



# 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.
12/630,866	12/04/2009	Satnam Singh	P009574-RD-MJL	1556
81466	7590	12/15/2015	EXAMINER	
MacMillan, Sobanski & Todd, LLC - GM			SWARTZ, STEPHEN S	
One Maritime Plaza			ART UNIT	
720 Water Street			PAPER NUMBER	
5th Floor			3623	
Toledo, OH 43604			MAIL DATE	
			DELIVERY MODE	
			12/15/2015	
			PAPER	

**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.

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

*Ex parte* SATNAM SINGH, PULAK BANDYOPADHYAY, and  
CALVIN E. WOLF

---

Appeal 2013-001964<sup>1</sup>  
Application 12/630,866<sup>2</sup>  
Technology Center 3600

---

Before NINA L. MEDLOCK, BRADLEY B. BAYAT, and  
TARA L. HUTCHINGS, *Administrative Patent Judges*.

HUTCHINGS, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1–22. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

---

<sup>1</sup> Our decision references Appellants' Appeal Brief ("Appeal Br.," filed July 24, 2012), Reply Brief ("Reply Br.," filed Nov. 12, 2012), Amendment After Final ("AAF," filed May 14, 2012), and Amendment ("Amend.," filed January 10, 2012), and the Examiner's Answer ("Ans.," mailed October 11, 2012), and Final Office Action ("Final Act.," mailed March 13, 2012).

<sup>2</sup> Appellants identify GM Global Technology Operations, LLC. as the real party in interest. Appeal Br. 2.

### CLAIMED INVENTION<sup>3</sup>

Appellants' claimed invention "relates generally to a method for identifying anomalies in the service repairs data." Spec. ¶ 1.

Claim 1, reproduced below, is illustrative of the subject matter on appeal:

1. A method of detecting anomalies in the service repairs for equipment, the method comprising the steps of:
  - providing a failure mode-symptom correlation matrix module that correlates failure modes to symptoms, each of the failure modes being identifiable with a respective occurrence in how equipment failure can occur, wherein the correlation of the symptoms to the failure modes are generated in response to a plurality of engineering principles;
  - collecting diagnostic trouble codes for an actual repair for the equipment, the diagnostic trouble codes relating to a potential malfunction of a component in the equipment as identified by a processor of the equipment;
  - providing the diagnostic trouble codes to a diagnostic reasoner module;
  - applying diagnostic assessment by the diagnostic reasoner module for determining a recommended repair to perform on the equipment in response to the diagnostic trouble codes and the correlations of the failure modes and symptoms in the failure mode-symptom correlation matrix module;
  - comparing the recommended repair with the actual repair used to repair the equipment;
  - identifying a mismatch in response to the recommended repair not matching the actual repair;

---

<sup>3</sup> Appellants filed an Amendment After Final Rejection on May 14, 2012, proposing to amend claim 1 and its dependent claims to recite a "diagnostic reasoner processor" rather than a "diagnostic reasoner module." AAF 2. However, the proposed amendments were not entered by the Examiner. Ans. 4.

generating reports displaying all of the identified mismatches;  
analyzing the reports for determining repair codes having an increase in a number of anomalies; and  
alerting service centers of a correct repair for the identified failure mode.

Amend. 2.

## REJECTIONS

Claims 1–22 are rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter.

Claims 1–6, 9, 11–14, 17, 18, 20, and 21 are rejected under 35 U.S.C. § 103(a) as unpatentable over Pattipatti (US 7,260,501 B1, iss. Aug. 21, 2007), Fera (US 6,338,152 B1, iss. Jan. 8, 2002), and McRory (US 2011/0066898 A1, pub. Mar. 17, 2011).<sup>4</sup>

Claims 7, 8, 10, 15, 16, 19, and 22 are rejected under 35 U.S.C. § 103(a) as unpatentable over Pattipatti, Fera, McRory, and Williams (US 7,379, 846, iss. Aug. 23, 2007).

## ANALYSIS

### *Non-Statutory Subject Matter*

#### *Claims 1–16*

In rejecting claims 1–16 under 35 U.S.C. § 101, the Examiner concludes that the claims are directed to non-statutory subject matter

---

<sup>4</sup> We treat as inadvertent error the omission of the rejection of claim 6 as among the claims rejected as obvious over Pattipatti, Fera, and McRory (Final Act. 11–12) in light of the Examiner’s treatment of the claim at page 16 of the Final Office Action.

because “the claims are not tied to a particular machine or apparatus nor do they transform a particular article into a different state or thing.” Final Act. 9.

Before the mailing date of the Examiner’s Answer, the Supreme Court held in *Bilski v. Kappos*, 561 U.S. 593 (2010) that a patent claim’s failure to satisfy the machine-or-transformation test is not dispositive of the § 101 inquiry. *Id.* at 604. Because the Examiner relies only on the machine-or-transformation test, the Examiner has failed to establish a prima facie case of patent-ineligibility.

Therefore, we do not sustain the Examiner’s rejection of claims 1–16 under 35 U.S.C. § 101.

#### *Claims 17–22*

In rejecting claims 17–22 under 35 U.S.C. § 101, the Examiner takes the position that the system recited in independent claim 17 is directed to software per se, and, therefore, to patent-ineligible subject matter. Final Act. 11. We disagree.

Claim 17 is directed to a field failure detection system, and recites that the system comprises, *inter alia*, “a memory for storing diagnostic trouble codes . . . [and] repair codes,” and a “processing unit for correlating the diagnostic trouble codes with the failure mode-symptom correlation matrix module for determining a recommended repair . . . .” We agree with Appellants that a person of ordinary skill, on reviewing the Specification, would understand that the terms “processing unit” and “memory” encompass hardware components. *See Reply Br. 3.*

For example, Figure 1 of the Specification shows a field failure detection system 10 includes a processor 12 for processing data retrieved by

service providers 14, a failure mode-symptom correlator 15, a diagnostic reasoner 16, and a memory 18. Spec. ¶¶ 15–16, Fig. 1. The Specification further describes that the diagnostic reasoner 16, which determines a recommended repair, “may be a stand[-]alone processor[,] or the diagnostic reasoner and the processor 12 may be integrated as a single processor.” *Id.* ¶ 16. Likewise, the correlation matrix may reside in the processor or another module. *Id.* ¶ 18.

Therefore, we do not sustain the Examiner’s rejection of claim 17 under 35 U.S.C. § 101. For the same reasons, we also do not sustain the rejection of claims 2–4, 6, 7, 20, and 21, each of which ultimately depends from claim 1.

#### *Obviousness*

*Independent claims 1 and 17 and dependent claims 2–6, 9, 11–14, 18, 20, and 21*

We are persuaded by Appellants’ argument that the Examiner erred in rejecting independent claims 1 and 17 under 35 U.S.C. § 103(a) because Fera does not disclose or suggest at least “analyzing the reports for determining repair codes having an increase in a number of anomalies,” as recited in claim 1 and similarly recited in claim 17. Appeal Br. 12–13; *see also* Reply Br. 4–5. In the Final Office Action, the Examiner relies on Fera at column 12, lines 18–50 as disclosing the argued limitation. Final Act. 13 (“Fera teaches the analysis of the trending of faults and operational parameters”).

Fera discloses a method and system for remotely managing communication of data used for predicting malfunctions between a plurality of machines and a monitoring and diagnostic service center (MDSC). Fera, col. 1, ll. 10–16. A process for identifying malfunctions, as disclosed by

Fera, includes downloading faults indicative of impending locomotive failures, identifying faults that occur most frequently, identifying the number of locomotives most affected by the faults that occur most frequently, and categorizing faults by type. *Id.* col. 12, ll. 18–50, Fig. 7.

We fail to see how, and the Examiner fails to explain how, a process for identifying malfunctions, as set forth by Fera at column 12, lines 18–50, discloses “analyzing the reports [displaying all of the identified mismatches in response to the recommended repair not matching the actual repair] for determining repair codes having an increase in a number of anomalies,” as recited in claim 1 and similarly recited in claim 17. For example, although the cited portion of Fera discloses downloading faults from locomotives and characterizing the most frequently occurring faults, it does not mention repair codes, let alone disclose or suggest any analysis with respect to all of the mismatches between the recommended repair and the actual repair for determining repair codes having an increase in a number of anomalies.

Fera further discloses at column 16, lines 13–15 that an MDSC operator should verify with the locomotive owner after the repair is made whether the recommended repair fixes the reported problem. Any discrepancies in the case should be modified to reflect actual repairs versus suggested repairs before closing the case. *Id.* col. 16, ll. 16–17. Upon case closure the system provides feedback to update the anomaly detection or tracking tools. *Id.* col. 16, ll. 20–23. After closing a case all information pertaining to the effectiveness of the anomaly detection tools, MDSC, and customer satisfaction are used to update any case scorecards and any MDSC performance tracking software module. *Id.* col. 16, ll. 23–27.

In the Response to Arguments section of the Answer, the Examiner maintains that “tracking [‘any] discrepancies[’, as disclosed by Fera at column 16, lines 13–27,] is in fact an analysis of whether or not the information is mismatched.” Ans. 7. Even assuming *arguendo* that the cited portion of Fera discloses tracking mismatches, we fail to see, and the Examiner does not explain, how analyzing whether or not the information is mismatched discloses or suggests “analyzing the reports [displaying all of the identified mismatches in response to the recommended repair not matching the actual repair] for determining repair codes having an increase in a number of anomalies,” as recited in claim 1 and similarly recited in claim 17.

On the present record, we are not persuaded that the Examiner has established a prima facie case of obviousness. Therefore, we do not sustain the Examiner’s rejection of claims 1 and 17 under 35 U.S.C. § 103(a). For the same reasons, we also do not sustain the Examiner’s rejection of dependent claims 2–6, 9, 11–14, 18, 20, and 21. *Cf. In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992) (“dependent claims are nonobvious if the independent claims from which they depend are nonobvious”).

*Dependent claims 7, 8, 10, 15, 16, 19, and 22*

Each of claims 7, 8, 10, 15, 16, 19, and 22 depends from one of independent claims 1 and 17. The Examiner does not establish on this record that Williams, relied on in the rejection of these claims, in combination with Pattipatti, Fera, and McRory, cures the deficiency in the Examiner’s rejection of claims 1 and 17. Therefore, we do not sustain the Examiner’s rejection of claims 7, 8, 10, 15, 16, 19, and 22 under 35 U.S.C.



Appeal 2013-001964  
Application 12/630,866

§ 103(a) for the same reasons set forth above with respect to the independent claims.

DECISION

The Examiner's rejection of claims 1–22 under 35 U.S.C. § 101 is reversed.

The Examiner's rejections of claims 1–22 under 35 U.S.C. § 103(a) are reversed.

REVERSED

em