TOPICS: B–00 Indefiniteness
             J–00 Meaning of Art
             J–50 Mere Plan

SUJETS: B–00 Caractère indéfini
             J–00 Signification de la technique
             J–50 Simple plan

Application No. 2,663,489
Demande n° 2 663 489

IN THE CANADIAN PATENT OFFICE

DECISION OF THE COMMISSIONER OF PATENTS

Patent application number 2 663 489, having been rejected under subsection 30(3) of the *Patent Rules*, has subsequently been reviewed in accordance with paragraph 30(6)(*c*) of the *Patent Rules*. The recommendation of the Patent Appeal Board and the decision of the Commissioner are to refuse the application.

Agent for the Applicant:

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INTRODUCTION

[1] This recommendation concerns the review of rejected patent application number 2 663 489, which is entitled "Advisory thresholds and alerts for managing position concentration risk". The patent application is owned by Intercontinental Exchange Holdings, Inc. The outstanding defects indicated by the Final Action (FA) are that the claims do not define statutory subject matter, contrary to section 2 of the *Patent Act*, and are indefinite, contrary to subsection 27(4) of the *Patent Act*. The Patent Appeal Board (the Board) has reviewed the rejected application pursuant to paragraph 30(6)(*c*) of the *Patent Rules*. As explained below, our recommendation is to refuse the application.

BACKGROUND

The application

[2] Canadian patent application 2 663 489 was filed April 28, 2009 and became open to public inspection on October 30, 2009.

[3] The application relates to the management of position concentration risk by the establishment of thresholds and generation of alerts concerning the levels of such risk.

Prosecution history

[4] On January 28, 2016, an FA was written pursuant to subsection 30(4) of the *Patent Rules*. The FA identified the following defects in the application: claims 1 to 65 (i.e. all claims on file) encompass subject matter outside the definition of invention and thus do not comply with section 2 of the *Patent Act*, and claim 28 is indefinite and thus does not comply with subsection 27(4) of the *Patent Act*.

[5] In its June 8, 2016 response to the FA (RFA), the Applicant submitted arguments for allowance and proposed an amended set of 65 claims (the first proposed claim set) to clarify and make explicit certain points.

[6] The Examiner considered that the amendments would remedy the indefiniteness defect but not the subject matter defect, and was not persuaded by the Applicant's arguments to withdraw the rejection. Therefore, pursuant to subsection 30(6) of the *Patent Rules*, the application was forwarded to the Board for review, along with the Examiner's Summary of Reasons (SOR). On October 11, 2016, the Board sent a

letter to the Applicant acknowledging the rejection and including a copy of the SOR.

[7]   The Applicant responded on January 11, 2017 with submissions for consideration by the Board, another proposed set of 65 claims (the second proposed claim set) and a request for a hearing. In particular, the Applicant submitted that the invention includes essential computer elements and thus defines statutory subject matter. The second proposed claim set emphasizes the involvement of computer and network components.

[8]   A Panel was formed to review the rejected application under paragraph 30(6)(*c*) of the *Patent Rules* and to make a recommendation to the Commissioner as to its disposition. Following our preliminary review, we sent a letter on March 16, 2018 (the PR letter) presenting our analysis and rationale as to why, based on the record before us, the subject matter of the claims on file (as well as of the second proposed claim set) does not comply with section 2 of the *Patent Act*, and claim 28 complies with subsection 27(4) of the *Patent Act* and section 84 of the *Patent Rules*.

[9]   The Applicant responded to the PR letter on May 3, 2018 (RPR) with a new proposed set of 65 claims (the third proposed claim set) and further written submissions arguing for allowance. The third proposed claim set is similar to the set of claims on file but proposed independent claims 1, 28 and 39 emphasize the generation and communication of the advisory alert, and proposed independent claim 60 adds the step of imposing the intervening measures.

[10]   A hearing was held via videoconference on May 17, 2018, at which the Applicant largely argued the submissions that had been included with the RPR.

ISSUES

[11]   The issues to be addressed by this review are:

- whether the claims on file define subject matter falling within the definition of invention in section 2 of the *Patent Act*; and
- whether claim 28 on file distinctly, explicitly and clearly defines the invention and is fully supported by the description, thus complying with subsection 27(4) of the *Patent Act* and section 84 of the *Patent Rules*.

[12]   If we conclude the claims on file to be defective, we will consider if the third
         proposed claim set would constitute a necessary specific amendment under
         subsection 30(6.3) of the *Patent Rules*.

LEGAL PRINCIPLES AND PATENT OFFICE PRACTICE

Purposive construction

[13]   In accordance with *Free World Trust v Électro Santé Inc*, 2000 SCC 66 [*Free World
         Trust*], essential elements are identified through a purposive construction of the
         claims done by considering the whole of the disclosure, including the specification
         and drawings (see also *Whirlpool Corp v Camco Inc*, 2000 SCC 67 at paragraphs
         49(f) and (g) and 52 [*Whirlpool*]). In accordance with the *Manual of Patent Office
         Practice*, revised April 2018 (CIPO) at §13.05 [*MOPOP*], the first step of
         purposive claim construction is to identify the skilled person and his or her relevant
         common general knowledge (CGK). The next step is to identify the problem
         addressed by the inventors and the solution put forth in the application. Essential
         elements can then be identified as those required to achieve the disclosed solution
         as claimed.

[14]   In its RPR and at the hearing, the Applicant disagreed with the approach described
         in *MOPOP*. The Applicant submitted that these guidelines and their application are
         valid and lawful only if they correctly apply the principles of claim construction set
         forth in *Free World Trust* and *Whirlpool*. The Applicant also submitted that these
         guidelines do not comply with the principles and guidelines set out in *Canada (AG)
         v Amazon.com Inc*, 2011 FCA 328 [*Amazon.com*].

[15]   According to the Applicant's submissions, *Free World Trust* and *Whirlpool* show
         that an element is only non-essential if the skilled reader would have understood
         from the claim language that the inventor intended it not to be essential *and* the
         skilled reader would have appreciated, as of the publication date, that the element
         could be substituted without affecting the working of the invention. For support,
         the Applicant also referred to *Bauer Hockey Corp v Easton Sports Canada Inc*,
         2010 FC 361, aff'd 2011 FCA 83.

[16]   The approach described in *MOPOP* was developed in response to *Amazon.com* and
         thus reflects the principles of that case, as well as of the earlier *Free World Trust*
         and *Whirlpool* cases.

[17]   For example, *Amazon.com* at paras 43, 44, 47, 61–63, 69, 71, 73–74 explains that purposive construction "cannot be determined solely on the basis of a literal reading of the patent claims", that claim language may be "deliberately or inadvertently deceptive", that a claimed practical application or embodiment may nonetheless not be part of the essential elements of a claimed invention, that purposive construction must be based on "a foundation of knowledge about the relevant art" and that without such a foundation, a presumption of essentialness may not be well informed.

[18]   The guidance of *MOPOP* at § 13.05.02*b* echoes these principles: a properly informed purposive construction must consider the application as a whole—including the problem addressed by the application and its solution. The mere presence of an element in the claim language chosen by the inventor cannot override all other considerations during purposive construction of the claims.

[19]   In addition, *Easton Sports Canada Inc v Bauer Hockey Corp*, 2011 FCA 83 at paras 31, 33, 39–40 confirms that *Free World Trust* sets out the requirements for non-essentiality in the alternative. That is to say, an element is non-essential if the claim language indicates so *or* if the substitutability of the element would have been appreciable.

Statutory subject matter

[20]   The definition of invention is set out in section 2 of the *Patent Act*:

> "Invention" means any new and useful art, process, machine, manufacture or composition of matter, or any new and useful improvement in any art, process, machine, manufacture or composition of matter.

[21]   "Examination Practice Respecting Computer-Implemented Inventions", PN2013–03 (CIPO, March 2013) [*PN2013–03*] clarifies the Patent Office's approach to determining if a computer-related invention is statutory subject matter.

[22]   As explained in *PN2013–03*, where a computer is found to be an essential element of a construed claim, the claimed subject matter is not a disembodied invention (e.g. a mere idea, scheme, plan or set of rules, etc.), which would be non-statutory.

Indefiniteness

[23] Subsection 27(4) of the *Patent Act* requires claims to distinctly and explicitly define subject matter:

> The specification must end with a claim or claims defining distinctly and in explicit terms the subject-matter of the invention for which an exclusive privilege or property is claimed.

[24] Subsection 84 of the *Patent Rules* requires claims to be clear:

> The claims shall be clear and concise and shall be fully supported by the description independently of any document referred to in the description.

[25] In *Minerals Separation North American Corp v Noranda Mines Ltd*, [1947] Ex CR 306 at 352, 12 CPR 99, the Court emphasized the obligation of an applicant to make clear in the claims the ambit of the monopoly sought, and the requirement that the terms used in the claims be clear and precise:

> By his claims the inventor puts fences around the fields of his monopoly and warns the public against trespassing on his property. His fences must be clearly placed in order to give the necessary warning and he must not fence in any property that is not his own. The terms of a claim must be free from avoidable ambiguity or obscurity and must not be flexible; they must be clear and precise so that the public will be able to know not only where it must not trespass but also where it may safely go.

ANALYSIS

Purposive construction

The skilled person

[26] In the PR letter, we identified the notional skilled person as a team comprising a professional experienced in the supervision of the risk of trading accounts managed, administered and overseen by clearing firms. The team also comprises a programmer or other technologist experienced with developing (or selecting) and using the software, tools and infrastructure to support such professionals. The Applicant has not disputed this identification and we adopt it here.

The CGK

[27]   Based on the identification of the CGK in the FA and on the application's description of the state of the art (paragraphs 2 and 12), we identified the following concepts as CGK in the PR letter:

- computers are useful for performing computations faster than if done mentally or using pen and paper;
- computer systems are used to track and monitor data, and are particularly useful in the financial field;
- computer systems are used to transfer information over a network between two disparate locations;
- clearing firms supervise the risk of accounts which they manage, administer and otherwise oversee; and
- the concept of position concentration risk when a customer has one or more trading accounts at multiple clearing firms.

[28]   The Applicant has not disputed these identifications and we adopt them here.

The problem and solution

[29]   We presented our preliminary view in the PR letter that the problem is a lack of information regarding the concentration risk of each total account position, and that the solution does not lie in real-time calculation or computer network communications but is a scheme for providing alerts or determining to impose intervening measures when a trader's aggregate account position exceeds an established threshold.

[30]   The Applicant disagreed in the RPR with this assessment of the solution as it pertained to claims 1 to 59, submitting that it "does indeed lie in computer network communication" because such communication is required to generate and communicate the advisory alerts:

> The claimed solution does not merely "determin[e] when to provide alerts" as the Panel has suggested. The claimed solution includes additional, tangible actions that are performed in response to determining when to provide an alert. The tangible actions include *generating an advisory alert* and *communicating the advisory alert*. [Emphasis in original.]

[31]   The Applicant repeated this argument at the hearing, emphasizing that the claimed solution includes the *automatic* generation and communication of the alerts.

[32]   As we noted in the PR letter, the description (paragraph 2) explains that position concentration risk of an account that clears multiple clearing firms may pose problems and uncertainties for individual clearing firms because each lacks information of the aggregate risk of the account across the firms. Some sort of advisory alert, indication or update regarding the overall concentration risk of each total account position is needed. As a solution, the application (paragraphs 2, 3 and 14) proposes the establishment of a threshold level for an aggregate trader position, the aggregation of a parameter value associated with each of the customer accounts, the comparison of the aggregate parameter with the threshold value and, if the threshold value is exceeded, the generation and provision of an advisory alert. As an alternative to the provision of an alert, the description (paragraphs 6 and 31) proposes the determination of whether or not to impose some intervening measures to regulate transactions impacting the trader's position.

[33]   The description (e.g. paragraphs 24 to 29) does not refer to any challenges in the computer implementation of the solution or describe how the communication, compilation and aggregation of parameter values is done, how alerts are automatically generated or how real-time calculations and communications are done—when any are done at all. The passages (paragraphs 33 to 40 and 59) describing possible hardware configurations are high level and refer to generic components.

[34]   Thus, given the level and nature of the detail in the description regarding the implementation, the skilled person would understand the proposed solution not to lie in the automatic generation of alerts, real-time calculation or computer network communications. This understanding would be supported by the inclusion of computing systems and computer communications networks within the CGK.

[35]   Therefore, we see the solution as the scheme for providing advisory alerts or determining to impose intervening measures when a trader's aggregate account position exceeds an established threshold.

The essential elements

[36]   For convenience, independent claims 1, 39 and 60 are provided below as representatives of the claims on file. Independent claim 28 recites a system corresponding to the method of claim 1.

>   Claim 1.   A method of managing a position concentration risk of an
>   account, comprising:

establishing a threshold level for an aggregate trader position that is associated with one or more customer accounts, said customer accounts being managed by one or more clearing firms;

aggregating an actual parameter value across all of said customer accounts to determine an aggregate parameter value;

comparing the aggregate parameter value with the threshold level;

automatically generating an advisory alert if, based on the comparing step, it is determined that the aggregate parameter value has met or exceeded the threshold level; and

communicating the advisory alert to an authorized entity,

wherein each of the foregoing steps are performed via at least one computing device comprising a memory for storing instructions and a processor for executing said instructions.

Claim 39.   A method of managing a position concentration risk of an account, comprising:

establishing a threshold level for a trader position associated with a customer account, said trader position comprising one or more contracts for the purchase or sale of a commodity, said customer account clearing across one or more clearing firms;

comparing an actual parameter value associated with said trader position against the threshold level;

automatically generating an advisory alert if, based on the comparing step, it is determined that the actual parameter value has met or exceeded the threshold level; and

communicating the advisory alert to an authorized entity,

wherein each of the foregoing steps are performed via at least one computing device comprising a memory for storing instructions and a processor for executing said instructions.

Claim 60.　　A method of managing a position concentration risk of an account, comprising:

establishing a threshold level for a trader position associated with a customer account, said trader position comprising one or more contracts for the purchase or sale of a commodity, said customer account clearing across one or more clearing firms;

determining an actual parameter value associated with the trader position;

comparing the actual parameter value associated with said trader position against the threshold level; and

determining, based on the comparing step, whether to impose one or more intervening measures to regulate transactions that impact the trader position's actual parameter value,

wherein each of the foregoing steps are performed via at least one computing device comprising a memory for storing instructions and a processor for executing said instructions.

[37]　The PR letter expressed our preliminary view that since the problem is not one of computer implementation and the solution does not lie in real-time calculation or computer network communications, the essential elements of the claims on file do not include any computerized elements. The Applicant disagreed, submitting in the RPR and at the hearing that the essential elements (for claims 1 to 59) include the automatic generation and communication of the advisory alerts—that is, the automatic generation of an electronic communication, then its transmission via a computer network.

[38]　As explained in *MOPOP* at §13.05.02*c*, not every element having a material effect on the operation of a given embodiment is essential to the solution; some recited elements define the context or environment of the embodiment but do not actually change the nature of the solution. Accordingly, purposive construction must consider which elements are required for the solution—proposed by the description and underlying the claimed embodiment—to achieve its result.

[39]　As identified above, the solution does not lie in the technology of generating or communicating alerts, but in the scheme and rules for determining when to provide alerts or impose intervening measures. The computer implementation of the scheme is not the focus of this application, and is made up of details from the CGK. Therefore, the skilled person would understand the computer components not to be essential.

[40]   We consider the wording differences between the dependent claims and the independent claims from which they stem to simply reflect different embodiments of the same set of essential elements.

[41]   Therefore, claims 1 to 38 on file share the set of essential elements:

- establishing a threshold level for an aggregate trader position that is associated with one or more customer accounts, said customer accounts being managed by one or more clearing firms;
- aggregating an actual parameter value across all of said customer accounts to determine an aggregate parameter value;
- comparing the aggregate parameter value with the threshold level; and
- alert an authorized entity if, based on the comparing step, it is determined that the aggregate parameter value has met or exceeded the threshold level.

[42]   Also, claims 39 to 59 on file share the set of essential elements:

- establishing a threshold level for a trader position associated with a customer account, said trader position comprising one or more contracts for the purchase or sale of a commodity, said customer account clearing across one or more clearing firms;
- comparing an actual parameter value associated with said trader position against the threshold level; and
- alert an authorized entity if, based on the comparing step, it is determined that the actual parameter value has met or exceeded the threshold level.

[43]   Finally, claims 60 to 65 on file share the set of essential elements:

- establishing a threshold level for a trader position associated with a customer account, said trader position comprising one or more contracts for the purchase or sale of a commodity, said customer account clearing across one or more clearing firms;
- determining an actual parameter value associated with the trader position;
- comparing the actual parameter value associated with said trader position against the threshold level; and
- determining, based on the comparing step, whether to impose one or more intervening measures to regulate transactions that impact the trader position's actual parameter value.

Statutory subject matter

[44]   As construed above, the essential elements are the schemes or rules for determining when to provide alerts or impose intervening measures. As stated in the PR letter, such matter does not manifest a discernible effect or change of character or condition in a physical object. It merely involves the carrying out of a plan or theory of action without the production of any physical results proceeding directly from the operation of the theory or plan itself. Such matter is outside the categories of invention in section 2.

[45]   The Applicant submitted in the RPR letter and during the hearing that the claimed solution includes the tangible and physical actions of generating and electronically communicating the alerts, as these actions proceed directly from the schemes for determining to do so. These actions would necessarily result in a discernible effect or change, submitted the Applicant.

[46]   We disagree that the claims define physical steps causing a discernible effect or change. The proposed schemes and rules for determining when to provide alerts concern the manipulation and provision of information with certain meaning or intellectual significance; the output of such information does not manifest a discernible effect or change in the relevant sense.

[47]   In addition, as explained above, the steps of generating and communicating alerts are not essential to the identified solution of determining when to provide them. The skilled person would instead consider them to amount to steps for providing some post-solution activity or functionality, to provide context to the solution, but not to be essential elements of the solution itself.

[48]   Therefore, claims 1 to 65 on file do not define statutory subject matter and thus do not comply with section 2 of the *Patent Act*.

Indefiniteness

[49]   Claim 28 on file recites a "system" comprising, among other things, a "software application stored on a server". The Examiner submitted in the FA that this claim is indefinite because although a physical system can comprise a server storing software, it cannot comprise abstract software stored on a server.

[50] Our preliminary view set out in the PR letter was that the claim complies with subsection 27(4) of the *Patent Act* and section 84 of the *Patent Rules*:

> *MOPOP* at §16.08.04 explains that since software is considered abstract, a claim intended to protect software (or a software product) must be directed to the physical medium storing the software as opposed to the software stored on the medium. Claim 28, however, is not directed to a software product like those described in *MOPOP*. The system of claim 28 comprises not only the software stored on the server but also data terminals coupled to the server. Given this wording and the context of the claim, our preliminary view is that the skilled person would readily understand the claimed embodiment to be a computer system comprising a server and data terminals, wherein the server stores software.

[51] This is our view now, as well.

Proposed claims

[52] As stated above, independent claims 1, 28 and 39 of the third proposed claim set emphasize the generation and communication of the advisory alert, and independent claim 60 of the third proposed claim set includes an added step of imposing the intervening measures.

[53] The differences between the third proposed claim set and the claims on file would not alter the above identifications of the skilled person, CGK, or the problem and solution. Regarding claims 1 to 59 claims on file, we explained above why the steps of generating and communicating the alert neither manifest a discernible effect or change, nor constitute essential elements of the solution for the claims on file; this reasoning would also apply to the proposed amendments.

[54] As for proposed claims 60 to 65, the added step of imposing an intervening measure, like the computerized implementation, is part of the working environment or context, not an essential part of the solution itself. The skilled person would understand the problem and solution not to concern automatic control of a trader's online account, but rules for determining if and when any intervening measures should be imposed.

[55] We construe the third proposed claim set as having the same essential elements as those of the corresponding claims on file. Accordingly, given that the essential elements include only schemes or rules for determining when to provide alerts or

impose intervening measures, our view concerning non-statutory subject matter also applies to the third proposed claim set.

[56]   It follows that the third proposed claim set is not considered a necessary specific amendment under subsection 30(6.3) of the *Patent Rules*.

RECOMMENDATION OF THE BOARD

[57]   In view of the above, the Panel recommends that the application be refused on the basis that claims 1 to 65 define non-statutory subject matter and thus do not comply with section 2 of the *Patent Act*.

Leigh Matheson	Lewis Robart	Andrew Strong
Member	Member	Member

DECISION OF THE COMMISSIONER

[58]   I concur with the findings of the Board and its recommendation to refuse the application. The claims on file do not comply with section 2 of the *Patent Act*.

[59]   Accordingly, I refuse to grant a patent for this application. Under section 41 of the *Patent Act*, the Applicant has six months to appeal my decision to the Federal Court of Canada.

Johanne Bélisle
Commissioner of Patents
Dated at Gatineau, Quebec,
this 4th day of July , 2018