

Citation: BGC Partners, Inc (Re), 2025 CACP 1

Commissioner's Decision #1682

Décision du commissaire n° 1682

Date: 2025-03-06

TOPIC: B00 Claims—Ambiguity or Indefiniteness (incomplete)
B22 Claims—Excessive Width—Not Supported by Disclosure
J00 Subject Matter of Applications—Meaning of Art
J10 Subject Matter of Applications—Computer Programs
O00 Obviousness

SUJET : B00 Revendications—Caractère ambigu ou indéfini (incomplet)
B22 Revendications—Portée excessive—Non appuyée par la divulgation
J00 Objet des demandes—Signification de la technique
J10 Objet des demandes—Programmes d'ordinateur
O00 Évidence

Application No. 2574975

Demande n° 2 574 975

IN THE CANADIAN PATENT OFFICE

DECISION OF THE COMMISSIONER OF PATENTS

The Commissioner refuses patent application 2574975 based on the Patent Appeal Board's recommendation. The Board reviewed the application under paragraph 86(7)(c) of the *Patent Rules* (SOR/2019-251), following the application's rejection under subsection 199(1) of the *Patent Rules*.

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INTRODUCTION

- [1] The Patent Appeal Board recommends to the Commissioner to refuse patent application 2574975 for claiming unpatentable subject matter, claiming obvious subject matter and having indefinite claims.

The application

- [2] BGC Partners, Inc applied for a patent (2574975) for an invention entitled “Systems and Methods for Providing Dynamic Price Axes in Featured User Interfaces.” The invention involves graphical user interfaces for electronic trading systems (paras 2–5, 13–15, 20, 48; figure 2a). According to the application, graphical user interfaces of electronic trading systems conventionally display arrangements of information that only ambiguously convey the inside market to users. The eye is drawn to changes in bid and ask quantities rather than to changes in price. The application proposes an improvement to the graphical user interface’s display: individual columns (or “axes”) are used to display fields of bid and ask sizes and prices. These columns are then aligned to each other according to price. This display is intended to convey the inside market and changes to it more readily. The way the information and order-entry regions are displayed is intended to clearly represent price fluctuations and facilitate order submission.
- [3] There are 16 claims on file. These are the claims the application contained when it was rejected by a Final Action.

Prosecution history

- [4] The Examiner sent the Final Action rejecting the application for claiming unpatentable and obvious subject matter, and for having claims 1 and 9 unsupported by the description. The Applicant responded by proposing a new set of 16 claims, and submitting that the proposed claims were allowable. The Examiner was persuaded that the claims on file were supported by the description. The Examiner disagreed with the Applicant’s arguments that the claims on file were directed to patentable subject matter, and did not consider the

proposed claims to remedy this defect or the obviousness defect. The Examiner maintained the rejection. The rejected application was sent to the Board for review on behalf of the Commissioner of Patents (*Patent Rules*, SOR/2019-251, s 86(7)(c); the full text of all cited legislation is included in the Appendix), and the Examiner's reasons were sent to the Applicant.

- [5] We, the undersigned, preliminarily reviewed the application and told the Applicant the results via preliminary review letter on April 3, 2024. The letter explained that the claims on file define unpatentable and obvious subject matter, although they are supported by the description. An additional defect was also identified: claims 1 and 9 on file are indefinite. The letter also explained why we did not consider the proposed claims to be an amendment that would make the application allowable. Finally, the letter invited the Applicant to respond by making written submissions and by participating in a hearing.
- [6] The Applicant never responded to the preliminary review letter. We emailed the agent to ask the Applicant's intent, but they did not respond to the email. Since the written record is the same as it was when the preliminary review letter was sent, the analysis and results in this recommendation are the same as those in that letter.

THE ISSUES

- [7] We had to determine whether:
- claims 1 to 16 on file define subject matter outside the definition of invention in section 2 of the *Patent Act* (RSC 1985, c P-4), and prohibited by subsection 27(8) of the *Patent Act*;
 - claims 1 to 16 on file define subject matter that would have been obvious in view of cited documents, contravening paragraph 28.3(b) of the *Patent Act*;
 - claims 1 and 9 on file are unclear, thus making them indefinite, contravening subsection 27(4) of the *Patent Act*; and

- claims 1 to 16 on file are supported by the description, complying with section 60 of the *Patent Rules*.

[8] We then also had to consider whether:

- proposed claims 1 to 16 would make the application allowable, as required under subsection 86(11) of the *Patent Rules*.

[9] Before addressing these issues, we had to purposively construe the claims.

PURPOSIVE CONSTRUCTION

Principles

[10] Claims must be purposively construed before considering validity issues (*Free World Trust v Électro Santé Inc*, 2000 SCC 66 at para 19 [*Free World Trust*]; *Whirlpool Corp v Camco Inc*, 2000 SCC 67 at para 43 [*Whirlpool*]).

[11] Claims are purposively construed from the point of view of the person skilled in the art, in light of the relevant common general knowledge as of the publication date (*Free World Trust* at paras 31–66; *Whirlpool* at paras 45–55; “Patentable Subject-Matter under the *Patent Act*” (CIPO, November 2020) at “Purposive construction” [PN2020–04]). The whole disclosure is considered, including the specification and drawings.

[12] 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. Claimed elements are presumed essential unless it is established otherwise, or unless such presumption is contrary to the claim language (*Free World Trust* at para 57, *Distrimedic v Dispill Inc*, 2013 FC 1043 at paras 200–01; PN2020–04 at “Purposive construction”).

- [13] Both interpretation of term meaning and identification of the essential elements are done in light of the relevant common general knowledge. Therefore, one must first identify the skilled person and determine their common general knowledge.

The skilled person and their common general knowledge

- [14] We characterize the skilled person as a team comprising one or more trading professionals. The team also comprises programmers and other technologists experienced with developing and providing the electronic trading systems—including software, tools and infrastructure—conventionally used to support the activities and designs of such professionals.
- [15] Based on this characterization of the skilled person, we identify the relevant common general knowledge as of the publication date—February 9, 2006—as including:
- conventional trading methods and conventional rules, behaviours and limitations of markets;
 - especially for auctions and for trading in various financial instruments, goods and services;
 - the design, implementation, operation and maintenance of computer systems, networks and software, including:
 - general purpose and special purpose computers, computing devices, processors and user interfaces;
 - electronic exchanges, and computerized systems for connecting to them, displaying market information and making trades by transmitting trade orders to them for execution;
 - computerized trading systems with interactive displays, such as graphical user interfaces, including those:

- with various layouts for displaying information on bids, asks, their prices and quantities, and for accepting input of orders in response;
- dynamically updating the displayed market information with information from the electronic exchange;
- making use of grids, arrangements of columns, rows and fields;
- using colour to highlight, or to help users distinguish different locations and pieces of information on the graphical user interface;
- capable of recognizing the submission or selection of various command and information data in response to a user selecting interface elements using various input means;
- updating the display in response to receipt of user input (e.g. orders); and
- automatically providing order data in response to input from the user, either by populating empty fields currently displayed, or by including it in the order itself.

[16] We also base this identification on what the present application describes as generally known or conventionally done in the field (paras 3–5, 72). This identification is also supported by the disclosures of the following patent documents, which were cited in the Final Action, and which disclose subject matter similar to that of the present invention:

D1:	US 6766304 B2	July 20, 2004	Kemp II et al.
D2:	US 2004/0103054 A1	May 27, 2004	Singer
D3:	US 2004/0117292 A1	June 17, 2004	Brumfield et al.
D4:	US 2002/0099644 A1	July 25, 2002	Kemp II et al.

[17] Like the present application, D1 (column 1, line 26–column 2, line 27; column 5, lines 3–5, 9–12), D2 (paras 2–7), D3 (paras 3–9, 33–34) and D4 (paras 2–12,

37) also describe methods and systems generally known or conventionally done in the field.

[18] D1 to D4 disclose graphical user interfaces for computerized trading systems. Each graphical user interface displays information in a particular arrangement intended to quickly convey information and permit efficient trading. Specifically, each of D1 (column 8, lines 37–64; column 9, line 37–column 12, line 19; figure 5), D2 (para 70), D3 (paras 73, 84–86) and D4 (paras 48, 75, 92) discloses systems and scenarios where default or pre-existing order data is automatically provided to the display or to an order being submitted. Each of D1 (column 5, line 34–column 6, line 2; column 7, lines 61–64), D2 (paras 41, 64), D3 (paras 75, 78, 95, 107, 112, 122) and D4 (paras 40, 46) also discloses the use of colour to highlight or distinguish areas or information on the screen. This further strengthens the recognition that the common general knowledge includes systems and techniques for doing so.

[19] Recognition that certain input means and methods belong to the common general knowledge is also supported in part by a statement made by the Applicant in their response to the Final Action (page 6):

it was common practice, well known to those skilled in the relevant arts, to use mouses, trackballs, and other input/output controllers to click or otherwise select options presented on interactive user interfaces in order [to] cause their processors/controllers to generate commands causing the processors to “detect selection” of various command and information data.

[20] We identified the skilled person and their relevant common general knowledge in this way in our preliminary review letter. The Applicant made no submissions in response to our preliminary review letter regarding these identifications. These identifications give the basis for purposively construing the claims.

The claims

[21] There are 16 claims on file. Independent claims 1 and 9 on file are directed to the display of market information and receipt of an order, via the graphical user

interface of a computerized trading system. They are respectively in the form of an apparatus and a method. Claim 1 is illustrative:

1. An apparatus comprising:

a network interface;

a display device;

an input device;

at least one processor to:

render, on the display device, a matrix, each row of the matrix having a plurality of bid fields and a plurality of ask fields associated with a financial instrument;

populate at least one of the fields in the matrix with data received via the network interface;

detect, via the input device, a selection of an unpopulated bid field or ask field in a given row of the matrix; and

in response to the selection, transmit, via the network interface, an order for a respective financial instrument with data from a populated bid field or ask field such that the transmitted order is on an opposite side of a trade associated with the selected, unpopulated bid field or ask field.

[22] Claim 9 on file is effectively directed to the same subject matter as claim 1, reciting the method carried out by the apparatus's processor.

[23] Dependent claims 2, 7, 10 and 15 on file further add that visual indicators are rendered on the display device to highlight differences between the fields, or to distinguish a row as being associated with an inside market. Dependent claims 3, 4, 11 and 12 on file further specify that the plurality of bid field or plurality of ask fields have associated price and size fields. Dependent claims 5, 6, 13 and 14 on

file further specify that the transmitted order is of a default size or is of a different size. Dependent claims 8 and 16 on file further add that updated data is received via the network interface and used to update the plurality of fields.

The meaning of certain terms

- [24] Claims 1 and 9 on file say that when a user selects an unpopulated bid or ask field, an order is transmitted “with data from a populated bid field or ask field such that the transmitted order is on an opposite side of a trade associated with the selected, unpopulated bid field or ask field.” The “opposite side” terminology does not appear in the description. It is unclear what this wording means. (A corresponding indefiniteness defect is identified below.) For the purposes of determining the issues for this application, we treat the “trade associated with the selected, unpopulated” field as meaning the existing proposed trade displayed by the graphical user interface in the populated field in the selected row. That is to say, when a user wishes to make a bid (for example), they select an unpopulated bid field in a row with a populated ask field (para 72; figure 2A). This populated field “is on an opposite side of” the selected trade. A bid order is then transmitted with data from this “associated” populated ask field.

The elements are presumed to be essential

- [25] None of the claim language appears to suggest any of the elements are non-essential. Accordingly, we presume all the elements of the claims on file to be essential.
- [26] The Applicant made no submissions in response to our preliminary review letter regarding purposive construction.

SUBJECT MATTER: CLAIMS 1 TO 16 ARE UNPATENTABLE

Principles

- [27] A claim must define subject matter fitting within the definition of invention in section 2 of the *Patent Act*. Additionally, patents cannot be granted for any mere scientific principle, abstract theorem or mathematical formula (*Patent Act*, s 27(8); *Schlumberger Canada Ltd v Commissioner of Patents*, [1982] 1 FC 845 (CA) at 847 [*Schlumberger*]; *Canada (Attorney General) v Benjamin Moore & Co*, 2023 FCA 168 at paras 47, 51, 53, 68, 72 [*Benjamin Moore*]).
- [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 at para 42 [*Amazon.com*]). As stated by the Federal Court of Appeal in *Benjamin Moore* (para 68), this determination is in line with that Court’s statement in *Schlumberger* (page 847) 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.com* at paras 65–66).
- [30] To satisfy this “physicality requirement,” the actual invention must have physical existence, or manifest a discernible physical effect or change. Nonetheless, the

mere presence of a practical application is insufficient to meet this requirement (*Amazon.com* at paras 66, 69). As *Amazon.com* (para 44) tells us, "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. This was the situation in *Schlumberger*. In that case, 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.com* at para 69). The patentable-subject-matter concerns regarding the well-known use of a computer to process an algorithm, illustrated by *Schlumberger*, are outlined 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 will not make it patentable subject matter; but
- if processing an algorithm improves the functioning of the computer, the computer and the algorithm together form a patentable single actual invention.

[31] 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.com*). 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.

- [32] As noted in *Benjamin Moore* at para 94 (and similarly expressed in *Amazon.com* 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.

Analysis

- [33] We consider the claims on file to be directed to unpatentable and prohibited subject matter. The claimed computerized methods and systems embody computer systems programmed to merely process algorithms in a well-known manner without improving the functioning of the computer.
- [34] The actual invention—that is to say, what is “put forward as novel” or “what new knowledge has been added to human wisdom” (*Amazon.com* at paras 62–63; *Benjamin Moore* at paras 64, 69, 87, 89, 94)—appears to be the set of rules or algorithm for displaying trading information and order entry regions in a certain way. According to the application, this layout of information and regions is intended to more intuitively display bid and ask prices, and their associated quantities (paras 4–5, 13–15, 20, 48; figure 2a). It is also intended to unambiguously convey the inside market and changes to it, while facilitating order submission. The layout uses individual columns (or “axes”) to display fields of bid and ask sizes and prices; these columns are then aligned to each other according to price. A user selects an unpopulated bid or ask field, and an order, including data from certain associated populated fields, is submitted.
- [35] The application does not appear to focus on improving any computer technology, be it part of electronic trading systems or part of graphical user interface software (paras 41–46, 72, 112–15; figure 1). There does not appear to be any improvement to the functioning of the computer here. Electronic trading systems with graphical user interfaces—including those using various layouts of rows, columns and fields to display information on bids and asks, and their prices and

quantities—are well known. As are electronic trading systems with graphical user interfaces able to recognize entry of order commands and information by a user's selection of interface elements. It is well known for such systems to automatically respond with order data or submit orders with associated data. The application does not suggest any challenges in adapting such technology to present the proposed layout of trading information and entry regions. This shows the computer technology involved in claim 1, and the way it is used, to be conventional.

- [36] Therefore, the set of rules or algorithm for displaying trading information is merely being processed by a computer system in a well-known manner. The algorithm or rules do not improve the functioning of the computer system. Thus, this computer processing does not help the actual invention—which is the set of rules or algorithm—to fulfil the physicality requirement of section 2 of the *Patent Act* or avoid the prohibition of subsection 27(8) of the *Patent Act*.
- [37] Independent claim 9 on file defines effectively the same subject matter in the form of a method, and is similarly unpatentable.
- [38] Dependent claims 2 to 7 and 10 to 15 on file recite further details, but which pertain to the appearance and meaning of the displayed information. Thus, we see no differences in these claims that would affect the above reasoning.
- [39] Dependent claims 8 and 16 on file add that updated data is received via the network interface and used to update the displayed data. Such behaviour still represents conventional functionality for electronic trading systems with graphical user interfaces. Electronic trading systems able to dynamically update the displayed market information are well known. Thus, these claims also relate to a computerized system processing abstract information-displaying rules, or an abstract algorithm, in a well-established manner, without solving any problem in the functioning of the computerized system.
- [40] Therefore, claims 1 to 16 on file define unpatentable subject matter, falling outside section 2 of the *Patent Act* and prohibited by subsection 27(8) of the *Patent Act*.

[41] The Applicant made no submissions in response to the above patentability assessment appearing in our preliminary review letter.

OBVIOUSNESS: CLAIMS 1 TO 16 ARE OBVIOUS

Principles

[42] A claim must define subject matter that would not have been obvious to a skilled person on the claim date (*Patent Act*, s 28.3). Obviousness is assessed having regard to documents that were publicly available before the claim date (*Patent Act*, s 28.3(b)). The following four-step approach is useful for assessing obviousness (*Apotex Inc v Sanofi–Synthelabo Canada Inc*, 2008 SCC 61 at para 67):

- (1) Identify the skilled person and their relevant common general knowledge;
- (2) Identify the inventive concept of the claim, or construe it;
- (3) Identify any differences between the matter cited as part of the state of the art, and the inventive concept or construed claim;
- (4) Would those differences have been obvious to the skilled person without knowledge of the claimed invention?

The skilled person and their common general knowledge

[43] We identified the skilled person above, and that identification is equally apt for assessing obviousness. For obviousness, the common general knowledge as of the claim date is used. In this case, the claim date is July 29, 2004. We nonetheless consider the above identification of the relevant common general knowledge applicable to assessing obviousness here.

The inventive concept

[44] We construed the claims on file above. We take the wording of each construed claim as representing its inventive concept.

The differences

[45] We consider D1 to come the closest of the cited references to disclosing the entire present invention. The differences between the disclosure of D1 and the inventive concepts for the claims on file are:

- The preferred embodiment of the invention disclosed and claimed by D1 does not display multiple rows, each associated with a financial instrument, and each with multiple bid fields and multiple ask fields (unlike all the claims on file);
- D1 does not disclose the transmission of an order with data from a populated bid or ask field upon the user's selection of an associated unpopulated field (unlike all the claims on file);
- The preferred embodiment of the invention disclosed and claimed by D1 does not show price and size fields for both bids and asks (unlike claims 3, 4, 11 and 12 on file); and
- D1 does not disclose highlighting rows to indicate the inside market (unlike claims 7 and 15 on file).

[46] D1 discloses a graphical user interface for an electronic trading system; it dynamically displays the market depth for a traded commodity and permits trades to be entered (abstract; column 3, line 2–column 4, line 64). The graphical user interface uses a grid of fields associated with bid and ask quantities and prices (figures 3–5). The fields are populated with trading data received via the network (column 1, line 26–column 2, line 61; column 4, line 65–column 6, line 2). A user places an order by selecting one of the fields; the order is populated with data according to preset values, and according to the field or row selected, then transmitted (column 10, lines 21–65). According to D1, the bid or ask field selected by a user placing an order can be populated or unpopulated (column 9,

line 35—column 12, line 27; figures 5–6). Details of the order are automatically filled in with data according to the row and field selected, and according to certain preset values.

- [47] D1 depicts a column for bid quantities, a column for ask quantities and a column for the last quantity traded (figures 3–5). There is another column showing prices at regular increments. The locations of the populated fields in the other columns relative to the price fields quickly convey relevant trading information, including the inside market.
- [48] Regarding dependent claims 2 and 10 on file, D1 also discloses showing columns (including the bid quantity and ask quantity columns) in different colours to help traders quickly distinguish them (column 7, lines 61–64; figure 3).
- [49] Regarding dependent claims 5, 6, 13 and 14 on file, D1 also discloses that default sizes may be used for orders, and that users may readily change or diverge from the defaults (column 8, line 38—column 9, line 40; column 10, line 66—column 11, line 34).
- [50] Regarding dependent claims 8 and 16, D1 discloses that trading data is received via the network and used to update the display (column 5, line 29—column 6, line 2; column 7, line 19—column 8, line 36; figure 1).

Would those differences have been obvious?

- [51] In our view, the differences between the disclosure of D1 and the inventive concepts for the claims on file would have been obvious to the skilled person, given the disclosure of D3 and their common general knowledge.
- [52] It would have been obvious to include columns of price and quantity fields for both bids and asks. Such an arrangement would have been but one of the obvious design choices available to the skilled person. The common general knowledge includes electronic trading systems with graphical user interfaces using various layouts of columns, rows and fields. In addition, D1 specifically describes an alternative way for an electronic trading system to display trading

information, one that displays columns of price and quantity fields for both bids and asks (column 5, line 13–column 6, line 12; figure 2). This reasoning also applies to the additional differences of dependent claims 3, 4, 11 and 12 on file.

- [53] It would also have been obvious to transmit an order with data from a populated bid or ask field associated with the unpopulated field selected by the trader. D1 discloses the transmission of an order with data from a price field in the row selected by the trader, or from certain preset fields, depending on the mouse button pressed by the trader (column 10, lines 21–65). It would have been an obvious alternative for the skilled person to choose which of the populated fields to use for order data.
- [54] Regarding dependent claims 7 and 15 on file, it would have been obvious to indicate the inside market by highlighting rows in view of the techniques disclosed by D3 (paras 107–08; figures 11–12). D3 discloses different ways of graphically indicating the inside market, including highlighting.

Conclusion: claims 1 to 16 are obvious

- [55] The subject matter of claims 1 to 6, 8 to 14 and 16 on file would have been obvious to the skilled person in view of D1 and the common general knowledge. The subject matter of claims 7 and 15 on file would have been obvious to the skilled person in view of D1, D3 and the common general knowledge. Therefore, claims 1 to 16 do not comply with paragraph 28.3(b) of the *Patent Act*.
- [56] The Applicant made no submissions in response to the above obviousness assessment appearing in our preliminary review letter.

INDEFINITENESS: CLAIMS 1 AND 9 ARE INDEFINITE

- [57] A claim must distinctly and explicitly define its subject matter (*Patent Act*, s 27(4)). Its terms “must be free of avoidable ambiguity or obscurity,” and “be clear and precise” (*Minerals Separation North American Corp v Noranda Mines Ltd*, [1947] Ex CR 306 at 352).

[58] In our view, claims 1 and 9 on file each contain ambiguous wording and are unclear. They say that when a user selects an unpopulated bid or ask field, an order is transmitted “with data from a populated bid field or ask field such that the transmitted order is on an opposite side of a trade associated with the selected, unpopulated bid field or ask field.” This “opposite side” terminology does not appear in the description. We consider this claim wording to be ambiguous. For example, it is unclear what order is transmitted when a user selects an unpopulated bid field: a bid order using data from a populated ask field in the row, or an ask order. If the former interpretation were adopted, this wording would be avoidably convoluted. (For example, the wording used to define this characteristic before the independent claims were amended on January 16, 2019 was simpler and clearer). If the latter interpretation were adopted, these claims would contradict the description (paras 72, 75) and be considered to contain impermissibly added new matter. Therefore, claims 1 and 9 on file do not distinctly and explicitly define their subject matter; they are indefinite and contravene subsection 27(4) of the *Patent Act*.

[59] We identified these clarity defects during our preliminary review and notified the Applicant in the preliminary review letter (according to subsection 86(9) of the *Patent Rules*). The Applicant made no submissions concerning these defects.

SUPPORT: CLAIMS 1 TO 16 ARE SUPPORTED

[60] A claim must be fully supported by the description (*Patent Rules*, s 60).

[61] Claims 1 and 9 on file define the processor as detecting the selection of a field via an input device. The Final Action identified this feature as lacking support.

[62] The Applicant responded to the Final Action that this claimed wording was indeed supported by the description, particularly by its references to the behaviour of conventional input devices (paras 72–73). Computer users commonly used such input devices to select options, and computers commonly detected the selections made by these devices.

[63] The submissions the Applicant made in response to the Final Action persuaded the Examiner that the claims on file are supported by the description. We agree that the claims on file comply with section 60 of the *Patent Rules*.

THE PROPOSED CLAIMS

[64] The proposed claims cannot be accepted because they would not make the application allowable.

[65] When a rejection is not withdrawn, the application can only be amended if the Commissioner notifies the Applicant that a certain amendment is necessary to make it allowable, or if the amendment is ordered by the appropriate federal court (*Patent Rules*, ss 86(7), 86(11), 200).

[66] In our view, the proposed claims do not remedy the defects of unpatentable subject matter, obviousness and indefiniteness.

Purposive construction

[67] Proposed claims 1 and 9 differ from those on file by:

- explicitly saying that the processor renders a “graphical user interface” on the display device;
- saying that “a row containing a highest bid price or lowest ask price [is moved] to a particular area of the graphical interface”; and
- saying “a highlighted box [is rendered] around the particular area.”

[68] The processor of claims 1 and 9 on file already functions to provide what the skilled person would understand to be a graphical user interface.

[69] As for moving rows with the best prices, the closest the application comes to discussing such movement is when it outlines different scenarios involving recentring the inside market on the screen (paras 20, 83; figures 3a, 3c). The inside market is represented by the rows containing the best bid and ask prices

currently available. The description suggests embodiments where the display is adjusted, either in response to a command or to certain threshold conditions being met, so that the rows making up the inside market are positioned in the centre of the display. We construe the proposed independent claims as being directed to such a scenario.

[70] Regarding highlighting, the application discloses—in a scenario separate from those discussed above—displaying a box, perhaps highlighted, around the area containing these rows to emphasize the inside market (para 49; figure 2a). We construe the proposed independent claims as being directed to this scenario.

[71] We presume all the elements of the proposed claims to be essential.

Subject matter: the proposed claims are unpatentable

[72] The additional details of the proposed independent claims would not affect our reasoning. They represent further details or rules concerning how the trading information is displayed by the graphical user interface. The actual invention or “new knowledge” remains a set of rules governing the display of trading information and order entry regions, their appearance and their meaning. The computerized trading system involved still appears to be conventional. Merely processing such a set of rules on such a computer system in the claimed manner does not help it fulfil the physicality requirement of section 2 of the *Patent Act*. Nor does it avoid the prohibition of subsection 27(8) of the *Patent Act*.

Obviousness: the proposed claims are obvious

[73] The additional details are disclosed by D1 and D3. D1 discloses recentring the inside market within the display in response to a command from the user (column 9, lines 14–25). D3 also discloses this, as well as the automatic recentring of the inside market when it approaches the edge of the screen (paras 49, 100). As for a highlighted box, D3 discloses such techniques for visually indicating an area of the display (paras 107–08; figures 11–12). In our view, the proposed claims would also have been obvious.

Indefiniteness: the proposed claims are indefinite

[74] The proposed amendments do not address the indefiniteness defect identified in the independent claims on file. In addition, the rendering of a highlighted box in the proposed independent claims makes the subsequent references to highlighting rows in proposed claims 7 and 15 unclear.

Conclusion: the proposed claims would not make the application allowable

[75] Since the proposed claims do not remedy the defects in the claims on file, they do not make the application allowable. It follows that they cannot be a necessary amendment under subsection 86(11) of the *Patent Rules*.

[76] The Applicant made no submissions in response to the above assessment of the proposed claims when it appeared in our preliminary review letter.

THE BOARD RECOMMENDS REFUSAL OF THE APPLICATION

[77] In view of the above, we recommend the application be refused on the grounds that:

- claims 1 to 16 on file define subject matter outside the definition of invention in section 2 of the *Patent Act* and prohibited by subsection 27(8) of the *Patent Act*;
- claims 1 to 16 on file define obvious subject matter, contravening paragraph 28.3(b) of the *Patent Act*; and
- claims 1 and 9 on file are indefinite, contravening subsection 27(4) of the *Patent Act*.

Leigh Matheson

Mehdi Ghayour

Mara Gravelle

Member

Member

Member

THE COMMISSIONER REFUSES THE APPLICATION

[78] I agree with the Board's findings and its recommendation to refuse the application on the grounds that:

- claims 1 to 16 on file define subject matter outside the definition of invention in section 2 of the *Patent Act* and prohibited by subsection 27(8) of the *Patent Act*;
- claims 1 to 16 on file define obvious subject matter, contravening paragraph 28.3(b) of the *Patent Act*; and
- claims 1 and 9 on file are indefinite, contravening subsection 27(4) of the *Patent Act*.

[79] I therefore refuse, under section 40 of the *Patent Act*, to grant a patent for this application. The Applicant has six months to appeal my decision to the Federal Court of Canada under section 41 of the *Patent Act*.

Konstantinos Georgaras

Commissioner of Patents

Dated at Gatineau, Quebec

this 6th day of March, 2025.

APPENDIX

Relevant provisions of the *Patent Act*, RSC 1985, c P-4

Definitions

2 ...

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.

...

Claims

27(4) 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.

What may not be patented

27(8) No patent shall be granted for any mere scientific principle or abstract theorem.

Invention must not be obvious

- 28.3 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 before the one-year period immediately preceding the filing date or, if the claim date is before that period, before the claim 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.

Refusal by Commissioner

- 40 Whenever the Commissioner is satisfied that an applicant is not by law entitled to be granted a patent, he shall refuse the application and, by registered letter addressed to the applicant or his registered agent, notify the applicant of the refusal and of the ground or reason therefor.

Appeal to Federal Court

- 41 Every person who has failed to obtain a patent by reason of a refusal of the Commissioner to grant it may, at any time within six months after notice as provided for in section 40 has been mailed, appeal from the decision of the Commissioner to the Federal Court and that Court has exclusive jurisdiction to hear and determine the appeal.

Relevant provisions of the *Patent Rules*, SOR/2019-251

Form

- 60 The claims must be clear and concise and must be fully supported by the description independently of any document referred to in the description.

Rejection not withdrawn after final action

- 86(7) If an applicant replies in good faith to a requisition made under subsection (5) on or before the date set out in subsection (8) but, after that date, the examiner still has reasonable grounds to believe that the application for a patent does not comply with the Act or these Rules,
- (a) the Commissioner must by notice inform the applicant that the rejection has not been withdrawn;
 - (b) any amendments made to that application during the period beginning on the date of the final action notice and ending on the date set out in subsection (8) are considered never to have been made; and
 - (c) the application must be reviewed by the Commissioner.

Additional defects

- 86(9) If, during the review of a rejected application for a patent, the Commissioner has reasonable grounds to believe that the application does not comply with the Act or these Rules in respect of defects other than those indicated in the final action notice, the Commissioner must by notice inform the applicant of those defects and invite the applicant to submit arguments, not later than one month after the date of the notice, as to why the application does comply.

Notice requiring certain amendments

- 86(11) If, after review of a rejected application for a patent, the Commissioner has reasonable grounds to believe that the application does not comply with the Act or these Rules and certain amendments are necessary in order to make the application allowable, the Commissioner must by notice inform the applicant that those amendments must be made not later than three months after the date of the notice.

Definitions

- 165(1) ...

category 3 application means an application for a patent for which the filing date is on or after October 1, 1996 but before October 30, 2019.

(demande de catégorie 3)

...

Rejection for defects

- 199(1) If an applicant of a category 3 application replies in good faith to a requisition made under subsection 30(2) of the former Rules on or before the date set out in subsection (4) of this section but the examiner, after receiving the reply, has reasonable grounds to believe that the application does not comply with the Act or these Rules in respect of any of the defects referred to in the requisition and that the applicant will not amend the application to comply with the Act and these Rules, the examiner may reject the application.

No amendment after rejection

- 200 If a category 3 application is rejected by an examiner under subsection 199(1) of these Rules or subsection 30(3) of the former Rules, the specification and the drawings contained in the application must not be amended after the date prescribed by subsection 199(4) of these Rules, unless
- (a) a notice is sent to the applicant informing them that the rejection is withdrawn;
 - (b) the amendments are those required in a notice sent under subsection 86(11) of these Rules or subsection 30(6.3) of the former Rules; or
 - (c) the Supreme Court of Canada, the Federal Court of Appeal or the Federal Court orders the amendments to be made.