

Commissioner's Decision No. 1517  
Décision du commissaire n° 1517

TOPICS: B-00 Indefiniteness  
J-00 Meaning of Art  
J-50 Mere Plan  
O-00 Obviousness

SUJETS: B-00 Caractère indéfini  
J-00 Signification de la technique  
J-50 Simple plan  
O-00 Évidence

Application No. 2,455,591  
Demande n° 2 455 591



IN THE CANADIAN PATENT OFFICE

DECISION OF THE COMMISSIONER OF PATENTS

Patent application number 2455591, having been rejected subsection 30(3) of the *Patent Rules* (SOR/96–423) as they read immediately before October 30, 2019, has subsequently been reviewed in accordance with paragraph 199(3)(c) of the *Patent Rules* (SOR/2019–251). The recommendation of the Patent Appeal Board and the decision of the Commissioner are to refuse the application.

Agent for the Applicant:

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## INTRODUCTION

- [1] This recommendation concerns the review of rejected patent application number 2455591, which is entitled “Quotation system and method”. The patent application is owned by Saphran, Inc. The outstanding defects indicated by the Final Action (FA) are that the claims do not define statutory subject matter, contrary to section 2 of the *Patent Act*, and that the independent claims are indefinite, contrary to subsection 27(4) of the *Patent Act*.
- [2] The Patent Appeal Board (the Board) has reviewed the rejected application pursuant to paragraph 199(3)(c) of the *Patent Rules* (SOR/2019–251). During that review, we also assessed whether the claimed subject matter is obvious, contrary to paragraph 28.3(b) of the *Patent Act*. As explained below, our recommendation is to refuse the application.

## BACKGROUND

### The application

- [3] Canadian patent application 2455591, based on a previously filed Patent Cooperation Treaty application, is considered to have a filing date of July 12, 2002 and has been open to public inspection since January 15, 2004.
- [4] The invention relates to a quotation system for facilitating the preparation of a quotation for a custom-made product where the calculations performed are also customizable.

### Prosecution history

- [5] On July 13, 2016, an FA was written pursuant to subsection 30(4) of the *Patent Rules* (SOR/96–423) as they read immediately before October 30, 2019 (the former *Rules*). The FA stated that the application is defective on two grounds: the claims on file (i.e. claims 1 to 16, received September 18, 2015) do not comply with section 2 of the *Patent Act* and claims 1 and 12 on file do not comply with subsection 27(4) of the *Patent Act*.
- [6] In a January 12, 2017 response to the FA (RFA), the Applicant proposed an amended set of 16 claims (the first proposed claims) and submitted arguments for statutory subject matter.

- [7] The Examiner considered that the proposed amendment to the claims would remedy the indefiniteness defects, but was not persuaded by the Applicant's arguments regarding statutory subject matter. The rejection was not withdrawn.
- [8] Therefore, pursuant to subsection 30(6) of the former *Rules*, the proposed amendments were not entered on file and the application was forwarded to the Board to review it and make a recommendation to the Commissioner as to its disposition.
- [9] A Panel was formed to review the application; following our preliminary review, we sent a letter on June 7, 2019 (the PR letter) presenting our analysis and rationale as to why, based on the record before us, we considered the subject matter of the claims on file (and of the first proposed claims) to comply with section 2 but not paragraph 28.3(b) of the *Patent Act*, and claims 1 to 16 on file not to comply with subsection 27(4) of the *Patent Act*. We also invited the Applicant to a hearing.
- [10] The Applicant responded to the PR letter on August 30, 2019 (RPR), indicating that it no longer desired a hearing, proposing an amended set of 16 claims (the second proposed claims) and providing arguments as to their patentability.
- [11] Nothing has changed in the written record concerning the claims on file since the preliminary review, so we refer to the rationale expressed in the PR letter regarding those claims. As for the two sets of proposed claims, since the Applicant has most recently indicated interest in pursuing the second proposed claims, we focus on those rather than the first proposed claims.

## ISSUES

- [12] The three issues to be addressed by this review are whether:
- the claims on file define subject matter falling within the definition of invention in section 2 of the *Patent Act*;
  - the claims on file define subject matter that would not have been obvious, thus complying with paragraph 28.3(b) of the *Patent Act*; and
  - claims 1 and 12 on file distinctly and explicitly define the invention, thus complying with subsection 27(4) of the *Patent Act*.
- [13] We then address whether the second proposed claims would constitute a necessary amendment under subsection 86(11) of the *Patent Rules*.

## LEGAL PRINCIPLES AND PATENT OFFICE PRACTICE

### Purposive construction

- [14] In accordance with *Free World Trust v Électro Santé*, 2000 SCC 66, 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 at paragraphs 49(f) and (g) and 52). In accordance with the *Manual of Patent Office Practice*, revised June 2015 (CIPO) at §12.02.02, the first step of purposive claim construction is to identify the skilled person and his or her relevant common general knowledge (CGK). The next step is to identify the problem addressed by the inventors and the solution put forth in the application. Essential elements can then be identified as those elements of the claimed matter that are fundamental to the disclosed solution.

### Statutory subject matter

- [15] 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.

- [16] “Examination Practice Respecting Computer-Implemented Inventions”, PN2013–03 (CIPO, March 2013) [PN2013–03] clarifies the Patent Office’s approach to determining if a computer-related invention is statutory subject matter.
- [17] As explained in PN2013–03, where a computer is found to be an essential element of a construed claim, the claimed subject matter is not a disembodied invention (e.g. mere ideas, schemes, plans or sets of rules, etc.), which would be non-statutory.

### Obviousness

- [18] 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.

[19] In *Apotex v Sanofi-Synthelabo Canada*, 2008 SCC 61 at paragraph 67, 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**

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

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

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

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

## ANALYSIS

[22] We cited the following documents in the PR letter as relevant:

- |       |            |              |                   |
|-------|------------|--------------|-------------------|
| • D1: | US 5761656 | June 2, 1998 | Ben-Shachar       |
| • D2: | US 5907846 | May 25, 1999 | Berner et al.     |
| • D3: | CA 2359133 | May 17, 2001 | Lang et al.       |
| • D4: | CA 2390379 | May 17, 2001 | Gryglewicz et al. |

### Purposive construction

#### *The skilled person*

[23] Based on the context of the invention and the background information of the description (pages 1 to 2), the PR letter identified the skilled person as a team comprising one or more business professionals employed by a supplier (such as an automotive supplier) and experienced with the preparation of customer quotations for custom-made mass produced products. The team also includes the programmers or other technologists experienced with developing and providing the software, tools and infrastructure conventionally used to support such professionals.

#### *The CGK*

[24] Accordingly, we identified the relevant CGK as including:

- the processes typically involved in preparing quotations and the challenges faced by suppliers in such preparation;
- the use of spreadsheets and email to prepare quotations, and their limitations;
- the development and use of quotation software, and its limitations;
- general-purpose computer hardware and computer programming techniques;
- the use of relational databases and database management systems; and
- the development of user interfaces, including graphical user interfaces for interacting with databases.

[25] We based this identification on the definition of the skilled person above. As we explained in the PR letter, the first three points are also supported by the application's description of what is typical in the field (pages 1 to 2 and 4) and the last three points are also supported by the low amount of detail in the present application concerning the implementation of the proposed quotation system. This lack of detail suggests that such implementation must be within the grasp of the

skilled person and thus not in need of further explanation. The Applicant also indicated as much in its September 6, 2012 response to an Examiner's requisition:

In particular, the new amended claims set out clearly the various steps and their necessary sequence to be implemented by the software, where the details of the actual implementation is considered to be common general knowledge to one of ordinary skill in the computer arts.

...

The specific implementation would depend on the calculation being performed, but once the calculation and the desired range of changes were specified, details as to how to implement these steps of claims 1 and 12 would become clear to one of ordinary skill in the art.

...

In particular, the design of user interfaces is very well known, and is well within the knowledge of someone of ordinary skill. Deciding how to customize the interfaces would become obvious to one of ordinary skill once the nature of the product and the structure and workflow of the quoting organization were defined.

- [26] The second last point is further supported by the description in D2 (columns 1 to 3) of relational database technology as mature, conventional and widely available.
- [27] The final point is further supported by the description in D1 (column 1) of the development of graphical user interfaces for databases, and of commercially available tools for facilitating such development.
- [28] The FA had also identified as CGK the ability to add a new data category to an existing relational database without requiring the modification of all existing applications, and thus that the use of relational databases allows for flexible data entry without reprogramming. The PR letter indicated our view that it has not been established as CGK that one can store calculations and other functions in a relational database to eliminate the need for hard-coding such functions.
- [29] The Applicant has not disputed these identifications of the skilled person or their relevant CGK, and we adopt them here.

*The problem and the solution*

- [30] The Applicant had submitted in the RFA that the problem is how to make a computer-implemented quotation system more flexible so it can be used to generate quotations for a wider variety of projects without reprogramming. The solution, according to the RFA, is a computer-implemented quotation system that accepts from the user not only quotation data (as traditional systems do), but also calculation data that will be used by the system to modify the techniques or calculations applied to quotation data when preparing a quotation.
- [31] In contrast, the Applicant submitted in the RPR that the problem “relates to different departments of a product supplier having to collaborate to prepare a quotation for a custom made product.” The RPR agreed with the RFA insofar that the solution is the provision of “a database that can be modified by inputting/modifying data without requiring any reprogramming of a quotation software. It added, however, that the solution “also provides customized interfaces to the departments as a function of the work flow required to produce the custom made product.” That is to say, the customized interfaces identify to their respective departments only the data required to be input by that department for preparation of the quotation for the custom-made product.
- [32] As we remarked in the PR letter, the application (pages 1 to 2) explains that the process for preparing customer quotations, especially quotations for custom-made mass-produced products like automobiles, can be cumbersome and present difficulties to the multiple departments of a supplier involved in preparing one. One existing technique used to face these difficulties is the use and sharing of spreadsheets, via email, for example. A shortcoming with this technique, explains the application, is that results become separated from their originating data, making the data hard to track and nearly inaccessible for subsequent analysis.
- [33] Software also exists for the preparation of quotations but, according to the application, lacks the flexibility often needed to prepare customized quotations. If a supplier wishes to change the cost calculations hard-coded into the software, substantial reprogramming is needed.
- [34] Thus, as a solution, the application (page 3) proposes quotation software that uses a relational database to centrally store and manage the data used to prepare the quotations, thus avoiding the need for the various departments of the supplier to exchange spreadsheets. In addition, the data pertaining to the calculations is also stored in the database, permitting the supplier to add to or modify it to change the

way the calculations are performed without having to resort to reprogramming the quotation software.

- [35] The application does not refer to any challenges in implementing the quotation software or computer system, describing the implementation only generically and at a high level. Given the limited level and nature of the detail in the description regarding the implementation, the skilled person would understand the problem not to lie in how to implement it. The skilled person's understanding would also be supported by the CGK identified above, particularly that pertaining to customized interfaces for a database.
- [36] Therefore, we view the problem as the restriction by conventional quotation software of a supplier's choices to hard-coded calculations. We view the corresponding solution as the concept of quotation software using a relational database for storing not only quotation data, but also calculation data. The software would thus permit suppliers to add to or modify the calculations performed simply by updating the stored data without needing to reprogram the quotation software itself.

*The essential elements*

- [37] Independent claims 1 and 12 on file are directed to the same subject matter, cast in the form of a system and a method respectively. Both refer to the relational database and its storage and use of both quotation data and calculation data. The dependent claims recite further details pertaining to the data and its associated meanings, and to the users of the software.
- [38] For convenience, claim 1 on file is provided below as a representative of the claims:

1. A quotation system that provides flexible control of a custom quotation by making a modification to a technique used to perform a quotation calculation, the modification being made according to calculation data supplied by a user, the quotation system comprising:

non-transitory computer-readable media containing software that is able to direct the actions of a computer so as to cause the computer to:

accept the calculation data from the user of the system;

store the calculation data in a relational database;

using the calculation data, modify the technique used to perform the quotation calculation;

accept quotation data from the user of the system;

store the quotation data in the relational database;

perform the quotation calculation on the quotation data using the modified technique, so as to provide a result of the quotation calculation;

apply the result of the quotation calculation so as to determine a quotation; and provide the quotation to the user of the system wherein the quotation system is configured for use by various departments;

wherein the software is further able to direct the actions of the computer so as to present a plurality of customized interfaces corresponding to the various departments, each customized interface being in communication with the relational database and configured to provide a user tailored access, in accordance with work flows, to the relational database according to anticipated use by the corresponding department of the user.

[39] The FA and the RFA disagreed as to whether or not a computer is essential to the invention. As we explained in the PR letter, we viewed the problem of the prior art quotation software—the need to reprogram hard-coded operations when calculations must be changed—as an artefact of the software itself and the way it has been programmed and organized. The solution represents a functional difference resulting from the way the software is programmed and organized as opposed to a difference in the way quotations are calculated or prepared. Accordingly, we viewed the involvement of a computer as essential.

[40] As explained in the PR letter, we saw the independent claims on file as sharing the same set of essential elements—a medium storing quotation software providing flexible control of a custom quotation by using user-supplied calculation data to modify a quotation calculation technique, the software directing a computer to:

- accept the calculation data from the user;
- store the calculation data in a relational database;
- accept the quotation data from the user;
- store the quotation data in the relational database;
- perform a quotation calculation on the quotation data using a technique modified by the user-supplied calculation data;

- apply the result of the calculation to determine a quotation; and
- provide the quotation to the user; wherein
- the software enables the computer to provide a plurality of customized interfaces, each interface being in communication with the relational database and configured to provide user-tailored access.

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

[42] The Applicant did not dispute this construction or the underlying reasoning in the RPR, and we adopt it here as well.

### **Statutory subject matter**

[43] As construed above, the involvement of a computer is essential, and thus the claimed subject matter is not a disembodied invention.

[44] Therefore, claims 1 to 16 on file define statutory subject-matter and thus comply with section 2 of the *Patent Act*.

### **Obviousness**

*Identify the notional person skilled in the art and the relevant CGK*

[45] The above identifications of the notional skilled person and relevant CGK are considered to be applicable for the purpose of assessing obviousness and we adopt them here.

*Identify the inventive concept of the claim in question or if that cannot readily be done, construe it*

[46] In the PR letter, we took the construction of the claims on file as also representing their inventive concept; we again adopt that approach here.

*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*

[47] The PR letter expressed our view that the state of the art is best represented by the disclosure in the present application (page 2) of existing quotation preparation software. (We also identified such software above as part of the CGK.) The chief

difference between the quotation preparation software of the state of the art and that of the inventive concept is that the software of the state of the art does not use a relational database to store user-supplied calculation data for modifying the quotation calculations, thus lacking the flexibility of the software of the inventive concept. In addition, the inventive concept includes the provision of customized interfaces to the database, something the application does not describe the conventional quotation preparation software as providing.

- [48] The Applicant submitted in the RPR that a difference between the state of the art and the present invention is that the present invention allows for customized interfaces to be generated, on a department-by-department basis, as a function of the workflow associated with the production of the custom-made products. Specifically, the RPR was referring to D3 and D4, and to the second proposed claims, where it included this submission, but the claims on file also refer to customized interfaces, as noted above.

*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*

- [49] As explained above, both the use of relational databases and the development of user interfaces (including those for interacting with databases) are part of the CGK. Given this, it does not matter to the question of obviousness whether user interfaces are generated on a department-by-department basis. The skilled person would create and customize as many user interfaces as appropriate in view of the structure and work flow of the organization using them.
- [50] As for the storage of calculations and functions in a database as modifiable data separate from the hard-coded functions, D3 (abstract; pages 3 to 9, 11 to 16 and 18) discloses a software-based system for calculating prices for electronic commerce transactions. Recognizing the need for merchants (its users) to be able to change the various pricing rules and computation sequences controlling the price calculation without reprogramming the system, such data is not hard-coded but stored in a database. The merchants may access and modify this data via a user interface provided by the software.
- [51] In addition, D4 (abstract; pages 1, 2, 17, 20 to 25, 45 and 47 to 56) discloses a software-based system for calculating the taxes for Internet transactions. It recognizes the need for merchants (its users) to be able to set and change the business rules that apply to their types of transactions without reprogramming hard-

coded software. It similarly recognizes the need to be able to update tax criteria and tax calculation data without reprogramming, and thus stores this data in a database to which tax authorities have been granted access.

[52] Thus, the concept of storing data for directing calculations and other functions in a relational database to avoid having to reprogram hard-coded functions when calculations need to be modified is obvious. Nor can the implementation be inventive, given the CGK identified above.

#### *Conclusion on obviousness*

[53] As we explained in the PR letter, we consider that the subject matter of the claims on file would have been obvious to the skilled person in view of D3 or D4, and the CGK. Therefore, these claims do not comply with paragraph 28.3(b) of the *Patent Act*.

#### **Indefiniteness**

[54] As we explained in the PR letter, claims 1 and 12 on file each include an instance where an indefinite article is used instead of a definite article, and claim 12 also includes an instance of a missing antecedent. As a result, these claims and their dependencies lack clarity.

[55] Therefore, claims 1 to 16 on file are indefinite and do not comply with subsection 27(4) of the *Patent Act*.

#### **Proposed claims**

[56] As stated above, the second proposed claims comprise 16 claims. These claims have many rewordings compared to the claims on file, including the introduction of the concept of workflow data, and an apparent emphasis of the involvement of multiple departments. Second proposed claim 1 is included below for reference:

1. A quotation system that provides flexible control of a custom quotation for producing a custom made product by making a modification to a quotation calculation technique and by making a modification to a work flow associated with producing the custom made product, the quotation system being configured for deployment at a product supplier having associated thereto a plurality of departments, the quotation system comprising:

non-transitory computer-readable media storing computer executable instructions thereon that when executed by a computer perform the following actions

accept calculation data and work flow data from users at the plurality of departments

store the calculation data and the work flow data in a relational database;

using the calculation data, modify the quotation calculation technique used to perform the quotation calculation to obtain a modified quotation calculation technique;

using the work flow data, modify the work flow to obtain a modified work flow;

generate a plurality of customized interfaces for the plurality of departments, each customized interface of the plurality of customized interfaces being generated in accordance with the modified work flow, each customized interface of the plurality of customized interfaces being in communication with the relational database and configured to provide to users at the respective department tailored access to the relational database and to allow the users at the respective department to input quotation data into the quotation system;

accept the quotation data;

store the quotation data in the relational database;

perform the quotation calculation on the quotation data using the modified quotation calculation technique, so as to provide a result of the quotation calculation;

apply the result of the quotation calculation so as to determine a quotation; and

provide the quotation to at least one user of the system.

- [57] The amendments to the claims and supporting submissions in the RPR seem intended to lead the reader to an interpretation where users from a plurality of departments can enter into the relational database “workflow data”—something independent of the calculation data used to modify how the quotations are calculated—and apparently intended to control both the workflow of their own and

other departments, as well as each department's corresponding customized interface.

- [58] The application (e.g. pages 5 to 7; figures 1 to 4) does not explicitly discuss the manipulation of the overall workflow by any of the departments, or the manipulation of departments' customized interfaces accordingly. The drawings (figures 1 and 3) appear to suggest that the sales department can enter business rules which may determine whether certain of the other departments are involved in the calculation of a particular quotation. The application (pages 5 to 6; figures 1 and 3) does disclose that in accordance with a supplier's workflows, each department may have its own appropriately customized interface to the relational database, such that only the information needed by a department is provided to it, only the information needed from the department is requested from it. The application (pages 7 to 8; figure 4) also discloses that process data—that is, how quotation calculations are carried out—is stored in the relational database, and may be modified for quotations for different products, or even added for quotations for new products.
- [59] Therefore, if the second proposed claims are interpreted in a manner such that they are fully supported by the description and drawings, the added details do not add any further difference over the state of the art that would have required any degree of invention. As explained above, the concept of storing data for directing calculations and other functions in a relational database to avoid having to reprogram hard-coded functions when calculations need to be modified is obvious. The implementation of customized interfaces to relational databases is also obvious, given the CGK identified above.
- [60] It follows that the second proposed claims are not considered a necessary amendment under subsection 86(11) of the *Patent Rules*.

## RECOMMENDATION OF THE BOARD

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

- claims 1 to 16 are obvious and do not comply with paragraph 28.3(b) of the *Patent Act*; and
- claims 1 to 16 are indefinite, and thus do not comply with subsection 27(4) of the *Patent Act*.

Leigh Matheson  
Member

Lewis Robart  
Member

Andrew Strong  
Member

## DECISION OF THE COMMISSIONER

[62] I concur with the findings of the Board and its recommendation to refuse the application. The claims on file comply with neither paragraph 28.3(b) nor subsection 27(4) of the *Patent Act*.

[63] 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 10<sup>th</sup> day of February, 2020