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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte HANS ULMERT

Appeal 2019-003374
Application 14/771,291
Technology Center 1700

Before JEFFREY W. ABRAHAM, MONTÉ T. SQUIRE, and
LILAN REN, *Administrative Patent Judges*.

ABRAHAM, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1–7. 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(a). Appellant identifies the real party in interest as Hans Ulmert Med Firma Flozell. Appeal Br. 2.

CLAIMED SUBJECT MATTER

The claims relate to a method of purifying water. Spec. 1:5–8.

Claim 1, reproduced below from the Claims Appendix, is illustrative of the claimed subject matter:

1. A method for chemical precipitation purification in a water treatment plant or waste water treatment plant, the method comprising:

obtaining on-line measurements of a contamination degree of incoming untreated water and/or outgoing treated water;

providing a coagulant solution comprising an aluminum-based coagulant having a basicity to a reaction vessel;

regulating the basicity of the aluminum-based coagulant in situ by reacting a controlled amount of hydroxide ions with the aluminum-based coagulant in the reaction vessel to form a hydroxylated aluminum coagulant solution, wherein in situ regulation of the basicity is based on the contamination degree measurements; and

adding a dosage of the hydroxylated coagulant solution from the reaction vessel to untreated water in a treatment tank to form flocculated water.

Claims Appendix 1.

REJECTIONS ON APPEAL

On appeal, the Examiner maintains the following rejections

A. Claims 1, 3, 4, and 6 under 35 U.S.C. § 103 as unpatentable over Arai² and Kimura,³

² US 2002/0121484 A1, published Sept. 5, 2002.

³ M. Kimura et al., *Minimizing residual aluminum concentration in treated water by tailoring properties of polyaluminum coagulants*, Water Research, Vol. 47, No. 6, January 31, 2013, 2075–2084.

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- B. Claim 2 under 35 U.S.C. § 103 as unpatentable over Arai, Kimura, and Johnson;⁴
- C. Claim 5 under 35 U.S.C. § 103 as unpatentable over Arai, Kimura, and Yamaguchi;⁵ and
- D. Claims 7 under 35 U.S.C. § 103 as unpatentable over as Arai, Kimura, and Smiddy.⁶

Ans. 3; Non-Final Act. 2–6.

OPINION

We sustain the above rejections based primarily on the Examiner’s findings of fact, conclusions of law, and rebuttals to Appellant’s arguments, as expressed in the Final Action and Answer. The following comments are added for emphasis.

Appellant presents arguments for independent claim 1 and does not separately argue the patentability of dependent claims 2–7, which depend from claim 1. Therefore, we limit our discussion to independent claim 1, which we select as representative under 37 C.F.R. § 41.37(c)(1)(iv). By this rule, claims 2–7 stand or fall with claim 1.

The Examiner finds Arai teaches a method of optimizing the coagulation/flocculation process of polluted waters treated with an aluminum-based coagulant that includes “obtaining on line measurements of a contamination degree” and adding a coagulant having hydroxides to a treatment tank, wherein the addition of the coagulant is regulated based on the “measurements of the contamination degree.” Final Act. 2–3. The Examiner notes that Arai does not explicitly teach using its method in a

⁴ US 2009/0107913 A1, published Apr. 30, 2009.

⁵ US 2008/0288111 A1, published Nov. 20, 2008.

⁶ US 2012/0285895 A1, published Nov. 15, 2012.

wastewater treatment plant, but takes the position that “any place where polluted water is treated could be considered a wastewater treatment plant,” and “the general wastewater treatment method taught by Arai would be applicable to small scale operations as well as larger plant type operations and one skilled in the art would have a reasonable expectation of success in treating larger volumes of water via the Arai method.” Final Act. 3.

The Examiner acknowledges that Arai does not teach regulating the basicity of the coagulant prior to being added, but finds that

Kimura teaches that in treating various wastewater streams, the polyaluminum chloride coagulant can be tailored depending on the properties of the incoming stream in order to effectively treat the wastewater. Such tailoring includes modifying the basicity of the polyaluminum chloride coagulant via addition of hydroxide ions and is useful in cases where pH adjustment of the incoming stream is difficult or undesirable.

Final Act. 3 (citing Kimura, Abstract, 2076, 2081–2083). The Examiner further determines that a person of ordinary skill in the art would have found it obvious to tailor the basicity of the coagulant used in Arai in view of Kimura’s teachings “in order to effectively treat water systems.” Final Act. 3.

Appellant argues that the combined teachings of Arai and Kimura fail to disclose or suggest all of the limitations of claim 1, including (1) regulating the basicity of the coagulant in situ prior to being added to the untreated water, and (2) chemical precipitation purification in a water treatment plant. Appeal Br. 3–4. In particular, Appellant argues that Arai teaches controlling the *amount* of flocculent added to the water based on the measured pollutant concentration, not the *basicity* of the flocculent, such that “[t]here is no regulation or adjustment of the basicity of the flocculent in situ.” Appeal Br. 5. Appellant acknowledges that “different coagulants

may have different basicity,” and that Kimura tested coagulants having different basicity values.⁷ Appeal Br. 5. Appellant argues, however, that basicity was not the determining factor of the effectiveness of the coagulant in Kimura, and that Kimura does not teach or suggest that any property of the coagulant could be varied in situ in response to the measured degree of contamination of the water. Appeal Br. 4–6.

Appellant also argues that Arai is directed to the purification system of a washing machine, not a waste water treatment plant as recited in claim 1. Appeal Br. 6–7. According to Appellant, “the amount of waste water processed in typical treatment plants is exponentially greater than that processed by washing machines,” and “[t]here is nothing in Arai that would have led one skilled in the art to have an expectation that the process of Arai could be scaled up to the extent required for successful water or waste water treatment plant operation.” Appeal Br. 7.

Appellant’s arguments are not persuasive. As the Examiner points out, Appellant’s arguments are directed to the references individually, as opposed to the collective teachings of the references. Ans. 3. Appellant does not address sufficiently the Examiner’s determination that it would have been obvious to a person of ordinary skill in the art to modify the basicity of a coagulant in situ in view of Arai’s disclosure of obtaining

⁷ This acknowledgement undermines Appellant’s argument in the Reply Brief regarding the difference between pH and basicity and the Examiner’s use of pH in one sentence in the Answer. Reply 2. Furthermore, we note that the Examiner repeatedly refers to Kimura’s disclosure of the basicity of coagulants, including the statement that “Kimura teaches that adding hydroxide ions to increase the basicity of an aluminum based coagulant is something that can be tailored in order to promote more effective water treatment.” Ans. 3–4 (citing Kimura, Abstract, 2076, Figs. 4–6).

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on-line measurements of wastewater contamination and controlling the amount of flocculent added to wastewater in response to those measurements, together with Kimura's disclosure of varying the basicity of a coagulant through the addition of hydroxide ions to promote effective water treatment.

Nor are we persuaded by Appellant's arguments regarding the difference in scale between the volume of water used in Arai's purification system for washing machines and the amount of water treated at "larger plant type operations," such as a pulp and paper mill. Appeal Br. 6–7. As the Examiner points out, there is no specific definition in the Specification for a waste water treatment plant, and the claims do not recite a specific size of the plant or specify how much water a plant must treat in a given period of time. Ans. 6. Furthermore, Appellant relies solely on attorney argument to support its position that a person of ordinary skill in the art would not have had a reasonable expectation of success in treating larger volumes of water based on Arai's teachings. *See* Appeal Br. 6–7. Attorney argument, however, cannot take the place of evidence. *E.g., In re Pearson*, 494 F.2d 1399, 1405 (CCPA 1974).

Appellant also presents two new arguments in its Reply Brief. First, Appellant argues that "for the washing machine of Arai to be able to regulate basicity, significant modification of the washing machine purifier would be required." Reply 3. Second, Appellant argues that "one skilled in the art would not have been motivated to look to Kimura to modify the process of Arai." Reply 3. A reply brief, however, is not "an opportunity to make arguments that could have been made in the principal brief on appeal to rebut the Examiner's rejections, but were not." *Ex parte Borden*, 93 USPQ2d 1473 (BPAI 2010) (informative opinion). Pursuant to our

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rules, “[a]ny argument raised in the reply brief which was not raised in the appeal brief, or is not responsive to an argument raised in the examiner's answer, . . . will not be considered by the Board for purposes of the present appeal, unless good cause is shown.” 37 C.F.R. § 41.41(2). Appellant has not shown good cause as to why we should consider these new arguments.

Nevertheless, even if we were to consider these belated arguments, the outcome here would not change. As to Appellant’s arguments regarding “significant modifications” to a washing machine, “[t]he test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference.” *In re Keller*, 642 F.2d 413, 425 (CCPA 1981). Additionally, Appellant does not contend that such modifications would have been beyond the skill level of a person of ordinary skill in the art. As to Appellant’s argument that a person of ordinary skill in the art would not have looked to Kimura to modify Arai, we disagree. Both references generally relate to wastewater treatment, a fact that supports the Examiner’s determination that a person of ordinary skill in the art would have looked to combine the references “in order to effectively treat wastewater streams.” Final Act. 3.

In view of the foregoing, we are not persuaded of any reversible error in the Examiner’s rejection of claim 1 under 35 U.S.C. § 103.

CONCLUSION

The Examiner’s rejections of claims 1–7 under 35 U.S.C. § 103 are affirmed.

DECISION SUMMARY

In summary:

Claim(s) Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 3, 4, 6	103	Arai, Kimura	1, 3, 4, 6	
2	103	Arai, Kimura, Johnson	2	
5	103	Arai, Kimura, Yamaguchi	5	
7	103	Arai, Kimura, Smiddy	7	
Overall Outcome			1-7	

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).

AFFIRMED