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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JOSEPH B. CASTINADO, GREGORY G. FARR,
RICHARD H. THOMAS, and BONNIE L. DOLAN

Appeal 2018-003222
Application 13/949,714¹
Technology Center 3600

Before ST. JOHN COURTENAY III., JASON J. CHUNG, and
JOYCE CRAIG, *Administrative Patent Judges*.

CHUNG, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) of the Final Rejection of claims 1–3, 5–9, 11–15, and 17–20.² We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

INVENTION

The invention relates “to a communication network for collecting data and executing electronic transaction services.” Spec. 1:3–4. Claim 1 is illustrative of the invention and is reproduced below:

¹ According to Appellants, Bank of America Corporation is the real party in interest. App. Br. 1.

² Claims 4, 10, and 16 are cancelled. App. Br. 30, 33, 36.

1. A system for executing electronic transaction services, comprising:

one or more processors operable to:

access first charge information associated with electronic transactions related to a plurality of nodes;

determine a plurality of first charge ratings for the first charge information;

access second charge information associated with electronic transactions related to a plurality of regulatory authorities, wherein each regulatory authority has authority over one or more of the plurality of nodes;

determine a plurality of second charge ratings for the second charge information;

access a plurality of previously executed electronic transactions associated with a user;

determine one or more transaction patterns based on the plurality of previously executed electronic transactions;

calculate a current cost associated with the one or more of the plurality of previously electronic transactions based at least in part on the first and second charge information; and

determine, based at least in part on the first and second charge information, one or more proposed electronic transactions routed through two or more of the plurality of nodes and two or more of the plurality of authorities, wherein the one or more proposed electronic transactions are associated with a proposed cost;

determine one or more first confidence ratings associated with the two or more nodes and one or more second confidence ratings associated with the two or more authorities, wherein the first confidence rating indicates a reliability of the first charge information and the second confidence rating indicates a reliability of the second charge information;

compare the proposed cost of the proposed electronic transaction to the current cost associated with the one or more of the plurality of previous electronic transactions; and

in response to the proposed cost being less than the current cost, the one or more first confidence ratings being above a first threshold, and the one or more second confidence ratings being above a second threshold:

transmit an authorization request to the user identifying the one or more proposed electronic transactions and the proposed cost;

receive authorization from the user to execute the proposed transaction; and

execute the proposed electronic transaction.

App. Br. 27–28 (Claims Appendix).

REJECTIONS AT ISSUE

Claims 1–3, 5–9, 11–15, and 17–20 stand rejected under 35 U.S.C. § 101 as being directed to patent ineligible subject matter. Final Act. 7–17.

Claims 1–3, 5–9, 11–15, and 17–20 stand rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Cervenka (US 2012/0271765 A1; published Oct. 25, 2012), Burger (US 2010/0145929 A1; published June 10, 2010), and Smith (US 2006/0059087 A1; published Mar. 16, 2006). Final Act. 17–64.

ANALYSIS

I. Claims 1–3, 5–9, 11–15, and 17–20 Rejected Under 35 U.S.C. § 101

A. Legal Principles

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 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. (15 How.) 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 192 (“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

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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* (“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 activity 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 whether the claim:

(3) adds a specific limitation beyond the judicial exception that are 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 Memorandum.

B. The Examiner’s Conclusions and Appellants’ Arguments

The Examiner concludes the present claims recite fundamental economic principles or practices, which are certain methods of organizing human activity. Final Act. 7–17; Ans. 7, 11, 13. The Examiner also determines the present claims do not amount to significantly more than an abstract idea itself because the Examiner determines the abstract idea is implemented on generic components that are well-understood, routine, and conventional previously known to the industry. Final Act. 9, 12, 14, 17; Ans. 14, 19.

Appellants argue the Examiner fails to provide a *prima facie* rejection because the Examiner overlooks various limitations. App. Br. 14–15; Reply Br. 3–4. Appellants argue, similar to *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327 (Fed. Cir. 2016) and *Trading Technologies International Inc., v. CQG, Inc.*, 675 F. App’x 1001 (Fed. Cir. 2017) (non-precedential), the present claims recite an improvement in computer-related technology because the system reduces transaction time associated with an electronic transaction and increases the efficiency of the electronic transaction. App.

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Br. 15–18 (citing Spec. 6:18–26³); Reply Br. 4–5, 9–10. Appellants argue the present claims are patent eligible because they recite a specially programmed computer. App. Br. 19–20.

Appellants further argue, similar to *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014), the present claims are necessarily rooted in computer technology to solve problems specifically arising in the realm of computer networks by reducing transaction times while increasing the overall efficiency of the system. App. Br. 21–23 (citing Spec. 11:31–12:7); Reply Br. 4–5. We disagree with Appellants.

Appellants argue, similar to *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288 (Fed Cir. 2016), the present claims provides an unconventional technical solution (determining one or more transaction patterns based on the plurality of previously executed electronic transactions and determining one or more proposed electronic transactions routed through two or more of the plurality of nodes and two or more of the plurality of authorities) to a technological problem (the traditional method of determining and routing electronic transactions either did not consider or could not take into account how an electronic transaction would be treated by different nodes in a transaction route). Reply Br. 7–8 (citing Spec. 2:2–19).

³ Appellants cite Castinado ¶¶ 17–18. App. Br. 17. To the best of our understanding, Castinado corresponds to the present case’s published application (US 2015/0032600 A1; published Jan. 29, 2015). For consistency, we refer to citations from the Specification throughout our Decision.

C. Discussion

1. Step 2A, Prong 1

Claim 1 is reproduced below, with emphases.

1. A system for executing electronic transaction services, comprising:

one or more processors operable to:

access first charge information associated with electronic transactions related to a plurality of nodes;

determine a plurality of first charge ratings for the first charge information;

access second charge information associated with electronic transactions related to a plurality of regulatory authorities, wherein each regulatory authority has authority over one or more of the plurality of nodes;

determine a plurality of second charge ratings for the second charge information;

access a plurality of previously executed electronic transactions associated with a user;

determine one or more transaction patterns based on the plurality of previously executed electronic transactions;

calculate a current cost associated with the one or more of the plurality of previously electronic transactions based at least in part on the first and second charge information; and

determine, based at least in part on the first and second charge information, one or more proposed electronic transactions routed through two or more of the plurality of nodes and two or more of the plurality of authorities, wherein the one or more proposed electronic transactions are associated with a proposed cost;

determine one or more first confidence ratings associated with the two or more nodes and one or more second confidence ratings associated with the two or more authorities, wherein the first confidence rating indicates a reliability of the first charge information and the second confidence rating indicates a reliability of the second charge information;

compare the proposed cost of the proposed electronic transaction to the current cost associated with the one or more of the plurality of previous electronic transactions; and

in response to the proposed cost being less than the current cost, the one or more first confidence ratings being above a first threshold, and the one or more second confidence ratings being above a second threshold:

transmit an authorization request to the user identifying the one or more proposed electronic transactions and the proposed cost;

receive authorization from the user to execute the proposed transaction; and

execute the proposed electronic transaction.

The emphasized portions of claim 1⁴, reproduced above, recite commercial transactions. According to the Memorandum, commercial transactions fall into of certain methods of organizing human activity. *See* Memorandum. Moreover, those certain methods of organizing human activity are a type of an abstract idea. *See id.*

We disagree with Appellants' argument that the Examiner fails to provide a *prima facie* rejection because the Examiner overlooks various limitations. App. Br. 14–15; Reply Br. 3–4. Patent eligibility under 35 U.S.C. § 101 is a question of law that is reviewable *de novo*. *See Dealertrack, Inc. v. Huber*, 674 F.3d 1315, 1333 (Fed. Cir. 2012). We are aware of no controlling authority that requires the Examiner to provide factual evidence under step one of the *Alice* framework to support a

⁴ Claim 1, reproduced above with emphases, recites similar features as independent claims 3, 9, and 15. Appellants do not argue claims 2, 3, 5–9, 11–15, and 17–20 separately, but assert the § 101 rejection of those claims should be withdrawn for at least the same reasons as argued for claim 1. App. Br. 12–23. We, therefore, group claims 1–3, 5–9, 11–15, and 17–20 together and refer to those claims as the “present claims.”

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determination that a claim is directed to an abstract idea. The Federal Circuit has repeatedly noted that “the prima facie case is merely a procedural device that enables an appropriate shift of the burden of production.” *Hyatt v. Dudas*, 492 F.3d 1365, 1369 (Fed. Cir. 2007) (citing *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992)). The Examiner satisfies the burden of establishing a *prima facie* case under 35 U.S.C. § 132 by setting forth a rejection in a sufficiently articulate and informative manner. *In re Jung*, 637 F.3d 1356, 1363 (Fed. Cir. 2011). If the Examiner “adequately explain[s] the shortcomings . . . the burden shifts to the applicant to rebut the prima facie case with evidence and/or argument.” *Hyatt*, 492 F.3d at 1370. The Final Office Action adequately explains the § 101 rejection. *See* Final Act. 7–17. The Examiner’s statements satisfy § 132(a) because they apply the *Alice* analytical framework and apprise Appellants of the reasons for the § 101 rejection under that framework. Appellants have not responded by alleging a failure to understand the rejection.

Because the present claims recite commercial transactions, which fall into the category of certain methods of organizing human activity (i.e., an abstract idea), we proceed to prong 2.

2. Step 2A, Prong 2

The present claims do not integrate the abstract idea into a practical application because they do not impose any meaningful limits on practicing the abstract idea. In particular, we disagree with Appellants’ argument that, similar to *Enfish* and *Trading Technologies*, the present claims recite are patent eligible because they recite a reduction in transaction time associated with an electronic transaction and an increase in the efficiency of the electronic transaction. App. Br. 15–18 (citing Spec. 6:18–26); Reply Br. 4–5, 9–10.

Unlike the claims of *Enfish*, the present claims do not recite “a specific improvement to the way computers operate, embodied in the self-referential table” or similar improvements. *Enfish, LLC v. Microsoft Corp.*, 822 F.3d at 1336. And unlike the claims of *Trading Technologies*, the present claims do not recite a graphical user interface that prevents order entry at a changed price or similar improvements. *Trading Technologies Int’l Inc., v. CQG, Inc.*, 675 F. App’x at 1003.

In addition, though Appellants purport to accelerate authorization, our reviewing court has held that speed and accuracy increases stemming from the ordinary capabilities of a general purpose computer “do[] not materially alter the patent eligibility of the claimed subject matter.” *Bancorp Servs., L.L.C. v. Sun Life Assurance Co. of Can. (U.S.)*, 687 F.3d 1266, 1278 (Fed. Cir. 2012). Additionally, “a claim for a *new* abstract idea is still an abstract idea.” *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1151 (Fed. Cir. 2016). “[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).

Instead, the present claims recite an abstract idea as discussed *supra*, in § I.C.1. or at best, improving an abstract idea—not a technological improvement. The Specification indicates the additional elements (i.e., “one or more processors”⁵ and “a plurality of nodes”) recited in the present claims are merely tools used to implement the abstract idea. Spec. 13:25–14:4,

⁵ Claims 1, 3, and 15 recite “one or more processors,” whereas claim 9 recites “processor.”

21:3–10. We, therefore, disagree with Appellants’ argument that the present claims are patent eligible because they recite a specially programmed computer. App. Br. 19–20. Moreover, simply programming a general-purpose computer to perform abstract ideas does not integrate those ideas into a practical application. *See* 2019 Eligibility Guidance, 84 Fed. Reg. at 55 (identifying “merely includ[ing] instructions to implement an abstract idea on a computer” as an example of when an abstract idea has not been integrated into a practical application).

We disagree with Appellants’ argument that, similar to *DDR*, the present claims are necessarily rooted in computer technology to solve problems specifically arising in the realm of computer networks. App. Br. 21–23 (citing Spec. 11:31–12:7); Reply Br. 4–5. Instead, the present claims are directed to an abstract idea using additional generic elements as tools to implement the abstract idea as discussed *supra* in § I.C.1.

Appellants do not make any other arguments pertaining to step 2A, prong 2. Because the present claims recite an abstract idea that is not integrated into a practical application, we proceed to Step 2B.

3. *Step 2B*

We agree with the Examiner’s determination that the abstract idea is implemented on generic components that are well-understood, routine, and conventional. Final Act. 9, 12, 14, 17; Ans. 14, 19. The Specification supports the Examiner’s determination in this regard because it explains that “one or more processors,” “a processor” and “a plurality of nodes” are generic components. Spec. 13:25–14:4, 21:3–10. Appellants’ Specification indicates these elements were well-understood, routine, and conventional components because it describes them at a high level of generality and in a manner that indicates that they are sufficiently well-known. *Id.*

We disagree with Appellants' argument that, similar to *Amdocs*, the present claims provides an unconventional technical solution to a technological problem. Reply Br. 7–8 (citing Spec. 2:2–19). Instead, the present claims are directed to an abstract idea using generic components as discussed *supra*, in §§ I.C.1. and I.C.2. or at best, improving an abstract idea—not an inventive concept.

Appellants do not make any other arguments pertaining to step 2B. Also, Appellants do not argue claims 2, 3, 5–9, 11–15, and 17–20 separately, but assert the § 101 rejection of those claims should be withdrawn for at least the same reasons as argued for claim 1. App. Br. 12–23. Based on our review of the dependent claims, these claims do not recite any additional features that would transform the abstract idea embodied in claims 1, 3, 9, and 15 into an inventive concept. Accordingly, we sustain the Examiner's rejection of: (1) independent claims 1, 3, 9, and 15; and (2) dependent claims 2, 5–8, 11–14, and 17–20 under 35 U.S.C. § 101.

II. Claims 1–3, 5–9, 11–15, and 17–20 Rejected Under 35 U.S.C. § 103

The Examiner finds Cervenka teaches a routing payment processing to a certain network according to a priority list and transaction amount, which the Examiner maps to the limitation “access first charge information associated with electronic transactions related to a plurality of nodes” recited in claims 1, 3, and 9 (and similarly recited in claim 15). Final Act. 18, 25, 38, 51 (citing Cervenka ¶¶ 73–75, Figs. 3A–3B); Ans. 21–22. The Examiner finds Cervenka teaches each payment processing network has a rank within the routing priority list such that networks listed above other networks on the list have higher priority than the networks listed below them, which the Examiner maps to the limitation “determine a plurality of first charge ratings for the first charge information” recited in claim 1 (and

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similarly recited in claims 3, 9, and 15). Final Act. 18, 26, 38–39, 51–52 (citing Cervenka ¶¶ 73–75, Figs. 3A–3B); Ans. 22–23.

Appellants argue Cervenka fails to teach the two limitations in the preceding paragraph because Cervenka merely determines which payment processing network to use based on characteristics of the transaction. App. Br. 23–24. Appellants argue Cervenka only looks at the entire route when determining the total transaction resulting from all the nodes, whereas claim 1 looks at the nodes themselves. Reply Br. 10. We disagree with Appellants.

Cervenka teaches a routing payment processing to a certain network (i.e., a network has a plurality of nodes) according to a priority list and transaction amount (i.e., access first charge information), which teaches the limitation “access first charge information associated with electronic transactions related to a plurality of nodes” recited in claims 1, 3, and 9 (and similarly recited in claim 15). Cervenka ¶¶ 73–75, Figs. 3A–3B (cited at Final Act. 18, 25, 38, 51; Ans. 21–22). Cervenka teaches each payment processing network has a rank within the routing priority list such that networks listed above other networks on the list have higher priority than the networks listed below them (i.e., the rank teaches determining a charge rating), which teaches the limitation “determine a plurality of first charge ratings for the first charge information” recited in claim 1 (and similarly recited in claims 3, 9, and 15). Cervenka ¶¶ 73–75, Figs. 3A–3B (cited at Final Act. 18, 26, 38–39, 51–52; Ans. 22–23).

Regarding Appellants’ argument that Cervenka only looks at the entire route when determining the total transaction resulting from all the nodes, whereas claim 1 looks at the nodes themselves (Reply Br. 10), it is untimely. Appellants’ argument is untimely and waived because the

Examiner did not change the theory in the Answer while Appellants' proffered new arguments in the Reply Brief without showing good cause. *See* 37 C.F.R. § 41.41(b)(2); *compare* Final Act. 18, 25, 38, 51 (citing Cervenka ¶¶ 73–75, Figs. 3A–3B) *with* Ans. 21–22 (citing Cervenka Fig. 3A); *compare* App. Br. 23–25 *with* Reply Br. 10. Moreover, even if this argument was not untimely, which it is, as stated *supra*, Cervenka teaches “access first charge information associated with electronic transactions related to a plurality of nodes” recited in claims 1, 3, and 9 (and similarly recited in claim 15). To the extent that Appellants are arguing that Cervenka fails to teach “without looking at the entire route,” we note that this is not recited in the independent claims.

Appellants do not argue claims 2, 3, 5–9, 11–15, and 17–20 separately with particularity, but assert the § 103 rejection of those claims should be withdrawn for at least the same reasons as argued for claim 1. App. Br. 23–25. Accordingly, we sustain the Examiner's rejection of: (1) independent claims 1, 3, 9, and 15; and (2) dependent claims 2, 5–8, 11–14, and 17–20 under 35 U.S.C. § 103.

We have only considered those arguments that Appellants actually raised in the Briefs. Arguments Appellants could have made, but chose not to make, in the Briefs have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(iv).

DECISION

We affirm the Examiner's decision rejecting claims 1–3, 5–9, 11–15, and 17–20 under 35 U.S.C. § 101.

We affirm the Examiner's decision rejecting claims 1–3, 5–9, 11–15, and 17–20 under 35 U.S.C. § 103.

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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