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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JONATHAN ANDREW GOULD

Appeal 2019-006331
Application 15/196,990
Technology Center 3700

Before STEFAN STAICOVICI, LEE L. STEPINA, and
ERIC C. JESCHKE, *Administrative Patent Judges*.

STAICOVICI, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant¹ appeals under 35 U.S.C. § 134(a) from the Examiner's decision in the Final Office Action (dated Oct. 26, 2018, hereinafter "Final Act.") rejecting claims 1–20. We have jurisdiction over this appeal under 35 U.S.C. § 6(b).

SUMMARY OF DECISION

We REVERSE.

¹ We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42. K4Connect Inc. is identified as the real party in interest in Appellant's Appeal Brief (filed Jan. 8, 2019, hereinafter "Appeal Br."). Appeal Br. 1.

INVENTION

Appellant's invention relates to an automated climate control system and its method of operation. Spec. paras. 7, 12.

Claims 1, 10, and 16 are independent. Claim 1 is illustrative of the claimed invention and reads as follows:

1. A climate control system comprising:
 - a heating, ventilation, and air conditioning (HVAC) system for an indoor building area being switchable between operating modes for heating and cooling;
 - a home automation (HA) thermostat device in the indoor building area and comprising
 - a housing,
 - an indoor temperature sensor carried by said housing and configured to sense an indoor temperature of the indoor building area, and
 - a temperature controller carried by said housing and configured to
 - obtain a setpoint temperature for the indoor building area,
 - obtain an external temperature from external to the indoor building area,
 - determine a crossing of the external temperature of the setpoint temperature, and
 - switch said HVAC system between operating modes based upon the crossing of the external temperature of the setpoint temperature and the indoor temperature moving beyond the setpoint temperature by a threshold temperature difference.

REJECTIONS

- I. The Examiner rejects claims 1, 2, 4, 6, 8, 10, 11, 13, 15, 16, 18, and 20 under 35 U.S.C. § 103 as being unpatentable over Altonen,² Ehlers,³ Kim,⁴ and Samuel.⁵
- II. The Examiner rejects claims 3, 12, and 17 under 35 U.S.C. § 103 as being unpatentable over Altonen, Ehlers, Kim, Samuel, and Drennan.⁶
- III. The Examiner rejects claims 5, 14, and 19 under 35 U.S.C. § 103 as being unpatentable over Altonen, Ehlers, Kim, Samuel, and Lafleur.⁷
- IV. The Examiner rejects claim 7 under 35 U.S.C. § 103 as being unpatentable over Altonen, Ehlers, Kim, Samuel, and Simon.⁸
- V. The Examiner rejects claim 9 under 35 U.S.C. § 103 as being unpatentable over Altonen, Ehlers, Kim, Samuel, and Larson.⁹

ANALYSIS

Rejection I

Each of independent claims 1, 10, and 16 requires, *inter alia*, a temperature controller configured to switch a heating, ventilation, and air

² Altonen et al., US 2012/0091804 A1, published Apr. 19, 2012.

³ Ehlers, US 2007/0013532 A1, published Jan. 18, 2007.

⁴ Kim et al., US 2012/0048951 A1, published Mar. 1, 2012.

⁵ Samuel, US 4,711,394, issued Dec. 8, 1987.

⁶ Drennan, US 2003/0177012 A1, published Sept. 18, 2003.

⁷ Lafleur et al., US 2012/0029725 A1, published Feb. 2, 2012.

⁸ Simon et al., US 2006/0196953 A1, published Sept. 7, 2006.

⁹ Larson, US 3,952,796, issued Apr. 27, 1976.

conditioning system (“HVAC”) between heating and cooling operating modes based upon an indoor temperature moving beyond a setpoint temperature by a “threshold temperature difference.” *See* Appeal Br. 16, 18–20 (Claims App.).

The Examiner finds that the combined teachings of Altonen and Ehlers disclose many of the limitations of independent claims 1, 10, and 16, but do not disclose a temperature controller having the above noted feature. *See* Final Act. 3–4. Nonetheless, the Examiner finds that Kim discloses an air conditioning system having a temperature controller configured to switch between heating and cooling operating modes based upon an indoor temperature moving beyond a setpoint temperature by a “threshold temperature difference.” *Id.* at 4 (citing Kim, paras. 59–62, Fig. 6). Thus, the Examiner concludes that it would have been obvious to a skilled artisan to control the HVAC system of Altonen, as modified by Ehlers, to switch between heating and cooling operating modes based upon an indoor temperature moving beyond a setpoint temperature by a “threshold temperature difference,” as taught by Kim. *Id.* According to the Examiner, a person of ordinary skill would have made such a modification “in order to provide a system where the air conditioner precisely controls the temperature of the hot air or the cold air blown into the interior.” *Id.*

Appellant argues that Kim’s temperature controller switches between heating and cooling modes based upon an internal (indoor) temperature *exceeding* a setpoint temperature, not a “threshold temperature difference,” as called for by each of independent claims 1, 10, and 16. Appeal Br. 8.

The Examiner responds that Kim’s temperature controller has a target temperature 23° C and switches to a cooling mode when the interior

temperature is 28° C and to a heating mode when the interior temperature is 13° C. *See* Examiner Answer (dated May 21, 2019, hereinafter “Ans.”) 11; *see also* Kim, paras. 60, 61. Thus, according to the Examiner, Kim’s temperature controller “switches to a cooling mode when the interior temperature . . . crosses a threshold of . . . 5° C” and “to a heating mode when the interior temperature . . . crosses a threshold of . . . [1]0° C.” Ans. 11. In other words, according to the Examiner, Kim’s controller switches to a cooling mode when there is a *temperature difference* of 5° C between the target temperature of 23° C and the interior temperature of 28° C and to a heating mode when there is a *temperature difference* of 10° C between the target temperature of 23° C and the interior temperature of 13° C.

We do not agree with the Examiner’s findings because Kim does not disclose switching to a cooling or a heating mode based on a “threshold temperature difference,” but rather based on “a difference between an internal temperature . . . and a target temperature.” Kim, Abstract. In particular, Kim’s controller switches to a cooling mode when it determines that the interior temperature of 28° C is higher than the target temperature of 23° C. *Id.*, para. 60. Hence, Kim’s controller *compares* the interior temperature to the target temperature, and if the interior temperature is determined to be *higher*, switches to a cooling mode. In a similar manner, Kim’s controller switches to a heating mode after *comparing* the interior temperature to the target temperature and determining that the interior temperature of 13° C is *lower* than the target temperature of 23° C. *Id.*, para. 61. As such, Kim’s controller switches between cooling and heating modes by comparing the interior temperature to the target temperature and

determining whether the interior temperature is higher or lower, respectively, than the target temperature.

Although we appreciate that Kim's paragraphs 60 and 61 describe a *temperature difference* of 5° C and 10° C, respectively, the Examiner fails to adequately explain why such *temperature differences* constitute a "threshold temperature difference," i.e., a specific temperature difference, as called for by each of claims 1, 10, and 16. The Examiner's interpretation of Kim's *temperature differences* of 5° C and 10° C as the claimed "threshold temperature difference" renders the term "threshold" superfluous. *See Bicon Inc. v. Straumann Co.*, 441 F.3d 945, 950 (Fed. Cir. 2006) (Claims are construed with an eye toward giving effect to all terms in the claim.).

Accordingly, we do not agree with the Examiner's finding that Kim's controller switches between cooling and heating modes based on whether the interior temperature exceeds the target temperature by a "threshold temperature difference" of *specifically* 5° C and 10° C, respectively. Ans. 11. Stated differently, Kim's controller does not switch between cooling and heating modes based upon a *specific* temperature difference, i.e., a "threshold temperature difference," but rather upon determining whether the interior temperature is merely different from the target temperature, that is, upon determining whether the interior temperature is higher or lower than the target temperature. Therefore, Kim fails to disclose switching between cooling and heating operation modes based upon a "threshold temperature difference," as called for by each of independent claims 1, 10, and 16.

The Examiner's use of the disclosure of Samuel does not remedy the deficiency of the Altonen, Ehlers, and Kim combination discussed above. *See* Final Act. 4–5. Accordingly, for the foregoing reasons, we do not

sustain the rejection under 35 U.S.C. § 103 of independent claims 1, 10, 16, and their respective dependent claims 2, 4, 6, 8, 11, 13, 15, 18, and 20, as unpatentable over Altonen, Ehlers, Kim, and Samuel.

Rejections II–V

The Examiner’s use of the disclosures of Drennan, Lafleur, Simon, and Larson does not remedy the deficiency of the Altonen, Ehlers, Kim, and Samuel combination discussed *supra*. See Final Act. 6–9. Therefore, for the same reasons discussed above, we also do not sustain the rejections under 35 U.S.C. § 103 of:

- (1) claims 3, 12, and 17 as unpatentable over Altonen, Ehlers, Kim, Samuel, and Drennan;
- (2) claims 5, 14, and 19 as unpatentable over Altonen, Ehlers, Kim, Samuel, and Lafleur;
- (3) claim 7 as unpatentable over Altonen, Ehlers, Kim, Samuel, and Simon; and
- (4) claim 9 as unpatentable over Altonen, Ehlers, Kim, Samuel, and Larson.

CONCLUSION

Claim(s) Rejected	35 U.S.C. §	Reference(s)/ Basis	Affirmed	Reversed
1, 2, 4, 6, 8, 10, 11, 13, 15, 16, 18, 20	103	Altonen, Ehlers, Kim, Samuel		1, 2, 4, 6, 8, 10, 11, 13, 15, 16, 18, 20

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3, 12, 17	103	Altonen, Ehlers, Kim, Samuel, Drennan		3, 12, 17
5, 14, 19	103	Altonen, Ehlers, Kim, Samuel, Lafleur		5, 14, 19
7	103	Altonen, Ehlers, Kim, Samuel, Simon		7
9	103	Altonen, Ehlers, Kim, Samuel, Larson		9
Overall Outcome				1-20

REVERSED