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Jones Day for Ansys
901 Lakeside Avenue
North Point
Cleveland, OH 44114

EXAMINER
SKIBINSKY, ANNA

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte CHITRALKUMAR V. NAIK and CHENG WANG

Appeal 2018-002005
Application 13/446,839[1]
Technology Center 1600

Before FRANCISCO C. PRATS, JEFFREY N. FREDMAN, and ELIZABETH A. LAVIER, *Administrative Patent Judges*.

LAVIER, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellants seek review of the Examiner's rejection of claims 1–9, 11, and 21–30. We have jurisdiction under 35 U.S.C. § 6(b).

For the reasons set forth below, we REVERSE.

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[1] Under the heading "REAL PARTIES IN INTEREST," the Appeal Brief states that "[t]he real party in interest is , as evidenced by an Assignment recorded at Reel/Frame 042336/0024." Appeal Br. 1. Although the name is omitted in the Appeal Brief, the referenced Assignment identifies ANSYS, INC. as the assignee. We therefore proceed under the assumption that Appellants intended to identify ANSYS, INC. as the real party in interest.

BACKGROUND

The Specification "relates generally to chemical reaction simulation models and, more particularly, to generating reduced reaction mechanisms." Spec. ¶ 2. Claim 1 is illustrative:

> 1. A processor implemented method for building or modifying a physical system by determining the results of a chemical reaction model by executing a reduced- complexity reaction model of the chemical reaction model, the method comprising:
>
> extracting physical data associated with the physical system including a master chemical mechanism associated with the physical system to generate a chemical reaction model for the physical system;
>
> obtaining data for one or more chemical species in a chemical reaction model from a database, the database including properties of the one or more chemical species, wherein the chemical reaction model includes mathematical equations and data representing the reactions and chemical species in a chemical process;
>
> grouping the chemical species in a chemical reaction model into one or more isomer groups according to molecular properties of the chemical species;
>
> assigning a representative isomer to at least one isomer group;
>
> replacing, in one or more chemical reaction equations of the chemical reaction model, a plurality of chemical species of a particular group with a corresponding representative isomer assigned to that particular group to generate a second chemical reaction model; and
>
> *executing the second chemical reaction model by an apparatus to determine results_, wherein processing time is reduced by said executing the second chemical reaction model instead of*

executing the chemical reaction model generated via said extracting;

wherein the physical system is built or modified based on the determined results.

Appeal Br. 15–16 (Claims Appendix) (emphasis added).

REJECTION MAINTAINED ON APPEAL

Claims 1–9, 11, and 21–30 stand rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter. Ans. 4.

DISCUSSION

A. Principles of Law

An invention is patent-eligible if it claims a "new and useful process, machine, manufacture, or composition of matter." 35 U.S.C. § 101. But the Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: "[l]aws of nature, natural phenomena, and abstract ideas" are not patentable. *E.g.*, *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014).

In determining whether a claim falls within an excluded category, we are guided by the Supreme Court's two-step framework, described in *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66 (2012) and *Alice*, 573 U.S. at 217–18 (citing *Mayo*, 566 U.S. at 75–77). In accordance with that framework, we first determine what concept the claim is "directed to." *See Alice*, 573 U.S. at 219 ("On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk.").

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental

economic practices (*Alice*, 573 U.S. at 219–20; *Bilski v. Kappos*, 561 U.S. 593, 611 (2010)); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 69 (1972)).

If the claim is "directed to" an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where "we must examine 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." *Alice*, 573 U.S. at 221 (quotation marks omitted).

B. USPTO Section 101 Guidance

The United States Patent and Trademark Office ("USPTO" or "the Office") published revised guidance on the application of § 101. USPTO, *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (January 7, 2019) ("Memorandum" or "Office Guidance").[2] Under that guidance, we first look to whether the claim recites the following:

(1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human interactions such as a fundamental economic practice, or mental processes); and

(2) additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h)).

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look to

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[2] Available at https://www.govinfo.gov/content/pkg/FR-2019-01-07/pdf/2018-28282.pdf.

whether the claim:

(3) adds a specific limitation beyond the judicial exception that is not "well-understood, routine, conventional" in the field (*see* MPEP § 2106.05(d)); or

(4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

C. Analysis

The Examiner rejects all pending claims as directed to ineligible subject matter under 35 U.S.C § 101. Final Act. 2–4. Specifically, the Examiner finds that "[a]s a whole the method relies on the abstract ideas of grouping data, classifying data and performing algorithmic and math based calculations on data." *Id.* at 3. None of the "additional elements" identified by the Examiner (*id.* at 3–4) amount to significantly more than the abstract idea because the Examiner finds that they are routine and conventional (*see id.*).

In light of the recent Office Guidance, we cannot reach the same conclusion as the Examiner. Although we agree with the Examiner that claim 1 recites mental processes (i.e., aspects of the "extracting," "obtaining," "grouping, "assigning," and "replacing" steps), at least the final two steps of claim 1 (emphasized above) integrate those processes into a practical application, i.e., a physical system that executes a reduced-processing time reaction based on the modeling results. In their brief, Appellants draw a useful comparison between the present claims and those at issue in *Diamond v. Diehr*, 450 U.S. 175 (1981). *See* Br. 4–7. Like the

opening of the rubber mold in *Diehr*, Appellants argue that "modifying a physical chemical reaction is just as unconventional . . . [m]olds for rubber were ***extremely*** well known in 1975." Br. 4 (citation omitted). In other words, Appellants maintain, the conventional nature of "[a]djusting chemical reactions" (*id.* at 5) should itself be no bar to subject matter eligibility under § 101. Appellants conclude: "[b]ecause the present claims match the *Diehr* paradigm of taking real world input, performing data processing on that input, and then producing a real world effect, it is respectfully submitted that the pending claims are allowable." We agree. *See* Office Guidance, 84 Fed. Reg. at 54 ("[A] claim that includes conventional elements may still integrate an exception into a practical application, thereby satisfying the subject matter eligibility requirement of Section 101."). We also note that because of the integration into a practical application recited in claim 1 (i.e., the steps emphasized above), claim 1 does not implicate the preemption concerns underpinning the judicial exceptions to § 101. *See McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1315 (Fed. Cir. 2016) ("The concern underlying the exceptions to § 101 is not tangibility, but preemption." (citing *Mayo*, 566 U.S. at 84–86)).[3]

[3] A preemption analysis, while often indicative, is not necessarily dispositive of the § 101 inquiry. *See Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015) ("While preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility.").

Accordingly, we find that claim 1, as a whole, is directed to patent-eligible subject matter. We therefore need not continue the eligibility inquiry to address the second *Alice* step. Claim 11, the only other independent claim on appeal, includes similar limitations (*see* Appeal Br. 17–18 (Claims Appendix)), and the result under § 101 is the same.

CONCLUSION

The rejection of claims 1–9, 11, and 21–30 under § 101 is not sustained.

REVERSED