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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte THOMAS BARDAINNE

Appeal 2018-003075
Application 14/188,170[1]
Technology Center 2800

Before WESLEY B. DERRICK, BRIAN D. RANGE, and JENNIFER R. GUPTA, *Administrative Patent Judges*.

RANGE, *Administrative Patent Judge*.

DECISION ON APPEAL

SUMMARY

Appellant appeals under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 1–20. We have jurisdiction. 35 U.S.C. § 6(b).

We REVERSE.

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[1] Appellant is the Applicant, CGG SERVICES SA, which according to the Appeal Brief, is also the real party in interest. Appeal Br. 2.

STATEMENT OF THE CASE[2]

Appellant describes the invention as relating to seismic analysis, and in particular, to methods and systems of determining a fault plane of a microseismic event. Spec. ¶ 2. The Specification explains that conventional methods require additional data collected separately to determine, based on data collected from a seismic event, which of two planes is a true geological fault plane. *Id.* ¶ 9. The Specification describes solving this problem based on data from a plurality of receivers that each collect seismic data from seismic events. *Id.* ¶ 10. Claims 1 and 10, reproduced below with emphases added to key recitations, are illustrative of the claimed subject matter:

> 1. A method of using passive seismic data, the method comprising:
>
> determining a moment tensor for each of a plurality of microseismic events **using an inversion algorithm on raw data detected at a plurality of receivers at a tracking site**, each of the moment tensors including two nodal planes;
>
> grouping a subset of the plurality of microseismic events into a family of microseismic events;
>
> determining whether the family of microseismic events include a single plane that is common across each of the nodal planes of the microseismic events for the moment tensors of the family of microseismic events;
>
> selecting a solution fault plane for the family of microseismic events, the solution fault plane being the single plane; and
>
> outputting information for optimizing a tracking operation in view of the solution of the fault plane.

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[2] In this Decision, we refer to the Final Office Action dated February 7, 2017 ("Final Act."), the Appeal Brief filed June 27, 2017 ("Appeal Br."), and the Examiner's Answer dated October 5, 2017 ("Ans.").

10. A system comprising:

a plurality of receivers placed at a tracking site and configured to detect microseismic events;

a network communicatively coupled to the plurality of receivers; and

a computing unit coupled to the plurality of receivers via the network and comprising a processor unit and a memory unit coupled to the processing unit, the memory unit including instructions that, when executed by the processing unit, make the processor to:

receive raw data associated with the microseismic events from the receivers via the network;

determine a moment tensor for each of the microseismic events using an inversion algorithm on the raw data, each of the moment tensors including two nodal planes;

group a subset of the microseismic events into a family of microseismic events;

determine whether the family of microseismic events include a single plane that is common across each of the nodal planes of the microseismic events for the moment tensors of the family of microseismic events;

select a solution fault plane for the family of microseismic events, the solution fault plane being the single plane; and

outputting information related to the solution fault plane to optimize a tracking operation in view thereof.

Appeal Br. 14, 16–17 (Claims App.).

REJECTION

The Examiner's rejection of claims 1–20 under 35 U.S.C. § 101 because the claims are directed to a judicial exception (i.e., an abstract idea) without significantly more is before us on appeal. Final Act. 2.

ANALYSIS

The Examiner rejects all claims on appeal as unpatentable under 35 U.S.C. § 101 based upon the claims being directed to abstract ideas without significantly more. Final Act. 2. The Examiner states, for example,

> Claims 1, 10 and 16 are directed to the abstract idea of determining a moment tensor for each of a plurality of microseismic events; grouping a subset of the plurality of microseismic events into a family of microseismic events; determining whether the family of microseismic events include a single plane that is common across each of the nodal planes of the microseismic events for the moment tensors of the family of microseismic events; and selecting a solution fault plane for the family of microseismic events.

Id.

To determine whether an invention claims ineligible subject matter requires the application of the two-step test first introduced in *Mayo Collaborative Servs. v. Prometheus Labs., Inc.,* 566 U.S. 66, 70 (2012) and further explained in *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208, 215–17 (2014). The first step requires a determination as to whether the claims at issue are directed to a patent-ineligible concept such as an abstract idea. *See Alice*, 217–18. The second step requires examination of "the elements of the claim to determine whether it contains an 'inventive concept' sufficient to 'transform' the claimed abstract idea into a patent-eligible application." *Id.* at 220–22 (quoting *Mayo* 566 U.S. at 71–73, 79–80).

Here, the second step of the *Alice/Mayo* test is dispositive. Appellant argues that "the claimed receivers, network[,] and computing unit form a system at the fracking site that is not generic and conventional as evidenced by the absence of any prior art references anticipating it or rendering it obvious." Appeal Br. 9 (arguing with respect to claim 10); *see also* Appeal

Br. 10 (stating that argument above applies to remaining independent claims 1 and 16). The Examiner finds that, for example, the plurality of receivers to receive data and computer components are conventional (*see, e.g.,* Final Act. 2–3; Ans. 4), but the Examiner does not provide evidentiary support for this assertion.

On the record before us, the Examiner has not provided sufficient evidence to establish that, for example, the plurality of receivers recited by each independent claim are well-understood, routine, and conventional. *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1369 (Fed. Cir. 2018) ("[w]hether something is well-understood, routine, and conventional to a skilled artisan at the time of the patent is a factual determination."); *see also* "Changes in Examination Procedures Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision (*Berkheimer v. HP, Inc.*)," *available at https://www.uspto.gov/sites/default/files/documents/memo-berkheimer-20180419.PDF* (April 19, 2018). We, therefore, are constrained to reverse the Examiner's rejection.

DECISION

For the above reasons, we reverse the Examiner's rejections of claims 1–20.

REVERSED