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13/643,663	12/03/2012	Frederick P. Mussari	B2096-7007US	1066
37462	7590	01/27/2020	EXAMINER	
LANDO & ANASTASI, LLP ONE MAIN STREET, SUITE 1100 CAMBRIDGE, MA 02142			STELLING, LUCAS A	
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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* FREDERICK P. MUSSARI and AARON ZAHN

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Appeal 2019-002122  
Application 13/643,663  
Technology Center 1700

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Before JAMES A. WORTH, MICHELLE N. ANKENBRAND, and  
MERRELL C. CASHION JR., *Administrative Patent Judges*.

CASHION, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant<sup>1</sup> appeals under 35 U.S.C. § 134(a) from the Examiner's rejection<sup>2</sup> of claims 10, 11, and 16–23, which constitute all the claims pending in this application. Claims 1–9 and 12–15 have been withdrawn.

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<sup>1</sup> We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as BCR Environmental Corporation. Appeal Br. 3.

<sup>2</sup> According to the prosecution record, both Appellant and the Examiner agree that the appeal is taken from the Non-Final Action dated November 11, 2016. *See* Examiner's Communication dated July 31, 2017; Ans. 3; Appeal Br. 5.

We have jurisdiction under 35 U.S.C. § 6.

We REVERSE.

The invention is generally directed to a method for treating a waste stream comprising biosolids. Spec. ¶ 3. Claim 10 is illustrative of the subject matter on appeal and is reproduced below:

10. A method for treating a waste stream comprising biosolids so as to achieve a SOUR of 1.5 mg O<sub>2</sub>/g/hr or less and an ORP of at least +300 mV in the waste stream, the waste stream being provided at varying flow rates and solids concentrations, the method comprising:

adjusting a suspended solids content as a percent of the total volume of the waste stream to five (5) weight percent or less;

generating chlorine dioxide in an on-site generator; and

delivering the chlorine dioxide to a conduit comprising a treatment zone through which the waste stream flows so as to achieve a dose rate between 25 and 200 parts per million of the waste stream in the treatment zone and complete dispersal of chlorine dioxide in the waste stream within 30 seconds of delivery to the conduit to provide a treated biosolids sample.

Appellant (*see generally* Appeal Br.) requests review of the following rejections from the Examiner's Non-Final Action dated November 1, 2016:<sup>3</sup>

I. Claims 10, 11, 16, and 18–23 rejected under 35 U.S.C. §103(a) as unpatentable over Reimers (US 2005/0279706 A1, published December 22, 2005), Schmitz (US 2005/0244328 A1, published November 3, 2005), Teran (US 2007/0090030 A1, published April 26, 2007), and Rozich (US 6,783,679 B1, issued August 31, 2004).

II. Claim 17 rejected under 35 U.S.C. §103(a) as unpatentable over Reimers, Schmitz, Teran, Rozich, and Mullerheim (US 5,837,142, issued November 17, 1998).

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<sup>3</sup> The Examiner withdrew the rejection under 35 U.S.C. § 112, second paragraph. Ans. 11.

## OPINION

After review of the respective positions that Appellant provides in the Appeal Brief and the Examiner provides in the Non-Final Action and the Answer, we REVERSE the Examiner's prior art rejections of claims 10, 11, and 16–23 for the reasons the Appellant presents. We add the following for emphasis.

### *Claim 10*<sup>4</sup>

We refer to the Examiner's Non-Final Action for a complete statement of the rejection of claim 10. Non-Final Act. 4–8.

Briefly, the Examiner finds that Reimers<sup>5</sup> teaches a method for treating a waste stream comprising biosolids by delivering chlorine dioxide to a conduit comprising a treatment zone through which said waste stream flows. Non-Final Act. 5; Reimers ¶¶ 22, 77. The Examiner finds that Reimers's Table 9 shows that adding the chlorine dioxide at time zero within a reactor zone results in desired Oxygen Reduction Potential (ORP) levels of between 330 and 600 mV. Non-Final Act. 6–7; Reimers ¶¶ 27, 72 (Table 9), 75. The Examiner determines that, although Reimers does not disclose completely dispersing the chlorine dioxide within 30 seconds, it would have been obvious to one skilled in the art to disperse Reimers's chlorine dioxide with the biosolids within the claimed time period (i.e., immediately) while mixing to reach the desired ORP at zero minutes. Non-Final Act. 5, 7.

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<sup>4</sup> We limit our discussion to independent claim 10.

<sup>5</sup> Appellant's arguments focus on the primary reference to Reimers. *See generally* Appeal Br. Appellant does not dispute the Examiner's specific findings with respect to the additional secondary references. *Id.* Accordingly, we limit our discussion to Reimers in addressing Appellant's arguments.

Appellant argues that Reimers's Table 9 fails to suggest the disputed limitation because Reimers does not associate complete dispersal of chlorine dioxide in the waste stream with any particular ORP value. Appeal Br. 7. Instead, Appellant contends that "there is nothing in Reimers that indicates that the ORP of the sludge samples at time zero was anything other than the initial ORP of the sludge prior to contact with the oxidant." *Id.* Appellant also contends that "Reimers discloses mixing oxidants and biosolids *'for approximately 30 to 120 minutes in a batch reactor vessel where pathogenic organisms are inactivated,'*" a time period that is "60 to 240 times the 30 seconds presently recited." App. Br. 8; Reimers ¶ 27. Appellant asserts that "[r]eplacing the 30 to 120 minute batch mixing process of Reimers with a process including achieving 'complete dispersal of chlorine dioxide in the waste stream within 30 seconds of delivery'" would negate Reimers's purpose and intent and contradict the prescribed process. Appeal Br. 8. In other words, Appellant contends that the Examiner is relying on impermissible hindsight to arrive at the claimed invention from Reimers's disclosure.

We agree with Appellant that there is reversible error in the Examiner's determination of obviousness.

The Examiner bears the initial burden of presenting a prima facie case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006), *quoted with approval in KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). The

fact finder must be aware “of the distortion caused by hindsight bias and must be cautious of arguments reliant upon ex post reasoning.” *KSR*, 550 U.S. at 421 (citing *Graham v. John Deere Co.*, 383 U.S. 1, 36 (1966) (warning against a “temptation to read into the prior art the teachings of the invention in issue”)).

The premise of the Examiner’s rejection is that the data in Reimers’s Table 9 would have led one skilled in the art to a process of treating a waste stream by completely dispersing chlorine dioxide in the waste stream within 30 seconds of delivery to a conduit to provide a treated biosolids sample, as claimed, because the data demonstrate that the ORP in a closed system is brought to the desired level of ORP within a time of zero minutes, i.e., immediately. Non-Final Act. 7. The Examiner, however, does not direct us to any portions of Reimers that support the Examiner’s premise. In fact, Reimers merely states that “[t]ables 5 to 9 show the ORP level verses chlorinate mixed oxidants in open system and closed system.” Reimers ¶ 68. As Appellant argues, there is no disclosure associating the Table 9 data with complete dispersal of chlorine dioxide in the waste stream. Appeal Br. 7.

Further, as Appellant also argues, Reimers discloses a time period for dispersing the oxidant (chlorine dioxide) within the waste stream that is substantially longer than the claimed “within 30 seconds of delivery.” See Appeal Br. 8 (citing Reimers ¶ 27). The Examiner has not provided an adequate technical explanation with the requisite rational underpinning of why or how one skilled in the art, absent impermissible hindsight, would have arrived at the claimed dispersal time period from Reimers’s disclosure. Thus, the Examiner has not made a prima facie case of obviousness.

Accordingly, we reverse the Examiner's prior art rejections of claims 10, 11, and 16–23 under 35 U.S.C. § 103(a) for the reasons the Examiner presents and the reasons we give above.

### CONCLUSION

In summary:

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
10, 11, 16, 18–23	103(a)	Reimers, Schmitz, Teran, Rozich		10, 11, 16, 18–23
17	103 (a)	Reimers, Schmitz, Teran, Rozich, Mullerheim		17
<b>Overall Outcome</b>				10, 11, 16–23

REVERSED