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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL
AND APPEAL BOARD

Ex parte EDMUND O. SCHWEITZER III,
MANGAPATHIRAO VENKATA MYNAM,
ARMANDO GUZMAN-CASILLAS, TONY J. LEE,
VESELIN SKENDZIC, BOGDAN Z. KASZTENNY,
and DAVID E. WHITEHEAD

Appeal 2017-008597
Application 14/486,921
Technology Center 2800

Before MICHAEL P. COLAIANNI, DEBRA L. DENNETT, and MERRELL C. CASHION JR., *Administrative Patent Judges*.

COLAIANNI, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants[1] appeal under 35 U.S.C. § 134 the Examiner's Final rejection of claims 1–25. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 6(b).

We AFFIRM.

The appeal is directed to methods and a system for "calculating a fault location on power lines based on traveling waves" using a variety of techniques for analyzing data associated with traveling waves (Spec. ¶ 2).

Claim 1 is illustrative below:

> 1. A method for detecting faults on an electrical transmission line in an electric power delivery system, comprising:
>
> detecting at a first terminal of the electric power delivery system, a traveling wave associated with a fault;
>
> detecting at a second terminal of the electric power delivery system, the traveling wave associated with the fault;
>
> a first intelligent electronic device (IED) receiving traveling wave measurements from the first and second terminals, the fault located between the first and second terminals;
>
> generating, using the first IED, an initial location of the fault;

[1] Schweitzer Engineering Laboratories, Inc. is the Applicant and is identified as the real party in interest. App. Br. 1.

> calculating, using the first IED, a dispersion of the traveling wave using the initial location of the fault and a rate of dispersion of the transmission line;
>
> identifying, using the first IED, a time associated with a peak value of the traveling wave using the calculated dispersion of the traveling wave and a time of detection of the traveling wave; and,
>
> estimating, using the first IED, the first fault location based on the time associated with the peak value for the first and second terminals.

Appellants appeal the following rejection:

1. Claims 1–25 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to a judicial exception without significantly more.

As a preliminary matter, the Examiner also rejects claims 22 to 25 under 35 U.S.C. § 112(b) as being indefinite for failing to point out and distinctly claim the subject matter which the inventor or joint inventor regards as the invention. Appellants do not specifically contest the Examiner's 35 U.S.C. § 112(b) rejection (App. Br. 12). Therefore, we summarily affirm the Examiner's uncontested 35 U.S.C. § 112(b) rejection.

FINDINGS OF FACT & ANALYSIS

Appellants argue the subject matter of independent claims 1, 2, and 22 as a group (*id.* at 12–22). We address these claims together.

Appellants argue the claimed subject matter is not an abstract idea when the correct legal standard is applied to the claims (*id.* at 12).

Appellants contend that the Examiner applies a legal standard to the claims that is directly and specifically contradicted by the United States Patent and Trademark Office's official interpretation of the Court's holding in *Alice Corp. v. CLS Bank Int'l.*, 134 S.Ct. 2347 (2014) (*id.*). Appellants contend that the claims recite additional elements that amount to significantly more than the judicial exception (*id.*). Appellants also contend that the Examiner's case is faulty because the Examiner has not compared the claims on appeal with any claims that were previously held to be directed to an abstract idea (*id.* at 14). Citing *Enfish LLC v. Microsoft Corp.,* 822 F.3d 1327 (Fed. Cir. 2016), Appellants further contend that the claims on appeal are directed to an improvement in the functioning of a computer, not the abstract idea of adding conventional computer components to well-known business practices (*id.*). Appellants argue that the claims are directed to methods useful for improving the functioning of intelligent electronic devices (IEDs) (*id.*). Appellants contend that the "computer components" recited in the claims are not generic computer components (*id.* at 16). Appellants argue that the sensor components in electrical communication with an electric power delivery system do not seem to be generic computer components (*id.*). Appellants argue that the claims improve the functioning of computer and do not merely add conventional computer components to a well-known business method as in *Alice* (*id.*).

Appellants further argue that the Examiner has not applied the guidance provided in the "*Updated Examples*" in the training material on 35 USC §101 provided by the United States Patent and Trademark Office, which indicates that routine and conventional steps may satisfy the "significantly more" analysis required by *Alice* (*id.*). Appellants contend

that the Examiner has improperly stated the legal standard for determining compliance with 35 USC § 101 as requiring the claimed subject matter to be "significantly more and something that the industry had not been able to obtain" (*id.* at 17). Appellants contend that the Examiner has not provided any finding regarding what the "industry had been able to obtain" (*id.*).

Appellants argue that the "streamlined analysis" discussed in the United State Patent and Trademark Office's Interim Guidance should be applied to the claims (*id.* at 18). Appellants contend that, when claims 1, 2 and 22 are viewed as a whole, they clearly limit the claims and do not "tie up" any abstract idea such that others cannot practice it (*id.*). Appellants contend that Example 27 in the Updated Examples in the Interim Guidance training supports that a claim that is less limiting than the present claim was found to be patent eligible under 35 USC § 101 (*id.*). Appellants contend that the claims are limited to improving the technology of monitoring and protecting an electric power delivery system, which does not preempt the use of the abstract idea in all applications (*id.* at 19).

The Supreme Court's two-step framework, described in *Mayo* and *Alice*, guides our analysis. *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S.Ct. 2347, 2355 (2014) (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 76–77, 132 S.Ct. 1289, 1296–97(2012)). We first determine whether a claim is "directed to" a patent-ineligible abstract idea. If so, we then consider the elements of the claim—both individually and as an ordered combination—to assess whether the additional elements transform the nature of the claim into a patent-eligible application of the abstract idea (*id.*). This is the search for an "inventive concept"—something

sufficient to ensure that the claim amounts to "significantly more" than the abstract idea itself (*id.*).

In the present case, the Examiner applies the standards discussed by the Court in *Alice,* as informed by the guidance provided by the USPTO training materials on the subject matter, in determining that the claims fail to comply with 35 USC § 101. Although Appellants contend that the Examiner has not considered the claims as a whole, we find that the evidence of record is to the contrary. The Examiner finds that the claims 1, 2, and 22 recite an abstract idea as the claims are directed to "human evaluation and mathematical concept (algorithm)" (Final Act. 3–4). The Examiner finds that the steps of detecting at a first and a second terminal of the electric power delivery system, travelling waves associated with a fault is merely data collection (*id.* at 4). The Examiner finds that because of the indefiniteness issue with claim 22, it is not possible to determine the significance of "a monitored equipment interface configured to issue control instructions to a circuit breaker of the electric power delivery system" (*id.*). In other words, the Examiner has considered all the limitations of the claims and determined that the claims as a whole are not patent eligible because they involve an abstract idea.

Appellants contend that the claims are not directed to an abstract idea because the claims are directed to process or apparatus and therefore do not fall under a judicial exception (App. Br. 13). Appellants cite *Enfish* as holding that computer-related technology are not necessarily abstract ideas (*id.* at 14).

The Examiner correctly finds that the facts in *Enfish* are not on point with the facts of the present case and, therefore, *Enfish* is not controlling

(Ans. 7). *Enfish* concerned a logical model for a computer database which the court found to improve computer capabilities and not merely to use the computer as a tool. *Enfish,* 822 F.3d at 1336. In the present appeal, the claims do not improve the functionality of the computer as a logical model of a computer database as the court found in *Enfish*. Rather, as asserted by the Examiner (Ans. 7), the claims on appeal use a general purpose computer as a tool to run the software that calculates and estimates the location of a fault.

Appellants' arguments that the claims are directed to improving the functioning of an intelligent electronic device are based upon limitations not appearing in the claim (App. Br. 14–15; Ans. 7)). For example, Appellants argue that claim 1 recites, *inter alia*, "establishing a validation criteria . . . location of the fault" and "identifying measurements that satisfy the validation criteria" (App. Br. 15). These limitations, among others argued with regard to claims 1, 2, and 22, do not appear in the claims. Thus, Appellants have not explained error in the Examiner's finding that the claims are directed to using a computer as a tool to run software that implements an algorithm (Ans. 7).

Appellants contend that the "Updated Examples," specifically Example 27, in the USPTO training on 35 USC § 101, dated May 2016, states that claims directed to basic input/output system (BIOS) on a computer is patent eligible (App. Br. 18). Appellants contend that if the BIOS example is patent eligible under 35 USC § 101, then Appellants' more specifically claimed methods and system should be patent eligible too (*id.* at 19). Appellants argue that the appealed claims are limited to a use in an

electric power delivery system and "tie up" significantly less than the claim deemed patent eligible in the USPTO's Updated Training Example 27 (*id.*).

The USPTO training Example 27 is a hypothetical example and is distinguishable from the present claims on appeal. In Example 27, the claim involved transferring the BIOS code between a remote location to a local computer system (July 2015, Update App'x 1: Examples, 22). The claim was found to be eligible as a method of transferring BIOS code from a remote location to a local computer (*id.*). The BIOS code did not involve any mathematical calculation to obtain a result or otherwise run afoul of being an abstract idea (*id.*). In contrast, the present claims include an algorithm that calculates a dispersion of a traveling wave which is then used in the process of determining a fault location (claim 1).

Appellants contend that under the *Diamond v. Diehr*, 450 US 175 (1981) holding, the claims are patent eligible (App. Br. 19–20). Appellants argue that the steps recited in claims 1 and 2 improve another technical field as in *Diehr* and are patent eligible (*id.* at 21). In *Diehr* a rubber molding process was claimed where a cure time for the rubber as calculated and used to determine when to open the mold. A distinguishing feature in *Diehr* is that a rubber molding was formed as a result of the curing control. In contrast, the present claims uses an algorithm to estimate or calculate the location of a fault but the claim does not recite doing anything with the information once estimated or calculated. In contrast, the mold in *Diehr* was opened once the curing time was reached.

The Examiner also finds that the "intelligent electronic device" recited in the claims includes a generic computing device (Ans. 6). Appellants do not dispute that finding (no Reply Brief was filed). The Examiner's finding

is supported by Appellants' Specification that discloses that "[t]hese [traveling wave fault location] systems obtain the events from transmission line terminals and use a general purpose computer that runs software to determine a location of the fault" (Spec. ¶ 28). Appellants do not explain how the intelligent electronic device differs from a general purpose computer. Method claims 1 and 2 merely recite an algorithm that estimates (claim 1) or calculates (claim 2) the location of a fault using an intelligent electronic device. System claim 22 uses a "sensor component" to obtain electrical signals from the electric power delivery system and to generate electrical measurements from the electrical signals and a "dispersion compensation module" that is configured to perform the algorithm. Thus, the claims involve an abstract idea that involves a mathematical algorithm.

Appellants' argument that the claims "tie up" less than the hypothetical claim in the USPTO's training Example 27 appears to be arguing that the claims on appeal do not preempt all uses of the algorithm (App. Br. 19). However, preemption is only one consideration taken into account in performing the *Alice* and *Mayo* analysis. Nevertheless, the issue of preemption is not considered in the Updated Training Example 27 because the BIOS transfer method was not found to involve an abstract idea (i.e., a judicial exception). Therefore, Appellants' comparison of the present claims to those in Example 27 is not a meaningful one.

Thus, we agree with the Examiner that, under the first step of *Alice/Mayo*, the claims on appeal are directed to a patent-ineligible abstract idea.

The next step is to determine whether the claims include an inventive concept that is significantly more than the abstract idea. *Alice*, 134 S.Ct. at

2355. Appellants' description indicates that a general purpose computer may be used to run the algorithm (Spec. ¶ 28). Therefore, Appellants recitation in the preamble of using this algorithm for monitoring an electric power delivery system does not add significantly more to the judicial exception. Rather, the claims merely use a computer as a tool to implement an abstract idea in a manner that does not amount to significantly more than the exception. As noted above, the use of a sensor in claim 22 performs the generic function of sensing electrical measurements from the traveling wave. A sensor performing its intended function does not amount to significantly more than the exception. *See Alice*, 134 S.Ct. at 2358; *Electric Power Group, LLC v. Alstom S.A.*, 830 F.3d 1350, 1353–54 (Fed. Cir. 2016); *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715–16 (Fed Cir. 2014); *Content Extraction and Transmission LLC v. Wells Fargo Bank*, 776 F.3d 1343, 1348 (Fed. Cir. 2014).

Therefore, we also agree with the Examiner that Appellants have not adequately explained how the claimed subject matter, directed to an abstract idea, is significantly more than the abstract idea under the second step of *Alice/Mayo*.

On this record, we affirm the Examiner's 35 USC § 101 rejection.

DECISION

The Examiner's decision 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). 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED