TOPIC: A11   New Matter

                B00   Ambiguity or Indefiniteness (incomplete)

                J00   Meaning of Art

                J10   Computer Programs

SUJET :   A11   Nouvelle matière

                B00   Caractère ambigu ou indéfini (incomplet)

                J00   Signification de la technique

                J10   Programmes d'ordinateur

Application No. 2596761
Demande nᵒ 2 596 761

IN THE CANADIAN PATENT OFFICE

DECISION OF THE COMMISSIONER OF PATENTS

Patent application number 2,596,761, having been rejected under subsection 30(3) of the *Patent Rules* (SOR/96–423) as they read immediately before October 30, 2019, has consequently been reviewed in accordance with paragraph 199(3)(c) of the *Patent Rules* (SOR/2019–251). The recommendation of the Patent Appeal Board and the decision of the Commissioner are to refuse the application.

Agent for the Applicant:

Dickinson Wright LLP
2200–199 Bay Street
PO Box 447, Commerce Court Postal Station
Toronto, Ontario
M5L 1G4

INTRODUCTION

[1]   This recommendation concerns the review of rejected Canadian patent application number 2,596,761, which is entitled "SYSTEMS AND METHODS FOR MAINTAINING THE VIABILITY OF A MARKET ORDER TYPE IN FLUCTUATING MARKETS" and is owned by BGC PARTNERS, INC. A review of the rejected application has been conducted by the Patent Appeal Board ("the Board") pursuant to paragraph 199(3)(c) of the *Patent Rules* (SOR/2019–251) ("*Patent Rules*"). As explained in more detail below, the Board's recommendation is that the Commissioner of Patents refuse the application on the basis that the claims on file are directed to non-patentable subject-matter.

BACKGROUND

The application

[2]   The application was filed under the provisions of the *Patent Cooperation Treaty* and has an effective filing date in Canada of August 1, 2006. It was laid open to public inspection on February 8, 2007.

[3]   The application relates to electronic trading systems and methods that apply rules governing the manner in which market orders (orders to buy or sell a stock at the current market price) are handled when they are submitted. The application proposes that a determination is performed upon submission of a market order for an item as to the stability of the current market price of the item. If certain stability criteria are satisfied, then the market order is executed. If the stability criteria are not satisfied, the market order is converted to a resting order and its price modified.

Prosecution history

[4]   On September 20, 2018, a Final Action ("FA") was written pursuant to subsection 30(3) of the *Patent Rules* (SOR/96–423) as they read immediately before October 30, 2019. The FA stated that the application is defective on the ground that all of the claims 1–33 on file at the time of the FA ("claims on file") encompass non-patentable subject-matter and do not therefore comply with section 2 of the *Patent Act*.

[5]   In a March 3, 2020 response to the FA ("R-FA"), the Applicant provided a proposed set of amended claims 1–31 and arguments in favor of patentability that focussed on the language of the proposed set of amended claims.

[6]   As the Examiner considered the application not to comply with the *Patent Act*, pursuant to subsection 199(3) of the *Patent Rules*, the application was forwarded to the Board for review on May 27, 2020 along with an explanation outlined in a Summary of Reasons ("SOR"). The SOR indicated that the claims on file remained defective on the basis of non-patentable subject-matter and that the proposed claims were similarly directed to non-patentable subject-matter. The SOR indicated that proposed claims 1, 11 and 22 included language that was not supported by the originally file application and that proposed claim 1 lacked clarity.

[7]   The patentable subject-matter analysis in both the FA and SOR was based on the now outdated analysis set out in the *Manual of Patent Office Practice*, revised June 2015 (CIPO) at §12.02.

[8]   In a letter dated May 29, 2020, the Board forwarded to the Applicant a copy of the SOR and requested that the Applicant confirm their continued interest in having the application reviewed.

[9]   No response was received to the May 29, 2020 letter.

[10]   The undersigned was assigned to review the instant application and to make a recommendation to the Commissioner of Patents as to its disposition.

[11]   In a Preliminary Review letter ("PR letter") sent June 7, 2022, I set out my preliminary analysis of the patentable subject-matter issue with respect to the claims on file and the proposed claims. I was of the preliminary view that the claims on file are directed to non-patentable subject-matter, the same being true of the proposed claims. I was also of the preliminary view that proposed claims 1, 11 and 22 were not defective as adding impermissible new matter contrary to section 38.2 of the *Patent Act* (this basis having been substituted for the lack of support issue identified in the SOR under section 60 of the *Patent Rules*). Further, I was of the preliminary view that proposed claim 1 was defective as lacking clarity.

[12]   The PR letter also provided the Applicant with an opportunity to make both written and oral submissions.

[13]   In a response dated June 22, 2022, the Applicant declined the opportunity for an oral hearing but indicated that written submissions would be provided.

[14]   Written submissions in response to the PR letter ("R-PR") were provided on June 30, 2022. The R-PR provided arguments in relation to the patentable subject-matter issue, including the applicable law and Office Practice. The Applicant pointed to the then recently released Federal Court decision in *Benjamin Moore & Co v Canada (Attorney General), 2022 FC 923* and the three-part test set out therein for assessing patentability.

[15]   With the R-PR, the Applicant submitted a new set of proposed claims (labelled "Claimset C" in the R-PR) to replace the proposed claims submitted with the R-FA.

[16]   With the release of the Federal Court of Appeal decision in *Canada (Attorney General) v Benjamin Moore & Co*, 2023 FCA 168 [*Benjamin Moore FCA*], in order to ensure that the Applicant was given full notice of the issues to be addressed, I reviewed the PR letter and the submissions in the R-PR and provided an updated analysis in view of the commentary of the Court in *Benjamin Moore FCA*. This Supplemental Preliminary Review letter ("SPR letter") sent November 29, 2023, also provided the Applicant with a further opportunity to make oral and written submissions.

[17]   In a response dated December 13, 2023, the Applicant declined the further opportunity to make oral and written submissions.

[18]   I have completed a review of the instant application and provide below a final analysis.

ISSUES

[19]   The principle issue to be addressed by this review is whether claims 1–33 of the instant application are defective as lacking patentable subject-matter and are therefore non-compliant with section 2 of the *Patent Act*. As was the case in the SPR letter, this also involves a question of compliance with subsection 27(8) of the *Patent Act*.

[20]   After considering the claims on file, I review the latest proposed claims submitted with the R-PR (i.e., Claimset C) to determine if they would be considered a necessary amendment under subsection 86(11) of the *Patent Rules*.

CLAIM CONSTRUCTION

Legal Principles and Office Practice

[21]   Purposive Construction is antecedent to any consideration of validity (*Free World Trust v Électro Santé Inc*, 2000 SCC 66 [*Free World Trust*] at para 19).

[22]   In accordance with *Free World Trust* and *Whirlpool Corp v Camco Inc*, 2000 SCC 67, purposive construction is performed from the point of view of the person skilled in the art in light of the relevant common general knowledge ("CGK"), considering the whole of the disclosure including the specification and drawings. In addition to interpreting the meaning of the terms of a claim, purposive construction distinguishes the essential elements of the claim from the non-essential elements. Whether an element is essential depends on the intent expressed in or inferred from the claim, and on whether it would have been obvious to the skilled person that a variant has a material effect upon the way the invention works.

[23]   "Patentable Subject-Matter under the *Patent Act*" (CIPO, November 2020) [*PN2020–04*] notes that all elements in a claim are presumed essential unless such presumption is contrary to the claim language, or it is established otherwise (see also *Free World Trust* at para 57, *Distrimedic Inc v Dispill Inc*, 2013 FC 1043 at para 201).

Analysis

[24] In the SPR letter at pages 4 to 6, I set out a preliminary analysis in respect of the purposive construction of the claims on file, including identification of the person skilled in the art and the relevant CGK, as well as the essential elements:

The person skilled in the art

In the FA at page 3, the identification of the person skilled in the art was set out:

> [t]he skilled person would comprise a team of financial traders and computer programmers.

The above was not disputed by the Applicant in the R-FA or the R-PR and I adopt it for the purpose of this supplementary review.

The relevant common general knowledge

In the FA at page 3, the relevant CGK was identified:

> The common general knowledge is demonstrated by the background descriptions of the instant application (paras 0001–0004), as well as documents D3 and D6.

> The financial traders would be familiar with investment concepts and practices including the automated trading of financial instruments such as equities and bonds through electronic trading exchanges.

> The computer programmers would be familiar with standard networking architectures, tailoring of investment software applications including user interfaces to meet specific trading product requirements, database programming, as well as common computing equipment hardware.

The above references to documents D3 and D6 relate to the following prior art documents:

D3:   US 2004/0177024   Bok et al.   September 9, 2004

D6:   US 2005/0075963   Balabon et al.   April 7, 2005

No specific references were made to these documents in the FA other than the above references in the CGK. I take the statement of the relevant CGK as meaning that the general points of CGK set out are supported by the background of the instant application as well as the BACKGROUND OF THE INVENTION sections of D3 and D6.

None of the above was disputed by the Applicant in the R-FA or R-PR and I preliminarily adopt the above CGK for the purpose of this supplementary review.

The claims on file

The instant application contains three independent claims 1, 12 and 23, directed to a method, apparatus for performing the method steps and a non-transitory computer readable medium storing instructions that, when executed by at least one processor, perform the method steps, respectively. I take claim 1 on file as representative:

1. A method comprising:

setting, by a processor of an electronic trading server, a price stability threshold before receipt of a market order to buy or sell an item at a current market price in an electronic market comprising a network of computers;

receiving, by the processor, the market order from a computer of the network of computers;

determining, by the processor, when the market order is detected, a stability of the current market price of the item as the

item is being bought and sold throughout the network of computers;

determining whether the stability of the current market price meets the price stability threshold;

in response to determining that the stability of the current market price does not meet the price stability threshold, modifying, by the processor, the market order, based on a system defined modification, to be a resting order with a modified price that is a certain price difference away from the current market price for the item and placing, by the processor, the resting order in the electronic market at the modified price; and

in response to determining that the stability of the current market price meets the price stability threshold, placing, by the processor, the market order in the electronic market at a market price of opposite-side orders for immediate execution against an opposite-side order.

I note that there have been no issues raised during the prosecution of the instant application in regard to the meaning or scope of any of the terms used in the claims on file. I proceed below on the basis that the meaning and scope of the claims would have been clear to the skilled person.

The subject-matter of the dependent claims is addressed as needed below.

The essential elements

The FA presented at pages 2–4 an analysis of the purposive construction of the claims on file in accordance with the guidance set out in the *Manual of Patent Office Practice*, (CIPO) at §12.02, revised June 2015. As this approach was superseded by *PN2020–04*, the PR letter presented a revised identification of the essential

elements of the claims on file, which has not been altered by this supplementary review.

PN2020–04 states in respect of the identification of essential/non-essential elements that:

> In carrying out this identification of essential and non-essential elements, all elements set out in a claim are presumed essential, unless it is established otherwise or is contrary to the language used in the claim.

With respect to the claims on file, the person skilled in the art would understand that there is no use of language in any of the claims indicating that the elements in each claim are optional, alternatives or a preferred embodiment.

I note that the Applicant did make submissions in relation to the legal basis for the purposive construction of the claims in the FA, but they were in response to the analysis performed in accordance with previous office practice, now superseded by *PN2020–04*.

The Applicant did not contest any of the above in the R-PR.

Consistent with the PR letter, in my preliminary view, all the elements of the claims on file are considered to be essential, including the computer implementation and computer-related elements.

[25]   With no submissions having been made in response to the SPR letter, I proceed on the basis of the claim construction analysis set out therein.

PATENTABLE SUBJECT-MATTER

Legal Principles and Office Practice

[26]   Any patentable invention must fall within the definition set out in section 2 of the *Patent Act*, including falling within one of the categories defined therein:

> "***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.

[27]   Subsection 27(8) of the *Patent Act* also prescribes that:

> No patent shall be granted for any mere scientific principle or abstract theorem.

[28]   *PN2020–04* describes the Patent Office's approach to determining if a claim is patentable subject-matter:

> To be both patentable subject-matter and not be prohibited under subsection 27(8) of the *Patent Act*, the subject-matter defined by a claim must be limited to or narrower than an actual invention that either has physical existence or manifests a discernible physical effect or change and that relates to the manual or productive arts, meaning those arts involving or concerned with applied and industrial sciences as distinguished in particular from the fine arts or works of art that are inventive only in an artistic or aesthetic sense.

[29]   The determination of the actual invention is a relevant and necessary question in assessing patentable subject-matter (*Canada (Attorney General) v Amazon.com Inc*, 2011 FCA 328 [*Amazon*] at para 42). As stated by the Federal Court of Appeal in *Benjamin Moore FCA* at para 68, this determination is in line with that Court's statement in *Schlumberger Canada Ltd v Commissioner of Patents*, [1982] 1 FC 845 (CA) [*Schlumberger*] that a patentable subject-matter assessment involves determining what according to the application has been

discovered. The actual invention is identified in the context of the new discovery or knowledge and must ultimately satisfy the "physicality requirement" that is implicit in the definition of "invention" (*Amazon* at paras 65 and 66).

[30]   *Amazon* at para 44 tells us that "a patent claim may be expressed in language that is deliberately or inadvertently deceptive" and that what appears on its face to be an "art" or "process" may in fact be a claim to an unpatentable mathematical formula, as was the case in *Schlumberger*.

[31]   This sentiment is expressed in the position of the *Amazon* Court that the presence of a practical application may not, in some cases, be sufficient to satisfy the physicality requirement, which requires something with physical existence, or something that manifests a discernible effect or change (*Amazon* at paras 66 and 69). To illustrate this point, *Amazon* referred to *Schlumberger*, where the claims "were not saved by the fact that they contemplated the use of a physical tool, a computer, to give the novel mathematical formula a practical application" (*Amazon* at para 69).

[32]   The patentable subject-matter concerns regarding the well-known use of a computer to process an algorithm, illustrated by *Schlumberger*, are expressed in the factors set out in *PN2020–04* that may be considered when reviewing computer-implemented inventions, namely:

- the mere fact that a computer is among the essential elements of the claimed invention does not necessarily mean that the claimed invention is patentable subject-matter;

- an algorithm itself is abstract, unpatentable subject-matter and prohibited by subsection 27(8) of the *Patent Act*;

- a computer programmed to merely process an abstract algorithm in a well-known manner without more will not make it patentable subject-matter; and

- if processing an algorithm improves the functionality of the computer, then the computer and the algorithm would together form a single actual invention that would be patentable.

[33] The above factors and the general concerns around the well-known use of a computer to process new abstract algorithms can be seen to involve considerations of novelty or ingenuity. Canadian law does not prohibit considerations of the novelty or ingenuity of elements of a claim in considering patentable subject-matter and finds support in situations like that of *Schlumberger* where a known tool, a computer, is used to give an abstract mathematical formula a practical application (*Benjamin Moore FCA* at paras 69–70, referring to *Amazon*). These considerations assist in the determination of the discovery or new knowledge, the method of its application and the actual invention (*Benjamin Moore FCA* at para 89) that is ultimately measured against the physicality requirement.

[34] As noted in *Benjamin Moore FCA* at para 94 (and similarly expressed in *Amazon* at para 61), the physicality requirement will not likely be satisfied without something more than only a well-known instrument, such as a computer, being used to implement an abstract method. The factors set out above from *PN2020–04* assist in determining whether something more is present.

Applicant's submissions on the applicability of PN2020–04

[35] As stated in the SPR letter, in the R-PR at pages 4–5, the Applicant contended that in light of the Federal Court of Canada decision in *Benjamin Moore & Co v Canada (Attorney General)*, 2022 FC 923, the guidance set out in *PN2020–04* was no longer applicable and that the instant application should be assessed in accordance with the three-part test set out by the Federal Court in that case.

[36]   I noted in the SPR letter that the Federal Court of Appeal in *Benjamin Moore FCA* rejected and set aside the three-part test set out by the Federal Court. The Federal Court of Appeal also ordered that the Benjamin Moore applications be redetermined in accordance with the latest Patent Office practice with the benefit of the Federal Court of Appeal's reasons. I therefore consider the guidance set out in *PN2020–04* to remain applicable.

Analysis

[37]   In the SPR letter at pages 8 to 11, I set out my preliminary analysis of the patentable subject-matter issue:

> Claim 1 sets out a computer-implemented method wherein prior to reception of a market order to buy or sell an item, a price stability threshold is set. When the market order is received, a processor determines if the price stability threshold has been met. If the result is negative, then the system modifies the price of the order and places it in the market as a resting order that will be matched and executed when the modified price is met. If the result is positive, the market order is placed in the market at a market price for opposite-side orders (to buy or sell) for immediate execution at an opposite-side price.

> The above method, according to the instant application at page 1, is intended to deal with an issue where prices may quickly change in fast-moving markets such that the price at the time an order is placed may not match what was previously obtained from a quote service or from a broker.

> Paragraphs [0024] to [0031] discuss the computer system that may be used to implement the disclosed method, with reference to Figures 1 and 2. These passages describe generic computer workstations, servers, networks and communications links, as well as generic graphical user interface ("GUI") technology for providing user interface screens. Also discussed are generic input devices to enter commands and values.

In my preliminary view, claim 1 sets out a series of data manipulation and analysis steps that form a stock trading algorithm, implemented by generic computer processing systems using generic computer input means. There is no suggestion in claim 1 or the rest of the specification that the input and data processing means associated with the electronic trading system are anything more than the well-known generic reception and processing of data according to an algorithm, in this case a trading algorithm.

In relation to the generic nature of the computer-related elements used in the claims on file, at page 8 of the R-PR, the Applicant contended that:

> A user or system using the electronic trading server as operated by the method would find its operation, effect and utility to be discernable from an electronic trading server not operated by the method.

The Applicant also contended at page 17 of the R-PR that:

> Claim 1 recites a method for operating a particular machine—an electronic trading server, in an electronic market.

> Generic computer systems cannot do these things, and there are even other electronic trading systems that cannot do the things that are claimed. This had been established during prosecution because there is no concern about the claims being "well-known" or obvious.

However, an electronic server is not made unique solely because it is running a new trading algorithm, any more than the computer used in *Schlumberger* was unique because it was performing the specific mathematical operations set out in those claims. As discussed in [*Benjamin Moore FCA*] at para 94, the physicality requirement of *Amazon* will not likely be satisfied without more than only a well-known instrument, such as a computer (or in this case a server), being used to implement an abstract method. The trading algorithm behind the claimed subject-matter is itself a set of abstract data manipulation and analysis steps, the

implementation of which by means of a computer system is not in and of itself, sufficient to satisfy the physicality requirement, as was the case in *Schlumberger*. Something more is required.

In consideration of whether something more is present to satisfy the physicality requirement from *Amazon*, in accordance with *PN2020–04* and the illustrative examples attached to it, the question is whether or not the computer forms part of the actual invention (or to use the language from [*Benjamin Moore FCA*], whether the "new knowledge" or "discovery" includes the computer implementation). As indicated in *PN2020–04* and set out above in the list of factors taken therefrom, if the processing of an algorithm on a computer improves the functioning of the computer, then the computer and the algorithm together form a single actual invention that solves a problem related to the manual or productive arts and the subject-matter defined by the claim is patentable. In the language of [*Benjamin Moore FCA*], the new knowledge or discovery would include something that would satisfy the physicality requirement.

In the R-FA at page 3, the Applicant contended that the instant application "involves a particular way of causing an electronic trading system to be *capable of* applying rules", that the trading server is made capable of using a price stability threshold to potentially automatically change the market order itself after order entry is completed but before execution, in the case of the stability threshold not being met.

The Applicant also asserted at page 9 of the R-PR that the claims manifest effects discernible by a trader.

However, in my preliminary view, all of the functions and automatic actions taken by the trading system are caused by the execution of the particular trading algorithm. The generic computer system is processing the algorithm in a well-known manner, executing the instructions given to it by means of the trading algorithm with no improvement in the functioning of the computer system. This is not sufficient to satisfy the physicality requirement of *Amazon*. The expected display of results or the

abstract step of offering an item for sale does not, in my preliminary view, constitute the something more that is required.

There is no evidence that the particular data manipulation and analysis steps of the trading algorithm effect any improvement in the functioning of the electronic trading system. It is my preliminary view that the actual invention, new knowledge or discovery of representative claim 1 is the collection of abstract data manipulation and analysis steps that make up the trading algorithm. Therefore, it is my preliminary view that claim 1 on file is directed to subject-matter that is not "something with physical existence, or something that manifests a discernible effect or change" (*Amazon* at paragraph 66).

Likewise, independent claims 12 and 23, which themselves represent an apparatus for performing the steps of claim 1 and a non-transitory computer readable medium storing such instructions, are directed to an actual invention consisting of abstract data manipulations and analyses.

Dependent claims 2–11, 13–22 and 24–33 relate to: variations on the step of determining whether a market stability threshold is met; what information is used to make the determination; how the market order is modified in response to the determination; and whether the increment used to modify the order price is input or determined by the algorithm.

In my preliminary view, the additional steps of these claims also represent abstract data manipulation and analysis steps and the generic input of data to a computer system. As such, they do not represent subject-matter that is "something with physical existence, or something that manifests a discernible effect or change" (*Amazon* at paragraph 66).

[38]   At pages 11 to 12 of the SPR letter, I also addressed the Applicant's submissions on the applicability of *Schlumberger* to the present case:

> At page 4 of the R-FA, the Applicant contended that the instant application should be distinguished from *Schlumberger* in that the claims of the Schlumberger case merely applied a patina of "machine-operated" to the steps of the method.
>
> Similarly, at page 13 of the R-PR, the Applicant contended that *Schlumberger* was a case in which "as thin and peelable a veneer as one could think of" was applied to the claims in an effort to make the claims appear patentable. The Applicant further contended at page 16 of the R-PR that this veneer was what was "deliberately or inadvertently deceptive" (*Amazon* at para 44) about the *Schlumberger* claims and that on a purposive construction, such a veneer was not sufficient to render the *Schlumberger* claims patentable subject-matter. In line with the foregoing, the Applicant contended that the Patent Office uses two different kinds of claim construction for two different purposes, namely one for purposive construction and one to assess patentable subject-matter (R-PR at pages 11 and 16).
>
> However, as was the case in the PR letter, in my preliminary view, the claims on file are akin to those of *Schlumberger*. The computer system/network in this case is being used to receive input information and process an abstract trading algorithm in an expected well-known manner, and like *Schlumberger*, such a computer system/network and its well-known functions do not lend patentability to the claims. The Federal Court of Appeal in *Amazon* did not characterize the use of the computer in *Schlumberger* as a "patina" or "veneer", instead characterizing the use of the computer as a practical application, but one that was not sufficient to satisfy the physicality requirement that is implicit in the definition of "invention" in section 2 of the *Patent Act* (*Amazon* at paras 62 and 69).
>
> In regard to the alleged issue of the Patent Office conducting two different kinds of claim construction, I have considered the purposive construction of the claims earlier in this letter, proceeding on the basis that all elements of the claims are essential. The consideration of whether the use of a computer system is sufficient to render

the claims patentable subject-matter is not a second construction exercise. It uses principles recently discussed in [*Benjamin Moore FCA*], namely, that once the claims have been purposively construed, considerations such as the novelty or ingenuity of the claim elements may be relevant to the question of whether the claimed subject-matter falls within the definition of "invention" in section 2 of the *Patent Act* and is not otherwise excluded ([*Benjamin Moore FCA*] at para 72). These principles manifest themselves in questions such as whether the computer-related elements of a claim are generic and whether they are used in a well-known manner, which have been applied above.

I note that at page 5 of the R-PR the Applicant suggested that, as a result of taking all the elements of the claims on file as essential, the PR letter meant to indicate that the claims on file were compliant with section 2 of the *Patent Act*, but not compliant with subsection 27(8). This was not the intended preliminary view in the PR letter and is not the supplementary preliminary view here. The fact that all the elements of the claims are taken as essential does not necessarily mean that the claims comply with section 2. The physicality requirement implicit in the definition of "invention" that is assessed at the patentable subject-matter stage is not satisfied solely by the use of a computer to implement abstract data manipulation and analysis steps.

[39] With no submissions having been made in response to the analysis set out in the SPR letter, I conclude that the subject-matter of claims 1–33 on file is directed to non-patentable subject-matter, is non-compliant with section 2 of the *Patent Act* and, being abstract, is non-compliant with subsection 27(8) of the *Patent Act*.

PROPOSED CLAIMSET C

[40] In the SPR letter at pages 12 to 16, I set out a preliminary analysis of proposed Claimset C that was submitted with the R-PR. With the only change between Claimset C and the previous proposed claim set submitted with the R-FA being the insertion of the word "interface" in one portion of claim 1 (indicated at page 2

of the R-PR), the analysis previously set out for the proposed claims in the PR letter also applied to Claimset C:

Patentable Subject-Matter

With the R-PR, the Applicant submitted proposed Claimset C consisting of claims 1–31. At pages 5–6 of the R-FA, the Applicant provided a marked-up version of R-FA proposed claim 1 highlighting the changes made, which still apply in respect of Claimset C:

> receiving, by the processor, over the communication network from a remote computing device, in ***real time current*** market price information;
>
> ***automatically in response to receiving the market order***, in ***real time***:
>
> determining, by the processor, ***a stability*** [in] the current market price of the item as the item is being bought and sold throughout the network of computers, based on current market price information;
>
> determining, by the processor, ***whether the stability*** of the current market price ***meets the stability price stability threshold***;
>
> when the stability of the current market price is determined to not meet the price stability threshold, ***modifying***, by the processor, ***the market order***, based on a system defined modification, ***to be a resting order with a modified price*** that is a ***certain price difference away from the current market price*** for the item and placing, by the processor, the resting order in the electronic market at the modified price; and
>
> when the stability of the current market price is determined to meet the price stability threshold, ***causing***, by the processor,

> ***immediate execution*** of the market order in the electronic
> market against a given opposite-side order at a current market
> price of opposite-side orders. [manner of emphasis altered from
> original]

In the R-FA, the Applicant contended that highlighted features such as receiving information over a communication network, real time reception of information and the automatic determination of market stability and modification of a market order if it is not, represent improvements in the functioning of a computer. The Applicant contended that these features may help control activity over a network and control computer workload, since they allow a computer to perform functions that it was previously not capable of performing. The Applicant highlighted the real time, high speed communication and processing of information, without latency and with high reliability and accuracy, and that these factors may help improve computer performance, which may help control activity over a computer network.

In the R-PR at page 8, the Applicant reiterated the features of reception of real time market price information from a remote computing device over a communications network.

I note first that the Applicant's arguments above in relation to the benefits of the claimed invention seem largely speculative. There does not seem to be any basis in the instant application itself for the benefits that the Applicant alleged to be present. Further, benefits such as high speed transfer and processing of information are the expected benefits of using a computer system, as are reliability and accuracy of the processing and information gathered and produced.

While the particular trading algorithm set out in the claims on file and the proposed claims may indeed allow the computer system to perform functions that it was previously not capable of performing, this itself is not sufficient to bestow patentability on the claims. If the computer merely processes the algorithm in a well-known manner without improving the functioning of the computer itself, the computer and the algorithm do not form part of a single actual invention that solves a problem related to the manual or productive arts. The algorithm itself becomes the new

knowledge or discovery, which would not be patentable subject-matter. In my preliminary view, that is the case here. The new functions provided by the trading algorithm are present simply because they are steps of the algorithm, and while they are performed by the computer system, they have no effect on it beyond causing the system to execute them in the expected manner.

Though not discussed in the R-FA or R-PR, I note that proposed independent claims 1, 11 and 22 of Claimset C also include a step of transmitting a GUI over the communication network for display on a computer.

As discussed earlier, it appears that the instant application uses conventional GUI technology to display and accept information. Communication of such display information over communication networks is a generic function of such networks and does not represent an improvement in them such that the network, computer and algorithm form a single actual invention that solves a problem related to the manual or productive arts.

In light of the above, it is my preliminary view that Claimset C consisting of proposed claims 1–31 is also directed to non-patentable subject-matter and is non-compliant with section 2 and subsection 27(8) of the *Patent Act*.

New Matter/Lack of Support

In the PR letter at pages 11–12, I set out my preliminary view that the R-FA proposed claims were compliant with section 38.2 of the *Patent Act* (section 38.2 having been considered a more appropriate basis for the issue than lack of support). For completeness, the discussion of this issue has been carried over to this supplementary preliminary review.

Legal Principles and Office Practice

Although the SOR indicated an issue with the R-FA proposed claims (and by extension those of Claimset C) regarding lack of support for a feature in the originally filed specification, in my preliminary view, whether or not a feature added

during prosecution is supported by the originally filed specification is more suitably addressed under the provisions of section 38.2 of the *Patent Act*.

Section 38.2 of the *Patent Act* sets forth the conditions under which amendments may be made to the specification or drawings of a patent application. The relevant provisions for the present case are the following:

> 38.2 (1) Subject to subsections (2) to (3.1) and the regulations, the specification and drawings contained in an application for a patent in Canada may be amended before the patent is issued.
>
> Restriction
>
> > (2) The specification and drawings contained in an application, other than a divisional application, may not be amended to add matter that cannot reasonably be inferred from the specification or drawings contained in the application on its filing date.

The question as to whether matter added to the specification or drawings by amendment complies with section 38.2 of the *Patent Act* is considered from the point of view of the skilled person.

The assessment as to the presence of new matter requires a comparison of the pending specification with the originally filed specification and drawings and a determination as to whether the subject-matter of the amendments is that which would have been reasonably inferred from the original specification or drawings by the skilled person.

Analysis

The SOR at page 3 indicated that the introduction of the language "automatically in response to receiving the market order, in real time" represented matter that was not

supported by the originally filed specification. As indicated earlier, it is my preliminary view that this issue is better addressed by determining compliance with section 38.2 of the *Patent Act* and whether or not the matter is reasonably inferred from the original specification or drawings.

In my preliminary view, the proposed claims of Claimset C are compliant with section 38.2 of the *Patent Act*.

I note that the original claims dated August 1, 2007 referred to automatic modification of the trade order based on a determination by the system of compliance with a condition associated with trading an item. Similar functionality was set out in the original description dated August 1, 2007 at paragraph [0032] in reference to then Figure 3. Therefore, in my preliminary view, automatic actions taken by the computer system were supported by and reasonably inferred from the original specification and drawings.

With respect to the real time feature, the original description at paragraph [0018] discusses an embodiment where the market stability of an item is based on the price staying essentially constant for the two seconds prior to submitting the order. Presumably, the timeframe can be narrower as well. In light of such a short time period for evaluating market stability and the high speed processing of orders by the computer system, in my preliminary view, real time stability determinations and order processing is supported by and reasonably inferred from the original specification.

No submissions in respect of the above issue were made in the R-PR.

Indefiniteness

Legal Principles and Office Practice

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.

In *Minerals Separation North American Corp v Noranda Mines Ltd*, [1947] Ex CR 306, 12 CPR 99 at 146, the Court emphasized both 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

The SOR indicated that the incomplete expression "entered at a first graphical user displayed at a first display of the first computer", as set out in R-FA proposed claim 1, results in a lack of clarity and fails to meet the requirements of subsection 27(4) of the *Patent Act*.

As the R-FA proposed claims have been replaced by those of Claimset C, in which the above issue is no longer present, it is my preliminary view that proposed claim 1 of Claimset C is not indefinite.

[41]   As a result of the above preliminary analysis, it was my preliminary view that due to Claimset C being directed to non-patentable subject-matter, it was not considered "necessary" for compliance with the *Patent Act* and *Patent Rules*, as required by subsection 86(11) of the *Patent Rules*.

[42]   With no submissions having been made in response to the SPR letter, I conclude that the proposed claims of Claimset C are not considered "necessary" for

compliance with the *Patent Act* and *Patent Rules*, as required by subsection 86(11) of the *Patent Rules*.

CONCLUSIONS

[43]   I conclude that the subject-matter of claims 1–33 on file is directed to non-patentable subject-matter, is non-compliant with section 2 of the *Patent Act* and, being abstract, is non-compliant with subsection 27(8) of the *Patent Act*.

[44]   I also conclude that the proposed claims of Claimset C submitted with the R-PR would not overcome the non-patentable subject-matter defect and therefore are not considered a "necessary" amendment for compliance with the *Patent Act* and *Patent Rules*, as required by subsection 86(11) of the *Patent Rules*.

RECOMMENDATION OF THE BOARD

[45]   In view of the above, the undersigned recommends that the application be refused on the ground that the subject-matter of claims 1–33 on file is directed to non-patentable subject-matter, is non-compliant with section 2 of the *Patent Act* and, being abstract, is non-compliant with subsection 27(8) of the *Patent Act*.

Stephen MacNeil
Member

DECISION OF THE COMMISSIONER

[46]   I concur with the conclusions and recommendation of the Board that the application be refused on the ground that the subject-matter of claims 1–33 on file is directed to non-patentable subject-matter, is non-compliant with section 2 of the *Patent Act* and, being abstract, is non-compliant with subsection 27(8) of the *Patent Act*.

[47]   In accordance with section 40 of the *Patent Act*, I refuse to grant a patent on this application. Under section 41 of the *Patent Act*, the Applicant has six months within which to appeal my decision to the Federal Court of Canada.

Konstantinos Georgaras

Commissioner of Patents
Dated at Gatineau, Quebec
this 2nd day of February, 2024.