



Chapter 2 Patentable Subject Matter

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"I don't think necessity is the mother of invention - invention, in my opinion, arises directly from idleness, possibly also from laziness. To save myself trouble."

Agatha Christie, *An Autobiography* [1977] quoted in *David W. Anderson, New Perth Agritech Inc. v. Les Machineries Yvon Beaudoin Inc.* (1994), 58 C.P.R. (3d) 449 per Tremblay-Lamer J.

2.1. *The Legislative Basis*

The *Patent Act* defines an "invention" as "... 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."¹

The *Patent Act* also says what cannot be patented: "No patent shall issue for any mere scientific principle or abstract theorem."²

The term "subject matter" is used in these materials to mean the subject matter that is protected by the *Patent Act* ("art, process, machine, manufacture or composition of matter" or improvements to them). It is not meant to include, in this context, the quality of the subject matter (novelty, utility and ingenuity), which are discussed elsewhere.

2.2. *Prerequisites*

There are three prerequisites to patentability:

1. Novelty
2. Utility, and
3. Ingenuity.

In addition, there must be present:

1. a concept and
2. an implementation: a way of putting the concept into practical form.

The usual course in creating an invention is:

1. recognition of the problem.
2. having a concept for a solution.
3. creating a way to implement the concept.

The recognition of the problem to be solved (only the first element) is not an invention.³ In order for there to be an invention, there must be both a concept and an implementation (a way of putting the concept into practical form).⁴ It is not enough to have an idea floating through an

¹ *Patent Act*, R.S.C. 1985, c. P-4, s. 2.

² *Patent Act*, R.S.C. 1985, c. P-4, s. 27(3).

³ *Reynolds v. Herbert Smith & Co. Ltd.* (1903), 20 R.P.C. 123 (per Buckley J.) at p. 127.

⁴ *Reynolds v. Herbert Smith & Co. Ltd.* (1903), 20 R.P.C. 123 (per Buckley J.) at p. 127; *Diversified Products Corp. v. Tye-Sil Corp.* (1991), 35 C.P.R. (3d.) 350 (F.C.A. per Décarry J.) at pp. 364-5.

inventor's brain. The inventor must have at least reduced it to a definite and practical shape before it can be said that an invention has been made.⁵

Without both the second and third elements, there is no patentable invention. There need not be an "invention" at both of stages 2 and 3 (concept and implementation). But there must be invention at either or both stages.⁶

If the invention is at the "concept" stage, then the invention is considered to be a "pioneering" invention and the patentee is entitled to claim the concept, regardless of the embodiment used.

The date an invention is made is established by showing that the invention was either described in enabling writing (or drawing) or built. The machine does not have to be built; that is merely one way of establishing a date of invention.⁷

2.2.1. Novelty

For an invention to be patentable, it must be "new".⁸ In order to be novel, the invention must not have been done before in a way that was available to the public.⁹

Provided that each is novel, a patent can be granted for a process as well as a product.¹⁰

The invention need not be revolutionary. Many inventions are a combination of old things.¹¹ In some cases, a patent can protect a new use for an old thing.¹²

However, there is no invention in substituting equivalent new materials.¹³

In order to be novel, the invention must not have been built before or described in a single document with sufficient information to allow someone to make the invention.¹⁴

⁵ *Permutit Co. v. Borrowman* [1926] 4 D.L.R. 285 (Privy Council per Viscount Cave, L.C.) at p. 287, 43 R.P.C. 356 (P.C.).

⁶ *Tye-Sil Corp. Ltd. v. Diversified Products Corp.* (1991), 35 C.P.R. (3d) 350 (F.C.A.) at p. 364.

⁷ *Koehring Waterous Ltd. v. Owens-Illinois Inc. et al* (1981), 52 C.P.R. (2d) 1 (F.C.A.) at p. 2.

⁸ *Patent Act*, s. 2.

⁹ *Patent Act*, s. 63.

¹⁰ *F. Hoffmann-LaRoche & Co. v. The Commissioner of Patents* [1955] S.C.R. 414 (per Rand, J.) at p. 417.

¹¹ *Philco Products Limited and Cutten-Foster & Sons, Limited v. Thermionics Limited et al.* [1943] S.C.R. 396 (per Taschereau, J.) at pp. 412-413.

¹² *Canadian General Electric Co., Ltd. v. Fada Radio Ltd.* (1930) 47 R.P.C. 69 (H.L.) at p. 90; *Shell Oil Co. v. Commissioner of Patents* [1982] 2 S.C.R. 536 at pp. 548-549.

¹³ *Johnson Controls, Inc. v. Varta Batteries Ltd.* (1984), 80 C.P.R. (2d) 15 at p.16

¹⁴ Sometimes called an enabling disclosure.

Patents are available for improvements to existing machines or processes. It must be appreciated however, that the patent to an improvement does not grant the patent owner any right to use the underlying technology, which may be patented by the original inventor.

2.2.2. Utility

The invention must be "useful" for the purpose for which it was designed¹⁵ as specified in the disclosure and the claims.¹⁶

An invention has "utility" if:

It gives a benefit to the public.

It is useful in achieving a particular purpose.

It makes a process better or cheaper.

It is advantageous under certain circumstances.

It works.

Where utility is not clear, the Commissioner of Patents can request a model.¹⁷

Claiming substances that do not work can expose the patent for an attack of "inutility".¹⁸

Older case law held that an invention had to result in a "vendible product" in order for it to be patentable.¹⁹ The EU and UK require there to be a "technical result".

2.2.3. Non-Obviousness or Inventive Ingenuity

The subject matter of the patent must have that "extra something" beyond mere workshop improvements. It must be non-obvious or "inventive".

Through the case law, the Courts added the requirement of non-obviousness or Inventive Ingenuity. This arose out of a desire by the Courts not to allow a patent to cover any routine improvement. There had to be "an invention".

In the *Edison Bell* case,²⁰ the court described it this way:

¹⁵ *Mullard Radio Valve Co. Ltd. v. Philco Radio & Television Corp. of Great Britain Ltd. et al.* (1935), 52 R.P.C. 261 (per Maugham L.J.) at p. 287.

¹⁶ *Rodi & Weinberger A.G. v. Metalliflex Ltd.* (1959) 19 Fox Pat. C. 49 at p. 53.

¹⁷ *X v. Commissioner of Patents* (1981) 59 C.P.R. (2d) 7 (F.C.A. per Thurlow C.J.) at pp. 10-11.

¹⁸ *Société des Usines Chimiques Rhone-Poulenc v. Jules R. Gilbert Ltd.* [1968] S.C.R. 950, 55 C.P.R. 207, at pp. 228-234, 69 D.L.R. (2d) 353.

¹⁹ *Re G.E.C.'s Application* (1942), 60 R.P.C. 1 at p. 4.

"It really comes to this, that, although the invention is new - that is, that nobody has thought of it before - and although it is useful, yet, when you consider it, you come to the conclusion that it is so easy, so palpable, that everybody who thought that for a moment would come to the same conclusion; or, in more homely language, hardly judicial, but rather business-like, it comes to this, it is so easy that any fool could do it."

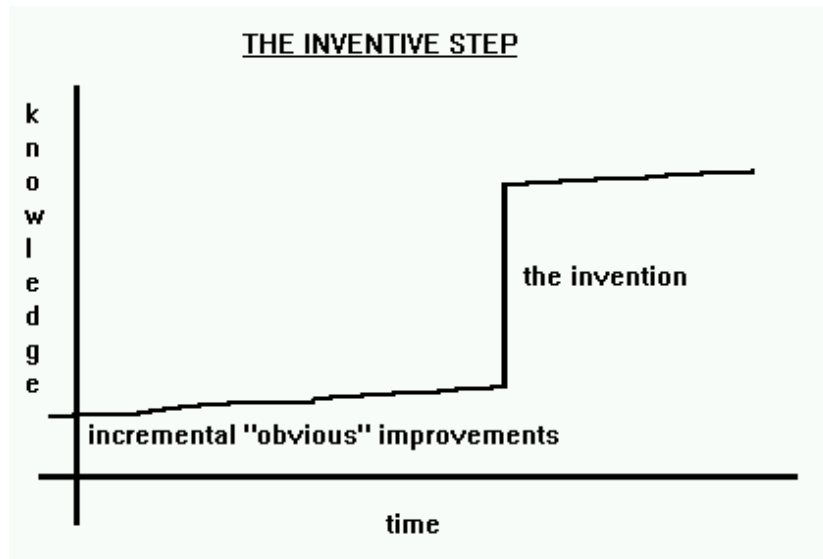
That requirement has now been incorporated into the Canadian *Patent Act* under section 28.3.

2.2.3.1. *the test for inventiveness*

The test for inventiveness has been very difficult to articulate.

The invention is sometimes defined by the process that was used to create it. It must be the application of an inventive mind; it must be the product of original thought or inventive skill.²¹ The corollary is that someone without any inventive abilities would create something obvious. This definition, begs the question to raise a further one: what is inventive skill.

An invention is sometimes identified by its measure over the prior art. The comparison is made between what was invented and what has taken place before hand. The courts have sometimes said that there is a quantum leap or spark ("scintilla") of invention.²² Here's a non-calibrated depiction of an inventive step (note there are no units on the vertical axis):



²⁰ *The Edison Bell Phonograph Corporation, Limited v. Smith and Young* (1894), 11 R.P.C. 389 at p. 398.

²¹ *Canadian Gypsum Co. Ltd. v. Gypsum, Lime & Alabastine Canada Ltd.* [1931] Ex. C.R. 180 (Ex. Ct. per Maclean J.) at p. 187.

²² *Samuel Parkes & Co. Ltd. v. Crocker Bros. Ltd.* (1929) 46 R.P.C. 248 (per Tomlin J.) at p. 248.

The test for inventiveness in Canada has now evolved to asking whether the invention would have been obvious to a hypothetical individual, possessed of all the relevant prior art but what lacked any inventive abilities. Would that person have been led directly and without difficulty to the solution disclosed and claimed in the patent?²³

2.3. **Combinations not aggregations**

The mere placement side-by-side of old integers, so that each performs its own proper functions independently of any others, does not give rise to an invention.²⁴ Where each element functions independently and there is no common result, there is no inventive combination.²⁵

The mere juxtaposition of parts is insufficient. Elements must combine for a unitary result. If any element in the arrangement gives its own result without any result flowing from the combination, then there is no invention.²⁶

What then of a pencil and eraser?²⁷



2.4. **Approved categories**

Not everything under the sun is patentable but the definition of invention in the *Patent Act* is broad and encompasses “unforeseen and unanticipated technology”.²⁸ Only those things which fall into the categories of proper subject matter under the relevant *Patent Act* are patentable.

The Canadian *Patent Act* provides for certain subject matter to be patentable:

²³ See *Beloit Canada Ltd. v. Valmet Oy*, (1986) 8 C.P.R. (3d) 289 (F.C.A. per Hugessen J.A.) at p. 294.

²⁴ *British Celanese v. Courtaulds* (1935) 52 R.P.C. 171 at p. 193.

²⁵ *Lester v. Commissioner of Patents* (1946) 6 C.P.R. 2 at p. 3.

²⁶ *Domtar Ltd. v. MacMillan Bloedel* (1977) 33 C.P.R. (2d) 182 (F.C.T.D.) at 189-90; *Crila Plastic Industries Ltd. v. Ninety-Eight Plastic Trim Ltd.* (1986) 10 C.P.R. (3d) 226 (F.C.T.D.) at p. 236-237; *affd* (1987) 18 C.P.R. (3d) 1 (F.C.A.).

²⁷ It's an aggregation. See *Reckendorfer v. Faber*, 92 U.S. 347 per Justice Hunt at pp. 356-357, quoted in *Domtar Ltd. v. MacMillan Bloedel* (1977) 33 C.P.R. (2d) 182 (F.C.T.D.) at p. 190. However, if you consider the pencil as being a handle for the eraser, have you not synergy?

²⁸ *Harvard College v. Canada (Commissioner of Patents)* 2002 SCC 76, at para. 158; *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 54.

"... 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."

Similarly, s. 101 of the U.S. *Patent Act*, 35 U.S.C. S. 101 provides:

"..[w]however invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent thereof."

In contrast, Article 52 of the European Patent Convention, there is no definition of "invention", but a series of exclusions²⁹:

- (1) European patents shall be granted for any inventions which are susceptible of industrial application, which are new and which involve an inventive step.
- (2) The following in particular shall not be regarded as inventions within the meaning of paragraph 1:
 - (a) discoveries, scientific theories and mathematical methods;
 - (b) aesthetic creations;
 - (c) schemes, rules and methods for performing mental acts, playing games or doing business, and programs for computers;
 - (d) presentations of information.
- (3) The provisions of paragraph 2 shall exclude patentability of the subject-matter or activities referred to in that provision only to the extent to which a European patent application or European patent relates to such subject-matter or activities as such.

2.5. Examining the Claim for Patentable Subject Matter

Before determining whether a claim covers statutory subject matter, the claim must be construed.

Claims are to be construed in a "purposive manner" by an inquiry anchored in the language of the claims rather than by examining the claims to determine their "form and substance" and "what has been discovered".³⁰ Unlike Article 52 of the EPC, one should examine the claim "holistically" rather than parse the claim to look for the "actual contribution" which makes the

²⁹ *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 33.

³⁰ *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at paras. 38-39.

invention new.³¹ It is contrary to settled law to purport to look at ‘what has been invented’ and ‘substance’ by failing to look at the invention as a whole.³²

2.5.1. “art”

A new and useful art is the practical application of a discovery, learning or knowledge to affect a desired result that has a commercially useful result:

“What then is the "invention" under s. 2? I believe it is the application of this new knowledge to effect a desired result which has an undisputed commercial value and that it falls within the words "any new and useful art". I think the word "art" in the context of the definition must be given its general connotation of "learning" or "knowledge" as commonly used in expressions such as "the state of the art" or "the prior art". The appellant's discovery in this case has added to the cumulative wisdom on the subject of these compounds by a recognition of their hitherto unrecognized properties and it has established the method whereby these properties may be realized through practical application. In my view, this constitutes a "new and useful art" and the compositions are the practical embodiment of the new knowledge.”³³ [emphasis added]

In the *Amazon.com* case, Justice Phelan characterized the *Shell* case as providing a three point test for a patentable “art”:

- i) it must not be a disembodied idea but have a method of practical application;
- ii) it must be a new and inventive method of applying skill and knowledge; and
- iii) it must have commercially useful result: *Progressive Games, Inc. v. Canada (Commissioner of Patents)*, 177 F.T.R. 241 (T.D.) at para 16, aff'd (2000), 9 C.P.R. (4th) 479 (F.C.A.) at 549.³⁴

The art must be a “practical application” rather than a mere schemes³⁵ or disembodied³⁶ or abstract idea.³⁷ It must be concrete and tangible.³⁸ This requires some sort of manifestation or

³¹ *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at paras. 42 & 45.

³² *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 43.

³³ *Shell Oil Co. of Canada v. Canada (Commissioner of Patents)*, [1982] 2 S.C.R. 536 (S.C.C. per Wilson J.

³⁴ *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 52.

³⁵ *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 67.

³⁶ *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 52.

³⁷ *Patent Act* s. 27(3).

effect or change in character³⁹ such as an act or series of acts performed by some physical agent upon some physical object and producing in such object some change either of character or of condition.⁴⁰ It is important to remain focused on the requirement of practical application rather than merely the physicality of the invention.⁴¹ The language in *Lawson* must not be interpreted to restrict the patentability of practical applications which might, in light of today's technology, consist of a slightly less conventional "change in character" or effect that through a machine such as a computer.⁴²

The *Patent Act* is not static; it must be applied in ways that recognize changes in technology such as the move from the industrial age to the electronic one of today.⁴³

The "physical effect" in Canada has included the manipulation of cards in a poker game⁴⁴ and, in Australia has included a change in state or information in a part of a machine.⁴⁵

There is no requirement that the knowledge in question be scientific or technological in nature.⁴⁶

"Art" is a word of very wide connotation and includes new and innovative methods of applying skill or knowledge provided they produced effects or results commercially useful to the public.⁴⁷ In *Lawson*, the court rejected as patentable, a way of laying out plots of land, but not because it was not an "art" but because it related to professional skills rather than to trade industry or

³⁸ *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 53.

³⁹ *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 53.

⁴⁰ *Lawson v. Commissioner of Patents* (1970), 62 C.P.R. 101 (Ex. Ct. per Cattanach J.) at p. 111.

⁴¹ *Lawson v. Commissioner of Patents* (1970), 62 C.P.R. 101 (Ex. Ct. per Cattanach J.) at p. 111.

⁴² *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 53.

⁴³ *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 54.

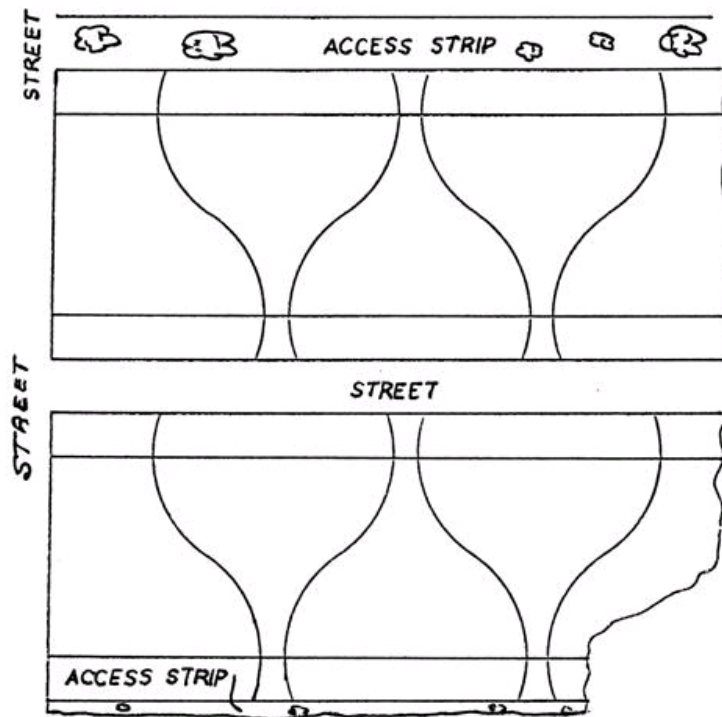
⁴⁴ *Progressive Games, Inc. v. Canada (Commissioner of Patents)*, 177 F.T.R 241 (T.D.) at para 16, aff'd (2000), 9 C.P.R. (4th) 479 (F.C.A.) at 549.

⁴⁵ *Grant v. Commissioner of Patents* [2006] FCAFC 120 at para. 32 quoted in *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 57.

⁴⁶ *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 60.

⁴⁷ *Tennessee Eastman Co. v. Commissioner of Patents* [1974] S.C.R. 111 as cited by Wilson J. in *Shell Oil Co. v. Commissioner of Patents* [1982] 2 S.C.R. 536 (per Wilson J.) at pp. 554-555 and quoted in *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 51.

commerce.⁴⁸ *Lawson* involved a way of laying out parcels of land that was held to be non-patentable subject matter:



An “art” may include either a method or a process.⁴⁹

Fox on Patents says “art”:

“...may be taken to mean a mode, or method or manner of accomplishing a certain result as distinct from the result. It is a mode of treatment of certain materials to produce a given result.”⁵⁰

The “new and useful knowledge” need not be “scientific or technological” in order to constitute a patentable art.⁵¹ Even if patents generally cover the protection of advances of technology broadly defined, introducing a technological test into the Canadian patent system would render

⁴⁸ *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 51, citing *Shell Oil Co. v. Commissioner of Patents* [1982] 2 S.C.R. 536 (per Wilson J.) at pp. 554-555, *Lawson v. Commissioner of Patents* (1970), 62 C.P.R. 101 (Ex. Ct. per Cattanach J.) at p. 109-110

⁴⁹ *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 48; *Refrigerating Equipment Ltd. v. Drummond & Waltham System Inc.*, [1930] 4 D.L.R. 926, [1930] Ex. C.R. 154, Maclean, J. at p. 937.

⁵⁰ *Fox, Harold; Canadian Patent Law and Practice*; 4th ed.; Carswell; 1969; p. 16.

⁵¹ *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 69.

it overly restrictive, confusing highly subjective and provide little predictability.⁵² Technology is in such a state of flux that to attempt to define it would serve to defeat the flexibility which is so crucial to the *Act*.⁵³

In applying these tests to the Amazon one-click invention, Justice Phelan held:

- The system claims disclosed a “machine”⁵⁴
- The process claims, as a whole, claimed an invention that was a process which used stored information and ‘cookies’ to enable customers to order over the Internet simply by ‘clicking on them’. An online ordering system which facilitates the one-click method adds to the state of knowledge in this area.⁵⁵
- The new learning or knowledge is not simply a plan or scheme. It is a practical application of the one-click concept, put into action through the use of cookies, computers, the Internet and the customer’s own action. Tangibility is not an issue. The “physical effect”, transformation or change of character resides in the customer manipulating their computer and creating an order. It matters not that the “goods” ordered are not physically changed.⁵⁶
- This invention has a commercially applicable result and is concerned with trade, industry and commerce.⁵⁷

In light of the above, the Court found the process claims to be a patentable as an art and process.⁵⁸

There is not “tradition” of excluding business methods from patentability in Canada.⁵⁹ There is not, nor has there ever been, a statutory exclusion for business methods in Canada as there is

⁵² *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 71.

⁵³ *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 71.

⁵⁴ *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 73.

⁵⁵ *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 74.

⁵⁶ *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 75.

⁵⁷ *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 76.

⁵⁸ *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 75.

⁵⁹ *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 61.

in the U.K.⁶⁰ In the USA, all methods, including business methods, are subject to the same requirements as other inventions under the Act.⁶¹ To implement a business method exemption would be a "radical departure" from the current regime requiring parliamentary intervention.⁶²

2.5.2. "process"

A process implies the application of a method to a material or materials.⁶³

"Process" means "method"⁶⁴ - a particular method of operation in any manufacture.⁶⁵

Fox defines "process" as being:

"... the use of a method or the performance of an operation to produce a result. There cannot be a process by itself. It must of necessity consist of two elements, namely, a method or a procedure and the material or materials to which it is applied."⁶⁶

The use of an old method to known materials which produces and new and useful compound is patentable provided there has been inventive ingenuity.⁶⁷

2.5.3. "machine"

Fox defines "machine" as:

".. the embodiment in mechanism of any function or mode of operation designed to accomplish a particular effect."⁶⁸

⁶⁰ *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 63.

⁶¹ *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 65, referring to *In Re Bilski* 88 USPQ 2d 1385 (2008) per USCA at p. 1396 and *Bilski v. Kappos*, 130 U.S. 3218 (2010) per USSC.

⁶² *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 68.

⁶³ *Commissioner of Patents v. Ciba Ltd.* [1959] S.C.R. 378 (per Martland J.) at p. 383.

⁶⁴ *Refrigerating Equipment Ltd. v. Drummond & Waltham System Inc.*, [1930] 4 D.L.R. 926, [1930] Ex. C.R. 154, Maclean, J. at p. 937.

⁶⁵ *Tennessee Eastman Co. v. Commissioner of Patents* [1974] S.C.R. 111 at pp. 116-117, 120

⁶⁶ *Fox, Harold; Canadian Patent Law and Practice*; 4th ed.; Carswell; 1969; p. 17.

⁶⁷ *Commissioner of Patents v. Ciba Ltd.* [1959] S.C.R. 378 (per Martland J.) at p. 383.

⁶⁸ *Fox, Harold; Canadian Patent Law and Practice*; 4th ed.; Carswell; 1969; p. 17.

2.5.4. "manner of manufacture"

In 1799, "manufacture" was defined as "something made by the hands of man." The term was virtually synonymous with "invention" under the English *Patent Acts*.⁶⁹

"Manufacture" connotes the making of something.⁷⁰

A method or process can also be a "manner of manufacture" if it results in a vendible product or improves, restores or preserves a vendible product.⁷¹

2.5.5. "composition of matter"

This term typically includes chemical compounds or mechanical mixtures.

A new and useful chemical can be protected as a chemical *per se* and need not be limited to the useful purpose.⁷²

The isolation of a virus strain which does not naturally exist is patentable.⁷³

2.5.6. "improvements"

Most inventions are improvements to existing machines or processes rather than "pioneering" inventions. The Wright Brothers patented a control system for an airplane making it capable of being steered. Edison's invention related to filaments and the use of inert gases around them to prolong their useful life.

The new use for an old compound can be patentable.⁷⁴

The combination of old elements can be patentable (See "Combinations" above).

Substituting materials may be patentable where the substitution results in a new method of construction or new and useful result not attainable by the use of other materials.⁷⁵

The adage "Less is more" can be true where the elimination of parts may be patentable.⁷⁶

⁶⁹ *Hornblower v. Boulton* (1799), Dav. P.C. 221; *Johnson v. Johnson* (1894), 60 Fed. 618.

⁷⁰ *Lawson v. Commissioner of Patents* (1970), 62 C.P.R. 101 (Ex. Ct. per Cattanach J.) at p. 111.

⁷¹ G.E.C.'s Application (1943) 60 R.P.C. 1 (per Morton, J.) at p. 4.

⁷² *Marzone Chemicals Ltd. v. Eli Lilly & Co.* (1978), 37 C.P.R. (2d) 37 (F.C.A) at p. 39.

⁷³ Re Application 400,069 Patent Appeal Board decision, September 20, 1988.

⁷⁴ *Shell Oil Co. v. Commissioner of Patents* [1982] 2 S.C.R. 536 at pp. 548-549; *Re Shell Canada Ltd. Patent Application* (1989), 28 C.P.R. (3d) 213 (Pat. App. Bd.)

⁷⁵ *Samson-United of Canada Ltd. v. Canadian Tire Corp. Ltd.* [1939] Ex. C.R. 277 at p. 281; affd [1940] S.C.R. 386; *Canadian Patent Scaffolding Co. Ltd. v. Delzotto Enterprises Ltd.* (1980), 47 C.P.R. (2d) 77 (F.C.A.) at p. 81.

2.6. Non-statutory subject matter

Patent law does not protect ideas or schemes.

A patent will not protect a series of mental steps. (See Computer-Implemented Inventions below).

"Systems" of doing things, which do not result in a vendible product, have often failed to be patentable. Fox outlined the following systems as being held to be non-patentable subject matter according to a series of decisions:

- the arrangement of houses or a plot of land⁷⁷
- becoming rich
- better government
- efficient conduct of a business
- securing payment of a discount
- buoying channels for navigation with different coloured buoys
- indexing
- colouring substances for identification
- musical notation
- lettering systems
- bookkeeping forms
- navigational charts for aircraft

2.6.1. Prohibited Subject Matter

The *Patent Act* s. 27(3) provides:

"No patent shall issue for any mere scientific principle or abstract theorem."

This element has been considered to include mathematical formulae (See Computer-Implemented Inventions below).

⁷⁶ *Electrolier Manufacturing Co. Ltd. v. Dominion Manufacturers Ltd.* [1934] S.C.R. 436 at p. 441.

⁷⁷ *Lawson v. Commissioner of Patents* (1970), 62 C.P.R. 101 (Ex. Ct. per Cattanach J.) at p. 111.

2.7. *The New Technologies*

The definition of "patentable subject matter" has been stretched in recent years, particularly in the areas of computer software-related inventions and biotechnology. For further information, see:

- Computer-Implemented and Business Method Patents
 - D.M. Cameron, R. Scott MacKendrick & Yuri Chumak; "Patents for Computer-Implemented Inventions and Business Methods"; Chapter 4 of Electronic Commerce: A Practitioner's Guide, Gahtan, Kratz & Mann ed.; Thomson Carswell, 2003-2006
- Business methods
 - See USPTO Technology Center 3600's Business Method Web Site
 - As discussed above regarding patentable "art", there is no "tradition" of excluding business method patents in Canada.⁷⁸ Unlike the UK, there has never been a statutory exclusion for business methods in Canada.⁷⁹
- Biotechnology patents
 - Harvard Mouse patent cases:
 1. *President and Fellows of Harvard College v. Canada (Commissioner of Patents)* ([1998] 3 F.C. 510; (1998), 79 C.P.R. (3d) 98; 146 F.T.R. 279) full decision online
 2. *President and Fellows of Harvard College v. Canada (Commissioner of Patents)* (F.C.A.) [2000] 4 F.C. 528 full decision online
 3. *Harvard College v. Canada (Commissioner of Patents)* 2002 SCC 76, December 5, 2002 full decision online
 - All members of the Court in *Harvard Mouse* noted in *obiter* that a fertilized, genetically altered oncomouse egg would be patentable subject matter, regardless of its ultimate anticipated development into a mouse.⁸⁰

⁷⁸ *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 61.

⁷⁹ *Amazon.com, Inc. v. The Attorney General of Canada et al*, 2010 FC 1011 (F.C. per Phelan J.) at para. 63.

⁸⁰ *Harvard College v. Canada (Commissioner of Patents)* 2002 SCC 76, December 5, 2002 full decision online at para. 3 per Binnie J. for the minority, and at para. 162 per Bastarache J. for the majority; Mentioned in *Monsanto Canada Inc. v. Schmeiser* [2004] 1 S.C.R. 902, 2004 SCC 34 at para. 23

- Even if, thanks to the *Harvard Mouse* case, higher life forms are not patentable in Canada, you can still get claims that cover the cells that are the building blocks of the higher life form. Making the higher life form that is made of those building blocks infringes the patent claims on the building blocks.⁸¹
- The “Roundup-ready” Monsanto patent claimed a gene, the process for its insertion and the cell derived from that process. It was held to be patentable subject matter.⁸² Its claims were analogous to the plasmid and somatic cell culture claims in the *Harvard Mouse* case that were also patented.⁸³

⁸¹ If you cannot get a patent on an assembled building but you can get a patent on bricks, making a brick building infringes the brick patent claims many times over.

⁸² *Monsanto Canada Inc. v. Schmeiser* [2004] 1 S.C.R. 902, 2004 SCC 34

⁸³ *Monsanto Canada Inc. v. Schmeiser* [2004] 1 S.C.R. 902, 2004 SCC 34 at para. 22