

Commissioner's Decision No. 1454
Décision du commissaire n° 1454

TOPICS: B-00 Ambiguity or Indefiniteness (incomplete)
B-20 Excessive Width
J-00 Meaning of Art
J-50 Mere Plan
O-00 Obviousness

SUJETS: B-00 Caractère ambigu ou indéfini (incomplet)
B-20 Portée excessive
J-00 Signification de la technique
J-50 Simple plan
O-00 Évidence

Application No.: 2,486,815

Demande n°.: 2 486 815

IN THE CANADIAN PATENT OFFICE

DECISION OF THE COMMISSIONER OF PATENTS

Patent application number 2,486,815, having been rejected under subsection 30(3) of the *Patent Rules*, has 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.

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INTRODUCTION

- [1] This recommendation concerns the review of rejected patent application number 2,486,815 which is entitled “System for Settling Over the Counter Trades” and is owned by Intercontinental Exchange Holdings, Inc. The outstanding substantive defects to be addressed are whether the claimed subject-matter is patentable, whether the claimed subject-matter is obvious, whether the claims are definite and whether the claims are broader in scope than the invention made or disclosed.
- [2] A review of the rejected application has been conducted by the Patent Appeal Board (the Board) pursuant to paragraph 30(6)(c) of the *Patent Rules*.
- [3] As explained in more detail below, our recommendation is that the application be refused as it:
- does not comply with section 2 of the *Patent Act* because claims 1-18 are not directed to statutory subject-matter;
 - does not comply with section 28.3 of the *Patent Act* because the subject-matter of claims 1-18 would have been obvious to the person skilled in the art;
 - does not comply with subsection 27(4) of the *Patent Act* because claims 10-18 are indefinite; and
 - does not comply with Canadian jurisprudence because claims 10-18 are broader in scope than the invention made or disclosed.

BACKGROUND

The application

- [4] Patent application 2,486,815, based on a previously filed Patent Cooperation Treaty application, is considered to have been filed in Canada on May 30, 2003 and was published on December 11, 2003.
- [5] The application relates to electronic exchange and electronic trading systems for trading financial instruments, such as over-the-counter instruments or futures

contracts, wherein trades are settled either bilaterally or cleared based on participant preferences.

Prosecution history

- [6] On October 16, 2014, a Final Action (FA) was written pursuant to subsection 30(4) of the *Patent Rules*. The FA stated that the application was defective on three grounds: 1) claims 10-13 were anticipated and do not comply with paragraph 28.2(1)(b) of the *Patent Act*; 2) claims 1-9 and 14-18 would have been obvious to a person skilled in the art and do not comply with section 28.3 of the *Patent Act*; and 3) claim 10 is indefinite and does not comply with subsection 27(4) of the *Patent Act*.
- [7] In an April 16, 2015 response to the FA (R-FA), the Applicant proposed an amended set of 18 claims (the first set of proposed claims) and submitted arguments for allowance. In particular, the Applicant contended that the first set of proposed claims were novel and would have been inventive in view of the references cited in the FA. The Applicant also argued that the first set of proposed claims are definite.
- [8] As the Examiner considered the application not to comply with the *Patent Act*, the application was forwarded to the Board for review on October 22, 2015, pursuant to subsection 30(6) of the *Patent Rules*, along with a Summary of Reasons (SOR). The SOR conceded that the first set of proposed claims would overcome the anticipation defect, but maintained the rejection of the application arguing that the first set of proposed claims would have been obvious to a person skilled in the art. The SOR made no further comment on the indefiniteness defect in view of the first set of proposed claims.
- [9] With a letter dated October 27, 2015, the Board sent the Applicant a copy of the SOR and offered the Applicant the opportunities to attend an oral hearing and to make further written submissions. The Applicant's response on January 27, 2016 confirmed that it would like to proceed with an oral hearing and it provided written submissions in response to the SOR (R-SOR).

- [10] A Panel was formed to review the application under paragraph 30(6)(c) of the *Patent Rules* and to make a recommendation to the Commissioner as to its disposition.
- [11] In a letter dated July 27, 2017 (the Panel Letter), the Panel set out a preliminary analysis and rationale as to why, based on the written record, claims 1-18 on file at the time of the FA (the claims on file) were novel. However, the Panel Letter also set out that the claims on file do not comply with section 2 of the *Patent Act* and do not comply with section 28.3 of the *Patent Act* and also claims 10-18 on file do not comply with subsection 27(4) of the *Patent Act* and claims 10-18 on file are broader in scope than the invention made or disclosed.
- [12] The Applicant, in a letter dated August 23, 2017 (the Reply Letter), proposed an amended set of 18 claims (the second set of proposed claims) and provided written submissions in response to the Panel Letter. The Applicant submitted that the application is allowable as the second set of proposed claims is directed to statutory subject-matter, would have been inventive, are definite and the second set of proposed claims are not broader in scope than the invention made or disclosed.
- [13] In an oral hearing held September 12, 2017, the Applicant made further submissions that support allowance of the application.

ISSUES

- [14] The four issues to be addressed by this review are those identified in the Panel Letter:
- Whether the claims on file define subject-matter falling within the definition of invention in section 2 of the *Patent Act*;
 - Whether the claims on file define subject-matter that would not have been obvious, thus complying with section 28.3 of the *Patent Act*;
 - Whether the claims 10-18 are definite, thus complying with subsection 27(4) of the *Patent Act*; and
 - Whether the claims 10-18 are not broader in scope than the invention made or disclosed, thus complying with Canadian jurisprudence.

LEGAL PRINCIPLES AND PATENT OFFICE PRACTICE

Purposive construction

[15] In accordance with *Free World Trust v. Électro Santé*, 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 v. Camco*, 2000 SCC 67 [*Whirlpool*] at paragraphs 49(f) and (g) and 52). In accordance with the *Manual of Patent Office Practice*, revised June 2015 (CIPO) at §13.05 [*MOPOP*], the first step of purposive claim construction is to identify the person skilled in the art 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.

Statutory subject-matter

[16] 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.

[17] Following the Federal Court of Appeal decision in *Canada (Attorney General) v. Amazon.com, Inc.*, 2011 FCA 328 [*Amazon.com*], the Office released an examination memo “Examination Practice Respecting Computer-Implemented Inventions” PN2013-03 (CIPO, March 2013) [*PN2013-03*] that clarified the Office’s approach to determining if a computer-related invention is statutory subject-matter.

[18] As stated in *PN2013-03*, Office practice considers that where a computer is found to be an essential element of a construed claim, the claimed subject-matter will generally be statutory. Where, on the other hand, it is determined that the essential elements of a construed claim are limited to matter excluded from the definition of

invention (for example, the fine arts, methods of medical treatment, mere ideas, schemes or rules, etc.), the claimed subject-matter will not be compliant with section 2 of the *Patent Act*.

[19] In its Reply Letter at pages 5-9, and as highlighted at the oral hearing, the Applicant contended that ignoring the inventor's intention regarding the essentiality of cited computerized features is not in compliance with existing legal authorities on purposive construction, asserting that:

- the Office practice and its application thereof “are valid and lawful only if they correctly apply the principles of claim construction set forth in [*Free World Trust*] and [*Whirlpool*]” (emphasis added);
- the Office practice misinterprets the *Free World Trust* test for identifying essential elements by adopting a literal interpretation of the Supreme Court’s formulation of the test; and
- “[*Free World Trust*] and [*Whirlpool*] has clearly stated that the fundamental principle of claims construction is the inventor's intention regarding the essentiality of the claim elements and the resulting scope of protection” (emphasis added) and that *Shire Canada Inc. v. Apotex Inc.*, 2016 FC 382 identified the essentiality of claim elements pertinent to its case contrary to the “improper” interpretation of *Amazon.com*.

[20] The Applicant also argued at pages 9 and 10 that based on *Amazon.com* guidance, the Supreme Court test for purposive construction “should equally apply to both applications for patents and to issued patents”.

[21] In the Panel’s view, the guidance provided in *Amazon.com* to the Commissioner follows the principles laid out in the decisions of the Supreme Court regarding purposive construction. *Amazon.com* is unequivocal in that the identification of the invention “cannot be determined solely on the basis of a literal reading of the patent claims”:

[43] However, it seems to me that the jurisprudence of the Supreme Court of Canada, in particular *Free World Trust* and *Whirlpool*, requires the Commissioner's identification of the actual invention to be grounded in a purposive construction of the patent claims. It cannot be determined solely on the basis of a literal reading of the patent claims, or a determination of the "substance of the invention" within the meaning of that phrase as used by Justice Binnie, writing for the Supreme Court of Canada in *Free World Trust*, at paragraph 46.

[44] Purposive construction will necessarily ensure that the Commissioner is alive to the possibility that a patent claim may be expressed in language that is deliberately or inadvertently deceptive. Thus, for example, what appears on its face to be a claim for an "art" or a "process" may, on a proper construction, be a claim for a mathematical formula and therefore not patentable subject matter. That was the situation in *Schlumberger Canada Ltd. v. Canada (Commissioner of Patents)*, [1982] 1 F.C. 845 (C.A.).

[22] The guidance of *MOPOP* at §13.05.02b and §13.05.02c outlines the Office's interpretation of Canadian patent law with respect to purposive construction as applied to the examination of a patent application. The Office practice specifies that a properly informed purposive construction must consider the specification as a whole, as read through the eyes of the person skilled in the art, against the background of the CGK in the field or fields relevant to the invention, so as to identify the problem and solution addressed by the application. The identification of the problem is guided by the examiner's understanding of the CGK in the art and by the teachings of the description. The solution to that problem informs the identification of the essential elements: not every element that has a material effect on the operation of a given embodiment is necessarily essential to the solution.

Obviousness

[23] Section 28.3 of the *Patent Act* requires claimed subject-matter to not be obvious:

The subject-matter defined by a claim in an application for a patent in Canada must be subject-matter that would not have been obvious on the claim date to a person skilled in the art or science to which it pertains, having regard to

- (a) information disclosed more than one year before the filing date by the Applicant, or by a person who obtained knowledge, directly or indirectly, from the Applicant in such a manner that the information became available to the public in Canada or elsewhere; and
- (b) information disclosed before the claim date by a person not mentioned in paragraph (a) in such a manner that the information became available to the public in Canada or elsewhere.

[24] In *Apotex v. Sanofi-Synthelabo Canada*, 2008 SCC 61 at paragraph 67 [*Sanofi*], the Supreme Court of Canada stated that it is useful in an obviousness inquiry to follow the following four-step approach:

- (1)(a) Identify the notional “person skilled in the art”;
- (b) Identify the relevant CGK of that person;
- (2) Identify the inventive concept of the claim in question or if that cannot readily be done, construe it;
- (3) Identify what, if any, differences exist between the matter cited as forming part of the “state of the art” and the inventive concept of the claim or the claim as construed;
- (4) Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

Indefiniteness

[25] Subsection 27(4) of the *Patent Act* states:

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.

[26] In *Minerals Separation North American Corp. v. Noranda Mines Ltd.*, [1947] Ex CR 306, 12 CPR 99 at 146 [*Minerals Separation*], the Court emphasized the obligation for an Applicant to make clear in the claims the ambit of the monopoly sought and the requirement for terms used in the claims to 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.

Claims broader in scope than the invention made or disclosed

[27] Excessive claim scope can give rise to an allegation that an Applicant is “claiming broader than the invention made or disclosed”. As stated by Thurlow J. (as he then was) in *Farbwerke Hoechst A/G v. Canada Commissioner of Patents*, [1966] Ex CR 91, aff’d, [1966] SCR 604 at para 20:

Here are two fundamental limitations on the extent of the monopoly which an inventor may validly claim. One is that it must not exceed the invention which he has made, the other is that it must not exceed the invention which he has described in his specification.

[28] In *Amfac Foods Inc. v. Irving Pulp & Paper, Ltd.* (1986), 12 CPR (3d) 193, aff’g 80 CPR (2d) 59 [*Amfac*], the Federal Court of Appeal, after reviewing a line of previous decisions, similarly indicated that the claimed invention must not be broader than the one made or disclosed.

ANALYSIS

Purposive construction

The person skilled in the art

[29] The Panel Letter at page 3 characterized the person skilled in the art as “a person skilled in the fields of financial instrument trading and electronic trading systems for trading financial instruments as well as general purpose computing technology”.

[30] The Applicant did not disagree with this characterization. The Panel adopts this characterization of the person skilled in the art for this review.

The common general knowledge

[31] The Panel Letter identified the following items as CGK of the person skilled in the art, identified from the instant application and the cited prior art, uncontested by the Applicant:

- trading of financial instruments, such as over-the-counter instruments and futures contracts;

- settlement methods, such as bilateral and cleared; and
- electronic trading systems that incorporate user-defined trading preferences.

[32] The Panel adopts this characterization of the CGK for this review.

The problem to be solved

[33] The Panel Letter at pages 4-5 identified the problem addressed by the invention based on the background information of instant application and in view of the CGK of the person skilled in the art:

The instant application states that trading in certain financial instruments, such as over-the-counter and futures contracts, is typically arranged through bilateral contracts and may be consummated based on each counterparty's credit limitations (instant application, page 1, lines 10-16). However, "the increased popularity of trading in these instruments (especially electronically) has created a need for more conventional trading method involving clearing trades through a third party clearinghouse" (instant application, page 1, lines 16-18). Cleared trades may be preferred in instances wherein one party to a trade wishes to have a third party, namely a clearinghouse, guarantee the trade (instant application, page 1, lines 19-23) thereby offering an alternative method of managing counterparty risk associated with over-the-counter trades.

The instant application goes on to explain that prior art electronic exchanges do not account for participant settlement preferences, bilateral or cleared. Thus, means for setting preferences, default settlement methods, and presenting details of a trade irrespective of a settlement method are all cited as desired needs of the claimed invention (instant application, page 1, line 23 to page 2, line 8).

In the Panel's preliminary view, the skilled person would understand that the problem involves accounting for a participant's settlement preferences, either bilateral or cleared, involving specific financial instruments such as over-the-counter trades that in the prior art had previously been settled bilaterally.

[34] The Applicant disagreed with the problem (and solution as discussed below) identified by the Panel, stating in the Reply Letter at page 10:

The Applicant disagrees with the problem and the solution as identified by the Panel and submits that in addition to the description, the common general knowledge in the art (the CGK) (e.g. represented by D2) should also be considered in identifying the problem and solution.

As discussed above regarding issue 2, the claimed invention solves the inability of prior art systems to identify, beforehand, whether transactions may ultimately be fully consummated and executed ("Applicant-identified problem"). This is because although prior art systems may be able to determine whether counterparties have sufficient credit to engage in a transaction, they are incapable of determining whether the counterparties

share at least one compatible method of settlement. As a result, parties desiring to transact with each other only learn that they are unable to settle their transaction after their respective systems have attempted to execute the transaction. This leads to the parties' systems having to unwind the transaction and attempt to match, consummate and execute another transaction with another counterparty. As will be appreciated, attempting to execute transactions, only to have to unwind them later, and then having to attempt again to execute a transaction is inefficient and wastes time and computer resources.

- [35] The Panel agrees with the Applicant that the CGK of the person skilled in the art should be considered in identifying the problem, as stated in *MOPOP* §13.05.02b:

The common general knowledge in the art provides the baseline of information to which the description is expected to add. The person skilled in the art will read the specification in the expectation that it sets out something beyond the commonly known solutions to commonly known problems.

- [36] The Applicant-identified problem (namely, to identify, beforehand, whether transactions may ultimately be fully consummated and executed), in the Panel's view, includes scenarios beyond the scope of the instant application.

- [37] In our view, the person skilled in art would identify a more specific problem based on the instant application and their CGK, namely, a need to account for a participant's settlement preferences prior to a trade involving specific financial instruments.

The solution proposed

- [38] The Panel Letter at page 5 identified the solution as “means to pre-screen an order to determine a method of settlement based on the trading participant's settlement preferences”.

- [39] The Applicant disagreed with the solution identified by the Panel, stating in the Reply Letter at page 11:

As noted above, the Applicant's invention has solved this problem by providing an electronic exchange system in claim 1 and an electronic trading system in claim 10, both of which perform a particular novel function (e.g., pre-screening function) that ensures that any order made executable (i.e., it has passed the Applicant's pre-screening function) will be able to be fully consummated, executed and settled (“Applicant-identified solution”). In this manner, the Applicant's invention avoids unnecessary attempts at execution that happened in prior art electronic exchange and trading systems, thereby preventing the wasteful process of unwinding transactions. Indeed, under the Applicant's

systems, transactions that cannot be fully completed (i.e., including fully settled) are never made executable.

- [40] The Panel considers that at least a portion of the Applicant-identified solution, namely a pre-screening function, is consistent with the solution identified in the Panel Letter. However, given the problem as identified above by the Panel, the solution is less about making sure that all executable orders can be completed and more about identifying executable orders in the first place. Moreover, one apparent point of contention is whether or not the solution includes an electronic exchange/trading system, and this point is considered in the next section on essential elements.

The essential elements

- [41] Independent claim 1 on file recites:

An electronic exchange system comprising:
 a network of data processing terminals, said data processing terminals including at least one exchange server, at least two trading terminals respectively operated by first and second participants and at least one other such terminal operated by a clearing party, wherein the at least one exchange server comprises:
 a database configured for receiving and storing trading preferences of at least one of the first and second participants, said trading preferences comprising one or more methods of settlement; and
 a computer-readable medium, having a computer-readable program stored thereon, that when run enables the exchange server to:
 execute a pre-screening function to determine whether to make an order entered by the first participant executable by the second participant, wherein the pre-screening function comprises evaluating at least two alternative methods of settlement and determining whether at least one of said methods of settlement is commonly available or commonly acceptable to both participants.

- [42] Independent claim 10 on file recites:

An electronic trading system comprising:
 one or more exchanges servers;
 one or more trading-participant terminals in communication with the one or more exchange servers; and
 at least one clearing-participant terminal, configured for clearing trading transactions, in communication with the one or more exchange servers,
 wherein the one or more exchange servers comprises computer-readable medium on which is recorded at least one computer-readable program, that when run enables at least one of the one or more exchange servers to:

execute a function for pre-screening an order entered by a first trading-participant to determine whether to make the order executable by a second trading-participant; and execute a function for determining whether a trading transaction may be consummated after the order has been made executable to the second trading-participant; and execute a function for determining how the trading transaction will be settled according to pre-defined trading preferences of the trading-participants.

[43] The Panel Letter at pages 6-7 identified the essential elements of the claims on file:

[T]he skilled person would consider the essential elements of independent claim 1 to be:

- receiving trading preferences of at least one of first and second participants, said trading preferences comprising one or more methods of settlement; and
- pre-screening to determine whether to make an order entered by the first participant executable by the second participant, wherein pre-screening comprises evaluating at least two alternative methods of settlement and determining whether at least one of said methods of settlement is commonly available or commonly acceptable to both participants.

Similarly, the skilled person would consider the essential elements of independent claim 10 to be:

- pre-screening an order entered by a first trading-participant to determine whether to make the order executable by a second trading-participant;
- determining whether a trading transaction may be consummated after the order has been made executable to the second trading-participant; and
- determining how the trading transaction will be settled according to pre-defined trading preferences of the trading-participants.

The skilled person would consider the dependent claims to include additional limitations of the essential elements of the claims on which they depend, specifically alternative methods of settlement, settlement preferences, default settlement methods, entities that may establish the settlement preferences, and trading participants.

The skilled person would also consider the dependent claims to include additional functions that further define the essential elements of the claims on which they depend, specifically to:

- determine whether a method of settlement is commonly available or commonly acceptable to the participants;
- permit or deny the execution of an order based on a determination whether a method of settlement is commonly available or commonly acceptable to the participants;
- identify preferred and non-preferred methods of settlement between the participants;
- determine whether to make an order entered by a first trading-participant executable by a second trading-participant;
- determine whether the trading transaction may be consummated;
- determine how the trading transaction will be settled; and
- settle trading transactions.

- [44] The Applicant submitted in the Reply Letter at page 11 and in the oral hearing that the electronic exchange systems and trading systems recited in the claims are essential:

Therefore, in contrast to the prior art systems, the claimed electronic exchange systems and trading systems are improved to perform particular novel functions (e.g., pre-screening function) and to solve the Applicant-identified problem. As a result, the systems as claimed along with the functions performed by them should be considered as a whole to constitute the essential elements of the claims. It is the claimed systems as a whole that enable the working and interaction of a network of data processing terminals, and that perform an e.g. pre-screening function to allow a variety of trading participants and parties to consummate trading transactions as desired.

...

It is the combination of these physical elements performing particular novel functions that solves the Applicant-identified problem. Therefore, it is unjustified for the Panel to merely extract the functions of the exchange servers recited in claims 1 and 10 as the essential elements of the claims.

- [45] *MOPOP* §13.05.02c provides guidance on the identification of essential elements of a claim as “some element or combination of elements defined in the claim must provide the solution”. As identified above, the Panel views the solution as pre-screening an order to determine a method of settlement based on the trading participant’s settlement preferences.

- [46] The Panel views that this identified solution relates to a pre-screening function, but the solution is not specifically directed to its implementation in an electronic exchange as submitted by the Applicant. Accounting for settlement preferences prior to a trade exists outside the realm of electronic exchanges, as evidenced by the instant application at page 1: “[w]hile this method [accounting for credit limitations] has generally been effective, the increased popularity of trading in these instruments (especially electronically) has created a need for more conventional trading method involving clearing trades through a third party clearinghouse” (emphasis added). The use of the phrase “especially electronically” acknowledges trade of over-the-counter instruments outside an electronic environment and the need to account for settlement preferences before a trade is executed is also applicable to traditional (non-

electronic) trading of over-the-counter instruments managed through a broker network.

[47] The Applicant in the Reply Letter at page 5 further argued that:

A POSITA [person of skill in the art], in the 21st century, who is versed in ‘electronic trading’ and ‘general purpose computing technology’, by definition would never say that implementing the claimed invention by hand using people to manipulate data was substantially equivalent to doing this by computer. No POSITA would agree that a computer is an optional choice of working environment for this invention. (emphasis added)

[48] *MOPOP* at §13.05.02c provides guidance that not every recited claim element that has a material effect on the operation of a given embodiment is necessarily essential to the solution. In the Panel’s view, the physical elements recited in the claims (for example, a network of data processing terminals, exchange servers, trading terminals, a database, a computer-readable medium, a clearing-participant terminal, etc.) and associated action terms (for example, “storing” and “executing”), are outside the concern of the identified problem and therefore not essential to the identified solution.

[49] Given the problem and solution as identified earlier and the Panel’s view that the electronic exchange/trading system is not essential to the problem/solution identified, the Panel views that the steps of pre-screening a trade based on settlement preferences, specifically those elements identified above in paragraph [43], are essential to the solution that addresses the identified problem.

Statutory subject-matter

[50] The Panel Letter at page 19 provided the preliminary view that the “the essential elements of the claims on file comprise a mere scheme, plan or set of rules” and thus are not directed to statutory subject-matter.

[51] The Applicant submitted in the Reply Letter at pages 11-12 that the Office practice fails to comply with the relevant guidelines of *Amazon.com*. In particular, the Applicant suggests that a “computer-implemented business method is not necessarily non-patentable even if the method itself does not solve a computer problem” and that

the *Amazon.com* decision “repeatedly used the words ‘novel’ and ‘inventive’ to suggest that whether a business method can be considered to be an abstract idea depends on the inventive aspect of the claimed invention”.

[52] The Panel notes that this review is not concerned with whether or not the invention is a computer-implemented business method, but rather whether or not the essential elements of the purposively construed claims are directed to patentable subject-matter.

[53] The Panel asserts that the determination of whether or not a purposively construed claimed invention fits within the categories of invention in section 2 cannot be settled by, for example, whether or not that same purposively construed claimed invention is novel or inventive, as these are separate considerations for validity.

[54] As construed above in this review, the Panel views the essential elements of claims 1-18 as steps to pre-screen a trade based on settlement preferences. The Panel views these steps as a mere scheme, plan or set of rules and the subject-matter of claims 1-18 are outside the categories of invention in section 2 of the *Patent Act*.

Obviousness

Sanofi step (1)(a) – Identify the notional person skilled in the art and

Sanofi step (1)(b) – Identify the relevant CGK of that person

[55] This review has established the person skilled in the art and their relevant CGK above in paragraphs [29] and [31] respectively.

Sanofi step (2) – Identify the inventive concept of the claim in question or if that cannot readily be done, construe it

[56] Based on the purposive construction above, this review considers the inventive concept to be the same as the identified essential elements at paragraph [43].

Sanofi step (3) – Identify what, if any, differences exist between the matter cited as forming part of the “state of the art” and the inventive concept of the claim or the claim as construed

[57] The Panel Letter at page 4 summarized the prior art references cited in the FA. We consider D2 to represent the “state of the art” in this review: international patent application WO 99/19821 A2, published April 22, 1997 to May [D2]:

D2 discloses an anonymous trading system which enables traders to identify bids and offers which they are eligible to trade based on trader credit preference information about the potential counterparty. Each bid or offer is pre-screened against all possible counterparties' credit information in the system. The system shows all prices in the system and a color-coding tells the trader which prices are available to trade and also shows the full depth of the market, including orders the trader is unable to trade (D2 abstract).

[58] The Panel Letter at page 13 summarized the differences between the state of the art, represented by D2, and the essential elements of the claims on file:

In summary, in the Panel's preliminary view, the following differences are identified between the state of the art, represented by D2 and the essential elements of the claims on file:

- independent claim 1: pre-screening trades based on settlement preferences comprising an evaluation of at least two alternative methods of settlement;
- dependent claim 2: clearing methods of settlement and performing clearing account checks if both participants have a clearing account;
- dependent claim 4: identify a preferred method of settlement between the participants based on at least one settlement preference established by at least one of the first and second participants and to determine whether said preferred method of settlement is commonly available or commonly acceptable to both participants;
- dependent claim 5: identify a non-preferred method of settlement that is commonly available or commonly acceptable to both participants when the preferred method of settlement is unavailable or unacceptable to at least one of the participants;
- dependent claim 6: settlement preferences;
- dependent claims 7, 8 and 9: default settlement methods and entities that may establish settlement preferences;
- independent claim 10: determining how the trading transaction will be settled according to pre-defined trading preferences of the trading-participants;
- dependent claim 14: determining whether the trading participants having clearing account and determining whether a clearing account passes a clearing credit check;
- dependent claim 15: determining whether either of the trading participants has a clearing account and running clearing account checks; and
- dependent claim 16: compare the pre-defined trading preferences of each of the trading participants, to determine how to settle the trading transaction according to the comparison, wherein the pre-defined trading preferences comprise at least one of

a bilateral only, a cleared only, a bilateral preferred, a cleared preferred, and a closed trading preference.

In addition, in the Panel's preliminary view, there are no further differences between the state of the art, represented by D2, and the essential elements of the claims 3, 11-13 and 17-18 on file.

[59] The Applicant in the Reply Letter at page 2 agreed that “at least those features identified by the Panel are absent from the prior art” (emphasis in the original).

[60] The Panel views these elements as differences between the state of the art and the essential elements of the claims on file for this review.

Sanofi step (4) – Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

[61] The Panel Letter at page 14 provided the rationale with respect to independent claim 1 that the step of pre-screening trades based on settlement preferences would have been obvious to the person skilled in the art:

While we agree with the Applicant that D2 fails to disclose evaluating settlement preferences, as D2 is limited to settling bilateral transactions (R-SOR at page 3), D2 does disclose a pre-screening function to determine executable orders based on trading preferences, specifically credit preferences. The skilled person would be motivated to extend the pre-screening function of D2 to include additional trading preferences that “enables greater control and flexibility in the trading of complex financial instruments” (D2, page 13, lines 9-12). As highlighted by the instant application at page 1, additional trading preferences include common settlement methods applied to over-the-counter trades. Bilateral and cleared trades are well-known alternative methods of settlement in financial trading systems (see the CGK above). Therefore, the skilled person having both i) the pre-screening function of D2 that identifies executable trades based on credit preferences and ii) a need to provide greater control and flexibility in identifying executable trades, would have found it obvious to enhance the pre-screening function of D2 by adding preferences for a preferred settlement method.

[62] The Reply Letter at pages 2-3 disagreed with this analysis. First, the Applicant’s review of D2 concluded “that D2 is solely and exclusively concerned with reducing the financial exposure and risk experienced by financial institutions by ensuring that prospective counterparties have sufficient credit (i.e., the ability to pay) to transact in complex financial instruments, particularly those that create future financial obligations” (emphasis in the original). Therefore, asserts the Applicant, the “control

and flexibility” referred to in the Panel Letter relates to the control and reduction in credit risk but is not directed to providing greater control and flexibility in identifying executable trades. The Applicant further asserts that “mitigating credit risk (as in D2) and determining methods of settlement (as in the Applicant's invention) are two completely separate and independent concepts”. The Applicant also provided examples at the oral hearing to indicate to the Panel that equating credit preferences with settlement methods was not valid. The Applicant concludes there is no motivation in D2 to include pre-screening for settlement methods.

- [63] Second, the Applicant asserts that the Panel “has failed to recognize and appreciate the technical significance and impact of the Applicant’s pre-screening function” in situations where although counterparties have sufficient credit to transact a trade with each other, transactions must be unwound wherein the parties do not share a common settlement method.

- [64] Third, the Applicant contends that the person skilled in the art would not consider extending the system of D2 to evaluate different settlement methods, as D2 is limited to a single settlement method.

- [65] The Panel views the system of D2 as directed to controlling financial risk by pre-screening trades based on credit preferences and, contrary to the Applicant’s assertion, identifies executable trades in this context. Settlement methods, such as bilateral and cleared, are also associated with managing financial risk: parties to a trade may choose to settle trades through a clearing house in order to reduce the financial risk associated with a potential default of a counterparty had the trade been settled bilaterally (see, for example, the instant application at page 1, lines 21-23). In our view, the motivation outlined in D2 to provide greater control and flexibility in managing financial risk equally applies to identifying executable trades by pre-screening trades based on settlement preferences. And even though D2 is limited to one specific settlement method (bilateral agreements), other settlement methods, including clearing, were well known by the person skilled in the art.

- [66] Given a motivation in D2 to provide greater control and flexibility in managing financial risk by identifying executable trades using a pre-screening function and known settlement methods and preferences to also manage financial risk as argued above, the Panel views that the step of pre-screening trades based on settlement preferences would have been obvious to the person skilled in the art having regard to D2 and their CGK.
- [67] The Panel Letter at page 15 asserted that the difference with respect to independent claim 10 would also have been obvious to the person skilled in the art using the same rationale as for independent claim 1. Furthermore, the Panel Letter at pages 15-16 asserted that the differences between D2 and the essential elements of dependent claims 2, 4-9 and 14-16 would also have been obvious to the person skilled in the art. As explained above in the *Sanofi* step 3, there were no further identified differences between D2 and the essential elements of the claims 3, 11-13 and 17-18 on file. The Applicant did not identify any features in the claims 2-18 to further distinguish them from the prior art.
- [68] Given the arguments above, the Panel's view is that claims 1-18 on file would have been obvious to the person skilled in the art in view of D2 when considered in light of the CGK and therefore claims 1-18 do not comply with section 28.3 of the *Patent Act*.

Indefiniteness

- [69] The Panel Letter at page 17 found that “the recited steps of claim 10 are not framed in language that was clear and precise, such that the skilled person will be able to readily determine the limits of the recited steps and therefore the claim, contrary to *Minerals Separation*”:

As construed above, the skilled person would consider the essential elements of independent claim 10 to be:

- pre-screening an order entered by a first trading-participant to determine whether to make the order executable by a second trading-participant;
- determining whether a trading transaction may be consummated after the order has been made executable to the second trading-participant; and
- determining how the trading transaction will be settled according to pre-defined trading preferences of the trading-participants.

The description at pages 10-13 and Figures 5-7 appears to disclose the embodiment of independent claim 10. The description and figures describe an order floated by a first party in which the system determines whether the order may be consummated by a counterparty through a series of determinations, based at least in part on settlement preferences of the counterparties. However, the description and figures describing this embodiment do not refer to "pre-screening" explicitly and thus it is unclear what the claim 10 steps of "pre-screening" and "determining whether a trading transaction may be consummated" mean if they are considered separate from each other. The inclusion of a third separate claim 10 step of "determining how the trading transaction will be settled" further aggravates clarity between the three separate steps.

[70] The Panel Letter at page 18 also asserted that dependent claims 11-18 are also indefinite given their dependence on indefinite claim 10.

[71] Although the Reply Letter asserted that the amended claim 10 in the second set of proposed claims is definite (an assertion that will be considered below), the Applicant made no comment on the Panel's view that claims 10-18 on file were indefinite.

[72] The Panel's view is that claims 10-18 are indefinite and therefore claims 10-18 do not comply with section 27(4) of the *Patent Act*.

Claims broader in scope than the invention made or disclosed

[73] The Panel Letter at page 20 stated that claims 10-18 on file are broader in scope than the invention made or disclosed:

In the Panel's preliminary view, the skilled person would understand from the description that the pre-screening function of the instant application is not directed to any pre-screening method, but rather is limited to pre-screening functions based on settlement preferences. Thus the claim 10 element of "pre-screening" is broader in scope than taught by the description. A similar defect exists for the dependent claims 11-18.

[74] Although the Reply Letter asserted that the amended claim 10 in the second set of proposed claims are supported by the description (an assertion that will be considered below), the Applicant made no comment on the Panel's view that claims 10-18 on file were broader in scope than the invention made or disclosed.

[75] The Panel's view is that claims 10-18 on file are broader in scope than the invention made or disclosed and thus the claims do not accord with Canadian jurisprudence.

Proposed claims

[76] A second set of proposed claims containing claims 1-18 was submitted by the Applicant with the Reply Letter. In accordance with paragraph 30(6)(b) of the *Patent Rules*, they have not been entered as an amendment. However, in accordance with subsection 30(6.3) of the *Patent Rules*, if, after review of a rejected application, the Commissioner determines that an application does not comply with the *Patent Act* or the *Patent Rules*, but that specific amendments are necessary, the Commissioner shall notify the Applicant to make these amendments.

[77] As the second set of proposed claims could be considered for amendment if it is determined that it overcomes the defects noted above and does not introduce any other defects, the Panel provides its views on the second set of proposed claims.

[78] The second set of proposed claims proposed amendments to claim 10 as follows (underlining showing added text, strike-outs showing deleted text):

execute a function for pre-screening an order entered by a first trading-participant to determine, based on pre-defined settlement preferences of the first trading-participant, whether to make the order executable by a second trading-participant desiring to consummate a trading transaction on the terms of the order, wherein pre-screening an order comprises evaluating at least two alternative methods of settlement for the order and determining whether at least one of said alternative methods of settlement is commonly available or commonly acceptable to both trading-participants; and

execute a function for determining whether a the trading transaction may be consummated based on pre-defined settlement preferences of the first and second trading-participants if after-the order has been made executable to the second trading-participant; and

execute a function for determining how the trading transaction will be settled according to pre-defined trading preferences of the trading-participant

[79] The Panel also notes that the proposed amendments to claim 10 are consistent with the language of claim 1 on file.

[80] Given the above identifications of the person skilled in the art, their CGK, and the problem and solution, the essential elements of the second set of proposed claims

would also be construed as steps to pre-screen a trade based on settlement preferences. Accordingly, the proposed amendments to claim 10 would not alter the outcome of the subject-matter analysis provided with respect to the claims on file.

[81] Similarly, the proposed amendments to claim 10 do not add any features to further distinguish the claim from the prior art and thus do not alter the obviousness analysis presented above.

[82] The Reply Letter at page 4 asserted that the proposed amendments to claim 10 address both the indefiniteness issue and the issue that the element of “pre-screening” in claim 10 is broader in scope than taught by the description as raised in the Panel Letter.

[83] The Panel’s view is that the description at pages 10-13 and Figures 5-7, which describes the particular embodiment of claim 10, do not refer explicitly to separate steps of “pre-screening” and “determining whether a trading transaction may be consummated”. The proposed amendments do nothing to clarify the boundaries of these two steps and thus the proposed claim 10 is considered indefinite.

[84] The Panel’s view is that the proposed amendments to claim 10 to restrict the “pre-screening” element to settlement methods and preferences narrow the claimed subject-matter to that which is supported by the description and thus the issue of broader in scope than taught by the description is considered addressed by second set of proposed claims.

[85] Accordingly, the Panel’s analysis concerning non-statutory subject-matter, obviousness and indefiniteness also applies to the second set of proposed claims. It follows that the second set of proposed claim is not considered a necessary specific amendment under subsection 30(6.3) of the *Patent Rules*.

RECOMMENDATION OF THE BOARD

[86] In view of the above, the Panel recommends that the application be refused on the basis that:

- claims 1-18 are directed to non-statutory subject-matter and thus do not comply with section 2 of the *Patent Act*;
- claims 1-18 would have been obvious to the person skilled in the art and thus do not comply with section 28.3 of the *Patent Act*;
- claims 10-18 are indefinite and thus do not comply with subsection 27(4) of the *Patent Act*; and
- claims 10-18 are broader in scope than the invention made or disclosed and thus do not comply with Canadian jurisprudence.

Lewis Robart
Member

Marcel Brisebois
Member

Leigh Matheson
Member

COMMISSIONER'S DECISION

[87] I concur with the findings and recommendation of the Board that the application should be refused because :

- claims 1-18 are directed to non-statutory subject-matter and thus do not comply with section 2 of the *Patent Act*;
- claims 1-18 would have been obvious to the person skilled in the art and thus do not comply with section 28.3 of the *Patent Act*;
- claims 10-18 are indefinite and thus do not comply with subsection 27(4) of the *Patent Act*; and
- claims 10-18 are broader in scope than the invention made or disclosed and thus do not comply with Canadian jurisprudence.

[88] 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