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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte PETER J. GROARKE and BRIAN JOHN PIEL

Appeal 2019-002375
Application 14/926,397
Technology Center 3600

Before MURRIEL E. CRAWFORD, NINA L. MEDLOCK, and
TARA L. HUTCHINGS, *Administrative Patent Judges*.

HUTCHINGS, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant¹ appeals under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1–13. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

¹ We use the term “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Our decision references Appellant's Appeal Brief (“Appeal Br.,” filed Sept. 18, 2018) and Reply Brief (“Reply Br.,” filed Jan. 23, 2019), and the Examiner's Answer (“Ans.,” mailed Nov. 29, 2018) and Final Office Action (“Final Act.,” mailed May 4, 2018). Appellant identifies MASTERCARD INTERNATIONAL INCORPORATED as the real party in interest. Appeal Br. 2.

CLAIMED INVENTION

Appellant describes that the claimed invention relates generally to “techniques for conducting secure online purchase transactions” and, more particularly, to “providing cardholder authentication services on-behalf-of (OBO) issuers utilizing a payment card authorization network to bridge cardholder authentication and transaction authorization processes.”

Spec. 1:7–10.

Claims 1 and 9 are the independent claims on appeal. Claim 1, reproduced below with bracketed notations added, is illustrative of the claimed subject matter:

1. A method for providing online cardholder authentication services on-behalf-of issuer financial institutions, comprising:

[(a)] receiving, by an on-behalf-of (OBO) issuer service computer from one of a merchant server computer or an access control server (ACS) computer, an authentication message comprising an authentication value and transaction data;

[(b)] storing, by the OBO issuer service computer, the authentication message in a transaction database;

[(c)] receiving, by the OBO issuer service computer from a payment network, a purchase transaction authorization request message;

[(d)] determining, by the OBO issuer service computer, that an authentication value in an universal cardholder authentication field (UCAF) of the purchase transaction authorization request message matches the authentication value of the stored authentication message;

[(e)] calculating, by the OBO issuer service computer, a time difference value between a time and date of an online purchase transaction stored in the transaction database and the time and date of the purchase transaction authorization request message;

[(f)] determining, by the OBO issuer service computer, that the time difference value is within a predetermined time range;

[(g)] storing, by the OBO issuer service computer in the transaction database, a record of the match; and

[(h)] transmitting, by the OBO issuer service computer, the purchase transaction authorization request to the payment network for purchase authorization processing.

REJECTION²

Claims 1–13 are rejected under 35 U.S.C. § 101 as directed to a judicial exception without significantly more.

ANALYSIS

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. *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014).

The Supreme Court, in *Alice*, reiterated the two-step framework 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.*, 573 U.S. at 217. 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

² The Examiner has withdrawn the rejections of claims 1–13 under 35 U.S.C. § 103. Ans. 3.

of the claim’ into a patent-eligible application.” *Id.* (quoting *Mayo*, 566 U.S. at 79, 78). This is “a search for an ‘inventive concept’ — *i.e.*, an element or combination of elements that is ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.” *Id.* at 217–18 (alteration in original).

After Appellant’s briefs were filed, and the Examiner’s Answer mailed, the U.S. Patent and Trademark Office (the “USPTO”) published revised guidance on January 7, 2019 for use by USPTO personnel in evaluating subject matter eligibility under 35 U.S.C. § 101. 2019 REVISED PATENT SUBJECT MATTER ELIGIBILITY GUIDANCE, 84 Fed. Reg. 50, 57 (Jan. 7, 2019) (the “Revised Guidance”). That guidance revised the USPTO’s examination procedure with respect to the first step of the *Mayo/Alice* framework by (1) “[p]roviding groupings of subject matter that [are] considered an abstract idea; and (2) clarifying that a claim is not ‘directed to’ a judicial exception if the judicial exception is integrated into a practical application of that exception.” *Id.* at 50. The Revised Guidance, by its terms, “applies to all applications, and to all patents resulting from applications, filed before, on, or after January 7, 2019.” *Id.*; *see also* the USPTO’s “October 2019 Update: Subject Matter Eligibility,” *available at* https://www.uspto.gov/sites/default/files/documents/peg_oct_2019_update.pdf (clarifying the Revised Guidance in response to comments solicited from the public) (hereinafter “October 2019 Update”).

The first step in the *Mayo/Alice* framework, as mentioned above, is to determine whether the claims at issue are “directed to” a patent-ineligible concept, *e.g.*, an abstract idea. *Alice Corp.*, 573 U.S. at 217. This first step, as set forth in the Revised Guidance (*i.e.*, Step 2A), is a two-prong test. In

Step 2A, Prong One, we look to whether the claim recites a judicial exception, e.g., one of the following three groupings of abstract ideas: (1) mathematical concepts; (2) certain methods of organizing human activity, e.g., fundamental economic principles or practices, commercial or legal interactions; and (3) mental processes. Revised Guidance, 84 Fed. Reg. at 52. If so, we next consider whether the claim includes additional elements, beyond the judicial exception, “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 (“Step 2A, Prong Two”). *Id.* at 54–55. Only if the claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application do we conclude that the claim is “directed to” the judicial exception, e.g., an abstract idea. *Id.* If the claim is directed to an abstract idea, we then look to whether the claim “[a]dds a specific limitation or combination of limitations” that is not “well-understood, routine, conventional activity in the field” or 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”). *Id.* at 56.

The Federal Circuit has explained that “the ‘directed to’ inquiry applies a stage-one filter to claims, considered in light of the specification, 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 rejecting the pending claims under 35 U.S.C. § 101, the Examiner determined that steps (a) through (h) as recited in claim 1, and similarly recited in claim 9,

are directed to the abstract idea of providing online cardholder authentication services on-behalf-of issuer financial institution by determining that an authentication value in an universal cardholder authentication field of the purchase transaction authorization request message matches the authentication value of the stored authentication message.

Final Act. 5–6. The Examiner concluded that this concept is similar to the concept of collecting information, analyzing information, and displaying certain results of the collection and analysis that the Federal Circuit found to be abstract. *Id.* at 6 (citing *Elec. Power Grp. LLC v. Alstom, S.A.*, 830 F.3d 1350 (Fed. Cir. 2016)); *see also* Ans. 8. The Examiner found that the additional elements are well-understood, routine, and conventional elements that amount to no more than implementing the abstract idea. *Id.* at 7. The Examiner additionally determined that the additional elements, considered alone and as an ordered combination, do not amount to significantly more than the recited abstract idea. *Id.*

Viewed through the lens of the Revised Guidance, we understand the Examiner’s characterization of the abstract idea to be a mental process, i.e., “concepts performed in the human mind (including an observation, evaluation, judgment, opinion).” Revised Guidance, 84 Fed. Reg. at 52 (footnotes omitted); *see also* October 2019 Update 7 (identifying exemplary

mental processes as including the concept of the claims at issue in *Electric Power Group*).

Appellant argues that the Examiner erred in determining that the claims are directed to an abstract idea, because the claims “solve[] the technological problem of how to validate an authentication value and insert the actual value into the authorization message on-behalf-of an issuer FI to increase the issuer FI’s overall confidence in the online transaction (that it is not fraudulent).” Appeal Br. 15. Appellant maintains that, like the claims at issue in *BASCOM Global Internet Services, Inc. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016), Appellant’s claims recite an inventive concept in the non-conventional and non-generic arrangement of known conventional pieces. *Id.* at 18–19.

Here, the Specification is entitled “PROVIDING ONLINE CARDHOLDER AUTHENTICATION SERVICES ON-BEHALF-OF ISSUERS.” The Background section describes that remote or “card-not present” (“CNP”) transactions increase risk for a merchant, payment card issuer, and payment card network provider, resulting in increased cardholder disputes and chargebacks than occur with in-person transactions. Spec. 1:22–2:2. Several payment card networks have adopted an additional security layer for online payment card transactions based on a 3-D secure protocol. *Id.* at 2:8–11, 2:26–27. *Id.* at 2:8–11. In particular, an accountholder authentication value (“AAV”) is generated regarding a result of authentication and placed into a universal cardholder authentication field (“UCAF”). *Id.* at 2:11–15, 26–29, 4:6–8. The merchant adds the AAV to the UCAF. *Id.* at 2:26–29 (describing that the merchant’s bank adds the AAV to the UCAF), 4:16–20 (describing that the merchant server and/or

merchant acquirer computer adds the AAV to the UCAF). The AAV conveys the authentication result to the issuer financial institution server. *Id.* at 4:19–20. But because the merchant must add the AAV, some issuer FI servers are set to ignore the AAV due to distrust of the content. *Id.* at 4:20–22. The Specification describes that there is a need to provide an authorization network that carries out the AAV validation on-behalf of issuer financial institutions in a manner that increases the overall confidence of the payment account transaction. *Id.* at 4:29–5:2.

To solve this problem, the present invention describes an improved authentication process performed on-behalf-of the issuer financial institutions for CNP transactions. *Id.* at 6:8–10, 18–20, 21:6–8. An OBO issuer service computer receives and stores an authentication message, which has an authentication value and transaction data, from a merchant server computer. *Id.* at 21:8–11. Next, the OBO issuer service computer receives a purchase authorization request message from a payment network. *Id.* at 21:12–13. The OBO issuer service computer compares whether the authentication value in the UCAF of the purchase transaction authorization request message matches the authentication value of the stored authentication message. *Id.* at 21:13–17. In this way, the process validates the authentication value and the insertion of the authentication value into the authorization message on-behalf-of the issuer, increasing the overall confidence of the transaction. *Id.* at 6:23–25, 7:13–17. As an added layer of security, the process additionally can check the timeliness of receipt of the purchase transaction authorization request by comparing the time and date of its receipt against that associated with the stored authentication message. *Id.* at 10:20–11:10.

Consistent with this disclosure, claim 1 recites a method for providing online cardholder authentication services on-behalf-of issuer financial institutions. The steps of the method include: (1) “receiving . . . an authentication message comprising an authentication value and transaction data” (step (a)); (2) “storing . . . the authentication message” (step (b)); (3) “receiving . . . a purchase transaction authorization request message” (step (c)); (4) “determining . . . that an authentication value in an universal cardholder authentication field (UCAF) of the purchase transaction authorization request message matches the authentication value of the stored authentication message” (step (d)); (5) “calculating . . . a time difference value between a time and date of an online purchase transaction stored . . . and the time and date of the purchase transaction authorization request message” (step (e)); (6) “determining . . . that the time difference value is within a predetermined time range” (step (f)); (7) “storing . . . a record of the match” (step (g)); and (8) “transmitting . . . the purchase transaction authorization request . . . for purchase authorization processing” (step (h)). Independent claim 9 recites similar subject matter.

We are persuaded by Appellant’s arguments that the Examiner erred in determining that the claims are directed to an abstract idea. Applying the Revised Guidance, and putting aside whether the claims recite subject matter that falls within one of the enumerated groupings of abstract ideas, we are persuaded that the claims integrate any alleged abstract idea into a practical application — the claims provide an improvement in a technical field, i.e., an improvement in an authentication process for card-not-present transactions that reduces the risk of an issuer financial institution receiving altered authentication data. *See* Revised Guidance, 84 Fed. Reg. at 55; *see also* *BASCOM*, 827 F.3d at 1351 (holding that the claimed invention recites

a “technology-based solution . . . to filter content on the Internet that overcomes existing problems with other Internet filtering systems . . . making it more dynamic and efficient”). On the present record, Examiner has not sufficiently explained why the claimed invention considered in light of the above-reference portions of the Specification would not be considered an improvement in technology or a technical field.

We conclude that the claims are not directed to a judicial exception and, thus, are patent eligible. Accordingly, we do not sustain the Examiner’s rejection of claims 1–13 under 35 U.S.C. § 101.

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Basis	Affirmed	Reversed
1–13	101	Eligibility		1–13

REVERSED