



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.
13/477,022	05/21/2012	Thomas Winter	12-138-US	8350
128144	7590	10/24/2018	EXAMINER	
Rimon, P.C. One Embarcadero Center Suite 400 San Francisco, CA 94111			WONG, ERIC TAK WAI	
			ART UNIT	PAPER NUMBER
			3692	
			NOTIFICATION DATE	DELIVERY MODE
			10/24/2018	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):

uspto@rimonlaw.com  
officeaction@apcoll.com  
docketing.rimonlaw@clarivate.com

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

*Ex parte* THOMAS WINTER

---

Appeal 2018-002554  
Application 13/477,022  
Technology Center 3600

---

Before JOSEPH L. DIXON, JENNIFER S. BISK, and  
STEVEN M. AMUNDSON, *Administrative Patent Judges*.

DIXON, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant appeals under 35 U.S.C. § 134(a) from a rejection of claims 1–19. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

The claims are directed to a computer-implemented order allocation system and method:

for allocating quantities of a plurality of orders stored in an order book side at a price level selected for execution is provided, wherein each order has a quantity and a [sic] entry time. A time sensitivity parameter is predefined, wherein the time sensitivity parameter is a non-negative real number representing a specific allocation scheme. The quantity to be allocated is received and is executable against the plurality of orders stored in the order book side at a price level selected for execution. A matched quantity is determined for each order of the plurality of orders stored in the order book side at the price level selected for execution. Specifically, the matched quantity is determined by using a general allocation scheme which depends on the predefined time sensitivity parameter, wherein a time sensitivity parameter identical to zero defines a pure pro-rata allocation scheme which exclusively considers the quantity of individual orders, and wherein a time sensitivity parameter tending toward infinity defines a time allocation scheme which exclusively considers the entry time of individual orders, and wherein a time sensitivity parameter given by a finite positive real number represents a time-pro-rata allocation scheme which combines aspects of the pure pro-rata and the time allocation by considering the quantity as well as the entry time for the allocation of individual orders. Finally, the quantity to be allocated is allocated against the orders stored in the order book side at the price level selected for execution.

(Abstract). Claim 1, reproduced below, is representative of the claimed subject matter:

1. A computer-implemented method executed by one or more computing devices for allocating quantities of a plurality of orders stored in an order book side at a price level selected for execution, each order having a quantity of assets and an entry time, the plurality of orders being ranked in accordance with their entry time where the order having the oldest entry time is ranked first, the method comprising:

receiving, by at least one of the one or more computing devices, a quantity of assets to be allocated, wherein the quantity to be allocated is executable against the plurality of orders stored in the order book side at the price level selected for execution;

for each order of the plurality of orders stored in the order book side at the price level selected for execution, determining, by at least one of the one or more computing devices, a matched quantity, the matched quantity being determined by using a general allocation scheme which depends on a time sensitivity parameter, wherein the time sensitivity parameter determines the degree to which the general allocation scheme resembles a pro-rata allocation or a time allocation; and

allocating, by at least one of the one or more computing devices, the quantity to be allocated against the plurality of orders stored in the order book side at the price level selected for execution in accordance with the determined matched quantities.

#### REFERENCE

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Czuppek et al. (Czuppek)

US 2010/0088216 A1

Apr. 8, 2010

#### REJECTIONS

The Examiner made the following rejections:

Claims 1–19 stand rejected under 35 U.S.C. § 101 because the claimed invention is directed to patent-ineligible subject matter.

Claims 1–9 and 17–19 stand rejected under pre-AIA 35 U.S.C. § 102(b) as being anticipated by Czupek.

## ANALYSIS

### 35 U.S.C. § 101

Section 101 of the Patent Act provides “[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” 35 U.S.C. § 101. That provision “contains an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable.” *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014) (quoting *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2116 (2013)). According to the Supreme Court:

[W]e set forth a framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts. First, we determine whether the claims at issue are directed to one of those patent-ineligible concepts. . . . If so, we then ask, “[w]hat else is there in the claims before us?” . . . To answer that question, we consider 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. . . . We have described step two of this analysis as a search for an “‘inventive concept’” —*i.e.*, 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 Corp.*, 134 S. Ct. at 2355.

The Federal Circuit has described the *Alice* step-one inquiry as looking at the “focus” of the claims, their “character as a whole,” and the *Alice* step-two inquiry as looking more precisely at what the claim elements add—whether they identify an “inventive concept” in the application of the ineligible matter to which the claim is directed. *See Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016); *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335–36 (Fed. Cir. 2016); *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015).

Regarding *Alice* step one, the Federal Circuit has “treated *collecting information*, including when limited to particular content (which does not change its character as information), as within the realm of abstract ideas.” *Elec. Power*, 830 F.3d at 1353 (emphasis added); *see also Internet Patents*, 790 F.3d at 1348–49; *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1363 (Fed. Cir. 2015); *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat’l Ass’n*, 776 F.3d 1343, 1347 (Fed. Cir. 2014). “In a similar vein, we have treated *analyzing information* [including manipulating information] by steps people go through in their minds, or by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category.” *Elec. Power*, 830 F.3d at 1354 (emphasis added); *see also In re TLI Commc’ns. LLC Patent Litig.*, 823 F.3d 607, 613 (Fed. Cir. 2016). “And we have recognized that *merely presenting the results of abstract processes of collecting and analyzing information, without more* (such as identifying a particular tool for presentation), is abstract as an ancillary part of such collection and analysis.” *Elec. Power*, 830 F.3d at

1354 (emphasis added); *see also Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 714–15 (Fed. Cir. 2014).

We disagree with Appellant’s arguments, and agree with and adopt the Examiner’s findings and conclusions in (i) the action from which this appeal is taken and (ii) the Answer to the extent they are consistent with our analysis below.

The Examiner relies upon the prior statements of the rejection and responds to Appellant’s arguments. (Ans. 3). The Examiner rejects the claims under 35 U.S.C. § 101 because they are directed to patent-ineligible subject matter. *See* Final Act. 2–8, 15–19; Ans. 3–10.

In particular, the Examiner determines “the claims are directed to allocating order quantities, which is a fundamental economic practice and therefore an abstract idea.” (Final Act. 2). The Examiner further determines that claims 1–19 do not include any element or combination of elements such that the claims are directed to “significantly more” than the abstract idea itself. (Final Act. 3).

Appellant contends:

Claims 1–19 do not seek to “tie up” the alleged abstract idea of “allocating order quantities” and (2) even if the claims were deemed to be directed to the alleged abstract idea the claims include elements and combinations of elements such that the claims are directed to “significantly more” than the alleged abstract idea itself.

(App. Br. 5). Appellant further contends:

In this case, the Examiner has not taken into account the character of the claims as a whole, but has instead merely relied on a high level abstraction of the claimed invention. This analysis does not fulfill the requirements of 35 U.S.C. § 101

because the Examiner has not demonstrated that the claims are “directed to” an abstract idea and has not demonstrated how *the recited claim limitations* are believed to correspond to an abstract idea. Furthermore, the characterization of the claims as “allocating order quantities in order to facilitate financial transactions” is a description “*at a high level of abstraction untethered from the language of the claim.*” *Id.* For example, the Examiner has not indicated where, specifically, the claims “set forth or describe” the alleged concept of “allocating order quantities.” To the contrary, the Examiner has cherry-picked some words from the preamble of the claims and then used those words to inaccurately characterize the entire claim. In other words, the fact that the claimed invention can be used to allocate order quantities in a specific manner does not mean that the claims are “directed to” allocating order quantities.

(App. Br. 6–7). Appellant further contends that:

The present claims are directed to an improvement to a computer-related technology. In particular, the claims are directed to an improvement in a matching engine of an electronic trading system which allows for the matching of orders according to a generalized allocation scheme which takes into account a time sensitivity parameter which determines the degree to which the generalized allocation scheme resembles a pro-rata allocation or a time-based allocation. The specification clearly describes the novel function of the computer when accomplishing the claimed method.

(App. Br. 7). Appellant relies upon paragraph 24 of Appellant’s Specification to support the position that the present claims are an improvement to computer-related technology. We find Appellant’s argument to be unavailing because the performance of the computer is not improved, but merely the processing of orders may be changed due to a shift in the allocation algorithm.

Appellant further contends that “allocating order quantities” is not an abstract idea within the meaning of 35 U.S.C. § 101. (App. Br. 8). Appellant further argues “[e]ven setting aside the fact that the claims are not ‘directed to’ allocating order quantities, Appellant is unable to identify any court cases in which this concept or similar concepts have been identified as abstract ideas.” (App. Br. 8). Appellant contends that none of the identified cases by the Examiner are directed to “allocating order quantities.” (App. Br. 8–9).

While we agree with Appellant that the Examiner has not cited to any cases directed to allocating order quantities, we note that the orders which are recited in independent claim 1 pertain to “the field of trading derivatives and, more particularly, to computer systems and computer implemented methods for allocating orders stored in an order book side at one price level selected for execution.” (Spec. ¶ 1; *see also* Spec. ¶ 2 “A derivative is a financial instrument whose value depends on or derives from the values of other, more basic underlying variables. Very often, the variables underlying derivatives are the prices of traded assets. A stock option, for example, is a derivative whose value is dependent on the price of a stock.”). Consequently, we determine the order quantities have to do with contracts for financial instruments, which are legal abstractions. We further note that the courts have decided that inventions for allocating and processing these orders for legal abstractions to be abstractions themselves. *See Int’l Sec. Exch., LLC v. Chi. Bd. Options Exch., Inc.*, CBM2013-00050, 2015 WL 930204 (PTAB 2015), *aff’d*, 640 F. App’x 986 (Mem.) (Fed. Cir. 2016) (addressing claims covering “[a] system for processing trades of securitized

instruments based on security orders and quotes received from client computers”).

With respect to step two of the *Alice* analysis, Appellant contends that the claims recite “significantly more” than the alleged abstract idea of “allocating order quantities.” (App. Br. 9). Appellant contends that the independent claims recite that a plurality of orders are ranked “*in accordance with their entry time where the order having the oldest entry time is ranked first*” and that a matched quantity for each order is “*determined by using a general allocation scheme which depends on a time sensitivity parameter which determines the degree to which the general allocation scheme resembles a pro-rata allocation or a time allocation.*” (App. Br. 10).

Appellant contends that the present system utilizes a generalized allocation scheme described in paragraph 148 of the Specification and the generalized allocation scheme includes countless specific allocation schemes indexed by their time-sensitivity parameter. (App. Br. 10). Appellant further identifies Figure 6 of the application showing the allocation schemes of the present application. (App. Br. 11).

While we agree with Appellant that the disclosed allocation schemes may contain many allocation schemes, we find independent claim 1 merely sets forth the steps of “receiving ... a quantity of assets,” “determining ... a matched quantity,” and “allocating ... the quantity to be allocated against the plurality of orders”; and the language of the claim does not set forth any correspondingly limited steps to the determination of a variable allocation scheme. Additionally, we do not agree with Appellant that the language of independent claim 1 sets forth a method of determining a corresponding

model or allocation scheme because there are no active steps in the method to perform these functions.

With respect to independent claims 18 and 19, Appellant merely repeats the claim language and relies upon the arguments advanced with respect to independent claim 1. (App. Br. 12). As a result, Appellant’s arguments do not show error in the Examiner’s conclusion concerning a lack of patent-eligible subject matter for independent claims 18 and 19.

Additionally, Appellant sets forth separate arguments for dependent claims 7 and 9 and generally contends that “each of the dependent claims recite[s] limitations which are also ‘significantly more’ than the alleged abstract idea of ‘allocating order quantities.’” (App. Br. 12). Appellant merely repeats the language of the claims and alleges that the Examiner has overgeneralized the express claim language. (App. Br. 13).

While we note that the Examiner’s treatment of the claims is general in nature, we consider Appellant’s arguments to be similarly general in nature and Appellant does not specifically identify how the recited claim language further limits the method of independent claim 1. From our review of the totality of the limitations recited in independent claim 7, the claim merely sets forth four separate limitations drafted starting with “wherein” and further detail the data which is used in the three-step method recited in independent claim 1. As a result, we determine the four limitations recited in dependent claim 7 do not further limit the “method” of independent claim 1 and consequently cannot provide a basis for “significantly more” than the abstract idea. We further note Appellant has provided no separate arguments for any of the intervening claims 2–6.

With respect to dependent claim 9, Appellant does not set forth separate arguments for patentability and relies upon the general contention that the narrowing scope of the claim can certainly “elevate the claim out of the realm of well understood, routine and conventional. In this case, the claimed allocation scheme is novel and not well known or routine and achieves the superior results noted above.” (App. Br. 13).

While we agree with Appellant that narrowing the scope of the claim can elevate the claim out of the realm of well-known, routine, and conventional, Appellant has provided any specific arguments for patentability thereto.

Appellant’s general assertion is unpersuasive of error. *See* 37 C.F.R. § 41.37(c)(1)(iv) (“A statement which merely points out what a claim recites will not be considered an argument for separate patentability of the claim.”); *see also In re Lovin*, 652 F.3d 1349, 1357 (Fed. Cir. 2011) (holding that “the Board reasonably interpreted Rule 41.37 to require more substantive arguments in an appeal brief than a mere recitation of the claim elements and a naked assertion that the corresponding elements were not found in the prior art”).

Moreover, we determine that dependent claim 9 merely requires two allocation steps (*see* claim 2) and further details determining an ideally matched quantity of an order, which further details two factors, but does not further limit the three steps of independent claim 1 and consequently cannot be “significantly more” than the abstract idea. Alternatively, we may speculate the language of dependent claim 9 may be interpreted to further limit the determining step to limit one of the two steps from dependent claim 2 and further subdivide one determination therein to be an

additional two-step determination. But Appellant has provided no further argument with which to evaluate whether the claimed invention is directed to “substantially more.” Based upon our speculation, we consider the claim to further limit the mathematical processing of the order, which merely amounts to a more detailed abstract idea. (“We may assume that the techniques claimed are “[g]roundbreaking, innovative, or even brilliant,” but that is not enough for eligibility.” *SAP America, Inc. v. Investpic, LLC*, 898 F.3d 1161, 1163 (2018)). “[A] claim is not patent eligible merely because it applies an abstract idea in a narrow way.” *BSG Tech LLC v. BuySeasons, Inc.*, 899 F.3d 1281, 1287 (Fed. Cir. 2018).

#### Reply Brief

Appellant argues that the Examiner addresses the claim limitations with “conclusory statements [that] continue to ignore the character of the claims as a whole and merely rely on a high-level abstraction of the claimed invention.” (Reply Br. 1). Appellant presents similar arguments to the Specification at paragraphs 24 and 148 of the Specification, which we found to be unpersuasive. (*See* Reply Br. 2–4). Appellant again argues that the PTAB has recognized that claims resulting in improved function of a computer are patent eligible (Reply Br. 5–6), but Appellant does not identify how the claimed invention improves the functioning of the computer or any other technology more than processing orders for purchase and sale of contracts for derivatives.

Therefore, we find that Appellant’s arguments do not show error in the Examiner’s conclusion of a lack of patent-eligible subject matter of independent claim 1 and independent claims 18 and 19 not argued separately. Additionally, we find that Appellant’s arguments do not show

error in the Examiner’s conclusion of a lack of patent-eligible subject matter of dependent claims 7 and 9.

Because Appellant has not set forth separate arguments for patentability of the remaining dependent claims, we group these claims as falling with their representative independent claims. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Because Appellant has not persuaded us the Examiner erred, we sustain the Examiner’s rejection of claims 1–19 under 35 U.S.C. § 101.

35 U.S.C. § 102

With respect to independent claims 1, 18, and 19, Appellant argues the claims together. (App. Br. 14). As a result, we select independent claim 1 as the representative claim for the group and will address Appellant’s arguments thereto. Appellant argues:

The differences between Czupek and the present application are fundamental and result in different and non-intersecting approaches. Czupek and the present application both refer to a method of determining how to allocate a quantity of price-best orders stored in the order book against an incoming order. However, the disclosure of Czupek and the recited claims are completely different and, from a conceptual point of view, do not contain overlapping areas.

(App. Br. 14–15). Appellant contends that “Czupek is dealing with only two different, well-known allocation schemes, the FIFO and the ProRata Allocation.” (App. Br. 15). Appellant contrasts the disclosure of Czupek with the present application and claims which describe a

set of allocation schemes, *including individual allocation schemes which are not identical to FIFO or to ProRata allocation*. Instead, each individual allocation scheme can be

described as a merging of a FIFO and ProRata allocation, creating a new allocation different from FIFO and ProRata. *See* Application, Fig. 5. The merging parameter is the time sensitivity parameters  $> 0$ . Thus, the present application describes an allocation method which creates new allocations different from FIFO and ProRata and these new allocations cannot be described as a split between FIFO/ProRata since the characteristics of such newly created allocations are different compared to FIFO or ProRata.

(App. Br. 15). The Examiner finds that:

Czuppek discloses an allocation scheme which employs two suballocation schemes, FIFO and ProRata. Czuppek's allocation scheme depends on a FIFO<sub>percent</sub> parameter, which represents the percentage of the incoming order that should be allocated using FIFO principles; and wherein the remaining percent is allocated using pro-rata principles. Here, Appellant's "general allocation scheme" reads on Czuppek's allocation scheme.

(Ans. 11). The Examiner further maintains that the features that Appellant distinguishes the invention over are not recited in the claims. (Ans. 12). We agree with the Examiner. Thus, Appellant's argument fails because it is not commensurate with the scope of the claim. *See In re Self*, 671 F.2d 1344, 1348 (CCPA 1982) ("[A]ppellant's arguments fail from the outset because . . . they are not based on limitations appearing in the claims."); *see also In re Hiniker Co.*, 150 F.3d 1362, 1369 (Fed. Cir. 1998) ("[The] proffered facts . . . are not commensurate with the claim scope and are therefore unpersuasive.").

We find Appellant’s arguments are not commensurate in scope with the express language set forth in independent claim 1 and do not distinguish the claim from Czupek.

Because Appellant has not set forth separate arguments for patentability of the remaining dependent claims, we group these claims as falling with their representative independent claims. *See* 37 C.F.R. § 41.37(c)(1)(iv).

### CONCLUSIONS

The Examiner did not err in rejecting claims 1–19 under 35 U.S.C. § 101, and the Examiner did not err in rejecting claims 1–9 and 17–19 based upon anticipation.

### DECISION

For the above reasons, we sustain the Examiner’s rejection of claims 1–19 based upon a lack of patent eligible subject matter under 35 U.S.C. § 101, and we sustain the Examiner’s anticipation rejection of claims 1–9 and 17–19 under 35 U.S.C. § 102

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

AFFIRMED