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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ANDREA CHIAPPE

Appeal 2018-000394
Application 13/189,326
Technology Center 3600

Before ST. JOHN COURTENAY III, JENNIFER S. BISK, and
STEVEN M. AMUNDSON, *Administrative Patent Judges*.

AMUNDSON, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant¹ seeks our review under 35 U.S.C. § 134(a) from a final rejection of claims 1–30, i.e., all pending claims. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

¹ Appellant identifies the real party in interest as Systemware, Inc. Br. 3.

STATEMENT OF THE CASE

The Invention

According to the Specification, the “invention relates to healthcare payment processing systems and, more specifically, to a medical banking system and method that optimizes healthcare remittance processing.” Spec. ¶ 5.² The Specification explains that the invention “decrease[s] the overall administrative costs and requirements of the healthcare remittance process” and “improve[s] the overall accuracy of the remittance process” through “manual verification and correction” of incorrect data resulting from scanning “an explanation of benefits (EOB) or an explanation of payments (EOP) [paper] document.” *Id.* ¶¶ 8–9.

Exemplary Claim

Independent claim 1 exemplifies the claims at issue and reads as follows:

1. A method for optimizing healthcare remittance processing comprising:

accepting a scanned image of a paper explanation of benefits (EOB) or a paper explanation of payments (EOP) document, wherein the scanned image contains a plurality of original data points related to the provision of healthcare services rendered by a provider;

converting, with a computing device, the original data points to a computer readable format, wherein the conversion process results in computation of a statistical confidence value related to the accuracy of the conversion of each original data point,

² This decision uses the following abbreviations: “Spec.” for the Specification, filed July 22, 2011; “Final Act.” for the Final Office Action, mailed December 2, 2016; “Br.” for the Appeal Brief, filed May 2, 2017; and “Ans.” for the Examiner’s Answer, mailed July 19, 2017.

determining an optimal confidence threshold value with an exemplar document, wherein conversion of data points of the exemplar document comprises predictable and verifiable data points and wherein any converted data point having an associated confidence value that is below the optimal confidence threshold value is a low confidence data point;

applying balancing checks, with the computing device, to check for unbalanced entries in the converted data points, wherein the balancing checks compute balances in rows and columns of the original data points;

providing a user interface that comprises a first view adjacent to a second view, wherein the first view displays the scanned image of the paper EOB or paper EOP document, and wherein the second view displays a spreadsheet comprising one or more recognized text field overlays of the converted data points;

accepting, with the user interface, manual validation instructions from the user to verify and correct low confidence data, wherein the first view of the user interface displays the scanned image of the paper EOB or paper EOP document, and wherein the second view displays the converted data points;

presenting, with the user interface, the unbalanced entries to a user, wherein the unbalanced entries are highlighted to enable manual balancing and correction by the user;

accepting, with the user interface, manual balancing and correcting instructions from the user to correct the unbalanced entries; and

creating, with the computing device, a remittance file comprising the validated computer readable data points, wherein the remittance file is in a format suitable for the provider's practice management system;

evaluating, with the computing device, whether the user selected one of automatic transmission of the remittance file and manual transmission of the remittance file.

The Prior Art Supporting the Rejections on Appeal

As evidence of unpatentability under 35 U.S.C. § 103(a), the Examiner relies on the following prior art:

Ichikawa et al. (“Ichikawa”)	US 2001/0043740 A1	Nov. 22, 2001
Sarkar et al. (“Sarkar”)	US 2004/0010758 A1	Jan. 15, 2004
Provost et al. (“Provost”)	US 2007/0033137 A1	Feb. 8, 2007

The Rejections on Appeal

Claims 1–30 stand rejected under 35 U.S.C. § 101 as directed to patent-ineligible subject matter. Final Act. 5–7.

Claims 1–30 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Provost, Sarkar, and Ichikawa. Final Act. 7–19.

ANALYSIS

We have reviewed the rejections in light of Appellant’s arguments that the Examiner erred. Based on the record before us and for the reasons explained below, we disagree with the Examiner’s conclusions concerning ineligibility under § 101 and unpatentability under § 103(a). We provide the following to address and emphasize specific findings and arguments.

The § 101 Rejection of Claims 1–30

INTRODUCTION

The Patent Act defines patent-eligible subject matter broadly: “Whoever 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. In *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66, 70 (2012), and *Alice*

Corp. v. CLS Bank International, 573 U.S. 208, 216 (2014), the Supreme Court explained that § 101 “contains an important implicit exception” for laws of nature, natural phenomena, and abstract ideas. *See Diamond v. Diehr*, 450 U.S. 175, 185 (1981). In *Mayo* and *Alice*, the Court set forth a two-step analytical framework for evaluating patent-eligible subject matter: First, “determine whether the claims at issue are directed to” a judicial exception, such as an abstract idea. *Alice*, 573 U.S. at 217. If so, “consider the elements of each claim both individually and ‘as an ordered combination’ to determine whether the additional elements” add enough to transform the “nature of the claim” into “significantly more” than the judicial exception. *Id.* at 217–18, 221–22 (quoting *Mayo*, 566 U.S. at 78–79).

Patent-ineligible abstract ideas include mathematical formulas, mental processes, and certain methods of organizing human activity, such as fundamental economic practices. *See, e.g., Alice*, 573 U.S. at 219–20 (fundamental economic practice of intermediated settlement); *Bilski v. Kappos*, 561 U.S. 593, 612 (2010) (fundamental economic practice of hedging or protecting against risk); *Parker v. Flook*, 437 U.S. 584, 585–86, 596–98 (1978) (mathematical formula for calculating updated alarm limit); *Gottschalk v. Benson*, 409 U.S. 63, 65–67 (1972) (mental process of converting binary-coded-decimal representation to binary representation). In contrast to patent-ineligible abstract ideas, patent-eligible concepts include physical and chemical processes, such as “molding rubber products.” *See, e.g., Diehr*, 450 U.S. at 191.

Step one in the *Mayo/Alice* framework involves looking at the “focus” of the claims at issue and their “character as a whole.” *SAP Am., Inc. v.*

InvestPic, LLC, 898 F.3d 1161, 1167 (Fed. Cir. 2018). Step two involves the search for an “inventive concept.” *Alice*, 573 U.S. at 217–18, 221; *Univ. of Fla. Research Found., Inc. v. Gen. Elec. Co.*, 916 F.3d 1363, 1366 (Fed. Cir. 2019). “[A]n inventive concept must be evident in the claims.” *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017). Further, an “inventive concept” requires more than “well-understood, routine, conventional activity already engaged in” by the relevant community. *Rapid Litig. Mgmt. Ltd. v. CellzDirect, Inc.*, 827 F.3d 1042, 1047 (Fed. Cir. 2016) (quoting *Mayo*, 566 U.S. at 79–80). But a “non-conventional and non-generic arrangement of known, conventional pieces” may provide an “inventive concept” satisfying step two. *BASCOM Global Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350 (Fed. Cir. 2016).

In January 2019, the PTO issued revised guidance for determining whether claims are directed to a judicial exception, i.e., an abstract idea, a law of nature, or a natural phenomenon. *See 2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) (“2019 Guidance”). The 2019 Guidance applies to the Board. *Id.* at 50–51, 57 n.42; *see* 35 U.S.C. § 3(a)(2)(A) (investing the Director with responsibility “for providing policy direction” for the PTO). Neither the Examiner nor Appellant had the benefit of the 2019 Guidance when advocating their respective positions concerning subject-matter eligibility.

The 2019 Guidance specifies three groupings of abstract ideas: mathematical concepts, certain methods of organizing human activity, and mental processes. 84 Fed. Reg. at 51–52. The Guidance identifies the following as mathematical concepts: “mathematical relationships,

mathematical formulas or equations, mathematical calculations.” *Id.* at 52. The Guidance identifies the following as methods of organizing human activity: (1) “fundamental economic principles or practices”; (2) “commercial or legal interactions,” such as “agreements in the form of contracts,” “marketing or sales activities or behaviors,” and “business relations”; and (3) “managing personal behavior or relationships or interactions between people,” such as “social activities, teaching, and following rules or instructions.” *Id.* The Guidance identifies the following as mental processes: “concepts performed in the human mind,” such as “an observation, evaluation, judgment, [or] opinion.” *Id.* (footnote omitted).

In addition, the 2019 Guidance specifies two prongs for the analysis under *Mayo/Alice* step one (PTO step 2A). 84 Fed. Reg. at 54–55. The first prong requires evaluating “whether the claim recites a judicial exception, *i.e.*, an abstract idea, a law of nature, or a natural phenomenon.” *Id.* at 54. “If the claim does not recite a judicial exception, it is not directed to a judicial exception,” and it satisfies § 101. *Id.* “If the claim does recite a judicial exception, then it requires further analysis” under prong two. *Id.* Prong two requires evaluating “whether the claim as a whole integrates the recited judicial exception into a practical application of the exception.” *Id.* “When the exception is so integrated, then the claim is not directed to a judicial exception,” and it satisfies § 101. *Id.* “If the additional elements do not integrate the exception into a practical application, then the claim is directed to the judicial exception,” and it “requires further analysis” under *Mayo/Alice* step two (PTO step 2B). *Id.*

MAYO/ALICE STEP ONE: PTO STEP 2A PRONG ONE

For *Mayo/Alice* step one, the Examiner determines that the “accepting, converting, determining, applying, creating, evaluating and presenting” limitations in independent claims 1, 11, and 21 are directed to the following abstract ideas: “using categories to organize, store, and transmit information,” like the claims in *Cyberfone*; and “comparing new and stored information and using rules to identify options,” like the claims in *SmartGene*.³ Ans. 3; see Final Act. 6. In addition, the Examiner determines that those limitations parallel the following abstract ideas: “collecting, displaying, and manipulating data,” like the claims in *Capital One Financial*; and “collecting information, analyzing it and displaying certain results of the collection and analysis,” like the claims in *Electric Power Group*.⁴ Ans. 3.

Appellant argues that claims 1, 11, and 21 are not directed to an abstract idea because they “are drawn to patent eligible machines and processes that improve the functioning of real-time automated and augmented character recognition systems.” Br. 10. Appellant asserts that optical character recognition produces a “digital version” of a physical document “sent through a series of machines.” *Id.* at 11. Appellant also asserts that optical character recognition “is specific and inextricably tied to computer technology because computers require character recognition in

³ See *Cyberfone Sys., LLC v. CNN Interactive Grp., Inc.*, 558 F. App’x 988, 992 (Fed. Cir. 2014); *SmartGene, Inc. v. Advanced Biological Labs., SA*, 555 F. App’x 950, 955 (Fed. Cir. 2014).

⁴ See *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1340 (Fed. Cir. 2017); *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016).

order to analyze documents that have not be [sic] inputted into the computer or the system by a human.” *Id.* Further, Appellant urges that the abstract ideas the Examiner identifies are “not recited in the claims.” *Id.*

We determine that claims 1, 11, and 21 recite abstract ideas. Each claim does so in the “converting,” “determining,” “applying,” and “evaluating” limitations. *See* Br. 23–24, 26–27, 30–31 (Claims App.).

The “converting” limitation requires “converting . . . the original data points to a computer readable format” with “the conversion process result[ing] in computation of a statistical confidence value related to the accuracy of the conversion of each original data point.” Br. 23, 26, 30 (Claims App.). Computing “a statistical confidence value” constitutes a mathematical calculation. The 2019 Guidance identifies a mathematical calculation as a mathematical concept, and thus an abstract idea. 84 Fed. Reg. at 52.

The “determining” limitation requires determining whether a “converted data point ha[s] an associated confidence value that is below the optimal confidence threshold value.” Br. 23, 26, 30 (Claims App.). That determination encompasses an evaluation the human mind may perform, e.g., comparing two numbers to discern their respective magnitudes. The 2019 Guidance identifies an evaluation the human mind may perform as a mental process, and thus an abstract idea. 84 Fed. Reg. at 52.

The “applying” limitation requires “applying balancing checks” to “compute balances in rows and columns of the original data points.” Br. 23, 26, 30 (Claims App.). Computing “balances in rows and columns” constitutes a mathematical calculation. The 2019 Guidance identifies a

mathematical calculation as a mathematical concept, and thus an abstract idea. 84 Fed. Reg. at 52.

The “evaluating” limitation requires “evaluating . . . whether the user selected one of automatic transmission of the remittance file and manual transmission of the remittance file.” Br. 24, 27, 31 (Claims App.). That evaluation encompasses an evaluation the human mind may perform, e.g., recognizing a particular option a user has selected from among a limited number of options. The 2019 Guidance identifies an evaluation the human mind may perform as a mental process, and thus an abstract idea. 84 Fed. Reg. at 52.

MAYO/ALICE STEP ONE: PTO STEP 2A PRONG TWO

Because we determine that claims 1, 11, and 21 recite abstract ideas, we consider whether each claim as a whole integrates the recited abstract ideas into a practical application. *See* 84 Fed. Reg. at 54–55. “Only when a claim recites a judicial exception and fails to integrate the exception into a practical application, is the claim ‘directed to’ a judicial exception” *Id.* at 51.

The Examiner finds “the invention increases the accuracy of the medical remittance process.” Final Act. 3, 4; Ans. 5–6. But the Examiner also finds that the improvement relates “to the process and not to the technology.” Final Act. 3, 4; Ans. 6.

Appellant contends that claims 1, 11, and 21 include “additional elements that represent improvements to conventional character recognition systems.” Br. 9–10. Appellant also contends that the claims include “an entire body of elements setting forth specific technical steps for improving conversion accuracy using an exemplar document.” *Id.* at 11.

We determine that each claim as a whole integrates the recited abstract ideas into a practical application. Each claim does so because the “accepting,” “providing,” “presenting,” and “creating” limitations in each claim use the recited abstract ideas in a meaningful way beyond generally linking their use to a particular technological environment. *See* 84 Fed. Reg. at 55. Among other things, each claim requires:

- “providing a user interface” with various views;
- “check[ing] for unbalanced entries”;
- “presenting, with the user interface, the unbalanced entries to a user” with the unbalanced entries
- “highlighted to enable manual balancing and correction by the user”; and
- “accepting, with the user interface, manual balancing and correcting instructions from the user to correct the unbalanced entries.”

Br. 23–24, 26–27, 30–31 (Claims App.). Due to these features and others, the invention “decrease[s] the overall administrative costs and requirements of the healthcare remittance process” and “improve[s] the overall accuracy of the remittance process.” *See* Spec. ¶¶ 8–10; *see also* Final Act. 3, 4; Ans. 5–6.

Claims 1, 11, and 21 are directed to a particular manner of identifying incorrect data, presenting incorrect data, and correcting incorrect data. Hence, we conclude that each claim is not directed to a judicial exception and, therefore, satisfies § 101 under *Mayo/Alice* step one. *See Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, 880 F.3d 1356, 1362–63 (Fed. Cir. 2018) (deciding that claims “directed to a particular manner of summarizing and presenting information in electronic devices” satisfied § 101 under *Mayo/Alice* step one).

SUMMARY

For the reasons discussed above, we do not sustain the § 101 rejection of claims 1, 11, and 21. For the same reasons, we do not sustain the § 101 rejection of dependent claims 2–10, 12–20, and 22–30.

The § 103(a) Rejection of Claims 1–30

Appellant argues that the Examiner erred in rejecting claims 1, 11, and 21 because “Provost, Sarkar, Ichikawa, or a combination thereof” does not teach or suggest the “determining” limitation in each claim. *See* Br. 17–21. Specifically, Appellant asserts that the Examiner maps the claimed “optimal confidence threshold value” to Sarkar’s threshold operating point. *Id.* at 18. Appellant then asserts that “Sarkar shows that the threshold operating point does not involve and is not based on an exemplar document with known and predictable data” as the claims require. *Id.* In addition, Appellant contends that “Sarkar does not discuss how the threshold operating point is selected or on what grounds or basis the threshold operating point model selects the threshold operating point.” *Id.* Appellant also contends that in Sarkar “[t]here is no mention of quantification of the threshold operating point, as compared to the optimal confidence threshold value” recited in the claims. *Id.* at 19.

In response, the Examiner explains that “[t]he points in the instant claims where it is based on a document with known and predictable data, however the data being predictable and verifiable are non-functional and descriptive of that data.” Ans. 7; *see* Final Act. 5. The Examiner then explains that “the threshold operating point with high confidence is interpreted as [the] optimal confidence threshold value.” Ans. 7 (citing Sarkar ¶ 37); *see* Final Act. 5.

Based on the record before us, we agree with Appellant that the Examiner has not adequately explained how the cited portions of Sarkar teach or suggest “determining an optimal confidence threshold value with an exemplar document” and using the exemplar-based threshold value for comparison purposes to identify low-confidence data points. Sarkar paragraph 37 describes a “text passage error threshold operating point model” that “is used to select a threshold operating point that will, with high confidence, satisfy customer-specified quality requirements while minimizing the labor needed to process document text passages that are not triaged.” Sarkar ¶ 37. But paragraph 37 does not disclose that the threshold operating point results from analysis of an exemplar document. *Id.* In addition, Sarkar describes a “predetermined threshold error rate” that differs from the threshold operating point the Examiner cites. *Id.* ¶¶ 11, 37, 46, 60, 66, 69. Sarkar uses the “predetermined threshold error rate” for comparison purposes to identify low-confidence data points. *See id.* ¶¶ 11, 45–46, 69. The Examiner has not adequately demonstrated that Sarkar also uses the threshold operating point for comparison purposes to identify low-confidence data points. *See* Final Act. 5, 10–12; Ans. 6–8.

Hence, we do not sustain the § 103(a) rejection of claims 1, 11, and 21.⁵ For the same reasons, we do not sustain the § 103(a) rejection of dependent claims 2–10, 12–20, and 22–30.

⁵ We note that claim 11 lacks an antecedent basis for the term “computing device” in the claim’s last limitation. In the event of continued prosecution, the Examiner should consider the applicability of 35 U.S.C. § 112 ¶ 2 to claim 11.

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Because the preceding determinations resolve the appeal for all pending claims, we need not address Appellant’s other arguments regarding Examiner error. *See, e.g., Beloit Corp. v. Valmet Oy*, 742 F.2d 1421, 1423 (Fed. Cir. 1984) (explaining that an administrative agency may render a decision based on “a single dispositive issue”).

DECISION

We reverse the Examiner’s decision rejecting claims 1–30.

REVERSED