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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MANOUCHEHR SHIRALI, DAVID WINTER,
and TRENT ABNEY

Appeal 2017-011337
Application 13/326,158
Technology Center 1700

Before KAREN M. HASTINGS, CHRISTOPHER C. KENNEDY, and
DEBRA L. DENNETT, *Administrative Patent Judges*.

DENNETT, *Administrative Patent Judge*.

DECISION ON APPEAL¹

STATEMENT OF THE CASE

Appellants² appeal under 35 U.S.C. § 134(a) from a rejection of
claims 11 and 13–18.³ We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ In our Opinion, we refer to the Specification filed December 14, 2011 (“Spec.”); the Final Office Action mailed August 26, 2016 (“Final Act.”); the Appeal Brief filed April 24, 2017 (“App. Br.”); the Examiner’s Answer mailed June 30, 2017 (“Ans.”); and the Reply Brief filed August 30, 2017 (“Reply Br.”).

² Appellants identify Henny Penny Corporation as the real party in interest. App. Br. 1.

³ Claims 1–10 are withdrawn from consideration. Final Act. 1.

The invention is directed to systems and methods for monitoring the level of a cooking medium in a fryer apparatus. Spec. ¶ 1. Claim 11, reproduced below from the Claims Appendix of the Appeal Brief, is illustrative of the claimed subject matter:

11. A method for monitoring the level of cooking media held in a cooking vessel, comprising:

receiving data from a plurality of temperature sensors, the plurality of temperature sensors comprising: a first temperature sensor disposed at a first level of the cooking vessel, and a second temperature sensor disposed at a second level of the cooking vessel above the first level of the cooking vessel;

calculating a temperature differential between the first temperature sensor and the second temperature sensor based on the received data; and

switching from a first operation state to a second operation state in response to the temperature differential being calculated to be greater than or equal to *a first temperature differential threshold* and less than *a second temperature differential threshold*;

wherein a heating mechanism transmits heat to the cooking media held in the cooking vessel in the first operation state, and the heating mechanism is deactivated in the second operation state;

switching to a third operation state in response to the temperature differential being calculated to be greater than or equal to *the second temperature differential threshold*; and

wherein the heating mechanism is in a deactivated state and an alarm is activated in the third operation state.

REFERENCES

The Examiner relies on the following prior art in rejecting the claims on appeal:

Davis et al. ("Davis")	US 5,141,760	Aug. 25, 1992
Mercer et al. ("Mercer")	US 2004/0112225 A1	June 17, 2004

REJECTIONS

The Examiner maintains and Appellants seek review of the rejections of claims 11 and 13–18 (1) under 35 U.S.C. § 112, second paragraph as indefinite; and (2) under 35 U.S.C. § 103(a) as obvious over Mercer in view of Davis. Final Act. 2–8; App. Br. 4–14.

OPINION

Rejection under 35 U.S.C. § 112

Section 112 requires that a patent's claims particularly point out and distinctly claim the subject matter regarded as the invention.⁴ "This definiteness requirement 'secure[s] to the patentee all to which he is entitled' and 'apprise[s] the public of what is still open to them.'" *Ex parte McAward*, 2017 WL 3669566, at * 2–3 (PTAB Aug. 25, 2017) (precedential) (quoting *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 373 (1996)); *see also In re Skvorecz*, 580 F.3d 1262, 1268 (Fed. Cir. 2009) (quoting MPEP § 2173.02) (claim is examined for compliance with 35 U.S.C. § 112 by determining whether claim meets threshold requirements of clarity and precision). A claim is not indefinite merely because more

⁴ Both 35 U.S.C. § 112(b) and pre-AIA 35 U.S.C. § 112, second paragraph contain this requirement.

suitable language or modes of expression are available. *Skvorecz*, 580 F.3d at 1268.

During prosecution, claims are given their broadest reasonable scope consistent with the specification. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). The words used in a claim must be read in light of the specification, as it would have been interpreted by one of ordinary skill in the art at the time of the invention. *Id.* “Applying the broadest reasonable interpretation of a claim, then, the Office establishes a prima facie case of indefiniteness with a rejection explaining how the metes and bounds of a pending claim are not clear because the claim contains words or phrases whose meaning is unclear.” *McAward*, 2017 WL 3669566, at *2 (citing *In re Packard*, 751 F.3d 1307, 1310 (Fed. Cir. 2014) (per curiam)). An indefiniteness rejection begins what is intended to be an interactive process in which the applicant has the opportunity to respond to the examiner by amending the claims or by providing evidence or explanation that shows why the claims are not indefinite. *Packard*, 751 F.3d at 1311–12.

In the instant case, the Examiner finds the claim term “temperature differential threshold” to be indefinite as failing to clearly establish the metes and bounds of what is claimed as the invention. Final Act. 2. Appellants respond that paragraph 24 of the Specification “describe[s] in detail” the method of calculating temperature differential (“ ΔT ”) thresholds and the various factors that may be considered when calculating those thresholds. App. Br. 12. We disagree. Regarding temperature differential thresholds (“ ΔT thresholds”) T_1 and T_2 , paragraph 24 of the Specification states:

T_1 and T_2 may be determined by testing different operating conditions of cooking medium level and temperature regulation schemes. For example, the thresholds T_1 and T_2 may be selected to allow the fryer apparatus to operate as desired regardless of the cooking medium level and heat regulation mode. The T_1 and T_2 thresholds also may depend on the geometry of the cooking vessel, cooking medium volume, sensor locations, and heating mechanism wattage. The T_1 and T_2 thresholds may be selected to achieve reliable level detection without false alarms under all operating conditions, normal and abnormal. The T_1 and T_2 thresholds also may be adjusted by criteria beyond the functional requirements described above. For example, in a particular implementation, if it is more desirable to prolong heating element life than to avoid false alarms, the threshold T_2 then may be reduced to a lower value.

Thus, paragraph 24 would not have advised one of ordinary skill in the art at the time of the invention of any methodology for calculating temperature differential thresholds. Paragraph 23 of the Specification discloses that temperature differential thresholds may be determined empirically. Spec. ¶ 23. Nothing in the claims or Specification provides information that would have allowed a skilled artisan to determine with any consistency the first or second (or third or fourth) temperature differential thresholds for any given cooking vessel. Numerous factors “may” be considered by the skilled artisan. Spec. ¶ 24. Insufficient information is provided by the claims and Specification to convey the metes and bounds of the claimed thresholds. For example, T_1 and T_2 could be *any* temperatures, from zero to infinity, as long as T_2 is even a de minimis amount greater than T_1 . Any arbitrary selection of two temperatures would fall within the

excessively broad reach of the claims.⁵ Although broad claims are not necessarily indefinite (*see In re Gardner*, 427 F.2d 786, 788 (CCPA 1970) (“Breadth is not indefiniteness.”)), the claims at issue here place no limits at all on the temperature differential thresholds. A claim is indefinite if one of ordinary skill in the art cannot translate the claims into meaningfully precise claim scope. *Halliburton Energy Svcs., Inc. v. M-I LLC*, 514 F.3d 1244, 1251 (Fed. Cir. 2008).

We sustain the Examiner’s rejection of claims 11 and 13–18 as indefinite.

Rejection under 35 U.S.C. § 103(a)

When the claims are held to be indefinite, we normally do not assess the propriety of rejections under 35 U.S.C. §§ 102 or 103. *In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970) (“If no reasonably definite meaning can be ascribed to certain terms in the claim, the subject matter does not become obvious—the claim becomes indefinite.”). In some instances, however, it is possible to make a reasonable, conditional interpretation of claims adequate for the purpose of resolving the patentability issues to avoid piecemeal appellate review and in the interest of administrative and judicial economy. *See Ex parte Saceman*, 27 USPQ2d 1472, 1474 (BPAI 1993); *Ex parte Ionescu*, 222 USPQ 537, 540 (BPAI 1984). In this case, we exercise our discretion to address the obviousness rejection of record based on the conditional interpretation given in the interest of administrative and judicial economy. *See Ex parte Tanksley*, 26 USPQ2d 1384, 1387 (BPAI 1991)

⁵ Should there be further prosecution of this application, due to the claims’ breadth, the Examiner may wish to review the claims for compliance under 35 U.S.C. § 112 with the enablement requirement.

(exercising discretion to reach art rejections despite indefiniteness where nature of case permitted).

For the purpose of considering the rejection under § 103, we interpret “temperature differential threshold” to mean an amount of heat at, above, or below which an operation state occurs, and a first temperature differential threshold to be an amount of heat that is lower by any amount than a second temperature differential threshold.

With respect to claim 11, the Examiner finds that it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Mercer with the failsafe mechanism of Davis in order to improve safety and prevent excessive temperatures. Final Act. 4–5; Ans. 9.

Appellants argue that claim 11 requires comparison of a temperature differential to two different thresholds and three different operating states, but the combination of Mercer and Davis do not teach these elements. App. Br. 4–5. Appellants’ arguments are unpersuasive of reversible error for the reasons below.

Appellants contend that Mercer does not teach a second temperature differential threshold. *Id.* at 6. However, Mercer discloses “a predetermined temperature” and “a further predetermined temperature” (*see* Mercer ¶¶ 26 and 29, claim 2), which meet the limitations requiring first and second temperature differential thresholds, as the pending claims and Specification place no limits on the temperature differential thresholds, except that one is not identical to the other. The word “further” implies that the two predetermined temperatures in Mercer are not identical.

Contrary to Appellants' argument, Mercer teaches at least two operation states (heating unit on and heating unit deactivated), and Davis teaches at least three states (heating unit on, heating unit deactivated, and heating unit deactivated and alarm). *See* Mercer ¶ 26; Davis col. 4, ll. 38–58.

Appellants argue that the Examiner's rationale for combining Mercer and Davis is deficient because Davis adds nothing that is not already present in Mercer. App. Br. 6; Reply Br. 2. According to Appellants, Mercer already deactivates the heats at a lower threshold temperature differential, therefore "making the apparatus safer" cannot be an objective reason to combine Mercer and Davis. App. Br. 6; Reply Br. 2. Appellants rely on Mercer's disclosure that "indication also is given to a user of the fryer that the means for heating has been deactivated" as duplicating Davis's alarm. *See* App. Br. 6; Reply Br. 2. Claim 11, however, recites the open transitional language "comprising," therefore both an indication and an alarm are encompassed by the claim. *In re Crish*, 393 F.3d 1253, 1257 (Fed. Cir. 2004) ("comprising" means named elements are essential but other elements may be added).

Moreover, Appellants' argument that Davis's failsafe mechanism would not make Mercer safer is flawed. *See* App. Br. 6. Appellants contend that, if the sensors of Mercer fails, then there will be no temperature comparison for Davis's threshold to be compared to, and no consequent improved safety. *Id.* The method resulting from the combination of references is safer even if the sensors do not fail; a higher temperature may set off an alarm and alert a user to action, whereas a lower, albeit too high, temperature may only shut off the heating mechanism in order to avoid

degradation of the cooking medium. Thus, one of ordinary skill in the art would have been motivated to combine the teachings of Mercer with those of Davis when allowance is made for “the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

We sustain the rejection of claim 11 over Mercer in view of Davis.

Appellants separately argue for patentability of claims 14 and 15. App. Br. 9–12. Claim 14 depends from claim 11 and further recites “switching . . . to the first operation state in response to the temperature differential being calculated to be less than a third temperature differential threshold.” App. Br. 19–20 (Claims App.). Claim 15 depends from claim 11 and further recites “switching from the third operation state to the second operation state in response to the temperature differential being calculated to be less than a fourth temperature differential threshold.” *Id.* at 20.

Regarding claim 14, Appellants argue that calculating a difference in oil temperature is not commensurate with calculating a temperature differential between a first and second temperature sensor to be less than a third temperature differential threshold. *Id.* at 10. Appellants contend that, although Mercer may re-active the heater device at some point, there is no teaching or suggestion to do so based on comparison of the same temperature differential value used in the deactivation process to yet another (third) different temperature differential threshold. *Id.* We note that the third temperature differential threshold may any amount of heat that is any amount less than the first temperature differential threshold. *See* claim 14 (“wherein the third temperature differential threshold is less than the first temperature differential threshold”).

Davis teaches that a proportional control band equal to ten degrees below the set point temperature is provided and the power applied to the heating elements is proportional by the duty cycle modulation to provide a proportional relationship of maximum power to the difference in the actual temperature and the set point temperature. Davis col. 5, ll. 43–49. Davis seeks to achieve a rapid recovery to the desired set point temperature after a heavy cooking load has been introduced and cooled the oil. Davis. col. 5, ll. 25–34. The “ten degrees below the set point temperature” qualifies as the third temperature differential temperature threshold of claim 14, being an amount of heat (ten degrees) less than the set point temperature. One of ordinary skill in the art would have had no difficulty in calculating the temperature differential, given that a first and a third temperature differential thresholds would have been known.

Regarding claim 15, the Examiner finds that a fourth temperature differential threshold can be considered to be a temperature difference between the initial temperature and the temperature during heating but before the operation is shut down due to the alarm. Final Act. 6; Ans. 10–11. Appellants argue that the Examiner misunderstands the requirements of the claim, in which the alarm is no longer activated, and the heater remains deactivated, i.e., both the heater and the alarm are off. App. Br. 11.

The fourth temperature differential threshold could be the amount of heat as described by the Examiner, but at a different point in the claimed method. If the temperature exceeds the high limit temperature setting in Davis, the heater is deactivated and the alarm turns on (third operation state), and the temperature at the sensors will naturally decrease as the device cools. Using nothing more than ordinary creativity, the skilled artisan would

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have set the alarm to discontinue sounding off after a user had been alerted to the high limit temperature having been reached, so that it would not have sounded off during the entire time that the heaters are deactivated. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007) (“A person of ordinary skill is also a person of ordinary creativity, not an automaton.”).

We sustain the rejections of claim 14 and 15 as obvious over Mercer in view of Davis.

DECISION

The rejections of claims 11 and 13–18 as (1) indefinite under 35 U.S.C. § 112; and (2) obvious under 35 U.S.C. § 103 are affirmed.

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).

AFFIRMED