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EXAMINER
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SHRESTHA, BIJENDRA K

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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* JOHN SCHEERER and RANDAL ALMEIDA<sup>1</sup>

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Appeal 2017-002099  
Application 14/158,211  
Technology Center 3600

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Before MICHAEL J. STRAUSS, ADAM J. PYONIN, and  
SHARON FENICK, *Administrative Patent Judges*.

STRAUSS, *Administrative Patent Judge*.

DECISION ON APPEAL

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<sup>1</sup> According to Appellants, the real party in interest is Chicago Mercantile Exchange Inc. *See* Appeal Br. 1.

## STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from a rejection of claims 12–22. Claims 1–11 and 22–28 are canceled. Ans. 5; App. Br. 3. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

## THE INVENTION

The claims are directed to determining a banding start price for orders to be placed on an exchange. Spec., Title, ¶ 2. Claim 12, reproduced below, is representative of the claimed subject matter:

12. A computer system comprising:

a user computer system, communicatively coupled to a network, the user computer system in communication with an exchange computer system,

at least one processor; and

at least one non-transitory memory, wherein the at least one non-transitory memory stores instructions that, when executed, cause the exchange computer system to perform operations that include

receiving, via the network from the user computer system, an offer for a subject financial product, wherein the offer comprises one of a bid price or an ask price;

determining, as a result of determining a difference between bid and ask prices for subject financial products of a subject financial product type is not within a predefined range, if there is a calendar spread type satisfying calendar spread criteria, wherein the calendar spread criteria require that a calendar spread type satisfying the criteria include the subject financial product type as one leg,

generating, as a result of determining there is a calendar spread type satisfying the calendar spread criteria, a banding start price for the subject financial product type by calculating a value for the subject financial product type based on a difference between bid and ask prices for

calendar spreads of the satisfying calendar spread type, and on a price value of a different financial product type forming an other leg of the satisfying calendar spread type, and

processing orders for subject financial products of the subject financial product type based on whether prices of the orders are within a predefined range of the banding start price.

### REJECTIONS

The Examiner made the following rejections<sup>2</sup>:

Claims 12–22 stand rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1–22 of U.S. Patent No. 8,666,875. Final Act. 3.

Claims 12–22 stand rejected under 35 U.S.C. § 101 as directed to a judicial exception and, therefore, non-statutory. Final Act. 3–9.

### ANALYSIS

Appellants' arguments are unpersuasive of reversible Examiner error. We adopt as our own (1) the findings and reasons set forth by the Examiner in the action from which this appeal is taken (Final Act. 3–9; Ans. 2–5) and (2) the reasons set forth by the Examiner in the Examiner's Answer in response to Appellants' Appeal Brief (Ans. 5–14) and concur with the conclusions reached by the Examiner. We highlight the following for emphasis.

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<sup>2</sup> Rejections of claims 1–11 on the ground of nonstatutory double patenting and under 35 U.S.C. §§ 101 and 112, second paragraph, were rendered moot by the cancelation of those claims.

*I. Nonstatutory Double Patenting*

Rather than contest the nonstatutory double patenting rejection, Appellants indicate a terminal disclaimer will be submitted upon allowance of patentable subject matter. App. Br. 2–3. We therefore summarily affirm the rejection of claims 12–22 on the ground of nonstatutory double patenting over claims 1–22 of U.S. Patent No. 8,666,875.

*II. 35 U.S.C. § 101 Rejection*

Under 35 U.S.C. § 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. The Supreme Court, however, has long interpreted § 101 to include an implicit exception: “[l]aws of nature, natural phenomena, and abstract ideas” are not patent-eligible. *See, e.g., Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014).

The Supreme Court, in *Alice*, reiterated the two-step framework previously set forth in *Mayo Collaborative Services v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1300 (2012), “for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” *Alice Corp.*, 134 S. Ct. at 2355. The first step in this analysis is to “determine whether the claims at issue are directed to one of those patent-ineligible concepts” (*id.*), e.g., to an abstract idea. If the claims are not directed to a patent-ineligible concept, the inquiry ends. Otherwise, the inquiry proceeds to the second step, in which the elements of the claims are considered “individually and ‘as an ordered combination’” to determine whether there are additional elements that “‘transform the nature of the claim’ into a patent-eligible application.” *Alice Corp.*, 134 S. Ct. at 2355 (quoting *Mayo*, 132 S. Ct. at 1297).

The Court acknowledged in *Mayo* that “all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.” *Mayo*, 132 S. Ct. at 1293. Therefore, the Federal Circuit has instructed that claims are to be considered in their entirety to determine “whether their character as a whole is directed to excluded subject matter.” *McRO, Inc. v. Bandai Namco Games America Inc.*, 837 F.3d 1299, 1312 (Fed. Cir. 2016) (quoting *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015)).

*A. Alice/Mayo First Step: Whether the Claims Are Directed to Patent-Ineligible Concepts*

The Examiner finds the claims are directed to “determin[ing a] banding start price and processing the order based on the determined banding start price” and, therefore, to an abstract idea. Final Act. 6–8. In particular, the Examiner finds the claimed steps of determining, generating, and processing orders based on the determined banding start price constitute abstract ideas. The Examiner explains

The concept of determining the banding order price and processing the orders based on the determined banding start price comprising *mathematical calculation and comparison of values and financial product type criteria* is a **mathematical relationship/formula** which have been found by the courts to be an abstract idea, similar to updating alarm limits using a mathematical formula (*Parker v. Flook*[, 437 U.S. 584 (1978) (mathematical algorithm used for adjusting an alarm limit)]) and generalized formulation of computer program to solve mathematical problem (*Gottschalk v. Benson*[, 409 U.S. 63, 67 (1972)(mental processes can be unpatentable, even when performed by a computer)]). Further, the procedures for determining the banding order price and processing the orders based on the determined banding start price consists of steps which can be carried out by a human that do not impose any requirements that would make the invention impossible to carry

out manually is also considered to be a **method of organizing human activities**. These steps can be performed by human or in a computer and is similar to the kind of “organizing human activity” at issue in *Alice Corp.*

Final Act. 6–7 (formatting added). The Examiner concludes the claims are directed to an abstract idea, satisfying the first step of the *Alice/Mayo* two-step framework. Final Act. 7.

Appellants contend the Examiner errs by oversimplifying the subject matter being claimed as directed to determining banding start price and processing the order based on the determined banding start price. App. Br.

#### 5. According to Appellants

The instant claims are better described as being directed to a more efficient exchange computing system programmed to receive orders for a financial product, determine if calendar spread data meets certain criteria when a difference between bid and ask prices are outside a defined range, generate a banding start price (BSP) for the financial product when the calendar spread data satisfies the certain criteria, and processing orders for the financial product based on whether prices of orders are within a predefined range of the BSP.

App. Br. 6. Appellants argue such subject matter is akin to that found to be statutory in *Enfish* as an improvement in the function of a computer. *Id.*, citing *Enfish, LLC v. Microsoft Corp.*, 118 USPQ2d 1684, 1700 (Fed. Circ. 2016). According to Appellants, the invention of claim 12 “improves the efficiency of the exchange computing system by limiting use of processing resources to orders that are more likely to be matched.” App. Br. 8.

Appellants’ contentions are unpersuasive of Examiner error in determining the claims are directed to an abstract idea. The Title of Appellants’ Specification is “**DETERMINATION OF BANDING START PRICE FOR ORDER EVALUATION**” and the Specification describes a

background involving placing bid orders on an exchange for futures contracts, options on futures contracts, and numerous other types of financial products. Spec. ¶ 2. The Specification further discloses conserving computer resources by avoiding the processing of orders that are unlikely to be matched by determining a banding start price (BSP) that is used as a criteria for either rejecting or processing an order. Spec. ¶¶ 3–4. That is, the invention is directed to identifying and processing offers for a financial product based on whether prices of the orders are within a predefined range of the determined banding start price. Claim 12. As discussed further below, we find the claims do not make the computer itself function more efficiently or otherwise improve the functioning of the computer. Instead, the claims are similar to those in cases finding financial transactions using a computer to be abstract ideas. *See e.g., In re Chorna*, 656 Fed. Appx. 1016, 1019-20 (Fed. Cir. 2016) (*trading of hindsight financial instruments, i.e. contractual relations*); *Chicago Bd. Options Exch., Inc. v. Int’l Sec. Exch., LLC*, 748 F.3d 1134, (Fed Cir. 2014)) (nonprecedential) (Rule 36) (*see, e.g., US 7,685,053* (claim 8) (“determining a risk level and an aggregate risk level associated with [a] trade”)); *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1369 (Fed. Cir. 2015) (“tracking financial transactions to determine whether they exceed a pre-set spending limit (i.e. budgeting)” is an abstract idea); and *OIP Technologies v. Amazon.com, Inc.*, 788 F.3d 1359, 1362 (Fed. Cir. 2015) (claims relating to a method of pricing a product for sale were directed to abstract idea of “offer-based price optimization” combined with well-understood, conventional activities related to computers or data-gathering.) Other cases finding investment tools to be abstract ideas include *Bancorp Services, L.L.C. v. Sun Life Assur.*



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*Co. of Canada (U.S.)*, 687 F.3d 1266 (Fed, Or, 2012), *cert. denied*, 134 S.Ct. 2870 (2014); *Capital Dynamics v. Cambridge Associates, LLC*, 2016 WL 4709879 (Mem) (Fed. Cir. 2016); *Clarilogic, Inc. v. FormFree Holdings Corporation*, 2017 WL 992528 (Fed, Cir, 2017); *Digitech Information Systems, Inc. v. BMW Auto Leasing, LLC*, 504 Fed.Appx. 920 (Mem) (Fed. Or. 2013); and *Fort Properties, Inc. v. American Master Lease LLC*, 671 F.3d 1317 (Fed. Cir. 2012).

Rather than being directed to the alleged “technical solution to efficiently process incoming orders” (App. Br. 11), claim 12 as a whole is focused on a result; that is, providing a filtering function by rejecting errant incoming orders to avoid processing orders that are unlikely to be matched and processing only orders within a predetermined range of a banding start price, which are known benefits. *See* Spec. ¶ 3 (describing prior art systems); *see also In re TLI Communications LLC Patent Litigation*, 823 F.3d 607, 612 (Fed. Cir. 2016) (“the claims here are not directed to a specific improvement to computer functionality. Rather, they are directed to the use of conventional or generic technology in a nascent but well-known environment, without any claim that the invention reflects an inventive solution to any problem presented by combining the two.”). We find no parallel between claim 12 and the claims in *Enfish*, nor any comparable aspect in claim 12 that represents an improvement to computer functionality. Although the argued filtering function may improve order processing in general, it does not improve a technology, e.g., the functioning of computers or data communications.

Unlike *Enfish*, claim 1 is not focused on an improvement to computer capabilities or functionality. There is a fundamental difference between

computer functionality improvements, on the one hand, and uses of existing computers as tools to perform a particular task, on the other. “[The invention] improves the efficiency of the exchange computing system by limiting use of processing resources to orders that are more likely to be matched.” App. Br. 8. This asserted improvement in matching orders to market price conditions and processing matching orders is not focused on a specific means or process that improves computer technology but, rather, on optimizing the processing of market trades.

We are also unpersuaded that the Examiner erred in finding the steps of claim 1 are individually and as a whole directed to abstract ideas expressed by a mathematical relationship or formula and/or methods of organizing human activity. Final Act. 6–7. Like claim 12 in *Electric Power Group*, Appellants’ claim 12 involves receiving data, analyzing the data, and processing results, amounting to no more than matching and processing orders for financial products. As such, claim 1 is “clearly focused on the combination of those abstract-idea processes. The advance [it purports] to make is a process of gathering and analyzing information of a specified content, then displaying the results, and not any particular assertedly inventive technology for performing those functions.” *Elec. Power Grp. LLC v. Alstom*, 830 F.3d 1350, 1353–54 (Fed. Cir. 2016) (collecting information and “analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, [are] essentially mental processes within the abstract-idea category.”). Thus, we agree with the Examiner that the claims are directed to patent-ineligible concepts.

*B. Alice/Mayo Second Step: Whether Additional Elements Transform the Idea Into Patent-Eligible Subject Matter*

Turning to the second step of the *Alice/Mayo* analysis, Appellants argue the claims may be considered to recite “significantly more” than the judicial exception, relying on the arguments that the claimed steps are a meaningful improvement to the efficiency of the exchange computing system provided by only processing those incoming orders that meet specific criteria. App. Br. 9. Appellants argue, as in *Bascom Glob. Internet Servs. v. AT&T Mobility, LLC*, 827 F.3d 1341 (Fed. Cir. 2016), “the claims recite[] a specific, discrete implementation of the abstract idea that provide[s] a technical improvement over the prior art.” App. Br. 10. Appellants further argue “the Office action provides credible evidence that the claims recite an improved computer system as none of the claims were rejected based on prior art.” App. Br. 11. In particular, Appellants allege “the Office action has not established that [the] features [recited by claim 12] . . . are well-understood, routine, or conventional to those in the relevant field of ‘determine banding start price and processing the order based on the determined banding start price.’” App. Br. 11–12. According to Appellants “Claim 12 thus imposes significant limitations on, and would not be tantamount to a monopoly on, the alleged abstract idea.” App. Br. 12.

The Examiner responds that “the claim limitations simply narrow or limit the abstract idea without providing anything significantly more than the abstract idea itself.” Ans. 12. Addressing Appellants’ argument that the claims were not rejected over prior art thereby evidencing a resultant improved computer system (App. Br. 11), the Examiner explains “the existence of [any] such novel features would still not cure the deficiencies with respect to the abstract idea.” Ans. 12, citing

*LLC*, 772 F.3d 709 (Fed. Cir. 2014). The Examiner further directs attention to various examples in which computer implementation of an abstract idea similar to that of claim 12 and in which insufficient additional elements were found to transform the nature of the claim into a patent-eligible subject matter. *Id.* at 12–13. The Examiner addresses Appellants’ argument that the claims would not create a monopoly on the abstract idea (i.e., the “preemption argument”), quoting from the decision in *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015); “*Where a patent’s claims are deemed only to disclose patent **ineligible** subject matter under the Mayo framework, as they are in this case, preemption concerns are fully addressed and made moot.*” Ans. 14.

We are unpersuaded claim 12 recites significantly more than the judicial exception. For the reasons explained above and as evidenced by the cited prior cases, the a generic recitation of a computer system, processor, memory and communication network performing basic, generic computer and data communication functions do not amount to significantly more than the judicial exception. Appellants fail to direct attention to evidence that these elements are other than generic components. Instead, the recited elements have been found to have well-understood, routine or conventional in prior relevant court decisions including *Bancorp Servs.*, 687 F.3d at 1278 (a computer “employed only for its most basic function . . . does not impose meaningful limits on the scope of those claims”), *LendingTree, LLC v. Zillow, Inc.*, 656 F. App’x 991, 997 (Fed. Cir. 2016) (holding ineligible claims to a computerized method of speeding up a loan-application process), *Alice*, 134 S. Ct. at 2358 (“[T]he mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible

invention”), and *OIP Techs.*, 788 F.3d at 1363 (“[R]elying on a computer to perform routine tasks more quickly or more accurately is insufficient to render a claim patent eligible.”). Ans. 10; *see also buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014) (“That a computer receives and sends the information over a network—with no further specification—is not even arguably inventive.”); *Ultramercial, Inc. v. Hulu LLC*, 772 F.3d 709, 715–16 (Fed. Cir. 2014) (claims merely reciting abstract idea of using advertising as currency as applied to particular technological environment of the Internet not patent eligible).

Although the Specification provides detailed information regarding generating a banding start price including various flow charts, the individual steps rely on basic operations and functions provided by a generic computer. As such, the generalized use of the computer indicates that it “is employed only for its most basic function, the performance of repetitive calculations, and as such does not impose meaningful limits on the scope of those claims.” *Bancorp*, 687 F.3d at 1278. *See also Intellectual Ventures*, 792 F.3d at 1367 (“Nor, in addressing the second step of *Alice*, does claiming the improved speed or efficiency inherent with applying the abstract idea on a computer provide a sufficient inventive concept.”).

Similarly, the Specification fails to provide details concerning the network of claim 12, merely disclosing that “[e]xchange computer system 100 and computer device 114 may be connected via a T1 line, a common local area network (LAN) or other mechanism for connecting computer devices.” Spec. ¶ 22.

Furthermore, as explained by the Examiner (Ans. 12), we are unpersuaded by Appellants’ argument that the claims are not technologically

routine and conventional because they are not rejected over art. App. Br. 11. Although novelty is a factor to be considered when determining “whether the claims contain an ‘inventive concept’ to ‘transform’ the claimed abstract idea into patent-eligible subject matter” (*Ultramercial*, 772 F.3d at 715), a finding of novelty or nonobviousness does not necessarily lead to the conclusion that subject matter is patentable eligible. “Groundbreaking, innovative, or even brilliant discovery does not by itself satisfy the § 101 inquiry.” *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2117 (2013). Here, Appellants have not identified novel features that transform the abstract idea into patent-eligible subject matter.

Finally, as explained by the Examiner (Ans. 14), Appellants’ preemption argument is unpersuasive. Although preemption “‘might tend to impede innovation more than it would tend to promote it,’ thereby thwarting the primary object of the patent laws” (*Alice*, 134 S. Ct. at 2354 (citing *Mayo*, 132 S. Ct. at 1293)), “the absence of complete preemption does not demonstrate patent eligibility.” *Ariosa Diagnostics*, 788 F.3d at 1379; *see also OIP Techs.*, 788 F.3d at 1362–63 (“[T]hat 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.”).

For the reasons discussed, we agree with the Examiner in finding the computer components and communications network are used in Appellants’ claims only for their most basic functions, the performance of repetitive calculations using well-known operations and communicating information between systems. Accordingly, we are not persuaded the Examiner erred in finding the claims lack eligibility under *Alice* step 2. Therefore, we sustain the rejection of claims 12–22 under 35 U.S.C. § 101.

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DECISION

We affirm the Examiner's decision to reject claims 12–22 on the ground of nonstatutory double patenting.

We affirm the Examiner's decision to reject claims 12–22 under 35 U.S.C. § 101.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv). *See* 37 C.F.R. § 41.50(f).

AFFIRMED