



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/280,119	05/16/2014	Joseph C. Noviello	08-6429-CIP1-C4	2560
63710	7590	09/05/2018	EXAMINER	
INNOVATION DIVISION CANTOR FITZGERALD, L.P. 110 EAST 59TH STREET (6TH FLOOR) NEW YORK, NY 10022			NGUYEN, TIEN C	
			ART UNIT	PAPER NUMBER
			3694	
			NOTIFICATION DATE	DELIVERY MODE
			09/05/2018	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):

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

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

*Ex parte* JOSEPH C. NOVIELLO

---

Appeal 2016-008706<sup>1</sup>  
Application 14/280,119<sup>2</sup>  
Technology Center 3600

---

Before MURRIEL E. CRAWFORD, ROBERT J. SILVERMAN, and  
ALYSSA A. FINAMORE, *Administrative Patent Judges*.

FINAMORE, *Administrative Patent Judge*.

DECISION ON APPEAL

---

<sup>1</sup> Our Decision references the Specification filed May 16, 2014 (“Spec.”), Appeal Brief filed June 16, 2016 (“Appeal Br.”), and Reply Brief filed September 22, 2016 (“Reply Br.”), as well as the Examiner’s Answer mailed July 22, 2016 (“Ans.”) and Final Office Action mailed July 2, 2015 (“Final Act.”). The record also includes a transcript of the oral hearing held on August 16, 2018 (“Tr.”).

<sup>2</sup> Appellant identifies BGC Partners, Inc. as the real party in interest. Appeal Br. 2.

### STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant appeals from the Examiner's decision to reject claims 32–39 and 41–51.<sup>3</sup> We have jurisdiction under § 6(b).

We AFFIRM.

### SUBJECT MATTER ON APPEAL

The invention relates to trading orders with decaying reserves. Spec., Title. Claims 32, 46, and 51 are the independent claims on appeal. Independent claim 32, reproduced below, is illustrative of the claimed subject matter:

32. An apparatus comprising:
  - at least one processor; and
  - at least one memory communicatively coupled to the at least one processor, the at least one memory having instructions stored thereon which are configured to, when executed by the at least one processor, direct the at least one processor to:
    - receive from a trader at a first time a trading order for a particular quantity of a trading product, in which a first portion of the particular quantity is a displayed quantity, and a second portion of the particular quantity is a reserved quantity, in which the second portion is of the particular quantity is greater than zero, and in which a decay rule is associated with at least one of the trader, the trading order, and the trading product;

---

<sup>3</sup> Concurrent with the Appeal Brief, Appellant filed an amendment canceling claim 52. Amendment filed June 16, 2016. The Examiner has entered this Amendment. Advisory Action mailed June 29, 2016. Accordingly, claim 52 is not before us on appeal, which is consistent with Appellant's understanding of the claims on appeal (Appeal Br. 2).

disclose the displayed quantity of the trading order to one or more market centers; and

reduce the reserved quantity in accordance with the decay rule without changing the displayed quantity of the trading order.

## REJECTIONS

The Examiner rejects the claims on appeal as follows:

claims 32–39 and 41–51 under 35 U.S.C. § 101 as directed to non-statutory subject matter;<sup>4</sup> and

claims 32, 46, and 51 on the ground of non-statutory double patenting as unpatentable over claims 2 and 12 of U.S. Patent No. 8,732,053 B2 (“the ’053 patent”) and claim 25 of U.S. Patent No. 7,716,122 B2 (“the ’122 patent”).

## ANALYSIS

### *35 U.S.C. § 101*

An invention is patent eligible if it is a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101. The Supreme Court, however, has long interpreted § 101 to include an implicit exception: “[l]aws of nature, natural phenomena, and abstract ideas are not patentable.” *See, e.g., Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct.

---

<sup>4</sup> Instead of claims 32–39 and 41–51, Appellant’s Briefs indicate claims 32–40 and 42–51 are subject to this rejection. Appeal Br. 5, 6; Reply Br. 3. As set forth in the Claims Appendix of the Appeal Brief, however, claim 40 has been canceled, and claim 41 is pending. We, therefore, understand that Appellant’s inclusion of claim 40 and omission of claim 41 to be an inadvertent error.

2347, 2354 (2014) (quoting *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 589 (2013)).

To “distinguish[] patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts,” the Supreme Court, in *Alice*, reaffirmed the two-step analysis previously set forth in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66 (2012). *Alice*, 134 S. Ct. at 2355. The first step of this analysis considers whether a claim is directed to a patent-ineligible concept, e.g., an abstract idea. *Id.* (citing *Mayo*, 566 U.S. at 77). If so, the second step considers whether the claim recites an inventive concept—an element or combination of elements sufficient to ensure the claim amounts to significantly more than the abstract idea and transform the nature of the claim into a patent-eligible application. *Id.* (citing *Mayo*, 566 U.S. at 72–73, 78, 79).

At the outset, Appellant argues the Examiner’s rejection fails to set forth a prima facie case under 35 U.S.C. § 101. Appeal Br. 6, 13; Reply Br. 5. Appellant also argues the Examiner has failed to examine each claim individually. Appeal Br. 11; Reply Br. 4. Appellant’s arguments are not persuasive of error.

The Federal Circuit has explained that “the prima facie case is merely a procedural device that enables an appropriate shift of the burden of production.” *Hyatt v. Dudas*, 492 F.3d 1365, 1369 (Fed. Cir. 2007) (citing *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992)). The court has further explained that the requirement to make a prima facie case is premised on notice. According to the court,

the PTO carries its procedural burden of establishing a prima facie case when its rejection satisfies 35 U.S.C. § 132, in “notify[ing] the applicant ... [by] stating the reasons for [its] rejection, or objection or requirement, together with such information and references as may be useful in judging of the propriety of continuing the prosecution of [the] application.”

*In re Jung*, 637 F.3d 1356, 1362 (Fed. Cir. 2011) (alterations in original) (quoting § 132). All that is required of the Office is to set forth the statutory basis of the rejection in a sufficiently articulate and informative manner. *Id.* at 1363; *see also Chester v. Miller*, 906 F.2d 1574, 1578 (Fed. Cir. 1990) (“Section 132 is violated when a rejection is so uninformative that it prevents the applicant from recognizing and seeking to counter the grounds for rejection.”).

In determining that the claims are directed to non-statutory subject matter, i.e., patent ineligible, the Examiner analyzes the claims using the two-step framework set forth in *Alice*. Final Act. 2–4. Under the first step, the Examiner determines the claims are directed to trading orders, which is a fundamental economic practice and, therefore, an abstract idea. *Id.* at 3. Under the second step, the Examiner determines the claims do not recite significantly more than the abstract idea because they 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 the abstract idea to a particular technological environment. *Id.* The Examiner also determines the claim limitations are done by generically recited computing devices and require no more than a generic computer performing generic computer functions that are well-understood, routine, and conventional activities previously known to the industry. *Id.* Notably, the Examiner explicitly explains that this analysis

applies to all claims. Ans. 13 (“As the other claims . . . are drawn to similar processes, they suffer from the same infirmity as the representative claims.”).

As such, the Examiner sufficiently informs Appellant that the claims are patent ineligible. Furthermore, there is no indication that Appellant does not recognize or understand the Examiner’s rejection, as Appellant’s understanding is manifested in the arguments traversing it. The Examiner’s rejection satisfies the notice requirement of § 132 and sets forth a prima facie case of patent-ineligible subject matter. We, therefore, consider Appellant’s remaining arguments to determine whether the Examiner erred in rejecting the claims as patent ineligible. *See Ex Parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential) (explaining that the Board reviews a rejection for error “based upon the issues identified by appellant, and in light of the arguments and evidence produced thereon”).

*Independent claims 32, 46, and 51*

Appellant argues the Examiner has made no showing that these claims preempt all uses of the abstract idea of trading orders. Appeal Br. 11–12; Reply Br. 4–5. According to Appellant, the claims are directed to specific and narrow embodiments and do not preempt all systems and methods for trading orders. Appeal Br. 12. Appellant’s argument does not apprise us of error. Although preemption may be the basis for excluding abstract ideas from eligible subject matter, it is not the test for determining whether a claim is patent eligible. *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015) (“The Supreme Court has made clear that the principle of preemption is the basis for the judicial exceptions to

patentability. . . . For this reason, questions on preemption are inherent in and resolved by the § 101 analysis.” (citation omitted)); *see also OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362–63 (Fed. Cir.), *cert. denied*, 136 S. Ct. 701 (2015) (“And that the claims do not preempt all price optimization or may be limited to price optimization in the e-commerce setting do not make them any less abstract.”).

Appellant also contends the Examiner’s determination that the claims are directed to trading orders is an improper overgeneralization of the claims that fails to take into account what the claims actually recite. Appeal Br. 7–8. In particular, Appellant asserts the Examiner’s generalized concept does not recognize that the claims recite reducing a reserved quantity of an order in accordance with a decay rule without changing the displayed quantity of the trading order. *Id.* at 8. Appellant’s argument is not convincing because reducing a reserved quantity of an order in accordance with a decay rule without changing the displayed quantity of the trading order is a way of trading orders and further describes the abstract idea of trading orders. This particular way of trading orders does not separate the claimed invention from the abstract idea, but simply suggests that the Examiner’s characterization is at a high level of abstraction, which is not persuasive of error. *See Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1240 (Fed. Cir. 2016) (“An abstract idea can generally be described at different levels of abstraction.”).

Appellant further contends the Examiner has not compared the concept of trading orders to other concepts the courts have held to be abstract ideas. Appeal Br. 12; Reply Br. 5. We disagree. Contrary to Appellant’s assertion, the Examiner determines trading orders is a

fundamental economic practice (Final Act. 3), which the courts have routinely held to be an abstract idea. *See, e.g., Inventor Holdings, LLC v. Bed Bath & Beyond, Inc.*, 876 F.3d 1372, 1379 (Fed. Cir. 2017) (“[T]he patent claims here are directed to a fundamental economic practice, which *Alice* made clear is, without more, outside the patent system.”). Indeed, trading orders is a fundamental economic practice long prevalent in our system of commerce.

Appellant additionally contends that, like the claims in *Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, 880 F.3d 1356 (Fed. Cir. 2018), the claimed invention selectively decides what data to display and provides an improved graphical user interface. Tr. 5. Appellant’s argument is not convincing.

In holding that the claims are not directed to an abstract idea, but instead to an improved user interface for computing devices, the court in *Core Wireless* determined:

Claim 1 of the ’476 patent requires “an application summary that can be reached directly from the menu,” specifying a particular manner by which the summary window must be accessed. The claim further requires the application summary window list a limited set of data, “each of the data in the list being selectable to launch the respective application and enable the selected data to be seen within the respective application.” This claim limitation restrains the type of data that can be displayed in the summary window. Finally, the claim recites that the summary window “is displayed while the one or more applications are in an un-launched state,” a requirement that the device applications exist in a particular state. These limitations disclose a specific manner of displaying a limited set of information to the user, rather than using conventional user interface methods to display a generic index on a computer.

880 F.3d at 1362–63. The court also determined that “[t]he specification confirms that these claims disclose an improved user interface for electronic devices, particularly those with small screens.” *Id.* at 1363.

In contrast, the claims here recite a processor and memory that perform the steps of receiving a trading order including a displayed quantity and a reserved quantity, disclosing the displayed quantity to a market center, and reducing the reserved quantity in accordance with a decay rule without changing the displayed quantity. Although the claims recite a “displayed quantity,” the claims do not recite a particular display of information. Moreover, the Specification does not describe an improvement to the display of an electronic device. Thus, the claims are not directed to an improved user interface and are not analogous to the claims in *Core Wireless*.

Appellant also argues that, like the claims in *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014), the claims represent a solution necessarily rooted in computer technology to overcome a problem specifically arising in an electronic trading system. Appeal Br. 12–13.

According to Appellant:

[The] present claims solve a problem rooted in computer technology to improve the management of orders in an electronic trading system to enable greater control over the size of reserve quantities over time. The claimed solution is necessarily implemented in a networked computer environment involving market centers and trading participants who enter orders electronically and manage order size electronically via a computer network. The useful improvement of the claimed invention is endemic to its networked computer environment having traders and market centers at various network nodes.

*Id.* at 13.

The fact that the claimed invention involves a computer network environment, however, does not mean the claimed solution is necessarily rooted in computer technology to overcome a problem specifically arising in the realm of computer networks. Unlike the problem in *DDR Holdings* of retaining visitors to a website, which is an Internet-centric challenge specifically arising in the realm of computer networks (773 F.3d at 1257–58), the challenge of managing trading orders to enable greater control over the size of reserve quantities over time is not a challenge unique to electronic trading systems. Consequently, Appellant’s reliance on *DDR Holdings* does not apprise us of error.

Appellant further argues the Examiner “has not identified any specific limitations that are ‘generically recited computing devices’ or ‘generic computer functions,’” or “provided any explanation for why any specific limitation does not add significantly more to the alleged abstract idea.” Appeal Br. 9. According to Appellant, the claims recite significantly more than trading orders, such as, for example, reducing the reserved quantity in accordance with the decay rule without changing the displayed quantity of the trading order. *Id.* at 10. Appellant also asserts that the Examiner has not rejected the claims over the prior art and therefore “effectively concedes that the claims must recite significantly more than a ‘trading order.’” *Id.* Appellant’s arguments are not convincing.

Although the second step of the *Alice* analysis is termed a search for an “inventive concept,” the analysis is not an evaluation of novelty or nonobviousness. Rather, the second step considers “the elements of each 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*, 134 S. Ct. at 2355 (emphasis added) (quoting *Mayo*, 566 U.S. at 79, 78). The question in the second step, therefore, is whether the implementation of the abstract idea involves “more than performance of ‘well-understood, routine, [and] conventional activities previously known to the industry.’” *Content Extraction & Transmission LLC v. Wells Fargo Bank, N.A.*, 776 F.3d 1343, 1347–48 (Fed. Cir. 2014) (quoting *Alice*, 134 S. Ct. at 2359).

Here, Appellant conflates the conventionality of the steps being performed by computing components and the conventionality of the computer implementation of the steps. The Examiner determines, and we agree, that the implementation of the recited steps, including the step of reducing the reserved quantity in accordance with the decay rule without changing the displayed quantity, requires nothing more than generic computer components performing generic computer functions, such as receiving and processing data. Final Act. 3; *see also* Spec. ¶ 57 (“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, special purpose computers and computing devices.”), ¶ 58 (“A ‘processor’ means one or more microprocessors, central processing units (CPUs), computing devices, microcontrollers, digital signal processors, or like devices or any combination thereof, regardless of the architecture.”). The Examiner also determines, and we agree, that the implementation of the recited steps does not result in an improvement to the computer environment. Final Act. 3. Accordingly, the implementation of the abstract idea simply involves the performance of generic computer functions that are well-understood, routine, and conventional such that the

computer implementation does not transform the nature of the claims into something other than the abstract idea of trading orders.

In view of the foregoing, Appellant does not apprise us of error in the Examiner's determination that independent claims 32, 46, and 51 are patent ineligible. Accordingly, we sustain the rejection of independent claims 32, 46, and 51 under 35 U.S.C. § 101.

*Claim 33*

Claim 33 depends from independent claim 32 and recites “in which the decay rule specifies a decay rate, and in which the act of reducing the reserved quantity in accordance with the decay rule comprises reducing the reserved quantity according to the decay rate.” Appeal Br., Claims App. Appellant argues claim 33 recites significantly more than the abstract idea of trading orders. Appeal Br. 14. We disagree.

The second step of the *Alice* framework does not simply consider whether a claim recites more than the abstract idea. Rather, as set forth above, the second step considers whether the elements of a claim, individually and as an ordered combination, *transform the nature of a claim* into a patent-eligible application. *Alice*, 134 S. Ct. at 2355 (quoting *Mayo*, 566 U.S. at 79, 78). Here, the limitations of claim 33 further describe the abstract idea of trading orders. We agree with the Examiner that the implementation of these limitations involves nothing more than the performance of generic computer components performing generic computer functions that are well-understood, routine, and conventional. Final Act. 3. Consequently, the computer implementation of the recited limitations of

claim 33 does not transform the nature of the claim into something other than the abstract idea of trading orders.

In view of the foregoing, Appellant does not apprise us of error in the Examiner's determination that claim 33 is patent ineligible. Accordingly, we sustain the rejection of claim 33 under 35 U.S.C. § 101.

*Claim 45*

Appellant asserts the claimed invention is an improvement to computers as described in paragraph 88 of the Specification. Tr. 4.

Paragraph 88 explains:

Another advantage is that, by causing the reserved quantity of trading order to decay, the trading system may improve system efficiency. In particular, as trading orders with reserved quantities are not aggressed, trading system may gradually delete the reserved quantities of such trading orders from one or more order books. Deleting portions of such trading orders may free up memory and processing resources in the trading system. Trading system may thereby improve data throughput and/or conserve system resources.

According to this cited portion of the Specification, improved computer system efficiency is achieved by deleting reserved quantities that are not aggressed. Claim 45 recites deleting first and second portions of the reserved quantity (Appeal Br., Claims App.), and Appellant's argument does not apprise us of error in the Examiner's rejection of claim 45.

Appellant's Specification explains:

[T]he trading system causes the reserved quantity of the trading order to decay over time. The trading system may thereby reduce certain risks associated with market volatility. In particular, by causing the reserved quantity to decay, the trading system may reduce the trader's risk of having exposure for a stale trading order with a price that is no longer favorable for the trader.

Spec. ¶ 87. As Appellant points out, the Specification also explains that the “trading system may gradually delete the reserved quantities of such trading orders from one or more order books,” and that “[d]eleting portions of such trading orders may free up memory and processing resources in the trading system.” *Id.* ¶ 88. As such, the invention causes the reserved quantity of a trading order to decay, which reduces the trader’s risk of having exposure for a stale trading order, and then deletes the reserved quantities that are not aggressed. Deleting timeworn information is insignificant post-solution activity, which is insufficient for patent eligibility. *See Diamond v. Diehr*, 450 U.S. 175, 191–92 (1981) (“[I]nsignificant post-solution activity will not transform an unpatentable principle into a patentable process.” (citing *Parker v. Flook*, 437 U.S. 584, 598 (1978))).

In view of the foregoing, Appellant does not apprise us of error in the Examiner’s determination that claim 45 is patent ineligible. Accordingly, we sustain the rejection of claim 45 under 35 U.S.C. § 101.

*Claims 34–39, 41–44, and 46–50*

Appellant argues these claims recite significantly more than the abstract idea of trading orders. Appeal Br. 14. Appellant, however, does not explain why the limitations of these claims amount to significantly more than the abstract idea, apart from simply asserting that the limitations, either alone or in combination with other claim limitations, recite significantly more. *Id.* Appellant’s conclusory assertion is not persuasive of error, and we sustain the rejection of claims 34–39, 41–44, and 46–50 under 35 U.S.C. § 101.

*Non-Statutory Double Patenting*

Appellant argues the Examiner's rejection is incomplete and lacks the requisite analysis. Appeal Br. 14–16. Appellant's argument is persuasive.

In rejecting independent claims 32, 46, and 51 on the ground of non-statutory double patenting, the Examiner determines that these claims are not patentably distinct from claims 2 and 12 of the '053 patent and claim 25 of the '122 patent "because they both disclose that the displayed quantity of the trading order is disclosed to one or more market centers and reduce the reserved quantity in accordance with the decay rule without changing the displayed quantity of the trading order." Final Act. 5. According to the Examiner, the rejection is proper because it includes the appropriate form paragraphs for non-statutory double patenting of the obviousness type. Ans. 20.

The key question in any obviousness double patenting analysis is: "Does any claim in the application define merely an obvious variation of an invention claimed in the patent asserted as supporting double patenting?" *General Foods Corp. v. Studiengesellschaft Kohle mbH*, 972 F.2d 1272, 1278 (Fed. Cir. 1992) (discussing *In re Vogel*, 422 F.2d 438 (CCPA 1970)). An analysis analogous to an obviousness analysis under 35 U.S.C. § 103(a) comes into play during the step of determining the obviousness of the "difference" between the claimed invention and the patented invention. *Studiengesellschaft Kohle mbH v. N. Petrochemical Co.*, 784 F.2d 351, 355 (Fed. Cir. 1986); *In re Longi*, 759 F.2d 887, 892–93 (Fed. Cir. 1985).

As Appellant points out, the Examiner does not provide an obviousness analysis. Appeal Br. 15–16. For example, the Examiner does

not determine the differences between the scope and content of independent claims 32, 46, and 51 and the patented claims, nor does the Examiner provide reasons why a person of ordinary skill would conclude that the invention set forth in each independent claim would have been an obvious variation of the invention set forth in the patented claim. As such, the Examiner's rejection is incomplete.

Being that the Examiner's rejection is incomplete, the Examiner fails to sufficiently notify Appellant of the reasons for the rejection on the ground of non-statutory double patenting of the obviousness type, and, thus, has not established a prima facie case. *In re Jung*, 637 F.3d at 1362. Accordingly, we do not sustain the Examiner's rejection of independent claims 32, 46, and 51 on the ground of non-statutory double patenting.

#### DECISION

The Examiner's decision to reject claims 32–39 and 41–51 under 35 U.S.C. § 101 is affirmed.

The Examiner's decision to reject claims 32, 46, and 51 on the ground of non-statutory double patenting is reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED