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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte PAVEL VACHA, ZDENEK SCHINDLER, VIT LIBAL, and
KAREL MARIK

Appeal 2019-005817
Application 15/014,947
Technology Center 3600

Before JILL D. HILL, LEE L. STEPINA, and ARTHUR M. PESLAK,
Administrative Patent Judges.

PESLAK, *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 41–60. *See* Final Act. 1. 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. Appellant identifies the real party in interest as the assignee of record, Ademco Inc. Appeal Br. 3.

THE CLAIMED SUBJECT MATTER

Appellant's invention relates to a camera-aided controller for controlled lighting of spaces. Claims 41, 48, and 52 are independent. Claim 41, reproduced below, is illustrative of the claimed subject matter:

41. A lighting control system comprising:

at least one real-time video camera sensor having a field of view covering a room, the at least one real-time video camera sensor having outputs which reflect one of an ambient light level within the room, a presence of occupants within the room, or both the ambient light level within the room and a presence of occupants within the room;

one or more sun blinds positioned over one or more windows of the room,

wherein the one or more sun blinds include a sun blinds input which controls positions of the one or more sun blinds;

a controller having inputs connected to the at least one real-time video camera sensor outputs and a sun blinds output connected to the sun blinds input,

wherein when the controller determines that the ambient light level should be increased or decreased relative to a current ambient light level the controller is configured and adapted to send a sun blinds output to the sun blinds input to open or close the one or more sun blinds, respectively.

REFERENCES

The prior art relied upon by the Examiner is:

Name	Reference	Date
Wen	US 2015/0234369 A1	Aug. 20, 2015
Takahashi	JP 2002-289377	Apr. 10, 2002

REJECTION

Claims 41–60 are rejected under 35 U.S.C. § 103 as unpatentable over Wen and Takashi².

ANALYSIS

Appellant argues claims 41–60 as a group. Appeal Br. 8–16. Although independent claims 41, 48, and 52 are argued in separate paragraphs, the arguments for claims 48 and 52 are substantially the same as those for claim 41. *See* Appeal Br. 14–16. Pursuant to 37 C.F.R. § 41.37 (c)(1)(iv), we select claim 41 as representative, and claims 42–60 stand or fall with claim 41.

The Examiner finds that Wen discloses most of the limitations of claim 41, including at least one sensor and a controller, but that Wen’s sensor is not a real-time video camera sensor. Final Act. 2–3. The Examiner finds that Takahashi discloses a real-time video camera sensor and reasons that it would have been obvious to substitute a real-time video camera sensor for Wen’s photo sensor 15 and occupancy sensor 16 as the substitution of one known element (sensor) for another with predictable results. *Id.* at 3 (citing Takahashi, ¶¶ 13, 17, 23). The Examiner explains that because Takahashi’s camera sensor provides the same information of light levels and the presence of occupants with one sensor instead of Wen’s two sensors, the substitution would reduce the number of parts and simplify the system. *Id.* at 3–4.

² We refer to the English language (machine) translation provided by the Examiner.

Appellant first contends that because the controller of Wen is fully functional for its intended purpose of lighting and occupancy sensing, one of ordinary skill would have no reason to modify Wen. Appeal Br. 8–10. Appellant asserts, moreover, that the rejection is improper because Takahashi’s TV camera is not “an art recognized equivalent” of Wen’s photosensor. *Id.* at 11. According to Appellant, even if one of ordinary skill were to overlook the expense of using a TV camera, no one camera of Takashi has a field of view that covers the room and Takahashi does not sample in real-time. *Id.* at 11–12. Specifically, Appellant contends that although Takahashi discloses “Real Time Control,” Takahashi’s TV camera is a motion detector and does not use real time video monitoring. *Id.* at 13–14.

The Examiner responds that the rejection is proper because the reason for the combination is to improve Wen’s two sensors that perform two functions (determine occupancy and lighting levels) by using Takahashi’s TV camera to perform these two functions using a single sensor and thus reducing the number of parts in the system. Ans. 5. The Examiner states that both systems were known in the art, would have been combined by known methods with no change in their respective functions, and would have yielded predictable results. *Id.* at 6. Specifically, the Examiner states that the systems of Wen and Takahashi are equivalent systems that are used for the same purpose and obtain the same information from the sensors (occupancy and ambient light levels) and use the signals to adjust lighting levels in a room. *Id.* at 6–7 (citing Wen ¶¶ 7, 39; Takahashi ¶¶ 21, 23).

As to Appellant’s assertion regarding the field of view of Takahashi’s TV camera, the Examiner notes that Figure 1 of Takahashi depicts a single

camera having a field of view that covers a room as required by claim 41. Ans. 8–9. The Examiner notes that Takahashi’s Figure 8, which has two cameras and to which Appellant refers, is not the embodiment upon which the Examiner relies. *Id.* at 10. The Examiner explains that claim 41 recites that the camera sensor has outputs which reflect “one of” or both the ambient light and a presence of occupants, and Takahashi’s TV camera is a real-time video camera that performs both. *Id.* (citing Takahashi ¶¶ 1, 13). The Examiner further explains that even though Takahashi may record data for a fixed time period, the data is obtained in real-time. *Id.* (citing Takahashi ¶¶ 44, 46). The Examiner concludes that the combination of Wen and Takahashi teach each of the claimed features, not Wen or Takahashi alone. *Id.* at 11–12.

Appellant replies that Takahashi’s CCD TV camera cannot be combined with Wen’s system because Takahashi’s CCD TV camera requires a personal computer or a PC terminal to process image data from the CCD TV camera. Reply Br. 2. According to Appellant, because Takahashi’s CCD TV camera itself does not have outputs that reflect the brightness of the area or the presence of a person, the Examiner’s proposed substitution would not provide the required information to Wen’s controller 100. *Id.* Appellant asserts that the Examiner’s proposed substitution would require Wen’s controller 100 to process the information or would require the CCD TV camera to be coupled to controller 100 via a personal computer or PC terminal. *Id.* Appellant contends that either configuration would render Wen unsatisfactory for its intended purpose and/or change the principle of operation of Wen, which indicates that the combination is improper. *Id.* at

2–3. We are not persuaded by Appellant’s arguments for the following reasons.

Wen discloses that a plurality of “sensors (15), (16) and (17) form a sensing infrastructure (18) of the controller 100. The photosensor (15) may contain ceiling-mounted photosensors for measuring task illuminances and/or vertical illuminance sensors for glare detection purposes. The occupancy sensor (16) detects motions in the space.” Wen ¶ 42, Fig. 1; *see also* Final Act. 2. Thus, the Examiner’s finding that Wen discloses that sensor 15 is a sensor that reflects the ambient light level in a room, and that sensor 16 is a sensor that reflects the presence (or absence) of occupants in a room is supported by the disclosure of Wen. Final Act. 2. Takahashi discloses “a TV camera (CCD camera or the like) as a brightness detection sensor in a room.” Takahashi ¶ 1. Takahashi also discloses that “the presence or absence of the user can be detected by the camera.” *Id.* ¶ 13; *see also* Ans. 10. Thus, the Examiner correctly finds that Takahashi’s TV camera detects the ambient light level in a room, and detects the presence (or absence) of occupants in a room.

We now address Appellant’s argument that Wen’s sensors and Takahashi’s TV camera are not art recognized equivalents because of price and sensitivity. Appeal Br. 11. We begin by noting that “when 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 Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007). Appellant’s argument about cost and relative performance is not persuasive in the absence of persuasive argument or technical reasoning that the result of the substitution would be unpredictable.

See Appeal Br. 11. To the extent that Appellant is arguing that the references are in different fields, Wen “relates to the control of lighting, shading and temperature” in a building, and Takahashi “relates to a lighting control system in a building interior or the like.” Wen ¶¶ 1, 2; Takahashi ¶ 1. Indeed, Appellant discusses the shortcomings of systems that use light sensors and motion detectors (Spec., 2:30–3:5) and suggests using a TV camera to overcome these shortcomings. Spec., 3:21–28. We agree with the Examiner the combination would have been obvious because it is the substitution of one known sensor arrangement for another with predictable results.

Appellant also contends that one of ordinary skill in the art would not seek to modify Wen because Wen is already fully functional. This contention is not persuasive because the adequacy of an existing system does not preclude and would not discourage a person of ordinary skill in the art from attempting to improve on the prior art. *See DyStar Textilfarben GmbH & Co v. C.H. Patrick Co.*, 464 F.3d 1356, 1368 (Fed. Cir. 2006) (the desire to improve is universal).

We are also not persuaded by Appellant’s assertions that Takahashi’s TV camera is not a real-time video camera and does not have a field of view that covers a room. The Examiner correctly finds that Takahashi discloses that the TV camera “detects the presence or absence of a person” (Takahashi ¶ 7) and that TV camera 10 captures image data with control unit 12 “analyzing *continuously* input image data” (Takahashi ¶ 44). Ans. 10. Although Takahashi discloses that data is collected “for a certain period of time” (Takahashi ¶ 8) and “at regular time intervals” (Takahashi ¶ 38) the data that is collected for that period/interval of time is continuously collected

in real-time. Moreover, we agree with the Examiner that there is a single camera 10 in Figure 1 that covers room 18. That Takahashi discloses a second embodiment with two cameras in Figure 8 is of no import, given that the Examiner relies on the Figure 1 embodiment. *See* Ans. 10.

Appellant's argument in the Reply Brief that the Examiner's proposed modification would render Wen unsatisfactory for its intended purpose and/or change the principle of operation of Wen, is also unpersuasive. Specifically, Appellant asserts that using Wen's controller 100 to process images or in conjunction with a computer to process images would render Wen unsatisfactory for its intended purpose and/or change the principle of operation of Wen. Reply Br. 2. Takahashi discloses that arithmetic and control unit 12 "performs detection of moving bodies by analyzing continuously input image data from TV camera 10. Takahashi ¶ 44. The control unit 12, which includes the PC terminal can be separate from camera 10 or be provided as an integrated unit. *Id.* ¶ 65. Similarly, Wen discloses that "various processes and functions described herein may be either part of the microinstruction code or part of the application program, or any combination thereof, which may be executed by a CPU." Wen ¶ 73. Thus, Wen also discloses using a computer to perform the disclosed functions, which includes detecting the presence of occupants. In light of this disclosure, Appellant does not provide persuasive evidence or technical reasoning to support its assertion that the Examiner's proposed modification would render Wen unsatisfactory for its intended purpose. Further, given that both systems perform the same functions, Appellant has not shown why the substitution of Takahashi's TV camera having a PC to process the data for Wen's sensors would render Wen inoperable for performing building

lighting, shading and temperature control. For these reasons, we determine that Appellant’s contentions do not apprise us of Examiner error.

We have considered all of Appellant's arguments and determine that Appellant fails to persuasively apprise us of error in the Examiner’s factual findings or rationale, quoted above, for the combination of Wen and Takahashi, which we determine to be reasonable and supported by rational underpinnings. *See KSR*, 550 U.S. at 416 (“[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”). We thus, sustain the rejection of claim 41 under 35 U.S.C. § 103. Claims 42–60 fall with claim 41.

CONCLUSION

The Examiner’s rejection is affirmed.

More specifically,

DECISION SUMMARY

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
41–60	103	Wen, Takahashi	41–60	
Overall Outcome:			41–60	

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).

Appeal 2019-005817
Application 15/014,947

AFFIRMED