

Citation: Home Depot International, Inc. (Re), 2021 CACP 33

Commissioner's Decision 1586

Décision du commissaire n°1586

Date: 2021-06-18

TOPIC: J00 Meaning of Art
 J10 Computer Programs
 J40 Mental Steps

SUJET: J00 Signification de la technique
 J10 Programmes d'ordinateur
 J40 Processus psychologique

Application No. : 2,880,393

Demande n° 2 880 393

IN THE CANADIAN PATENT OFFICE

DECISION OF THE COMMISSIONER OF PATENTS

Patent application number 2,880,393 having been rejected under subsection 30(3) of the *Patent Rules* (SOR/96-423) as they read immediately before October 30, 2019 (“the *former Patent Rules*”), 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.

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INTRODUCTION

- [1] This recommendation concerns the review of rejected Canadian patent application number 2,880,393 (the instant application), which is entitled “SYSTEM, DEVICES, AND METHODS FOR DETERMINING AN OPTIMAL INVENTORY LEVEL FOR AN ITEM WITH DISPROPORTIONATELY DISPERSED SALES” and is owned by HOME DEPOT INTERNATIONAL, INC. (the Applicant). A review of the rejected application has been conducted by the Patent Appeal Board (the Board) pursuant to paragraph 199(3)(c) of the *Patent Rules*. As explained in more detail below, the Board’s recommendation is that the Commissioner of Patents refuse the application.

BACKGROUND

The Application

- [2] The instant application was filed on January 30, 2015. It was laid open to public inspection on August 3, 2015.
- [3] The application relates generally to methods and systems for automatically identifying products for which sales were disproportionately dispersed and optimizing inventory levels. The application has 17 claims on file, which were received at the Patent Office on June 19, 2017.

Prosecution History

- [4] On May 11, 2018, a Final Action (FA) was written pursuant to subsection 30(4) of the *former Patent Rules*. The FA stated that the instant application is defective because all of the claims on file are directed to subject-matter outside of the definition of invention and therefore are not compliant with section 2 of the *Patent Act*. The FA found both a primary subject-matter defect in all the claims and a secondary subject-matter defect in some claims. The FA also indicated that claims 1-17 are indefinite with respect to subsection 27(4) of the *Patent Act*.
- [5] In a November 12, 2018 response to the FA (RFA), the Applicant submitted arguments in favour of the patentability of the claims on file, as well as a set of proposed claims (the proposed claims).
- [6] As the Examiner still considered the application not to comply with section 2 of the *Patent*

Act, pursuant to paragraph 30(6)(c) of the *former Patent Rules*, the application was forwarded to the Board for review on February 8, 2019 along with an explanation outlined in a Summary of Reasons (SOR). The SOR set out the position that the claims on file were still considered to be defective, and that the proposed claims, while curing a secondary subject-matter defect and the indefiniteness defect, still would not cure the primary subject-matter defect.

- [7] In a letter dated February 12, 2019, the Board forwarded to the Applicant a copy of the SOR and requested that the Applicant confirm its continued interest in having the application reviewed.
- [8] In a letter dated May 13, 2019, the Applicant confirmed its interest in having the review proceed.
- [9] A Panel of the Board (The Panel) comprising the undersigned reviewed the application on behalf of the Board under paragraph 199(3)(c) of the *Patent Rules*. In a preliminary review letter (PR letter) dated May 4, 2021, we set out our preliminary analysis of the issues with respect to the claims on file and the proposed claims. We also provided the Applicant with an opportunity to make oral and/or written submissions.
- [10] In a letter dated May 25, 2021 the Applicant declined the opportunity for an oral hearing and indicated that there would be no written submissions.

ISSUES

- [11] The issues to be addressed by the present review are whether the claims on file are directed to subject-matter which meets the definition of invention found at section 2 of the *Patent Act*, and whether the claims on file are clear and comply with subsection 27(4) of the *Patent Act*.
- [12] We also consider the proposed claims.

LEGAL PRINCIPLES AND OFFICE PRACTICE

Purposive Construction

- [13] In accordance with *Free World Trust v Électro Santé Inc*, 2000 SCC 66 and *Whirlpool Corp v Camco Inc*, 2000 SCC 67, purposive construction is performed from the point of

view of the person skilled in the art in light of the relevant common general knowledge (CGK), considering the whole of the disclosure including the specification and drawings. In addition to interpreting the meaning of the terms of a claim, purposive construction distinguishes the essential elements of the claim from the non-essential elements. Whether or not an element is essential depends both 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.

- [14] “Patentable Subject-Matter under the *Patent Act*” (CIPO, November 2020) [PN2020-04] also discusses the application of these principles, pointing out that all elements set out in a claim are presumed essential unless it is established otherwise or such presumption is contrary to the claim language.

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

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

- [17] PN2020-04 clarifies examination practice with respect to the Patent Office’s understanding of the legal principles applicable in determining whether the subject-matter defined by 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.

This references, in part, *Canada (Attorney General) v Amazon.com, Inc*, 2011 FCA 328 paras 42 and 66-69.

[18] *PN2020-04* further describes the Patent Office's approach to determining if a computer-related invention is patentable subject-matter. For example, 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 and unpatentable subject-matter. A computer programmed to merely processes the algorithm in a well-known manner without solving any problem in the functioning of the computer will not make it patentable subject-matter because the computer and the algorithm do not form part of a single actual invention that solves a problem related to the manual or productive arts. On the other hand, if processing the algorithm improves the functionality of the computer, then the computer and the algorithm would together form a single actual invention that solves a problem related to the manual or productive arts and the subject-matter defined by the claim would be patentable.

[19] In *Schlumberger Canada Ltd v Commissioner of Patents*, [1982] 1 FC 845 (CA) [*Schlumberger*], the Court concluded that, although computers were necessary for the invention to be put into practice, the computer did not form part of "what has been discovered" and thus was not relevant in determining whether the claimed invention was patentable subject-matter; the computer was merely being used to make the kind of calculations it was invented to make.

Indefiniteness

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

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

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

By his claims the inventor puts fences around the fields of his monopoly and warns the public against trespassing on his property. His fences must be clearly placed in order to give the necessary warning and he must not fence in any property that is not his own. The terms of a claim must be free from avoidable

ambiguity or obscurity and must not be flexible; they must be clear and precise so that the public will be able to know not only where it must not trespass but also where it may safely go.

ANALYSIS

Purposive Construction

[21] The FA at page 2 characterized the skilled person and CGK as follows:

The person, who may be a team, skilled in the art would be skilled in the field of inventory management. The person or team is also skilled in the field of general purpose computing technologies.

The skilled person or team is further familiar with job lot quantity (JLQ) sales management (see paragraph [0003]).

The skilled person or team is also familiar with general purpose computer hardware and general purpose computer programming techniques. Given the level of detail in the specification, it is presumed that the implementation of the claimed features falls within the common general knowledge in the art.

[22] In the RFA, the Applicant did not dispute these characterizations. We adopt them, as we did in the PR letter.

[23] The FA at pages 2-3 performed a purposive construction that resulted in a set of essential elements for certain claims according to a previous Patent Office practice, now superseded by *PN2020-04*. We undertake anew the identification of essential elements.

[24] Independent claim 1 is representative and reads:

A computerized method of managing an inventory quantity value for a product, the method comprising:

retrieving sales history values for one or more products from a data storage device;

calculating a dispersion inequality value of sales for one or more products,

wherein each of the one or more products is associated with one dispersion inequality value;

identifying a product from the one or more products for which sales for the identified product were disproportionately dispersed over a time period comprising a plurality of time units;

determining a first quantity value and a first frequency for the identified product based, at least in part, on sales values of the identified product within a subset of time units of the time period; and

replenishing inventory for the identified product according to the determined inventory quantity value;

wherein calculating the dispersion inequality value for at least one product of the one or more products comprises:

ordering the plurality of time units in ascending order according to sales values,

wherein the first time unit is associated with a smallest sales value for the at least one product and the last time unit is associated with a largest sales value for the at least one product; and

calculating the dispersion inequality value based, at least in part, on the ordered plurality of time units.

[25] According to *PN2020-04*, a purposive construction considers where the skilled person would have understood the applicant to have intended to place the fences around the monopoly being claimed.

[26] As we wrote in the PR letter:

Considering the whole of the specification, the skilled person would understand that there is no use of language indicating that any of the elements in the claim are optional or one of a list of alternatives. Therefore, in our preliminary view, all elements recited in claim 1 are considered to be essential, including the computer-implemented components.

[27] Independent claim 12, directed to a system, includes the same essential elements as claim 1, with the addition of calculations involving a second frequency value and a seasonal factor.

[28] Independent claim 15, directed to a computer program product, includes the same essential elements as claim 1.

- [29] Dependent claims 2-11, 13-14 and 16-17 include the same essential elements as the independent claims they depend on, with the addition of detailed calculation steps.

Meaning of terms

- [30] Purposive construction is also used to construe the meaning of claim terms as understood by the skilled person. Claim 1 recites a step of “replenishing inventory”. Independent claim 12 recites “produce an output for replenishing inventory”, and independent claim 15 recites “providing a replenishment output”. We maintain the view we expressed in the PR letter:

As the description does not refer to physical restocking operations or physical distribution of inventory, and the drawings do not depict physical inventory restocking operations, in our preliminary view, the skilled person would be led to interpret “replenishing inventory” broadly to include the computer system providing an output, such as an order quantity, or generating an order.

Patentable subject-matter

- [31] Given that our view of essential elements differs from that of the FA, and in view of the updated Patent Office practice, we undertake anew the assessment of patentable subject-matter according to *PN2020-04*.
- [32] As described above in the section “Legal Principles and Office Practice” we assess for each claim whether the subject-matter it defines forms a single actual invention having physical existence or causing a discernible physical effect or change.
- [33] In the PR letter we wrote:

In all the claims, the actual invention appears to be retrieving certain input data, performing calculations on the data using a computer, and presenting output data for replenishing inventory.

As discussed above, the term “replenishing inventory” in claim 1 would be interpreted broadly by the skilled person to include the presentation of output information, rather than a physical step.

This leaves the computer or processor as the only essential element having physicality. However, the situation here is the same as that of *Schlumberger*. A computer merely carrying out calculations as it was designed to do is not considered part of a single actual invention.

[34] In our view, all claims on file do not meet the physicality requirement for patentable subject-matter according to *PN2020-04* and do not comply with the definition of “invention” according to section 2 of the *Patent Act*.

[35] The FA also noted a secondary patentable subject-matter defect with respect to claim 15:

Claim 15 does not comply with section 2 of the *Patent Act*. Claims to computer-readable mediums must explicitly define that the medium contains machine-executable code executed by a device. Only machine-executable code can change the technological functionality of the physical memory storing the program. Non-executable code is considered to be mere descriptive matter (see *MOPOP* chapter 16.08.04).

[36] The relevant passage in *MOPOP* is now found at §22.08.04 (revised October 2010). In the RFA, the Applicant did not dispute this defect. We maintain the view we expressed in the PR letter that the claim is defective in this respect. The Applicant addressed this issue in the proposed claims.

Indefiniteness

[37] The FA noted with respect to the claims on file:

Claims 1-17 are indefinite and do not comply with subsection 27(4) of the *Patent Act*. The step of "retrieving sales history values for one or more products from a data storage device" does not interact with other method steps and the sales history values are never used. Therefore, the scope of the claimed subject matter is not clear.

[38] The Applicant did not dispute this issue in the RFA. We maintain the view we expressed in the PR letter that this defect is present. The Applicant addressed this issue in the proposed claims.

PROPOSED CLAIMS

Patentable subject-matter

[39] The proposed claims were not amended in any way other than to address the additional defects discussed below. Therefore, in our view, the primary subject-matter defect would remain in all the proposed claims.

- [40] The proposed amendment to the language of claim 15 to narrow “code” to “machine-executable code executable by a processor” would successfully cure the secondary patentable subject-matter issue with respect to the interpretation of “code” in that claim.

Indefiniteness

- [41] In the RFA, the Applicant noted with respect to the proposed claims:

The independent claims have been amended to clarify that the retrieved sales history values are a basis for calculating a dispersion inequality value of sales for the one or more products.

- [42] In our view, the proposed claims would link the retrieved sales history values to other steps in the claims and would therefore successfully cure the indefiniteness defect.

Conclusion regarding the proposed claims

- [43] We maintain the view we expressed in the PR letter:

In our preliminary view, the proposed claims would not cure the primary subject-matter defect in all claims; however, the proposed claims would cure the secondary subject-matter defect in claim 15 and the indefiniteness defects in all claims.

- [44] Therefore the proposed claims do not constitute “necessary amendments” according to subsection 86(11) of the *Patent Rules*.

CONCLUSION AND RECOMMENDATION OF THE BOARD

- [45] For the reasons set out above, we recommend that the Commissioner of Patents refuse this application as the claims on file are directed to non-patentable subject-matter and are therefore non-compliant with section 2 of the *Patent Act*. The claims on file additionally are indefinite and do not comply with subsection 27(4) of the *Patent Act*. The proposed claims do not cure the primary subject-matter defect and therefore do not constitute “necessary amendments” according to subsection 86(11) of the *Patent Act*.

Howard Sandler

Member

Blair Kendall

Member

Vincent Pellerin

Member

DECISION OF THE COMMISSIONER

[46] I concur with the conclusions and recommendation of the Board that the application be refused on the ground that the claims on file are directed to non-patentable subject-matter and are non-compliant with section 2 of the *Patent Act* and on the ground that the claims on file are indefinite and are non-compliant with subsection 27(4) of the *Patent Act*.

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

Virginie Ethier
Assistant Commissioner of Patents

Dated at Gatineau, Quebec

this 18th day of June 2021