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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MATTHEW ARNOLD O'HARA and WEI LI[1]

Appeal 2018-004834
Application 14/455,309
Technology Center 3600

Before ELENI MANTIS MERCADER, ERIC S. FRAHM, and MICHAEL T. CYGAN, *Administrative Patent Judges*.

MANTIS MERCADER, *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 and 5–23, which are all of the claims pending in the application. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

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[1] According to Appellants, the real party in interest is BlackRock Index Services, LLC of San Francisco, California. App. Br. 2.

The Invention

Appellants' claimed invention relate to a system and method for managing a target outcome fund. The relative amount of the risky asset and the low risk asset held by the fund is rebalanced based on a comparison of a current target return and a current actual return of the fund. If the fund over-performs, the target outcome is increased accordingly to prevent the fund becoming overly invested in the risky asset, thereby protecting gains made. Abstract.

Exemplary Claim

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

> 1. A method for managing a target outcome fund, the method comprising:
>
> calculating a delta of an option for a risky asset, the risky asset having a high volatility relative to a low-risk asset, wherein the calculated delta is a measure of a change in value of the option relative to a change in value of the risky asset;
>
> determining, by a process executed by a computer processor, a balance between a quantity of the risky asset and a quantity of the low-risk asset, wherein the balance is determined based on the calculated delta to cause a performance of the target outcome fund to approximate a performance of the option for the risky asset;
>
> initiating one or more transactions automatically using a trading system to gain exposure to the risky and low-risk assets by the target outcome fund according to the determined balance between the quantity of the risky asset and the quantity of the low-risk asset; and
>
> performing a plurality of rebalancings on the target outcome fund, each rebalancing occurring at a fixed periodic basis and including one or more transactions using the trading system that automatically update the balance between the

> quantity of the risky asset and the quantity of the low-risk asset, the updated balance based on a current performance of the fund.

App. Br. 21 (Claims App'x).

Rejection on Appeal

Claims 1 and 5–23 stand rejected under 35 U.S.C. § 101 as directed to patent-ineligible subject matter. Final Act. 3–5.

ANALYSIS

We adopt the Examiner's findings in the Answer and Final Office Action except as otherwise noted below.

Section 101 of the Patent Act provides that "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof" is patent eligible. 35 U.S.C. § 101. But the Supreme Court has long recognized an implicit exception to this section: "Laws of nature, natural phenomena, and abstract ideas are not patentable." *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014) (quoting *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 589 (2013)). To determine whether a claim falls within one of these excluded categories, the Court has set out a two-part framework. The framework requires us first to consider whether the claim is "directed to one of those patent-ineligible concepts." *Alice*, 573 U.S. at 217. If so, we then examine "the elements of [the] claim both individually and 'as an ordered combination' to determine whether the additional elements 'transform the nature of the claim' into a patent-eligible application." *Alice*, 573 U.S. at 217 (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 78, 79 (2012)). That is, we examine the claim for an "inventive concept," "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.'" *Alice*, 573 U.S. at 217–18 (alteration in original) (quoting *Mayo*, 566 U.S. at 72–73).

The Patent Office recently revised its guidance about this framework. *See 2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) ("Revised Guidance"). Under the Revised Guidance, to decide whether a claim is directed to an abstract idea, we evaluate whether the claim (1) recites subject matter that falls within one of the abstract idea groupings identified in the Revised Guidance and (2) fails to integrate the recited abstract idea into a practical application. *See* Revised Guidance, 84 Fed. Reg. at 51, 54. If the claim is directed to an abstract idea, as noted above, we then determine whether the claim has an inventive concept. The Revised Guidance explains that when making this determination, we should consider whether the additional claim elements add "a specific limitation or combination of limitations that are not well-understood, routine, conventional activity in the field" or "simply append[] well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality." Revised Guidance, 84 Fed. Reg. at 56.

Step 2A(i): Does the Claim Recite a Judicial Exception?

The Examiner determined that claim 1 is directed to "to a mathematical algorithm for trading assets, which is considered an abstract idea." Ans. 3. We agree with the Examiner that the claim recites a mathematical relationship but we further find that the mathematical formula

is applied as a fundamental economic practice. The mathematical relationship and the fundamental economic practice constitute abstract ideas.

Claim 1, as drafted, is a system that, under its broadest reasonable interpretation, is a fundamental economic practice similar to risk the intermediated settlement in *Alice* (*see Alice*, 573 U.S. at 218–19), verifying credit card transactions in *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1370 (Fed. Cir. 2011), and guaranteeing transactions in *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1354 (Fed. Cir. 2014). The Specification describes that "financial services and products, and more particularly to funds that are managed with a goal of achieving a predefined dollar amount at a future date." Spec. ¶ 1. As such, claim 1 recites a fundamental economic practice—i.e., a certain method of organizing human activity—which is an abstract idea. *See* Revised Guidance, 84 Fed. Reg. at 54–55.

Claim 1 recites, in pertinent part:

> [C]alculating a delta of an option for a risky asset, the risky asset having a high volatility relative to a low-risk asset, wherein the calculated delta is a measure of a change in value of the option relative to a change in value of the risky asset;
> determining . . . a balance between a quantity of the risky asset and a quantity of the low-risk asset, wherein the balance is determined based on the calculated delta to cause a performance of the target outcome fund to approximate a performance of the option for the risky asset;
> initiating one or more transactions . . . to gain exposure to the risky and low-risk assets by the target outcome fund according to the determined balance between the quantity of the risky asset and the quantity of the low-risk asset; and
> performing a plurality of rebalancings on the target outcome fund, each rebalancing occurring at a fixed periodic basis and including one or more transactions . . . [to] update the balance

> between the quantity of the risky asset and the quantity of the low-risk asset, the updated balance based on a current performance of the fund.

Claims App'x.

Under the broadest reasonable interpretation standard,[2] we conclude that the above limitations recite steps in a fundamental economic practice using a mathematical relationship to manage the performance of a fund to target a specific outcome. *See* Spec. ¶¶ 4–6. Further the fundamental economic practice using the delta of an option is well known in the art by using the Black-Scholes formula and the modification of the claimed invention lies in rebalancing periodically instead of continuously and using a low-risk asset in place of the risk-free asset. *See* Spec. ¶¶ 11, 12.

Thus, under *Step 2A(i)*, we agree with the Examiner that claim 1 recites a judicial exception. Specifically, we conclude claim 1, as a whole, under our Revised Guidance, recites a fundamental economic practice, i.e., a certain method of organizing human activity that uses a mathematical formula, and thus an abstract idea.

[2] During prosecution, claims must be given their broadest reasonable interpretation when reading claim language in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). Under this standard, we interpret claim terms using "the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant's specification." *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997).

Step 2A(ii): Judicial Exception Integrated into a Practical Application?

If the claims recite a patent-ineligible concept, as we conclude above, we proceed to the "practical application" *Step 2A(ii)* in which we determine whether the recited judicial exception is integrated into a practical application of that exception by: (a) identifying whether there are any additional elements recited in the claim beyond the judicial exception(s); and (b) evaluating those additional elements individually and in combination to determine whether they integrate the exception into a practical application.

Claim 1 recites an abstract idea as identified in *Step 2A(i)*, *supra*, and none of the additional elements integrates the judicial exception of a fundamental economic practice into a practical application. Here, the additional elements, which are not part of the abstract idea, are the recited "by a computer processor" and "trading system" performing each of the functions that comprise the abstract idea.

We note that Appellants' Specification describes the computer as a "desktop PC" or a "portable device." *See* Spec. ¶ 30. The trading system is described as "trading system 250 to buy and sell assets." *See* Spec. ¶ 24. Thus, claim 1 as a whole merely uses instructions and a generic processor to implement the abstract idea on a computer or, alternatively, merely uses a computer as a tool to perform the abstract idea.

Appellants contend the claimed invention is patent eligible because it solves the technical problem because it allows investors "to target a particular outcome, unlike the conventional methods." App. Br. 13. Appellants argue the claimed invention is similar to *McRO* citing "by incorporating the specific features of the rules as claim limitations, claim 1 is

limited to ***a specific process*** for automatically animating characters using particular information and techniques."[3] *Id.* at 12 (emphasis added).

We are not persuaded by Appellants' arguments. In *McRO*, the claims were not held to be abstract because they recited a "specific . . . improvement in computer animation" using "unconventional rules that relate[d] sub sequences of phonemes, timings, and morph weight sets." *McRO*, 837 F.3d at 1302–03, 1307–08, 1314–15. In *McRO*, "the incorporation of the claimed rules, not the use of the computer," improved an existing *technological* process. *Id.* at 1314. The claims in *McRO*, however, recited a "specific . . . improvement in *computer animation*" using "unconventional rules that relate[d] sub sequences of phonemes, timings, and morph weight sets." *McRO*, 837 F.3d at 1302–03, 1307–08, 1314–15 (emphasis added). Appellants do not, however, identify how claim 1 improves an existing technological process. *See Alice*, 134 S. Ct. at 2358 (explaining that "the claims in *Diehr* were patent eligible because they improved an existing technological process"). Rather, claim 1 concerns "managing a target outcome." *See* claim 1.

Furthermore, the recitation to "automatically" performing certain steps do not transform the abstract idea discussed above. "Automation" or any increase in processing speed in the claimed method (as compared to without using computers) comes from the capabilities of the generic computer components, and not the recited process itself. *See FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1095 (Fed. Cir. 2016) (citing *Bancorp Servs., LLC v. Sun Life Assurance Co.*, 687 F.3d 1266, 1278 (Fed.

[3] Referring to *McRO, Inc. v. Bandai Namco Games America Inc.*, 837 F.3d 1299, 1314 (Fed. Cir. 2016).

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.")); *see also Intellectual Ventures I LLC v. Erie Indemnity Co.*, 711 F. App'x 1012, 1017 (Fed. Cir. 2017) (unpublished) ("Though the claims purport to accelerate the process of finding errant files and to reduce error, we have 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.'").

Therefore, we conclude the abstract idea is not integrated into a practical application, and thus the claim is directed to the judicial exception.

Step 2B – "Inventive Concept" or "Significantly More"

If the claims are directed to a patent-ineligible concept, as we conclude above, we proceed to the "inventive concept" step. For *Step 2B* we must "look with more specificity at what the claim elements add, in order to determine 'whether they identify an "inventive concept" in the application of the ineligible subject matter' to which the claim is directed." *Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1258 (Fed. Cir. 2016) (quoting *Elec. Power Grp.*, 830 F.3d at 1353).

In applying step two of the *Alice* analysis, our reviewing court guides that we must "determine whether the claims do significantly more than simply describe [the] abstract method" and thus transform the abstract idea into patentable subject matter. *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014). We look to see whether there are any "additional features" in the claims that constitute an "inventive concept," thereby rendering the claims eligible for patenting even if they are directed to an

abstract idea. *Alice*, 573 U.S. at 221. Those "additional features" must be more than "well-understood, routine, conventional activity." *Mayo*, 566 U.S. at 79.

Evaluating representative claim 1 under *Step 2B*, we conclude it lacks an inventive concept that transforms the abstract idea of managing a target outcome fund into a patent-eligible application of that abstract idea.

As evidence of the conventional nature of the "computer" and the "trading system" recited in claim 1, we again refer to paragraphs 24 and 30 of the Specification, which describes a computer software program, stored in memory and executed by the processor(s) of the computer, to perform the disclosed functions. Spec. ¶¶ 24, 30. Furthermore, electronic recordkeeping and receiving or transmitting data over a network have been found to be well-understood, routine, conventional computer functions. *Alice Corp.*, 573 U.S. at 225 (electronic recordkeeping); *OIP Techs., Inc., v. Amazon.com, Inc.*, 788 F.3d 1359, 1363 (Fed. Cir. 2015) (sending messages over a network); *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014) (computer receives and sends information over a network).

We conclude the claims fail the *Step 2B* analysis. As discussed for *Step 2A(ii)*, the additional limitations of claim 1merely recite a generic computer and trading system along with no more than mere instructions to implement the identified abstract idea using the computer-based elements. Reevaluating these limitations under Step 2B, we are not persuaded that the combination of steps incorporate the additional elements to perform financial computations in an unconventional way so as to include an inventive concept that would render the claim eligible.

Therefore, because the claims fail under both the *Step 2A* and *Step 2B* analyses, we sustain the Examiner's § 101 rejection of independent claims 1 and 5–23.

DECISION

We affirm the Examiner's decision rejecting claims 1 and 5–23.

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