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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte RICK A. HAMILTON II, NAVEEN LAMBA,
BENJAMIN G. MORRIS, and JAMES W. SEAMAN

Appeal 2017-011603
Application 12/336,587¹
Technology Center 3600

Before, JOSEPH A. FISCHETTI, NINA L. MEDLOCK, and
KENNETH G. SCHOPFER, *Administrative Patent Judges*.

FISCHETTI, *Administrative Patent Judge*.

DECISION ON APPEAL
STATEMENT OF THE CASE

Appellants seek our review under 35 U.S.C. § 134 of the Examiner's final rejection of claims 1–3, 5–9, 21–29 and 31. We have jurisdiction under 35 U.S.C. § 6(b).

SUMMARY OF DECISION

We AFFIRM.

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

THE INVENTION

Appellants' claims relate to variable thoroughfare toll fees provided as a function of geographic criteria. (Spec. ¶ 1).

Claim 1 reproduced below, is representative of the subject matter on appeal.

1. A computer-implemented method for selecting and applying variable thoroughfare travel fees, comprising executing on a processor the steps of:

determining a use of a toll thoroughfare by a first traveler that comprises traveling in a toll zone on a portion of the toll thoroughfare that has a volume of traffic from an origin point to a destination point over a travel time period;

determining a use of the toll thoroughfare by a second traveler that is similar to the use of the portion of toll thoroughfare by the first traveler with respect to distance travelled, location of use, time of use and volume of traffic on the portion of toll thoroughfare, via comprising traveling in the toll zone on the toll thoroughfare portion from the origin point to the destination point over the travel time period;

identifying an association of the use of the toll thoroughfare by the first traveler to a first address within a first geographic impact region, and an association of the use of the toll thoroughfare by the second traveler to a second address that is different from the first address and that is within a second geographic impact region that is different from and geographically distinct from the first geographic impact region, wherein the first and second geographic impact regions have different outer boundaries, and wherein the first geographic impact region is physically remote from and does not encompass the toll thoroughfare portion travelled by the first traveler and the second traveler in the toll zone from the origin point to the destination point over the travel time period;

selecting a first toll rate for the use of the toll thoroughfare by the first traveler as a function of association to the first geographic impact region via the first address, and a second toll rate for the use of the toll thoroughfare by the second traveler as a function of association to the second geographic impact region via the second

address, wherein the second toll rate is different from the first toll rate for the travel time period and the volume of traffic; and
charging a first toll as a function of applying the first toll rate to the use of the toll thoroughfare by the first traveler during the travel time period, and a second toll as a function of applying the second toll rate to the use of the toll thoroughfare by the second traveler during the travel time period, wherein the second charged toll is different from the first charged toll.

THE REJECTION

The following rejection is before us for review.

Claims 1–3, 5–9, 21–29 and 31 are rejected under 35 U.S.C. § 101.

ANALYSIS

35 U.S.C. § 101 REJECTION

We affirm the rejection of claims 1–3, 5–9, 21–29 and 31 under 35 U.S.C. § 101.

The Appellants argued claims 1–3, 5–9, 21–29 and 31 as a group. (Appeal Br. 6). We select claim 1 as the representative claim for this group, and the remaining claims stand or fall with claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv) (2015).

An invention is patent-eligible if it claims a “new and useful process, machine, manufacture, or composition of matter.” 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. 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*

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 id.* 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, 192 (1981)); “tanning, dyeing, making waterproof cloth, vulcanizing India rubber, smelting ores” (*id.* at 184 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1853))); 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 176; *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 (quotation marks 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’s January 7, 2019 Memorandum, *2019 Revised Patent Subject Matter Eligibility Guidance* (“2019 Memorandum”). Under that 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

interactions such as a fundamental economic practice, or mental processes);
and

(2) additional elements that integrate the judicial exception into a practical application, i.e., that “apply, rely on, or use the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception.” *2019 Memorandum* at 18; *see also* 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 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.

See 2019 Memorandum.

The Federal Circuit has explained that “the ‘directed to’ inquiry applies a stage-one filter to claims, considered in light of the [S]pecification, based on whether ‘their character as a whole is directed to excluded subject matter.’” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016) (quoting *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015)). It asks whether the focus of the claims is on a specific improvement in relevant technology or on a process that itself

qualifies as an “abstract idea” for which computers are invoked merely as a tool. *See id.* at 1335–36.

In so doing, as indicated above, we apply a “directed to” two prong test: 1) evaluate whether the claim recites a judicial exception, and 2) if the claim recites a judicial exception, evaluate whether the claim “appl[ies], rel[ies] on, or use[s] the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception.” *See 2019 Memorandum.*

The Examiner found that the claims are “directed to a judicial exception (i.e., a law of nature, a natural phenomenon, or an abstract idea) without significantly more. Claim(s) 1, 22, and 27 are directed to the abstract idea of selecting toll rates, as shown by the ‘determining,’ ‘determining,’ ‘identifying,’ ‘selecting,’ and ‘charging’ limitations.” (Final Act. 2). The Examiner concluded,

This abstract idea [is] similar to abstract ideas found by the courts, including []computing a price for the sale of a fixed income asset, “an idea ‘of itself’” because the claim can be performed in the human mind, or by a human using pen and paper, as well as “certain methods of organizing human activity” because the claim is directed to managing relationships or transactions between people and sales activities. *See July 2015 Update: Interim Eligibility Guidance Quick Reference Sheet.*

Id. at 2–3. We agree with the Examiner. That is, we find the steps:

- determining use through a toll thoroughfare by first and second travelers;
- identifying an association of the use of the toll thoroughfare by the first traveler to a first address within a first geographic impact region,

- and an association of the use of the toll thoroughfare by the second traveler to a second address that is different from the first address and that is within a second geographic impact region that is different from and geographically distinct from the first geographic impact region screening;
- selecting a first toll rate for the use of the toll thoroughfare by the first traveler as a function of association to the first geographic impact region via the first address, and a second toll rate for the use of the toll thoroughfare by the second traveler as a function of association to the second geographic impact region via the second address,

constitute “analyzing information by steps people go through in their minds, or by mathematical algorithms, without more,” and are “essentially mental processes within the abstract-idea category.” *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016).

In addition, we find that claim 1 is also directed to a method of organizing human activity by “applying variable thoroughfare travel fees (Claim 1)” to influence human decision making of selected travel routes. The patent-ineligible end of the spectrum includes methods of organizing human activity. *See Alice* 573 U.S. at 217–221.

Thus, we find that the claims recite a judicial exception of a mental process as well as a method of organizing human activity.

Turning to the second prong of the “directed to” test, claim 1 only generically requires “a processor.” We fail to see how the generic recitation of a computer component and/or of a system so integrates the judicial exception as to “impose a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception.” *2019 Memorandum* at 18.

That the claims do not preempt all forms of the abstraction or may be limited to toll rates, does not make them any less abstract. *See OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362 (Fed. Cir. 2015) (“And that the claims do not preempt all price optimization or may be limited to price optimization in the e-commerce setting do not make them any less abstract.”).

Turning to the second step of the *Alice* analysis, because we find that the claims are directed to abstract ideas/judicial exceptions, the claims must include an “inventive concept” in order to be patent-eligible, i.e., there must be an element or combination of elements sufficient to ensure that the claim in practice amounts to significantly more than the abstract idea itself. *See Alice*, 573 U.S. at 217 (quoting *Mayo Collaborative Servs.*, 566 U.S. at 72–73).

Concerning this step the Examiner found,

The claim(s) does/do not include additional elements that are sufficient to amount to significantly more than the judicial exception because claim 1 may be performed entirely manually, as it includes no particular computer hardware, and the recitation of “computer-implemented” in the preamble is not given patentable weight to any particular method step. Claims 22 and 27 recite computer elements including a processor, a computer readable memory, and a computer readable storage medium, however, these computer elements operate as generic computer components whose implementation would be routine in any computerized embodiment. Accordingly, the elements, both alone and in combination, do not

amount to significantly more than the abstract idea itself.

(Final Act. 3). We agree with the Examiner. “[T]he relevant question is whether the claims here do more than simply instruct the practitioner to implement the abstract idea . . . on a generic computer.” *Alice*, 573 U.S. at 225. They do not.

Taking the claim elements separately, the function performed by the computer at each step of the process is purely conventional. Using a computer to retrieve, select, and apply decision criteria to data amounts to electronic data query, retrieval and execution—the most basic functions of a computer. All of these computer functions are well-understood, routine, conventional activities previously known to the industry. *See Elec. Power Grp.*, 830 F.3d 1354; *see also In re Katz Interactive Call Processing Patent Litig.*, 639 F.3d 1303, 1316 (Fed. Cir. 2011) (“Absent a possible narrower construction of the terms ‘processing,’ ‘receiving,’ and ‘storing,’ . . . those functions can be achieved by any general purpose computer without special programming”). In short, each step does no more than require a generic computer to perform generic computer functions.

Considered as an ordered combination, the computer components of Appellants’ claims add nothing that is not already present when the steps are considered separately. The sequence of data reception-analysis (determining/identifying) and resultant data execution is equally generic and conventional or otherwise held to be abstract. *See Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014) (sequence of receiving, selecting, offering for exchange, display, allowing access, and receiving payment recited an abstraction), *Inventor Holdings, LLC v. Bed Bath &*

Appeal 2017-011603
Application 12/336,587

Beyond, Inc., 876 F.3d 1372, 1378 (Fed. Cir. 2017) (holding that sequence of data retrieval, analysis, modification, generation, display, and transmission was abstract), *Two-Way Media Ltd. v. Comcast Cable Commc'ns, LLC*, 874 F.3d 1329, 1339 (Fed. Cir. 2017) (holding sequence of processing, routing, controlling, and monitoring was abstract). The ordering of the steps is, therefore, ordinary and conventional.

Thus, the claims at issue amount to nothing significantly more than instructions to apply the abstract ideas of a mental process and a method of organizing human activity using some unspecified, generic computer. Under our precedents, that is not enough to transform an abstract idea into a patent-eligible invention. *See Alice*, 573 U.S. at 226.

We have reviewed all the arguments (App. Br. 6–11, Reply Br. 2–5) Appellants have submitted concerning the patent eligibility of the claims before us that stand rejected under 35 U.S.C. § 101. We find that our analysis above substantially covers the substance of all the arguments, which have been made. But, for purposes of completeness, we will address various arguments in order to make individual rebuttals of the same.

Appellants argue,

The Examiner fails to consider whether their [sic] character of the claim limitations as a whole is directed to a patent ineligible concept, improperly describes the claims at a high level of abstraction untethered from the language of the claim in determining the focus of the claimed invention, and ignores the admonishment that an invention's ability to run on a general purpose computer does not doom the claim (*Memorandum on Enfish and TLI Communications*).

(Appeal Br. 8).

In light of the breadth of claim 1, the Appellants' argument is not persuasive as to error in the rejection because, "[w]hen claims like the Asserted Claims are directed to an abstract idea and merely require generic computer implementation, they do not move into section 101 eligibility territory." *Smart Systems Innovations, LLC v. Chicago Transit Authority*, 873 F.3d 1364 (2017) (citations and internal quotations omitted). Here we found above that the claims are directed to the abstract ideas of a mental process as well as a method of organizing human activity. The generically recited "processor" we find fails to impose a meaningful limit on the judicial exception, such that the claim using a processor is more than a drafting effort designed to monopolize the judicial exception. *See 2019 Memorandum* at 18.

Appellants further argue that:

the claims may recite an invention that is not merely routine or conventional (*Bascom* at 11-12), and [the Examiner] fails to look to the claims as an ordered combination, without ignoring the requirements of the individual steps, in applying step two of the Alice test to determine whether the elements in combination are more than the non-conventional and non-generic arrangement of known, conventional elements.

(Appeal Br. 8).

We disagree with Appellants because as found above, when considered as an ordered combination, the computer components of Appellants' claims add nothing that is not already present when the steps are considered separately. The sequence of data reception-analysis (determining/identifying/selecting) is equally generic and conventional or

otherwise held to be abstract. *See Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 715.

Appellants further argue, “Pursuant to consideration (1) of the Step 2B analysis ‘Significantly More’ considerations, the claimed device aspects provide an *improvement* to the field of differentially selecting and applying variable thoroughfare travel fees” (Appeal Br. 8); “[t]his is useful in autonomously implementing policies influencing population densities or traffic (Appeal Br. 9).”

We disagree with Appellants. The question here is whether the claims as a whole “focus on a specific means or method that improves the relevant technology” or are “directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery.” *McRO, Inc. v. Bandai Namco Games Am., Inc.* 837 F.3d 1299, 1314 (Fed. Cir. 2016). In this case, the claims, as a whole, are focused on satisfying certain contingencies for “implementing policies influencing population densities or traffic” (Reply Br. 9) by charging a first toll as a function of applying the first toll rate to the use of the toll thoroughfare by the first traveler” and “a second toll as a function of applying the second toll rate to the use of the toll thoroughfare by the second traveler” (Claim 1). We find these limitations to be a result or an effect, and not an improvement in the technology of how, for example, a processor, memory, and program works.

For the reasons identified above, we determine there are no deficiencies in the Examiner’s prima facie case of patent ineligibility of the rejected claims based on the record before us.

Appeal 2017-011603
Application 12/336,587

CONCLUSIONS OF LAW

We conclude the Examiner did not err in rejecting claims 1–3, 5–9, 21–29 and 31 under 35 U.S.C. § 101.

DECISION

The decision of the Examiner to reject claims 1–3, 5–9, 21–29 and 31 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). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED