Citation: Benjamin Moore & Co (Re), 2025 CACP 9
Commissioner's Decision #1690
Décision du commissaire nº 1690
Date: 2025-08-22

TOPIC:	J00	Subject Matter of Applications—Meaning of Art
	J50	Subject Matter of Applications—Mere Plan
	J80	Subject Matter of Applications—Professional or Artistic Skill

SUJET :	J00	Objet des demandes—Signification de la technique
	J50	Objet des demandes—Simple plan
	J80	Objet des demandes—Aptitudes professionnelles (artistiques)

Application No. 2695146
Demande n^{o} 2695146

IN THE CANADIAN PATENT OFFICE

DECISION OF THE COMMISSIONER OF PATENTS

The Commissioner of Patents refuses patent application 2695146 based on the Patent Appeal Board's recommendation. The Board reviewed the application after it was remitted from the Federal Court of Appeal to the Commissioner for redetermination in light of the current practice and the Court's reasons. The application had originally been rejected under subsection 30(3) of the *Patent Rules*, SOR/96-423 as they read immediately before October 30, 2019, and refused under section 40 of the *Patent Act*, RSC 1985, c P-4 (the *Patent Act*). That refusal was appealed under section 41 of the *Patent Act* to the Federal Court, whose decision was subsequently appealed to the Federal Court of Appeal.

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INTRODUCTION

[1] The Patent Appeal Board recommends patent application 2695146 be refused for claiming unpatentable subject matter. The Board does so after having reviewed this application in light of CIPO's current practice, and with the benefit of the reasons in *Canada (Attorney General) v Benjamin Moore & Co*, 2023 FCA 168, leave to appeal to the SCC refused, 41004 (May 16, 2024) [*Benjamin Moore*]. "Current practice" is reflected by the practice notice "Patentable Subject-Matter under the *Patent Act*" (CIPO, November 2020) [*PN2020–04*]. It is also reflected by all sections in the latest version of the *Manual of Patent Office Practice* (CIPO) [*MOPOP*] not superseded by *PN2020–04*. (*PN2020–04*, in its second paragraph and in its first note, identifies the guidance of *MOPOP* that it supersedes.)

[2] Benjamin Moore & Co applied for a patent (2695146) for a "Color Selection System." The invention involves a computerized system for helping consumers and professional designers select satisfying combinations of colours. Colour combinations are suggested to users based on colour "scores" and models, derived from test subjects' reactions to colours.

[3] The Examiner rejected the application for claiming unpatentable subject matter. The Applicant responded by proposing a first set of amended claims and submitting arguments for allowance. The Examiner, unpersuaded, maintained the rejection. The rejected application was forwarded to the Board for review on behalf of the Commissioner of Patents, and a panel of the Board was formed to do so. The panel agreed that the application claimed unpatentable subject matter, and the Commissioner refused the application in May 2020 (*Re Benjamin Moore & Co's Patent Application 2695146*, 2020 CACP 15, CD 1535 [*CD 1535*]).

[4] The Applicant appealed *CD 1535* to the Federal Court, which granted the appeal (*Benjamin Moore & Co v Canada (Attorney General)*, 2022 FC 923). The Federal Court remitted the application to the Commissioner for a redetermination in accordance with a newly proposed legal framework for assessing patentability.

[5] This newly proposed assessment framework was different from that used in our current practice, presented in *PN2020–04*. *PN2020–04* was promulgated after *CD 1535*, but before the Applicant appealed that decision to the Federal Court. (*PN2020–04* was the result of a review of CIPO's practice, prompted in August 2020 by an unrelated case (*Choueifaty v Canada (Attorney General)*, 2020 FC 837 [*Choueifaty*]).) Consequently, the Attorney General of Canada appealed the Federal Court's decision, arguing that the ordered assessment framework was incorrect in law. The Attorney General of Canada requested the application instead be remitted to the Commissioner for redetermination according to current practice.

[6] The Federal Court of Appeal allowed the appeal, ordering the Commissioner to redetermine patentability in light of CIPO's most current practice, and with the benefit of the Court's reasons (*Benjamin Moore* at paras 13, 98). The Intellectual Property Institute of Canada applied for leave to appeal the judgment to the Supreme Court of Canada, but their application was quashed.

[7] The Applicant submitted a second set of proposed claims to CIPO on September 25, 2023, amended for clarity. A new panel of the Board was formed; we, the undersigned, are its members. We preliminarily reviewed the application and conveyed the results to the Applicant via a preliminary review letter on November 27, 2023. The letter explained that the claims on file define unpatentable subject matter (pages 13–20). The letter also explained why we did not consider the second proposed claims to be an amendment that would make the application allowable (page 20). Finally, the letter invited the Applicant to respond by making written submissions and by indicating if they wanted a hearing (page 2).

[8] The Applicant responded with written submissions arguing for allowance on January 2, 2024. The Applicant also requested "a new Preliminary Review in view of the submissions" they made, and reserved "the right to request a hearing at a later date" (page 1).

[9] We sent a letter to the Applicant on January 31, 2024, explaining why we did not intend to conduct an additional preliminary review. Our practice does not typically

involve permitting additional rounds of review upon request (see e.g. the *Manual of Patent Appeal Board Procedures for Rejected Patent Applications* (CIPO) at §§ 1.0, 2.4, 2.5, 2.7, version December 2023). Our preliminary review was comprehensive, and we had shared its results with the Applicant. We had invited the Applicant to respond to those results and to request a hearing, if they wished. Given that our next step was to consider the Applicant's written submissions and make a recommendation to the Commissioner, there would be no later opportunity to request a hearing. Our letter thus followed its explanation by asking the Applicant to confirm whether they wanted a hearing. The Applicant ultimately declined to request a hearing, and we were requested via email on July 15, 2024 to proceed based on the available written record.

THE ISSUES

[10] The Federal Court of Appeal directed us to redetermine whether:

- claims 1 to 36 on file define subject matter outside the definition of invention in section 2 of the *Patent Act*, RSC 1985, c P-4 (the *Patent Act*), and prohibited by subsection 27(8) of the *Patent Act*.

[11] We then also had to consider whether:

- replacing the claims on file with the second proposed claims 1 to 35 would make the application allowable, as required for a necessary amendment under subsection 86(11) of the *Patent Rules*, SOR/2019-251 (the *Patent Rules*).

[12] Before redetermining patentability of the claimed subject matter, we had to purposively construe the claims.

PURPOSIVE CONSTRUCTION

Principles

[13] 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*].

[14] 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, 43–44, 51–60, 66; *Whirlpool* at paras 45, 48–49, 52–55). The whole disclosure is considered, including the specification and drawings.

[15] In addition to interpreting the meaning of the terms of a claim, purposive construction will show "that some elements of the claimed invention are essential while others are non-essential" (*Free World Trust* at paras 15, 31(e), 55; *Whirlpool* at paras 45, 48; *Eli Lilly Canada Inc v Apotex Inc*, 2024 FCA 72 at para 16; see also *Choueifaty* at para 28). 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 Inc v Dispill Inc*, 2013 FC 1043 at paras 200–01 [*Distrimedic*]). Accordingly, whether an element is essential depends on the intent expressed in or inferred from the claim, and on whether it would have been obvious that a variant has no material effect upon the way the invention works (*Free World Trust* at paras 31(e), 51–52, 55–57, 59; *Easton Sports Canada Inc v Bauer Hockey Corp*, 2011 FCA 83 at paras 31, 39; *Halford v Seed Hawk Inc*, 2006 FCA 275 at paras 13–14).

[16] A variant represents a substitution or omission of a claimed element. It is considered not to have a material effect on a claimed invention when the variant works in the same way. *Free World Trust* at paras 55–57 (see also *dTechs EPM Ltd v British Columbia Hydro and Power Authority*, 2021 FC 190 at paras 157–60, aff'd 2023 FCA 115, leave to appeal to the SCC refused, 40869 (February 15, 2024)):

> In this context, I think “work in the same way” should be taken for our purposes as meaning that the variant (or component) would perform substantially the same function in substantially the same way to obtain substantially the same result.

[17] 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

[18] We characterize the skilled person as a team comprising colour professionals and supporting technologists. The team is familiar with general colour theory and concepts, and with conventional computerized colour selection systems.

[19] The skilled person is the addressee of a patent application, expected to be able to practise the disclosed and claimed invention (*Whirlpool* at paras 42, 53, 70, 71; *Almecon Industries Ltd v Nutron Manufacturing Ltd* (1996), 72 CPR (3d) 397 at 401 (FCA); *Arctic Cat Inc v Bombardier Recreational Products Inc*, 2016 FC 1047 at paras 146, 159, 164, aff’d 2018 FCA 125). Therefore, understanding the purpose of the invention, the problem addressed, and how the invention addresses it, can help to identify the skilled person.

[20] The skilled person’s experience in this case is not limited to the paint industry. The claims on file do not limit the use of their methods and devices to that by a paint company or its customers. The word “paint” only appears in dependent claims 35 and 36. Further, the description (paras 1–2, 121) says that the invention has use beyond the paint industry

> [and] can also be applied to other areas where color coordination is of value, such as in selecting fabrics for furniture, wall covering colors, broadloom colors, and appliance colors, to name but a few possible applications.

[21] The Federal Court of Appeal made a similar observation in *Benjamin Moore* (at para 42):

> Understanding the purpose, problem and solution may also be useful to identify to whom the patent is addressed. For example, even if the patentee in this case is a paint company, it appears (to me at least) that the monopoly claim could encompass the use of the computer-implemented system to select colours when used by artists, garden designers, furniture companies, or for organizing one's wardrobe.

[22] The skilled person was identified in *CD 1535* as not necessarily being familiar with such advanced colour theories as colour harmony and colour emotion (paras 26–28). We consider the skilled person to be so familiar, given the description of the invention's purpose, the problem it is intended to solve, and how.

[23] The description explains that colour selection tools already exist in various sectors (para 2). Nonetheless, it is still challenging for both untrained consumers and experienced designers to choose colour combinations, given the abundance of colours. There is a need for a system that can assist its users "in reaching confident and satisfying color selection choices." The invention is intended to fulfil this need by being "a color selection system for assisting consumers and designers to search desired colors and develop color schemes that can evoke specific emotions and create harmony" (paras 1, 25, 87). The description explains how the system achieves its purpose (para 87):

> By using mathematical models of human psychophysical perceptions that are based on response data gathered from a plurality of test subjects, the embodiments described herein simulate typical human reactions to colors and combinations of colors and use that information to assist users with color selection. Thus, in example embodiments the color selection methods and devices described herein can provide a virtual second opinion to the user's own feelings or color emotions, which may improve the user's color selection confidence especially in environments where users can be

> inundated with multiple colors in a short time period. Furthermore, in example embodiments the color selection methods and devices described herein can be used to filter the number of possible color selections presented to user and thereby reduce confusion at being presented with a myriad of color choices.

[24] In addition, the claims on file are directed to computer-implemented methods and computing devices. All the embodiments suggested by the description and drawings seem to involve a computer. Accordingly, the characterization of the skilled person should also recognize this.

[25] Therefore, the colour professionals of the team representing the skilled person would be experienced with the application of colour theories involving colour perception, harmony and emotion. These professionals would also be experienced with using such conceptual tools as colour spaces and coordinate systems (e.g. the CIELAB colour space). The team's technologists would be experienced with developing and providing the systems and software conventionally used to support the designs and activities of such professionals.

[26] Based on this characterization of the skilled person, we identify the relevant common general knowledge as of the publication date—January 15, 2009—as including:

- conventional tools and methods for selecting colour combinations, including:
    - colour spaces and colour coordinate systems (e.g. the CIELAB colour space), and colour wheels;
- general theories regarding how colours are perceived as harmonious, and which emotions are elicited by specific colours;
- conventional mathematical modelling and computer programming techniques; and
- the design, implementation, operation and maintenance of computer systems, networks and software, including:

- computer-based systems for proposing harmonious colours based on a user's selected or generated colour;
- general purpose computers, computing devices, processors, user interfaces and peripherals;
- handheld computing and communication devices, and other commercially available computing equipment;
- database systems and other data storage systems; and
- computer network and other data communications systems.

[27] We also base this identification on what the present description describes as generally known or conventionally done in the field (paras 2, 37–44, 55, 107–108, 125). This identification is also supported by the disclosures of D1 to D9. D1 to D9 refer to the following documents, which are relevant to considerations of common general knowledge. They disclose subject matter similar, or related, to that of the present invention:

D1: US 2004/0046802 March 11, 2004 Wright et al.

D2: Tetsuya Sato et al., "Numerical expression of colour emotion and its application," *Proceedings of AIC 2003 Bangkok: Color Communication and Management Held 4–6 August 2003* (CGT, 2003) 365, online: AIC – International Colour Association – Proceedings < https://aic-color.org/resources/Documents/aic2003.pdf>.

D3: Li-Chen Ou et al., "A study of colour emotion and colour preference. Part I: colour emotions for single colours" (June 2004) 29:3 Color Research & Application 232.

D4: Li-Chen Ou et al., "A study of colour emotion and colour preference. Part II: colour emotions for two-colour combinations" (August 2004) 29:4 Color Research & Application 292.

D5: Li-Chen Ou et al., “A study of colour emotion and colour preference. Part III: colour preference modeling” (October 2004) 29:5 Color Research & Application 381.

D6: Li-Chen Ou & M Ronnier Luo, “A colour harmony model for two-colour combinations” (June 2006) 31:3 Color Research & Application 191.

D7: Nathan Moroney et al., “The CIECAM02 color appearance model,” *Proceedings of Tenth IS&T/SID Color Imaging Conference (CIC10) Held 12–15 November 2002 in Scottsdale, Arizona*.

D8: Xingmei Wang, Li-Chen Ou & Ronnier Luo, “Influence of area proportion on colour harmony,” *Presented to the International Conference on Colour Harmony Held April 24–26, 2007 in Budapest*.

D9: US 7136074 November 14, 2006 Hussie

[28] D1 and D9 disclose computerized methods for helping users select harmonious colour combinations. D2 discloses a way of numerically expressing colour emotions using a formula derived from the results of visual assessment tests. D3 to D5 disclose and explore colour emotion models for colours and colour combinations. D5, D6 and D8 disclose and explore colour harmony models for colour combinations. D7 discloses an experimentally derived colour appearance model.

[29] Like the present application, the cited documents describe certain things as generally known or conventionally done in the field. More specifically, they refer to:

- well-known general theories regarding:
    - how colours are perceived as harmonious (D1 (paras 1–2); D5 (pages 381–82); D6 (pages 191–92); D8 (Introduction); D9 (columns 1–3)); and

  - which emotions are elicited by specific colours (D2 (page 365); D3 (pages 232–33); D4 (pages 292–93); D5 (pages 381–82); D6 (pages 191–92); D8 (Introduction));

- well-known computer-based systems for proposing harmonious colours based on a user's selected or generated colour (D1 (paras 1–2); D9 (columns 1–3); D2 also envisages the development of such systems (page 368)); and

- the derivation of colour appearance models from corresponding colours experiments and colour appearance experiments (D7 (page 23)).

[30] Above, we identified computerized colour selection systems, and general-purpose computer technologies, as part of the common general knowledge. This identification is also supported by the low amount of detail in the application about the implementation of the colour selection system, and its hardware and software. This limited detail suggests such implementation must be within the grasp of the skilled person.

[31] The Applicant did not dispute this identification of the skilled person and their relevant common general knowledge when it appeared in the preliminary review letter. These identifications give the basis for purposively construing the claims.

The claims

[32] There are 36 claims on file. Independent claims 1, 20, 22 to 29 and 31 on file are directed to computer-implemented methods, and independent claim 32 on file is directed to a computing device. Claim 1 is illustrative:

> Claim 1 A computer implemented color selection method, comprising:
>
> selecting, using a controller, a group of known colors from a storage;
>
> receiving user input from a user input device, through a visual user interface of a color display screen, identifying a user chosen color;

receiving user input from the user input device identifying a threshold for a first color emotion based on a first human psychophysical perception, wherein the threshold comprises a numerical color emotion score and wherein the first color emotion comprises at least one of exciting-calming, light-dark, clean-dirty, happy-sad, fun-serious, warm-cool, or inviting-uninviting color emotion;

selecting, using the controller, in dependence on a first mathematical model that models the first human psychophysical perception, which colors in said group of known colors would achieve the threshold for the first color emotion when combined with the user chosen color and with each other,

wherein the first color emotion comprises a bi-polar emotion scale having a plurality of levels between end points and wherein the first mathematical model is based on psychophysical responses of a plurality of test subjects to a plurality of test colors indicating a degree of color emotion on the bi-polar emotion scale for the plurality of test colors; and

providing an output for the user identifying the selected colors on the visual user interface by at least displaying on the color display screen a color sample of each of the selected colors, displayed concurrently on the color display screen.

[33] The method of independent claim 20 differs from that of claim 1 by resulting in the selection of colours based solely on user input of an emotion—the user does not also input a colour.

[34] Independent method claims 22 to 27 differ from claim 1 by having more detail on how the selected colours are displayed, and by specifying that the user's chosen colours are also displayed. Independent claims 22, 23 and 27 also have further details regarding the user's input means and methods. Independent claims 24 and 25 also have further details regarding the appearance and meaning of the

information displayed. Independent claim 26 also further specifies that the user can change the display format.

[35] Independent method claim 28 differs from claim 1 by adding that the user is permitted to identify one of the selected output colours, resulting in the calculation and display of an emotion value for the combination. Independent method claim 29 differs from claim 1 by adding that the user is permitted to subsequently change perceptual attributes, thus modifying the inputs to the underlying models. Independent method claim 31 differs from claim 1 by specifying that colours are selected, in part, based also on a harmony model.

[36] Independent computing-device claim 32 is chiefly defined by its device being programmed to perform the method of one of claims 1 to 31.

[37] Dependent claims 2, 3, 5, 9, 10, 13 and 34 to 36 on file include additional details about the appearance and meaning of information displayed. Dependent claims 4, 6 to 8, 12, 14 to 19, 21, 30 and 33 on file include additional details about the meaning of input information, its significance to the calculations, and how it is input. Dependent claim 11 on file adds that the user can change the display format.

[38] Since the meaning of the terms in the claims on file is not an issue, our purposive construction focuses on determining which claimed elements are essential.

The elements of claims 1 to 36 are essential

[39] The Applicant submitted in their response to our preliminary review letter “that all claim elements are *prima facie* essential as subjectively intended by the inventor(s)” (page 2). As explained above, although claimed elements are presumed to be essential, this presumption can be overcome (*Free World Trust*; *Distrimedic*). An element’s presence in a claim cannot be conclusive.

[40] Further, there could be concerns with overuse of the presumption. *Benjamin Moore* at para 43:

> [overuse of this presumption would place] much emphasis on the art of claim drafting with little regard, at least before the issuance of a patent, to the fact mentioned in *Amazon* [at para 44] that claims can be expressed in a manner that is deliberately or inadvertently deceptive.

[41] Purposive construction will show whether a claimed element is essential, depending 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.

[42] Regarding intent, claim 1 on file does not appear intended to single out any of its elements as non-essential. More specifically, use of some sort of computing system is clearly intended, according to the language of claim 1. Broadly speaking, a computer is programmed to perform certain calculations and display output, based on the user's input.

[43] Regarding the effect of variants on the invention, omitting all computers from claim 1 would have a material effect on the way the invention works. The application proposes to provide a colour selection system (see e.g. title; paras 1–2, 25, 87). Wherever the application defines that system, it consistently characterizes the system as being computerized. No non-computerized embodiments are suggested. The skilled person would consider a non-computerized embodiment to fail to "perform substantially the same function in substantially the same way to obtain substantially the same result" (*Free World Trust* at para 55). Such a variant would have a material effect on the way the claimed invention works.

[44] Thus, both the intent expressed in the claim and the material effect of the variant suggest that computerized elements are essential. The overall effect of the description, drawings and claims on the skilled person, given their common general knowledge, would be that the use of a computer in the claimed invention was essential.

[45] Therefore, we consider all the elements of claim 1 on file to be essential. Similar reasoning also applies to the remaining claims on file.

PATENTABILITY: CLAIMS 1 TO 36 ARE UNPATENTABLE

Principles

[46] A claim must define subject matter fitting within the categories of invention in section 2 of the *Patent Act*. The section 2 definition of invention implicitly imposes a physicality requirement (*Canada (Attorney General) v Amazon.com Inc,* 2011 FCA 328 at paras 64–69 [*Amazon.com*]; *Benjamin Moore* at paras 53, 61, 64, 89, 94). That is to say, the claimed subject matter must have a physical existence, or manifest a discernible physical effect or change.

[47] The Applicant disagreed in its response to our preliminary review letter, submitting that there is no basis for saying that there is a physicality requirement, or that section 2 implicitly imposes one (pages 2, 12–13).

[48] A mere idea or discovery is not patentable; the discovery must be realized through practical application to effect a desired result (*Amazon.com* at para 66; *Benjamin Moore* at para 64). An invention must be concrete and tangible. Some "sort of manifestation or effect or change of character" is required. That is to say, "it is implicit in the definition of 'invention' that patentable subject-matter must be something with physical existence, or something that manifests a discernible effect or change" (*Amazon.com* at para 66). This is the "physicality requirement" imposed by the definition of invention in section 2 (*Amazon.com* at paras 68–69).

[49] Independent of this physicality requirement, 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, leave to appeal to SCC refused, 63 CPR (2d) 261 (1981) [*Schlumberger*]).

[50] Algorithms, like mathematical formulas, are abstract ideas (*Amazon.com* at paras 61–63, 69; *Benjamin Moore* at para 85). They thus fail to meet the physicality requirement of section 2 and are also prohibited by subsection 27(8). Accordingly, they are unpatentable.

[51] The Applicant submitted that since the claims include physical essential elements (e.g. computerized components and steps), the claims are to statutory subject matter (pages 10, 14).

[52] Claimed subject matter is not automatically patentable for having a computer among its essential elements (*Benjamin Moore* at para 87). As stated above, the physicality requirement of section 2 means a discovery must be realized through practical application to effect a desired result. Merely having a practical application in the claim may be insufficient, however (*Amazon.com* at paras 61, 66–69; *Benjamin Moore* at paras 66, 94). More specifically, programming a computer to merely process an algorithm in a well-known manner, without improving the functionality of the computer, cannot provide the physicality needed to make it patentable. Nor would it avoid the subsection 27(8) prohibition (*Schlumberger*; *Amazon.com* at paras 62–63, 69).

[53] When assessing claimed computer-related subject matter, one must determine the combination of elements that makes the actual invention (*PN2020–04* at "Subject-matter"). This has also been referred to by the courts as what is "put forward as novel" or "what new knowledge has been added to human wisdom" (*Shell Oil Co v Canada (Commissioner of Patents)*, [1982] 2 SCR 536 at 548 [*Shell Oil*]; *Benjamin Moore* at paras 64, 68–69, 87, 89, 94; *Amazon.com* at paras 42, 62–63).

[54] Then, one can assess whether this "actual invention" has been realized through practical application or physical embodiment in a way that fulfils the physicality requirement (*Shell Oil* at 549; *Amazon.com* at paras 46, 50; *Benjamin Moore* at paras 64, 68). This actual invention is also relevant to the other statutory and judicial requirements and exclusions pertaining to assessment of patentable subject matter (*Amazon.com* at para 42; *Benjamin Moore* at paras 68, 72). The subsection 27(8) prohibition is a statutory exclusion. An example of another relevant statutory or judicial requirement is the need to belong to the "manual or productive arts." These examples are independent of the physicality requirement.

[55] The section 2 definition of invention requires claimed subject matter to belong to the “well understood classes of patentable subject-matter” (*Amazon.com* at para 58). These classes have been referred to by various names in the jurisprudence, including the “manual or productive arts” (see e.g. *Imperial Chemical Industries Ltd v Commissioner of Patents*, [1986] 3 FC 40 (CA) at 48–49 [*Imperial Chemical Industries*]; *Tennessee Eastman Co v Commissioner of Patents* (1970), 62 CPR 117 (Ex Ct) at 127, 129, 134, 138, 149–50, 154–55 [*Tennessee Eastman*], aff'd (1972), [1974] SCR 111; *Lawson v Commissioner of Patents*, (1970), 62 CPR 101 (Ex Ct) at 111 [*Lawson*]).

[56] *PN2020–04* describes the “manual or productive arts” as “those arts involving or concerned with applied and industrial sciences” (at “Subject-matter”). An actual invention must relate to the manual or productive arts regardless of the field of the invention; i.e. this requirement also applies to computer-implemented inventions (*PN2020–04* at “Computer-implemented inventions”).

[57] Subject matter outside the manual or productive arts includes the “professional skills” and “fine arts” (*Shell Oil* at 554–55; see also *Amazon.com* at paras 49–50, 58; *Tennessee Eastman* at 127, 129, 143, 154–55; *Lawson* at 110–11; *Imperial Chemical Industries* at 48–50):

> it was not patentable because it was essentially non-economic and unrelated to trade, industry or commerce. It was related rather to the area of professional skills.

[58] The unpatentable areas of “professional skills” and “fine arts" have been held to include such examples as:

- subject matter that is “inventive only in an … aesthetic sense” (*Amazon.com* at para 58);
- “a method of describing and laying out parcels of land in a plan of subdivision of a greater tract of land” (*Lawson* at 111; see also *Shell Oil* at 555);
- “a particular method of cross-examination or advocacy” (*Lawson* at 111);

- “[a] method [that] lies essentially in the professional field of surgery and medical treatment of the human body” (*Imperial Chemical Industries* at 48, 50; *Tennessee Eastman* at 129, 136, 138, 155; see also *Shell Oil* at 555; *Lawson* at 111; *Pharmascience Inc v Janssen Inc*, 2024 FCA 23 at paras 21–24, leave to appeal to SCC granted 41209 (September 19, 2024)); and

- “[a] process of [applying a new substance] directed towards cleaning or treating a part of the human body” (*Imperial Chemical Industries* at 43–44, 46, 48–50; see also *Tennessee Eastman* at 129).

[59] Such a method remains “essentially in the professional field … although it may be applied at time by persons not in that field” (*Imperial Chemical Industries* at 44–45, 48; *Tennessee Eastman* at 124, 155). Similarly, recognizing a method to relate to “professional skills” does not require the success of the method to depend “on the skill or knowledge” of its practitioner (*Tennessee Eastman* at 124; see also the claimed methods in *Imperial Chemical Industries* at 43–45 and *Lawson* at 105). The procedure may be amply disclosed, readily followed, and may produce uniform results.

[60] The Applicant submitted that the “professional skills” exclusion is far more limited. They suggested that, aside from methods of medical treatment, a valid claim could still include professional skills “with the appropriate inventiveness”; they cited *Benjamin Moore* (at para 92) for support (pages 2, 14–15).

[61] There does not appear to be any jurisprudence suggesting that otherwise unpatentable “professional skills” may be patented so long as they are “inventive professional skills.” First, the cited example in *Benjamin Moore* appears intended to illustrate aspects of the concept of the physicality requirement, not the concept of “professional skills” (paras 92–94). Second, the deliberations involving the examples cited above from *Lawson*, *Tennessee Eastman*, *Shell Oil* and *Imperial Chemical Industries* are indifferent to the inventiveness of their professional skills. In fact, the methods are described as having been “devised” by their creators, or as involving a new use for a known composition, or as using a new composition.

Analysis

[62] 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 mathematical models in a well-known manner without improving the functionality of the computer. They also do not relate to the "manual or productive arts."

[63] We had preliminarily said this in our preliminary review letter. The Applicant responded that "it is apparent that models are patentable subject matter in appropriate circumstances" (pages 3–7). The Applicant cited claims from five issued "color selection patents," submitting that the "issuance of patents in the field of color selection must be done in a consistent manner."

[64] Previously issued patents are not binding precedent. Further, we do not know the unique circumstances leading to the issuance of the cited patents, and thus cannot compare them to the circumstances of the present case. "As always, the determination of patentability is a highly fact specific exercise" (*Benjamin Moore* at para 86). This matter is compounded by the fact that all five cited patents issued before *PN2020–04* was promulgated, two of them even before *Amazon.com* was rendered.

[65] The Applicant also compared the claimed invention to an example in *MOPOP* (at §22.03.03, example 1, revised October 2010), arguing that it should likewise be patentable (pages 7–9). The cited example, however, is of an unpatentable claim. In any case, this section of *MOPOP* has been superseded by *PN2020–04*.

[66] The actual invention in this case appears to be a collection of values (or scores) and mathematical models (see e.g. paras 36, 44–87). These values and models are intended to represent how humans may psychologically perceive and react to certain colours and colour combinations. They were derived from psychometric data on test subjects' reactions to colours.

[67] This characterization of the actual invention is consistent with the Co-inventor Carl Minchew's declaration submitted June 29, 2017 (at statement 19):

> My co-inventors' and my collective insight was that we do not have to follow conventional color theory based on the color wheel or to follow color expert's selection. Instead, we could use color scores based on human's psychophysical perception, color emotion, color harmony, and the like, to colors to select color palette.

[68] By themselves, the derived values and models have no physical existence and do not fit within any categories of invention in section 2. Akin to a "mere scientific principle or abstract theorem," they are also prohibited from patentability by subsection 27(8) of the *Patent Act*.

[69] To use these values and models, the application discloses and claims various embodiments of computer systems. The computer systems are programmed to accept input from users, perform calculations and output suggestions, according to the proposed psychophysical colour models. Nonetheless, the application appears to contemplate using conventional computing means and techniques to implement the invention (e.g. paras 25–30, 32, 34, 103–104, 109–110, 122–123, 126; figure 1). It does not suggest any challenges in doing so. Other computer-based systems for proposing harmonious colours based on a user's selected or generated colour are part of the common general knowledge, as noted above. As the Applicant had conceded during the hearing before *CD 1535*, "they were not making computers operate in a better way and in that respect, they were not attempting to solve a computer problem" (*CD 1535* at para 37).

[70] The Applicant, in their response to our preliminary review letter, compared their invention to that in *Shell Oil*, submitting that both are underpinned by a newly discovered scientific principle (page 13). The Applicant submitted that for the present invention, the scientific principle is provided "a very real, physical and practical application" by the computer components.

[71] The present situation is unlike that in *Shell Oil*, where the newly recognized properties of the compounds—the newly discovered use for the compounds—

were realized through practical embodiment as plant growth regulator compositions (at 549, 551–55; see also *Benjamin Moore* at para 64). The compositions could be used to act upon plants in a desired way because they embodied certain properties. In the present case, the psychological perceptions and reactions represented by the models are not being realized through practical embodiment in the same way. They are being modelled, and the model is used to give information. The computer is simply being used as a tool to manipulate the information faster and more efficiently than a human. The values and models are being processed by a computer system in a well-known manner. The values and models do not improve the functionality of the computer system. Therefore, any practical application provided by the use of the computer is not part of the actual invention, and it cannot help the actual invention to fulfil the physicality requirement of section 2 or avoid the prohibition of subsection 27(8).

[72] This scenario is like that in *Schlumberger* (at 847; see also *Benjamin Moore* at paras 69, 87; *Amazon.com* at paras 62, 69). In that case, the actual invention was the discovery that useful information could be extracted from certain measurements by making certain calculations according to certain mathematical formulae. A computer was programmed to put the invention into practice as a method of collecting, recording and analyzing seismic data, but the method was held to lack patentable subject matter. “The claims in *Schlumberger* 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). This is because the only actual invention for the claimed invention was of the mathematical formulae (assimilated to “mere scientific principle or abstract theorem,” and prohibited by then subsection 28(3) of the *Patent Act*) and the calculations (“mental operations and processes … are not the kind of processes that are referred to in the definition of invention in section 2”). Although the use of the computer was essential (as claimed), it was nothing more than a tool, it simply manipulated information faster than a human could.

[73] The Applicant responded to our preliminary review letter that the present invention distinguishes from *Schlumberger* by using different input and output devices from those in that case (page 13). The Applicant submitted that the

inputs in the present invention are varied and non-trivial, and that the user input step adds physicality. The Applicant suggested that the invention's graphical user interface "uses measurements as input (e.g. color selection)" and also fulfils the physicality requirement. The Applicant added that the invention's output is not merely the results of calculations, but rather a unique array of colours.

[74] Computerized colour selection systems, with graphical user interfaces, are part of the common general knowledge, as noted above. They conventionally accept input from users (sometimes of colour selections), and conventionally output colours. As was the case in *Schlumberger*, a computer system is being used, in a conventional manner, to accept input, perform operations and calculations according to a model, and provide output. The model is not aimed at improving any input or output functionality. The computer system is not part of the actual invention.

[75] The Applicant had also suggested in response to our preliminary review letter that the claimed invention should be patentable for outputting information that could be used in a physical step (pages 13–14). (The Applicant had directed this remark to the second proposed claims, but said that it also applied to the claims on file.) The claimed invention gives output intended for a physical step: "mixing, creating, or selecting the final color of the paint, surface color, or surface covering color." Therefore, the claimed invention is a physical process, producing discernible physical effects, suggested the Applicant.

[76] The claims on file are directed to a computer system programmed, in a conventional manner, to accept information input by a user, perform operations according to a proposed model, and output information to the user. We do not consider the mere output of information of certain significance to a user to be a discernible physical effect in this context. It does not matter what the user might decide to do with their new information later. The information output by the invention in *Schlumberger* was "useful information," but the invention was nonetheless unpatentable (*Schlumberger* at 846–47; see also *Amazon.com* at para 62).

[77] This scenario is also described in *PN2020–04* (at “Computer-implemented inventions,” paras 2–3). The proposed collection of values and models does not solve any problem in the functioning of the computer used, in a well-known manner, to put it into practice. Therefore, the computer and the collection of values and models do not cooperate to form a single actual invention related to the manual or productive arts. The actual invention is the disembodied collection of values and models, which does not have physical existence or manifest a discernible physical effect or change.

[78] In addition, the actual invention does not relate to the patentable “manual or productive arts.” The actual invention relates to unpatentable subject matter.

[79] The actual invention relates to unpatentable “professional skills” in that the values and models are meant to be used to give suggestions, emulating professional services. According to the description, the claimed matter is intended to assist consumers and professional designers “in reaching confident and satisfying color selection choices” (paras 2, 87). It is to “provide a virtual second opinion to the user’s own feelings or color emotions.” It is to achieve this by performing operations according to the models to “simulate typical human reactions to colors and combinations of colors and use that information to assist users with color selection.” The claimed methods and device have the same goal as, and function to emulate, services provided by professional designers and colour experts (though such functions may also be performed by persons outside the field). This characterization is consistent with statements made by the Applicant during the hearing before *CD 1535* (at para 34):

> Mr. Minchew explained that the invention was developed based on the problem that the public has difficulty when choosing a colour, in this case a paint colour from among the myriad choices available. This choice becomes even more difficult when a combination of colours are to be chosen to coordinate colour choices for an area. This role is traditionally filled by designers who use their knowledge and expertise to advise clients on colour coordination.

[80] Accordingly, we consider the actual invention for the claimed methods and device—the particular values and models—to relate to the unpatentable area including “professional skills” and “fine arts.” The actual invention does not relate to the patentable “manual or productive arts.”

[81] We made a similar determination in the preliminary review letter; the Applicant did not dispute this reasoning beyond their above-noted submission regarding the limitation of the “professional skills” exclusion.

[82] In summary, section 2 of the *Patent Act* imposes on inventions a “physicality requirement” and a requirement to relate to the “manual or productive arts.” Inventions are also required to avoid the prohibition of subsection 27(8) of the *Patent Act*. Given that the methods and device of claims 1 to 36 on file fail to meet any of these requirements (and any of these failures would be fatal to patentability), we consider them to be unpatentable. These claims define subject matter falling outside the categories of invention in section 2 of the *Patent Act* and prohibited by subsection 27(8) of the *Patent Act*.

THE SECOND PROPOSED CLAIMS CANNOT BE ACCEPTED

[83] The second proposed claims cannot be accepted as an amendment because they would not make the application allowable.

[84] When a rejection is not withdrawn, the application can only be amended if the Commissioner notifies the Applicant that that amendment is needed to make it allowable (or if the amendment is ordered by the appropriate federal court) (*Patent Rules*, ss 86(11), 199(3), 200).

[85] In our view, the second proposed claims do not remedy the patentability defects.

[86] The second proposed claims differ from the claims on file by incorporating claim 35 on file into the proposed independent method claims. (The selected colours now all pertain to paint, a surface or a surface covering.) The second proposed independent method claims also describe the mathematical model as having been calculated from variables of a colour space. Other minor editing changes

also appear in the second proposed claims. Second proposed claim 1 is illustrative:

[Bolding indicates added text, asterisks indicate deleted text]

Claim 1 A computer implemented color selection method, comprising:

selecting, using a controller, a group of known colors from a storage;

receiving user input from a user input device, through a visual user interface of a color display screen, identifying a user chosen color;

receiving user input from the user input device identifying a threshold for a *first* color emotion based on a *first* human psychophysical perception, wherein the threshold comprises a numerical color emotion score and wherein the *first* color emotion comprises at least one of exciting-calming, light-dark, clean-dirty, happy-sad, fun-serious, warm-cool, or inviting-uninviting color emotion;

selecting, using the controller, in dependence on a *first* mathematical model that models the *first* human psychophysical perception, which colors in said group of known colors would achieve the threshold for the *first* color emotion when combined with the user chosen color and with each other, **wherein the mathematical model is calculated from variables of a color space for the colors in said group of known colors and the user chosen color,**

wherein the *first* color emotion comprises a bi-polar emotion scale having a plurality of levels between end points and wherein the *first* mathematical model is based on psychophysical responses of a plurality of test subjects to a plurality of test colors indicating a degree of color emotion on the bi-polar emotion scale for the plurality of test colors; and

providing an output for the user identifying the selected colors on the visual user interface by at least displaying on the color display screen a color sample of each of the selected colors, displayed concurrently on

the color display screen**, wherein each of the selected colors are for a paint color or for a surface covering color**.

[87] The Applicant submitted in response to our preliminary review letter that the second proposed claims are patentable (pages 13–14). The claimed invention gives output intended for a physical step: “mixing, creating, or selecting the final color of the paint, surface color, or surface covering color.” Therefore, the claimed invention is a physical process, producing discernible physical effects, suggested the Applicant.

[88] Just like the claims on file, the second proposed claims are directed to a computer system programmed, in a well-known manner, to accept information input by a user, perform operations according to a proposed model, and output information to the user (see above at paras 76–77). The actual invention in the second proposed claims remains the colour values and models. The computerized colour selection system involved still appears to be conventional (see above at para 74). Merely processing such a model on such a computer system in the claimed manner does not help it fulfil the physicality requirement of section 2 (see above at para 71). Nor does it avoid the prohibition of subsection 27(8). Nor does the actual invention relate to the “manual or productive arts” as required by section 2 (see above at paras 78–80).

[89] Since the second 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*.

THE BOARD RECOMMENDS REFUSAL OF THE APPLICATION

[90] In view of the above, we recommend that the application be refused on the basis that claims 1 to 36 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*.

Leigh Matheson	Lewis Robart	Christine Teixeira
Member	Member	Member

THE COMMISSIONER REFUSES THE APPLICATION

[91] I agree with the Board's findings and its recommendation to refuse the application on the basis that claims 1 to 36 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*.

[92] 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 22nd day of August, 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.

…

What may not be patented

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

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

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.

Rejection not withdrawn after final action

199(3) If an applicant of a category 3 application replies in good faith to a requisition made under subsection 30(4) of the former Rules on or before the date set out in subsection (4) of this section but the examiner, after that date, still has reasonable grounds to believe that the application does not comply with the Act or these Rules,

(a) if a notice was not sent under paragraph 30(6)(a) of the former Rules, 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 (4) of this section are considered never to have been made; and

(c) the application must be reviewed by the Commissioner.

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.

Relevant provision of the former *Patent Rules*: s 30(3)

This refers to the *Patent Rules* as they read immediately before October 30, 2019 (SOR/96-423).

30(3) Where an applicant has replied in good faith to a requisition referred to in subsection (2) within the time provided but the examiner has reasonable grounds to believe that the application still does not comply with the Act or these Rules in respect of one or more 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.