



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/810,095	07/27/2015	Peter J. Hawrylak	TUL825-00/14399A-MGK	9987
24118	7590	09/23/2019	EXAMINER	
HEAD, JOHNSON, KACHIGIAN & WILKINSON, PC 228 W 17TH PLACE TULSA, OK 74119			OLAMIT, JUSTIN N	
			ART UNIT	PAPER NUMBER
			2854	
			NOTIFICATION DATE	DELIVERY MODE
			09/23/2019	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

kbartley@hjkwlaw.com
mgatlin@hjkwlaw.com
thamm@hjkwlaw.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte PETER J. HAWRYLAK and TYLER W. JOHANNES

Appeal 2019-001586
Application 14/810,095
Technology Center 2800

Before MARK NAGUMO, JEFFREY B. ROBERTSON, and
DEBRA L. DENNETT, *Administrative Patent Judges*.

ROBERTSON, *Administrative Patent Judge*.

DECISION ON APPEAL¹

STATEMENT OF THE CASE

Appellant² appeals under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1–3, 5, 6, 10–12, 14, 17, 18, and 20–22. (*See* Appeal Br. 7.) We have jurisdiction pursuant to 35 U.S.C. § 6(b).

We AFFIRM.

¹ This Decision includes citations to the following documents: Specification filed July 27, 2015 (“Spec.”); Final Office Action mailed March 5, 2018 (“Final Act.”); Appeal Brief filed July 30, 2018 (“Appeal Br.”); and Examiner’s Answer mailed October 12, 2018 (“Ans.”).

² We use the word “Appellant” to refer to “Applicant” as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as The University of Tulsa. (Appeal Br. 2.)

THE INVENTION

Appellant states the invention relates to a water usage monitoring system to assist in efforts to conserve potable water by reducing water usage. (Spec. 2, ll. 7–9.)

Claim 1 is representative and reproduced below from the Claims Appendix to the Appeal Brief:

1. A water usage monitoring system for a plumbing water supply, which system comprises:
 - a flow meter flow sensor in line between a fixture and said plumbing water supply, wherein all water from said plumbing water supply to said fixture passes through said flow meter flow sensor;
 - an embedded system in communication with said flow sensor wherein said embedded system includes a timer, and wherein said embedded system is powered by a rechargeable capacitor;
 - and
 - said flow meter sensor and said embedded system are contained in a housing wherein said housing is juxtaposed between and connected to said plumbing water supply and said fixture;
 - a resource management system in communication with said embedded system via a wireless link, wherein said resource management system is in communication with and may be accessed via the internet.

(Appeal Br. (Claims Appendix) 15.)

Claims 17 and 21 are also independent and recite a process to monitor water usage and a water usage monitoring system for a plumbing water supply, respectively, including an embedded system with a timer, and where the embedded system is powered by a rechargeable capacitor. (*Id.* at 17–19.)

REJECTIONS

1. The Examiner rejected claims 1–3, 5, 6, 10–12, 14, and 22 under 35 U.S.C. § 112(a) or 35 U.S.C. § 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement.
2. The Examiner rejected claims 1–3, 5, 6, 10–12, 14, 17, 18, and 20–22 under 35 U.S.C. § 103 as obvious over Casella et al. (US 7,508,318 B2, issued March 24, 2009, hereinafter “Casella”), Metlen et al. (US 2009/0242659 A1, published October 1, 2009, hereinafter “Metlen”), and Connor et al. (US 8,313,209 B2, issued November 20, 2012, hereinafter “Connor”).

(Final Act. 2–12.)

We select independent claim 1 for disposition of this appeal, which is representative of the subject matter claimed, and decide the appeal as to all grounds of rejection on the basis of the arguments presented for claim 1 (*see* Appeal Br. 10, 14). 37 C.F.R. § 41.37(c)(1)(iv).

Rejection 1

ISSUE

The Examiner found the limitation in claim 1, “all water from said plumbing water supply to said fixture passes through said flow meter flow sensor,” has no support in the original disclosure. (Final Act. 2.) In the Answer, the Examiner found that even though Figure 1 shows all water passing through the flow sensor housing (element 20), the flow sensor housing is not the same as the flow sensor (element 22), and neither Figure 1 nor Figure 2, shows that all water flows through the flow sensor 22. (Ans. 2.) The Examiner found also the accompanying text in the Specification

does not disclose that all water passes through flow sensor 22. (*Id.* at 2–3, citing Spec. 7, ll. 17–18 and 8, ll. 20–22.)

Appellant argues Figures 1 and 2 in conjunction with the Specification describe the limitation with sufficient detail to inform the ordinary skilled artisan that Appellant was in possession of the claimed invention. (Appeal Br. 8–9; citing Spec. 7, ll. 17–18 and 8, ll. 20–22; Figs. 1 and 2.)

Accordingly, the dispositive issue with respect to this rejection is:

Has Appellant identified a reversible error in the Examiner’s finding that the Specification does not provide written description support for the recitation in claim 1 of “all water from said plumbing water supply to said fixture passes through said flow meter flow sensor”?

DISCUSSION

We are not persuaded by Appellant’s argument that there is sufficient support in the Specification for the limitation “all water from said plumbing water supply to said fixture passes through said flow meter flow sensor” recited in claim 1.

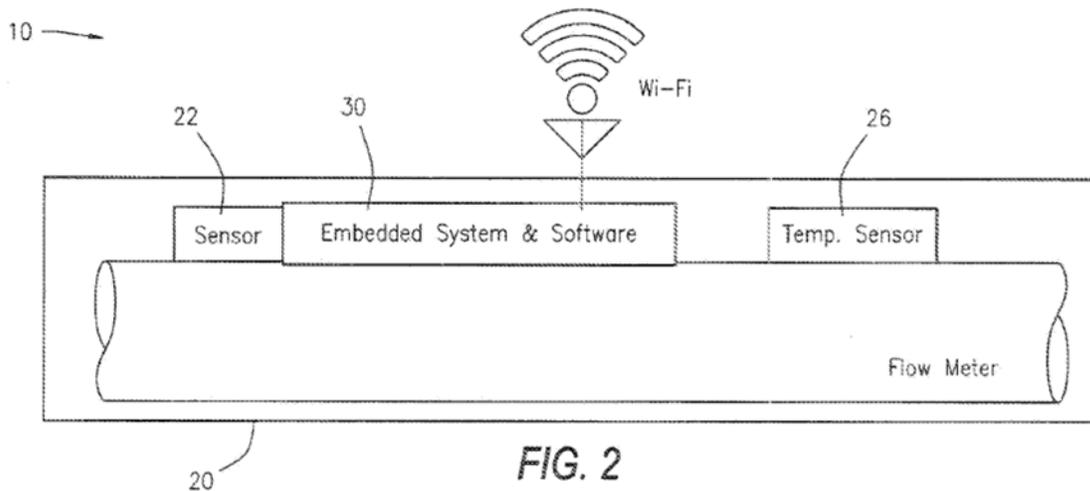
As explained in *Regents of the Univ. of Cal. v. Eli Lilly & Co.*, 119 F.3d 1559, 1566 (Fed. Cir. 1997),

[t]o fulfill the written description requirement, a patent specification must describe an invention and do so in sufficient detail that one skilled in the art can clearly conclude that “the inventor invented the claimed invention.” *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (1997); *In re Gosteli*, 872 F.2d 1008, 1012, 10 USPQ2d 1614, 1618 (Fed. Cir. 1989) (“[T]he description must clearly allow persons of ordinary skill in the art to recognize that [the inventor] invented what is claimed.”). Thus, an applicant complies with the written description requirement “by

describing the invention, with all its claimed limitations, not that which makes it obvious,” and by using “such descriptive means as words, structures, figures, diagrams, formulas, etc., that set forth the claimed invention.” *Lockwood*, 107 F.3d at 1572, 41 USPQ2d at 1966.

In other words, the disclosure must convey with reasonable clarity to those skilled in the art that the inventor was in possession of the invention. *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563–64 (Fed. Cir. 1991). Compliance with the written description requirement is a question of fact. *Id.* at 1562–63.

In the instant case, we observe that claim 1 recites all water from the plumbing water supply passes through the “flow meter flow sensor.” Figure 2, reproduced in pertinent part below, depicts a “Flow Meter” inside housing 20 and a flow sensor 22. (Fig. 2; *see* Spec. 7, l. 20 – 8, l. 2.)



The reproduced portion of Figure 2 depicts a schematic diagram of a water usage monitoring system 10, including a Flow Meter and flow sensor 22 contained within a housing 20 in line with a water supply (not shown), the housing 20 also containing an embedded system 30 and temperature sensor 26. (Spec. 7, l. 13 – 8, l. 10.)

Although the Specification states “[t]he flow sensor 22 may be placed in line with the water flowing through the water plumbing supply and through the shower head fixture 16,” we have not been directed to sufficient evidence that this disclosure means one of ordinary skill in the art would have clearly concluded that Appellant was in possession of an embodiment where all water from the plumbing water supply to the fixture passes through a “flow meter flow sensor.” This is particularly so where the Specification appears to discuss and show the “flow sensor” and “flow meter” as separate or alternative components, whereas the claim recites a “flow meter flow sensor.” (*See e.g.*, Spec. 7, l. 22 – 8, l. 1, “a flow meter or flow sensor is contained within the housing 20,” Fig. 2; *see also* Spec. 8, l. 5, 8, 17 and 9, ll. 1–10.)

Accordingly, we affirm the Examiner’s rejection of independent claim 1 and claims 2, 3, 5, 6, 10–12, 14, and 22 dependent therefrom.

Rejection 2

ISSUE

Regarding claim 1, the Examiner found Casella discloses a water usage monitoring system including a flow meter flow sensor 130, where all water from the plumbing water supply 104 passes through the flow meter flow sensor, an embedded system, and a resource management system, but Casella does not disclose the embedded system includes a timer. (Final Act. 4.) The Examiner found Metlen discloses an embedded system including a timer, which together are part of a shower stage that includes lights to indicate the length of water usage. (*Id.*) The Examiner determined it would have been obvious to have modified the system of Casella to include lights

as taught by Metlen as well as the timer in the embedded system of Casella in order to help a user conserve water. (*Id.*) The Examiner found Casella and Metlen do not teach the embedded system is powered by a rechargeable capacitor, where Casella discloses the embedded system is powered by a rechargeable battery. (*Id.* at 5.) The Examiner found Connor discloses using a rechargeable capacitor as a substitute for a battery, and as a result, the Examiner determined it would have been obvious to have substituted the rechargeable battery of Casella with a rechargeable capacitor to achieve the predictable result of providing a rechargeable source of electrical energy. (*Id.*)

Appellant argues Casella discloses some portion and/or all of the water passing through the module containing the flow sensor is diverted for power generation, and as a result, Casella does not meet the recitation in claim 1 of “all water from said plumbing water supply to said fixture passes through said flow meter flow sensor.” (Appeal Br. 11.) Appellant argues the timer recited in the present claims monitors and determines the entirety of the water usage of individual users with no predetermined parameters to alert users of intermediate water use as disclosed in Metlen and in the rationale used to support the rejection. (*Id.* at 11–12.) Appellant contends if the timer of the present invention is used in the modification, it would render the prior art unsatisfactory for its intended purpose, and also the suggested combination of references would require a reconstruction and redesign of the timer used in the proposed modification. (*Id.*) Last, Appellant contends Connor is not analogous art because it is not in the same field of endeavor or reasonably pertinent to the problem faced by the inventor. (*Id.* at 12–13.)

Accordingly, the dispositive issue with respect to this rejection is:
Has Appellant identified a reversible error in the Examiner's determination that claim 1 would have been obvious in view of Casella, Metlen, and Connor?

DISCUSSION

We are not persuaded by Appellant's argument that because Casella discloses some or all of the water passing through the module 100 containing the flow sensor is diverted for power generation, Casella does not meet the limitation "all water from said plumbing water supply to said fixture passes through said flow meter flow sensor" recited in claim 1. (Appeal Br. 11.) Rather, we agree with the Examiner, that according to Figure 1 of Casella, water is not diverted to the power generator 140 until after all the water has passed through the flow meter 130. (Ans. 3.)

Figure 1 of Casella is reproduced below:

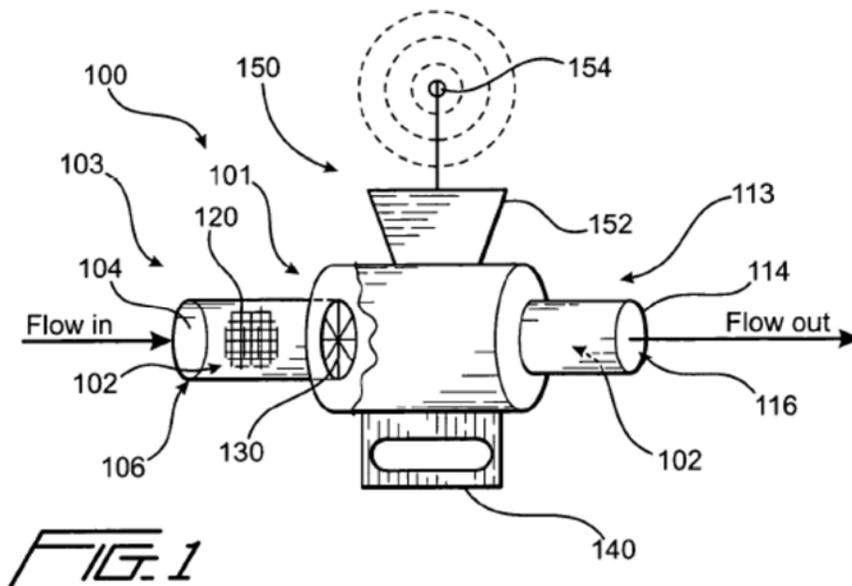


Figure 1 is a partially exposed side view of a water usage monitoring system or module according to Casella. (Casella, col. 1, ll. 29–30, col. 2, ll. 7–16.) The module 100 includes a fluid inlet 104, flow measuring device 130, power generator 140 and fluid outlet 114. (Casella, col. 4, ll. 33–66.)

As can be seen in Figure 1, the water passes through the flow measuring device 130 before coming into contact with the power generator 140. Accordingly, any water diversion would occur after all the water has passed through the flow measuring device. Thus, contrary to Appellant’s argument, Casella does meet the limitation “all water from said plumbing water supply to said fixture passes through said flow meter flow sensor” recited in claim 1.

We are also not persuaded by Appellant’s arguments regarding the incorporation of the lights and timer of Metlen into the system of Casella. As observed by the Examiner, the timer recited in independent claims 1, 17, and 21, is not restricted to monitoring total water usage as argued by Appellant. (Ans. 3.) As such, Appellant’s argument that the timer as claimed would render the prior art unsatisfactory for its intended purpose is not persuasive.

We are also not persuaded by Appellant’s argument that the combination of prior art would require reconstruction and redesign of the timer. To the extent Appellant is arguing that the timer would need to be redesigned and reconstructed to monitor total water usage, we are not persuaded for the similar reasons as discussed above. To the extent Appellant is arguing that incorporating the lights and timer of Metlen into the system of Casella would require reconstruction and redesign, we agree with the Examiner that because both Casella and Metlen (Abst.; Fig. 1, 6–8;

¶¶ 22, 42, 43) disclose flow meters in line with plumbing fixtures, the combination would not require significant reconstruction or redesign of the timer. (Ans. 3.) In this regard, Appellant does not present any arguments that the modifications proposed by the Examiner would have been beyond the capabilities of one of ordinary skill in the art in plumbing fixtures. In *KSR*, the Supreme Court explained, “[w]hen a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007). “A person of ordinary skill is also a person of ordinary creativity, not an automaton.” *Id.* at 421.

As to Appellant’s argument that Connor is non-analogous art, we are not persuaded.

Two criteria are relevant in determining whether prior art is analogous: “(1) whether the art is from the same field of endeavor, regardless of the problem addressed, and (2) if the reference is not within the field of the inventor’s endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved.” *Comaper Corp. v. Antec, Inc.*, 596 F.3d 1343, 1351 (Fed. Cir. 2010) (quoting *In re Clay*, 966 F.2d 656, 658-59 (Fed. Cir. 1992)). Whether a reference in the prior art is “analogous” is a fact question. *In re Clay*, 966 F.2d at 658.

Wyers v. Master Lock Co., 616 F.3d 1231, 1237 (Fed. Cir. 2010). “The Supreme Court’s decision in *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398 (2007), directs us to construe the scope of analogous art broadly, stating that ‘*familiar items may have obvious uses beyond their primary purposes*, and a person of ordinary skill often will be able to fit the

teachings of multiple patents together like pieces of a puzzle.’ *Id.* at 402 (emphasis added).” *Id.* at 1238.

In this regard, we are of the view that Connor is at least reasonably pertinent to the problems faced by the inventor in disclosing reliable rechargeable power sources including rechargeable capacitors. (Connor, col. 1, ll. 12–17, 36–44; col. 6, ll. 16–17.) Although Appellant contends the Examiner’s position of “providing power in a compact space” is not a problem found in Appellant’s Specification (Appeal Br. 13; Final Act. 13), the Specification expressly discusses the need to provide power to the embedded system, where the embedded system uses energy harvesting. (Spec. 10, l. 20 – 11, l. 4.) Thus, we are of the view that Connor would have commended itself to an inventor’s attention in considering options to provide power to an embedded system for use in a water usage monitoring system. *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992) (“A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor’s endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor’s attention in considering his problem.”).

Accordingly, we affirm the Examiner’s rejection of claims 1–3, 5, 6, 10–12, 14, 17, 18, and 20–22 as obvious over Casella, Metlen, and Connor.

DECISION

Claims Rejected	Basis	Affirmed	Reversed
1–3, 5, 6, 10–12, 14, and 22	§ 112	1–3, 5, 6, 10–12, 14, and 22	

Claims Rejected	Basis	Affirmed	Reversed
1-3, 5, 6, 10-12, 14, 17, 18, and 20-22	§ 103 Casella, Metlen, and Connor	1-3, 5, 6, 10-12, 14, 17, 18, and 20-22	
Overall Outcome		1-3, 5, 6, 10-12, 14, 17, 18, and 20-22	

FINALITY AND 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)(1)(iv).

AFFIRMED