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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte CHARLES MICHAEL McQUADE and BRETT BRINTON

Appeal 2017-009509
Application 13/157,184
Technology Center 3600

Before MAHSHID D. SAADAT, MARC S. HOFF, and
JASON M. REPKO, *Administrative Patent Judges*.

REPKO, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants[1] appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 2–8, 10–14, 16, 17, 19–25, 27, and 28. App. Br. 8.[2] We have jurisdiction under 35 U.S.C. § 6(b).

We affirm-in-part.

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[1] According to Appellants, the real party in interest is Zonar Systems, Inc. App. Br. 2.

[2] Throughout this opinion, we refer to the Final Rejection ("Final Act.") mailed May 5, 2016; the Appeal Brief ("App. Br.") filed January 4, 2017; the Examiner's Answer ("Ans.") mailed April 26, 2017; and the Reply Brief ("Reply Br.") filed June 26, 2017.

THE INVENTION

Appellants' invention monitors operational data and fault code data while a vehicle is operating to generate service requests and pricing data. Spec. ¶ 51.

Claim 25 is reproduced below:

> 25. A system for monitoring operational data and fault code data conveyed from a specific vehicle in real time while the specific vehicle is operating and generating a vehicle service request for the specific vehicle and providing pricing data from one or more vendors able to provide service for the specific vehicle, comprising:
>
> (a) a memory in which a plurality of machine instructions are stored;
>
> (b) a data link for receiving the vehicle service request;
>
> (c) a processor coupled to the memory and to the data link, said processor executing the machine instructions to carry out a plurality of functions, including:
>
> (i) enabling one or more user defined fault codes to be defined while the specific vehicle is operating, wherein at least one user defined fault code is defined by the processor to acquire additional information for use in diagnosing a problem with the specific vehicle and wherein each user defined fault code is different than any fault code defined by a manufacturer of the specific vehicle;
>
> (ii) in response to receiving the vehicle service request, conveying the vehicle service request to a plurality of vendors, to enable each vendor interested in responding to the vehicle service request to provide a price quote for their services; and
>
> (iii) in response to receiving a price quote from a vendor, conveying the price quote to a third party able to convey the price quote to an operator of the specific vehicle, wherein the third party collects and monitors

> vehicle performance data collected from the specific vehicle on a regular basis, and such monitoring has detected a problem with the specific vehicle necessitating the vehicle service request.

THE EVIDENCE

The Examiner relies on the following as evidence:

Walker et al.	US 5,862,223	Jan. 19, 1999
Beelitz et al.	US 6,182,275 B1	Jan. 30, 2001
Davis	US 2002/0111897 A1	Aug. 15, 2002
Lowrey et al.	US 2002/0133273 Al	Sep. 19, 2002
Fiechter et al.	US 6,609,051 B2	Aug. 19, 2003
McCauley	US 2004/0199412 A1	Oct. 7, 2004
Gotts et al.	US 2007/0124283 Al	May 31, 2007
Picard	US 2009/0062978 A1	Mar. 5, 2009

THE REJECTIONS

Claims 2–8, 10–14, 16, 17, 19–25, 27, and 28 stand rejected under 35 U.S.C. § 101 as directed to patent-ineligible subject matter. Final Act. 2–5.

Claims 2, 4, 8, 16, 19, 24, 27, and 28 stand rejected under 35 U.S.C. § 102(b) as anticipated by Picard. Final Act. 5–13.

Claims 3, 22, and 23 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Picard and Fiechter. Final Act. 13–18.

Claim 5 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Picard and Davis. Final Act. 18–19.

Claim 6 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Picard, McCauley, and Beelitz. Final Act. 20.

Claim 7 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Picard and Gotts. Final Act. 23–25.

Claim 10 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Picard and Walker. Final Act. 25–27.

Claims 11, 13, 14, and 25 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Picard, Fiechter, and Lowrey. Final Act. 27–34; Ans. 3.[3]

Claim 12 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Picard, Fiechter, Lowrey, McCauley, and Beelitz. Final Act. 34–38.

Claim 17 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Picard, Fiechter, Lowrey, McCauley, and Walker. Final Act. 38–40.

Claim 20 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Picard, Fiechter, Lowrey, and Davis. Final Act. 40–41.

Claim 21 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Picard and McCauley. Final Act. 41–43.

THE REJECTION UNDER 35 U.S.C. § 101

The Supreme Court's two-step framework guides the subject-matter eligibility analysis under 35 U.S.C. § 101. *See Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2355 (2014). According to *Alice* step one, "[w]e must first determine whether the claims at issue are directed to a patent-ineligible concept," such as an abstract idea. *Id.* If so, *Alice* step two asks us to consider the limitations "both individually and 'as an ordered combination' to determine whether the additional elements 'transform the

[3] In the Office Action mailed May 5, 2016, the Examiner lists only claim 11 in the rejection's header but addresses claims 13, 14, and 25 in the substantive portion. *See* Final Act. 27–34. The Examiner corrects this omission in the Answer. Ans. 3. Thus, we treat claims 13, 14, and 25 as rejected under Picard, Fiecher, and Lowrey, as the Examiner does in the Answer and Appellants do in the Appeal Brief. *See id.*; Reply Br. 8.

nature of the claim' into a patent-eligible application." *Id.* (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 78–79 (2012)). The Supreme Court has described step two of the analysis "as a search for an 'inventive concept.'" *Alice*, 134 S. Ct. at 2355.

Under *Alice* step one, the Examiner determines that the claims are directed to "diagnosing a vehicle problem and requesting pricing from vendors to resolve the problem." Final Act. 3. The Examiner characterizes the claimed functions as "using a computer to monitor and collect vehicle data, transmitting that data, and receiving prices based on that data." *Id.* The Examiner concludes that this is an abstract idea. *Id.*

According to the Examiner, the claimed concept includes "fundamental business practices, an idea of itself, and a mathematical relationship or formula." *Id.* Specifically, the Examiner explains that the "fundamental business practice" is "providing price quotes for services." *Id.* Also, according to the Examiner, the invention transmits data to vendors, "who respond with prices they charge to" repair the vehicle, which is an "idea of itself." *Id.* In the Examiner's view, the collected data does not "define the actual problem, but merely outlines problems based on the fault codes," and the vendor determines the cause and the repair cost. *Id.* at 3–4. As to the mathematical relationship, the Examiner finds that Appellants provide "an algorithm (formula) in the form of a flowchart that dictates the step by step process steps to perform the claimed invention." *Id.* at 3.

Appellants argue that the claims solve technical problems with real-time vehicle monitoring. App. Br. 13. Appellants acknowledge that recognizing vehicle fault codes, collecting data, and diagnosing vehicle problems is known. *Id.* at 19. Appellants argue, however, that the claimed

invention provides a technical improvement over previously known data collection, fault code, and problem diagnosis techniques. *Id.* For example, Appellants argue that claim 25 improves existing processes by allowing the user to define fault codes in real time. *Id.* at 13. According to Appellants, claim 25 uses the user-defined fault codes to acquire additional information about the vehicle's problem, and the user-defined fault code is different from the manufacturer's fault codes. *Id.* Similarly, Appellants contend that independent claims 27 and 28 use a specific data link to provide data to multiple vendors. *Id.* at 18–19.

According to the Specification, "fault code data addresses the problem of storing the enormous quantity of operational data generated by vehicles." Spec. ¶ 6. But even when using fault codes, "accurate diagnosis of other than routine vehicular system failures can be problematical." *Id.* Also, "the consumer may understand there is a problem with the vehicle, but may not know exactly what service is required." *Id.* ¶ 14.

The claimed invention is directed to collecting performance data to diagnose mechanical or electrical vehicle problems. *Id.* Specifically, independent claim 25 recites that a processor enables the definition of a user-defined fault code, which is used to acquire additional information to diagnosing a problem. This code is recited as being different from the manufacturer's fault codes. Independent claims 27 and 28 transmit electronic vehicle performance data acquired by a user from a data port. This data is used to diagnose the problem and solicit price quotes. The claims further recite collecting and monitoring vehicle performance data on a regular basis.

We disagree with the Examiner that the claims are directed to a mathematical formula. Final Act. 3. "The 'directed to' inquiry [] cannot simply ask whether the claims involve a patent-ineligible concept, because essentially every routinely patent-eligible claim involving physical products and actions involves a law of nature and/or natural phenomenon." *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016). Although the claims may use an algorithm or some mathematics in the recited calculations, the claims recite a system that monitors operational data and fault code data from a vehicle.

Likewise, the claims involve, at some level, a plan or scheme to repair the vehicle. But the claims need not recite repairing the vehicle, as the Examiner suggests. Final Act. 3–4. Here, Appellants do not purport to have invented an improved method for vehicle repair. Instead, the claims recite a system for real-time vehicle monitoring and conveying service requests and price quotes.

The Examiner has not shown that claims 26, 27, and 28 are directed to collecting information without "requir[ing] a new source or type of information, or new techniques for analyzing it," like the claims in *Electric Power Group, LLC v. Alstom S.A.*, 830 F.3d 1350, 1353–54 (Fed. Cir. 2016), *cited in* Ans. 16. Nor has the Examiner shown that the claims recite "steps people go through in their minds" or a mathematical algorithm. *Id.* at 1354. Rather, the claimed invention uses the recited information (e.g., user defined fault codes and performance data) and communicates the information over a data link to purportedly make vehicle monitoring technology more efficient. We agree with Appellants that the step of "acquiring additional information

based on a user-defined fault code, in real time, is not one that humans can perform." *Accord* App. Br. 9.

The Examiner determines that the claims are directed to a fundamental economic practice. The Examiner finds that the practice is "providing price quotes for services." Final Act. 3. The question in *Alice* step one is whether the claim is "directed to" the abstract idea itself. Yet the Examiner's analysis overlooks the claimed limitations related to vehicle monitoring and connecting to specific sources of information (e.g., from specialized on-vehicle hardware). *Accord* App. Br. 10. Moreover, the Examiner has not identified other similar fundamental economic concepts found to be abstract ideas by the courts.

Assuming the claims are directed to the abstract idea of vehicle diagnosis and quoting prices, the Examiner has not adequately supported the required findings under *Alice* step two, as Appellants have argued. Reply Br. 4. That is, if the claims are directed to the abstract idea of vehicle diagnosis and quoting prices (Final Act. 3), we must ask "[w]hat else is there in the claims before us?" *See Alice,* 134 S. Ct. at 2355 (quoting *Mayo*, 566 U.S. at 78).

Here, the Examiner finds that "[t]he claims require no more than a generic computer to perform generic computer functions that are well-understood, routine and conventional activities previously known to the industry." Final Act. 4 (citing Spec. ¶¶ 74–76). The Examiner finds that the system "uses known vehicle data to determine possible problems with the vehicle." *Id.* at 3. Although a processor (Spec. ¶ 74), memory (*id.* ¶ 75), and input devices (*id.* ¶ 76) are known, the Examiner has not shown that the features recited in addition to price quoting—e.g., enabling user defined

fault codes or using certain performance data collected from specialized on-vehicle hardware in the recited manner—were well-understood, routine, and conventional. *See Berkheimer v. HP Inc.*, 881 F.3d 1360, 1369 (Fed. Cir. 2018) ("Whether something is well-understood, routine, and conventional to a skilled artisan at the time of the patent is a factual determination."). For example, the Examiner does not cite case law, the Specification, or other sources to support these findings under *Alice* step two. *See* Final Act. 4, Ans. 17. Yet the claims recite specific limitations to real-time vehicle monitoring and collecting fault-code data from an operating vehicle in real-time.

On this record, we are persuaded that the Examiner erred in concluding that claims 2–8, 10–14, 16, 17, 19–25, 27, and 28 are ineligible under 35 U.S.C. § 101.

THE ANTICIPATION REJECTION

The Examiner's Findings

The Examiner finds that Picard discloses all limitations in claims 27 and 28, including "instructing an operator of the specific vehicle to acquire electronic vehicle performance data from a data port on the specific vehicle" in claim 27 and the similar limitation in claim 28. Final Act. 9, 11 (citing Picard ¶¶ 40, 44). In particular, the Examiner finds that Picard discloses that data is received from an OBD port and transmitted over a data link. Ans. 33 (citing Picard ¶ 40). The Examiner further finds that an OBD port is known to collect performance data about the vehicle. *Id.*

Appellants' Contentions

Appellants argue that Picard does not instruct an operator to acquire electronic vehicle performance data from a data port. App. Br. 23. Appellants argue that Picard transmits data automatically and without human input. *Id.* (citing Picard ¶ 40). Appellants argue that the Examiner's focus on an OBD port is misplaced because the claims do not recite this feature. Reply Br. 7.

Analysis

We are persuaded by Appellants' contentions that the Examiner has not shown that Picard discloses instructing an operator to acquire electronic vehicle performance data, as recited in claims 27 and 28.

Specifically, Picard's system provider 106 may communicate with the vehicle itself. Picard ¶ 40, *cited in* Final Act. 9, 11. The system provider may do so with an on-board diagnostic (OBD) system. *Id.* But Picard discloses this information is "transmitted automatically (such as through wireless communication), without the need for human input." *Id.* By contrast, claims 27 and 28 require instructing the user for this data.

With respect to the vehicle performance data, Picard's system does prompt a user to enter information. *See* Picard ¶¶ 37, 39. For example, Picard's user is prompted for the current vehicle mileage (*id.* ¶ 39) or a vehicle identification number (*id.* ¶ 37). But claims 27 and 28 require an instruction "to acquire electronic vehicle performance data from a data port on the specific vehicle." The Examiner has not shown that Picard's user acquires a vehicle identification number or the mileage from a data port. *See* Final Act. 9, 11 (citing Picard ¶¶ 40, 44).

On this record, we agree that the Examiner erred in rejecting independent claims 27 and 28, and dependent claims 2, 4, 8, 16, 19, and 24, for similar reasons.

THE OBVIOUSNESS REJECTION OVER PICARD, FIECHTER, AND LOWREY

The Examiner's Findings

The Examiner rejects claim 25 as obvious over Picard, Fiechter, and Lowrey. In this proposed combination, the Examiner finds that Lowrey teaches the recited user-defined fault codes. Final Act. 32–33 (citing Lowrey ¶¶ 5, 42, 43, and 82). According to the Examiner, Lowrey's user defines the gathered data using a schema, and this data is the user-defined fault code. Ans. 39.

Appellants' Contentions

Appellants argue that Lowrey's schema is not a fault code. App. Br. 29; Reply Br. 8–9. Appellants argue that Lowrey sends a new schema in a data packet when more data is required. App. Br. 29. Appellants argue that a schema is a map. *Id.* Appellants argue that Lowrey's schema is not a fault code because it is not a numeric or alphanumeric value and Lowrey does not teach that the schema is implemented to use minimal memory resources. *Id.* Appellants argue that Lowrey distinguishes schemas from diagnostic trouble codes (DTCs). *Id.*

Appellants contend that a manufacturer, not the user, defines Lowrey's DTCs. *Id.* at 30. In Appellants' view, the Examiner does not show where a user defines a new DTC. Reply Br. 8.

Analysis

The issue here turns on the meaning of a "user defined fault code." According to Appellants, the Specification states that a "fault code is *generally* a numeric or alphanumeric value that can be stored using minimal memory resources." App. Br. 28 (citing Spec. ¶ 6). We emphasize "generally" here because it indicates that a fault code need not be a numeric or alphanumeric value. *Accord* Ans. 39. Moreover, the claims do not recite a fault code, but rather a "user defined fault code," which the claims distinguish from "any fault code defined by a manufacturer." *See* App. Br. 28. Thus, we disagree with Appellants' narrow construction of this term. *Id.* at 28–29.

Of relevance, the Specification explains that "[f]ault codes can be retrieved from memory and used to diagnose vehicle problems." Spec. ¶ 6. The Specification further states:

> In at least one exemplary embodiment, operational data is archived whenever a specific user defined operating parameter condition is detected, i.e., an operating parameter above or below a predefined limit. In essence, this approach enables a user to define a custom fault code library (it is recognized that prior art fault codes are tied to specific operating parameters; however, prior art fault codes are predefined at the vehicle manufacturer level, and are not user modifiable or user defined). This concept is referred to herein as a "user defined fault code."

Spec. ¶ 99. The Specification further states that "user defined fault codes can include *any* user defined single operational parameter level, or *a combination* of user defined operational parameter levels, that are different from the fault codes defined at the vehicle manufacturer level." *Id.*

(emphasis added). Thus, we understand the recited "user defined fault code" to at least encompass this embodiment.

We agree with the Examiner that Lowrey teaches a "user defined fault code." In particular, Lowrey teaches that the schema "describes the data" collected by the wireless appliance from the vehicle's computer. Lowrey ¶ 42. Lowrey's scheme describes the data's corresponding location in the computer's memory. *Id.* The appliance collects diagnostic data "*defined* by the schema." *Id.* (emphasis added). To acquire additional data, Lowrey's technician can select a new schema. *Id.* ¶ 43.

The Examiner finds that Lowrey's user defines the gathered data using the schema, and in this way, the schema-defined data is the user-defined fault code. Ans. 39. We agree.

Consistent with the example described above (Spec. ¶ 99), Lowrey's technician defines operational parameter levels using the schema. Lowrey ¶ 43. For example, Lowrey's appliances use the new schema to extract a revised data set from the vehicle's computer or send out data at a revised frequency. *Id.* Notably, Lowrey uses the new schema to query data relevant to a DTC or clear a DTC when it is no longer problematic. *Id.* In this way, the data defined by Lowrey's schema includes operational parameter levels.

Also consistent with the example described above (Spec. ¶ 99) and claim 25, Lowrey uses the gathered data to acquire additional information for diagnosing a problem. Lowrey ¶ 43. For example, Lowrey teaches that the diagnostic method can be repeated with the newly collected data to diagnose the vehicle's problem. *Id.*

Appellants' arguments are unpersuasive because they do not address the Examiner's specific findings. *See* App. Br. 29–30; Reply Br. 7–9. Instead of addressing the data defined by Lowrey's schema, Appellants argue that the schema itself is not the same as the recited user-defined codes. *See* App. Br. 29–30; Reply Br. 7–9. Appellants make a similar argument regarding the DTC codes. *See* App. Br. 29–30; Reply Br. 8. Thus, Appellants have not persuaded us of error in the rejection of claim 25.

Accordingly, we sustain the Examiner's rejection of claim 25 and the rejection of claims 11, 13, and 14, which are not separately argued with particularity (App. Br. 30; Reply Br. 7–9).

THE REMAINING OBVIOUSNESS REJECTIONS

Claims 12 and 20 depend from claim 25. In arguing for the patentability of claims 12 and 20, Appellants refer to the arguments presented for independent claim 25. App. Br. 30; Reply Br. 7–9. Thus, for the reasons discussed in connection with claim 25, we also sustain the rejections of claims 12 and 20.

Claims 3, 5–7, 10, 17, and 21–23 depend from one of claims 27 and 28. The additional references were not relied upon to teach the limitation that is missing from Picard. *See* Final Act. 13–27, 38–40, and 41–43. Thus, these references do not cure the deficiency discussed above. App. Br. 30. Accordingly, we do not sustain the Examiner's rejections of dependent claims 3, 5–7, 10, 17, and 21–23 for the same reasons discussed above in connection with claims 27 and 28.

DECISION

We affirm-in-part the Examiner's decision to reject of claims 2–8, 10–14, 16, 17, 19–25, 27, and 28.

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-IN-PART