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Commissioner's Decision #1667
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TOPIC: J00 Meaning of Art
J10 Computer Programs

SUJET : J00 Signification de la technique
J10 Programmes d'ordinateur

Application No. 2678924

Demande n° 2 678 924

IN THE CANADIAN PATENT OFFICE

DECISION OF THE COMMISSIONER OF PATENTS

Patent application number 2,678,924, 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, unless necessary amendments are made.

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INTRODUCTION

- [1] This recommendation concerns the review of rejected Canadian patent application number 2,678,924, which is entitled “SYSTEM AND METHOD FOR AFFIRMING OVER THE COUNTER DERIVATIVE TRADES” and is owned by CREDITEX GROUP, INC. (“the Applicant”). The Patent Appeal Board reviewed the application according to paragraph 199(3)(c) of the *Patent Rules* (SOR/2019–251) (“the *Patent Rules*”).
- [2] As explained in more detail below, the Patent Appeal Board recommends that the Commissioner of Patents refuse the application on the basis that the claims on file are directed to non-patentable subject matter, contrary to section 2 and subsection 27(8) of the *Patent Act*, unless necessary amendments are made.

BACKGROUND

The application

- [3] The application relates to methods and platforms that provide post-trade affirmation and messaging services for credit derivative trading. This service allows parties to affirm credit derivative trades with their counterparties prior to processing. There are 21 claims on file, received in the Patent Office on October 3, 2018.

Prosecution history

- [4] The application was filed under the provisions of the *Patent Cooperation Treaty* and has an effective filing date in Canada of March 5, 2008. It was laid open to public inspection on September 18, 2008.

- [5] On April 24, 2019, a Final Action was written according to subsection 30(3) of the *Patent Rules* (SOR/96–423) as they read immediately before October 30, 2019. The Final Action found the application defective on the sole ground that all claims encompass non-patentable subject matter that does not meet the definition of invention found at section 2 of the *Patent Act*.
- [6] The Applicant provided proposed claim set-1 and arguments in favor of patentability in an October 24, 2019 response to the Final Action.
- [7] The Examiner still considered the application not to comply with the *Patent Act*. Therefore, according to subsection 199(3) of the *Patent Rules*, the application was forwarded to the Patent Appeal Board for review along with an explanation outlined in a Summary of Reasons. The Summary of Reasons stated that the claims on file remain defective on the basis of non-patentable subject matter and that the arguments and proposed claim set-1 did not overcome the defect. The Patent Appeal Board forwarded a copy of the Summary of Reasons to the Applicant in a letter dated January 17, 2020. The Applicant confirmed their continuing interest in a letter dated April 15, 2020.
- [8] I was assigned by the Patent Appeal Board to review the application and to make a recommendation as to its disposition.
- [9] In a Preliminary Review letter sent May 20, 2022, I set out my analysis of the patentable subject matter issue with respect to the claims on file and proposed claim set-1. The Examiner’s rejection had been guided by a previous Patent Office practice for evaluating patentable subject matter, later superseded by “Patentable subject matter under the *Patent Act*” (CIPO, November 2020) [PN2020–04]. The newer practice focuses on which elements of the claim form the “actual invention”. My analysis followed PN2020–04. I preliminarily considered the application to lack patentable subject matter.

- [10] With the release of the Federal Court of Appeal decision in *Canada (Attorney General) v Benjamin Moore & Co*, 2023 FCA 168 [*Benjamin Moore*], in order to ensure that the Applicant was given full notice of the issues to be addressed, and an opportunity to respond, I re-reviewed the application and updated the Preliminary Review in view of the commentary of the Court in *Benjamin Moore*. On January 5, 2024, I sent the Applicant a Supplementary Preliminary Review letter superseding the earlier one. My supplementary preliminary view was that the application lacked patentable subject matter.
- [11] I offered the Applicant an opportunity to respond to the Supplementary Preliminary Review letter and to have a hearing. The Applicant submitted a response, including proposed claim set-2 on February 8, 2024. We held a hearing via teleconference on February 16, 2024.
- [12] The hearing focused on the issue of whether the invention provided an efficiency gain to the functioning of the computer system used for implementation of the trading platform. As it appeared likely that further amended claims might overcome the defect, the Applicant was offered an opportunity to make a further submission of arguments and proposed claims after the hearing. The Applicant submitted further arguments in favour of patentability along with proposed claim set-3 on March 1, 2024.
- [13] I subsequently conferred with the Applicant about some details of the claim drafting language in telephone calls on March 19, 2024 and March 21, 2024. The Applicant submitted a final set of 19 proposed claims (“proposed claim set-4”) on March 21, 2024.
- [14] I completed the review of the instant application and proposed claim set-4 and provide below a recommendation.

ISSUES

- [15] I consider the issue of patentable subject matter according to *PN2020–04*, as well as guidance found in *Benjamin Moore*. Related to the same concern about patentable subject matter, and according to subsection 86(9) of the *Patent Rules*, I also consider whether the claims on file comply with subsection 27(8) of the *Patent Act*.
- [16] I also consider proposed claim set-4 to determine if it would constitute necessary amendments under subsection 86(11) of the *Patent Rules*.

CLAIM CONSTRUCTION

Legal principles and office practice

- [17] Purposive Construction is antecedent to any consideration of validity (*Free World Trust v Électro Santé Inc*, 2000 SCC 66 at para 19 [*Free World Trust*]).
- [18] 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 skilled person in light of the relevant common general knowledge, 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.
- [19] *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).

The skilled person and the relevant common general knowledge

[20] Purposive construction begins by defining the skilled person and their common general knowledge. The Final Action defined these as follows:

The skilled person, who may be a team of people, is skilled in the field of credit derivative markets and possess credit evaluation skills. The skilled person is familiar with the trading process of credit derivative contracts, tools conducting the derivative trading and its implementation of the trading on computing devices (software and hardware) with network connections to provide post-trade affirmation and messaging services (original description, paras 0003–0005, 0056, and 0070–0072; Figs. 1 and 2).

The skilled person possesses credit evaluation skills, understands the trading of credit derivative contracts and novation process (original description, paras 0003–0005) that can be used to reduce operational risks and costs associated with the trading of financial instruments. The trading platform providing post-trade affirmation and electronic messaging system being used for the post-transaction processing of trade details are also considered common general knowledge to the person skilled in the art. The platform may include the user interfaces and the server system, which implements the functionality of the platform and which delivers and accepts data to the use systems (original description, para 0056).

The general computer devices used in the embodiment of the present invention, with well-known connection of networks, which represents standard technology is part of the common general

knowledge of the person skilled in the art. This is reinforced by the lack of detail regarding the implementation in the present description (original description, paras 0056–0061 and 0076).

[21] The Applicant did not dispute these characterizations in any subsequent submissions or at the hearing. I adopt them for this analysis.

Essential elements

[22] Claim 1 on file is representative:

A computer-implemented post-transactional affirmation method for confirming details related to credit derivative trades comprising:

receiving, via an electronic processing platform, directly from a first party trade capture system associated with a first party, trade details comprising a credit derivative trade agreed upon between the first party and a second party outside of the electronic processing platform, said electronic processing platform comprising a connectivity and electronic messaging system that is independent of and upstream relative to a downstream trade processing system, said connectivity comprising system-to-system links between said electronic processing platform and each of the first party trade capture system and a second party trade capture system;

automatically routing and transmitting in real-time, via the system-to-system links, the trade details to the second party trade capture system associated with the second party;

receiving, by the electronic processing platform, directly from the second party trade capture system via the system-to-system links, an affirmation or a rejection of the trade details, wherein the

affirmation indicates the transmitted trade details represent the agreed upon trade and the rejection indicates the transmitted trade details contain an error;

automatically notifying, via the electronic processing platform via an electronic message, the first party trade capture system of the affirmation or the rejection;

creating, via the electronic processing platform, at least one trade ticket comprising the trade details only when the electronic processing platform receives the affirmation from the second party trade capture system; and

submitting, by the electronic processing platform, the at least one trade ticket to a separate trade confirmation process in accordance with the credit derivative trade, said trade confirmation process being embodied in and executed by the downstream trade processing system.

[23] Following *PN2020-04*, I consider all elements recited in the claim to be essential, including the electronic processing platform. The skilled person would understand that there is no use of language indicating that any of the elements are optional. Similarly, I consider all elements recited in the other claims to be essential.

IS THE ACTUAL INVENTION DIRECTED TO PATENTABLE SUBJECT MATTER?

[24] In my view, the actual invention defined by the claims on file is not directed to patentable subject matter, for the reasons that follow.

Legal principles and office practice

- [25] Any patentable invention must fall within the definition set out at 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.

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

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

- [27] *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.

- [28] 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 at para 42 [*Amazon*]). As stated in *Benjamin Moore* 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).

- [29] *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*.
- [30] 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).
- [31] 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

[32] 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* 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* at para 89) that is ultimately measured against the physicality requirement.

[33] As noted in *Benjamin Moore* 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 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.

The actual invention is abstract

[34] It is no longer in dispute whether the computerized elements are essential. The heart of the issue is whether the computerized elements form a single actual invention with the processing algorithm.

[35] In my view, the actual invention of representative claim 1 is the algorithm involving pre-reconciling trade data before a trade ticket is submitted to a downstream trade processing system. While a computerized system is claimed

to facilitate this reconciliation, it is not part of the actual invention unless the algorithm somehow results in an improvement in a computer's efficiency (for example, processing speed, capacity, memory use). In this case, the input to the system is trade data, and the output is an executed trade, something of intellectual rather than physical meaning. The only physicality is in the computer system. The computer system in this case consists of conventional elements which are not improved by the algorithm. The situation is similar to that of *Schlumberger* in that the computerized elements are merely processing certain data according to certain rules as computers are designed to normally do and providing messages as output. Therefore claim 1 lacks physicality and does not comply with the definition of invention found at section 2 of the *Patent Act*. Further, the actual invention of claim 1 constitutes only an abstract algorithm prohibited by subsection 27(8) of the *Patent Act*. Similarly the other claims, which elaborate similar algorithms, lack patentable subject matter according to section 2 of the *Patent Act* and are directed only to abstract algorithms prohibited by subsection 27(8) of the *Patent Act*.

- [36] In the Response to the Final Action, the Applicant asserted that the claimed invention improves efficiency as the downstream trade processing system does not have to process unmatched trade tickets. Unreconciled data is never presented to it as it would be in prior art systems.
- [37] In the Supplementary Preliminary Review letter, I acknowledged the Applicant's argument that more efficient use may be made of the downstream trade processing system in the event that trade data that may otherwise not have agreed may be pre-reconciled and will agree when finally presented. However, this simply moves the inefficiency of iterative reconciliation checks to another part of the system from the downstream processing system. The overall computer system does not have improved efficiency.

- [38] Subsequent to the hearing, the applicant's submission of March 1 pointed out that the downstream trade processing system may be an existing third-party system, such as the exemplified DTCC DERIV/Sery system, and that the invention improves the throughput through that portion of the system by avoiding unmatched trade information arriving at that system. This avoids that part of the system having to process failed reconciliation checks. Therefore, the invention, if it does avoid unmatched trade information being sent to the downstream system, would improve the downstream system's efficiency in terms of throughput. This would improve capacity at a potential bottleneck in the system without having to redesign that existing part of the system.
- [39] I find the applicant's arguments persuasive in this respect. The downstream trade processing system is recited to be a distinct element in the claims. Therefore, if the efficiency through that recited part of the system is improved, the invention solves a physical computer efficiency problem. The downstream computer system would be part of an actual invention manifesting a discernible physical effect in terms of its processing capacity, even though the effect is caused by an algorithm executed by computerized elements in another part of the system.
- [40] However, there is a remaining problem. As I noted in the Supplementary Preliminary Review letter, claim 1 only refers to generating "at least one trade ticket". The claim appears to encompass an embodiment which may result in only one version of the trade ticket being generated by one party following affirmation. The second party, though affirming the trade data to the first party, might still send a flawed version of the trade ticket to the downstream system resulting in a failure to execute. In this case, there would be no efficiency gain in the utilization of the downstream system.
- [41] The Applicant addressed this issue with the submission of proposed claim set-4, discussed below.

[42] In summary, in my view, the claims on file are not directed to patentable subject matter and do not comply with the definition of invention found at section 2 of the *Patent Act*. The claims are directed to solely abstract subject matter prohibited by subsection 27(8) of the *Patent Act*.

DOES PROPOSED CLAIM SET-4 CURE THE DEFECT?

[43] In my view, proposed claim set-4 would put the application in condition for allowance, for the reasons given below.

[44] At the hearing, the Applicant was given some time to reconsider a submission and claim set that might address the outstanding issues of computer efficiency. The Applicant submitted a supplementary written submission on March 1, 2024. The arguments provided were persuasive in terms of how the invention could improve efficiency of the downstream trade processing portion of the system. The proposed claim set addressed the remaining issue of improved efficiency requiring the input of reconciled trade information from all parties to affirm trades.

[45] I discussed some minor issues of the proposed claim language in telephone calls with the Applicant on March 19, 2024 and March 21, 2024. Subsequent to our discussions, the Applicant submitted proposed claim set-4, comprising 19 claims, on March 21, 2024.

[46] The Applicant chose to delete one of the independent claims and its dependent claim. The applicant amended the remaining independent claims. The key

change is to state positively that reconciled trade information is provided to the downstream system from each party. Representative proposed claim 1 reads:

A computer-implemented post-transactional affirmation method for confirming details related to credit derivative trades comprising:

receiving, via an electronic processing platform, directly from a first party trade capture system associated with a first party, trade details comprising a credit derivative trade agreed upon between the first party and a second party outside of the electronic processing platform, said electronic processing platform comprising a connectivity and electronic messaging system that is independent of and upstream relative to a downstream trade processing system, said connectivity comprising system-to-system links between said electronic processing platform and each of the first party trade capture system and a second party trade capture system;

automatically routing and transmitting in real-time, via the system-to-system links, the trade details to the second party trade capture system associated with the second party;

receiving, by the electronic processing platform, directly from the second party trade capture system via the system-to-system links, an affirmation or a rejection of the trade details, wherein the affirmation indicates the transmitted trade details represent the agreed upon trade and the rejection indicates the transmitted trade details contain an error;

automatically notifying, via the electronic processing platform via an electronic message, the first party trade capture system of the affirmation or the rejection;

creating, via the electronic processing platform, at least one trade ticket **for each of the first party and the second party** comprising the trade details only when the electronic processing platform receives the affirmation from the second party trade capture system; and

submitting, by the electronic processing platform, the at least one trade ticket **of the first party and the at least one trade ticket of the second party** to a separate trade confirmation process in accordance with the credit derivative trade, said trade confirmation process being embodied in and executed by the downstream trade processing system.

- [47] The key changes with respect to claim 1 on file, shown above in boldface, recite that a copy of the trade ticket is submitted by each party to the trade confirmation system. The Applicant pointed out that these changes find support in the description at para 84 and Figure 3.
- [48] Similar amendments were proposed to the other independent claims, including the claims that recite a novation system involving more than two parties to a trade.
- [49] In my view, the claimed system would provide an efficiency improvement to a downstream trade processing system by pre-reconciling data so that only reconciled trade information reaches the downstream system. The system as claimed would provide a physical improvement to computer efficiency of the downstream system. Therefore, the computer system would be part of the actual invention and would be patentable subject matter according to section 2 and subsection 27(8) of the *Patent Act*.
- [50] Proposed claim set-4 constitutes necessary amendments to put the application in condition for allowance, according to subsection 86(11) of the *Patent Act*.

CONCLUSIONS

[51] I conclude that claims 1–21 on file are directed to non-patentable subject matter, and are therefore non-compliant with section 2 of the *Patent Act* and, being solely abstract, are non-compliant with subsection 27(8) of the *Patent Act*.

[52] I also conclude that proposed claim set-4, comprising 19 claims submitted on March 21, 2024, would overcome the non-patentable subject matter defect. I consider substitution of these claims to constitute necessary amendments for compliance with the *Patent Act* and *Patent Rules*, as required by subsection 86(11) of the *Patent Rules*.

RECOMMENDATION OF THE BOARD

[53] For the reasons set out above, I recommend that the Applicant be notified, in accordance with subsection 86(11) of the *Patent Rules*, that the following amendments are necessary for compliance of the application with the *Patent Act* and *Patent Rules*:

- the deletion of the claims on file; and
- the insertion of claims corresponding to proposed claim set-4.

Howard Sandler

Member

DECISION OF THE COMMISSIONER

[54] I concur with the conclusion and recommendation of the Patent Appeal Board. In accordance with subsection 86(11) of the *Patent Rules*, I hereby notify the Applicant that the following amendments and only the following amendments must be made in accordance with paragraph 200(b) of the *Patent Rules* within three (3) months of the date of this decision, failing which I intend to refuse the application:

- the deletion of the claims on file; and
- the insertion of claims corresponding to proposed claim set-4.

Konstantinos Georgaras

Commissioner of Patents

Dated at Gatineau, Quebec

this 26th day of April, 2024.