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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* JAMES DAVIES

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Appeal 2017-011782  
Application 12/053,487  
Technology Center 3600

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Before ALLEN R. MacDONALD, RAMA G. ELLURU, and  
ADAM J. PYONIN, *Administrative Patent Judges*.

MacDONALD, *Administrative Patent Judge*.

DECISION ON APPEAL<sup>1</sup>

STATEMENT OF THE CASE

Appellant appeals under 35 U.S.C. § 134(a) from a final rejection of claims 1–21, which constitute all the claims pending in this application. We have jurisdiction under 35 U.S.C. § 6(b). We AFFIRM.

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<sup>1</sup> Appellant indicates the real party in interest is BGC Partners, Inc. App. Br. 3.

*Illustrative Claims*

Illustrative claims 1–3 under appeal read as follows (emphasis, formatting, and bracketed material added):

1. A method, comprising the *steps performed on one or more computers*, of:

[A.] computing *in memory of the one or more computers* a value representative of a first yield for a first instrument, the first instrument being a derivative of an underlying financial instrument, the first instrument being a non-fixed-income instrument;

[B.] controlling *by the one or more computers* submission of trading orders to an automated trading exchange, the orders to trade at least one of the first instrument and a second instrument based at least in part on:

[i.] computing *in memory of the one or more computers* a second yield of the second instrument, and comparing the first yield value with the computed second yield of the second instrument, and/or

[ii.] comparing *in memory of the one or more computers* a differential of the first yield value over change in market interest rates against a differential of the second yield value over change in market interest rates, and

[C.] the submission of orders being controlled to balance sizes of positions in the first instrument and second instrument to achieve a financial risk profile desired by a trader.

2. The method of claim 1, wherein the first instrument is a **bond futures contract**.

3. The method of claim 2, wherein the second instrument is a **bond futures contract**.

*Rejection<sup>2</sup>*

The Examiner rejected claims 1–21 under 35 U.S.C. § 101 because “the claimed invention is directed to a judicial exception . . . without significantly more,” i.e., because the claimed invention is directed to patent-ineligible subject matter. Final Act. 3. Separate patentability is not argued for claims 1–21. Therefore, we select independent claim 1 as representative. Except for our ultimate decision, we do not discuss the § 101 rejection of claims 2–21 further herein.

*Issues on Appeal*

Did the Examiner err in rejecting claim 1 as being directed to patent-ineligible subject matter?

ANALYSIS<sup>3</sup>

We have reviewed the Examiner’s rejections in light of Appellant’s Appeal Brief and Reply Brief arguments that the Examiner has erred.

*A. Section 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. However, the Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: “[l]aws of nature, natural phenomena, and abstract

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<sup>2</sup> All citations to the “Final Action” are to the Final Action mailed on August 11, 2016.

<sup>3</sup> All Manual of Patent Examining Procedure (MPEP) citations herein are to MPEP Rev. 08.2017, January 2018.

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, 192 (1981)); “tanning, dyeing, making waterproof cloth, vulcanizing India rubber, smelting ores” (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 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 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.* (citation omitted) (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.* (alterations in original) (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.*

#### B. *USPTO Section 101 Guidance*

The United States Patent and Trademark Office (USPTO) recently published revised guidance on the application of § 101. USPTO’s January 7, 2019 Memorandum, *2019 Revised Patent Subject Matter Eligibility*

*Guidance*, 84 Fed. Reg. 50 (“Memorandum”). Under that guidance, we first look to whether the claim recites:

- (1) (*see* Memorandum Step 2A – Prong One) 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) (*see* Memorandum Step 2A – Prong Two) additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h)).<sup>4</sup>

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* Memorandum Step 2B.

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<sup>4</sup> We acknowledge that some of these considerations may be properly evaluated under Step 2 of *Alice* (Step 2B of Office guidance). Solely for purposes of maintaining consistent treatment within the Office, we evaluate it under Step 1 of *Alice* (Step 2A of Office guidance). *See* USPTO’s January 7, 2019 Memorandum, “2019 Revised Patent Subject Matter Eligibility Guidance.”

C. *Examiner's §101 Rejection - Alice/Mayo - Steps 1 and 2*

C.1. *Memorandum Step 2A – Prong One*

Applying step 1 of the *Alice/Mayo* analysis, the Examiner concludes claim 1 is directed to an abstract idea.

In this case, the claims are directed to submission of financial orders, which is a ***fundamental economic practice*** and therefore an abstract idea. The claims are principally drawn to controlling submission of orders for two instruments in order to achieve a financial risk profile desired by a trade. Note that the courts have recently found claims drawn to concepts involving ***human activity*** relating to commercial practices ineligible. Here, the instant claims involve comparing values related to two instruments and submitting orders based on those values, which is similar to the commercial practices that have been found by the courts to be abstract ideas.

Final Act. 3 (emphasis added). The Examiner cites *Bilski*, *Alice*, and *Perkin-Elmer* to establish that the courts have found financial risk management to be an abstract idea. Final Act 3–4.

Here, the instant [claims] are similar to those in the cited court decisions because they involve concepts relating to performance of financial transactions, concepts relating to managing transactions between people, as well as concepts relating to processes of comparing data that can be performed mentally.

Final Act. 4.

C.2. *Memorandum Step 2A – Prong Two*

Applying step 2 of the *Alice/Mayo* analysis, the Examiner concludes:

The claims do not include limitations that are “significantly more” than the abstract idea because the claims do not include an improvement to another technology or technical field, an improvement to the functioning of the computer itself, or meaningful limitations beyond generally linking the use of an abstract idea to a particular technological environment.

Final Act. 5.

C.3. *Memorandum Step 2B*

Further applying step 2 of the *Alice/Mayo* analysis, the Examiner concludes:

[T]he limitations, in the instant claims, are done by the generically recited computer products. The generically recited computer elements such as “one or more computers”, “memory”, and “one or more tangible computer memories” do not add a meaningful limitation to the abstract idea because they would be ***routine*** in any computer implementation. The steps for data gathering and processing do not add a meaningful limitation to the method as they would be routinely used by those of ordinary skill in the art in order to apply the abstract idea.

Final Act. 5 (emphasis added).

Moreover, the specification does not contribute any technically-specific computer algorithm or code, but rather merely states that the claimed steps may be performed by the generic modules with the expectation that one of ordinary skill in the art would be capable of implementation without further instruction. Whilst the implementation of such a solution may include the use of generic technical features, these merely serve their well-known functions as would be recognized by one of ordinary skill in the art in the technical field under consideration. . . . The computer components are recited at a high level of generality and are recited as performing generic computer functions routinely used in computer applications. Generic computer components recited as performing generic computer functions that are ***well-understood, routine and conventional*** activities amount to no more than implementing the abstract idea with a computerized system. The use of generic computer components in this manner does not impose any meaningful limit on the computer implementation of the abstract idea.

Final Act. 7 (emphasis added).

D. *Appellant's § 101 Arguments*

D.1.

Appellant contends “the Office Action fails to make a prima facie showing that the claims are directed to an abstract idea.” App. Br. 6.

Appellant particularly contends:

[T]he Examiner does not cite to appropriate court decisions or explain how the concepts correspond to concepts in cited court decisions.

The only cases mentioned by the office action with reference to the claims are Alice, Alice, Ultramercial, Content Extraction, buySAFE, Bilski, Accenture, Bancorp, De[al]ertrack, Planet Bingo, Ambry, Myriad, Cybersource, SmartGene, Classen, Gametek, and Grams. ***None of these are even remotely close to Applicants claims.*** A listing of unrelated cases cannot amount to a prima facie showing in line with required procedure.

Further, the Examiner unlawfully over simplifies the claim and merely looks at the gist of the claims when saying that they are directed to “submission of financial orders”.

App. Br. 7 (emphasis added).

The Examiner ***ignores*** meaningful [computing, controlling, comparing] claim limitations to find an abstract idea that is divorced from the claim and that completely misses the point of the claim. The Examiner stands in direct disregard to the directives of the courts and the PTO.

Furthermore, The Examiner as its justification for the allegedly abstract idea being abstract states that the idea is a “fundamental economic practice”. The Office Action ***ignores*** the Court[']s ruling in Alice that limits abstract ideas to fundamental economic practices that are long prevalent. The Office Action certainly ***presents no evidence*** regarding the long prevalence of this alleged abstract idea. Moreover, the Examiner presents no evidence of the fundamentality of this economic practice.

App. Br. 8 (emphasis added).

Contrary to Appellant’s argument that none of the claims of the cases cited by the Examiner are even remotely close to Applicants claims, we determine that the financial risk management claims of *Alice* and *Bilski* are directly on point to Appellant’s claimed financial risk management. The Examiner correctly points out that step 1 of the *Alice/Mayo* framework does not require evidence and may rely on comparing claimed concepts to prior court decisions. Ans. 5–6.

Appellant also overlooks that the argued computing, controlling, comparing specifics of claim 1 are part of the judicial exception. The fact that a claimed concept is “[g]roundbreaking, innovative, or even brilliant” does not “itself satisfy the § 101 inquiry.” *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. at 591; *see also Aatrix Software, Inc. v. Green Shades Software, Inc.*, 890 F.3d 1354, 1359 (Fed. Cir. 2018) (“It is clear from *Mayo* that the ‘inventive concept’ cannot be the abstract idea itself.”).

We agree with the Examiner that claim 1 recites a judicial exception in the form of a fundamental economic practice, i.e., certain methods of organizing human activity comprising fundamental economic principles or practices (including hedging, insurance, or mitigating risk).

#### D.2.

Appellant also contends “the Claims are not directed to an abstract idea.” App. Br. 8.

[The] claims clearly add functionality to a computer that was previously not available and therefore are not directed to an abstract idea. ***The lack of a valid prior art reference is clearly indicative of this.***

Applicants claims, like the claim in *Trading Technology, Inc.[.] v.[.] CQG, Inc.* present ***a non-conventional improvement***

*to trading technology* that increase the efficiency and usability of trading systems. These claims are therefore not directed to an abstract idea.

Moreover, in the CAFC cases of *Enfish* and *McRO*, the CAFC followed the Supreme Court’s guidance and clearly identified that the central test of abstractness is whether a claim preempts an entire area. The claims clearly do not preempt an entire area. These claim include specific rules, like the rules in *McRO*, that clearly put them squarely outside of any risk of *preemption*.

App. Br. 9 (emphasis added).

First, Appellant’s “lack of a prior art rejection” argument lacks merit because, even though the Section 101 inquiry and the Section 102/103 inquiry might sometimes overlap, a novel and nonobvious claim directed to a purely abstract idea is, nonetheless, patent-ineligible. *See Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. at 89 (rejecting the suggestion that Sections 102, 103, and 112 might perform the appropriate screening function and noting that in *Mayo* such an approach “would make the ‘law of nature’ exception . . . a dead letter”).

Second, contrary to Appellant’s technology improvement argument, we do not find before us a non-abstract improvement to technology. The focus of claim 1 is not on an improvement in computer-functionality, as in *Enfish*, but on an abstract idea that uses a computer as a tool for “achieving a financial risk profile desired by a trade.” App. Br. 13. In *Trading Technologies*, the Federal Circuit agreed with the district court explanation that:

The claims require a specific, structured graphical user interface paired with a prescribed functionality directly related to the graphical user interface's structure that is addressed to and

resolves a specifically identified problem in the prior state of the art.

*Trading Techs. Int'l, Inc. v. CQG, INC.*, 675 F. App'x 1001, 1004 (Fed. Cir. 2017). In contrast, in Appellant's claim 1, we find only abstract improvements to financial risk management. A claim directed to a unique and advantageous method for financial risk management is nonetheless directed to an abstract idea.<sup>5</sup> "[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); see *Diehr*, 450 U.S. at 188–89.

Third, Appellant's "preemption" argument is not persuasive because although "preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility." *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015). We are instructed that "[w]here a patent's claims are deemed only to disclose patent ineligible subject matter under the [*Alice/Mayo*] framework . . . , preemption concerns are fully addressed and made moot." *Id.*

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<sup>5</sup> See *Ultramercial, Inc. v. Hulu LLC*, 772 F.3d 709 (Fed. Cir. 2014). In that case, the patentee argued that its financial arrangement (a method of using advertising as an exchange or currency) was distinguishable from the "routine," "long prevalent," or "conventional" abstract idea in *Alice* because it was "directed to a specific method of advertising and content distribution that was previously unknown." *Id.* at 714. The court rejected the patentee's position that "abstract ideas remain patent-eligible under § 101 as long as they are new ideas not previously well known, and not routine activity." *Id.*

We agree with the Examiner that claim 1 “do[es] not include an improvement to another technology or technical field, an improvement to the functioning of the computer itself [*see* MPEP 2106.05(a)], or meaningful limitations beyond generally linking the use of an abstract idea to a particular technological environment [*see* MPEP 2106.05(h)].” In view of Appellant’s Specification, and consistent with the Examiner’s determinations, we conclude that claim 1 does not integrate the judicial exception into a practical application. We determine claim 1 does not recite:

- (i) an improvement to the functioning of a computer;
- (ii) an improvement to another technology or technical field;
- (iii) an application of the abstract idea with, or by use of, a particular machine;
- (iv) a transformation or reduction of a particular article to a different state or thing; or
- (v) other meaningful limitations beyond generally linking the use of the abstract idea to a particular technological environment.

*See* MPEP §§ 2106.05(a)–(c), (e)–(h). We agree with the Examiner that claim 1 is ***directed to*** a judicial exception.

### D.3.

As noted above, the Examiner also determined:

The generically recited computer elements such as “one or more computers”, “memory”, and “one or more tangible computer

memories” do not add a meaningful limitation to the abstract idea because they would be routine in any computer implementation.”

Final Act. 5.

Appellant contends “the Office Action has failed to make a prima facie showing that the claims do not add significantly more than the allegedly abstract idea.” App. Br. 9. Appellant particularly contends:

The Office Action identifies numerous limitations that are not considered part of the abstract idea. The Office Action addresses all of them by saying they are simply conventional or well-known. These allegations amount to a factual finding of the state of the art made without evidentiary support. It is not readily apparent that all of these claim limitations were actually conventional or well[-]known at the time of the filing of this application either separately or together. Evidence is required to make such findings. Without such evidence no prima facie showing has been made.

App. Br. 9.

Although claim 1 recites “more” under step two of the *Alice/Mayo* analysis, we conclude the “more” is not patentably significant. Rather, the case law shows this “more” of “computers” and “memories” to be the epitome of a well-understood, routine, conventional element/combination previously known in the industry. See *Alice*, 573 U.S. at 227 (“[P]etitioner’s . . . media claims add nothing of substance to the underlying abstract idea.”); *Fairwarning IP, Inc. v. Iatric Sys., Inc.*, 839 F.3d 1089, 1096 (Fed. Cir. 2016) (“Claims 15–17 . . . add nothing more than similar nominal recitations of basic computer hardware, such as ‘a non-transitory computer-readable medium with computer-executable instructions’ and a microprocessor.”).

Because claim 1, in addition to the abstract idea, recites only a well-understood, routine, conventional element/combination previously known in

the industry, we conclude the case law shows there is no genuine issue of material fact regarding step two of the Examiner's *Alice/Mayo* analysis. Therefore, we are unpersuaded by Appellant's argument that further evidence is required. In view of Appellant's Specification, and consistent with the Examiner's determinations, we determine the claims do not recite:

- (vi) a specific limitation other than what is well-understood, routine, conventional activity in the field or unconventional steps that confine the claim to a particular useful application.

*See* MPEP § 2106.05(d).

#### CONCLUSIONS

- (1) The Examiner has not erred in rejecting claims 1–21 under 35 U.S.C. § 101, as being directed to patent-ineligible subject matter.
- (2) Claims 1–21 are not patentable.

#### DECISION

The Examiner's rejection of claims 1–21 under 35 U.S.C. § 101, as being directed to patent-ineligible subject matter, 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)(1)(iv).

AFFIRMED