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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte GRAHAM S. POLLOCK, STANLEY T. JEFFERSON, and
DANIEL L. PLEASANT

Appeal 2018-004860
Application 14/634,673¹
Technology Center 3600

Before ROBERT E. NAPPI, CATHERINE SHIANG, and
MICHAEL T. CYGAN, *Administrative Patent Judges*.

SHIANG, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's
rejection of claims 1–20, which are all the claims pending in the application.

We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

¹ Appellants identify Keysight Technologies, Inc. as the real party in interest.
App. Br. 1.

STATEMENT OF THE CASE

Introduction

The present invention relates to “discovering the existing instruments and their capabilities within an organization as well as the potential capabilities of those instruments.” Spec. ¶ 4. Claim 1 is exemplary:

1. A method for operating a data processing system to discover the attributes of instruments in a set of instruments connected thereto, said method causing said data processing system to:

determine all instruments in said set of instruments connected thereto by sending a first query on each communication link connected to said data processing system;
receive a response that identifies one of said instruments, said response comprising a model identification code;

retrieve model configuration information from an instrument catalog database attached to said data processing system, said model configuration information comprising an option that is available on said one of said instruments and a second query that will cause that instrument to provide information on whether that option is installed on said one of said instruments, said

second query being different from said first query, and sending said second query to said one of said instruments to determine if said option is installed on said one of said instruments.

Rejection²

Claims 1–20 are rejected under 35 U.S.C. § 101 because they are directed to patent-ineligible subject matter. Final Act. 2–6.

² Throughout this opinion, we refer to the (1) Final Office Action dated July 21, 2017 (“Final Act.”); (2) Appeal Brief dated December 22, 2017 (“App. Br.”); (3) Examiner’s Answer dated February 6, 2018 (“Ans.”); and (4) Reply Brief dated April 6, 2018 (“Reply Br.”).

ANALYSIS

We disagree with Appellants' arguments. To the extent consistent with our analysis below, we adopt the Examiner's findings and conclusions in (i) the action from which this appeal is taken (Final Act. 2–6) and (ii) the Answer (Ans. 3–12).³

The Examiner rejects the claims under 35 U.S.C. § 101 because they are directed to patent-ineligible subject matter. *See* Final Act. 2–6; Ans. 3–12. In particular, the Examiner concludes the claimed processes and functions are directed to “merely automating steps related to gathering data about available instruments that in the past were performed manually by a researcher.” Ans. 7. The Examiner determines the claims do not identify an inventive concept to transform the nature of the claims into a patent-eligible application. *See* Final Act. 2–6; Ans. 3–12. Appellants argue the Examiner erred. *See* App. Br. 3–6; Reply Br. 1–2.

Appellants have not persuaded us of error. Section 101 of the Patent Act provides “[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” 35 U.S.C. § 101. However, 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. Pty. Ltd. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014) (internal quotation marks and citation omitted).

³ To the extent Appellants advance new arguments in the Reply Brief without showing good cause, Appellants have waived such arguments. *See* 37 C.F.R. § 41.41(b)(2).

In determining whether a claim falls within an excluded category, we are guided by the Supreme Court’s two-step framework, described in *Mayo* and *Alice*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). 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.”); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) (“Claims 1 and 4 in petitioners’ application explain the basic concept of hedging, or protecting against 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*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 69 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as “molding rubber products” (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); “tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores” (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1854))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Supreme Court held that “[a] claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula.” *Diehr*, 450 U.S. at 187; *see also id.* at 191 (“We view respondents’ claims as nothing more than a process for molding rubber

products and not as an attempt to patent a mathematical formula.”). Having said that, the Supreme Court also indicated that a claim “seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, . . . and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment.” *Id.* (citing *Benson* and *Flook*); *see, e.g., id.* at 187 (“It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”).

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 (citation omitted). “A claim that recites an abstract idea must include ‘additional features’ to ensure ‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].’” *Id.* (quoting *Mayo*, 566 U.S. at 77). “[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention.” *Id.*

The PTO recently published revised guidance on the application of § 101. USPTO, 2019 REVISED PATENT SUBJECT MATTER ELIGIBILITY GUIDANCE, 84 Fed. Reg. 50 (Jan. 7, 2019) (“Guidance”). Under the guidance set forth in the Guidance, we first look to whether the claim recites:

- (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of

organizing human activity such as a fundamental economic practice, or mental processes) (Step 2A, Prong 1); and

(2) additional elements that integrate the judicial exception into a practical application (*see* MANUAL OF PATENT EXAMINING PROCEDURE (“MPEP”) § 2106.05(a)–(c), (e)–(h)) (9th Ed., Rev. 08.2017, 2018) (Step 2A, Prong 2).

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 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. (Step 2B.)

See Guidance, 84 Fed. Reg. at 54–56.

Turning to Step 2A, Prong 1 of the Guidance, we agree with the Examiner that the rejected claims are patent ineligible because they are directed to functions that can be performed by a human using a pen and paper. *See* Final Act. 5; Ans. 9, 26.

For example, claims 1 and 11 (with emphases) recite:

1. A method for operating a data processing system to *discover the attributes of instruments in a set of instruments connected thereto*, said method causing said data processing system to:

determine all instruments in said set of instruments connected thereto by sending a first query on each communication link connected to said data processing system;
receive a response that identifies one of said instruments, said response comprising a model identification code;
retrieve model configuration information from an instrument catalog database attached to said data processing system, said model configuration information comprising an option that is available on said one of said instruments and a

second query that will cause that instrument *to provide information on whether that option is installed on said one of said instruments*, said second query being different from said first query, and sending said second query to said one of said instruments to *determine if said option is installed on said one of said instruments*.

11. A computer readable medium comprising instructions that cause a data processing system to execute a method for operating said data processing system to *discover the attributes of instruments in a set of instruments connected thereto*, said method causing said data processing system to:
determine all instruments in said set of instruments connected thereto by sending a first query on each communication link connected to said data processing system;
receive a response that identifies one of said instruments, said response comprising a model identification code;
retrieve model configuration information from an instrument catalog database attached to said data processing system, said model configuration information comprising an option that is available on said one of said instruments and a second query that will cause that instrument to provide information on whether that option is installed on said one of said instruments, said second query being different from said first query, and sending said second query to said one of said instruments to *determine if said option is installed on said one of said instruments*.

Claim 1 recites (i) “operating a data processing system to . . . causing said data processing system to”; (ii) “by sending a first query on each communication link connected to said data processing system”; (iii) “database attached to said data processing system, . . . a second query that will cause that instrument to . . .”; and (iv) “said second query being different from said first query, and sending said second query to said one of said instruments” for performing the above italicized functions of claim 1.

Similarly, Claim 11 recites (i) “[a] computer readable medium comprising instructions that cause a data processing system to execute a method for operating said data processing system to . . . causing said data processing system to”; (ii) “by sending a first query on each communication link connected to said data processing system”; (iii) “database attached to said data processing system, . . . a second query that will cause that instrument . . .”; and (iv) “said second query being different from said first query, and sending said second query to said one of said instruments” for performing the above italicized functions of claim 11.

However, all of the italicized functions can be performed in the human mind, or by a human using a pen and paper. They require acts, performable by a human being, of receiving information and making mental determinations based on that information. Accordingly, the italicized functions are like the mental processes in *CyberSource* and *Synopsys*.⁴ See *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1372–73 (Fed. Cir. 2011) (finding the step of “obtaining information about other transactions” can be performed “by a human who simply reads records of [those] transactions from a pre-existing database,” and concluding “[a]ll of claim 3’s method steps can be performed in the human mind, or by a human using a pen and paper. . . . Such a method that can be performed by human thought alone is merely an abstract idea and is not patent-eligible under § 101.”); *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1146 (Fed. Cir. 2016) (“[W]e continue to ‘treat[] analyzing information by steps

⁴ As a result, we disagree with Appellants’ argument that “[t]he claims require that the data processing system be caused to perform the various steps; hence, an apparatus is clearly required” (App. Br. 4).

people go through in their minds, or by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category.’”) (citation omitted).

Our determination is supported by the Specification, which describes how a researcher can “ascertain which instruments are available and the capabilities of those instruments to determine the best experimental setup that will meet the researcher’s needs.” Spec. ¶ 2; *see also* Spec. ¶¶ 1, 3.

As a result, we conclude each of claims 1 and 11 is directed to mental processes, and thus an abstract idea. *See* Guidance, Step 2A, Prong 1 (Groupings of Abstract Ideas).

Turning to Step 2A, Prong 2 of the Guidance, contrary to Appellants’ assertion (App. Br. 3–5; Reply Br. 1–2), the rejected claims do not recite additional elements that integrate the judicial exception into a practical application.

In particular, Appellants’ argument that “the present invention is an improvement in technology as it allows the user to do something that would not be easily doable” (Reply Br. 2) is unpersuasive because “a claim for a *new* abstract idea is still an abstract idea.” *Synopsys*, 839 F.3d at 1151. “[U]nder the *Mayo/Alice* framework, a claim directed to a newly discovered law of nature (or natural phenomenon or abstract idea) cannot rely on the novelty of that discovery for the inventive concept necessary for patent eligibility” *Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1369, 1376 (Fed. Cir. 2016) (citations omitted).

To the extent the above argument contends claims 1 and 11 are directed to efficient techniques of discovering the attributes of instruments (Reply Br. 2), our reviewing court has declared:

While the claimed system and method certainly *purport to accelerate the process of analyzing audit log data, the speed increase comes from the capabilities of a general-purpose computer, rather than the patented method itself. See Bancorp Servs., L.L.C. v. Sun Life Assurance Co. of Can. (U.S.), 687 F.3d 1266, 1278 (Fed. Cir. 2012)* (“[T]he fact that the required calculations could be performed *more efficiently* via a computer does not materially alter the patent eligibility of the claimed subject matter.”).

FairWarning IP, LLC v. Iatric Sys., Inc., 839 F.3d 1089, 1095 (Fed. Cir. 2016) (emphases added).

Applying this reasoning to claims 1 and 11, we similarly find any purported efficient techniques come from the capabilities of general-purpose computers (the recited “data processing system” and “database”), rather than the claimed steps or functions. Similar to the claims of *FairWarning*, the rejected claims “are not directed to an improvement in the way computers operate” and “the focus of the claims is not on . . . an improvement in computers as tools, but on certain independently abstract ideas that use computers as tools.” *FairWarning*, 839 F.3d at 1095.

Appellants’ attorney arguments about “an improvement in technology” and “a distributed database” (App. Br. 5; Reply Br. 1–2) are unpersuasive, because Appellants do not provide sufficient objective evidence to support their arguments. *See In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997) (“attorney argument [is] not the kind of factual evidence that is required to rebut a prima facie case of obviousness”); *Meitzner v. Mindick*, 549 F.2d 775, 782 (CCPA 1977) (“Argument of counsel cannot take the place of evidence lacking in the record.”).

Further, Appellants’ argument about the absence of a prior art rejection (App. Br. 5) is unpersuasive, because a prior art rejection is

determined under 35 U.S.C. § 102 and § 103, which are different statutory requirements. As the Supreme Court emphasizes: “[t]he ‘novelty’ of any element or steps in a process, or even of the process itself, is of *no relevance* in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter.” *Diehr*, 450 U.S. at 188–89 (emphasis added). Our reviewing court further guides that “[e]ligibility and novelty are separate inquiries.” *Two-Way Media Ltd. v. Comcast Cable Commc’ns, LLC*, 874 F.3d 1329, 1340 (Fed. Cir. 2017).

Contrary to Appellants’ assertion (App. Br. 4–5; Reply Br. 1–2), the rejected claims are unlike the claims in *Enfish*. In *Enfish*, the court determines:

The . . . patents are directed to *an innovative logical model for a computer database*. . . . A logical model generally results in the creation of particular tables of data, but it does not describe how the bits and bytes of those tables are arranged in physical memory devices. *Contrary to conventional logical models, the patented logical model includes all data entities in a single table, with column definitions provided by rows in that same table. The patents describe this as the “self-referential” property of the database.*

Enfish, LLC v. Microsoft Corp., 822 F.3d 1327, 1330 (Fed. Cir. 2016) (emphases added).

[T]he plain focus of the claims is on an improvement to computer functionality itself, not on economic or other tasks for which a computer is used in its ordinary capacity.

[T]he claims . . . are directed to a specific improvement to the way computers operate, embodied in the self-referential table.

Id. at 1336.

Unlike the claims of *Enfish*, claims 1 and 11 are not directed to “an innovative logical model for a computer database [that] . . . includes all data

entities in a single table, with column definitions provided by rows in that same table” or similar improvements. *Id.* at 1330. Instead, claims 1 and 11 focus on abstract ideas that merely use a database as a tool to collect and organize the instrument catalog. *See* claims 1, 11; *see also* Spec. ¶¶ 6, 16.

As a result, we conclude the rejected claims 1 and 11 do not recite additional elements that integrate the judicial exception into a practical application. *See* Guidance, Step 2A, Prong 2.

Finally, turning to Step 2B of the Guidance (*Alice* step two), Appellants do not persuasively argue any specific limitation is not well-understood, routine, or conventional in the field. Nor do Appellants persuasively argue the Examiner erred in that aspect. As a result, Appellants have not persuaded us the Examiner erred with respect to the Guidance’s Step 2B analysis. *See* Guidance, Step 2B. As a result, Appellants have not persuaded us the Examiner erred with respect to the Guidance’s Step 2B analysis. *See* Guidance, Step 2B.

Because Appellants have not persuaded us the Examiner erred, we sustain the Examiner’s rejection of independent claims 1 and 11 under 35 U.S.C. § 101.

Regarding dependent claims 2–10 and 12–20, Appellants argue “the Examiner has not made any factually based argument in either office action as to why the additional limitations of those claims do not render those claims patentable” (App. Br. 5). The Examiner responds “the dependent claims merely further limit and describe the abstract idea . . . that the claims are directed to, but do not make it any less abstract. Moreover, Appellant has failed to provide any rationale as to why any of the additional limitations

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recited in the dependent claims alter the analysis.” Ans. 12. Appellants do not dispute the Examiner’s response. As a result, Appellants fail to show Examiner error. Therefore, and for similar reasons discussed above, we affirm the Examiner’s rejection of dependent claims 2–10 and 12–20 under 35 U.S.C. § 101.

DECISION

We affirm the Examiner’s decision rejecting claims 1–20.

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). *See* 37 C.F.R. § 41.50(f).

AFFIRMED