Citation: Zakharian (Re), 2022 CACP 20

Commissioner's Decision #1627

Décision du commissaire nº1627

Date: 2022-10-13

TOPIC:	J00	Meaning of Art
	G00	Utility
	O00	Obviousness
	C00	Adequacy or Deficiency of Description

SUJET:	J00	Signification de la technique
	G00	Utilité
	O00	Évidence
	C00	Caractère Adéquat ou Inadéquat de la Description

Application No. : 2,649,078

Demande nº 2 649 078

IN THE CANADIAN PATENT OFFICE

DECISION OF THE COMMISSIONER OF PATENTS

Patent application number 2,649,078 having been rejected under subsection 30(3) of the *Patent Rules* (SOR/96-423) as they read immediately before October 30, 2019, has consequently been reviewed in accordance with paragraph 199(3)(c) of the *Patent Rules* (SOR/2019-251). The recommendation of the Patent Appeal Board and the decision of the Commissioner are to refuse the application.

Applicant:

MANVEL ZAKHARIAN

3812 Rue Marquette
Laval, Quebec
H7P 1S4

INTRODUCTION

[1] This recommendation concerns the review of rejected Canadian patent application number 2,649,078 which is entitled “The Method Of Verifying The Existence of at Least One Unknown Component in the Body of a Person or an Animal or a Fish” and is owned by Manvel Zakharian. The Patent Appeal Board reviewed the application pursuant to paragraph 199(3)(c) of the *Patent Rules* (SOR/2019-251). The Board’s recommendation is that the Commissioner of Patents refuse the application for the reasons given below.

BACKGROUND

The Application

[2] The application was filed on January 7, 2009 and relates generally to a method of verifying the existence of at least one unknown form of the release of energy during the process of changing the state of body of a person or an animal or a fish from a living state to a dead state. There are 5 claims on file, received in the Patent Office on January 7, 2009.

Prosecution History

[3] On March 8, 2018, the Examiner issued a Final Action pursuant to subsection 30(4) of the *Patent Rules*, as they read immediately before October 30, 2019. The Final Action found the application to be directed to subject matter that is not patentable because it does not meet the definition of invention found at section 2 of the *Patent Act* due to both the nature of the subject matter and lack of utility. The Final Action also found the description insufficient and not compliant with paragraph 27(3)(d) of the *Patent Act*.

[4] Mr. Zakharian submitted a Response to the Final Action on July 3, 2018.

[5] The Examiner was not persuaded by the arguments in the Response to the Final Action and still considered the application defective. Therefore, the application was forwarded to the Board for review on October 23, 2019 along with an explanation outlined in a Summary of Reasons.

[6] In a letter dated October 24, 2019, the Patent Appeal Board forwarded to Mr.

Zakharian a copy of the Summary of Reasons and requested that he confirm his continued interest in having the application reviewed. Mr. Zakharian submitted a Response to the Summary of Reasons on October 29, 2019.

[7] The Panel reviewed the application on behalf of the Board under paragraph 199(3)(c) of the *Patent Rules*. In a Preliminary Review letter dated May 13, 2022, we analyzed the issues with respect to the application on file. We also invited Mr. Zakharian to make oral and/or written submissions.

[8] The Preliminary Review letter also addressed Mr. Zakharian's multiple requests for an appeal by way of letters to the Patent Appeal Board on May 10, 2017, July 3, 2018, as well as a letter received on April 19, 2021 that re-submitted the earlier May 10, 2017 correspondence. As noted in the Preliminary Review letter, there is no right to an appeal by an Applicant during the examination process. The Commissioner must review a rejected application as per subsection 86(7)(c) of the *Patent Rules*. The Final Action rejects a patent application. A review of the rejected application by the Commissioner is only triggered after the Examiner issues a Summary of Reasons that assesses an Applicant's response to the Final Action (see also the *Manual of Patent Office Practice* (CIPO) at §26.07, revised September 2017 [*MOPOP*]).

[9] Mr. Zakharian submitted Responses to the Preliminary Review letter on June 12, 2022, June 20, 2022 and June 22, 2022 and declined to submit proposed amendments or have a hearing.

ISSUES

[10] In the Response to the Final Action, dated July 2, 2018 (at page 1), and the Response to the Summary of Reasons dated October 29, 2019 (at page 2), Mr. Zakharian questioned the mention of lack of unity in the Examiner's search reports. As we wrote in the Preliminary Review letter, "lack of unity" is simply one of a list of possible reasons that would explain why a search for prior art was deferred. It is part of the template for search reports. There is no unity issue in this application.

[11] In our preliminary review of the application, we identified two additional issues in addition to those noted in the Final Action. According to subsection 86(9) of the

Patent Rules, whenever the Commissioner has reasonable grounds to believe an application does not comply with the *Patent Act* or *Patent Rules* due to a defect not identified in a Final Action, the Applicant shall also be informed of this defect and invited to submit arguments. We did so in the Preliminary Review letter.

[12] The issues to be addressed in this review are:

- are the claims directed to subject matter which meets the definition of invention at section 2 of the *Patent Act*?;
- are the claims compliant with subsection 27(8) of the *Patent Act*, which prohibits inventions directed to scientific principles or abstract theorems?
- do the claims have utility as required of an invention to comply with section 2 of the Patent Act?;
- does the description correctly and fully describe the invention, and its operation or use, and does it comply with paragraph 27(3)(d) of the *Patent Act*?; and
- are the claims non-obvious and compliant with section 28.3(b) of the *Patent Act*?

PURPOSIVE CONSTRUCTION

[13] The starting point for the analysis of both the subject matter and obviousness issues is purposive construction of the claims.

[14] 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 skilled person in light of the relevant common general knowledge, considering the whole of the disclosure, including the description.

[15] Purposive construction begins by defining the notional skilled person and their common general knowledge.

[16] The Final Action characterized the skilled person and the common general

knowledge as follows:

> The notional person of skill in the art (POSITA) and their knowledge helps inform the understanding of the problem and solution taught by the present application. The skilled person, who may be a team of people, would comprise of: a healthcare practitioner, a psychologist, a neurologist, a social science worker, a health and medical scientist, a physicist and mathematician.
> …
> The team of persons skilled in the art has skills and experience in: public health, medicine, psychology, neurology, biology, chemistry, social sciences, physics and mathematics.

[17] We agree with the Final Action's characterization. In our view, as we wrote in the Preliminary Review letter, the common general knowledge of the team would also include, in particular:

- the design of experiments;
- thermodynamic principals, in particular conservation of energy for an isolated system;
- experimental and analytical methods for determining quantities of energy, such as by calorimetry, and determining latent energies in a system; and
- ascertaining the mortality state of organisms.

[18] In the Response to the Preliminary Review letter, Mr. Zakharian did not dispute our view of the skilled person or common general knowledge.

[19] Claim 1 is representative and reads:

> The method of verifying the existence of at least one unknown component in the body of a person or an animal or a fish comprising the steps of:
> - evaluating the value of energy W1 of at least one body of person in living state or the value of energy W1 of at least one body of animal in living state or the value of energy W1 of at least one body of fish in living state;

> - evaluating the value of energy losses W2 of said body during the process of dying of said person or during the process of dying of said animal or said fish;
> - evaluating the value of energy W3 of said body in dead state;
> - considering the result W1-(W2 + W3) > 0 as proof of the existence of at least one unknown component in said body and as proof of the existence of at least one unknown form of the release of energy during the process of changing the state of said body from living state to dead state.

[20] Considering the whole of the specification, the skilled person would understand that there is no use of language in claim 1 indicating that any of the elements are optional or one of a list of alternatives, other than selecting one of a person, animal or fish. Therefore, in our view, all elements recited in the claim, including *one of* a person, animal or fish, are essential. Similarly, all elements of claims 2-5 are essential, including one of a person, animal or fish, or one of a baby, infant or child in claim 3.

ARE THE CLAIMS DIRECTED TO PATENTABLE SUBJECT MATTER?

[21] In our view, the invention is not directed to patentable subject matter for the following reasons.

[22] Invention is defined 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.

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

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

[24] As noted by the Court in *Canada (Attorney General) v Amazon.com* 2011 FCA 328 at paragraph 66, “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.”

[25] As we wrote in the Preliminary Review letter, in our view, the skilled person would consider claim 1 to be a method for verifying a scientific theory. The end result of the method is the intellectual meaning that one assigns to a measured quantity. An intellectual meaning is not a discernible effect or change.

[26] Further, the claimed method is not an "art" in the sense of the manual and productive arts because the result is not commercially useful to the public. In *Shell Oil v Commissioner of Patents* 1982 SCR 536, the Supreme Court noted at page 554 in reference to the earlier case *Tennessee Eastman Co. v. Commissioner of Patents* (1970), 62 CPR 117 (Ex Ct), aff'd [1974] SCR 111, that the term "art" regarding patentable subject matter applied to "…new and innovative methods of applying skill or knowledge provided they produced effects or results *commercially useful to the public*".

[27] The description notes at page 4 that the method can decrease depression or have other beneficial effects; however, these effects are states of mind and cannot be considered to be practical results in the manual and productive arts which invariably follow from the method. A painting or a philosophical essay might similarly have a beneficial effect on the state of mind of the viewer; however, those are not considered to be practical results in the manual and productive arts.

[28] In the Response to the Final Action of July 2, 2018, Mr. Zakharian argued (page 6) that "The method increases the capacity of science to gain an accurate and deep understanding of a person, and it will stimulate the new directions of researches for the purposes of health care."

[29] In our view, while new advances in health care may be patentable, a scientific discovery which merely suggests a direction for future research without providing a practical result itself is not a commercially useful result.

[30] Subsection 27(8) of the *Patent Act* prohibits inventions which are mere scientific theorems. The claims are directed to verifying or disproving a theorem, that there is an unknown energy associated with life, which is lost at death. In our view, the prohibition of subsection 27(8) of the *Patent Act* includes claims directed to verifying a theorem.

[31] In the Response to the Preliminary Review letter, Mr. Zakharian argued that the invention is neither a hypothesis, nor a theory, nor a theorem, but relates to fundamental laws of nature. In our view, even assuming for the sake of argument that the invention is a discovery of a law of nature, it would be excluded under section 27(8) of the *Patent Act*.

[32] In light of the above, we find claims 1-5 are not directed to subject matter related to the manual and productive arts and therefore do not comply with the definition of invention at section 2 of the *Patent Act*, and the subject matter of the claims is prohibited by subsection 27(8) of the *Patent Act*.

IS THERE A SOUND PREDICTION OF UTILITY?

[33] In our view, the claimed invention lacks a sound prediction of utility.

[34] The definition of invention at section 2 of the *Patent Act* requires that an invention be useful; that is, will it work?

[35] Utility must be established either by demonstration or sound prediction (MOPOP at §19.01.02 (revised November 2017)).

[36] In the Response to the Preliminary Review letter, Mr. Zakharian stated that a patent examiner cannot doubt the data without presenting an experiment to disprove it. We note that the inventor must provide experimental demonstration or a sound prediction of utility; the onus is not on the examiner to disprove an alleged discovery. Mr. Zakharian presented some estimation based on caloric energy, but no experimental verification.

[37] As we wrote in the Preliminary Review letter, we do not see any evidence that the experiment has actually been carried out. Various passages in the description emphasis this fact, as they discuss a future reduction to practice of the method:

> A group of specialists, including the biologists, the chemists, the doctors and the engineers, shall be formed. This way is not new in practice when at least a group of specialists has verified a very important theoretical prediction (page 3, lines 23-24).

> A fund for the verification of the expression (the inequality) [W1-(W2 + W3)-:70] (see the expression 1 above) can be collected from the people and organizations (page 3, lines 36-38).
>
> The step of evaluating the value of energy W1 of at least one body of person can begin from the day of conception. The announcement of a competition (for said step) would be published, and the best project would be chosen. A group of healthy women shall be chosen (on the base of a contract) before pregnancy of each of them (page 3, lines 41-44).

[38] As such, we must look to sound prediction.

[39] The doctrine of sound prediction allows the establishment of utility even where that utility was not verified as of the filing date. However, a patent application must provide a "solid teaching" of the claimed invention as opposed to "mere speculation" (*Apotex Inc v Wellcome Foundation Ltd,* 2002 SCC 77 [*AZT*] at para 69).

[40] Analysis of a sound prediction should consider three elements (*AZT* at para 70):

- there must be a factual basis for the prediction;
- the inventor must have, at the date of the patent, an articulable and sound line of reasoning from which the desired result can be inferred from the factual basis; and
- there must be proper disclosure of the factual basis and line of reasoning.

[41] As we wrote in the Preliminary Review letter, representative claim 1 lacks a factual basis for the prediction that the unknown energy exists and can be measured. There is only some speculation on page 1 based on psychological near-death experiences. These are not related to energy measurements. There is some discussion about latent heat and phase changes of matter on page 2, but there is no scientific basis to compare the energy loss during a phase change of matter to the state change from life to death.

[42] The specification on file also lacks a sound line of reasoning. From the description of caloric energy consumption during pregnancy and incineration (page 4), the form of energy being evaluated appears to be chemical energy.

There is no line of reasoning or factual basis provided to indicate that the unknown energy would be in the same form. Further, the description of evaluating the energy does not account for other forms of energy, such as radiant heat and movement.

[43] In the Response to the Preliminary Review letter, Mr. Zakharian disputed our view of utility and stated that a judge must take a decision based on “direct law” without reference to an irrelevant Supreme Court decision. We respectfully disagree. In our view, the sound prediction doctrine of *AZT* is applicable.

[44] Therefore, in light of the above, we find claims 1-5 lack utility and do not comply with section 2 of the *Patent Act*.

DOES THE SPECIFICATION CORRECTLY AND FULLY DESCRIBE THE INVENTION?

[45] In our view, the description does not adequately disclose how to achieve the resulting evaluation of the existence of the unknown energy.

[46] The courts have indicated that sufficiency of disclosure primarily relates to two questions: What is the invention? How does it work? (*Consolboard Inc v MacMillan Bloedel (Sask) Ltd*, [1981] 1 SCR 504 at 526.) With respect to each question the description must be correct and full in order that when the period of the monopoly has expired, the public, having only the specification, will be able to make the same successful use of the invention as the inventor could at the filing date, without having to display inventive ingenuity or undertake undue experimentation.

[47] The Final Action stated:

> The specification does not comply with subsection 27(3)(d) of the *Patent Act* because the description does not set out clearly the various steps and their necessary sequence in the process in such full, clear, concise and exact terms as to enable a person skilled in the art to practice the invention.

[48] In the Response to the Final Action of July 2, 2018 (page 8), Mr. Zakharian argued in response by quoting passages from the description about latent heat

and restating the claimed equation. Mr. Zakharian also provided a drawing which was used in the United States prosecution of the corresponding patent application. We note that the drawing is not part of this Canadian application and cannot be added to the specification at this point, as it would constitute new subject matter if it is not common general knowledge (see *MOPOP* at §20.01 (revised October 2019)).

[49] In our view, and as we wrote in the Preliminary Review letter, there is an enablement defect in the specification. Only the step of evaluating energy W3 by incineration is described. There is no guidance as to how to evaluate W1 and W2, other than a mention of caloric intake and activity during pregnancy. There is no guidance provided on how to quantitatively monitor such items, and what level of precision might be needed to account for all caloric intake and energy expenditure. There is no guidance as to how to evaluate energy in forms other than heat, such as electromagnetic radiation, nuclear, potential, and movement.

[50] In the Response to the Preliminary Review letter, Mr. Zakharian acknowledged that the unknown energy might not be in the same form as thermal energy.

[51] Therefore, in light of the above, we find the specification would not enable the skilled person to successfully carry out the experiment. The specification does not comply with paragraph 27(3)(d) of the *Patent Act*.

IS THE CLAIMED INVENTION NON-OBVIOUS?

[52] In our view, as we wrote in the preliminary letter, the claimed method is obvious.

[53] Section 28.3 of the *Patent Act* requires claimed subject matter not to 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 before the one-year period immediately preceding the filing date or, if the claim date is before that period, before the claim date by the applicant, or by a person who obtained knowledge, directly or indirectly, from the applicant

> in such a manner that the information became available to the public in Canada or elsewhere; and
> (b) information disclosed before the claim date by a person not mentioned in paragraph (a) in such a manner that the information became available to the public in Canada or elsewhere.

[54] In *Apotex Inc v Sanofi–Synthelabo Canada Inc*, 2008 SCC 61 at para 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 common general knowledge 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?

Identify the notional person skilled in the art and the relevant common general knowledge

[55] We identified these above for purposive construction.

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

[56] In our view, the inventive concept of representative claim 1 is expressed by the language of the claim itself.

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

[57] As we wrote in the Preliminary Review letter, practical experiments based on the first law of thermodynamics are well known in the art, including those where energy is lost from a system. This involves measuring or calculating a system's

energy in different states, and measuring or calculating any gains or losses in energy.

[58] We introduced the following citation in the Preliminary Review letter:

> D1 "Thermodynamics of Living Systems: A Fundamental Course for Biological Engineering", George E. Meyer, Proceedings of the 2003 American Society of Engineering Education Annual Conference & Exposition, 2003, American Society for Engineering Education.

[59] Applying the first law of thermodynamics to living organisms was known prior to this application (D1).

[60] The evaluation and measurement steps of the unknown energy of claim 1 can be expressed in terms of the first law of thermodynamics as:

$$\Delta U = Q - W$$

where ΔU is the difference in internal energy of the organism; Q is energy added to the organism (negative values being energy lost); and W is the work done by the organism (which is assumed to be 0).

$$\Delta U = W3 - W1 = - (W2 + UE) - W$$

$$\therefore UE = W1 - (W2 + W3)$$

where UE is the unknown energy.

[61] Thus, the only differences between the common general knowledge and the inventive concept is the specific nature of the state-change process, which in this case is the death of the living organism, and the consideration of a non-zero result as proof of the existence of the unknown energy.

<u>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</u>

[62] The heart of the obviousness issue, as we wrote in the Preliminary Review

letter, is whether a thermodynamic investigation into energy losses during death of an organism, using known methods of measuring or calculating energy losses and latent state energies, is an inventive advance in the art.

[63] In our view, the skilled person seeking to determine if there is an unknown energy loss during death would readily derive the experimental steps defined by claim 1. The mere selection of the experimental conditions for a thermodynamic investigation cannot be viewed as inventive. The decision of what thermodynamic scenario to investigate is entirely within the realm of routine choice for the skilled person. That choice alone does not constitute an inventive step.

[64] Considering a non-zero result as proof of the existence of the unknown energy is of intellectual significance only and non-inventive in and of itself.

[65] Claims 1 and 2 are obvious based on the reasoning above.

[66] Claim 3 and 4 further specify the type of organisms under consideration, but that matter is still within the realm of routine choice for the skilled person. Such a selection does not constitute an inventive step.

[67] Claim 5 further specifies that the method of determining the value of W3 is incineration of the dead body of the organism and measuring the energy released. This refers to what is well-known in the art of thermodynamics as bomb calorimetry. This is a routine technique for measuring latent energy and is not inventive.

[68] In the Response to our view of obviousness presented in the Preliminary Review letter, Mr. Zakharian did not make any comments about our obviousness analysis, except to state that he made a discovery “without having a hint”.

Conclusion on obviousness

[69] In light of the above, we find claims 1-5 are directed to obvious methods and do not comply with section 28.3 of the *Patent Act*.

RECOMMENDATION OF THE BOARD

[70] We recommend that the Commissioner of Patents refuse to issue a patent for this application on the grounds that:

- the claims on file are directed to subject matter which does not meet the definition of invention at section 2 of the *Patent Act* and are directed to subject matter prohibited by subsection 27(8) of the *Patent Act*;
- the claims on file lack utility and do not comply with section 2 of the *Patent Act*;
- the description does not correctly and fully describe the invention, and its operation or use, and therefore does not comply with paragraph 27(3)(d) of the *Patent Act*; and
- the claims on file are obvious and therefore non-compliant with section 28.3(b) of the *Patent Act*.

Howard Sandler	Jason Fisher	Lewis Robart
Member	Member	Member

DECISION OF THE COMMISSIONER

[71] I concur with the recommendation of the Board that the application be refused on the grounds that:

- the claims on file are directed to subject matter which does not meet the definition of invention at section 2 of the *Patent Act* and are directed to subject matter prohibited by subsection 27(8) of the *Patent Act*;
- the claims on file lack utility and do not comply with section 2 of the *Patent Act*;
- the description does not correctly and fully describe the invention, and its operation or use, and therefore does not comply with paragraph 27(3)(d) of the *Patent Act*; and
- the claims on file are obvious and therefore non-compliant with section 28.3(b) of the *Patent Act*.

[72] Therefore, in accordance with section 40 of the *Patent Act*, I refuse to grant a patent on this application.

[73] Under section 41 of the *Patent Act*, the Applicant has six months within which to appeal my decision to the Federal Court of Canada.

Konstantinos Georgaras
Commissioner of Patents

Dated at Gatineau, Quebec

this 13th day of October 2022