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GENERAL ELECTRIC COMPANY (PCPI)
C/O FLETCHER YODER
P. O. BOX 692289
HOUSTON, TX 77269-2289

EXAMINER
MASHRUWALA, NIKHIL P

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MAHENDRA MADHUKAR PATIL and
DAVID JOSEPH NAJEWICZ

Appeal 2012-004486
Application 10/812,338
Technology Center 3700

Before STEFAN STAICOVICI, KEN B. BARRETT, and
MICHAEL C. ASTORINO, *Administrative Patent Judges*.

STAICOVICI, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Mahendra Madhukar Patil and David Joseph Najewicz (Appellants) appeal under 35 U.S.C. § 134 from the Examiner's decision finally rejecting claims 1, 4-14, 16, 18-22, 25, 28-35, 38, and 41-43. Claims 2, 3, 15, 17, 23, 24, 26, 27, 36, 37, 39, and 40 have been canceled. We have jurisdiction over this appeal under 35 U.S.C. § 6.

THE INVENTION

Appellants' invention relates to a kitchen ventilation system including a sensor for detecting a chemical composition over an active zone of a cooktop." Spec. 2, para. [0006].

Claim 1 is illustrative of the claimed invention and reads as follows:

> 1. A kitchen ventilation system comprising:
>
> a chemical sensor for detecting a chemical composition in air over an active zone of a cooktop;
>
> an air moving device for displacing the air;
>
> an air flow direction control device for directing the air displaced by the air moving device between exhaust and recirculation flow paths; and
>
> control circuitry coupled to the chemical sensor, to the air moving device and to the air flow direction control device for regulating operation of the air moving device and a position of the air flow direction control device based upon signals from the chemical sensor.

THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability:

Bowen	US 4,146,016	Mar. 27, 1979
Wang	US 5,236,595	Aug. 17, 1993
Melink	US 6,170,480 B1	Jan. 9, 2001

Morton	US 6,349,716 B1	Feb. 26, 2002
Jensen	US 6,521,859 B2	Feb. 18, 2003

The following rejections are before us for review:

The Examiner rejected claims 1, 4-14, 16, 18-22, 25, 28-35, 38, and 41-43 under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement[1].

The Examiner rejected claims 1, 4-14, 16, 18-22, 25, 28-35, 38, and 41-43 under 35 U.S.C. § 112, second paragraph, for being indefinite.[2]

The Examiner rejected claims 1, 4-7, 14, 16, 18-20, 22, 25, 28, 35, 38, and 41-43 under 35 U.S.C. § 103(a) as unpatentable over Melink, Bowen, and Morton.

The Examiner rejected claims 8, 9, 11-13, 21, 29, 30, and 32-34 under 35 U.S.C. § 103(a) as unpatentable over Melink, Bowen, Morton, and Wang.

The Examiner rejected claims 10 and 31 under 35 U.S.C. § 103(a) as unpatentable over Melink, Bowen, Morton, Wang, and Jensen.

SUMMARY OF DECISION

We AFFIRM.

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[1] Since claims 29-34 depend from independent claim 22, we assume the omission of claims 29-34 to be a mere typographical error on the part of the Examiner and for the purpose of this appeal we include claims 29-34 as part of this rejection.

[2] Since claims 29-34 depend from independent claim 22, we assume the omission of claims 29-34 to be a mere typographical error on the part of the Examiner and for the purpose of this appeal we include claims 29-34 as part of this rejection.

ANALYSIS[3]

Claim construction

Each of independent claims 1, 22, and 35 requires, *inter alia*, "a chemical sensor for detecting a chemical composition in air." Similarly, independent claim 14 recites, *inter alia*, "detecting a chemical composition in air . . . through a chemical sensor." App. Br., Clms. App'x.

The Examiner interpreted the phrase "chemical sensor" to mean a sensor that "detects the presence of combustion byproducts inside an airflow." Ans. 6. In contrast, Appellants take the position that "the only reasonable interpretation of 'chemical sensors' is sensors that detect <u>specific</u> chemical compounds." App. Br. 7-8. According to Appellants, "one skilled in the art would understand a chemical sensor as a sensor that detects specific chemical compounds." Reply Br. 4.

Thus, the Examiner and Appellants have presented us with two different interpretations of the phrase "chemical sensor." Specifically, the argument between the Examiner and Appellants is whether the claimed "sensor" as modified by the term "chemical" detects "the presence of combustion byproducts inside an airflow" or "detect[s] <u>specific</u> chemical compounds," respectively.

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[3] This is Appellants' second appeal before the Patent Trial and Appeals Board. In the first appeal (2009-003656, Decision mailed March 26, 2010) (hereafter "Decision,"), the rejections under 35 U.S.C. § 103(a) of claims 1-7, 14-20, 22-28, and 35-43 as unpatentable over Melink, Bowen and Morton; of claims 8, 9, 11-13, 21, 29, 30, and 32-34 as unpatentable over Melink, Bowen, Morton, and Wang; and of claims 10 and 31 as unpatentable over Melink, Bowen, Morton, Wang, and Jensen were affirmed. Decision 3.

Although Appellants are free to limit the definition of a term that may have multiple meanings, Appellants' definition must be set out within the Specification. *See In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). Here, because Appellants' Specification does not set forth an express definition of the phrase "chemical sensor" the phrase is interpreted as broadly as the ordinary usage of the term by one of ordinary skill in the art would permit. *In re ICON Health & Fitness, Inc.*, 496 F.3d 1374, 1379 (Fed. Cir. 2007). An ordinary and customary meaning of the term "sensor" is "a device that responds to a physical stimulus (as heat, light, sound, pressure, magnetism, or a particular motion) and transmits a resulting impulse. *MERRIAM WEBSTER'S COLLEGIATE DICTIONARY* (10th Ed. 1997). Thus, an ordinary and customary meaning of the phrase "chemical sensor" is a device that responds to a chemical stimulus and transmits a resulting impulse. As such, because a "chemical sensor" responds to a chemical stimulus, the phrase "chemical sensor" is not so limiting as to exclude a sensor that "detects the presence of combustion byproducts inside an airflow," as the Examiner proposes. Such an interpretation of the phrase "chemical sensor" is also consistent with Appellants' Specification.

Appellants' Specification describes "a sensor [14] for detecting a chemical composition over an active zone [30] of a cooktop [28]." Spec. 2, para. [0006] and Spec. 4, para. [0022]. According to Appellants' Specification, "sensor 14 detects … the target air constituents to be removed from the air." Spec. 5, para. [0026]. Appellants' Specification further describes "[t]he target chemical composition 34" to include, without limitation, "cooking fumes, vapors, smoke and combustion byproducts that are being generated as a result of cooking activities of a user of the cooking

apparatus." Spec. 9-10, para. [0037]. Finally, Appellants' Specification states that:

> Examples of such sensors [14] for sensing the air quality over the active side 30 of the cooktop 28 include, without limitation, heated metal oxide sensors, electrochemical gas sensors, pellistors, hot wire catalytic gas sensors, semiconductor gas sensors, photo ionization smoke detectors, thermal conductivity type gas sensors, ultrasonic gas sensors, UV flame sensors, IR temperature sensors, heat flux sensors, air velocity sensors and so forth.

Spec. 8, para. [0033].

As such, from Appellants' Specification it is not clear that sensors 14 "provides a chemical analysis of a mixture in air." *See* Reply Br. 4. If Appellants had wanted to limit the definition of the phrase "chemical sensor" to a sensor that "provides a chemical analysis," Appellants could have done so. Appellants always have the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. *In re Prater*, 415 F.2d 1393, 1404-05 (CCPA 1969). *See In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004) ("Absent claim language carrying a narrow meaning, the PTO should only limit the claim based on the specification or prosecution history when those sources expressly disclaim the broader definition.").

In conclusion, for the foregoing reasons, we do not agree with Appellants' position that the term "chemical" necessarily modifies the term "sensor" such that "the *only* reasonable interpretation of 'chemical sensors' is sensors that detect <u>specific</u> chemical compounds" and "provides a

chemical analysis." *See* App. Br. 7-8. Emphasis added. We thus conclude that the Examiner's interpretation of the phrase "chemical sensor" to mean a sensor for detecting the presence of a chemical composition, namely, "combustion byproducts, inside an airflow" is reasonable. *See* Ans. 6.

The written description rejection

The Examiner takes the position that the Specification lacks original support for the limitation of "a chemical sensor for detecting a chemical composition in air." Ans. 5. According to the Examiner, "to the extent applicant intends to claim that the chemical components of the airflow stream are analyzed into their individual chemical components; this limitation is not supported by the specification as originally filed." Ans. 6.

To satisfy the written description requirement, the disclosure must convey with reasonable clarity to skilled artisans that the Appellants were in possession of the claimed invention as of the filing date. *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64 (Fed. Cir. 1991). At the outset, we note that, for the reasons set forth *supra*, we agree with the Examiner's interpretation of the phrase "chemical sensor" to mean a sensor that "detects the presence of combustion byproducts inside an airflow." *See* Ans. 6. Appellants' Specification describes "a sensor [14] for detecting a chemical composition over an active zone [30] of a cooktop [28]." Spec. 2, para. [0006] and Spec. 4, para. [0022]. According to the Specification, "sensor 14 detects … the target air constituents to be removed from the air." Spec. 5, para. [0026]. Furthermore, in paragraph [0037], the Specification describes "[t]he target chemical composition" to include "cooking fumes, vapors,

smoke and combustion byproducts that are being generated as a result of cooking activities of a user of the cooking apparatus."

Thus, the Specification conveys with reasonable clarity to one ordinarily skilled in the art that the claimed "chemical sensor" is for "detecting a chemical composition in air," that is, "detects the presence of combustion byproducts inside an airflow." For the foregoing reasons, we do not sustain the rejection of claims 1, 4-14, 16, 18-22, 25, 28-35, 38, and 41-43, under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement.

The indefiniteness rejection

The Examiner found that the scope of the limitation of "a <u>chemical</u> sensor for detecting a chemical composition in air" is unclear. Ans. 6. According to the Examiner, "[i]t is unclear if the newly added limitations refer to analyzing the precise chemical composition of an airstream, or if the sensor detects the presence of combustion byproducts inside an airflow." *Id*. Appellants argue that "the only reasonable interpretation of 'chemical sensors' is sensors that detect <u>specific</u> chemical compounds." App. Br. 7-8. According to Appellants, "one skilled in the art would understand a chemical sensor as a sensor that detects specific chemical compounds." Reply Br. 4.

The Examiner appears to require that the claims specify exactly what the claimed "chemical sensor" detects, namely, "the presence of combustion byproducts inside an airflow" or the "precise chemical composition of an airstream." Although we agree, for the reasons set forth *supra*, with the Examiner's interpretation of the phrase "chemical sensor" to mean a sensor

that "detects the presence of combustion byproducts inside an airflow," nonetheless, we note that by modifying the term "sensor" with the term "chemical," the claims are merely broad, not indefinite. *See In re Johnson*, 558 F.2d 1008, 1016 n.17 (CCPA 1977) (breadth is not indefiniteness). The test for definiteness under 35 U.S.C. § 112, second paragraph, is whether "those skilled in the art would understand what is claimed when the claim is read in light of the specification." *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576 (Fed. Cir. 1986) (citations omitted). Thus, we likewise do not sustain the indefiniteness rejection of claims 1, 4-14, 16, 18-22, 25, 28-35, 38, and 41-43 under 35 U.S.C. § 112, second paragraph.

The obviousness rejection based on Melink, Bowen, and Morton

The Examiner found that Melink discloses a sensor 82 for detecting cooking byproducts. Ans. 6. According to the Examiner, "[s]ensor (82) is regarded as a chemical sensor to the same extent [as] applicant's disclosed sensors are 'chemical sensors', as they detect the presence of chemicals or cooking by products as claimed." *Id*. at 7.

Appellants argue that, "[n]either Melink, Bowen, nor Morton discloses a 'chemical sensor' for 'detecting a chemical composition.'" App. Br. 11. According to Appellants, because the sensor of Melink merely detects the presence of byproducts and "appears to be incapable of detecting any specific chemical composition," Melink's sensor "is not a chemical sensor." *Id*.

We are not persuaded by Appellants' arguments because, for the reasons set forth *supra*, we agree with the Examiner's interpretation of the

phrase "chemical sensor" to mean a sensor that "detects the presence of combustion byproducts inside an airflow." *See* Ans. 6. Since Melink's sensor 82 can detect cooking byproducts, like the Examiner, we find that Melink's sensor constitutes a "chemical sensor," as called for by each of independent claims 1, 14, 22, and 35. *See* Melink, col. 7, ll. 13-17.

Appellants do not present any other arguments with respect to the Examiner's proposed combination of Melink, Bowen, and Morton. Accordingly, the rejection of claims 1, 4-7, 14, 16, 18-20, 22, 25, 28, 35, 38, and 41-43 under 35 U.S.C. § 103(a) as unpatentable over Melink, Bowen, and Morton is sustained.

With respect to claims 8, 9, 11-13, 21, 29, 30, and 32-34, Appellants argue that the application of Wang does not cure the perceived deficiencies of Melink, Bowen, and Morton. App. Br. 12. Similarly, with respect to claims 10 and 31, Appellants argue that the application of Wang and Jensen do not overcome the perceived deficiencies of Melink, Bowen, and Morton. App. Br. 13. For the reasons discussed above, we find no deficiencies in the underlying combination of Melink, Bowen, and Morton, and thus Appellants' arguments are not persuasive. Accordingly, the rejections under 35 U.S.C. § 103(a) of claims 8, 9, 11-13, 21, 29, 30, and 32-34 as unpatentable over Melink, Bowen, Morton, and Wang and of claims 10 and 31 as unpatentable over Melink, Bowen, Morton, Wang, and Jensen are sustained.

SUMMARY

The Examiner's decision to reject claims 1, 4-14, 16, 18-22, 25, 28-35, 38, and 41-43 is 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

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