associated with the light source 1006." Appeal Br. 12; Resp. 10; *see* Appeal Br. 15, Resp. 13 (discussing Recker ¶ 213). Appellant contends Recker's Paragraph 145

> discloses more than one sensor, but these sensors are used to monitor "a" condition (*i.e.*, *only one condition*). Therefore there is no disclosure of "wherein the controller is configured to: adjust a color LED emitted light in response to the detected temperature; adjust an intensity of the multi-colored LED emitted light when motion is detected by the motion sensor."

Appeal Br. 11–12 (emphasis added); *see* Resp. 9–10. We disagree.

As the Examiner explains,

> **Fadell et al.** clearly teach the device may include multiple sensors, for example primary sensor can be a temperature sensor and secondary sensor can be a motion sensor. **Recker et al.** clearly teach control component 1010 enable operating of the light source and adjust light source like on or off state, changing a light color or a light intensity corresponding to the detect motion or detect temperature. Since the combination of **Fadell et al.** and **Recker et al.** do teach the operating of the light source and adjusting the light source corresponding to the detect motion or temperature, therefore it's obvious for one of ordinary skill in the art at the time the invention was made to combine both element like motion and temperature to performs the same function like controlling the operating of light source and adjusting the light source.

Ans. 9–10.

[4] *See* Reply Br. 4 n.1 (noting a typographical error at Appeal Br. 11).

We agree with the Examiner that the combined teachings of the applied references teach or suggest this limitation. Moreover, we are persuaded that Appellant's reading of Recker as limited to *multiple* sensors monitoring a *single* condition is too narrow and is not supported when Recker's Paragraph 145 is considered in context. *See* Recker ¶¶ 144 ("Moreover, the control component 1010 can alter intensity, brightness, color (e.g., wavelength, frequency), etc. of the light yielded by the light source 1006."), 157 ("For example, the sensor(s) 1202 can be *one or more of* infrared sensors, light sensors, proximity sensors, acoustic sensors, motion sensors, carbon monoxide and/or smoke detectors, thermal sensors, electromagnetic sensors, mechanical sensors, chemical sensors, and the like." (emphasis added)), 178 ("At 1702, *a condition* within an environment can be monitored with a sensor integrated in a light bulb. The sensor, for example, *can be one or more* infrared sensors, light sensors, proximity sensors, acoustic sensors, motion sensors, carbon monoxide and/or smoke detectors, thermal sensors, electromagnetic sensors, mechanical sensors, chemical sensors, and the like." (emphases added)). Thus, we are persuaded the Examiner shows the combined teachings of Fadell and Recker teach or suggest that a controller may adjust the color and intensity of light based on the input of multiple sensors, including detected temperature and detected motion, as recited in claim 1.

Third, Appellant contends:

> The "rationale" for combining Fadell with Recker amounts to one generic sentence: "The motivation to combine these arts is to provide a system to improve the energy efficiency in the home environment." *But the Final Office Action fails to explain how such a proposition would have linked Fadell to Recker.*

Appeal Br. 28 (emphasis added).

The Examiner finds the combined teachings of Fadell and Recker "to improve energy efficiency in the home environment." *Id.*; *see id.* at 6; Adv. Act. 2. In particular, the Examiner explains that Fadell discloses the objective of improved energy efficiency. Final Act. 33 (citing Fadell ¶¶ 7, 15, 167). Like Fadell, Recker discloses the objective of improved energy efficiency. *E.g.*, Recker ¶¶ 6, 7, 10.

As the U.S. Supreme Court has explained, "[u]nder the correct analysis, *any need or problem known in the field of endeavor at the time of invention and addressed by the patent* can provide a reason for combining the elements in the manner claimed." *KSR Int'l. Co. v. Teleflex Inc.*, 550 U.S. 398, 420 (2007) (emphasis added). Because the objective of improved energy efficiency is a need or problem addressed by the Specification (*see* Spec. ¶ 96), we are persuaded the Examiner has shown adequately a reason to combine the teachings of Fadell and Recker to achieve the devices, as recited in claim 1.

We are not persuaded the Examiner errs in finding that claim 1, as well as claims 9 and 18, which are not argued separately, is obvious over the combined teachings of Fadell and Recker. *See* Appeal Br. 17. Further, with the exception of claim 21, Appellant does not challenge the rejection of the dependent claims separately. *See id.* On this record, then, we also are not persuaded the Examiner errs in finding claims 2–8 and 10–17 obvious over the combined teachings of Fadell and Recker. Consequently, we sustain the obviousness rejection of claims 1–18.

2. Claim 21

As noted above, the Examiner also rejects claim 21 under 35 U.S.C. § 103 as obvious over the combined teachings of Fadell and Recker. Final

Act. 29–30. Claim 21 recites, in the devices of claim 1, "*a range tester configured to determine a connectivity status* of the intelligent sensing device on the network *and to adjust the color* of the multi-colored LED emitted light according to the status." Appeal Br. 31 (Claims App.) (emphases added). The Examiner acknowledges that Fadell does not teach or suggest this limitation, but finds Recker teaches or suggests this limitation and a person of ordinary skill in the art would have had reason to combine the teachings of Fadell with those of Recker to achieve the devices, as recited in claim 21. Final Act. 29–30 (citing Recker ¶¶ 125, 166, 234–35, 342–43, Fig. 7); *see* Ans. 12–14.

In particular, Recker discloses,

> using a radar based motion sensor may allow detection of an object in the detection area, not just that the object is moving. *A radar based motion sensor may provide information about the range to the object which may allow for intelligent decisions to be made about whether the object that is detected should trigger a change of state of the wireless light bulb or battery powered wireless lighting fixture.* By way of an example, a wireless light bulb may turn on only when an object is within 20 feet of the wireless light bulb. A radar based motion sensor may determine that an object is 30 feet away and thereby, even though the object is detected, still not turn the light on or turn the light on to a lower light intensity until the object moves within 20 feet.

Recker ¶ 342 (emphasis added); *see id.* ¶ 125 ("As such, an RFID tag associated with a user can be detected *when in range* of the interface component 704, *and lighting preferences of the particular user (e.g., retained in memory) can be effectuated in response to his or her detected presence*." (emphases added)). Thus, the Examiner finds Recker teaches or suggests the "range tester," as recited in claim 1.

Appellant disagrees and contends that the Examiner fails to show where Recker teaches or suggests a "range tester," e.g., range measuring device, that (1) *determines* a connectivity status of the intelligent sensing device on a network and (2) *adjusts* the color of the multi-colored LED emitted light *according to the determined connectivity status*. Appeal Br. 18; Reply Br. 28. We agree with Appellant.

The Specification explains, "the intelligent motion sensor 200 may incorporate a wireless range tester (not shown) that may be operable to, for example, determine whether the intelligent motion sensor 200 is within a range of a home network manager (e.g., home network manager 210) and/or other network element" (Spec. ¶ 67) and "[the] wireless range tester may indicate whether the intelligent motion sensor 200 is in range, is in an intermediate range and/or is out of range of a home network manager" (*id.* ¶ 68). Thus, the range tester determines the connectivity status of the intelligent sensing device on a network.

Further, the Specification explains the range tester also adjusts the color of the multi-colored LED emitted light according to the determined connectivity status. In particular, the Specification explains:

> In an example embodiment of the disclosure, the intelligent motion sensor 200 may indicate whether the intelligent motion sensor is in range (e.g., direct, indirect) and/or out of range through one or more audio and/or visual indicators. The indicators may be, for example, integrated with and/or external to the intelligent motion sensor 200. For example, the intelligent motion sensor 200 may comprise an external visual indicator (e.g., LED, RGB, RGBW light) that may be operable to display the status of the intelligent motion sensor 200 with respect to the range through different colors and/or illumination schemes. For example, a visual indicator may display a different color depending on the in-range status (e.g., one color may indicate

> that the intelligent motion sensor 200 is in a direct range, a second color may indicate that the intelligent motion sensor 200 is in indirect range and/or a third color may indicate that the intelligent motion sensor 200 is out of range).

Id. ¶ 69; *see id.* ¶ 68.

Although the Examiner shows that Recker discloses determining the range to an object and adjusting a light characteristic in response to the detected range (*see, e.g.*, Recker ¶¶ 125, 342), in light of the Specification's explanation of this limitation, we are not persuaded the Examiner shows that Recker further teaches or suggests determining the "connectivity status of the intelligent sensing device on the network" based on a measured range *and then* adjusting a light characteristic "according to the [determined connectivity] status," as recited in claim 21. We are persuaded the Examiner errs in finding that the claim 21 is obvious over the combined teachings of Fadell and Recker. Consequently, we do not sustain the obviousness rejection of claim 21.

DECISION

1. The Examiner does not err in rejecting claims 1–18 under 35 U.S.C. § 103, as obvious over the combined teachings of Fadell and Recker.
2. The Examiner errs in rejecting claim 21 under 35 U.S.C. § 103, as obvious over the combined teachings of Fadell and Recker.
3. Thus, on this record, claims 1–18 are not patentable, but claim 21 is not unpatentable.

CONCLUSION

We affirm the Examiner's rejection of claims 1–18, but reverse the Examiner's rejection of claim 21.

In summary:

Claims Rejected	35 U.S.C. §	Basis/Reference(s)	Affirmed	Reversed
1–18, 21	103	Fadell, Recker	1–18	21

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