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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte CHINMAYA KAR

Appeal 2017-007908
Application 13/166,098
Technology Center 2800

Before KAREN M. HASTINGS, JAMES C. HOUSEL, and
DEBRA L. DENNETT, *Administrative Patent Judges*.

DENNETT, *Administrative Patent Judge*.

DECISION ON APPEAL¹

STATEMENT OF THE CASE

Appellant² appeals under 35 U.S.C. § 134(a) from a final rejection of claims 1–20, 23, and 24, which are all of the pending claims. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ In our Opinion, we refer to the Specification filed June 22, 2011 (“Spec.”); the Final Office Action mailed December 22, 2015 (“Final Act.”); the Appeal Brief filed September 6, 2016 (“App. Br.”); the Examiner’s Answer mailed February 28, 2017 (“Ans.”); and the Reply Brief filed April 28, 2017 (“Reply Br.”).

² Appellant identifies Honeywell International Inc. as the real party in interest. App. Br. 2.

According to Appellant, the disclosure relates generally to control systems, and more specifically to a vibration severity analysis apparatus and method for rotating machinery. Spec. ¶ 1. Claim 1, reproduced below from the Claims Appendix of the Appeal Brief, is illustrative of the claimed subject matter:

1. A method comprising:
 - using at least one processing device:
 - obtaining a baseline vibration level of a machine;
 - normalizing the baseline vibration level with a specified threshold value to generate a normalized baseline vibration level, the specified threshold value based on a type of the machine;
 - obtaining a measurement of an operational vibration level of the machine during its operation;
 - normalizing the measured operational vibration level against the normalized baseline vibration level;
 - identifying at least one indicator of a status of the machine based on (i) the normalized operational vibration level and (ii) a relative magnitude of the baseline vibration level and the specified threshold value; and
 - determining a condition of the machine based on the at least one indicator of the status of the machine.

REJECTION

The Examiner maintains and Appellant seeks review of the rejection of the pending claims under 35 U.S.C. § 101. Final Act. 4; App. Br. 7.

OPINION

A patent may be obtained for “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.” 35 U.S.C. § 101. The Supreme Court has “long held that this provision contains an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable.” *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014) (internal quotations and citation omitted). The Supreme Court reiterated the two-step framework previously set forth in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66 (2012), “for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” *Alice*, 134 S. Ct. at 2355. The first step “determine[s] whether the claims at issue are directed to one of those patent-ineligible concepts”—such as an abstract idea. *Id.* We determine whether the claims focus on a specific means or method that improves the relevant technology or are instead directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery. *See Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335–36 (Fed. Cir. 2016).

The inquiry ends if the claims are not directed to an abstract idea. If the inquiry proceeds to the second step, the elements of the claims are considered “individually and ‘as an ordered combination,’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Alice*, 134 S. Ct. at 2355 (internal citation omitted).

The first-stage inquiry looks at the “‘focus’ of the claims, their ‘character as a whole,’” and, if the second stage is reached, the second stage inquiry looks at what the claim elements add—whether they identify an “inventive concept” in the application of the ineligible matter to which the claim is directed. *Elec. Power Grp, LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016). Therefore, we look to: (1) whether the claims focus on a specific means or method that improves the relevant technology, or (2) are directed to a result or effect that itself is the abstract idea, in which the claims merely invoke generic processes and machinery. *See Enfish*, 822 F.3d at 1336.

A. Rejection of claims 1, 2, 5–11, 14–20, and 24

Appellant argues claims 1, 2, 5–11, 14–20, and 24 as a group. App. Br. 9–16. We select claim 1 as representative of the group. The other claims in the group will stand or fall with claim 1. 37 C.F.R. § 41.37(c)(1)(iv).

Step One: Whether the Claims Are Directed to a Patent-Ineligible Concept (Abstract Idea)

The Examiner finds that claim 1 is directed to an abstract idea. Final Act. 4. Specifically, the Examiner finds that the steps of normalizing vibration levels, identifying an indicator of machine status by comparison, and determining a condition of the machine based on the indicator are based on mathematical relationships or rules, which are abstract ideas. *Id.* The Examiner finds that the additional “obtaining” steps are extra solution activities of gathering data. *Id.* at 5. The Examiner finds that claim 1’s recitation of “using at least one processing device” requires only a generic processor and does not meaningfully limit the abstract idea. *Id.* at 4–5.

Appellant argues that claim 1 is not directed to an abstract idea, asserting that the Examiner disregards nearly all elements of claim 1 in a conclusory manner. App. Br. 9–11. Appellant argues that the steps of “identifying at least one indicator . . .” and “determining a condition of the machine . . .” are not mathematical formulas or procedures for solving a mathematical problem that are akin to a law of nature. App. Br. 11–12. Appellant contends that claim 1 “is directed to ***detecting a condition of a machine*** using analysis of measured vibration levels during operation . . . , which . . . is an industrial process and not an attempt to patent a mathematical relationship.” *Id.* at 13.

We are unpersuaded by Appellant’s arguments. We agree with the Examiner’s finding that the “normalizing,” “identifying,” and “determining” limitations in claim 1 relate to performing mathematical calculations, corresponding to concepts court-identified as abstract ideas. *See* Ans. 3. Claim 1 is similar to those in *In re Meyer*, 688 F.2d 789, 792 (CCPA 1982). There, the court held a process for identifying probable malfunction in a complex system that included determining whether a response of the complex system was effective was “an attempt to patent a mathematical algorithm rather than a process for producing a product as in *Diamond v. Diehr*, (450 U.S. 175 . . . (1981).” *Id.* at 794.

Our reviewing court has repeatedly held that information collection and analysis, including when limited to particular content, is within the realm of abstract ideas. *See, e.g., Elec. Power Grp.*, 830 F.3d at 1353 (holding that “collecting information, analyzing it, and displaying certain results of the collection and analysis” are “a familiar class of claims ‘directed to’ a patent-ineligible concept”); *Fair Warning IP, LLC v. Iatric*

Sys., Inc., 839 F.3d 1089, 1093–94 (Fed. Cir. 2016) (claims directed to collecting information and analyzing it according to certain rules were directed to an abstract idea).

[T]he “directed to” inquiry applies a stage-one filter to claims, considered in light of the specification, based on whether “their character as a whole is directed to excluded subject matter.” *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015); *see Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1369, 1375 (Fed. Cir. 2016) (inquiring into “the focus of the claimed advance over the prior art”). The Background section of Appellant’s Specification establishes that vibration monitoring of rotating machines was known. Spec. ¶ 3. Claim 1 is directed to establishing a number representative of the health or operational status of a machine. *See* Spec. ¶ 16. Establishing this number is an abstract idea based on numerical formulas or rules and generated by computations.

With respect to Appellant’s argument that the Examiner disregards nearly all elements of claim 1, we find that the Examiner addresses each claim element, finding them to be either part of an abstract idea, extra solution activities of gathering data, or reciting a generic computer component. *See* Final Act. 4–5. We note that the Examiner also identifies the judicial exception and articulates the abstract idea found in claim 1. We are satisfied that the Examiner’s reasoning was sufficiently clear and specific to provide applicant sufficient notice of the reasons for ineligibility. *See* May 2016 USPTO Memorandum (FORMULATING A SUBJECT MATTER ELIGIBILITY REJECTION AND EVALUATING THE APPLICANT’S RESPONSE TO A SUBJECT MATTER ELIGIBILITY REJECTION), page 2 (“the rejection . . . must

provide an explanation . . . which . . . [is] sufficiently clear and specific to provide applicant sufficient notice of the reasons for ineligibility”).

Appellant contends that claim 1, like the claims in *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299 (Fed. Cir. 2016), uses limited rules in a process specifically designed to achieve an improved technological result in a conventional industry practice, and is, therefore, not directed to an abstract idea. Reply Br. 4. To the contrary, claim 1 is critically different from those in *McRO*, which were directed to the physical display of “lip synchronization and facial expressions” of animated characters on screens for viewing by human eyes. *Id.* at 1313. *McRO* does not support patent-eligibility for claim 1.

Because we agree with the Examiner, at step one of the *Alice* analysis, that the claims are directed to one or more abstract ideas, we turn to the second step of the *Alice* analysis, in which we must determine whether the additional elements of the claims transform them into patent-eligible subject matter.

Step Two: Whether Additional Elements Transform the Idea into Patent-Eligible Subject Matter

Having concluded that the claims are directed to an abstract idea, the Examiner also concludes that the additional elements or combinations of elements beyond the abstract idea do not amount to “significantly more” than the abstract idea itself, finding “the recitation of a generic processor in [the] preamble does not constitute meaningful limitations to limit the abstract idea itself.” Final Act. 4.

Appellant argues that the “identifying” and “determining” steps in claim 1 recite specific features other than what is well understood, routine,

and conventional, and add significantly more to the alleged abstract idea of normalizing vibration levels than mere computer implementation. App. Br. 13–15. We disagree. Other than the assertion, Appellant does not explain how the “identifying” and “determining” steps invoke patent-eligible concepts. As discussed, *supra*, we find the “identifying” and “determining” steps to be, in essence, collecting and analyzing information, which is not patentable subject matter. *See, e.g., Elec. Power Grp.*, 830 F.3d at 1353 (steps of collecting and analyzing information are directed to a patent-ineligible concept); *Fair Warning IP*, 839 F.3d at 1093–94 (claims directed to collecting and analyzing information were directed to an abstract idea).

Contrary to Appellant’s argument, the Examiner identifies elements recited beyond the judicial exception and explains why they do not add significantly more to the abstract idea. *See* App. Br. 14. The Examiner identifies two “obtaining” steps as “merely insignificant extra solution activities of gathering data, e.g., reading data from a measurement or from a vibrational sensor by a processor.” Final Act. 5. The Examiner finds that these limitations do not limit the abstract idea “to be applied with, or by use of, [a] particular machine.” *Id.* “[I]t is well settled that the prohibition against patenting abstract ideas cannot be circumvented by limiting the use of the idea to a particular technological environment or adding insignificant extra-solution activity.” *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1310 (Fed. Cir. 2016) (citing *Bilski v. Kappos*, 561 U.S. 593, 610–11 (2010)).

Appellant further argues that claim 1 involves an innovation in computer technology—the ability to automatically determine the condition of a machine—which reflects an improvement in the functioning of a

computer and an improvement in another technology by determining a condition of a machine through vibration information. App. Br. 16. However, Appellant does not offer any evidence that the computer implementation improves the functioning of the computer itself. The Specification does not describe a new computing platform, processor, memory, database, or new software routines. Instead, the Specification describes a conventional computer implementation in purely functional terms, as to hardware, software, and firmware. *See, e.g.*, Spec. ¶ 22. Thus, claim 1 focuses on an improved mathematical analysis, not an improved computer, and is not patent-eligible on this basis. *See Enfish*, 822 F.3d at 1336 (holding claims on an improvement to computer functionality itself were not directed to an abstract idea).

Although Appellant contends claim 1 is similar to the process in *Diehr* (*see* Reply Br. 10), unlike the invention in *Diehr*, claim 1 does not involve any transformation of a physical article “to a different state or thing.” *Diehr*, 450 U.S. at 191 (“A mathematical formula as such is not accorded the protection of our patent laws, . . . and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment”). As the Examiner points out, no action is taken as a result of the steps of claim 1; no transformation occurs. *See* Ans. 15.

Appellant’s citation to *Ex parte Wegman III*, 2013-008168, 2015 WL 5578687 (PTAB Sept. 18, 2015) and *Ex parte Fuller*, 2013-000762, 2015 WL 3467122 (PTAB May 28, 2015) has little bearing on the disposition of claim 1. *See* App. Br. 14. These cases are non-precedential decisions in which different panels of the Board reversed rejections under 35 U.S.C. § 101 under different sets of facts than those here. On the record before us, we

find claim 1 similar to the claims held ineligible under controlling precedent (e.g., *Benson*, *Bilski*, and *Alice*) for the reasons above. We sustain the rejection of claims 1, 2, 5–11, 14–20, and 24 under § 101.

Rejection of claims 3 and 12

Appellant argues patent eligibility of claims 3 and 12 as a group. App. Br. 17–18. In addition to the arguments discussed above, Appellant argues that claim 3 is patent eligible under § 101 due to the recitation of “obtaining the specified threshold value from averaged baseline vibration levels obtained from multiple machines of a same type.” *Id.* at 17. Appellant contends that claim 3 is directed to an improvement in another technology by utilizing a better obtained specified threshold value, and this amounts to significantly more than patenting a mathematical relationship. *Id.* at 18.

The Examiner finds the additional “obtaining” limitation in claim 3 to be an additional element, which is merely data gathering recited at a high level of generality, like the “obtaining” limitations in claim 1. Ans. 16.

Appellant’s contention that “obtaining” is not simple data gathering is unpersuasive. *See* Reply Br. 12. Appellant provides no explanation for how “obtaining the specified threshold value” is more than data gathering. Arguments of counsel cannot take the place of factually supported objective evidence. *See, e.g., In re Huang*, 100 F.3d 135, 139–40 (Fed. Cir. 1996); *In re De Blauwe*, 736 F.2d 699, 705 (Fed. Cir. 1984)

We sustain the rejection of claims 3 and 12 under § 101.

Rejection of claims 4, 13, and 23

Appellant argues patent eligibility of claims 4, 13, and 23 as a group. App. Br. 18–19. In addition to the arguments put forward for patent

eligibility of claim 1, Appellant argues that recitation of “wherein normalizing the baseline vibration level comprises normalizing the baseline vibration level with the specified threshold value only in response to determining that the relative magnitude exceeds a second threshold value” renders claim 4 patent eligible under § 101. *Id.* at 18. Appellant, therefore, contends that claim 4 is directed to an improvement in another technology by limiting when the normalization is performed, and this amounts to significantly more than patenting a mathematical relationship. *Id.*

The Examiner finds that the additional element in claim 4 only adds further details to the algorithm. Ans. 18.

In reply, Appellant merely restates the limitation and reiterates that it provides significantly more than a mathematical relationship. Reply Br. 13. As with claim 3, Appellant provides argument, but no explanation of how the added limitation amounts to “significantly more.” This is insufficient to overcome the Examiner’s rejection.

We sustain the rejection of claims 4, 13, and 23 under § 101.

DECISION

The rejection of claims 1–20, 23, and 24 is affirmed.

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) (2015).

AFFIRMED