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EXAMINER

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte WALTER C. DIETRICH JR., JOHN P. FASANO, and
JONATHAN LEE

Appeal 2016-005420¹
Application 11/484,588²
Technology Center 3600

Before ANTON W. FETTING, MICHAEL W. KIM, and
NINA L. MEDLOCK, *Administrative Patent Judges*.

MEDLOCK, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner’s final rejection of claims 1–20. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ Our decision references Appellants’ Appeal Brief (“App. Br.,” filed August 31, 2015) and Reply Brief (“Reply Br.,” filed April 22, 2016), and the Examiner’s Answer (“Ans.,” mailed February 29, 2016) and Final Office Action (“Final Act.,” mailed March 31, 2015).

² Appellants identify International Business Machines Corporation as the real party in interest. App. Br. 1.

CLAIMED INVENTION

Appellants' claimed invention "relates to a system and method for selecting targets based on business rules and resources using a set cover method or an integer program" (Spec. 1, ll. 7–9).

Claims 1, 12, and 20 are the independent claims on appeal. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A method of formulating and solving a problem construct directed to selecting an optimal target that will review a request from a user for access to data stored in a database, said method comprising:

specifying a problem construct directed to identifying an optimal target from a list of targets that may review a request for access to said data, the problem construct comprising a field space, at least one rule, and at least one objective function, as stored in a memory accessible by a computer;

receiving, as an input into an application being executed by a processor on said computer, a request to access said data, said request including at least one field name and at least one field value;

recasting the problem construct as at least one of a set cover problem and an integer program problem, based on at least one request slice derived from said received request; and

approximately solving, using said processor, the set cover problem or integer program problem, to determine an optimal target or targets from said list of targets.

REJECTIONS

Claims 1–20 are rejected under 35 U.S.C. § 112, second paragraph, as indefinite for failing to particularly point out and distinctly claim the subject matter that Appellants regard as the invention.

Claims 1–20 are rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter.

ANALYSIS

Indefiniteness

We are not persuaded by Appellants' arguments that the Examiner erred in rejecting claims 1–20 under 35 U.S.C. § 112, second paragraph (App. Br. 5–7). Instead, we agree with the Examiner that the term “approximately,” as recited in independent claim 1, i.e., “approximately solving . . . the set cover problem or integer program problem, to determine an optimal target or targets,” and similarly recited in independent claims 12 and 20, is a relative term that renders the claims indefinite at least because the term is not defined, and the Specification does not provide an objective standard for determining which degree of accuracy is “approximately solving” and which is not (Final Act. 6). *See Datamize LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1350 (Fed. Cir. 2005) (“Datamize has offered no objective definition identifying a standard for determining when an interface screen is ‘aesthetically pleasing’ While beauty is in the eye of the beholder, a claim term, to be definite, requires an objective anchor.”).

Appellants argue that a person with sufficient mathematical training would have no problem in determining the scope of the claims (App. Br. 5). And Appellants maintain that “the meaning of ‘approximately solving’ is clear from either the limitations of the independent claims themselves, various dependent claims, or from the descriptions in the specification” (*id.* at 5–7). But, we find nothing in Specification, including the claims, that provides a metric for determining what “approximately solving” entails or at what point a problem becomes “approximately” solved.

As the Examiner observes, algorithmic methods that determine exact solutions are generally distinguished from heuristic methods that typically

provide for approximate solutions (Ans. 2); however, some indication of what is meant by “approximately solving” must be established in order to determine the metes and bounds of the claims because “the degree to which a problem is ‘approximately solved’ can entail a host of implementation and run-time issues” (*id.*).

The scope of claim language cannot depend solely on the unrestrained, subjective opinion of a particular individual purportedly practicing the invention. *See Application of Musgrave*, 431 F.2d 882, 893 (1970) (noting that “[a] step requiring the exercise of subjective judgment without restriction might be objectionable as rendering a claim indefinite”). Some objective standard must be provided in order to allow the public to determine the scope of the claimed invention. Where, as here, no such objective standard is provided, the claims are rendered indefinite.

We are not persuaded, on the present record, that the Examiner erred in rejecting claims 1–20 under 35 U.S.C. § 112, second paragraph. Therefore, we sustain the Examiner’s rejection.

Non-Statutory Subject Matter

Under 35 U.S.C. § 101, an invention is patent-eligible if it claims a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101. The Supreme Court, however, has long interpreted § 101 to include an implicit exception: “[l]aws of nature, natural phenomena, and abstract ideas” are not patentable. *See, e.g., Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014).

The Supreme Court, in *Alice*, 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 Corp.*, 134 S. Ct. at 2355. The first step in that analysis is to “determine whether the claims at issue are directed to one of those patent-ineligible concepts.” *Id.* If the claims are not directed to a patent-ineligible concept, e.g., an abstract idea, the inquiry ends. Otherwise, the inquiry proceeds to the second step where the elements of the claims are considered “individually and ‘as an ordered combination’” to determine whether there are additional elements that “‘transform the nature of the claim’ into a patent-eligible application.” *Id.* (quoting *Mayo*, 566 U.S. at 79, 78).

The Court acknowledged in *Mayo*, that “all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.” *Mayo*, 566 U.S. at 71. Therefore, the Federal Circuit has instructed that claims are to be considered in their entirety to determine “whether their character as a whole is directed to excluded subject matter.” *McRO, Inc. v. Bandai Namco Games Am., Inc.*, 837 F.3d 1299, 1312 (Fed. Cir. 2016) (quoting *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015)).

Here, in rejecting claims 1–20 under § 101, the Examiner analyzed the claims using the *Mayo/Alice* two-step framework, consistent with the guidance set forth in the USPTO’s “2014 Interim Guidance on Patent Subject Matter Eligibility,” 79 Fed. Reg. 74618 (Dec. 16, 2014), in effect at the time the Final Office Action was mailed. Specifically, the Examiner determined that the claims are directed to “mathematical relationships, formulas, concepts and basic economic practices”; that “[m]ethods for instructing, formulating and solving optimization problems and transforming

such problems to other types of mathematical programming problems using algorithms are fundamentally abstract ideas”; that “[i]n addition, solving optimization problems is a basic economic practice to effectuate economic efficiencies”; and that the claims do not include additional elements that constitute “significantly more” than the abstract ideas themselves because “the claims do not recite an improvement to another technology or technical field, an improvement to the functioning of the computer itself, or meaningful limitations beyond generally linking the use of the abstract ideas to a particular technological environment” (Final Act. 6–7). The Examiner explained that “[m]erely obtaining data from a database . . . and then using the data to set up an the [sic] solutions to an optimization problem is ineligible . . . because gathering this type of information for this purpose is not considered as ‘significantly more’ than the abstract ideas themselves” (*id.* at 5). The Examiner also concluded that the claims “seek to envelop any optimization problem” (*id.* at 6 (emphasis omitted)).

Appellants maintain that the Examiner erred in rejecting the claims under § 101 (App. Br. 8–11; *see also* Reply Br. 4–18). However, as best understood, the primary thrust of Appellants’ argument is that the claims are patent-eligible because they define a specific mechanism for identifying an optimal target (i.e., to review a request for database access) and, therefore, do not pose a risk of preemption.³

³ *See, e.g.*, App. Br. 9 (“The Examiner fails to demonstrate how one of ordinary skill in the art could reasonably consider that the claimed invention is a ‘basic tool of scientific and/or technological work’ that is at risk of preemption”); *see also, e.g., id.* at 11 (the rejection of record fails to “provide a *prima facie* rejection . . . since there is no reason to consider that the claims are equivalent to a basic tool of science or technology, as would

There is no dispute that the Supreme Court has described “the concern that drives [the exclusion of abstract ideas from patent eligible subject matter] as one of pre-emption.” *Alice Corp.*, 134 S. Ct. at 2354. But, characterizing preemption as a driving concern for patent eligibility is not the same as characterizing preemption as the sole test for patent eligibility. “The Supreme Court has made clear that the principle of preemption is the basis for the judicial exceptions to patentability” and “[f]or this reason, questions on preemption are inherent in and resolved by the § 101 analysis.” *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015) (citing *Alice*, 134 S. Ct. at 2354). Although “preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility.” *Id.*

Appellants also ostensibly liken the claims to those at issue in *Diamond v. Diehr*, 450 U.S. 175 (1981). Appellants assert that “the claimed invention has all of the essential characteristics of the [Supreme Court’s] holding in *Diehr*” in that the claimed invention uses mathematical concepts and processing that have been modified “for the specific application of improving a conventional method of solving the problem of selecting a

be required to be demonstrated under the evaluation method of *Alice*); Reply Br. 4 (“the rejection of record fails to establish a *prima facie* . . . rejection under 35 USC § 101 [because] it fails to articulate an abstract idea that is reasonably a fundamental tool of science or technological work and that is reasonably at risk of pre-emption by the claimed invention” (emphasis omitted)); *id.* at 19 (“the Board is respectfully requested to reverse the abstract idea exception rejection of record, thereby sending a clear message that the July Guidance is causing too much confusion by its failure to focus on the only element at issue: pre-emption”).

target for reviewing a database access request” (App. Br. 11; *see also* Reply Br. 2).

Appellants’ reliance on *Diehr* is misplaced. The claims in *Diehr* were directed to a process for curing synthetic rubber, and recited a series of steps (e.g., the loading of a mold with raw, uncured rubber, closing the mold, constantly determining the mold temperature, constantly recalculating the cure time, and automatically opening the press at the proper time) that together provided a significant and novel practical application of the well-known Arrhenius equation and transformed uncured synthetic rubber into a new state or thing. *See Diehr*, 450 U.S. at 184–87.

Unlike the process claimed in *Diehr*, which was directed to a specific industrial process, i.e., “a physical and chemical process for molding precision synthetic rubber products,” *id.* at 184, the claims here merely recite a system and method for identifying a target for reviewing a database access request using a generic computer to perform mathematical operations. For example, we find no indication in the record, nor do Appellants point us to any indication, that the operations recited in the claims require any specialized computer hardware or other inventive computer components, or that the claimed invention is implemented using other than generic computer components to perform the claimed method steps.

Appellants maintain that the claimed invention improves upon the conventional method of selecting a target for reviewing a database access request (App. Br. 11). But we are not persuaded that selecting a target to review a database access request is a technical problem rather than a business problem. Similarly, we are not persuaded that basing the selection

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of the target on business rules, e.g., designed to minimize resource and/or overhead costs, is a technical solution, and not a commercial solution.

In view of the foregoing, we sustain the Examiner's rejection of claims 1–20 under 35 U.S.C. § 101.

DECISION

The Examiner's rejection of claims 1–20 under 35 U.S.C. § 112, second paragraph, is affirmed.

The Examiner's rejection of claims 1–20 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(a)(1)(iv).

AFFIRMED