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.
13/407,368	02/28/2012	Qunfeng Yang	P11,0055-01 (38255-0005)	6080

26574 7590 10/25/2017

SCHIFF HARDIN, LLP - Chicago
PATENT DEPARTMENT
233 S. Wacker Drive-Suite 7100
CHICAGO, IL 60606-6473

EXAMINER
ALLADIN, AMBREEN A

ART UNIT	PAPER NUMBER
3693	

NOTIFICATION DATE	DELIVERY MODE
10/25/2017	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):

patents-CH@schiffhardin.com
jbombien@schiffhardin.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte QUNFENG YANG
and HENG SUN

Appeal 2015-007167[1]
Application 13/407,368[2]
Technology Center 3600

Before MICHAEL C. ASTORINO, AMEE A. SHAH, and MATTHEW S. MEYERS, *Administrative Patent Judges*.

MEYERS, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1–5, 7–11, 13, 14, and 17–21. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

---

[1] Our decision references Appellants' Appeal Brief ("Appeal Br.," filed April 30, 2015) and Reply Brief ("Reply Br.," filed July 23 2015), the Examiner's Answer ("Ans.," mailed July 17, 2015), and Final Office Action ("Final Act.," mailed March 12, 2015).

[2] Appellants identify "The Depository Trust and Clearing Corporation (DTCC)" as the real party in interest (Appeal Br. 1).

CLAIMED INVENTION

Appellants' claims relate generally to "single-pot margining with differing liquidation periods" (Spec. ¶ 27).

Claims 1 and 21 are the independent claims on appeal. Claim 1 reproduced below, with minor formatting changes and added bracketed notations, is illustrative of the subject matter on appeal:

> 1. A computer-implemented method of determining a margin for a clearinghouse customer position including both securities and derivatives, comprising the steps of:
>
> [a] receiving data at a margin calculation computer server on at least one securities position held by a clearing member and which has a distinct first liquidation period defined by 3 days, the data on the at least one securities position being received by the margin calculation computer server via at least one communication channel, the at least one securities position being at least one of bonds, stocks, asset-backed securities, exchange traded funds, and credit-length notes;
>
> [b] receiving data at a margin calculation computer server on at least one derivatives position held by the clearing member and which has a distinct different second liquidation period defined by 1 day, the data on the at least one derivatives position being received by the margin calculation computer server via at least one communication channel, the at least one derivatives position being at least one of options, futures, warrants, forwards and swaps; and
>
> [c] calculating using the margin calculation computer server a single margin requirement for the clearing member for both the at least one securities position and the at least one derivatives position using said first 3 day liquidation period for the at least one securities position and said second different 1 day liquidation period for the at least one derivatives position in the calculation of the margin requirement, the calculating step being performed by a processor of the margin calculation computer server programmed to perform the calculation by executing software stored on a non-transitory computer readable media.

REJECTIONS

Claims 1–5, 7–11, 13, 14, and 17–21 are rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter.

Claims 1, 2, 4, 7–10, 13, 14, 17, 20, and 21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Glinberg (US 7,428,508 B2, iss. Sept. 23, 2008) and The Depository Trust & Clearing Corporation News and Information for DTCC customers, dated June 2009 ("DTCC").

Claims 3, 5, 11, 18, and 19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Glinberg, DTCC, and Lange (US 7,389,262 B1, iss. June 17, 2008).

ANALYSIS

Non-Statutory Subject Matter

Appellants argue claims 1–5, 7–11, 13, 14, and 17–21 as a group (*see* Appeal Br. 13–18; *see also* Reply Br. 3). We select claim 1 as representative. Claims 2–5, 7–11, 13, 14, and 17–21 stand or fall with independent claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Alice Corp. Pty. Ltd. v. CLS Bank Int'l, 134 S. Ct. 2347 (2014) identifies a two-step framework for determining whether claimed subject matter is judicially-excepted from patent eligibility under § 101.

According to *Alice* step one, "[w]e must first determine whether the claims at issue are directed to a patent-ineligible concept," such as an abstract idea. *Alice*, 134 S. Ct. at 2355.

> The "directed to" inquiry []cannot simply ask whether the claims *involve* a patent-ineligible concept, because essentially every routinely patent-eligible claim involving physical products and actions *involves* a law of nature and/or natural phenomenon—after all, they take place in the physical world. *See Mayo*, 132 S.

> Ct. at 1293 ("For all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.") Rather, the "directed to" inquiry applies a stage-one filter to claims, considered in light of the specification, based on whether "their character as a whole is directed to excluded subject matter." *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015); *see Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1369, 1375 (Fed. Cir. 2016) (inquiring into "the focus of the claimed advance over the prior art").

Enfish, LLC v. Microsoft Corp., 822 F.3d 1327, 1335 (Fed. Cir. 2016). "The 'abstract idea' step of the inquiry calls upon us to look at the 'focus of the claimed advance over the prior art' to determine if the claim's 'character as a whole' is directed to excluded subject matter." *Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016) (citing *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016)); *see also Enfish*, 822 F.3d at 1335.

In rejecting claims 1–5, 7–11, 13, 14, and 17–21, the Examiner finds "the claims are directed towards determining a margin" (Final Act. 2), and further finds "[p]erforming calculations for determining a margin is a fundamental economic practice and thus, the claims include an abstract idea" (*id.*; *see also id.* at 21). The Examiner also finds

> [t]he claims do not include limitations that are "significantly more" than the abstract idea because the claims 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 an abstract idea to a particular technological environment.

(*Id.*; *see also id.* at 21–25).

In response, Appellants argue the claims "are drawn to patent-eligible subject matter since the claims contain meaningful limitations distinguishing over the prior art and recite an improvement in the field of securities trading

and calculating margin requirements, and therefore is thus not a fundamental economic practice" (Appeal Br. 13–14). More particularly, Appellants argue

> calculation of a single margin requirement for both the at least one securities position and the at least one derivatives position using the three day liquidation period for the at least one securities position and the second different one day liquidation period for the at least one derivatives position in the calculation of the margin requirement is not found in the prior art and thus is not a fundamental economic practice long prevalent in the system of commerce as the court found for the claims in Alice Corp.

(Appeal Br. 14). We cannot agree.

Instead, under step one of the framework set forth in *Alice*, we agree with and adopt the Examiner's findings and reasoning that the claims are directed broadly to the concept of "[p]erforming calculations for determining a margin" (*see* Final Act. 2; *see also* Ans. 31–32 (citing cases with similar abstract ideas), and as such, the claims are directed to a fundamental economic practice long prevalent in our system of commerce given that risk management is intrinsic part of investing money (*cf.* Spec. ¶¶ 2–6), similar to the intermediated settlement of *Alice*, 134 S. Ct. at 2357, and hedging of *Bilski v. Kappos*, 130 S. Ct. 3218, 3231.

And, to the extent Appellants argue that the claims are not directed to an abstract idea because "the claims contain meaningful limitations distinguishing over the prior art" (Appeal Br. 13; *see also* Reply Br. 3), Appellants' argument is not persuasive. In this regard, an abstract idea does not transform into an inventive concept just because the prior art does not disclose or suggest it. *See Mayo*, 132 S. Ct. at 1304–05. 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). Indeed, "[t]he 'novelty' of any element or steps in a process, or even of the process itself, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter." *Diamond v. Diehr*, 450 U.S. 175, 188–89 (1981) (emphasis added); *see also Mayo,* 132 S. Ct. at 1303–04 (rejecting "the Government's invitation to substitute §§ 102, 103, and 112 inquiries for the better established inquiry under § 101").

We also are not persuaded by Appellants' argument that the claims are not directed to an abstract idea because they "recite an improvement in the field of securities trading and calculating margin requirements" (Appeal Br. 13–14; *see also id.* at 15–16). Here, we note that no technological advance is evident in the claims, and Appellants have not provided evidence that the programming related to their "improvement," i.e., calculating a single margin "using the first 3 day liquidation period for the at least one securities position and the second different 1 day liquidation period for the at least one derivatives position" (*see* Appeal Br. 15) entails anything atypical from conventional programming.

Turning to the second step of the *Alice* framework, Appellants argue that the claims qualify as patent-eligible subject matter because the claims "recite an additional element that amounts to significantly more" (Appeal Br. 16–18). More particularly, Appellants argue that

> the claim element set forth in claim 1 of using the three-day liquidation period for the at least one securities position and the second different one-day liquidation period for the at least one

> derivatives position in the calculation of the margin requirement . . . is a specific limitation in claim 1 which is other than what is well-understood, routine and conventional in the field, and adds an unconventional step that confines the claim to a particular useful application.

(Appeal Br. 16). However, we agree with the Examiner that the steps recited by independent claim 1 are "performed by a standard and conventional computer system" (Ans. 33–35 (citing Spec. ¶¶ 33, 35, 40, 42–44, 46, 51, 51, 70, 86–88)) and "the instant application simply instructs the practitioner to implement the abstract idea (i.e. performing calculations for determining a margin) with routine and conventional computerized activity" (Ans. 37) In this regard, the steps of receiving and calculating, as recited by independent claim 1 do not supply an inventive concept because they merely require the application of conventional, well-known analytical steps. *See Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 716 (Fed. Cir. 2014) ("[T]he claimed sequence of steps comprises only 'conventional steps, specified at a high level of generality,' which is insufficient to supply an 'inventive concept.'") (Citing *Alice*, 134 S. Ct. at 2357). We also note that there is no indication in the record that any specialized computer hardware or other non-generic computer components are required. In fact, the Specification observes that "[t]he margin calculation computer server 105 may be any suitable combination of hardware and software to allow for the receipt of data on derivatives and securities positions, and the calculation of a margin requirement based on the data" (Spec. ¶ 33).

And, considered as an ordered combination, the components of Appellants' independent claim 1 add nothing that is not already present when the limitations are considered separately. Viewed as a whole, Appellants' claims simply recite the concept of "determining a margin" for

both securities and derivatives (*see* Final Act. 2) as performed by a server computer (*see* Spec. ¶ 33). The claims do not, for example, purport to improve the functioning of the computer itself. Nor do they effect an improvement in any other technology or technical field. Instead, the claims at issue amount to nothing significantly more than an instruction to apply the abstract idea of "determining a margin," i.e., receiving data and calculating a single margin requirement, which under our precedents, is not enough to transform an abstract idea into a patent-eligible invention. *See Alice*, 134 S. Ct. at 2360.

In view of the foregoing, we sustain the Examiner's rejection under 35 U.S.C. § 101 of independent claim 1, and claims 2–5, 7–11, 13, 14, and 17–21, which fall with independent claim 1.

Obviousness

We are not persuaded by Appellants' argument that the Examiner erred in rejecting independent claim 1 under 35 U.S.C. § 103(a) because Glinberg, upon which the Examiner relies, fails to disclose or suggest limitation [c] of independent claim 1 which recites:

> calculating using the margin calculation computer server a single margin requirement for the clearing member for both the at least one securities position and the at least one derivatives position using said first 3 day liquidation period for the at least one securities position and said second different 1 day liquidation period for the at least one derivatives position in the calculation of the margin requirement.

(*See* Appeal Br. 5–13; *see also* Reply Br. 1–3). Independent claim 21 includes a substantially similar limitation. Instead, we agree with, and adopt the Examiner's findings and rationales, as set forth at pages 3–6 of the Final

Office Action and pages 19–31 of the Answer (*see* Final Act. 4 (citing Glinberg, col. 5, ll. 18–67; col. 10, l. 61 – col. 11, l. 55; col. 17, ll. 39–67; col. 18, l. 14 – col. 19, l. 41; col. 19, l. 61 – col. 23, l. 50; col. 24, l. 14 – col. 25, l. 12; col. 26, l. 26 – col. 27, l. 67; col. 29 – col. 32, l. 40; cols. 33–36; col. 40, l. 6 – col. 42, l. 67; cols. 51–59, 60, 62–63); *see also* Ans. 19–31 (citing Glinberg, col. 2, ll. 40–67; col. 7, l. 56 – col. 8, l. 14; col. 8, ll. 47–65; col. 17, l. 39 – col. 18, l. 7; col. 22, l. 31 – col. 23, l. 50; col. 60, l. 7 – col. 61, l. 48)). We add the following discussion for emphasis.

Glinberg is directed to a method of managing risk associated with a portfolio using a system called Standard Portfolio Analysis of Risk (SPAN). (Glinberg, col. 7, ll. 56–58). Glinberg discloses that "it is desirable to approximate the requisite performance bond or margin requirement as closely as possible to the actual positions of the account at any given time" (*id.* at col. 6, ll. 61–65). Glinberg discloses that its SPAN calculation algorithm is capable of calculating "risk performance bond (margin) requirements . . . for equity securities and debt securities (stocks, bonds, etc.), and options" (*id.* at col. 17, ll. 29–54). Glinberg discloses that its system can perform a SPAN calculation "at either the clearing-level or the customer-level" (*id.* at col. 18, ll. 15–18).

Glinberg discloses that "a customer-level portfolio may have any number of business functions represented within the portfolio" (*id.* at col. 18, ll. 38–39). In this regard, Glinberg discloses "[a] business function represents a particular purpose for which an exchange or clearing organization using SPAN wishes to perform the SPAN calculation or have it performed, at either the clearing-level or the customer-level" (*id.* at col. 18, ll. 15–19). Glinberg further discloses that "[f]or each business function for

which an exchange or clearing organization is using SPAN, the set of products eligible for that business function are grouped into combined commodities" (*id.* at col. 19, ll. 7–10) and "SPAN requirements calculated for individual combined commodities represented in the portfolio are then aggregated to yield SPAN requirements for the different business functions represented within the portfolio, and for the entire portfolio" (*id.* at col. 19, ll. 18–22). Glinberg also discloses "[f]or futures-style products, there is a daily mark-to-market for open positions, and the resulting settlement variation amounts are paid or collected daily. For premium-style products, the full trade price (premium) is paid or collected when the position is opened" (*id.* at col. 30, ll. 33–37). In this regard, Glinberg discloses

> the exchange or clearing organization using SPAN may establish a business rule regarding the timing of the recognition of value for premium-style products. For example, suppose an unsettled trade for a stock done for the current business day is included in the portfolio of positions to be margined, and that this trade will settle three days subsequently. In this case, the clearing organization might decide not to give full or even partial credit for the premium value of this trade until it has settled and the full premium has been paid or collected. If so, the total premium value used for the purpose of determining whether a margin excess or deficit exists, should be adjusted by the amount of this premium value for which credit is not being given.

(*Id.* at col. 31, ll. 7–19).

Appellants acknowledge "that single-pot margining was known [in the] prior art where the same liquidation period was assumed for derivatives and securities" (Appeal Br. 5), but argue

> [c]laim 1 distinguishes over the primary reference Glinberg at least by reciting the at least one securities position as a distinct first liquidation period defined by 3 days, the at least one derivatives position having a distinct different second

> liquidation period defined by 1 day, and the margin calculation computer server calculating a single margin requirement for both the at least one securities position and the at least one derivatives position using said first 3 day liquidation period for the at least one securities position and said second different 1 day liquidation period for the at least one derivatives position in the calculation of the margin requirement.

(*Id.* at 7; *see also* Reply Br. 2–3). We cannot agree.

At the outset, we note that Glinberg discloses a method of managing risk associated with a portfolio using a system called Standard Portfolio Analysis of Risk (SPAN). (Glinberg, col. 7, ll. 56–58). Glinberg discloses that its system is capable of calculating "risk performance bond (margin) requirements . . . for equity securities and debt securities (stocks, bonds, etc.), and options" (*id.* at col. 17, ll. 29–54). Glinberg further identifies that "it is desirable to approximate the requisite performance bond or margin requirement as closely as possible to the actual positions of the account at any given time" (*id.* at col. 6, ll. 61–65).

As the Examiner points out, Glinberg's "SPAN margining method allows for any number of business functions and clearing organizations to be represented in positions for a customer level portfolio across clearing firms" (Ans. 28 (citing Glinberg, col. 26, l. 26 –27, l. 23)). Glinberg discloses that one of these business functions can be related to position types for the position value calculations wherein "[p]roducts can be categorized by whether their valuation method is futures-style or premium-style" (Glinberg, col. 30, ll. 30–37) and further identifies that "futures-style products," i.e., "at least one derivatives position," are settled daily (*see id.* at col. 30, ll. 33–35) whereas "premium-style products," i.e., "at least one securities position," are settled after three days (*see id.* at col. 31. 10–13). Thus, we find supported

the Examiner's position that Glinberg discloses the argued limitation (*see* Ans. 29–31).

In view of the foregoing, we sustain the Examiner's rejection of independent claims 1 and 21 under 35 U.S.C. § 103(a). We also sustain the Examiner's rejections of dependent claims 2–5, 7–11, 13, 14, and 17–20, which are not argued separately (*see* Appeal Br. 13).

DECISION

The Examiner's rejection of claims 1–5, 7–11, 13, 14, and 17–21 under 35 U.S.C. § 101 is affirmed.

The Examiner's rejections of claims 1–5, 7–11, 13, 14, and 17–21 under 35 U.S.C. § 103(a) are affirmed.

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