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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte HOWARD W. LUTNICK, MARK MILLER, KEVIN FOLEY, BRIAN GRAY, AND ANDREW FISHKIND

Appeal 2019-002073
Application 14/028,751
Technology Center 3600

Before DONALD E. ADAMS, FRANCISCO C. PRATS, and JOHN E. SCHNEIDER, *Administrative Patent Judges*.

PRATS, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from the Examiner's decision to reject claims 1–20. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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[1] We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42. Appellant states that "[t]he real party in interest of the present application is CFPH, LLC, a limited liability company organized and existing under the laws of the State of Delaware, U.S.A., and having a place of business at 110 East 59th Street, New York, NY 10022. Appeal Br. 3 (entered October 2, 2018).

STATEMENT OF THE CASE

The Specification explains that, "[m]arket liquidity, a measure [of] securities[']' ability to be bought and / or sold readily through a market, is recognized as a factor that may affect prices at which securities are traded." Spec. 16.

For example, the Specification explains, it may be relatively difficult to sell "an illiquid security because potential buyers may fear they will be unable to resell the security after purchase. Such fear may artificially lower the price of the sale of the security from the true market value of the security to help alleviate the fears of such potential buyers." *Id.*

The Specification discloses that non-public or secret information regarding orders, bids, or offers for securities typically contribute to market liquidity "only when they are made public to the market so other traders in the market may act against those orders. Such secret orders may be referred to as 'dark pools' or 'dark books' of liquidity because they remain unseen by such markets." *Id.* at 17.

According to the Specification, it is recognized that providing access to the secret order-related information in dark pools of liquidity "may improve the liquidity of a market and thereby allow more trades to occur through a market and / or allow trades to occur at a price closer to or at a fair market value." *Id.*

Appellant's claim 1 is representative of the subject matter on appeal, and reads as follows:

1. A method comprising:

[(a)] receiving, by an alternative trading system comprising at least one computer in electronic communication with a plurality of participant systems

over an electronic communications network, from an order submitting computer in electronic communication with the alternative trading system over an electronic communications network, a formula defining a set of orders for a side of trading in a financial instrument,

in which the formula specifies a mathematical relationship between a price value and size to define the set of orders,

in which each of the plurality of participant systems comprises at least one computer, and

in which information relating to the formula is caused to be displayed at a graphical user interface of an electronic display device of the order submitting computer;

[(b)] transmitting, by the alternative trading system, an indication of the formula and a side of the trade to a plurality of participant systems that each access respective order management systems of respective buy side participants,

in which the order management systems, taken together, form a dark pool of liquidity that is accessible to the alternative trading system, and

in which each order management system comprises at least one computer processor and at least one database that stores order information;

[(c)] receiving, by a participant system of the plurality of participant systems from the alternative trading system, the indication of the formula and the side of the trade;

[(d)] in response to receiving the indication of the formula and the side of the trade, determining, by the participant system, that an order for an opposite side of trading is pending in an order management system of a buy side participant that is accessible by the participant system;

[(e)] in response to determining that the order for the opposite side of the trade is pending, determining, by the participant system, a quantity defined by the order;

[(f)] in response to determining the quantity, determining, by the participant system, a price from the formula by inputting the quantity into the formula;

[(g)] in response to determining the price, querying, by the participant system, a trading entity computer of a trading entity for an acceptance of a trade with the price and quantity,

in which the act of querying the trading entity computer for an acceptance of a trade comprises transmitting an electronic message to the trading entity computer over the electronic communications network, and

in which the act of querying the trading entity computer for an acceptance comprises causing information about the queried acceptance to be displayed at a graphical user interface of an electronic display device of the trading entity computer;

[h)] receiving, by the participant system, an indication of the acceptance, the acceptance having been received via an input device electronically coupled to the graphical user interface of the electronic display device of the trading entity computer;

[(i)] in response to receiving the indication of the acceptance, transmitting, by the participant system, the indication of the acceptance to the alternative trading system via the electronic communications network;

[(j)] receiving, by the alternative trading system, the indication of the acceptance over the electronic communications network; and

in response to receiving the indication of the acceptance:

[(k)] facilitating, by the alternative trading system, execution of the trade;

> [(l)] notifying, by the alternative trading system, the order submitting computer of the trade, in which indicia of the trade is caused to be displayed at the graphical user interface of the electronic display device; and
>
> [(m)] determining, by the alternative trading system, that the set of orders is fulfilled based on the trade being executed.

Appeal Br. 25–26 (letter added to each step performed in claimed process).

The sole rejection before us for review is the Examiner's rejection of claims 1–20, under 35 U.S.C. § 101, as being directed to subject matter not eligible for patenting. Final Act. 8–12 (entered April 18, 2018).

35 U.S.C. §101—
ELIGIBILITY FOR PATENTING

The Examiner's Rejection

The Examiner determined that representative claim 1 is directed to "a series of steps for performing trade[s of] securities . . . which is a fundamental economic practice and mathematical equation, as well as a method of organizing human activities, and thus an abstract idea." Final Act. 8 (emphasis removed). The Examiner determined, in addition, that "the courts have recognized similar claims to be abstract ideas . . . ." Final Act. 8–9 (collecting cases).

The Examiner found that the "only additional limitations in the claims that relate to computerization [are] a hardware trading system and participant system." Final Act. 9 (emphasis removed). The Examiner determined, however, that

> [t]he additional limitations when taken individually and in combination are not sufficient to amount to significantly more than the judicial exception because the claims do not provide

> improvements to another technology or technical field, improvements to the functioning of the computer itself, and do not provide meaningful limitations beyond general linking the use of an abstract idea to a particular technological environment.

Final Act. 9.

The Examiner determined that the computer elements recited in representative claim 1 do not add meaningful limitations to the abstract idea because they "require no more than a generic computer to perform generic computer functions that are well-understood, routine, and conventional activities previously known to the industry." Final Act. 9.

In particular, the Examiner reasoned, the "additional limitations are merely performing repetitive calculations; receiving, processing, and storing data; receiving or transmitting data over a network all of which have been held by the courts to be well understood, routine, and conventional computer functions." Final Act. 9 (emphasis removed).

Principles of Law

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 has long interpreted 35 U.S.C. § 101 to include implicit exceptions, however: "[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 Collaborative Services v. Prometheus Laboratories., Inc.*, 566 U.S. 66 (2012) and *Alice*, 573 U.S. at 217–18 (citing *Mayo*, 566 U.S. at 75–77). 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.").

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 v. Kappos*, 561 U.S. 593, 611 (2010)); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 69 (1972)).

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).

Early in 2019, the PTO published revised guidance on the application of § 101. USPTO, *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (January 7, 2019) ("Memorandum" or "2019 Office Guidance" or "Office Guidance").[2] In light of comments received in response to the Office Guidance, the PTO subsequently issued the *October 2019 Patent Eligibility Guidance Update* ("October 2019 Update").[3]

Following the Office Guidance and the October 2019 Update, under Revised Step 2A, we first look to whether the claim recites the following:

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[2] Available at https://www.govinfo.gov/content/pkg/FR-2019-01-07/pdf/2018-28282.pdf.
[3] https://www.uspto.gov/sites/default/files/documents/peg_oct_2019_update.pdf.

> (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* MPEP § 2106.05(a)–(c), (e)–(h)).

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look, under Step 2B of the Office Guidance, to whether the claim:

> (3) adds specific limitations beyond the judicial exception that are 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.

Analysis

Office Guidance—Revised Step 2A, Prong 1

Appellant's claim 1 is illustrative for the purposes of our analysis. Applying Revised Step 2A, Prong 1, of the 2019 Office Guidance, we agree with the Examiner that Appellant's claim 1 recites abstract ideas in a number of instances.

Claim 1 recites "[a] method," i.e., a process. Appeal Br. 25. Although the preamble of claim 1 does not recite the purpose or objective of the claimed process, the process involves receiving orders for a "financial instrument" (*see id.*) and ultimately results in a trade of the financial instrument. *See id.* at 26 (claim 1 reciting "facilitating . . . execution of the trade").

Appellant's Specification explains that a "financial instrument should be understood to include an instrument that evinces ownership of debt or equity, and/or any derivative thereof, including equities, stocks, fixed income instruments, bonds, debentures, certificates of interest or deposit, warrants, options, futures, forwards, swaps, or generally any security." Spec. 5.

Appellant's Specification explains that "[f]acilitating execution of a trade should be understood to include performing any actions that help to bring about the execution of a trade. The actions may include, for example, actually executing the trade . . . ." Spec. 6.

Because Appellant's claim 1 recites a process in which a security is ordered and then traded, claim 1 recites a fundamental economic practice, as well as a process of commercial and legal interaction, all of which are considered methods of organizing human activity. *See* Office Guidance (84 Fed. Reg. at 52 (abstract ideas include "(b) Certain methods of organizing human activity—fundamental economic principles or practices (including hedging, insurance, mitigating risk); commercial or legal interactions (including agreements in the form of contracts; legal obligations; advertising, marketing or sales activities or behaviors; business relations"). Because claim 1 recites undertakings that are methods of organizing human activity, claim 1 therefore recites an abstract idea. *See id.*

Office Guidance—Revised Step 2A, Prong 2

Having determined that Appellant's claim 1 recites an abstract idea under Revised Step 2A, Prong 1, of the 2019 Office Guidance, we turn to Revised Step 2A, Prong 2, of the Office Guidance to determine whether

claim 1 recites additional elements that integrate the judicial exceptions into a practical application. *See* Office Guidance (84 Fed. Reg. at 54–55).

We find that Appellant's claim 1 does not recite additional elements sufficient to integrate the judicial exception into a practical application. Specifically, the various steps recited in Appellant's claim 1 all relate to the manner in which the trade of the financial instrument, i.e., the abstract idea, is performed.

The first two steps in claim 1's process are performed by "an alternative trading system." Appeal Br. 25. The Specification explains that an "alternative trading system may include a non-exchange trading venue. A non-exchange trading venue may include, for example, a trading venue in which only secondary trading of financial instruments occurs." Spec. 53. Claim 1's alternative trading system is composed of at least one computer in electronic communication with a plurality of "participant systems" over an electronic communications network, with each of the participant systems being composed of at least one computer. Appeal Br. 25.

In the first two steps in claim 1's process, the alternative trading system (a) receives, from an order-submitting computer, a formula that defines a set of orders for a side of trading in a financial instrument, in which the formula specifies "a mathematical relationship between a price value and size to define the set of orders" and (b) transmits an indication of the formula and side of the trade to participant systems that access order management systems of buy side participants in the trading system. *See* Appeal Br. 25.

Thus, the first two steps in claim 1's process, (a) receiving a formula specifying the desired price and quantity of an order for a financial

instrument, and (b) transmitting of that formula to participants in the exchange system, are merely steps that implement the ultimate result of the claimed process—execution of the trade of the financial instrument. We are not persuaded, therefore, that the first two steps of claim 1's process integrate the claimed abstract idea into a practical application.

Indeed, by expressly reciting that the claimed formula specifies a "mathematical relationship" between price and order quantity (Appeal Br. 25), claim 1 recites an additional abstract idea. *See* Office Guidance (84 Fed. Reg. at 52 (abstract ideas include "(a) Mathematical concepts—***mathematical relationships***, mathematical formulas or equations, mathematical calculations") (emphasis added)).

Moreover, the fact that claim 1 requires the alternative trading system, the participant system, and the order management systems, to include computers, does not persuade us that claim 1's process integrates the abstract idea (the trade-executing process) into a practical application. *See* Office Guidance (84 Fed. Reg. at 55 (example in which a judicial exception is not integrated into a practical application includes situation in which claim "merely includes instructions to implement an abstract idea on a computer, or merely uses a computer as a tool to perform an abstract idea").

We acknowledge claim 1's recitation that the order management systems collectively form a dark pool of liquidity that is accessible to the alternative trading system. *See* Appeal Br. 25. As noted above, a dark pool of liquidity is essentially non-public or secret information regarding orders, bids, or offers for financial instruments. *See* Spec. 17. Because the dark pool of liquidity recited in claim 1, therefore, is merely information about the potential orders, that is, merely involves an observation, evaluation,

judgment, or opinion about the orders, the dark pool of liquidity is therefore an abstract idea as well. *See* Office Guidance (84 Fed. Reg. at 52 (abstract ideas include "(c) Mental processes—concepts performed in the human mind (including an observation, evaluation, judgment, opinion") (citations omitted).

We acknowledge, as Appellant contends, that claim 1 recites that the information relating to the order formula is displayed at a graphical user interface on an electronic display device of the order submitting computer. *See* Appeal Br. 12–15 (reproducing ¶¶ 624, 291 of Appellant's published application); [4] *see also id.* at 15–18 (arguing that Examiner's rejection is not in accordance with Office's eligibility guidelines because rejection ignores claimed recitation of displaying formula on an electronic display device of the order submitting computer thereby improving computer function).

We acknowledge that reproduced ¶ 624 of Appellant's published application indicates that traders may use computer interfaces. Appellant, however, does not explain specifically how merely displaying information on an electronic display device improves the function of any of the computers recited in claim 1. Nor does Appellant identify any persuasive evidence suggesting that displaying information on an electronic display device improves the function of any of the computers recited in claim 1.

As to reproduced ¶ 291 of Appellant's published application, the improvement alleged by Appellant relates to the situation in which it is

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[4] The disclosure at ¶ 291 of the published application reproduced by Appellant appears at page 55 of the originally filed Specification. The disclosure at ¶ 624 of the published application reproduced by Appellant appears at page 130 of the originally filed Specification.

determined that a matching order is available, except that a smaller quantity than specified in the order is available. *See* Appeal Br. 13 ("Determination may include determining if a matching order with a smaller quantity is available." (emphasis removed); *see also id.* at 14 ("Appellants' specification describes additional technical improvements: 'determining the availability of orders for only a portion of the quantity may result in fewer instances of an offer being accepted, but a trade not being executed'." (emphasis removed)).

Appellant, however, fails to explain specifically where, how, or why the process of claim 1 includes a step of determining the availability of a matching order for a quantity smaller than specified in the formula, such that claim 1 actually embodies the alleged improvement. Nor does Appellant identify any specific evidence supporting its assertion that computer function itself, as opposed to the abstract idea of trading a financial instrument, is actually improved by linking the abstract idea to the particular environment of an alternative trading system. *See* Office Guidance (84 Fed. Reg. at 55 (example in which a judicial exception is not integrated into a practical application includes situation in which "an additional element does no more than generally link the use of a judicial exception to a particular technological environment or field of use.").

Accordingly, for the reasons discussed, we are not persuaded that the first two steps in claim 1's process, steps (a) and (b), integrate the claimed abstract idea into a practical application. The next steps in claim 1's process are all implemented by a system that participates in the alternative trading system—a "participant system." Appeal Br. 25. Similar to steps (a) and (b), we determine that the steps implemented by the participant system are

merely steps that implement the abstract idea of executing a trade of a financial instrument, and that a number of the steps are mental processes.

Specifically, in steps (c)–(f), the participant system (c) receives the formula and side of the prospective trade, (d) determines that an order for an opposite side of trading is pending in an order management system of a buy side participant that is accessible by the participant system, (e) determines a quantity defined by the order based on the formula, and (f) determines a price for the order by inputting the quantity into the formula. *See* Appeal Br. 25–26. But for the recitation of computers in claim 1, all of these steps can be performed in the human mind, and therefore are mental processes, which constitute abstract ideas. *See* Office Guidance (84 Fed. Reg. at 52). Accordingly, we are not persuaded that steps (c)–(f) of Appellant's claim 1 integrate the claimed process of trading a financial instrument into a practical application.

In claim 1's steps (g)–(i), the participant system (g) queries a computer of a trading entity for acceptance of a trade with the price and quantity, (h) receives an indication of acceptance of the trade, and (i) upon receiving acceptance, transmits an indication of the acceptance to the alternative trading system via the electronic communications network. Appeal Br. 26.

Thus, rather than integrating the claimed process of executing a trade of a financial instrument into a practical application, claim 1's steps (g)–(i) are merely computer-implemented steps that are performed to accomplish the claimed abstract idea (the trade execution process), which as discussed above is a fundamental economic practice, as well as a process of commercial and legal interaction. Because steps (g)–(i) are merely

instructions to implement the claimed abstract idea on a computer, and merely use a computer as a tool to perform the abstract idea, we are not persuaded that steps (g)–(i) integrate the claimed abstract idea into a practical application. *See* Office Guidance (84 Fed. Reg. at 55 (judicial exception is not integrated into practical application when claim merely instructs implementation of abstract idea on a computer or merely uses a computer as a tool to perform the abstract idea)).

We acknowledge that in querying step (g), and receiving step (h), claim 1 recites that information about the queried acceptance is displayed on an electronic display device of the trading entity computer. Appeal Br. 26. Similar to the discussion above, however, we are not persuaded that merely displaying information about the price and quantity of the potential trade improves the function of the computer. We are not persuaded, therefore, that claim 1's recitation of displaying the order query information on an electronic display is sufficient to integrate the claimed abstract idea into a practical application.

The final steps in claim 1's process are implemented by the alternative trading system. Specifically, the alternative trading system (j) receives, from the participant system, an indication that the trade has been accepted by the trading entity, and in response thereto (k) facilitates execution of the trade (i.e., executes the trade), (l) notifies the order-submitting computer of the trade execution, and (m) determines that the set of orders is fulfilled, based on execution of the trade. Appeal Br. 26.

Again, similar to a number of the steps discussed above, rather than integrating the claimed process of executing a trade of a financial instrument into a practical application, claim 1's steps (j)–(m) are merely computer-

implemented steps that are performed to accomplish the claimed abstract idea (trade execution process), which as discussed above is a fundamental economic practice, as well as a process of commercial and legal interaction. Because steps (j)–(m) are instructions to implement the claimed abstract idea on a computer, and merely use a computer as a tool to perform the abstract idea, we are not persuaded that steps (j)–(m) integrate the claimed abstract idea into a practical application. *See* Office Guidance (84 Fed. Reg. at 55. We note, moreover, that notwithstanding the computer recitations in claim 1, step (j) (receiving an indication of the trade acceptance), and step (m) (determining that the order is fulfilled), can be performed in the human mind, and therefore are also mental processes which constitute abstract ideas.

In sum, for the reasons discussed, evaluating the claimed elements individually and in combination, we are not persuaded that claim 1 integrates any of the recited judicial exceptions into a practical application under Revised Step 2A, Prong 2, of the 2019 Office Guidance.

Office Guidance—Step 2B

For the reasons discussed above, we are persuaded that Appellant's representative claim 1 recites judicial exceptions (abstract ideas in the form of methods of organizing human activity, mathematical concepts, and mental processes) under Revised Step 2A, Prong 1, of the 2019 Office Guidance, and does not integrate those judicial exceptions into a practical application under Revised Step 2A, Prong 2. Accordingly, we turn to Step 2B of the Office Guidance to determine whether (a) claim 1 recites specific limitations beyond the judicial exceptions that are not well-understood, routine, or conventional in the field, or (b) whether claim 1 simply appends well-

understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception. *See* Office Guidance (84 Fed. Reg. at 56).

In the present case, as discussed above, when the steps of representative claim 1 are viewed as an ordered combination, the overall claimed process, as a whole, recites a method of executing a trade of a financial instrument, which is a fundamental economic practice, as well as a process of commercial and legal interaction. In other words, viewed as a whole, and as an ordered combination of steps and elements, claim 1 recites *no specific additional elements* beyond the features involved in the recited method of organizing human activity, which is an abstract idea. We are not persuaded, therefore, that when claim 1 is viewed as a whole, claim 1 includes specific limitations beyond the judicial exception that are not well-understood, routine, or conventional in the field. As explained in the 2019 Office Guidance, it is the "***additional elements*** recited in the claims" beyond the judicial exceptions in the claim that must provide significantly more than the recited judicial exception. *See* Office Guidance (84 Fed. Reg. at 56) (emphasis added).

Viewing the steps of claim 1's process individually, we come to the same conclusion. As noted above, steps (a), (c)–(f), (j), and (m) all involve mental processes, as well as the mathematical relationship in the formula recited in step (a). Beyond those abstract ideas, we acknowledge that claim 1 requires essentially all of the active entities to include generically recited computers, and also recites displaying information pertinent to the executed trade on an electronic display device associated with the computers. *See*

Appeal Br. 25–26. We also acknowledge that steps (b), (g)–(i), (k), and (l) may involve the electronic transfer of information. *See id.*

We acknowledge, but are unpersuaded by Appellant's contention that the Examiner failed to advance evidence suggesting that the claimed computer-implemented steps and elements are well understood, routine, and convention in the art. *See* Appeal Br. 19–20 (citing *Berkheimer v. HP Inc.*, 881 F.3d 1360 (Fed. Cir. 2018)).

As the Examiner points out (*see* Ans. 4–8), Appellant's Specification provides substantial evidence that the computer-implemented steps and information transmission recited in Appellant's claim 1 involve well-understood, routine, conventional activities previously known to the industry. *See* Spec. 10 ("It will be readily apparent to one of ordinary skill in the art that the various processes described herein may be implemented by, e.g., appropriately programmed general purpose computers . . . ."); *id.* at 11 (data transmission and encryption may be performed "in any of a variety of ways well known in the art"); *id.* at 14 ("Computers, processors, computing devices and like products are structures that can perform a wide variety of functions. . . . It is well known to one of ordinary skill in the art that a specified function may be implemented via different algorithms . . . .").

Accordingly, for the reasons discussed, we find that the preponderance of the evidence supports the Examiner's determination that, in reciting the computer-implemented steps of receiving and transmitting information, representative claim 1 simply appends well-understood, routine, conventional activities previously known to the industry, specified

at a high level of generality, to the judicial exceptions recited in the claim.

Eligibility for Patenting—Conclusion

As discussed above, we are persuaded that Appellant's representative claim 1 recites judicial exceptions (abstract ideas in the form of methods of organizing human activity, mathematical concepts, and mental processes) under Revised Step 2A, Prong 1, of the 2019 Office Guidance, and does not integrate those judicial exceptions into a practical application under Revised Step 2A, Prong 2. As also discussed above, we are persuaded that, to the extent claim 1 recites additional elements beyond the judicial exceptions recited in the claim, claim 1 simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exceptions. Accordingly, applying the principles set forth in the 2019 Office Guidance and October 2019 Update, we find that the preponderance of the evidence supports the Examiner's determination that Appellant's claim 1 is directed to subject matter that is ineligible for patenting.

We acknowledge, but are unpersuaded by, Appellant's contention that the process recited in claim 1 does not preempt any and all uses of achieving the result recited in the claims. *See* Appeal Br. 21. Our reviewing court has explained that, "[w]hile preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility. . . . Where a patent's claims are deemed only to disclose patent ineligible subject matter under the *Mayo* framework . . . preemption concerns are fully addressed and made moot." *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015).

In the present case, as discussed above, under the *Mayo* framework as implemented by the 2019 Office Guidance and October 2019 Update, we are persuaded that the preponderance of the evidence supports the Examiner's determination that the process recited in Appellant's claim 1 is directed to subject matter that is ineligible for patenting. Accordingly, the fact that Appellant's claim 1 might not preempt any and all ways of executing a trade in an alternative trading system does not demonstrate patent eligibility. *See Ariosa*, 788 F.3d at 1379.

We acknowledge, but are unpersuaded by Appellant's contention that the absence of a rejection based on prior art demonstrates that claim 1 "recite[s] rules that improve the technological process by customizable filtering in a way the computer **could not previously perform**." Appeal Br. 22. Appellant does not point to any persuasive evidence supporting the assertion that the claims embody a process that could not be performed previously by computers. To the contrary, as noted above, Appellant's Specification states expressly that general purpose computers can perform the claimed processes. *See* Spec. 10.

Moreover, although the absence of a prior art rejection might indicate that the abstract idea is free of the art, that fact does not persuade us of error in the Examiner's determination that claim 1's process is ineligible for patenting. *See In re BRCA1- and BRCA2-Based Hereditary Cancer Test Patent Litigation*, 774 F.3d 755, 759 (Fed. Cir. 2014) (Even if Appellant "made a '[g]roundbreaking, innovative, or even brilliant discovery,' . . . that is not enough" to establish patent eligibility.) (citing *Association for Molecular Pathology v. Myriad*, 569 U.S. 576, 591 (2013)).

In sum, for the reasons discussed, Appellant does not persuade us that the Examiner erred in determining that Appellant's claim 1 is directed to subject matter that is ineligible for patenting. We, therefore, affirm the Examiner's rejection of claim 1 as being ineligible for patenting. As to claims 2–20, Appellant advances the same arguments discussed above in relation to claim 1. Appeal Br. 23. For the reasons discussed above in relation to claim 1, we do not find those arguments persuasive, and therefore also affirm the Examiner's rejection of claims 2–20.

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1– 20	101	Eligibility	1– 20	

TIME PERIOD

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)(1)(iv).

AFFIRMED