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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ESTELLE REBEL and JULIEN MEUNIER[1]

Appeal 2017-005746
Application 13/530,307[2]
Technology Center 2800

Before JEFFREY T. SMITH, MICHAEL P. COLAIANNI, and MERRELL C. CASHION, JR., *Administrative Patent Judges*.

SMITH, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

This is an appeal under 35 U.S.C. § 134 from the final rejection of claims 1–21. We have jurisdiction under 35 U.S.C. § 6.

Appellants' invention relates generally to methods and systems and, more particularly, to mechanisms and techniques for locating microseismic events underground. (Spec. ¶ 2). Claim 1 illustrates the subject matter on appeal and is reproduced from the Claims Appendix to the principal Brief.

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[1] These are the names of the identified inventors of the appealed application.
[2] According to the Appeal Brief, the real party in interest is CGGVERITAS SERVICES SA. (*See* App. Br. 2).

> 1. A method for locating a microseismic event taking place in a subsurface of the earth, the method comprising:
>
> receiving recorded seismic data S(t, Rc) acquired by a plurality of receivers as a function of time t and a position Rc;
>
> receiving a reference signal model SiMo(t, Rc) that corresponds to seismic data recorded by the plurality of receivers if an event occurs at an injection point in the subsurface;
>
> time correlating the recorded seismic data S(t, Rc) with the reference signal model SiMo(t, r) to determine correlated seismic data DMSS;
>
> calculating a detection curve for each of plural cells in a given volume in the subsurface of the earth based on the correlated seismic data DMSS; and
>
> determining a seismic location in the volume of the microseismic event based on a largest value of maximums of the detection curves calculated for various points of the given volume in the subsurface.

REJECTION AT ISSUE[3]

The Examiner has rejected claims 1–21 under 35 U.S.C. § 101 for being directed to non-statutory subject matter. (Final Act. 2–3).

OPINION[4]

We have reviewed Appellants' arguments in the Briefs, the Examiner's rejections, and the Examiner's response to Appellants'

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[3] The Examiner withdrew the rejections under 35 U.S.C. §§102 and 103. (Ans. 3).

[4] Appellants present arguments for independent claims 1. (App. Br. 6–17). Appellants do not present separate substantive arguments that sufficiently address independent claims 12 and 21 or dependent claims 2–11 and 13–20. (*See generally* App. Br.). Our analysis applies to all the independent claims

arguments. Appellants' arguments have not persuaded us of error in the Examiner's determination that the claims recite non-statutory subject matter.

Appellants argue the claimed invention is not directed to fundamental economic practices, and the decision of Alice cannot be analogized to the claimed invention. (App. Br. 9). Appellants further argue the claimed invention is not directed to a judicial exception and, even if taken as directed to a judicial exception, the claimed invention amounts to significantly more than the judicial exception itself. (App. Br. 9–10).

The Supreme Court reiterated the framework set out in *Mayo Collaborative Services, v. Prometheus Labs., Inc.*, 132 S.Ct. 1289 (2012), for "distinguishing patents that claim . . . abstract ideas from those that claim patent-eligible applications of those concepts." *Alice Corp. Pty. Ltd., v. CLS Bank International*, 134 S.Ct. 2347, 2355 (2014). Assuming that a claim nominally falls within one of the statutory categories of machine, manufacture, process, or composition of matter, the first step in the analysis is to determine if the claim is directed to a law of nature, a natural phenomenon, or an abstract idea (judicial exceptions). If so, the second step is to determine whether any element or combination of elements in the claim is sufficient to transform the nature of the claim into a patent eligible application, that is, to ensure that the claim amounts to significantly more than the judicial exception.

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and we limit our discussion to independent claim 1 which we select as representative of the rejected claims.

Claim 1

With respect to the first step of the *Alice* analysis, Appellants argue that independent claim 1 "is directed to a method for physically locating a microseismic event taking place in a subsurface of the earth." (App Br. 12).

The Examiner finds that claim 1 is directed to steps of data collection and implementation of abstract ideas on a processor. (Final Act. 13; Ans. 8–9). Specifically, the Examiner finds the claimed invention does not go beyond collecting data and performing analysis using abstract ideas on a processor. (Final Act. 13; Ans. 9).

We concur with the Examiner that independent claim 1 is directed to data collection and implementation of abstract ideas on a processor. The Federal Circuit has explained that, in determining whether claims are patent-eligible under Section 101, "the decisional mechanism courts now apply is to examine earlier cases in which a similar or parallel descriptive nature can be seen—what prior cases were about, and which way they were decided." *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1294 (Fed. Cir. 2016). The Federal Circuit also noted in that decision that "examiners are to continue to determine if the claim recites (i.e., sets forth or describes) a concept that is similar to concepts previously found abstract by the courts." *Amdocs*, 841 F.3d at 1294 n.2 (citation omitted). Our reviewing court has said that "merely presenting the results of abstract process of collecting and analyzing information without more (such as identifying a particular tool for presentation) is abstract as an ancillary part of such collection and analysis." *Elec. Power Grp. LLC v. Alstom S.A.*, 830 F.3d 1350, 1353–54 (Fed. Cir. 2016) (claims reciting the combination of the abstract-idea processes of

gathering and analyzing information of a specified content and then displaying the results, without any particular assertedly inventive technology for performing those functions, are directed to an abstract idea); *id.* at 1354 (treating "analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category").

Claim 1 recites: receiving data (seismic data), (time correlating the recorded seismic data), adjusting the data (calculating a detection curve for each of plural cells in a given volume in the subsurface of the earth) and analyzing the data (determining a seismic location in the volume of the microseismic event based on a largest value of maximums of the detection curves calculated for various points of the given volume in the subsurface). We consider claim 1 to be directed to an abstract concept of collecting and analyzing data similar to that held to be abstract in *Electric Power Group*.

While Appellants argue the claimed invention recites specific steps to be performed, and applies to specific areas of technology with tangible, real world analogs, such as analyzing a map of the maxima of the detection curves to identify a location of the maximum as the actual location of the micro-seismic event, (App. Br. 14), the language of the independent claim 1 does not recite any step of identifying the actual location of the micro-seismic device.

With respect to the second step of the *Alice* analysis, Appellants argue the claimed invention is an improvement in the field of using recorded seismic data to locate microseismic events occurring in the subsurface. (App. Br. 15). As such, Appellants assert the limitations are directed to significantly more than an abstract concept. (App. Br. 15).

The Examiner finds that claim 1 does not recite significantly more than the abstract concept as the system does not go beyond collecting data and performing analysis using abstract ideas on a processor. (Final Act. 14; Ans. 9–10)

We concur with the Examiner, and we do not find that the claim recites significantly more than the abstract concept. Appellants' arguments do not direct us to any element or combination of elements in the claim sufficient to transform the nature of the claim into a patent eligible application, that is, to ensure that the claim amounts to significantly more than the judicial exception. Instead, Appellants argue the claimed invention represents an improvement in the field of using recorded seismic data to locate microseismic events occurring in the subsurface as a result, for example, of fracturing. However, a patent-ineligible abstract idea is not transformed into a patent-eligible invention by "limiting the use of an abstract idea 'to a particular technological environment.'" *Alice*, 134 S. Ct. at 2358, quoting *Bilski v. Kappos*, 561 U.S. 593, 610–11 (2010). As discussed above, this is just a method of gathering and manipulating data. Appellants do not identify nor adequately explain what additional features amount to significantly more than a patent upon the ineligible concept itself.

While Appellants argue that the claim does not preempt subject matter by attempting to patent any specific mathematical relationships or formulas, nor does it attempt to patent any general ones (App. Br. 18–19), the Examiner determined the claims are primarily directed to abstract ideas, with the remaining additional elements directed to a conventional data collection activity and usage of a generic processor. Ans. 9. Appellants acknowledge that the claimed invention is directed to a method of obtaining recorded

seismic data, acquiring associated models, time correlating the recorded seismic data with the reference signal model, calculating a detection curve and determining a seismic location in the volume of the microseismic event based on a largest maximum of detection curves. App. Br. 18. However, Appellants do not adequately explain why the claimed invention does not preempt any specific mathematical relationships or formulas, or any general ones.

For the reasons stated above, and the reasons presented by the Examiner, we do not consider the independent claims to recite significantly more to transform the abstract idea to patent-eligible subject matter and we sustain the rejections of claims 1–21 under 35 U.S.C. § 101.

ORDER

The rejections of claims 1–21 under 35 U.S.C. § 101 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.

AFFIRMED