UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/631,208	12/04/2009	HOWARD W. LUTNICK	09-2324	1312

63710   7590   01/30/2020

INNOVATION DIVISION
CANTOR FITZGERALD, L.P.
110 EAST 59TH STREET (6TH FLOOR)
NEW YORK, NY 10022

EXAMINER
POLLOCK, GREGORY A

ART UNIT	PAPER NUMBER
3695	

NOTIFICATION DATE	DELIVERY MODE
01/30/2020	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

lkorovich@cantor.com
patentdocketing@cantor.com
phowe@cantor.com

UNITED STATES PATENT AND TRADEMARK OFFICE

————————

BEFORE THE PATENT TRIAL AND APPEAL BOARD

————————

Ex parte HOWARD W. LUTNICK, MARK MILLER,
KEVIN FOLEY, BRIAN GAY,
and ANDREW FISHKIND

————————

Appeal 2018-004614
Application 12/631,208
Technology Center 3600

————————

Before MURRIEL E. CRAWFORD, TARA L. HUTCHINGS, and
MATTHEW S. MEYERS, *Administrative Patent Judges*.

MEYERS, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), the Appellant[1] appeals from the
Examiner's final decision to reject claims 1–12 and 15–17, which are all the
pending claims. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

---

[1] We use the word "Appellant" to refer to "applicant" as defined in
37 C.F.R. § 1.42. The Appellant identifies the real party in interest as
CFPH, LLC. Appeal Br. 3.

CLAIMED SUBJECT MATTER

The Appellant's claims relate generally to "[a] trading platform and trading method that may allow access to additional pools of liquidity" (Abstract).

Claims 1 and 17 are the independent claims on appeal. Claim 17, is representative of the subject matter on appeal, and is reproduced below (with added bracketing for reference):

17. A method comprising:

[a] receiving, by at least one processor, data indicative of an order for an electronic exchange from a remote source, in which the order defines a side of a trade for a financial instrument;

[b] determining, by the at least one processor, a number of processor clock cycles to utilize as a delay between receiving the data indicative of the order and searching secretly stored orders of liquidity for a matching order, in which the matching order defines the opposite side of the trade;

[c] delaying, by the at least one processor, searching the secretly stored orders for the number of processor clock cycles;

[d] determining, by the at least one processor, that the number of processor clock cycles has passed from receipt of the order;

[e] in response to determining that the number of processor clock cycles has passed, querying, by the at least one processor, a plurality of order management systems to search the secretly stored orders of liquidity for the matching order, in which each respective order management system securely stores trading intentions of a respective buy -side participant;

[f] receiving, by the at least one processor, data indicative of the matching order in response to the query; and

[g] in response to receiving the data indicative of the matching order, executing, by the at least one processor, the trade.

Appeal Br. 17–18 (Claims App.).

REJECTION

Claims 1–12 and 15–17 stand rejected under 35 U.S.C. § 101 as being directed to a judicial exception without significantly more.

ANALYSIS

Appellant argues the claims as a group. *See* Appeal Br. 7–13; Reply Br. 2. We select claim 17 as representative of the group, with claims 1–12, 15, and 16 standing or falling therewith. *See* 37 C.F.R. § 41.37(c)(1)(iv).

35 U.S.C. § 101 Framework

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. *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, 67 (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. 252, 267–68 (1853))); 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 176; *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.* (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 (internal 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.*

After the Appellant's Briefs were filed and the Examiner's Answer mailed, the U.S. Patent and Trademark Office ("USPTO") published revised guidance on the application of § 101. *2019 REVISED PATENT SUBJECT MATTER ELIGIBILITY GUIDANCE*, 84 Fed. Reg. 50 (Jan. 7, 2019) ("2019 Revised Guidance"). That guidance revised the USPTO's examination procedure with respect to the first step of the *Mayo/Alice* framework by (1) providing 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 2019 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.*[2] Under the 2019 Revised 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* MANUAL OF PATENT EXAMINING PROCEDURE (MPEP) §§ 2106.05(a)–(c), (e)–(h) (9th Ed., Rev. 08.2017, Jan. 2018)).

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 2019 Revised Guidance, 84 Fed Reg. at 54, 56.

Step One of the Mayo/Alice Framework

Reciting a Judicial Exception

Under the first step of the *Mayo*/*Alice* framework and Step 2A, Prong 1 of the 2019 Revised Guidelines, 84 Fed. Reg. at 54, the Examiner initially determines that claim 17 is "directed to the abstract idea(s) of financial trading." Final Act. 2. After considering the claims individually,

---

[2] The 2019 Revised Guidance supersedes MPEP § 2106.04(II) and also supersedes all versions of the USPTO's "Eligibility Quick Reference Sheet Identifying Abstract Ideas." *See* 2019 Revised Guidance, 84 Fed. Reg. at 51 ("Eligibility-related guidance issued prior to the Ninth Edition, R-08.2017, of the MPEP (published Jan. 2018) should not be relied upon.").

and as an ordered combination, the Examiner determines that claim 17 is directed to "trading which is analogous to organizing human activity" and a "fundamental economic practice." *Id.* at 5. The Examiner considers independent claim 17 to be similar to concepts identified by the Federal Circuit as being abstract ideas, including the concept of "data collection, recognition, and storage" in *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat. Ass'n*, 776 F.3d 1343, 1347 (Fed. Cir. 2014), the concept of collecting information, analyzing it, and displaying certain results of the collection and analysis in *Electric Power Group, LLC v. Alstom S.A.*, 830 F.3d 1350 (Fed. Cir. 2016).

In response, Appellant argues that the present "claims recite determining processor clock cycles and delaying a query until the clock cycle has passed" (Appeal Br. 9), and as such, the Examiner improperly "relies on language in *Content Extractio*n, *Alice*, and *Bilski* taken out of context" to conclude that independent claim 17 is directed to an abstract idea. We do not agree.

Under the first prong of step 2A of the 2019 Revised Guidance, we first determine if the claims recite an abstract idea. In this regard, the Specification is titled "MULTICOMPUTER DISTRIBUTED PROCESSING TECHNIQUES TO PREVENT INFORMATION LEAKAGE," and is directed to "[a] trading platform and trading method that may allow access to additional pools of liquidity" (Abstract). According to the Specification, "[i]nformation about orders for good or service may be tracked by an order management system (OMS)" (Spec. 18:22–23) and "[a]n order management system may include data regarding desired, contemplated, open, completed, considered, ongoing and / or other

7

order." *Id.* at 18:23–25. In this regard, the Specification describes that "[a]n
order information system should be understood [as] any system through
which information about orders to purchase and/or sell financial instruments
is stored." *Id.* at 5:34–6:2.

The Specification identifies that "by keeping the OMS orders secret
from other trading participants, a trading system performing process 400
may encourage traders to allow pools of liquidity that would typically
remain inaccessible, such as orders in OMS systems, to be used to match
against firm orders." *Id.* at 35:33–36. The Specification describes that its
trading system "may intentionally delay an action related to an order." *Id.* at
101:31–32. That is, "orders may be used by a submitter of the order to
determine interest or other information about potential counterparties" and
"[a] delay in taking an action in such an instance may reduce information
leakage about the potential counterparties." *Id.* at 101:32–36. The
Specification further discloses that determining[3] a time period for an

---

[3] According to the Specification,

> [t]he term "determining" encompasses a wide variety of actions
> and therefore "determining" can include calculating, computing,
> processing, deriving, investigating, looking up (e.g., looking up
> in a table, a database or another data structure), ascertaining and
> the like. Also, "determining" can include receiving (e.g.,
> receiving information), accessing (e.g., accessing data in a
> memory) and the like. Also, "determining" can include
> resolving, selecting, choosing, establishing, and the like.

Spec. 7:21–27. The Specification further describes that "[t]he term
'determining' does not imply certainty or absolute precision, and therefore
'determining' can include estimating, extrapolating, predicting, guessing and
the like" (*id.* at 7:28–30) and "does not imply that mathematical processing
must be performed, and does not imply that numerical methods must be

intentional delay "may be made based on a clock such as a processor clock and/or a number of clock cycles." *Id.* 103:26–27.

Taking independent claim 17 as representative, the claim recites "[a] method" including steps for "receiving . . . an order . . . defin[ing] a side of a trade for a financial instrument," "determining . . . a number of processor clock cycles to utilize as a delay between receiving . . . the order and searching secretly stored orders" to match "the opposite side of the trade," "delaying . . . searching the secretly stored orders for the number of processor clock cycles," "determining . . . that the number of processor clock cycles has passed," "querying . . . a plurality of order management systems . . . for the matching order" while maintaining secrecy, "receiving . . . the matching order in response to the query," and then "executing . . . the trade."

Understood in light of the Specification, we agree with the Examiner that independent claim 17 broadly recites the abstract idea of "financial trading" (Final Act. 2). We also agree with the Examiner that "the claims are directed toward trading which is analogous to organizing human activity" and a "fundamental economic practice." *Id.* at 5. We also note that when considered collectively and under the broadest reasonable interpretation, the limitations of claim 17 recite a trading method for

---

used, and does not imply that an algorithm or process is used." *Id.* at 7:31–33. The Specification still further discloses that "[t]he term "determining" does not imply that any particular device must be used. For example, a computer need not necessarily perform the determining." *Id.* 7:34–35.

securely matching parties in the exchange of financial instruments.[4]

Therefore, when viewed through the lens of the 2019 Revised Guidance, the

Examiner's analysis depicts claim 17 as reciting one of the "certain methods

of organizing human activity" that include "fundamental economic

principles or practices (including hedging, insurance, mitigating risk)" and

"commercial or legal interactions (including agreements in the form of

contracts; legal obligations; advertising, marketing or sales activities or

behaviors; business relations)," and thus, an abstract idea. *See* 2019 Revised

Guidance, 84 Fed. Reg. at 52.

<div align="center">Integration into a Practical Application</div>

Having concluded that claim 17 recites a judicial exception, i.e., an

abstract idea, we turn to the second prong of step 2A of the 2019 Revised

Guidance and determine whether the claim recites a practical application of

the recited judicial exception. Here we look to see if, for example, any

additional elements of the claim reflect (i) an improvement in the

functioning of a computer or to another technological field, (ii) an

application of the judicial exception with, or by use of, a particular machine,

(iii) a transformation or reduction of a particular article to a different state or

thing, or (iv) a use of the judicial exception in some other meaningful way

beyond generally linking the use of the judicial exception to a particular

technological environment. *See* 2019 Revised Guidance, 84 Fed. Reg. at 55;

See also MPEP § 2106.05(a)–(c), (e)–(h).

---

[4] We note that "[a]n abstract idea can generally be described at different
levels of abstraction." *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1240
(Fed. Cir. 2016). The Board's "slight revision of its abstract idea analysis
does not impact the patentability analysis." *Id.* at 1241.

Appellant argues that the Specification contains a teaching "about how the claimed invention improves a computer or other technology." Appeal Br. 10 (citing Spec. 101:30–102:8[5]) (emphasis omitted). However, we agree with the Examiner that the Specification, at the cited portion,

> does not appear to cite a technical solution to a technical problem and the [A]ppellant does not identified with any specificity the technical problem being solved. Introducing a delay in processing an order is certainly a function a human can perform with [] the intent of performing a fundamental economic practice (a trade).

Ans. 5. Thus, the focus of independent claim 17 is not on any technological advancement, but rather on the implementation of the abstract idea, "for which computers are invoked merely as a tool." *See Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336 (Fed. Cir. 2016).

In addition, we find no indication in the Specification, nor does Appellant direct us to any indication, that the steps recited in independent claim 17 invoke any assertedly inventive programming, require any specialized computer hardware or other inventive computer components, i.e., a particular machine, or that the claimed invention is implemented using other than generic computer components to perform generic computer functions. *See DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1256 (Fed. Cir. 2014) ("[A]fter *Alice*, there can remain no doubt: recitation of generic computer limitations does not make an otherwise ineligible claim patent-eligible.").

Appellant additionally argues that that "the instant claims recite a 'set of rules . . . that improve computer-related technology by allowing computer

---

[5] We note that the cited portion corresponds to paragraph 430 of Appellant's published application US 2011/0137786).

performance of a function not previously performable by a computer.'"
Appeal Br. 10 (emphasis omitted). However, we agree with the Examiner
that "the rules are used in implementing the abstract ideas of financial
trading and not toward a technical solution to a technical problem." Thus,
exemplary independent claim 17, unlike the claims found non-abstract in
prior cases, uses generic computer technology to receive, process, i.e.,
determine, delay, and query data, and does not recite an improvement to a
particular computer technology. *See, e.g.*, *McRO, Inc. v. Bandai Namco
Games America Inc.*, 837 F.3d 1299, 1314–15 (Fed. Cir. 2016) (finding
claims not abstract because they "focused on a specific asserted
improvement in computer animation").

We also find no indication in the Specification that the claimed
invention effects a transformation or reduction of a particular article to a
different state or thing. Nor do we find anything of record, short of attorney
argument, that attributes any improvement in computer technology and/or
functionality to the claimed invention or that otherwise indicates that the
claimed invention "appl[ies], rel[ies] on, or us[es] 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." *See* 2019 Revised Guidance, 84 Fed. Reg. at 53.

Appellant also argues that the present claims are not directed to an
abstract idea because "[t]he specificity and ordered combination of the
claimed rules would not allow preemption of all processes for achieving the
intended result of the claimed subject matter." Appeal Br. 11 (emphasis
omitted). However, Appellant's preemption argument does not alter our 35
U.S.C. § 101 analysis. Preemption concerns are fully addressed and made

moot where a patent's claims are deemed to disclose patent ineligible subject matter under the two-part framework described in *Mayo* and *Alice*. *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015). "While preemption may signal patent ineligible matter, the absence of complete preemption does not demonstrate patent eligibility." *Id.*

Appellant further argues that the Examiner "fails to establish how the human mind with the aid of pen and paper can possibly query multiple order management systems and delay a query until a number of processor clock cycles have passed" or "receive data indicative of an order and data indicative of a matching order over the network." Appeal Br. 12. The difficulty, however, with Appellant's argument is that the only interconnection or interaction required by claim 17 is receiving, processing, and transmitting data between generic computer components via some unspecified transmission medium. *Cf. Versata Dev. Grp. v. SAP America, Inc.*, 793 F.3d 1306, 1335 (Fed. Cir. 2015) ("Courts have examined claims that required the use of a computer and still found that the underlying, patent-ineligible invention could be performed via pen and paper or in a person's mind."). Here, we agree with the Examiner that "[t]he fact that the [A]ppellant has chosen to use the computer as a tool to implement the intentional delay does not improve the computer. Instead, the computer is merely the tool used in implementing the abstract ideas directed toward financial trading." *Bancorp Servs., LLC v. Sun Life Assurance Co.*, 687 F.3d 1266, 1279 (Fed. Cir. 2012) ("Using a computer to accelerate an ineligible mental process does not make that process patent-eligible."); *see also OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1363 (Fed. Cir. 2015)

("[R]elying on a computer to perform routine tasks more quickly or more accurately is insufficient to render a claim patent eligible.").

Accordingly, we conclude claim 17 does not contain an element that imposes a meaningful limit on the abstract idea that integrates the abstract idea into a practical application. Thus, we are not persuaded of error in the Examiner's determination that claim 17 is directed to an abstract idea.

Step Two of the Mayo/Alice Framework

Under Step 2B of the 2019 Revised Guidance, we determine whether the additional elements (1) add a specific limitation or combination of limitations that is not well-understood, routine, and conventional activity in the field, which is indicative that an inventive concept may be present or (2) simply append well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception, which is indicative that an inventive concept may not be present. *See* 2019 Revised Guidance, 84 Fed. Reg. at 56. Here, we find supported the Examiner's determination that the limitations of claim 17, taken individually and as an ordered combination, do not amount to significantly more than the judicial exception, that the electronic trading system is "recited at a high level of generality," "provide[s] conventional computer functions that do not add meaningful limitations to practicing the abstract idea," and recites "generic computer components [that] are claimed to perform their basic functions of storing, retrieving, processing, and displaying that are well-understood, routine, and conventional activities which amount to no more than implementing the abstract idea with a computerized programmed system." Final Act. 3, 6. *See Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 716 (Fed. Cir. 2014) ("[T]he claimed sequence

of steps comprises only 'conventional steps, specified at a high level of generality,' which is insufficient to supply an 'inventive concept.'") (citing *Alice*, 573 U.S. at 221).

Finally, to the extent Appellant maintains that the claimed invention is patent-eligible, i.e., that claim 17 amounts to "significantly more" than an abstract idea, because of "[t]he lack of prior art rejections" (Appeal Br. 13), Appellant misapprehends the controlling precedent.

Neither a finding of novelty nor a non-obviousness determination automatically leads to the conclusion that the claimed subject matter is patent-eligible. Although the second step in the *Mayo/Alice* framework is termed a search for an "inventive concept," the analysis is not an evaluation of novelty or non-obviousness, but rather, a search for "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 (citation omitted). "Groundbreaking, innovative, or even brilliant discovery does not by itself satisfy the § 101 inquiry." *Ass'n for Molecular Pathology*, 569 U.S. at 591. A novel and non-obvious claim directed to a purely abstract idea is, nonetheless, patent-ineligible. *See Mayo*, 566 U.S. at 90; *see also Diamond*, 450 U.S. at 188–89 ("The 'novelty' of any element or steps in a process, or even of the process itself, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter.").

Thus, we are not persuaded of error in the Examiner's determination that the limitations of the claim do not transform the claim into significantly more than the abstract idea.

We are not persuaded, on the present record, that the Examiner erred in rejecting independent claim 17 under 35 U.S.C. § 101. Therefore, we sustain the Examiner's rejection of independent claim 17, and claims 1–12, 15, and 16, which fall with independent claim 17.

CONCLUSION

The Examiner's decision to reject claims 1–12 and 15–17 is sustained.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–12, 15–17	101	Eligibility	1–12, 15–17	
Overall Outcome			1–12, 15–17	

TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(l)(iv).

AFFIRMED