Software Patents Worldwide

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Canada

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Canada

I. INTRODUCTION

A. Frequently Asked Questions about Software Patents in Canada

1. Is Software Patentable in Canada?

The Canadian Patent Office will not allow claims directed to software per se. However, effective protection will be available for many software-related inventions, through claims directed to computer-readable medium, or to computer-implemented methods and systems incorporating suitable hardware elements.

2. Are Business Methods Patentable in Canada

The Canadian courts have recently confirmed that there is no per se prohibition on the patenting of business methods in Canada. As stated by the Canadian Federal Court of Appeal: '[A] novel business method may be an essential element of a valid patent claim'. However, a business method is likely only patentable in Canada where it is claimed in a tangible form which will require some form of physical manifestation of the method. The position in Canada is presently unclear as to the extent to which conventional computer hardware used to implement the business method will meet this 'physicality' requirement.

3. How Are Software Patents Enforced in Canada?

Patent litigation in Canada is typically conducted by way of an action in the Federal Court of Canada.[1] Through such an action, a patentee may seek remedies including interim relief (e.g., interim or interlocutory injunctions)

1. Patent infringement actions in Canada may also be brought in the provincial superior courts, although this is very rare.

monetary remedies (the plaintiff's damages or an accounting of the defendant's profits), a permanent injunction, delivery up and destruction of infringing goods, interest and costs (attorney's fees).

4. What Are the Main Differences between Canadian and US Patent Litigation?

Patent litigation in Canada is very similar to litigation in the US subject to the following important differences.

(i) The scope of documentary discovery is similar, though there is more limited oral discovery. Usually examinations (depositions) are limited to a single party representative and assignors (e.g., inventors), only. Third parties may be examined in extraordinary circumstances. There are typically no depositions of fact witnesses or experts.

(ii) No forum shopping. The majority of actions are conducted in the Federal Court, with appeals to the Federal Court of Appeal, both of which are single courts (no districts or circuits) having national jurisdiction and which sit throughout Canada.

(iii) No juries. There are no jury trials in the Canadian Federal Court. All trials are heard and decided by a judge alone who decides all legal and factual issues (e.g., claim construction, infringement and validity).

(iv) Remedies. Remedies may include an accounting of a defendant's profits and costs (attorney's fees).

(v) No *Markman* hearings. In patent infringement actions in Canada patent claims construction is decided by the judge at trial together with other issues (e.g., infringement, validity).

(vi) No file wrapper estoppel. The prosecution history is not relevant to claims construction in Canada.

(vii) No treble damages. There is no doctrine of wilful infringement and no statutory basis for treble damages in the Canadian *Patent Act*. However, punitive/exemplary damages can be awarded in extraordinary circumstances for particularly high-handed conduct.

5. How Much Time Is Required to Enforce Software Patents in Canada?

Through making appropriate use of case management, including an early request for a trial date, a patent infringement action in the Canadian Federal Court can be brought to trial within approximately two years of commencement.

B. Introduction to the Canadian Legal System

1. Introduction to the Canadian Court System

a. Canadian Courts Having Jurisdiction to Hear Patent Infringement Actions

Canada is a federal state comprising a Federal Government and thirteen Provincial and Territorial Governments. There is a single, national Federal Court of Canada and also separate provincial/territorial court systems in each of the provinces and territories. The Federal Court and the provincial/territorial courts are common law courts, except for the Provincial Court of Quebec which is governed by a civil code. The Federal Court and the provincial/territorial courts have appellate courts, with a single court, the Supreme Court of Canada, being the final Court of Appeal for each of the appellate courts.

Canada does not have a specialized patent court. In Canada, an action for patent infringement may be commenced in the Federal Court or in the superior court of a province (i.e., the Federal Court and provincial superior courts have concurrent jurisdiction with respect to actions for patent infringement).[2] However, in practice, most patent infringement actions are brought in the Federal Court given that court's national jurisdiction and experience with patent cases. In addition, the Federal Court has exclusive jurisdiction to expunge a patent (i.e., to invalidate a patent in rem).[3] As a result, although the Federal Court is not a specialized patent court per se, the Court has developed a degree of familiarity and experience with respect to patent issues.

b. Federal Court and Federal Court of Appeal

The Federal Court and Federal Court of Appeal are statutory courts with no inherent jurisdiction and thus can only entertain proceedings within their statutorily defined jurisdiction. As referenced above, the Federal Court has concurrent jurisdiction with provincial courts for patent infringement actions and exclusive jurisdiction to expunge a patent (invalidate a patent in rem). Thus, a proceeding to expunge a patent (referred to in some other countries as a nullity or a declaratory judgment proceeding) must be brought in the Federal Court.[4] The Federal Court also has jurisdiction to hear appeals from decisions

2. *Patent Act*, R.S.C. 1985, c. P-4, ss 54(1), 54(2).
3. *Patent Act*, s. 60.
4. *Federal Courts Act*, R.S.C. 1985, c. F-7, s. 20; *Patent Act*, s. 60(1).

of the Commissioner of Patents as well as proceedings pursuant to the *Patented Medicines (Notice of Compliance) Regulations*.[5]

In contrast to some jurisdictions, most notably the US, jury trials are not available in the Federal Court. All trials are heard and decided by a judge alone, thereby avoiding the additional expense and uncertainty that may be associated with juries. Furthermore, the Federal Court has jurisdiction across the country. As such, a judgment or order obtained from the Federal Court is immediately enforceable in all of Canada's provinces and territories.

The Federal Court is not divided into districts (e.g., by region). As a 'single court', any of the Court's judges may preside over any proceeding before the Court anywhere in the country. The parties typically do not learn the identity of the trial judge until shortly before trial. An advantage for patent owners flowing from the exclusive jurisdiction of the Court to hear expungement proceedings is that there are typically no forum shopping concerns and a cease and desist letter can typically be sent to a potential infringer in Canada without the risk of an expungement proceeding being commenced by the alleged infringer in a particular court and/or before a specific judge perceived to provide the alleged infringer with a substantive or procedural advantage.

Moreover, as the majority of Canada's patent owners are non-Canadian, the Federal Court is accustomed to dealing with foreign parties, thereby alleviating possible concerns of a perceived bias against a foreign litigant. However, if a plaintiff is ordinarily resident outside of Canada, the Court may require the plaintiff to give security for the defendant's costs (a payment of money into Court) if requested by the defendant.[6] However, if the plaintiff is successful and is awarded its costs at the conclusion of trial, or the case is settled, the security will be returned with interest.

All decisions of the Federal Court (including both interlocutory and final decisions) may be appealed as of right to the Federal Court of Appeal. Like the Federal Court, the Federal Court of Appeal is a single court with national jurisdictions (there are no circuits).

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5. The *Patented Medicines (Notice of Compliance) Regulations*, SOR/93-133, as amended, provide a special, streamlined, proceeding to address issues of patent infringement and validity in circumstances where a generic drug manufacturer has compared its drug product to a brand drug product for the purposes of obtaining regulatory approval (similar to the Hatch Waxman/Orange Book patent listing procedure in the United States). As the *Patented Medicines (Notice of Compliance) Regulations* do not have application to software patents, they will not be discussed further in this chapter.
6. *Federal Courts Rules*, S.O.R./98-106, Rule 416. The initial security typically required in a patent proceeding is within the range of CAD 20,000 to CAD 30,000 or more. Further security may be required as the proceeding progresses. As a result, the amount of security for costs required can become substantial. In one case, the Federal Court ordered a foreign plaintiff to pay approximately CAD 180,000 in security for costs in addition to CAD 30,000 which had already been paid into Court to cover actual disbursements and a portion of counsel's fees that had already been incurred in the proceedings: *Richter Gedeon Vegyészeti Gyar Rt v. Merck & Co.* (1996), 66 C.P.R. (3d) 36 (F.C.T.D.).

c. Provincial Superior Courts

Each province in Canada has a court structure that includes both trial and appellate courts. Provincial superior courts have inherent and statutory jurisdiction.

As noted above, provincial superior courts have concurrent jurisdiction with the Federal Court for patent infringement actions. Thus, an infringement action may be commenced in either court system. However, a provincial court can only determine the validity of the patent as between the parties as a result of the Federal Court's exclusive jurisdiction to expunge a patent.

While a judgment or order of the Federal Court has the advantage of being immediately enforceable throughout Canada, a judgment or order of a provincial court must be recorded in the other provinces or territories to be enforceable therein.

2. Introduction to the Canadian Patent System

In Canada, the ambit of patent protection is set out in the *Patent Act*, the *Patent Rules*[7] and related jurisprudence. Patent applications are processed and administered by the Canadian Intellectual Property Office (CIPO) a Special Operating Agency associated with Industry Canada.[8]

a. Patent Priority and Filing

Canada is a 'first-to-file' jurisdiction, subject to some exceptions discussed in greater detail in the sections below.

Canada is a signatory to the *Patent Cooperation Treaty* (PCT).[9] The date of filing of an international application is deemed to be the Canadian filing date where a PCT international application enters national phase in Canada.[10] A PCT application must enter national phase in Canada within thirty months of the filing date (or the priority date, if priority is claimed), or up to forty-two months if a late entry fee is paid.[11]

As a signatory to the *Paris Convention*, and in compliance with the *North American Free Trade Agreement* (NAFTA) and obligations under the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS), Canada will recognize the filing date of a patent application in a foreign

7. S.O.R./96-423.
8. *What is CIPO?* online: Canadian Intellectual Property Office (CIPO) <http://www.cipo.ic.gc.ca/eic/site/cipointernet-internetopic.nsf/eng/wr00836.html>.
9. *Patent Cooperation Treaty of 1970*, Can. T.S. 1990 No. 22 (entered into force in Canada 2 Oct. 1989).
10. *Patent Rules*, s. 64.
11. *Patent Rules*, s. 58(3).

jurisdiction that has also ratified one of these agreements as the priority date of a subsequent Canadian application if the Canadian filing date is within one year of the earliest foreign filing.[12]

While the PCT Regulations allow for the restoration of priority rights if an applicant fails to file within the priority period despite due care or unintentional omission,[13] this restoration is not presently recognized in Canada due to incompatibility with the Canadian *Patent Act*.[14] It is expected at some point in the future Canada may make appropriate amendments to its patent legislation to allow for restoration of priority. However, at present, a claim for priority may only be made if a regular Canadian patent application, or PCT international application designating Canada, is filed within twelve months of the date of the application from which priority is claimed.

b. Examination

Canadian patent applications are subject to substantive examination to ensure compliance with the patentability requirements of Canadian patent law (including subject matter, novelty, obviousness, utility and sufficiency of the patent specification). Examination is not automatic upon application, but must be requested.[15] The applicant has up to five years from the Canadian filing date (the international filing date for a PCT application) to request examination (and pay the examination fee).[16] If examination is not requested within five years, the application will be deemed abandoned.[17]

A patent will be published (or 'laid open') within eighteen months of filing, or earlier upon request.[18]

Applicants must pay annual fees to maintain the standing of an application, and subsequently to maintain an issued patent in force. There is a one-year grace period for the payment of maintenance fees, provided a late-payment fee is also paid.[19] If an applicant or patentee fails to pay a maintenance fee within the grace period, there is no further opportunity for reinstatement provided by the *Act*, and the application or patent, as the case may be, will be irrevocably dead.

Upon receiving a request for examination, an examiner at the Patent Office will conduct a prior art search and assess whether the application complies

12. *Patent Act*, s. 28.
13. World Intellectual Property Organization, *Regulations under the PCT*, Rule 26*bis*.
14. *Restoration of the right of priority by receiving Offices (RO) and designated Offices (DO) under PCT Rules 26bis.3 and 49ter.2* (Last updated 24 Apr. 2012), online: World Intellectual Property Organization <http://wipo.int/pct/en/texts/restoration.html>.
15. *Patent Act*, s. 35.
16. *Patent Rules*, s. 96(1).
17. *Patent Act*, s. 73(1)(d).
18. *Patent Act*, ss 10(2), 11.
19. *Patent Act,* ss 27.1, 46; *Patent Rules*, ss 99–102, 154.

with the *Patent Act* and *Patent Rules* in form and substance. The examiner will then issue a Notice of Allowance if the patent is acceptable or, more commonly, issue an Examiner's Report to the applicant, who in turn can respond with amendments to the application and/or provide arguments that the application complies with Canadian patent law.[20]

If an applicant does not reply in good faith to any requisition from the Patent Office – or if an applicant fails to pay certain fees (including, for example, annual maintenance fees) – an application will be deemed abandoned.[21] However, reinstatement of the application is automatic if the applicant pays a reinstatement fee and responds in good faith to the requisition within twelve months of abandonment.[22] A failure to reinstate the application within the twelve-month period will result in the application being irrevocably abandoned.

c. Examination Service Standards

The response time between an applicant's request for examination and the receipt of a response from the Patent Office (of either a Notice of Allowance or a substantive Examiner's Report) varies substantially depending on the subject matter of the application. A typical first response time for an application relating to chemical or mechanical subject matter is approximately eighteen months of the request for examination, while CIPO's target first responses for mechanical or electrical patent applications are eighteen and thirty months, respectively.[23]

d. Expedited Examination

A 'special order' may be sought if an applicant states that the failure to advance the application is 'likely to prejudice that person's rights'[24] and pays a fee[25] in which case they can to be advanced 'out of its routine order',[26] resulting in more timely communications from the Patent Office.

The *Patent Rules* were recently amended in 2012 to allow for expedited examination of applications relating to 'green' technologies.[27] No fee is

20. *Patent Rules*, s. 30(2); Canadian Intellectual Property Office, *Manual of Patent Office Practice* (December 2010), s. 13 [MOPOP].
21. *Patent Act,* s. 73(1).
22. *Patent Act,* s. 73(2); *Patent Rules*, ss 97–98.
23. *Client Service Standards*, online: CIPO <http://www.cipo.ic.gc.ca/eic/site/cipointernet-internetopic.nsf/eng/h_wr02948.html#pa>.
24. *Patent Rules*, s. 28(1)(a).
25. *Patent Rules*, schedule II, item 4.
26. *Patent Rules*, s. 28(1).
27. *Rules Amending the Patent Rules*, S.O.R./2011-61.

required. However, the applicant must provide a declaration indicating that the application relates to technology the commercialization of which would help to resolve or mitigate environmental impacts or to conserve the natural environment and resources.[28]

In the case of expedited examination under special order or green technology, examiner's reports will require a response within three months. If for any reason an extension of time is requested, or the application is abandoned and reinstated, then the expedited status will be permanently lost.[29]

Canada also has a 'Patent Prosecution Highway' ('PPH') agreement of indeterminate duration with the US and pilot agreements with Denmark, Germany, Japan, Korea, Finland, Spain and the UK.[30] Under these reciprocal agreements, parties whose patents have been allowed in these jurisdictions can request expedited examination on an application with the same – or narrower – claims in Canada and vice versa. Examiners may partially rely on the search and examination work of foreign examiners to accelerate examination.[31] Neither a reason nor a fee is required for a PPH request, which must be made before examination commences in Canada.

e. Allowance

Examination will terminate with either a Notice of Allowance or a Final Action rejecting the application.[32] An applicant may appeal a Final Action to the Commissioner.[33] A decision of the Commissioner refusing to grant a patent may be appealed to the Federal Court.[34]

Once granted, the term of a Canadian patent is twenty years from the date of filing.[35] There is no mechanism for extension of the patent term under Canadian patent law.

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28. *Patent Rules*, s. 28(1)(b).
29. *Patent Rules*, s. 28(2). The expedited status is unavailable if a request for an extension of time is made, or the application is abandoned, any time after 30 Apr. 2011.
30. *Patent Prosecution Highway*, online: CIPO <http://www.cipo.ic.gc.ca/eic/site/cipointernet-internetopic.nsf/eng/h_wr02160.html>.
31. *CIPO PPH Pilot Project*, online: CIPO <http://www.cipo.ic.gc.ca/eic/site/cipointernet-internetopic.nsf/eng/wr02813.html>. As of 29 Jul. 2013, all of the Canadian Patent Office's PPH agreements will adopt the Mottainai guidelines. See online: CIPO <http://www.cipo.ic.gc.ca/eic/site/cipointernet-internetopic.nsf/eng/wr03677.html>.
32. *Patent Rules*, ss 30(1), 30(4).
33. *Patent Rules*, s. 30(6). In practice such appeals are heard by the Patent Appeal Board. The Patent Appeal Board is not defined in the *Patent Act* or *Patent Rules*. The Board will receive written and/or oral submissions from the applicant, and provide a recommendation to the Commissioner.
34. *Patent Act*, s. 41.
35. *Patent Act*, s. 44.

C. Overview of the Software Industry in Canada

In 2011, the Canadian software industry comprised almost 25,000 companies and over 270,000 workers.[36] According to Software Magazine's 2010 ranking of the world's top 500 software companies, 20 companies on the list originated in Canada, the second highest national percentage after the US[37] The largest home grown firms include Open Text Corporation, CGI Group, Mitel and Constellation Software.

According to Statistics Canada, Canadian software publishers had CAD 5.9 billion in operating revenue and CAD 5.3 billion in operating expenses in 2010, up 9.6% and 8.2% respectively from 2009.[38] Sales of application software generated the largest share (41%) of the revenue for the software publishers. The domestic market accounted for 53% of the total operating revenue, with the remaining 47% coming from international markets.

The software industry in Canada has particular strengths in enterprise application software (EAS), e-security and e-health. The EAS sector experiences significant activities in areas such as financial services, government, healthcare and manufacturing. According to a study by IDC,[39] the Canadian EAS market totalled CAD 4 billion in 2011, 5.5% higher than 2010. Spending is forecast to reach CAD 5.5 billion by 2016. With a growing market at home and proximity to the world's largest EAS market in the US over half of all emerging Canadian software companies provide EAS services.[40] Open Text Corporation remains the home grown industry leader. A number of multinationals such as IBM, Microsoft, Oracle, and SAP are also key players in the Canadian EAS business.

Canada's CAD 1.2 billion IT security sector has attracted many multinational corporations, including Cisco Systems, EMC Corporation, McAfee and Symantec Corporation. Notable Canadian firms include Radialpoint and Certicom. Two-thirds of the IT security firms are actively engaged in R&D. From 1998 to 2008, this private sector commissioned Canadian universities to conduct over CAD 5.2 billion worth of IT security-related R&D.[41] Canada is also home to three laboratories that are

36. Foreign Affairs & International Trade, *Software: Canada's Competitive Advantages* (Ottawa: DFAIT, 2011) at 3.
37. *Ibid*.
38. Statistics Canada, *Software Development and Computer Services* (Ottawa: StatsCan, 2012) at 1-2, online: <http://www.statcan.gc.ca/pub/63-255-x/63-255-x2012001-eng.pdf>.
39. Nigel Wallis & Jim Westcott, *Canadian Enterprise Applications 2012–2016 Forecast (abstract)* (May 2012), online: IDC <http://www.idc.com/getdoc.jsp?containerId=CA5ECA12>.
40. Foreign Affairs & International Trade, *Invest in Canada* (Ottawa: DFAIT, 2011) at 56 [*Invest in Canada*].
41. Industry Canada, *IT Security and Canada: The Future is Here* (Ottawa: Industry Canada, 2008).

licensed by Common Criteria to evaluate and certify security software products.[42]

In Canada's healthcare sector, an important priority is the development of systems that improve patient care delivery and reduce costs. As part of the plan to advance health 'infostructure', the Canadian government is committing up to CAD 12 billion in capital investment over ten years.[43] More than CAD 2 billion has already been invested in health records development and implementation. Companies such as Agfa HealthCare, GE Healthcare, Microsoft and Siemens have set up operations in Canada to seize the opportunities in the country's e-health sector.

Since 2002, the software industry has seen tremendous growth in R&D expenditures. According to Industry Canada, software R&D spending was estimated at CAD 1 billion in 2009, up 28% from the previous year and 158% since 2002.[44] This growth rate far surpassed the average R&D expenditure increases in the broader information and communications technology industry, which rose 17.7% from 2002 to 2009.

Canada's software industry has continued to draw major investments by foreign companies in recent years. In 2010, HSBC opened a global software development centre, and Agfa HealthCare set up a R&D facility. In 2011, Google expanded its Canadian operations, and IBM unveiled a new CAD 42 million Compute Cloud Centre in Toronto. Due to its skilled labour force, proximity to the US market, and competitive labour costs, Canada is seen as an ideal forum for high value added software development.

II. LEGAL BASIS ACCORDING TO CURRENT PATENT ACT

A. Patentable (Statutory) Subject Matter

1. The Definition of 'Invention'

The statutory requirement for patentable subject matter finds its basis in the definition of 'invention' in section 2 of the *Patent Act*, which provides:[45]

> '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

42. *Licensed Laboratories*, online: Common Criteria <http://www.commoncriteriaportal.org/labs/>.
43. *Invest in Canada*, *supra* n. 40.
44. Industry Canada, *ICT Sector Intramural R&D Expenditures* (Ottawa: Industry Canada, 2010) at 3.
45. *Patent Act*, s. 2 ('invention').

The term 'invention' is defined exhaustively in section 2 of the *Patent Act*. Therefore, for an invention to be patentable subject matter in Canada, it must fall within one of these categories.

'Art' is given its general connotation of 'learning' or 'knowledge' as commonly used in expressions such as 'state of the art' or 'prior art'. An addition to the cumulative wisdom in a field whereby a desired, practical result is obtained constitutes a 'new and useful art'. For example, the discovery of a new commercial use for a known compound can constitute a 'new and useful art'.[46] The definition of 'art' is discussed further below in association with the *Amazon.com* decision which addressed the patentability of computer-implemented inventions and business methods.

'Process' has been defined by the Supreme Court of Canada as 'the application of a method to a material or materials'.[47]

'Machines' have been defined as the mechanical embodiment of any function or mode of operation, the design of which accomplishes a certain effect,[48] for example, a computer, a nuclear reactor or an internal combustion engine.

'Manufacture' refers to a non-living mechanistic product or process.[49] It suggests the making of something by accomplishing some change in the character or condition of material objects.[50]

'Composition of matter', though on its face a broad term, has been held to be limited such that it does not include a 'machine' or 'manufacture'. 'Composition of matter' refers to a substance or preparation formed by a combination or mixture of various ingredients.[51] For example, a new and useful chemical compound would likely fall under the heading of 'composition of matter'. However, 'composition of matter' does not include a higher life form, such as a mouse, whose genetic code has been altered by genetic engineering.[52]

While improvements in any of the above categories are patentable, a patent for an improvement does not provide the right of making, using or selling the original invention, regardless of how much more useful the original invention

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46. *Shell Oil Co. v. Canada (Commissioner of Patents)*, [1982] 2 S.C.R. 536 at 548–549 [*Shell Oil*].
47. *Commissioner of Patents v. Ciba Ltd.*, [1959] S.C.R. 378 at 383 [*Ciba*]**.** More recently it has been suggested that 'method' and 'process' are the same thing and that 'art' may *include* either. See: *Amazon.com Inc. v. Canada (Attorney General)*, 2010 FC 1011 at para. 48, varied on other grounds 2011 FCA 328.
48. *Blanchard v. Sprague* (1850), 3 Sum. 535; *Morgan v. Seaward* (1835), 1 W.P.C. 167 as cited in H.G. Fox, *The Canadian Law and Practice Relating to Letters Patent for Inventions*, 4th ed. (Toronto: The Carswell Company Limited, 1969) at 17 [Fox].
49. *Harvard College v. Canada (Commissioner of Patents)*, [2002] 4 S.C.R. 45 at para. 159 [*Harvard*].
50. *Lawson v. Canada (Commissioner of Patents)* (1970), 62 C.P.R. 101 at 111 (Can. Ex. Ct.) [*Lawson*].
51. *Harvard*, *supra* n. 49 at para. 162.
52. *Ibid*.

is with the improvement.[53] As a result, it may be necessary for a patentee of an improvement to obtain a license from the owner of the patent on the original invention.

New uses of old things are patentable, such as the new therapeutic use of an existing chemical compound.[54] A new process to produce an existing chemical compound may be patentable, even when the chemical compound itself is no longer patentable.[55] Further, a new use for a known method may be patentable.[56]

The most important categories within the definition of 'invention' for the purposes of software and other computer-implemented inventions are 'art' ('process'), 'machine' and 'manufacture'. The Patent Office's position with respect to the application of these categories to software and computer-implemented inventions will be discussed further below.[57]

2. Matter Excluded from Patent Protection

Certain subject matter is not patentable in Canada.

The only subject matter expressly proscribed in a provision of the *Patent Act* is in section 27(8) which states that '[n]o patent shall be granted for any mere scientific principle or abstract theorem'.[58] For example, one could not patent the principle that 'F = ma' or 'E = mc^2'. As discussed further below in association with the *Schlumberger* decision,[59] this section may also provide the basis for excluding from patentability computer programs used solely for the purpose of making calculations according to certain formulae.

In addition, the courts and the Canadian Patent Office have held other subject matter unpatentable. For example, professional skills such as how to subdivide land have been held not to be patentable subject matter.[60] Similarly, subject matter that is only a scheme or plan, a method of accounting or a fine art is not considered patentable subject matter by the Canadian Patent

53. *Western Electric Co. v. Bell*, [1929] Ex. C.R. 213 (Can. Ex. Ct.).
54. *Apotex Inc. v. Wellcome Foundation Ltd.*, [2002] 4 S.C.R. 153 [*AZT*]. See also *Shell Oil, supra* n. 46.
55. *Hoffmann-La Roche Ltd. v. Canada (Commissioner of Patents)* (1953), [1954] Ex. C.R. 52 (Ex. Ct.); aff'd [1955] S.C.R. 414 (S.C.C.).
56. *Calgon Carbon Corp. v. North Bay (City)*, 2005 FCA 410. See also *Shell Oil*, *supra* n. 46.
57. Section III-B.
58. *Patent Act,* s. 27(8). The *Patent Act* previously included additional prohibitions which have been repealed. Previously substances intended for food or medicine could not themselves be patented. Instead, a patent could only be obtained for the substance as produced by a certain process. However, effective 19 Nov. 1991, these provisions were removed, with the result that the *Patent Act* now allows for patents on the medicines themselves. The predecessor to current s. 27(8) also previously included a prohibition against patenting an invention that has 'an illicit object or view'.
59. Section IV-B-2.
60. *Lawson, supra* n. 50.

Office.[61] The Patent Office's position on patentable subject matter, and in particular the scope of some of these exclusions, may be called into question following the recent decision in *Amazon.com*, as discussed further below.[62]

Methods of medical treatment per se, such as a method of joining tissue surfaces, have been held not to constitute patentable subject matter.[63] However, a diagnostic process,[64] a method of birth control,[65] a process for ameliorating aging,[66] and the use of a compound to treat a particular condition[67] were all found *not* to constitute methods of medical treatment and therefore were found to be patentable.

Higher life forms, such as genetically engineered mice, have been held not to constitute patentable subject matter.[68] However, claims to a genetically modified canola gene and cell were found to be patentable.[69] Further, growing the plant that contained that genetically modified material was held to infringe the patent on the genetically modified gene and cell.[70]

Lower (single cell) life forms, such as bacteria, are considered patentable, so long as they can be produced *en masse* as chemical compounds are prepared and formed in such large numbers that any measurable quantity will possess uniform properties and characteristics.[71]

B. Utility

For a patent to be valid, the invention as claimed must possess utility. This requirement is derived from the term 'useful' in the definition of 'invention' in section 2 of the *Patent Act*, quoted in the preceding section.

A patent lacks utility where the invention 'will not work, either in the sense that it will not operate at all or, more broadly, that it will not do what the specification promises that it will do'.[72] The practical usefulness of the invention does not matter, nor does its commercial utility, unless the specification promises commercial utility, nor does it matter whether the invention is of any real benefit to the public, or particularly suitable for the

61. MOPOP, *supra* n. 20, s. 12 (revised December 2009).
62. Section IV-B-5.
63. *Tennessee Eastman Co. v. Canada (Commissioner of Patents)*, [1974] S.C.R. 111, 8 C.P.R. (2d) 202 [*Tennessee Eastman*].
64. *Application for Patent of Goldenberg, Re* (1988), 22 C.P.R. (3d) 159 (Pat. Commr.).
65. *General Hospital Corp., Re* (1996), 74 C.P.R. (3d) 544 (Pat. App. Bd.).
66. *Application for Patent by Senentek plc, Re* (1997), 77 C.P.R. (3d) 321 (Pat. App. Bd. & Pat. Commr.).
67. *AZT*, *supra* n. 54.
68. *Harvard*, *supra* n. 49.
69. *Monsanto Canada Inc. v. Schmeiser*, 2004 SCC 34, [2004] 1 S.C.R. 902 [*Schmeiser*].
70. *Ibid*.
71. *Re Application of Abitibi Co.* (1982), 62 C.P.R. (2d) 81 (Pat. App. Bd.).
72. *Eli Lilly Canada Inc. v. Novopharm Limited*, 2010 FCA 197 at para. 75 [*Eli Lilly Olanzapine* FCA]; *Consolboard Inc. v. MacMillan Bloedel (Sask) Ltd.*, [1981] 1 S.C.R. 504 at 525 [*Consolboard*].

purposes suggested. It is sufficient 'utility' to support a patent that the invention gives either a new article, or a better article or a cheaper article, or affords the public a useful choice.[73] If an invention does not have a general use, or does not work, or if the patent does not disclose sufficient information to enable a person skilled in the field to put the invention into effect, then the invention may lack utility.[74]

Where a patent does not promise a specific result, no particular level of utility is required – a 'mere scintilla' of utility will suffice. However, where the patent makes an explicit 'promise', utility will be measured against that promise.[75] Determining the promise of a patent is an aspect of construction, which is a question of law.[76]

A claim may be found to be invalid if it covers inoperable embodiments (i.e., inutility *in fact*).[77] However, the Canadian courts have also held that an applicant is not entitled to seek patent protection based on 'mere speculation'.[78] Therefore, as of the Canadian filing date, there must have been either a demonstration of utility of the invention (i.e., by testing performed before the Canadian filing date) or a sound prediction of the utility.[79]

The doctrine of sound prediction recognizes that in some fields, it is possible to obtain a patent by making a prediction of the utility of an invention as of the filing date in advance of actual testing. The doctrine of sound prediction has found extensive use in the fields of chemistry and pharmaceuticals where patentees have claimed classes of compounds on the basis of testing of just a few compounds combined with evidence that others in the class would behave in a similar way.

There are three components to the doctrine of sound prediction, all three of which must be met in order to successfully be granted a patent on this basis:[80]

(a) there must be a factual basis for the prediction;
(b) the inventor must have at the date of the patent application an articulable and 'sound' line of reasoning from which the desired result can be inferred from the factual basis; and

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73. *Eli Lilly Olanzapine* FCA, *supra* n. 72, citing Fox, *supra* n. 48 at 149–150.
74. *Unilever PLC v. Procter & Gamble Inc.* (1993), 47 C.P.R. (3d) 479 at 487–488 (F.C.T.D.); aff'd (1995), 61 C.P.R. (3d) 499 (F.C.A.).
75. *Aventis Pharma v. Apotex Inc.*, 2005 FC 1283 at para. 271; *Novopharm Limited v. Pfizer Canada Inc*., 2010 FCA 242 at paras 91–92, 94 [*Pfizer Sildenafil* FCA], rev'd (but not on this issue) *Teva Canada Ltd. v. Pfizer Canada Inc*, 2012 SCC 60 [*Pfizer Sildenafil* SCC]; *Eli Lilly Olanzapine* FCA, *supra* n. 72 at paras 76–77; *AZT*, *supra* n. 54 at para. 77.
76. *Laboratoires Servier v. Apotex Inc.*, 2009 FCA 222 at para. 101 [*Laboratoires Servier* FCA], aff'g 2008 FC 825 [*Laboratoires Servier* FC].
77. *Burton Parsons v. Hewlett Packard*, [1976] 1 S.C.R. 555; *Laboratoires Servier v. Apotex* (2008), 67 C.P.R. (4th) 241 (F.C.), aff'd 2009 FCA 222 (*ibid.*).
78. *AZT*, *supra* n. 54 at paras 46, 83.
79. *Eli Lilly Olanzapine* FCA, *supra* n. 72 at para. 74.
80. *AZT*, *supra* n. 54 at para. 70.

(c) there must be proper disclosure, although it is not necessary to provide a theory of why the invention works.

Whether a prediction of utility is sound is a question of fact. What is required is a prima facie reasonable inference of utility.[81]

Some uncertainty has surrounded the nature and extent of disclosure required in the patent specification to support either demonstrated or predicted utility.

Presently, it appears that where utility has been demonstrated, there is no requirement for the patent to demonstrate utility in the patent disclosure, so long as the trier of fact finds it to be proven upon a legal challenge. However, there is some suggestion in the jurisprudence that the patent disclosure must at least make reference to a study demonstrating utility, although this point may remain open pending further appellate consideration.[82]

Where utility is established by sound prediction, at least the factual basis and possibly also the line of reasoning must be disclosed in the patent specification.[83] This will typically require the disclosure of any test results which provide the factual basis upon which utility may be predicted.

The doctrine of sound prediction has received extensive consideration in the extensively litigated field of pharmaceutical patents, where generic drug manufacturers frequently assert inutility as a ground of patent invalidity. Where a chemical compound is claimed, the patent specification will often include some discussion as to how the chemical compound is useful – for example, its activity, and even its anticipated therapeutic application. Statements of this nature are frequently asserted to give rise to 'promises' of utility. Moreover, the nature of pharmaceutical product development will also often lead to patent applications being filed at relatively early stages of development (e.g., before therapeutic activity has been fully established through clinical trials).

In other fields, including mechanical and computer-implemented inventions, historically, utility has not been as significant a concern. Usually, the utility of the invention will often be more or less self-evident, requiring less discussion in the specification as to the usefulness of the invention, and there is, therefore, less risk of language giving rise to a 'promise' which may not be fulfilled. Moreover, if and how any utility will be achieved will be understood from the description of the invention itself, and whether the utility can be predicted may therefore be less contentious. Nevertheless, a recent trial

81. *Eli Lilly Olanzapine* FCA, *supra* n. 72 at paras 85, 110.
82. *Pfizer Sildenafil* FCA, *supra* n. 75 at paras 82, 89–90, aff'd *Pfizer Sildenafil* SCC, *supra* n. 75 at paras 36–43, without comment on any requirement for reference to a study demonstrating utility.
83. *Eli Lilly Canada Inc. v. Novopharm Limited*, 2009 FCA 97 at paras 13–15. In *Pfizer Sildenafil* SCC, *supra* n. 75, the Court expressly declined to decide whether an 'enhanced' or 'heightened' disclosure requirement arises in the context of sound prediction.

level decision found all but one of the claims of a patent directed to helicopter landing gear invalid in view of the failure of the patentee to demonstrate or soundly predict that the claimed landing gear would achieve certain promised results.[84] The decision reinforces the point that utility is an issue which can arise in any field of technology.

C. Novelty and Non-obviousness (Inventive Character)

1. Novelty

The definition of 'invention' requires the subject matter of the patent to be 'new' (referred to in Canada as 'novelty'). When the scope of a patent claim encompasses old subject matter, the claim is invalid as being 'anticipated' or 'lacking novelty'.

As discussed further below,[85] on 1 October 1989 Canada moved from a 'first-to-invent' to a 'first-to-file' patent system. As a result of the amendments, the provisions relating to novelty were amended and transitional provisions[86] were incorporated. Thus, the novelty provisions applicable to applications filed prior to 1 October 1989 (and patents issuing therefrom – often referred to as 'old *Act* patents') are different from the novelty provisions applicable to applications filed on or after 1 October 1989 (and patents issuing therefrom – often referred to as 'new *Act* patents').

a. Patent Applications Filed Before 1 October 1989

For applications filed prior to 1 October 1989, a patent can be obtained provided the invention claimed was not:

(a) known or used by any other person before the inventor invented it;
(b) described in any patent or in any publication printed in Canada or in any other country more than two years before the filing of the application in Canada; and
(c) in public use or on sale in Canada for more than two years prior to the filing of the application in Canada.[87]

The requirement that the claimed invention not have been known or used by any other person before the inventor invented it ((a), above) provided the

84. *Eurocopter v. Bell Helicopter*, 2012 FC 113, aff'd 2013 FCA 219.
85. Section IV-A.
86. *Patent Act*, ss 78.1–78.5.
87. *Patent Act*, s. 27(1), as it read immediately before 1 Oct. 1989. See also *Patent Act*, s. 27(2), as it read immediately before 1 Oct. 1989, which prohibits the grant of a Canadian patent where an application for patent has been filed in any other country, unless the application is filed in Canada before the foreign patent issues, or the Canadian application is filed within twelve months of the filing of the foreign patent application.

statutory basis for a 'first to invent' system. For pending applications purporting to describe and/or claim the same invention, the *Patent Act* provided a system for resolving 'conflicts' (such conflict proceedings being the Canadian equivalent to interference proceedings in the US).[88] For issued patents, the *Act* further provided that a patent could not be declared invalid or void on the ground that, *inter alia*, the invention was previously known or used by some other person before the invention was made by the inventor unless it was established that the other person had, before the effective filing date of the application (which refers to either the actual Canadian filing date or the convention priority date, if applicable), disclosed or used the invention in such manner that it had become available to the public.[89]

b. Patent Applications Filed on or After 1 October 1989

For patent applications filed on or after 1 October 1989, the novelty provisions under the 'first-to-file' system provide that the subject matter of a claim must not have been disclosed:

(a) in a Canadian patent application that has an earlier effective filing date (either the actual Canadian filing date[90] or the convention priority date, if applicable);
(b) more than one year before the filing date by the applicant, or by a person who obtained knowledge, directly or indirectly, from the applicant, in such a manner that the subject matter became available to the public in Canada or elsewhere; or
(c) the invention was, before the Canadian filing date (or the convention priority date, if applicable), disclosed by any third party in such a manner that it became available to the public in Canada or elsewhere.[91]

c. Legal Test for Anticipation

Anticipation can be based upon any disclosure making the subject matter of a claim 'available to the public', including a prior publication (e.g., a prior patent or published patent application), and a prior public use or sale of the claimed invention. It is usually impermissible to rely upon multiple prior art disclosures (referred to as 'mosaicing') to establish that a patent claim lacks

88. *Patent Act*, s. 43, as it read immediately before 1 Oct. 1989.
89. *Patent Act*, s. 61(1), as it read immediately before 1 Oct. 1989.
90. The 'filing date' is the date a domestic Canadian patent application was filed with the Canadian Patent Office or the date of filing a PCT international application designating Canada. See *Patent Act*, s. 2 ('filing date', s. 28; *Patent Rules* s. 64.
91. *Patent Act*, s. 28.2.

novelty.[92] Canadian courts have consistently held that the legal test for anticipation is difficult to satisfy.[93]

The Supreme Court of Canada recently reformulated the test for anticipation, holding that two requirements must be satisfied: 'disclosure' and 'enablement'.[94]

For the disclosure requirement, the prior disclosure must disclose subject matter which, if performed, would necessarily result in the infringement of the patent. The person skilled in the art looks at the prior art to understand what the author meant. There is no room for trial and error experimentation.[95]

For the enablement requirement, a person skilled in the art must be able to perform the invention. Unlike the 'disclosure' requirement, trial and error experimentation is permitted to establish enablement.[96] However, the prior art must provide enough information to allow the invention to be performed without 'undue burden'. The following non-exhaustive factors are normally considered for assessing enablement of a prior publication:

(a) Enablement is to be assessed having regard to the prior publication as a whole (including the specification and the claims of a prior patent).
(b) The person skilled in the art may use his or her common general knowledge to supplement information contained in the prior art. Common general knowledge means knowledge generally known by persons skilled in the relevant art at the relevant time.
(c) When considering whether there is undue burden, the nature of the invention must be taken into account. For example, if the invention takes place in a field of technology in which trials and experiments are generally carried out, the threshold for undue burden will tend to be higher than in circumstances in which less effort is normal. If inventive steps are required, the prior art will not be considered as enabling. However, routine trials are acceptable and would not be considered an undue burden. But trials and experiments should not be prolonged even in fields of technology in which trials and experiments are generally carried out. No time limits on exercises of energy can be laid down; however, prolonged or arduous experiments would not be considered routine.
(d) Obvious errors or omissions in the prior art will not prevent enablement if reasonable skill and knowledge in the art could readily correct the error or find what was omitted.[97]

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92. *671905 Alberta Inc. v. Q'Max Solutions Inc.*, 2003 FCA 241 at para. 43.
93. *Free World Trust v. Électro Santé Inc.*, 2000 SCC 66 at para. 25 [*Free World Trust*].
94. *Sanofi-Synthelabo Canada Inc. v. Apotex Inc.*, 2008 SCC 61 at paras 23–30 [*Sanofi*].
95. *Ibid*., at para. 25.
96. *Ibid*., at paras 26, 27.
97. *Ibid.,* at paras 33, 37.

In the context of disclosure by prior sale or use, the Federal Court of Appeal has recognized that a bare sale or use may not be sufficient to constitute anticipation under the new *Act*, especially where reverse engineering may be required to enable the person skilled in the art to practice the invention. In this context, the Court has stated the following additional factors to be considered:

(a) Sale to the public or use by the public alone is insufficient to prove anticipation; the sale or use must 'anticipate' the invention.
(b) For a prior sale or use to anticipate an invention, it must be an 'enabling disclosure'; the disclosure must be such to enable the ordinary skilled person to make or obtain the invention.
(c) The prior sale or use of a compound will constitute an enabling disclosure to the public with respect to a claim for the compound if its composition can be discovered through analysis of the compound.
(d) The analysis must be able to be performed by a person skilled in the art in accordance with known analytical techniques available at the filing date (or convention priority date, if applicable) provided the invention can be found without the exercise of inventive skill.
(e) When reverse engineering is necessary and capable of discovering the invention, an invention becomes available to the public if a product containing the invention is sold to one member of the public who is free to use it as she or he pleases.
(f) It is not necessary to demonstrate that a member of the public actually analysed the product that was sold.
(g) The amount of time and work involved in conducting the analysis is not determinative of whether a skilled person could discover the invention. The relevant consideration, in this respect, is only whether inventive skill is required.
(h) It is not necessary that the product that is the subject of the analysis be capable of exact reproduction. It is the subject matter of the patent claims that must be disclosed through the analysis. Novelty of the claimed invention is destroyed if there is a disclosure of an embodiment that falls within the claim.[98]

2. Non-obviousness (Inventive Step)

A patent cannot be granted for subject matter that lacks inventive ingenuity or character (also referred to as 'inventive step' or 'non-obvious'). Prior to 1996, the inventive ingenuity requirement for patentability was not expressly stated in the *Patent Act*. Rather the requirement was read into the *Act* through the interpretation of 'invention' by Canadian courts and was considered as of the

98. *Baker Petrolite Corp. v. Canwell Enviro-Industries Ltd.*, 2002 FCA 158 at paras 42–43.

date of the invention.[99] For patent applications filed prior to 1 October 1989 (and patents issuing therefrom), these principles are still applicable.

Since 1 October 1996, obviousness has been codified in section 28.3 of the *Patent Act*[100] and applies to all applications filed on or after 1 October 1989 (and patents issuing therefrom).[101] Pursuant to that section, the subject matter of a patent claim must be subject matter that would not have been obvious on the Canadian filing date (or convention priority date, if applicable) to a person skilled in the art or science to which it pertains, having regard to the following:

(a) information disclosed more than one year before the Canadian filing date by the applicant, or by a person who obtained knowledge, directly or indirectly, from the applicant in such a manner that the information became available to the public in Canada or elsewhere;[102] and
(b) information disclosed before the Canadian filing date (or convention priority date, if applicable) by a third party in such a manner that the information became available to the public in Canada or elsewhere.

The Supreme Court of Canada recently refined the test for obviousness in Canada, adopting the four step approach of the English Court of Appeal in the *Windsurfing* case,[103] namely:

(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?[104]

The Supreme Court of Canada has also recognized that in the fourth step of the analysis for obviousness an 'obvious to try' test may be appropriate, for example in areas of endeavour where advances are often won by

99. *Diversified Products Corp. v. Tye-Sil Corp.* (1991), 35 C.P.R. (3d) 350 at 365 (F.C.A.).
100. *Patent Act*, s. 28.3.
101. *Patent Act*, ss 78.4, 78.5.
102. The one year grace period provided in this section extends to a disclosure of independent work of an employee of the applicant provided the work of the employee is owned by the applicant, see: *G.D. Searle & Co. v. Novopharm Ltd*., 2007 FCA 173 at paras 39–43, 58 C.P.R. (4th) 1, leave to appeal to S.C.C. refused, [2007] S.C.C.A. No. 340.
103. *Windsurfing International Inc. v. Tabur Marine (Great Britain) Ltd.* (1984), [1985] R.P.C. 59 (Eng. C.A.) [*Windsurfing*].
104. *Sanofi*, *supra* n. 94 at para. 67.

experimentation.[105] If the 'obvious to try' test is warranted, the following non-exhaustive factors should be taken into consideration:

(a) Is it more or less self-evident that what is being tried ought to work? Are there a finite number of identified predictable solutions known to persons skilled in the art?
(b) What is the extent, nature, and amount of effort required to achieve the invention? Are routine trials carried out or is the experimentation prolonged and arduous, such that the trials would not be considered routine?
(c) Is there a motive provided in the prior art to find the solution the patent addresses?
(d) What actual course of conduct culminated in the making of the invention? Was the invention arrived at quickly, easily, directly, and relatively inexpensively in light of the prior art and common general knowledge or was time, money and effort expended in looking for the result the invention ultimately provided?[106]

The Federal Court of Appeal has clarified that the mere possibility that something might turn up or is 'worth a try' is not sufficient to satisfy the Canadian obviousness test.[107] In this regard, even a high degree of motivation cannot transform a possible solution into an obvious one. Motivation is relevant in determining whether the skilled person has good reason to pursue 'predictable' solutions or solutions that provide 'a fair expectation of success'. The stringent test for obviousness in Canada has in the past, and continues, to lead to Canadian courts upholding Canadian patents even where corresponding foreign patents have been found to be invalid.[108]

In addition, the Canadian courts have recognized that secondary factors arising after the time that the alleged invention was made, such as commercial success and meritorious awards, may also be relevant to the issue of obviousness, but generally bear less weight.[109]

D. Sufficiency of the Specification

The word 'specification' refers to the two main parts of a patent which constitute the heart of the patent granting system: the disclosure and the

105. *Ibid.*, at paras 67–68.
106. *Ibid.*, at paras 69–70.
107. *Pfizer Canada Inc. v. Apotex Inc.*, 2009 FCA 8 at paras 22–29.
108. See e.g., *Pfizer Canada Inc. v. Apotex Inc.*, 2009 FCA 8 at paras 39–47 vs. *Lilly Icos Ltd. v. Pfizer Ltd.*, [2001] F.S.R. 16, aff'd *Lilly Icos Ltd. v. Pfizer Ltd.*, [2002] E.W.C.A. Civ. 1; *Windsurfing v. Trilantic* (1985), 8 C.P.R. (3d) 241 (F.C.A.), vs. *Windsurfing*, *supra* n. 103.
109. *Janssen-Ortho Inc. v. Novopharm Ltd.*, 2007 FCA 217 at paras 23–25; *Laboratoires Servier* FC, *supra* n. 76 at paras 226–227, *Laboratoires Servier* FCA, *supra* n. 76 at paras 67–90; *Bauer Hockey Corp. v. Easton Sports Canada Inc.,* 2010 FC 361 at paras 223–284, aff'd 2011 FCA 83.

claims. The disclosure provides the public with instructions on how to make and use the invention, while the claims define the monopoly to be enjoyed by the inventor.[110] For the disclosure and claims to serve their purposes, each must meet certain requirements.

The legal basis for the patent disclosure is found in section 27(3) of the *Patent Act*. This section, in effect, seeks answers to the questions: 'What is your invention? How does it work?'[111] The disclosure is directed to the person skilled in the art to which the invention pertains who must be able to understand and use it. In the case of patents of a highly technical and scientific nature, the notional person skilled in the art may possess a high degree of expert scientific knowledge and skill in the branch of science to which the patent relates,[112] and may in fact be an amalgam or more than one actual individual.[113]

Section 27(3)(a) sets out the requirement for a full and correct description of the invention. In particular, the disclosure must describe the invention and define the way it is produced or built.[114]

Section 27(3)(b) states that the disclosure must 'enable any person skilled in the art or science to which [the invention] pertains, or with which it is most closely connected, to make, construct, compound or use it'. A disclosure that does not enable any person skilled in the art to practice the invention is invalid for 'insufficiency'.[115]

The 'enablement' requirement in section 27(3)(b) has led courts to grapple with whether the disclosure is sufficient if a skilled person must apply some amount of testing or experimentation to put the invention into practice. In cases where the testing required to get an invention to work is simple or routine, the patent will be valid.[116] However, if anything beyond simple or routine testing is required, the patent will be invalid for insufficiency.[117] Also, the testing must be something that any person skilled in the art would know how to do – it must not require any inventive ingenuity.[118]

Section 27(3)(c) requires that, when the invention is a machine, the 'best mode' contemplated by the inventor must be disclosed. Curiously, the *Patent Act* does not set out this best mode requirement for other types of inventions.[119]

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110. *Consolboard*, *supra* n. 72 at 520.
111. *Ibid*.
112. *Ibid*., at 524.
113. *Mobil Oil Corp. v. Hercules Canada Inc.* (1995), 63 C.P.R. (3d) 473 (F.C.A.) *[Mobil Oil]*.
114. *Pioneer Hi-Bred Ltd. v. Canada (Commr. of Patents)*, [1989] 1 S.C.R. 1623 at 1638.
115. *Ibid.* See also: *Pfizer Sildenafil* SCC, *supra* n. 75.
116. *Mobil Oil, supra* n. 113.
117. *Ductmate Industries Inc. v. Exanno Products Ltd.* (1984), 2 C.P.R. (3d) 289 at 300 (F.C.T.D.).
118. *Mobil Oil*, *supra* n. 113 at 504. See also: *Pfizer Sildenafil* SCC, *supra* n. 75, at paras 73–74.
119. While the position has been the subject of contradictory decisions in the jurisprudence, the most recent pronouncement of the Federal Court of Appeal held that the s. 27(3)(c)

Section 27(3)(d) requires, in a patent for a process, disclosure of the necessary sequence, if any, of the various steps, so as to distinguish the invention from other inventions.

While the disclosure benefits the public by giving it a new and useful invention, the claims explicitly define the monopoly to be enjoyed by the patentee in exchange for that disclosure. The claims notify the public of the 'fence' within which the public cannot trespass.[120]

III. HOW THE PATENT OFFICE INTERPRETS THE PATENT ACT

A. Background

The Canadian Patent Office provides guidance with respect to its examination practices in the Manual of Patent Office Practice ('MOPOP').[121] Chapter 16 of MOPOP is directed to computer-implemented inventions and provides guidance and examples specific to the examination of applications in this area of technology, across all requirements for patentability.

The Patent Office recently rewrote a number of MOPOP chapters, including Chapter 12 (Utility and Subject Matter), Chapter 13 (Examination of Applications), and Chapter 16 (Computer-Implemented Inventions). This amendment process coincided with the progress of the *Amazon.com* case through the Federal Court and Federal Court of Appeal. The decisions in the *Amazon.com* case are discussed in detail below.[122]

Amended Chapters 13 and 16 presented a framework of analysis for patentable subject matter which was consistent with the approach the Commissioner had presented in her decision in *Amazon.com.* In an attempt to address the Federal Court of Appeal decision, CIPO released new guidelines on 8 March 2013. In view of the Court's emphasis on claim construction, two separate sets of guidelines were released. One addresses claim construction,[123] and the other computer-implement inventions.[124] The aspects of MOPOP which now state questionable principles are addressed in the comments below.

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requirement for disclosure of the 'best mode' applied only to machines. See *Pfizer Sildenafil* FCA, *supra* n. 75 at para. 72.

120. *Canamould Extrusions Ltd. v. Driangle Inc.* (2004), 30 C.P.R. (4th) 129 at para. 18 (F.C.A.).
121. *Supra* n. 20.
122. Section IV-B-5.
123. Examination Practice Respecting Purposive Construction – PN2013-02, 8 Mar. 2013, online: CIPO <http://www.cipo.ic.gc.ca/eic/site/cipointernet-internetopic.nsf/vwapj/PN2013-02-eng.pdf/$file/PN2013-02-eng.pdf>.
124. Examination Practice Respecting Computer-Implemented Inventions – PN 2013-03, 8 Mar. 2013, online: CIPO <http://www.cipo.ic.gc.ca/eic/site/cipointernet-internetopic.nsf/vwapj/PN2013-03-eng.pdf/$file/PN2013-03-eng.pdf>.

The following sections will review some of the highlights of Chapter 16 of MOPOP, followed by a review of the 8 March 2013 practice guidelines issued by the Patent Office following the *Amazon.com* decision.

B. Patentable Subject Matter

The sections of MOPOP on patentable subject matter[125] must be read with caution following the decisions of the Federal Court and Federal Court of Appeal in *Amazon.com.* Further guidance with respect to the position of the Canadian Patent Office is provided in the 8 March 2013 practice directions, discussed below.

Notably, throughout Chapter 16 of MOPOP, there are references to a 'contribution' analysis, in which the novel/inventive elements of a claim are parsed out of a claim and assessed as to whether those elements constitute patentable subject matter. The section also includes numerous references to the requirement for a 'technological' contribution. The contribution analysis and the technological test for patentability were both firmly rejected by the Federal Court and Federal Court of Appeal in *Amazon.com*, and should therefore now be viewed as incorrect in law.

Nevertheless, the sections provide guidance with respect to the manner in which the Patent Office will approach computer-implemented subject matter, and in particular areas in which the Patent Office may raise objection.

Notably, the Office applies the following 'guiding principle' derived from the *Schlumberger* case, which is discussed further below,[126] with respect to patentable subject matter in computer-related inventions:

> A guiding principle in respect of computer-related inventions was provided by the Federal Court of Appeal in *Schlumberger*, which noted that 'the fact that a computer is or should be used to implement a discovery does not change the nature of that discovery', and also that the presence of a computer cannot effect the 'transforming into patentable subject-matter [of] what would, otherwise, be clearly not patentable'.[127]

With respect to the specific categories of patentable subject matter, MOPOP provides the following guidance.

1. Art/Process

'Art' and 'process' are the categories of 'invention' typically applied to inventions claimed as methods. These categories are significantly affected by the *Amazon.com* decision.

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125. MOPOP, *supra* n. 20, s. 16.02.
126. See s. D-2, below.
127. MOPOP, *supra* n. 20, s. 12.06.06.

With respect to 'art', MOPOP states as follows:

> Claims to computer-implemented methods for playing games or creating works of art do not define inventions that belong to a field of technology and do not come within the definition of invention in section 2 of the *Patent Act*.
>
> A method of controlling a computer's operations so as to achieve a technological result, in contrast, would come within the definition of invention in section 2 of the *Patent Act*. In such a method, the electronic processes within the computer are considered to satisfy the requirement that the method include (either explicitly or implicitly) *at least one act performed by a physical agent upon a physical object, producing in that object some change of condition* [emphasis added, citations omitted].[128]

As discussed below,[129] the requirement that a method, to be patentable, include: 'at least one act performed by a physical agent upon a physical object, producing in that object some change of condition' is on its face narrower than the requirements provided in the Supreme Court decision of *Shell Oil* and accepted by the Federal Court and Federal Court of Appeal in *Amazon.com* as stating the test for a patentable art. However, the acceptance that the internal electronic processes of a computer could provide this 'physicality requirement', may mean that the test stated in MOPOP does not reach a different result when it comes to patentability of many computer-implemented inventions.

2. Machine

The 'machine' category will quite clearly apply to new and non-obvious computer hardware. This is true even if the new computer hardware is used to implement a method which might be non-statutory.

The Patent Office also accepts that a patentable machine may exist where existing hardware is controlled in a particular manner by the addition of software or firmware.

MOPOP states that:

> [T]he 'technological solution to a technological problem' does not have to be in relation to the operation of the computer as a general purpose device (e.g., it is not necessary that a computer be made more efficient or reliable), but could be simply that the general purpose device has been technologically adapted to act as a special purpose device.[130]

128. *Ibid*., s. 16.02.01.
129. See s. IV-B-5, below.
130. MOPOP, *supra* n. 20, s. 16.02.03.

The following examples are provided:

- a computer programmed to allow its speakers to simulate 'surround sound' (known hardware controlled by new software);
- a computer adapted to operate using two central processing units (new arrangement of known hardware, controlled by new software);
- a computer programmed to allocate memory to video processing in a manner that increases the efficiency of the device when running several applications (known hardware controlled by new software); and
- a computer whose motherboard has an inventive new video card slot with a faster data transfer rate (new hardware).[131]

3. Manufacture

MOPOP distinguishes 'manufactures' from 'machines' in the context of computer-implemented inventions as follows:

> The category *manufacture* encompasses both processes for manufacturing and the products made by such processes [. . .] A device including a CPU is generally viewed as falling within the category *machine*. The category *manufacture* is therefore considered to apply to computer-implemented inventions either where a computer is used to control a manufacturing process, or where a non-*machine* computer product is claimed.
>
> The concept of a non-*machine* computer product applies to a physical memory storing computer-executable instructions. A computer program *per* se is not statutory because it is disembodied. A physical medium storing the program, however, may be considered a *manufacture* [citations omitted].[132]

Computer-readable medium and like claims (sometimes referred to as 'Beauregard Claims') in which instructions are stored in or on a medium (e.g., a computer memory) are an example of this form of claim, and are discussed further below in this section.

C. Utility

Utility is not identified in MOPOP as being a significant area of concern with respect to computer-implemented inventions provided that 'judgment or interpretative reasoning of an operator' is not implicated in the proper operation of the claimed invention.[133]

131. *Ibid.*
132. *Ibid*., s. 16.02.04.
133. *Ibid*., s. 16.04.

D. Sufficiency

With respect to sufficiency, the MOPOP provides comments with respect to support for 'means plus function' language in the claims, flow charts, source code or pseudocode, and common general knowledge and programming.[134]

With respect to 'means plus function' language, MOPOP states:

> Where a claim defines the invention in terms of means-plus-function statements, the nature of the means, and where applicable how they are arranged to provide the stated functionality, must be clear to the person skilled in the art. The level of description necessary to correctly and fully describe the means, and their arrangement where applicable, will depend on the state of the common general knowledge in the art. Where limited description is provided, this is taken as an indication that the applicant (rightly or wrongly) considers that the selection of suitable means to perform the stated function would be readily apparent to a person skilled in the art.[135]

With respect to flow charts, MOPOP states:

> Computer-implemented inventions are often described in terms of a flow chart that illustrates the algorithm or logic tree on which the operation of the invention is based [. . .]
>
> It will often be the case that the algorithm or logic performed by the computer lie at the heart of the invention. In such circumstances, a full description of the algorithm or logic tree should be provided. Where the algorithm or logic is described by reference to a flow chart, presented as a drawing, a written explanation of the flow chart is necessary to provide support for any claims that refer to the algorithm or logic.
>
> In order to successfully practice the invention, it is necessary for the person skilled in the art to be able to put each step in the flow chart into operation. For the description to be enabling, the person skilled in the art must be able to do this without recourse to inventive ingenuity or undue experimentation. The flow chart, and any accompanying description, must therefore provide any information necessary to enable the algorithm to be so practised.[136]

With respect to source code and pseudocode, MOPOP observes that either may be provided, but will generally not be considered, by themselves, to provide a full and enabling description of the invention.[137]

Finally, MOPOP makes the following observations with respect to the act of programming:

134. *Ibid*., s. 16.05.
135. *Ibid*., s. 16.05.01.
136. *Ibid*.
137. *Ibid*., s. 16.05.02.

> The activities required to reduce a specific series of logic instructions to a computer code are considered to form part of the common general knowledge of a skilled programmer. It is, therefore, typically not necessary for an inventor to describe how to write computer code, either in general or in respect of a specific computer language.
>
> Where the algorithm to be written out as lines of code only invokes well-known operations, or if specific and unobvious logic operations are required, where these have been clearly described, the act of expressing the specific commands as lines of code is considered not to require inventive ingenuity or undue effort.[138]

E. Novelty and Non-obviousness (Inventive Step)

In respect of both novelty and obviousness, MOPOP observes that the usual principles will apply to computer-implemented inventions.[139]

With respect to novelty, MOPOP offers the following observations with respect to possible anticipation by prior use:

> [I]f the claimed invention is defined broadly using functional language, any prior art software that achieves the same function could be anticipatory. In contrast, if the claimed invention defines a particular method for arriving at a specific result, prior art software would only be anticipatory if it could be established, on the balance of probabilities, that it was using the same method for arriving at the result.[140]

With respect to obviousness, MOPOP offers the following comments with respect to automation through the use of computers:

> It is considered obvious that computers can be used to automate many manual operations, and the idea of automating a manual process is, in the absence of reasons to conclude the contrary, considered to be uninventive. The inventive step necessary to support a claim to a computer-automated version of a known manual method therefore must typically be found in the solution to specific challenges attendant to enabling the automation.
>
> Where a computer-implemented invention aims to achieve a new unitary result through the use of a combination of known hardware and software, an inventive step may exist by virtue of the recognition that the combination will achieve that result. If, in contrast, using the hardware and software together merely results in a predictable outcome, the alleged invention is a mere aggregation.[141]

138. *Ibid*., s. 16.05.03.
139. *Ibid*., ss 16.05, 16.06.
140. *Ibid*., s. 16.06.01.
141. *Ibid*., s. 16.07.

F. Claims

MOPOP notes that computer-implemented inventions may be claimed as computers, computer-implemented methods, systems, and software products.[142]

With respect to software products, the Patent Office continues to accept computer-readable medium style claims, provided the claim is directed to the medium itself:

> In defining a software product, the form of the claim is important. The preamble must clearly direct the claim to a physical product limited by the computer program stored thereon, and not to a computer program limited by having been stored on a memory. Thus, the preamble 'a physical memory having stored thereon . . . ' directs the claim to a statutory embodiment, whereas 'a computer program stored on a physical memory' directs the claim to a computer program and thus to excluded subject-matter.
>
> Furthermore, it must be explicitly defined that the computer program is present as machine-executable code. Only machine-executable code can change the technological functionality of the physical memory storing the program. Non-executable code is considered to be mere descriptive matter.[143]

G. Special Topics

MOPOP also offers specific guidance with respect to certain subject matter.

1. Graphical User Interfaces (GUIs)

GUIs, of themselves, will typically not be considered to be patentable:

> The specific arrangement of graphical elements on a screen, or in other words the visual design that defines a graphical user interface, is viewed by the Office as not constituting a patentable contribution where the visual design of the graphical user interface does not provide a technological solution to a practical problem. Rather, it is viewed as having purely aesthetic significance and amounts to non-functional descriptive matter.
>
> However, the presence of a graphical user interface does not exclude an invention from patentability if the criteria for patentability are satisfied. A

142. *Ibid*., s. 16.08.
143. *Ibid*., s. 16.08.04.

> GUI that has been integrated with statutory subject matter may be patentable.[144]

2. Data Structures

The Patent Office position on data structures is stated as follows:

> The Office considers a data structure to be an abstract idea or plan for organizing data items, and not to include the physical medium upon which the data structure is to be stored. A data structure per se is consequently considered to be disembodied and not an invention within the meaning of section 2 of the *Patent Act.* For a data structure to have an impact on the patentability of a claimed invention, it must in some way limit the technological nature of a statutory element in the claim [citations omitted].[145]

3. Databases

The Patent Office takes the position that a database is not patentable, although a database management system (claimed in the form of a manufacture – i.e., computer-readable medium) may be patentable subject matter:

> The Office interprets a database to be solely a collection of information, and not to include the physical medium upon which the database is stored. A database per se is consequently considered to be disembodied and not an invention within the meaning of section 2 of the *Patent Act* […] Where a database, as a feature of a claim, limits the technological nature of a statutory element in the claim it can result in a statutory contribution.
>
> *A database management system* is generally understood in the art to be a computer program. A claim to *a database management system* computer program is not directed to a statutory invention whereas a claim to a physical memory storing a *database management system* defines, in form, a statutory *manufacture* [citations omitted].[146]

4. Computer-Aided Design Programs

The Patent Office takes the position that computer-aided design (CAD) programs may be patentable, e.g., where claimed as a computer-implemented method or instructions stored on a computer-readable medium.[147]

144. *Ibid*., s. 16.09.01.
145. *Ibid*., s. 16.09.02.
146. *Ibid*., s. 16.09.03.
147. *Ibid*., s. 16.09.04.

5. Signals

The Patent Office position on signals is stated as follows:

> The Office regards electromagnetic and acoustic signals and waveforms to be forms of energy and not to contain matter despite that the signal may be transmitted through a physical medium. As a result, claims to electromagnetic and acoustic signals do not constitute statutory subject-matter within the definition of invention in section 2 of the *Patent Act*.
>
> More particularly, an electromagnetic or acoustic signal is interpreted to be neither an *art* nor a process because it is not an act or series of acts or method of operation by which a result or effect is produced by physical or chemical action. Neither is an electromagnetic or acoustic signal a *machine*, as it is not the mechanical embodiment of any function or mode of operation designed to accomplish a particular effect, or *a composition of matter*, as it is not a chemical compound, composition or substance. An electromagnetic or acoustic signal is considered not to be a material product and, therefore, not a *manufacture*.
>
> The Office considers signals to be transitory in nature, and to exist only while being propagated. Once the information contained in a signal has been stored on a physical medium, it is no longer considered to be a signal and is more appropriately referred to as data. Therefore, claims that define a physical medium storing a signal or a waveform are considered indefinite under section 27(4) of the *Patent Act*.
>
> Although signals per se are not patentable, methods, processes, machines or manufactures involved in the generation, transmission, reception, or processing of signals may be patentable if all other criteria for patentability are satisfied.[148]

6. Business Methods

Business methods, and the Patent Office practices in relation to the patentability of such methods, have been the subject of some scrutiny having regard to the *Amazon.com* case discussed below.[149]

Before December 2009, MOPOP stated the position that business methods were to be treated in the same manner as other subject matter:

> The expression 'business methods' refers to a broad category of subject matter which often relates to financial, marketing and other commercial activities. These methods are not automatically excluded from

148. *Ibid*., s. 16.09.05.
149. See s. IV-B-5, below.

> patentability, since there is no authority in the *Patent Act* or *Rules* or in the jurisprudence to sanction or preclude patentability based on their inclusion in this category. Patentability is established from criteria provided by the *Patent Act* and *Rules* and from jurisprudence as for other inventions.[150]

In her decision in *Amazon.com*, and in the version of MOPOP released in December 2009, the Commissioner reversed her position, finding that business methods were no longer patentable:

> A scheme, plan or rule for performing an operation, achieving a result, controlling a method, or the like, or a process that is exclusively a series of mental steps, regardless of the reproducibility of these same (e.g., performing calculations; manipulating data or information to produce data or information having a different purely intellectual meaning or æsthetic significance), is disembodied (abstract) and is not a practical form of an invention.
>
> All of the foregoing, consequently, are not by themselves 'inventions' within the meaning of section 2 of the *Patent Act*. They are objectionable when claimed as such, or when present in a claim wherein the contribution does not include any statutory subject-matter.
>
> In *Re Application No. 2,246,933 of Amazon.Com*, such a conclusion was reached and was expressed by reference to an exclusion from patentability of 'business methods'. The term 'business method' refers in such a context to a scheme or plan for conducting commercial interactions.
>
> Where, however, a scheme, plan, rule or mental process serves to limit the technological nature of a statutory element in a claim, it is the so-limited statutory element that is a discrete feature of the claim.
>
> A computer program (i.e., when not stored on a carrier), whether it takes the form of a proposed series of steps (e.g., a scheme or flow chart) or of specific code or pseudo-code, is effectively a scheme, plan or set of rules for operating a computer and is abstract in character.
>
> The character or condition of a physical object (machine, manufacture or composition of matter) is not changed by an intent to use or operate said object according to a scheme, plan or rule [citations omitted].[151]

Following the decisions of the Federal Court and Federal Court of Appeal in *Amazon.com* it seems clear that business methods may be patentable in Canada in appropriate circumstances, and the current statement in MOPOP would, therefore, appear to be overly narrow.

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150. MOPOP, *supra* n. 20, s. 12.04.04 (rev. February 2005).
151. *Ibid*., s. 12.06.02.

H. The 8 March 2013 Practice Guidelines

In an attempt to address the Federal Court of Appeal decision in *Amazon.com*, CIPO released new guidelines on 8 March 2013.

Adopting the analysis presented in the *Amazon.com* decision, the guidelines acknowledge that the claims of an application must first be purposive construed by considering the specification as a whole and the common general knowledge in the relevant art. Consistent with Canadian and UK jurisprudence, the goal of this purposive construction is to identify the 'essential' elements of each claim under consideration. Once all the essential elements have been identified, an examiner can determine whether the subject matter defined by those essential elements defines statutory subject matter.

If, for example, the essential elements of the claim are limited to subject matter that is in the fine arts or subject matter that lacks practical application, the guidelines note the claim should be rejected as failing to define statutory subject matter.

According to the guidelines, some claim elements merely define context or the environment of a specific working embodiment but do not actually change the nature of the solution to the problem; such claim elements may therefore be found not to be essential. The guidelines also state that the fact that a claim element distinguishes the claimed subject matter from the prior art does not necessarily make the element essential for the purposes of assessing statutory subject matter.

Interestingly, the guidelines do not reflect all of the canons of construction to be used in determining essentiality as articulated in the jurisprudence.[152] Indeed, the guidelines go so far as to acknowledge that a court may come to a different conclusion from the Patent Office in assessing essentiality, stating:

> It must be recognized that while the Office considers superfluous elements to be nonessential and not relevant to the determination of a claim's patentability during examination, if an applicant maintains such an element in the claim through to grant a court might later construe it to be essential when applying the 'self-inflicted wound' factors of purposive construction as identified in *Free World Trust* and *Whirlpool*.

In particular, the guidelines do not require that a skilled person must appreciate that the applicant did not intend a particular element to be essential in order for it to be classified as non-essential. Likewise, unlike the case law, the guidelines do not place the onus on the patentee/applicant to establish non-essentiality. Instead, the guidelines place particular emphasis on requiring Examiners to identify the problem that the inventors set out to solve

152. *Whirlpool Corp. v. Camco Inc*., 2000 SCC 67[*Whirlpool*]; *Free World Trust, supra* n. 93. For a more detailed discussion of construction principles, see s. VI-A-3, below.

and their proposed solution in order to identify the essential claim elements required for the problem/solution. According to the guidelines, guidance in identifying the problem and solution should be found in the description.

The guidelines acknowledge that where a computer is found to be an essential element of a construed claim, the claimed subject matter will generally be statutory.

For computer-implemented inventions, the following specific guidance is provided with respect to identification of the 'problem':

> In certain cases, a key point may be determining whether or not the problem faced by the inventor was a 'computer problem' (*i.e.,* a problem with the operation of a computer) as opposed to *not* being a 'computer problem' (*i.e.,* a problem whose solution may be implemented using a computer).
>
> Factors that may indicate the existence of a 'computer problem' include:
>
> – the description details a specific problem with the operation of a computer;
> – the solution to the problem involves controlling a chip, system component or technical architecture element such as through firmware (embedded software);
> – the description emphasizes challenges or deficiencies in prior computers;
> – a significant level of detail is devoted to describing technical details, such as the algorithm or logic performed by the computer.[9]
>
> Factors that may suggest that the problem was not a 'computer problem' include:
>
> – explicit statements in the description suggesting a problem other than a 'computer problem';
> – the absence of any explicit indication in the application that any practical problems relating to the operation of a computer were overcome;
> – a relative absence of technical details, despite an indication in the description that the solution be implemented on a computer.

Further, the following guidance is provided with respect to identification of the 'solution' in relation to computer-implemented inventions:

> Where a 'computer problem' has been identified, the elements of the solution are those that overcome the problem relating to the operation of the computer, and may include (e.g.,) both hardware and firmware (embedded software).

> Where the problem was not a 'computer problem' per se, the examiner must carefully consider whether the computer is essential to the solution or if its use is simply a convenience or even an afterthought. For example, if an examiner concludes that the solution to a given problem is to perform certain calculations according to a specific equation, the use of a computer to perform the calculations may expedite the mathematical manipulations without having a material effect on the operation of the equation itself. The examiner could therefore conclude that the computer is not an essential element of the invention. Although it may be inconvenient to do so, the calculations would achieve the same result if done by pen and paper or mentally (i.e., the computer could be varied for another means of calculating without affecting the operation of the invention).
>
> In some cases, the description may emphasize a solution that has been described in conceptual terms. Examiners must consider whether the claim defines a specific solution or simply the idea or concept of solving the problem. A lack of detail regarding implementation may point to a claim being merely the idea to use a computer to carry out certain operations where, in view of the specification as a whole, the claimed elements do not appear to define a specific manner of operating the solution.

The guidelines conclude with the following guidance with respect to completion of the construction with respect to computer-implemented inventions:

> […] Where it appears that the computer cannot be varied or substituted in a claim without making a difference in the way the invention works or that the computer is required to resolve a practical problem, the computer may be considered an essential element of the claim.

The revised guidelines and their application may well be challenged before the Patent Office and the courts. In particular, applicants will undoubtedly formulate approaches to control the classification of each claim element as essential or not. Applicants, for example, may attempt to admit essentiality in argument or amend the application in an effort to expressly identify elements as essential and to strengthen arguments that claims are directed to statutory subject matter. As discussed above, the case law requirements for essentiality differ somewhat from the guidelines, and therefore the success of such an approach will have to be tested both before the Patent Office, and also in litigation before the courts.

IV. HISTORICAL DEVELOPMENT

A. A Brief History of Canadian Patent Law

The earliest patent legislation in Canada pre-dates confederation, and was enacted by the British colonies of Upper and Lower Canada in the 1820s. After the formation of Canada in 1867, the first Canadian *Patent Act* was enacted in 1869. At that time that the first Canadian *Patent Act* was drafted, there was no patent legislation in the United Kingdom, and as a result, the US *Patent Act* of 1793 (often attributed to Thomas Jefferson) was used as a model.[153] To this day, many similarities exist between the US and Canadian patent statutes, most notably the definition of 'invention'.

While various amendments were made to the Canadian legislation over the ensuing 100 years, the most significant changes came in 1989. All patent applications filed before 1 October 1989 are governed by the provisions of the 'old' *Patent Act* as they existed prior to that date, while all applications filed on or after 1 October 1989 are governed by the provisions of the 'new' *Patent Act*.[154]

One notable change in moving from the 'old' to the 'new' *Patent Act* is that the duration of the patent term was changed from seventeen years from the date the patent was granted, to twenty years from the date the patent application was filed. Therefore, those patents filed prior to 1 October 1989 were to retain the old patent term while those filed on or after 1 October 1989 benefited from the new patent term. As of 2001, for those patents under the 'old' *Patent Act* whose terms have not yet expired, section 45(2) of the *Patent Act* states that they are entitled to a patent term of either seventeen years from the date the patent was granted, or twenty years from the date of filing, whichever is longer.[155]

Another particularly important change in moving from the 'old' to the 'new' *Patent Act* relates to the requirements pertaining to novelty. For patent applications that were filed before 1 October 1989, the novelty of the patent is assessed as of the date of invention (in respect of alleged prior invention) or a date two years prior to the patent application being filed (in respect of alleged prior disclosures). Therefore, if a third party could prove that it invented the invention before the patentee, or that the invention had been disclosed more than two years before the patentee filed its patent application, the patent would

153. *An Act to Encourage the Progress of Useful Arts within this Province* 7 GEO. IV., c. 5 (1826), U.C.; *An Act to Promote the Progress of Useful Arts in this Province* 4 GEO. IV., c. 25 (1824), L.C.; *Patent Act* 32-33 V., c. 11; J.G. Ridout, *The Patent Law of the Dominion of Canada* (Toronto: Rowsell & Hutchison, 1894) at 3; O.M. Biggar, *Canadian Patent Law and Practice* (Toronto: Burroughs & Co., 1927) at 1–2.

154. See discussion of Novelty and Non-obviousness (Inventive Step) in s. II-C, above.

155. *Patent Act* ss 44–45.

be invalidated for lack of novelty. In this respect, the 'old' *Patent Act* was known as a 'first to invent' system.

By contrast, the current *Patent Act* is a 'first-to-file' system whereby novelty is assessed as of the filing date of the patent application or the deemed filing date if the patent application claims priority based on a previous patent application filed in another country.

B. Noteworthy Case Law: Having Specific Applicability to Computer Programs, Software, Business Methods

There has been limited jurisprudence in Canada considering the patentability of computer-implemented inventions including software, and business methods.

The most recent, and arguably the most important decision in this area is the *Amazon.com* decision of the Federal Court of Appeal. However, a full appreciation of the Canadian jurisprudence requires a review the case law concerning the scope of patentable 'art' as a category of 'invention' under the Canadian *Patent Act*, including several early decisions which, though directed to subject matter debatably far-removed from computers and business methods, nevertheless inform the definition of 'art' as it may be applied to any subject matter. The development of the case law is reviewed chronologically in the sections below.

1. *Lawson v. Commissioner of Patents*

A discussion of the scope of patentable 'art' in Canada logically starts with the 1970 decision of the Exchequer Court[156] in *Lawson v. Commissioner of Patents*.[157]

In *Lawson*, the applicant sought a patent on a method directed to the subdivision of land into parcels having an 'hourglass' shape as illustrated in Figure 5 of the application, reproduced below.[158] Various advantages were suggested to follow from this layout, including staggering of buildings, greater choice of building plans, and greater freedom of orientation to enjoy the aesthetic qualities of a site.[159] The Commissioner of Patents refused the application on the basis, *inter alia*, that the application did not claim patentable subject matter. Lawson appealed.

156. The Exchequer Court is the predecessor to the current Canadian Federal Court and Federal Court of Appeal.
157. *Lawson*, *supra* n. 50.
158. The claims, somewhat misleadingly, purported to claim a 'subdivided parcel of building land' (see *ibid*. at 104–105). Counsel for Lawson conceded that the patent applied for was directed to the method of subdividing land, rather than the parcel of land so subdivided, and the decision of Justice Cattanach J. proceeded on this basis (see *ibid*. at 110).
159. *Ibid*., at 105.

Justice Cattanach provided a lengthy discussion of the application which includes an extensive discussion of patentable 'art'. The fundamental holding of *Lawson* appears to be that the application was not a patentable 'art' as it was directed to professional skill:

> It seems to me that a method of describing and laying out parcels of land in a plan of subdivision of a greater tract of land in the skill of a solicitor and conveyancer and that of a planning consultant and surveyor. It is an art which belongs to the professional field and is not a manual art or skill.
>
> I, therefore, conclude that the method devised by the applicant herein for subdividing land *is not an art* within the meaning of that word in [the definition of invention] [emphasis added].[160]

However, earlier in his decision, Justice Cattanach offers the following general 'definition' of patentable 'art':

> *An art or operation is 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*. It is abstract in that, it is capable of contemplation of the mind. It is concrete in that it consists in the application of physical agents to physical objects and is then apparent to the senses in connection with some tangible object or instrument.
>
> In the earlier development of patent law, it was considered that an invention must be a vendible substance and that unless a new mode of operation created a new substance the invention was not entitled to a patent, but if a new operation created a new substance the patentable invention was the substance and not the operation by which it was produced. This was the confusion of the idea of the end with that of means. However, it is now accepted that if the invention is the means and not the end, the inventor is entitled to a patent on the means [emphasis added].[161]

Given the unusual facts, one might expect *Lawson* to have limited precedential value. Indeed, as discussed below in this section, the subsequent decision of

160. *Ibid*., at 111. The principle that 'professional skill' falls outside the scope of 'art' is potentially open to debate. An attempt to explain the so-called professional skill bar to patentability in Canada is provided in the headnote which accompanies the *Lawson* decision in the Canadian Patent Reporter (*ibid*. at 103):

> [I]t is suggested that the rejection of claims for the application of professional skill has a different basis in England than in Canada, professional skill is an art. The art of advocacy, the skill of the surgeon, the artistry of the painter fall within the ordinary dictionary meaning of the word art as the application of skill in the sense of knowledge and practice.
>
> In Canada, each of such 'arts' would not be patentable because they lack 'utility' not because they are outside the scope of categories included in invention. They lack utility because the result following the practice of these arts no matter how skilfully practised is not reproducible. The variables arising from the human element in the practice of such skills make success unpredictable.

161. *Ibid*., at 109–110.

the Supreme Court in *Shell Oil*, as interpreted and applied by the Federal Court and Federal Court of Appeal in *Progressive Games* and *Amazon.com*, expands on the analysis of Justice Cattanach, if not expressly overruling his 'definition' of patentable 'art'. However, in developing its practice guidelines, the Patent Office has continued to place reliance upon *Lawson*, and until recently had adopted and applied the narrow, industrial age definition of 'art' stated by Justice Cattanach.

2. *Schlumberger v. Commissioner of Patents*

Prior to the *Amazon.com* discussed below in this section, *Schlumberger v. Commissioner of Patents*[162] was arguably the leading case in Canada with respect to the patentability of computer-implemented inventions, and software in particular.

In *Schlumberger* the Court of Appeal was again called upon to consider an application rejected by the Commissioner of Patents for failure to claim patentable subject matter. The application in issue pertained to calculations performed on measurements obtained in the course of oil and gas exploration to obtain useful information therefrom.

The claims of the patent application in issue in *Schlumberger* are not reproduced in the decision with the result that the ratio of the Federal Court of Appeal is at best uncertain. However, it would appear from the independent claims reproduced in the Patent Appeal Board decision[163] that the patent application in *Schlumberger* claimed in essence a mere abstract or disembodied idea (and not a practical embodiment of that idea) by reciting the taking of unspecified well logging measurements and 'computing' unspecified parameters to be used to produced unspecified results. The computations could have presumably been performed manually such that the computer was arguably not an essential element of the claimed invention.

This appears to be the position of the Federal Court of Appeal, which concluded that the subject matter was non-statutory pursuant to then section 28(3) (now section 27(8) of the *Patent Act*), the statutory prohibition against the patenting of a mere scientific principle or abstract theorem:

> In order to determine whether the application discloses a patentable invention, it is first necessary to determine what, according to the application, has been discovered. Now, it is obvious, I think, that there is

162. (1981), 56 C.P.R. (2d) 204 (F.C.A.) [*Schlumberger*].

163. *Decision of the Commissioner of Patents No. 441*, online: CIPO <http://brevets-patents.ic.gc.ca/opic-cipo/comdec/eng/decision/441/summary.html>. Where an Examiner issues a final rejection of a patent application, the application is referred to the Commissioner for review in accordance with Rule 30(6) of the *Patent Rules*. Such review is conducted by a panel composed of several members of the Canadian Patent Office known as the 'Patent Appeal Board'. There is no statutory authority for the Patent Appeal Board in the *Patent Act* or *Rules.* Its role is described in MOPOP, *supra* n. 20, s. 21.

> nothing new in using computers to make calculations of the kind that are prescribed by the specifications. It is precisely in order to make that kind of calculation that computers were invented. What is new here is the discovery of the various calculations to be made and of the mathematical formulae to be used in making those calculations. If those calculations were not to be effected by computers but by men, the subject-matter of the application would clearly be mathematical formulae and a series of purely mental operations; as such, in my view, it would not be patentable. *A mathematical formula must be assimilated to a "mere scientific principle or abstract theorem" for which s-s. 28(3) of the Act prescribes that "no patent shall issue". As to mental operations and processes, it is clear, in my view, that they are not the kind of processes that are referred to in the definition of invention in s. 2.* However, in the present case, the specifications prescribe that the calculations be made by computers. As a result, as I understand the appellant's contention, those calculations are not mental operations but purely mechanical ones that constitute the various steps in the process disclosed by the invention. If the appellant's contention were correct, it would follow that the mere fact that the use of computers is prescribed to perform the calculations prescribed in the specifications, would have the effect of transforming into patentable subject-matter what would, otherwise, be clearly not patentable. The invention of the computer would then have the unexpected result of giving a new dimension to the *Patent Act* by rendering patentable what, under the Act as enacted, was clearly not patentable. This, in my view, is unacceptable. *I am of opinion that the fact that a computer is or should be used to implement discovery does not change the nature of that discovery. What the appellant claims as an invention here is merely the discovery that by making certain calculations according to certain formulae, useful infomation [sic] could be extracted from certain measurements. This is not, in my view, an invention within the meaning of s. 2* [emphasis added].[164]

Based on the Court's reliance on section 27(8) of the *Act*, the holding in *Schlumberger* would arguably only prohibit patents which *merely* claimed a scientific principle or abstract theorem (with the logical extension that the performance of the principle or theorem using a known programmable computer would also not be patentable). However, in the years following, the Patent Office relied upon *Schlumberger* as the basis for a per se prohibition on the patenting of software. Further, as discussed below, *Schlumberger* was referenced and relied upon by the Court of Appeal in *Amazon.com*, suggesting it may have a continuing, though uncertain, relevance to computer-implemented inventions.

164. *Schlumberger*, *supra* n. 162 at 205–206.

3. *Shell Oil Co. of Canada v. Canada (Commissioner of Patents)*

Shell Oil Co. of Canada v. Canada (Commissioner of Patents)[165] is the leading decision in Canada with respect to the meaning of 'art' as that term is used in the definition of invention. In that case, the Supreme Court was called upon to consider a patent directed to a new use for a known substance. In particular, the invention pertained to the discovery that certain known compounds could be used as plant growth regulators.[166]

Writing for a unanimous Court, Justice Wilson defined the meaning and scope of a patentable 'art' as follows:

> 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.
>
> […]
>
> The Court [in *Tennessee Eastman*], however, affirmed that 'art' was a word of very wide connotation and was not to be confined to new processes or products or manufacturing techniques but *extended as well to new and innovative methods of applying skill or knowledge provided they produced effects or results commercially useful to the public* [emphasis added].[167]

After providing the broad definition of 'art', Justice Wilson commented upon the holding in *Lawson* as follows:

> *An effort to articulate this broader concept of the term "art" was made by Cattanach J.* in [*Lawson*]. In that case a patent was being sought on a new method of describing the boundaries of a plot of land. *The application was rejected, again not because the subject-matter of the application was*

165. *Shell Oil*, *supra* n. 46.
166. *Ibid.,* at 537–538 and 547–548. The claims at issue in the application are reproduced in the headnote of the Canadian Patent Reporter publication of the case (67 C.P.R. (2d) 1). Claim 1 provided:
> 1.*A plant growth regulant composition* comprising a compound of the formula. ... together with an adjuvant therefore. [emphasis added]

167. *Ibid.,* at 549, 554.

not an "art" within the meaning of the definition in the Act but because, like the new use for the adhesive in Tennessee Eastman, it related to professional skills rather than to trade, industry or commerce. In the course of his reasons Mr. Justice Cattanach said:

> An art or operation is 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. It is abstract in that, it is capable of contemplation of the mind. It is concrete in that it consists in the application of physical agents to physical objects and is then apparent to the senses in connection with some tangible object or instrument.
>
> In the earlier development of patent law, it was considered that an invention must be a vendible substance and that unless a new mode of operation created a new substance the invention was not entitled to a patent, but if a new operation created a new substance the patentable invention was the substance and not the operation by which it was produced. This was the confusion of the idea of the end with that of means. However, it is now accepted that if the invention is the means and not the end, the inventor is entitled to a patent on the means.
>
> *There is no question as to the practical utility of the appellant's discovery. It is no more a disembodied idea than the applicant's discovery of a method of equalization of thread consumption in Hickton's Patent. It is a newly discovered means of regulating the growth of plants and is accordingly a "new and useful art" having economic value in the field of trade, industry and commerce*. I find no obstacle in s. 36 or any other provision of the Act to the grant of a patent to the appellant on these compositions [emphasis added and citations omitted].[168]

As is apparent from the passage above, Justice Wilson disagreed with Justice Cattanach's conclusion in *Lawson* and held that the claimed invention in that case *was* a patentable 'art' within the meaning of the definition of 'invention'. Rather, Justice Wilson found that that application in *Lawson* was unpatentable on the basis that it related to professional skills rather than to trade, industry or commerce.

Justice Wilson's definition of 'art' in *Shell Oil* is broader than the definition provided by the Justice Cattanach in *Lawson*. Though Justice Wilson refers to the *Lawson* definition, she does not accept or apply it. On a close reading, it appears that Justice Wilson was simply acknowledging Justice Cattanach's attempt to articulate a broader concept of 'art', which was explored more fully by Justice Wilson.

168. *Ibid.*, at 555.

4. *Progressive Games, Inc. v. Canada (Commissioner of Patents)*

Progressive Games, Inc. v. Canada (Commissioner of Patents)[169] is a further decision which, though not directly applicable to computer-implemented inventions or business methods, provides direction with respect to the meaning of 'art' and the scope of the *Shell Oil* decision.

In *Progressive Games*, the patent application in issue concerned a modified version of a five-card stud poker game to be played in a casino or cardroom environment in which each player plays his poker hand against a poker hand held by the house and receives a bonus payment based on the type of poker hand that the player holds.[170] Evidence filed on the appeal to the Federal Court disclosed that the applicant was receiving significant licensing fees from casinos for the use of the method.[171]

In his decision, Justice Denault of the Federal Court quoted from *Shell Oil*, which he found to be the 'leading case' on the definition of a patentable 'art', and derived the following definition:[172]

> Accordingly, the definition of the term 'art' as provided by the Supreme Court includes a process that:
>
> (i) is not a disembodied idea but has a method of practical application;
> (ii) is a new and innovative method of applying skill or knowledge; and
> (iii) has a result or effect that is commercially useful.

On the facts, Justice Denault found that requirements (i) and (iii) were met. However, he found that the second requirement had not been met, stating:

> In the present case, I believe that the Appellant's changes in the method of playing poker—*i.e*., by adding a new player referred to as 'the house'—do not substantially modify the poker game as it exists nor do they create a new game. The Appellant's method uses the standard deck of playing cards, uses the five-card poker hand where the priority of winning hands is determined by the conventional rules of poker. Regarding the bonus payment schedule, although it can make the game more attractive to the consumer, it does not modify the way a poker game is played. The winnings that a player earns refer to wagering and not to the game itself.[173]

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169. *Progressive Games, Inc. v. Canada (Commissioner of Patents)* (1999), 3 C.P.R. (4th) 517 at para. 16 (F.C.T.D.) [*Progressive Games* TD], aff'd (2000), 9 C.P.R. (4th) 479 (F.C.A.) [*Progressive Games* FCA].
170. *Ibid., Progressive Games* TD at paras 2–3.
171. *Ibid.,* TD at para. 18.
172. *Ibid.,* TD at para. 16.
173. *Ibid.,* TD at para. 23.

Justice Denault's decision, including the three-part definition of a patentable 'art' as taken from *Shell Oil*, was affirmed on appeal to the Court of Appeal with the following brief reasons:

> We are not persuaded that Mr. Justice Denault erred in his decision, that the appellant's game of poker constituted something which is not patentable. He concluded that the Appellant's changes in the method of playing poker did not amount to a contribution or addition to the cumulative wisdom on the subject of the game. *These changes merely amounted to a change in the way an existing and well-known game is played. These changes do not substantially modify the poker game as it is generally known. The Appellant's suggested game uses the standard deck of playing cards and the conventional rules of poker with a slight variation. We do not believe this amounts to a new and innovative method of applying skill or knowledge within the meaning given to those words in Shell Oil Co. v. Commissioner of Patents*. We should add that we do not want to be taken as deciding that more substantial changes in the existing game would have changed the result [emphasis added and citations omitted].[174]

Unfortunately both the decision of Justice Denault and the decision of the Court of Appeal, though cast in terms of subject matter, appeared focused on whether what the applicant claimed was 'new' and 'innovative'. In the result, it seems arguable that the true basis for finding the application unpatentable was founded in lack of novelty or obviousness. Nevertheless, the decisions provided confirmation that *Shell Oil* was the leading case with respect to the meaning and scope of patentable 'art', and that its holding extended well beyond its facts (i.e., the patentability of a new use for a known compound).

5. *Amazon.com, Inc. v. Canada (Attorney General)*

Amazon.com[175] is the most recent decision to address the patentability of computer-implemented inventions and it is arguably the only Canadian court decision to address the patentability of business methods. Given the importance of the decision, the history of the application, and the decisions issued by the Commissioner of Patents and each level of Court will be reviewed below.

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174. *Progressive Games* FCA, *supra* n. 169 at para. 1.
175. *Re Amazon.com, Inc. Patent Application No. 2,246,933* (2009),75 C.P.R. (4th) 85 (Pat. App. Bd.) [*Amazon.com* PAB], rev'd *Amazon.com, Inc. v. Canada (Attorney General)*, 2010 FC 1011, 86 C.P.R. (4th) 321 [*Amazon.com* FC], rev'd in part, 2011 FCA 328, 97 C.P.R. (4th) 171 [*Amazon.com* FCA].

a. Canadian Patent Application No. 2,246,933

Canadian Patent Application No. 2,246,933 (the '933 Application) was filed in Canada on 11 September 1998 and is entitled 'Method and System for Placing a Purchase Order Via a Communications Network'.[176]

The '933 Application related to a communications network based method and system for placing an order and, more particularly, to a method and system for ordering items over the Internet. Figure 2 of the '933 Application (reproduced below) shows a block diagram of the system.

The 'server' referred to in Figure 2 is a computer system used to operate a commercial Web site from which customers can order products. The 'client' is the computer system of a customer. The client and server communicate via a communications network (e.g., the Internet).

The server assigns a 'client identifier' to a client computer. The client identifier is stored in a file referred to as a 'cookie' on the client's computer by the server when the client enters his or her identification, billing and shipping information (purchaser-specific account information), usually at the time of the client's first visit to the vendor's website. On a client's subsequent visit to the website, the server recognizes the client identifier resident on the client's computer as belonging to that client. The client may then browse items, and decide to buy an item by a single action (e.g., a single mouse click on a 'button' presented on a webpage) which sends to the server the request to order the item along with the client identifier. The server will receive the purchase request, automatically retrieve the purchaser-specific account information using the client identifier, and combine the retrieved account information to generate the order. The resulting effect is that a user can order an item through a single action (e.g., a mouse click) on the client computer, without having to provide additional input or information.

The '933 Application included 75 claims. Method claim 1 and independent system claim 44 are representative:

> 1. A method in a client system for ordering an item, the method comprising:
>
> – receiving from a server system a client identifier of the client system;
> – persistently storing the client identifier at the client system;
> – when an item is to be ordered;
> – displaying information identifying the item and displaying an indication of a single action that is to be performed to order the identified item; and

176. Particulars of the '933 Application, now issued, are available from the Canadian Patent Office website: <http://brevets-patents.ic.gc.ca/opic-cipo/cpd/eng/patent/2246933/summary.html?type=number_search>.

– in response to the single action being performed, sending to the server system a request to order the identified item along with the client identifier, the client identifier identifying account information previously supplied by a user of the client system wherein the user does not need to log in to the server system when ordering the item; and
– when account information is to be changed;
– coordinating the log in of the user to the server system;
– receiving updated account information; and
– sending the updated account information to the server system;
– whereby the user does not need to log in to the server system when ordering the item, but needs to log in to the server system when changing previously supplied account information.

44. A client system for ordering an item, comprising:

– a component that receives from a server system a client identifier of the client system and that stores the client identifier persistently;
– a component that orders an item by displaying information identifying the item along with an indication of a single action that is to be performed to order the identified item and by sending to the server system a request to order the identified item along with the client identifier, the client identifier identifying account information previously supplied by a user wherein the user does not need to log in to the server system when ordering the item; and
– a component that updates account information by coordinating the log in of the user to the server system, receiving updated account information from the user, and sending the updated account information to the server system.

The patent Examiner rejected all of the claims based on obviousness and non-statutory subject matter.

b. Decision of the Patent Appeal Board (Commissioner of Patents)

The matter was referred to the Patent Appeal Board which rendered a recommendation, accepted by the Commissioner of Patents, on 4 March 2009.[177]

The Commissioner canvassed two questions:

177. As is typical, the Commissioner of Patents accepted the recommendation of the Patent Appeal Board, thereby making it her decision. In the result, in the sections below, and in the decisions, the reasoning of the Patent Appeal Board is referred to as the 'Commissioner's Decision'. The proceedings before the Patent Appeal Board in the *Amazon.com* case had a somewhat tortured history. As reviewed in the Patent Appeal Board Decision, an oral hearing was held 16 Nov. 2005 before a first panel of the Patent Appeal Board. Both members of the first panel retired before a recommendation to the Commissioner was 'finalized'. As a result, a second oral

(1) Are claims 1–75 obvious under section 28.3 of the *Patent Act*?
(2) Are claims 1–75 directed to non-statutory subject matter under section 2 of the *Patent Act*? What is the approach to be followed?[178]

i. Obviousness

The Commissioner held that that the Examiner erred in rejecting the '933 Application on the basis of obviousness. In doing so, the Commissioner provided the following comments on the advance presented in the '933 Application over the prior art:

> There is no suggestion in the prior art to modify a subscription-based shopping model such that with one-click, an identifier (cookie) is sent in conjunction with the product ordering information, thus retrieving purchaser-specific account information, so that the order is instantly placed.
>
> The advantages of such a streamlined ordering process pointed to by the Applicant *are indicative of some ingenuity (or inventive step)*. [...]
>
> Findings: Section 28.3
>
> The Board finds that the skilled technician would not have been lead directly and without difficulty to conceive of what has been claimed in claims 1 to 75 [emphasis added].[179]

ii. Subject Matter

With respect to its analysis of whether the '933 Application claims patentable subject matter, the Commissioner set out a novel four step approach:

(i) consider both the form and the substance of the claims;
(ii) subject matter must fit the definition of a category;
(iii) excluded (non-statutory) subject matter; and
(iv) Non-technological subject matter is not statutory.

Form and Substance

With respect to the form and substance of the claims, the Commissioner held that method claims 1–43 and 51–75 'are directed at a method for the purchase of goods, and as such, are claiming a method of doing business'.[180]

With respect to system claims 44–50, the Commissioner held that the claims 'are directed to a client system which is a physical object (a machine). Therefore, claims 44–50, in form, fit into the category of machine under

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hearing was held before a new Patent Appeal Board panel on 18 Sep. 2008. See *Amazon.com* PAB, *supra* n. 175 at para. 3.

178. *Amazon.com* PAB, *supra* n. 175 at para. 20.
179. *Ibid*., at paras 94–95, 99.
180. *Ibid*., at para. 167.

section 2 of the *Patent Act*'.[181] However, the Commissioner went on to consider the 'substance' or 'essence' of the claims, which she found to be limited to streamlining the traditional online ordering method, and the benefits and advantages that flow from it. In this regard, the Commissioner states:

> In other words, the essence of the claimed invention is the particular rules for carrying out an online order. Whereas previously, particular checkout steps including a checkout page were provided, the claimed invention provides a client with the option of 'single-action ordering' for instant checkout. The widely accepted shopping rule or practice of 'checking-out' by providing a checkout review page is eliminated.[182]

The Commissioner characterized the 'substance' of the system claims 44–50 as being the same as the method claims. She therefore found that *all* of the claims of the '933 Application must fit under the categories of 'art' or 'process' to qualify as a patentable invention under section 2 of the *Patent Act*, and ignored the 'machine' category.[183]

Definition of 'Art'

In considering the meaning of 'art'[184] in section 2, the Commissioner applied the following restrictive definition derived from the *Lawson* decision:

> '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'.[185]
>
> The Commissioner found that the 'substance' of the claimed invention did not meet this test:[186]
>
> [P]roducts or goods are offered for sale in the claimed invention, and what is added to human knowledge is a change to the character or condition of how the order for a product is actually placed and processed. The products or goods are not changed. That is, there is no change either of character or of condition to any physical object itself by the act of ordering the product in one way or another.
>
> Consequently, the substance (what has been added to human knowledge) of claims 1 to 75 is not an art and these claims cannot fit under section 2 of the *Patent Act*.

181. *Ibid.,* at para. 168.
182. *Ibid.,* at para. 172.
183. *Ibid.,* at para. 173.
184. While limited analysis is presented in the Commissioner's decision on the issue, the Commissioner appears to accept that the definition of 'process' is the same as 'art'. See: *Ibid*., at para. 138.
185. *Ibid.,* at para. 174.
186. *Ibid.,* at paras 175–176.

Business Method Exclusion

The Commissioner went on to find that the 'substance' of the claimed invention is also excluded from patentability because it amounts to a 'method of doing business' which she found to be unpatentable per se.[187]

Technological Requirement

Finally, the Commissioner found that the 'substance' of the claimed invention was not technological in nature, and therefore failed to satisfy this further requirement for patentability that she established.[188]

Throughout the Commissioner's decision, extensive reliance was placed on UK and European authorities concerning patentable subject matter.

c. Decision of the Federal Court (Justice Phelan)

Amazon.com appealed the Commissioner's decision to the Federal Court. As reviewed below, Justice Phelan found significant errors in the Commissioner's decision.

i. Adoption of International Principles[189]

Justice Phelan criticized the extensive reliance placed by the Commissioner on UK and European jurisprudence. Justice Phelan observed:

> This case highlights the challenges in looking to international legal principles to interpret the Canadian patent regime.[. . .]
>
> The Commissioner relied heavily on foreign jurisprudence throughout her decision, particularly on that of the United Kingdom, Europe and the United States. This becomes troubling and even problematic when she ignores fundamental differences between the foreign and the domestic regimes, or ignores Canadian legal principles altogether. Specifically, her reliance on English and European systems does not take into account that both, in implementing the European Patent Convention (EPC), have fundamentally different legislation than Canada for determining patentable subject matter. Under those systems, there is no definition of 'invention', but a series of exclusions. Jurisprudence in those systems thus often interprets claims not to see whether they disclose an 'invention' within the meaning of a statute, but whether they should be

187. *Ibid.,* at paras 140–149, 178–182.
188. *Ibid.,* at paras 150–162, 184–194.
189. *Amazon.com* FC, *supra* n. 175 at paras 32–37.

classified as excluded subject matter under Article 52. The Convention states:

> (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.
>
> Article 52, *European Patent Convention*

The United Kingdom's current patent act is worded to be in conformity with the EPC. Even before the Convention, the language used to describe an 'invention' in their statutory regime differed from the Canadian *Patent Act*. It has long been acknowledged that our pre-confederation *Patent Act* is derived not from the British statute, which post-dates ours, but from that of our American neighbours […] It is not surprising that the language used in the American and Canadian Acts to describe patentable subject-matter is almost identical.

Despite the fact that the American and Canadian patents systems understandably have roots in the British common law, the above shows that the regimes have evolved in different ways and thus English law cannot be adopted unthinkingly. Further, courts in this country have warned against the British authorities when evaluating patentable subject matter […] Equally, decisions from the United Kingdom have noted the inapplicability of the American regime to their legislation.[190]

ii. Form and Substance Approach

With respect to the Commissioner's adoption of a form and substance approach to claims construction,[191] Justice Phelan referenced the principles of purposive construction as set out in the leading decisions of the Supreme Court of Canada in *Free World Trust* and *Whirlpool*,[192] and characterized the Commissioner's position and errors as follows:

190. *Ibid.,* at paras 32–35.
191. *Ibid.,* at paras 38–47.
192. *Whirlpool*, *suprra* n. 152.

> Instead of relying on these, now basic, principles of claim construction, the Commissioner returns to language such as 'form and substance' and 'what has been discovered' as articulated in earlier case law. Although the Commissioner attempts to confine this analysis to patentable subject matter, a return to 'form and substance' language, no matter what the context, is confusing and unnecessary. Further, it represents a departure from the clear direction of the Supreme Court to apply purposive construction universally.
>
> [. . .]
>
> The rejection of purposive construction, and in essence a holistic consideration of the claims, also allowed the Commissioner to parse the claims into their novel and non-novel components in order to evaluate patentability. As discussed above, it is problematic to suggest that 'what has been discovered' stands apart from the claims as a whole. This is particularly so where the Commissioner has found that what is claimed is novel (although certain elements were old) and not obvious.[193]
>
> On the 'form and substance' issue, Justice Phelan concluded:
>
> The Commissioner has simply adopted a novel legal test by which to assess patentable subject-matter. It is not supported by recent Canadian jurisprudence or the *Patent Act*. This is an error of law and far outside the Commissioner's jurisdiction.[194]

iii. Definition of 'Art'

After confirming that 'art' may include a 'method' or a 'process', Justice Phelan assessed whether the Commissioner had adopted the correct test for patentable 'art', and in particular whether the Commissioner was correct to rely upon the restrictive definition expressed in *Lawson*.[195]

Justice Phelan commenced with a review of *Shell Oil,* confirming that it is the leading authority on the definition of patentable 'art':

> *Shell Oil* is unequivocally the starting point for the definition of a patentable 'art'. It focuses the inquiry on whether there is a practical application of the discovery or idea [. . .].
>
> The decision in *Lawson* is forty years old and was a useful starting point in *Shell Oil* for Wilson J to discuss a 'more expansive' definition of art. However, it is not the authoritative guide for what constitutes patentable art. Although Wilson J did not reject the decision, she referred to it as part of the ongoing effort to create a wider definition which

193. *Amazon.com* FC, *supra* n. 175 at paras 39 and 42.
194. *Ibid.,* at para. 47.
195. *Ibid.,* at paras 48–60.

> explicitly stepped beyond manufacture of goods and even manufacturing techniques [. . .].[196]

Citing *Progressive Games*, Justice Phelan found and applied the three-step test for patentable art as set out in that decision which was based on the reasons of Justice Wilson in *Shell Oil*.[197]

Justice Phelan further explained how the 'practical application' requirement of the test ensures that patent protection extends only to subject matter which is 'concrete and tangible' and more than a 'mere idea', and that a narrow requirement of 'physicality' in the sense advocated by the Commissioner based on *Lawson* is not appropriate:

> The practical application requirement ensures that something which is a mere idea or discovery is not patented—it must be concrete and tangible. This requires some sort of manifestation or effect or change of character. However, it is important to remain focused on the requirement for practical application rather than merely the physicality of the invention. 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.[198]

Justice Phelan also reviewed the US and Australian jurisprudence and found the approach adopted in those jurisdictions to be consistent with the test articulated in *Shell Oil* and *Progressive Games*. Notably, he observed that in the recent *Bilski* decision, the US Supreme Court had rejected the 'machine or transformation' test (which is similar to the *Lawson* test) as the *sole* criterion for assessing patentable processes in that jurisdiction.[199]

iv. Business Method Exclusion

After review of the law in Canada, the US and Australia, and upon reviewing and rejecting the Commissioner's reliance on UK and European authorities, Justice Phelan rejected the Commissioner's adoption of a per se prohibition on the patentability of business methods,[200] stating:

> The approach in the USA, Australia, and as it ought to be in Canada, makes an eminent amount of sense given the nature of our legislation. It allows business methods to be assessed pursuant to the general categories in section 2 of the *Patent Act*, preserving the rarity of exceptions. It also

196. *Ibid.,* at paras 50–51.
197. *Ibid.,* FC at para. 52. For the three step test, see *supra* n. 169.
198. *Ibid.,* FC at para. 53.
199. *Bilski v. Kappos*, 130 U.S. 3218 (2010).
200. *Amazon.com* FC, *supra* n. 175 at paras 61–67.

> avoids the difficulties encountered in the UK and Europe in attempting to define a 'business method'. There is no need to resort to such attempts at categorization here. Contrary to what the Commissioner suggests, to implement a business method exception would be a 'radical departure' from the current regime requiring parliamentary intervention.[201]

v. 'Technological' Requirement

As a final legal error, Justice Phelan rejected the 'novel and unnecessary', 'technical', or 'technological' requirement for patentability which had been added to the test for patentable subject matter by the Commissioner.[202]

Justice Phelan observed that there is no legislative or jurisprudential support for the adoption of such a test:

> There is no reference to such a test in the Canadian jurisprudence (or none was advanced in this Court). It was not within the Commissioner's jurisdiction to introduce one. Once again, the Commissioner's heavy reliance on the 'technical contribution approach' as discussed in the UK did not correspond with the reality of our *Patent Act* or recognize the range of opinions as to its application and appropriateness. It is not a simple test but a challenging feature of their regime and a 'horribly imprecise concept'[…].
>
> Even if patents generally concern the protection of advances in technology broadly defined, it is difficult to see how introducing this sort of technological test into the Canadian patent system would do anything but render it overly restrictive and confusing.[203]

vi. Application to the '933 Application

Having addressed the legal errors of the Commissioner, Justice Phelan examined the claims de novo to determine whether they were directed to patentable subject matter.[204]

With respect to the system claims (claims 44–50), Justice Phelan found that the claims, properly construed, were directed to a patentable machine:

> The Court finds that a purposive construction of the 'system claims' (e.g., claim 44 and its associated dependant claims) clearly discloses a machine which is used to implement Amazon.com's one-click ordering system. The described components (e.g., a computer) are essential elements in

201. *Ibid.,* at para. 68.
202. *Ibid.,* at paras 69–71.
203. *Ibid.,* at paras 70–71.
204. *Ibid.,* at paras 72–77.

> implementing an online ordering process. This is not merely 'a mathematical formula' which could be carried on without a machine or simply a computer program. A machine is patentable under section 2 of the *Patent Act*. The Commissioner herself found that 'in form' the claims disclosed such an invention; it was only when she took a second step to subjectively consider the 'substance' that she found otherwise. As discussed, this is unsupported in law. The Court therefore finds the machine claims to be patentable subject matter.[205]

With respect to the process claims (claims 1–43 and 51–77), Justice Phelan found that those claims, properly construed, were directed to a patentable art:

> Turning to the process claims, the Commissioner clearly erred by 'parsing' the claims into their novel and obvious elements in order to assess patentability. When viewed as a whole it is clear that the claimed invention is a process which uses stored information and 'cookies' to enable customers to order items over the internet simply by 'clicking on them'. It is accepted that the 'one-click' method is novel; the Court finds that an online ordering system which facilitates this adds to the state of knowledge in this area.
>
> The new learning or knowledge is not simply a scheme, plan or disembodied idea; 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.
>
> It is undisputed that this invention has a commercially applicable result and is concerned with trade, industry and commerce. Indeed, its utilization in this very realm seems to be at the root of the Commissioner's concern.
>
> In light of the above, the Court finds the process claims to be a patentable as an art and process. As discussed at length earlier in this decision, there is no need to continue the analysis once this has been determined. There is no exclusion for 'business methods' which are otherwise patentable, nor is there a 'technological' test in Canadian jurisprudence. Even if there was some technological requirement, in this case the claims, when viewed as a whole, certainly disclose a technological invention.[206]

205. *Ibid.,* at para. 73.
206. *Ibid.,* at paras 74–77.

Justice Phelan ordered the Commissioner's decision quashed and returned the matter to the Commissioner for expedited re-examination with the direction that the claims constitute patentable subject matter.

d. Decision of the Federal Court of Appeal (Justice Sharlow)

The Commissioner appealed Justice Phelan's judgment to the Federal Court of Appeal.

In a judgment written by Justice Sharlow, the Federal Court of Appeal largely affirmed Justice Phelan's decision and approach in respect of the law. However, they overturned him to the extent that he reached his own conclusion on patentability, and instead sent the case back to the Commissioner for further consideration.

The following were the key findings of the Court:

i. Analytical Framework (Construction)

On appeal to the Federal Court of Appeal, the Commissioner recast her arguments on construction. Rather than arguing that it was necessary to consider both the 'form' and 'substance' of the claims, the Commissioner argued that a 'framing' and 'actual invention' analysis should. The framing analysis apparently encompassed construction of the claims. In respect of the 'actual invention' analysis, Justice Sharlow summarized the Commissioner's position as follows:

> The Attorney General of Canada takes the position that the Commissioner must in every case determine whether the claimed invention falls within the statutory definition of 'invention', which necessarily requires the Commissioner to identify, independently of the construction of the patent claims, what the inventor has claimed to have invented—the 'actual invention'—and to determine whether the actual invention falls within one of the categories enumerated in the statutory definition of 'invention'.[207]

Justice Sharlow rejected the Commissioner's position.

First, reviewing the provisions of the *Patent Act* pertaining to the technical requirements of the specification, subject matter, novelty, obviousness, utility, and the statutory prohibition against claiming a 'mere scientific principle or theorem', Justice Sharlow observed that all of these key questions are to be determined with reference to the patent claims:

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207. *Amazon.com* FCA, *supra* n. 175 at para. 23.

> The subject of each of the questions listed above is 'the subject matter defined by the claim', rather than the 'invention' or 'what the inventor claims to have invented'.[208]

Next, after reviewing the case law, including older authority relied upon by the Commissioner in purported support of her position, Justice Sharlow concluded:

> In my view, there is nothing in the cases cited by the Attorney General of Canada that casts any doubt on the proposition that the Commissioner's determination of subject matter must be based on a purposive construction of the patent claims. *Therefore, on the question of analytical framework, I agree with Justice Phelan that in determining subject matter solely on the basis of the inventive concept, the Commissioner adopted an analysis that is incorrect in law* [emphasis added].[209]

ii. The Proper Test for Patentable 'Art'

Justice Sharlow upheld Justice Phelan with respect to his finding that *Shell Oil* stated the legal test for patentable 'art' or 'process' in Canada. She repeats and relies upon Justice Phelan's analysis of the *Shell Oil* and *Lawson* cases, including the three elements of the test for patentable art stated by him and quoted above.

iii. The Technological Exclusion

Justice Sharlow also accepted the conclusion of Justice Phelan that there was no technological requirement for patentability in Canada:

> Justice Phelan found this question to be unclear and confusing. I agree, and I find little in the Commissioner's reasons to assist my understanding. It is not clear to me what the Commissioner means by the word 'technological'. Nor do I understand why the Commissioner concluded that Amazon's one-click method of internet shopping, which seems to me to be a technological solution to a practical problem, is not 'technological' in nature. This is an example where the use of a tag word may represent an unhelpful distraction.
>
> I also agree with Justice Phelan that if the ambit of this principle is as vague as it appears, it is likely to be highly subjective and unpredictable in its application. In my view, this test should not be used as a stand-alone basis for distinguishing patentable from non-patentable subject matter.[210]

208. *Ibid.,* at para. 39.
209. *Ibid.,* at para. 47.
210. *Ibid.,* FCA at paras 56–57.

iv. Business Method Exclusion

Subject to the cautionary comments on *Schlumberger*, discussed further below, Justice Sharlow also affirmed Justice Phelan's finding that there was no prohibition against the patenting of a novel business method as an essential element of a valid patent claim. Importantly, the Court acknowledged the past practice of the Commissioner to issue patents with claims similar to those of at issue in the '933 Application:

> The Commissioner answered this question in the negative, but Justice Phelan disagreed. He observed (at paragraph 67 of his reasons) that although a mere business scheme with no practical embodiment will be considered to be an abstract idea or theorem and will therefore be non-patentable, the patent claims in issue describe a business method that has a practical application.
>
> Justice Phelan also said, at paragraph 61 of his reasons, that there is 'no basis for the Commissioner's assumption that there is a 'tradition' of excluding business methods from patentability in Canada'. I agree that no Canadian jurisprudence determines conclusively that a business method cannot be patentable subject matter. The Attorney General of Canada has not argued otherwise, and has not denied that the Commissioner has granted patents for claims similar to this in issue in this case.[211]

v. Requirement for 'Change in Character or Condition of a Physical Object'

Fundamentally, the Court again accepted Justice Phelan's broad conception of the 'physicality' requirement, including the fact that the nature of the requirement may change in view of advances in knowledge (in respect of which Justice Phelan had made express reference to computers). Again, the Court offered some cautions with reference to the *Schlumberger* decision, which are discussed further below.

vi. Disposition

Where the Court of Appeal perhaps differed most significantly in approach from Justice Phelan was with respect to the ultimate disposition of the case.

Justice Sharlow refused to reach a finding with respect to whether or not the '933 patent claimed patentable subject matter, citing the lack of a sufficient record for her to perform a purposive construction of the claims. Justice Sharlow noted that the Commissioner would be better positioned to make such

211. *Ibid.,* at paras 59–60.

an assessment after receiving submissions from the applicant, and with the assistance of the Patent Office staff having suitable experience. In the result, the Court directed that the application be returned to the Patent Office for expedited examination in accordance with her reasons.

vii. Caveats and Handling of the *Schlumberger* Decision

Some commentary of the Court of Appeal, in particular in reference to the *Schlumberger* decision, leaves some uncertainty as to the scope and application of the decision going forward.

First, in the context of the discussion of the 'analytical framework', and after reviewing the sections of the *Patent Act* which the Court found supported its view that the analysis must be performed on the basis of the subject matter defined by the claim, Justice Sharlow offered the following qualifying comments:

> This formulation of the issues to be considered does not mean that the Commissioner cannot ask or determine what the inventor has actually invented, or what the inventor claims to have invented. On the contrary, these are relevant and necessary questions in a number of contexts, including novelty, obviousness, and patentable subject matter. It may also arise in relation to other issues, for example, the determination of the identity of the inventor.
>
> However, it seems to me that *the jurisprudence of the Supreme Court of Canada, in particular Free World Trust and Whirlpool, requires the Commissioner's identification of the actual invention to be grounded in a purposive construction of the patent claims.* It cannot be determined solely on the basis of a literal reading of the patent claims, or a determination of the 'substance of the invention' within the meaning of that phrase as used by Justice Binnie, writing for the Supreme Court of Canada in *Free World Trust*, at paragraph 46.
>
> *Purposive construction will necessarily ensure that the Commissioner is alive to the possibility that a patent claim may be expressed in language that is deliberately or inadvertently deceptive. Thus, for example, what appears on its face to be a claim for an "art" or a "process" may, on a proper construction, be a claim for a mathematical formula and therefore not patentable subject matter. That was the situation in Schlumberger Canada Ltd. v. Canada (Commissioner of Patents)* [emphasis added].[212]

Schlumberger was again referenced in the context of Justice Sharlow's discussion of business methods as patentable subject matter. After upholding Justice Phelan's finding that there was no prohibition on the patenting of

212. *Ibid.,* at paras 42–44.

business methods, Justice Sharlow again had occasion to suggest qualifications with reference to *Schlumberger*:

> However, it does not necessarily follow, as Justice Phelan seemed to suggest, that a business method that is not itself patentable subject matter because it is an abstract idea becomes patentable subject matter merely because it has a practical embodiment or a practical application. In my view, this cannot be a distinguishing test, because it is axiomatic that a business method always has or is intended to have a practical application. And in this case, the difficulty with a bare 'practical application' test for distinguishing patentable from unpatentable business methods is highlighted because the particular business method—itself an abstract idea—is realized by programming it into the computer by means of a formula or algorithm, which is also an abstract idea.
>
> *Schlumberger exemplifies an unsuccessful attempt to patent a method of collecting, recording and analyzing seismic data using a computer programmed according to a mathematical formula. That use of the computer was a practical application, and the resulting information was useful. But the patent application failed for want of patentable subject matter because the Court concluded that the only novel aspect of the claimed invention was the mathematical formula which, as a "mere scientific principle or abstract theorem", cannot be the subject of a patent because of the prohibition in subsection 27(8).*
>
> *It is arguable that the patent claims in issue in this case could fail on the same reasoning, depending upon whether a purposive construction of the claims in issue leads to the conclusion that Schlumberger cannot be distinguished because the only inventive aspect of the claimed invention is the algorithm -- a mathematical formula -- that is programmed into the computer to cause it to take the necessary steps to accomplish a one-click online purchase. On the other hand, it is also arguable that a purposive construction of the claims may lead to the conclusion that Schlumberger is distinguishable because a new one-click method of completing an online purchase is not the whole invention but only one of a number of essential elements in a novel combination.* In my view, the task of purposive construction of the claims in this case should be undertaken anew by the Commissioner, with a mind open to the possibility that a novel business method may be an essential element of a valid patent claim [emphasis added].[213]

Finally, in the context of her discussion of the 'physicality requirement', Justice Sharlow added the following comments:

213. *Ibid.,* at paras 61–63.

> However, I do not necessarily accept the remainder of paragraph 53 of Justice Phelan's reasons, which reads as follows:
>
> However, it is important to remain focused on the requirement for practical application rather than merely the physicality of the invention. 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.
>
> If these statements are meant to suggest that our understanding of the nature of the 'physicality requirement' as described in paragraph 66 above may change because of advances in knowledge, then I would agree. Nothing in the jurisprudence excludes such a possibility.
>
> However, if it is meant to suggest that this 'physicality requirement' can be met merely by the fact that the claimed invention has a practical application, then I do not agree. *The issue, in my view, is similar to the issue raised in the context of the patentability of business methods in that it requires consideration of Schlumberger. 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.* As explained above, the claims in issue in this case may or may not be distinguishable from the claims in *Schlumberger*, depending upon how they are construed [emphasis added].[214]

These comments are potentially troubling for patentees in the area of computer-implemented inventions and, in particular, software.

On a fair reading, it is reasonable to take the Court's comments on *Schlumberger* as expressing the caution that one cannot patent an abstract theorem by merely stating that the theorem is performed by a computer. To take a simple example, one could not claim $E=mc^2$ and one would be equally prohibited from claiming a computer programmed (or a computer program) to perform the calculation $E=mc^2$.

The difficulty with some of the language adopted by the Court is that it suggests that computer hardware elements must be novel in order for a claim to be directed to patentable subject matter. This would seem to allow (at least for computer-implemented inventions) the very approach (i.e., searching for the 'inventive concept' or 'contribution') that the Court expressly rejects.

Moreover, if the construction to be given to the Court's reasons is that conventional computer hardware must be 'read-out' of a patent claim when assessing whether the claim is directed to patentable subject matter, this would contradict the longstanding principle of Canadian patent law that a novel idea may be patentable, even if the idea is put into practical application by

214. *Ibid.,* at paras 67–69.

conventional (or even obvious) means. This principle was thoroughly canvassed by Justice Wilson in *Shell Oil*:

> The case which, in my view, is most closely analogous to this one is *Hickton's Patent Syndicate v. Patents & Machine Improvements Co. Ltd*. The applicant in that case had an idea for equalizing the consumption of thread on lace-making machines by the process known as 'shogging'. There was nothing new about 'shogging'. It was a technique customarily employed in creating a pattern in the piece of lace being made. But it had not hitherto been thought of as a means of equalizing thread consumption. This was done by hand by interchanging the bobbins. It was clear on the evidence that once the idea was formed, no further inventive ingenuity was required in order to put it into effect.
>
> [. . .]
>
> It seems to me that in *Hickton's Patent* the English Court of Appeal found that an idea was patentable notwithstanding the lack of any novelty in its implementation. No further invention was required in putting it into practise. As Lord Cozens-Hardy put it:
>
> When once the idea of applying some well-known thing for a special and new purpose is stated, it may be very obvious how to give effect to that idea, and yet none the less is that a good subject-matter for a Patent.
>
> In my view, this is the thrust of the appellant's appeal to this court. It says: 'I recognize that these compounds are old; I acknowledge that there is nothing inventive in mixing them with these adjuvants once their properties as plant growth regulators have been discovered; but I have discovered these properties in those old compounds and I want a patent on the practical embodiment of my invention.' I think he is entitled to receive it [citations omitted].[215]

There is no principled basis to treat computer-implemented subject matter any differently from the century-old 'shogging' techniques addressed in *Hickton's Patent* or the new use for a known compound addressed in *Shell Oil*.

Referring to the Schlumberger case, it is to be recalled that the application in that case was rejected as being prohibited by section 28(3) of the *Act* (a 'mere' scientific principle or abstract theorem). Contrary to the apparent suggestion of the Court of Appeal in *Amazon.*com, the claims in *Schlumberger* (at least those claims recited in the Commissioner's decision) did not encompass a 'practical application' or 'useful' result. It had not been suggested or argued at any stage (by the Examiner or Commissioner in proceedings before the Patent Office, or on appeal to the Federal Court) that the '933 Application contravened section 27(8) of the *Patent Act*. This was not a case of a patentee seeking to patent a 'mere scientific principle or abstract

215. *Shell Oil*, *supra* n. 46 at 550–552.

theorem' through a bare claim to the performance of the principle or theorem by a computer. Rather, the invention quite clearly required computer hardware to achieve the practical (and tangible) result that was claimed: i.e., a method and system for performing transactions over the internet.

Time will tell whether the comments of the Court of Appeal in *Amazon.com* create an unnecessary limitation when it comes to computer-implemented subject matter.

viii. Post-Script: Issuance of the Amazon.com's Patent

Shortly after the Court of Appeal decision, the Patent Office issued a Notice of Allowance, and the '933 patent issued 17 January 2012. The claims of the patent were identical to those considered by the Court, including claims 1 and 44, reproduced above.

It remains to be seen, however, how the Patent Office (or the courts) will apply the *Amazon.com* decision going forward, such that the true scope and effect of the decision for the moment remains uncertain. In respect of the Patent Office, the best indication as to its approach should be found in the 8 March 2013 practice guidelines, which are discussed above.[216]

V. FIELDS OF TECHNOLOGY (FOT)

There are no express provisions in the Canadian *Patent Act* limiting the patentability of any particular fields of technology. For example, there is no provision in the Canadian patent legislation equivalent to Article 52 of the *European Patent Convention*. As such, all inventions must be assessed against the general provisions of the *Patent Act*, including the requirement that a patent claim an 'invention' as defined in section 2 of the *Patent Act*, discussed above.[217] Particular examples of the Patent Office approach to patentability of certain computer-implemented inventions are discussed above.[218]

VI. INFRINGEMENT AND ENFORCEMENT

A. Statutory Basis for Software Patent Enforcement

1. Infringement

The *Patent Act* grants to a patentee for the term of the patent 'the exclusive right, privilege and liberty of making, constructing and using the invention and selling it to others to be used'.[219]

216. Section III-H.
217. Section II-A-1.
218. Section III-B.
219. *Patent Act*, s. 42.

The term of a patent depends upon whether the patent is an 'old *Act* patent' or a 'new *Act* patent'. For 'old *Act* patents' (patents that issue from applications filed prior to 1 October 1989), the term of the patent is seventeen years from the date the patent issued.[220] However, if the seventeen-year term had not expired prior to 12 July 2001, the term is seventeen years from the date of issuance or twenty years from the date the application was filed, whichever expires later.[221] 'New *Act* patents' (patents that issue from applications filed on or after 1 October 1989) have a term of twenty years from the filing date.[222]

The Canadian *Patent Act* does not include an express definition of what activities constitute 'infringement' of a patent. However, the Supreme Court of Canada has held that any act in Canada that interferes with, in whole or in part, directly or indirectly, the full enjoyment of the monopoly granted to the patentee during the term of the patent, without the patentee's consent, constitutes an infringement.[223] As a practical matter, patentees are normally deprived of the fruits of their invention and the full enjoyment of their monopoly when another person, without license or permission, uses the invention to further a business interest.[224] The 'intention' of the defendant is generally immaterial to the issue of infringement.[225]

Acts that have been held to constitute infringement of a Canadian patent include:

(i) use of a patented process or the making or use of a patented product in Canada;[226]
(ii) a sale or an agreement to sell a patented product in Canada;[227]
(iii) the assembly of a patented product in Canada which was then disassembled into component parts for shipment abroad;[228]
(iv) importation, sale or use in Canada of a patented product manufactured abroad;
(v) importation, sale or use in Canada of a product made abroad using:
  – a patented process; or
  – a patented intermediate product or intermediate product that was created in accordance with a patented process, and the product or process plays an important part in the manufacture of the imported product.[229]

220. *Patent Act*, s. 45(1).
221. *Patent Act*, s. 45(2).
222. *Patent Act*, s. 44.
223. *Schmeiser*, *supra* n. 69 at para. 34, quoting Fox, *supra* n. 48 at 349.
224. *Schmeiser*, *ibid*., at para. 37.
225. *Ibid*., at paras 49–50. But there may be scenarios where intention is relevant, e.g., where the defence of possession without use is invoked.
226. *Patent Act*, s. 42.
227. *Beloit Canada Ltée. v. Valmet-Dominion Inc.* (1997), 73 C.P.R. (3d) 321 (F.C.A.) [*Beloit*].
228. *Ibid*., at 333–339.
229. This is referred to as the 'Saccharin doctrine' based on the case of *Saccharin Corp. v. Anglo-Continental Chemical Works* (1900), 17 R.P.C. 307 (Eng. Ch. Div.), which has been

(vi) possession of a patented article in Canada with an intention to use (the intention to use is presumed but the presumption is rebuttable);[230]
(vii) where the claim is to a product for a specific use, the manufacture or sale of the product in Canada for the specific use, per se, irrespective of whether the product is actually used or where it is used;[231] and
(ix) manufacturing or selling a patented apparatus notwithstanding that the apparatus can be used in a non-infringing manner.[232]

The following acts, in the absence of additional facts, have been held *not* to be infringement of a Canadian patent:[233]

– repair of a patented product (provided it does not constitute a remaking of the patented product);[234] and
– the supply of spare parts and service for a patented product.[235]

In Canada, a person may also be liable for infringement of a patent for knowingly inducing or procuring another person to infringe the patent.[236] Three elements are required for a defendant to be found liable for inducing or procuring infringement, namely:[237]

(a) an actual act of infringement was completed by a direct infringer. If there is no act of infringement completed by a direct infringer, there cannot be infringement by inducement;
(b) the completed act of infringement was influenced by the alleged inducer, to the point where without such influence, infringement by the direct infringer would not otherwise have taken place; and
(c) the alleged inducer knowingly exercised the influence, such that the alleged inducer knew that the influence would result in the completion

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cited with approval in Canada in *Schmeiser*, *supra* n. 69 at paras 43–44. See also: *American Cyanamid Co. v. Charles E. Frosst & Co.*, [1965] 2 Ex. C.R. 355, 47 C.P.R. 215 at 231–233 (Ex. Ct.); *Pfizer Canada Inc. v. Canada (Minister of Health)*, 2007 FC 898 at paras 75–91; *Eli Lilly & Co. v. Apotex Inc.*, 2009 FC 991 at paras 319–329, aff'd 2010 FCA 240 at paras 18–20.

230. *Schmeiser*, *supra* n. 69 at paras 47–58.
231. *Allied Signal Inc. v. Du Pont Canada Inc*. (1993), 50 C.P.R. (3d) 1 at 15–19 (F.C.T.D.), aff'd on this issue (1995), 61 C.P.R. (3d) 417 at 443–444 (F.C.A.), leave to appeal to S.C.C. refused (1995), 63 C.P.R. (3d) v (note).
232. *Bourgault Industries Ltd. v. Flexi-Coil Ltd.* (1999), 86 C.P.R. (3d) 221 at 233 (F.C.A.).
233. It should be noted that some of these examples of non-infringement may be in doubt in view of the subsequent decision of *Schmeiser* (*supra* n. 69) which provided clarification of the definition of 'use' and arguably expanded the scope of the exclusive rights granted by a Canadian patent.
234. *Rucker Co. v. Gavel's Vulcanizing Ltd.* (1985), 7 C.P.R. (3d) 294 at 323–325 (F.C.T.D.); *MacLennan v. Gilbert Inc*., 2008 FCA 35 at para. 23, 67 C.P.R. (4th) 161 [*MacLennan*].
235. *Beloit*, *supra* n. 227 at 339–341.
236. In Canada there is no doctrine of 'contributory infringement'.
237. *AB Hassle v. Canada (Minister of National Health and Welfare)*, 2002 FCA 421 at para. 17; *MacLennan*, *supra* n. 234 at para. 13.

> of activities that are ultimately found to infringe. However, it is not be necessary for the inducer to have knowledge of the patent.[238]

In Canada, there is no US style cause of action for contributory infringement. As such, manufacturing, constructing or selling an article that is used by another in a manner that infringes a patent alone is insufficient to establish inducement, even if the vendor has knowledge that the article will be used by the purchaser in the infringing manner, and even where the article cannot be used for any other purpose.[239] Examples of acts that constitute inducing infringement include:

- the defendant alone, or in association with another person, sells all of the components of an invention to a consumer along with instructions on how to assemble the components to obtain the invention;[240] and
- a sale of a product along with an invitation or request by the defendant to the purchaser to use the product in an infringing manner (i.e., directions or an indication by the defendant to consumers to use the product in a manner that constitutes an infringement).[241]

2. Director and Officer Liability

Generally speaking, corporate directors and officers are not personally liable for infringing activities of their corporation. However, where the actions of the director or officer were not the direction of the activity of the corporation in the ordinary course of his or her relationship to it but were the deliberate, wilful and knowing pursuit of a course of conduct that was likely to constitute infringement or reflected an indifference to the risk of it, personal liability for the infringing activities of the corporation may be established.[242] It has been held that personal liability attaches when the officer's or director's own behaviour is itself tortuous or when the actions of the director or officer serve a personal interest rather than that of the corporation.[243]

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238. *Bauer Hockey Corp. v. Easton Sports Canada Inc*., 2010 FC 361 at paras 197–203; aff'd without comment on this issue 2011 FCA 83.
239. *Hatton v. Copeland-Chatterson Co.* (1906), 10 Ex. C.R. 224, aff'd 37 S.C.R. 651; *Valmet Oy v. Beloit Canada Ltd.* (1988), 20 C.P.R. (3d) 1 at 14 (F.C.A.); *MacLennan*, *supra* n. 234 at paras 33, 40.
240. *Valmet Oy v. Beloit Canada Ltd.* (1988), 20 C.P.R. (3d) 1 at 14 (F.C.A.); *Windsurfing International Inc. v. Bic Sports Inc*. (1985), 8 C.P.R. (3d) 241 at 263–265 (F.C.A.).
241. *Procter & Gamble Co. v. Bristol-Myers Canada Ltd.* (1978), 39 C.P.R. (2d) 145 at 165–167 (F.C.T.D.), aff'd (1979), 42 C.P.R. (2d) 33 (F.C.A.); *MacLennan*, *supra* n. 234 at para. 40.
242. *Mentmore Manufacturing Co. v. National Merchandise Manufacturing Co. Inc.* (1978), 40 C.P.R. (2d) 164 at 174 (F.C.A.); *Monsanto Canada Inc. v. Schmeiser* (2001), 12 C.P.R. (4th) 204 at 248 (F.C.T.D.), aff'd 2002 FCA 309, allowed in part *supra* n. 69.
243. *Halford v. Seed Hawk Inc.*, 2004 FC 88 at paras 324–332, 31 C.P.R. (4th) 434, rev'd 2006 FCA 275, 54 C.P.R. (4th) 130 (but aff'd on this issue at paras 54–55)[*Halford* FCA].

3. Scope of Protection: Construing the Patent Claims

The scope of the exclusive rights granted by a Canadian patent is defined by the claims as property construed.[244] It is the language of the claims which defines the scope of the monopoly granted by a patent.[245] Before embarking upon inquiries into the issues of validity or infringement, the first step for the court in a patent proceeding is to construe the claims.[246] A patent claim is construed without an eye to the prior art used to attack the validity of the patent or the allegedly infringing device.[247] The construction of a patent claim is a question of law.[248]

In Canada, patent claims are construed 'purposively', not in a purely literal fashion.[249] The key to 'purposive construction' is the identification of the particular words or phrases in the claims that describe what the inventor considered to be the 'essential' elements of the invention.[250] To ensure that a patent claim is given an interpretation that 'best ensures the attainment of the patent's objects', it is construed based upon a knowledgeable reading of the whole patent specification through the eyes of a person skilled in the art, rather than a meticulous verbal analysis.[251] The intention of the inventor is the objective intention determined from the patent specification alone;[252] reference to extrinsic evidence (such as domestic or foreign file histories) is not permitted.[253] A purposive construction can expand or limit the literal text of a patent claim.[254]

As referenced above, purposive construction entails a review of the patent specification through the eyes of an ordinary 'person skilled in the art'. Canadian courts have defined this notional person as someone who is sufficiently versed in the art to which the patent relates to enable him or her on a technical level to appreciate the nature and description of the invention.[255] Although uninventive, the person skilled in the art is able to pursue reasonable

244. *Free World Trust, supra* n. 93 at para. 33.
245. *Ibid*., at paras 33–40.
246. *Whirlpool*, *supra* n. 152 at para. 43.
247. *Ibid.,* at para. 49. In practice, the Federal Court and Federal Court of Appeal have accepted that, for the purposes of claims construction, a Court is required to have some understanding of where the disputes between the parties lie. See *Halford* FCA, *supra* n. 243 at paras 13–16; *Shire Biochem Inc. v. Canada (Minister of Health)*, 2008 FC 538 at para. 22.
248. *Whirlpool*, *supra* n. 152 at para. 61.
249. *Ibid.,* at paras 42–50.
250. *Ibid.,* at paras 45–48.
251. *Ibid.,* at paras 48, 49.
252. *Free World Trust*, *supra* n. 93 at paras 61–67.
253. *Ibid*., at paras 61–67; *Whirlpool*, *supra* n. 152 at para. 49. As a result, there is no doctrine in Canada of 'file wrapper estoppel' as exists, for example, in the US.
254. *Whirlpool*, *ibid.*, at para. 49.
255. *Ibid.*, at para. 53.

and logical inquiries[256] and is reasonably diligent in keeping up with advances in the field to which the patent relates.[257] The notional person understands, as a practical matter, the problem to be overcome, how different remedial devices might work, and the likely effect of using them.[258] The person skilled in the art is a notional 'person', and may possess the collective expertise of a number of skilled workers, scientists and technicians having different technical backgrounds.[259]

In Canada, there is no infringement if, upon a purposive construction, an 'essential' element of the patent claim is different or omitted. However, there may be infringement if non-essential elements are substituted or omitted. For infringement to be established when the allegedly infringing article or process incorporates a variant from the claimed invention, it must be shown that:

(a) the variant has no material effect upon the way the invention works, namely the variant performs substantially the same function, in substantially the same way, to obtain substantially the same result;
(b) at the date of publication, it would have been obvious to a person skilled in the art that such a variant would have no material effect on the way the invention worked; and
(c) that a person skilled in the art would have understood from the language of the claim that the patentee did not intend that strict compliance was an essential requirement of the invention such that the variant was not intended to be excluded from the claim.[260]

B. How Software Patent Litigation is Conducted

The sections below review the steps typically taken in patent infringement actions in Canada. The focus of the discussion is the Federal Court where, as noted above,[261] the majority of patent infringement actions are conducted in Canada. However, the courts rules of the superior courts of the Canadian provinces and territories are typically very similar and the conduct of the proceeding in a provincial court can therefore be expected to follow essentially the same steps.

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256. *Apotex Inc. v. Syntex Pharmaceuticals International Ltd.* (1999), 1 C.P.R. (4th) 22 at 36–37 (F.C.T.D.), citing J. Bochnovic, 'Invention/Inventive Step/Obviousness', in G.F. Henderson, ed., *Patent Law of Canada* (Toronto: The Carswell Company Limited, 1994) at 47–48.
257. *Whirlpool*, *supra* n. 152 at para. 74.
258. *Almecon Industries Ltd. v. Nutron Manufacturing Ltd.* (1997), 72 C.P.R. (3d) 397 at 401 (F.C.A.).
259. *Mobil Oil Corp. v. Hercules Canada Inc.* (1994), 57 C.P.R. (3d) 488 at 494 (F.C.T.D.), rev'd in part *supra* n. 113.
260. *Free World Trust*, *supra* n. 93 at paras 55–56, 9 C.P.R. (4th) 168; *Halford* FCA, *supra* n. 243 at paras 12-15.
261. See s. I-B-1, above.

1. Parties

a. Plaintiffs

A patentee and all persons claiming under the patentee can bring an action for patent infringement.[262] 'All persons claiming under the patentee' has been interpreted broadly by the courts and includes exclusive and non-exclusive licensees[263] (including by way of an implied license)[264] and a party paying royalties to the patentee.[265] However, the patentee must be made a party to any action for infringement (either as a plaintiff or defendant).[266]

Where a foreign company is the patentee and is seeking to bring an action for patent infringement in Canada, it may be advisable if possible and depending on the circumstances to name a Canadian subsidiary or licensee as a co-plaintiff in the action, especially where the Canadian company has suffered direct damage as a result of the alleged infringing activity. The inclusion of such a party may enhance the potential available remedies. In the case of numerous companies being involved in the product supply chain, consideration should be given to adding all companies who make some profit and arguably have standing under the patent, as plaintiffs, to recover all relevant damages. In addition, by naming a Canadian corporation as a co-plaintiff, the foreign plaintiff is relieved from the likely requirement to deposit security for the defendant's costs into Court.[267]

b. Defendants

The *Patent Act* provides a patentee with 'the exclusive right, privilege and liberty of making, constructing and using the invention and selling it to others to be used'.[268] Direct infringers who could be named as defendants are any

262. *Patent Act*, s. 55(1).
263. *Armstrong Cork Canada Ltd. v. Domco Industries Ltd.*, [1982] 1 S.C.R. 907 at 917–920. See also *Signalisation de Montréal Inc. v. Services de Beton Universels Ltée.* (1993), 46 C.P.R. (3d) 199 (F.C.A.).
264. *Apotex Inc. v. Wellcome Foundation Ltd.* (1998), 79 C.P.R. (3d) 193 at 300–304 (F.C.T.D.), aff'd on this point (2000), 10 C.P.R. (4th) 65 at paras 95–102 (F.C.A.).
265. *Illinois Tool Works Inc. v. Cobra Fixations Cie.* (2002), 20 C.P.R. (4th) 402 at para. 4 (F.C.T.D.), aff'd (2003), 29 C.P.R. (4th) 417 (F.C.A.).
266. *Patent Act*, s. 55(3).
267. *Federal Courts Rules*, Rule 416. Rule 416 provides that a defendant can bring a motion to the Court for security for costs where *inter alia* the plaintiff is 'ordinarily resident outside Canada'. However, where at least one of the plaintiffs is a Canadian resident, security for costs will not be ordered: *Miraj S.A. v. Gerovital Inc.* (1998), 79 C.P.R. (3d) 313 at para. 6 (F.C.T.D.). Recently, the Federal Court has been ordering security of anywhere between CAD 25,000–CAD 30,000 or more to be initially deposited into Court by the plaintiff as security for the defendant's costs up to the end of discoveries, with leave to seek additional security for subsequent steps. See also *supra* n. 6.
268. *Patent Act*, s. 42.

persons who are making, constructing, using, and/or selling the patented invention in Canada.

A patentee may also name as a defendant anyone who has induced or procured the direct infringer to infringe the patent at issue.[269] Generally speaking, corporate directors and officers are not personally liable for the infringing activities of their corporation. However, as set out above, in some circumstances where the actions of the director or officer were deliberate, wilful and knowing, and where the activities of the director or officer went beyond the usual activities of the company and his or her relationship to the company, personal liability may attach.[270]

2. Pleadings

a. The Statement of Claim

The issues in dispute in an action are defined by the pleadings. An action for patent infringement is typically started by issuing a statement of claim with the Court in which the patentee sets out the material facts supporting the allegation of infringement. This should include the relevant parties, the rights asserted, particulars regarding the allegedly infringing activity and the remedies sought.

b. The Defence (and Counterclaim) and Subsequent Pleadings

The defendant must serve and file a statement of defence in which the defendant must admit or deny the allegations set out in the statement of claim and include any additional material facts upon which the defendant intends to rely. A defendant will also often counterclaim for a declaration of invalidity of the patent at issue.[271] Where a statement of defence and counterclaim is filed by the defendant, the plaintiff must file in a single document a reply (to the statement of defence) and a defence (to the counterclaim), to which the defendant may file a reply. Where no counterclaim is brought, the plaintiff may simply file a reply to the statement of defence. It is also possible for a defendant to file a third-party claim against a co-defendant or a third party to the action for infringement.[272]

Once all pleadings have been served and filed, the pleadings phase is said to be ‘closed’.

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269. See this section, above, for discussion of inducing or procuring infringement.
270. *Ibid*.
271. *Patent Act,* s. 60 (3); *Federal Courts Rules*, Rule 189. In addition, a defendant can file a counterclaim against a non-party (Rule 191).
272. *Federal Courts Rules*, Rule 193.

c. Particulars/Motions to Strike

A party may move to strike all or part of the opposite party's pleading on the grounds that it discloses no reasonable cause of action or defence (as the case may be), is immaterial or redundant, is scandalous, frivolous or vexatious, or is otherwise an abuse of process of the Court.[273] In addition, a party can move for further and better particulars of any allegations in the opposite party's pleading.[274] The two forms of relief are often sought in the alternative; for example, a motion is brought seeking to strike an impugned allegation in a pleading or, alternatively, seeking particulars regarding that allegation.

3. Interlocutory Steps

There are several interlocutory remedies that may be available to a party to a patent infringement case, depending on the circumstances:

(a) interim/interlocutory injunctions;
(b) *Anton Piller* orders; and
(c) *Mareva* injunctions.

a. Interim/Interlocutory Injunctions

A patentee may seek an interlocutory injunction to restrain the defendant from engaging in the allegedly infringing activity prior to trial.[275] In practice, it has become difficult for a patentee in Canada to obtain an interlocutory injunction in a patent case. The courts have commented that an interlocutory injunction is an extraordinary equitable remedy and should only be granted in exceptional circumstances.[276]

The Supreme Court of Canada in *RJR-MacDonald Inc. v. Canada (A.G.)*[277] set out the now well-known tripartite test that must be met before an interlocutory injunction will issue; namely, the applicant must demonstrate that:

(i) there is a serious issue to be tried;
(ii) it will suffer irreparable harm if the application is not granted; and
(iii) the balance of convenience favours the applicant.

Moreover, even if this tripartite test is found to justify an interlocutory injunction, a subsequent change in circumstances that would affect the

273. *Federal Courts Rules*, Rule 221.
274. *Federal Courts Rules*, Rule 181(2).
275. *Patent Act*, s. 57. Such a remedy is also available on a *quia timet* basis.
276. See e.g., *Beamscope Canada Inc. v. 2439-0692 Quebec Inc*. (1991), 36 C.P.R. (3d) 1 at 6–7 (F.C.T.D.).
277. *RJR-MacDonald Inc. v. Canada (A.G.)*, [1994] 1 S.C.R. 311 at 334 [*RJR-MacDonald*].

outcome of this test may be grounds for varying or removing a previously granted interlocutory injunction.[278]

Pursuant to Rule 374,[279] an interim injunction may be obtained if the patentee can establish not only the three criteria noted above but also that under the circumstances there is urgency in obtaining the order. Such an interim order is typically sought on an expedited basis and in advance of a full hearing for an interlocutory injunction.

i. Serious Issue

Whether there is a serious issue to be tried is determined on the basis of a limited review of the case on its merits.[280] Courts in most patent infringement actions are prepared to find that there is a serious issue to be tried and will focus on the second and third parts of the tripartite test.

ii. Irreparable Harm

Courts have held that 'irreparable harm' is harm that cannot be quantified in monetary terms or cannot be cured by the defendant. This test is often difficult to satisfy in a patent infringement action; many courts have held that losses sustained by the patentee prior to trial could likely be adequately compensated by an award of damages.[281] Nevertheless, the courts in some cases have found irreparable harm in patent cases where the evidence establishes that the ongoing infringing activity of the defendant would result in, for example:

(i) a negative impact on the reputation and goodwill of the party;
(ii) a permanent loss of goodwill;
(iii) a permanent loss of market share;
(iv) a loss of licensing opportunities;
(v) products no longer capable of being sold, or that would be spoiled or rendered useless; or
(vi) a defendant not being able to pay a potential damage award.[282]

278. *F.P. Bourgault Industries Cultivator Division Ltd. v. Nichols Tillage Tools Inc.* (1989), 21 C.I.P.R. 283 at para. 8.
279. *Federal Courts Rules*, Rule 374.
280. *RJR-MacDonald, supra* n. 277 at 348.
281. See, for example, *Cutter Ltd. v. Baxter Travenol Laboratories of Canada, Ltd.* (1980), 47 C.P.R. (2d) 53 at 55–56 (F.C.A.).
282. See, for example, *Apotex Inc. v. Wellcome Foundation Inc.* (1999), 82 C.P.R. (3d) 429 at p. 432, para. 6 (F.C.A.); non-patent cases: *RJR-MacDonald*, *supra* n. 277 at 341; *Monsanto Canada Inc. v. Novopharm Ltd*. (1996), 67 C.P.R. (3d) 391 at 392 (F.C.A.); and *Ciba-Geigy Canada Ltd. v. Novopharm Ltd*. (1994), 56 C.P.R. (3d) 289 at 325–338 (F.C.T.D.); and a patent case where interlocutory injunction was granted but overturned on appeal: *Apotex Inc. v. Imperial Chemical Industries PLC* (1990), 27 C.P.R. (3d) 345 (F.C.A.).

iii. Balance of Convenience

The Court is to consider the balance of convenience from the perspective of the plaintiff in the event that the injunction is not granted, and the defendant in the event that the injunction is granted. Whether the defendant has not yet entered the marketplace will be taken into consideration by the Court when determining whether to grant an injunction.[283] Where other factors appear to be evenly balanced, a Court will often strive to preserve the status quo.[284]

b. Mareva Injunctions

A patentee may also seek a *Mareva* injunction against a defendant. A *Mareva* injunction is a special interlocutory injunction that will freeze a defendant's assets. Such an injunction is available if there is a clear danger that the assets will be removed from the jurisdiction prior to trial, thus frustrating the potential claim of the plaintiff.[285]

4. Scheduling and Case Management

The *Federal Courts Rules* have a number of mechanisms in place to assist with the orderly and timely progression of actions in the Federal Court.

For example, actions are automatically subject to status review if 180 days have elapsed since the issuance of the statement of claim and the pleadings are not closed, or 360 days have elapsed since the issuance of the statement of claim and no party has filed a request for a pre-trial conference.[286] On a status review, the Court is empowered to dismiss the action, although in practice this is rare.[287] If the Court is satisfied that the proceeding should continue, it will usually order that the action continue as a specially managed proceeding subject to case management and a schedule.[288]

A party may also bring a motion to have the action proceed as a specially managed proceeding.[289] Pursuant to a 1 May 2009 Practice Direction, the Court has reminded parties and their counsel that case management is always available, and is 'preferably' requested at the outset of the proceeding.[290]

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283. *American Cyanamid Co. v. Ethicon Ltd*., [1975] 1 All E.R. 504 at 511 (H.L.).
284. *Ibid*.
285. *Marine Atlantic Inc. v. Blyth* (1993), 113 D.L.R. (4th) 501 (F.C.A.).
286. *Federal Courts Rules*, Rule 380(1)(a).
287. *Federal Courts Rules*, Rule 382.1(2)(a).
288. *Federal Courts Rules*, Rule 382.1(2)(b).
289. *Federal Courts Rules*, Rule 384.
290. Federal Court of Canada Practice Direction: *Streamlining Complex Litigation* (1 May 2009), online: <http://cas-ncr-nter03.cas-satj.gc.ca/fct-cf/pdf/Notice%20-%20streamlining%20 complex%20litigation%2001-05-2009%20(ENG).pdf>. In various public forums, the Chief Justice of the Federal Court has suggested that case management will be considered to be a 'standard practice' in patent infringement actions, and as such requests for case management in

In most patent cases, a Federal Court judge and/or prothonotary is assigned to the case to assist with the management of a specially managed proceeding.[291] A case management judge or prothonotary may, among other things:[292]

(i) give any directions that are necessary for the just, most expeditious andleast expensive determination of the proceeding on its merits;
(ii) fix a schedule for the completion of subsequent steps in the proceeding; and
(iii) hear and determine all motions arising prior to the assignment of a hearing date.[293]

Notwithstanding the prevalence of case management, it had previously typically taken three or more years to complete an action for patent infringement (not including appeals) in the Federal Court. Recognizing this problem, the Court (and its *Federal Courts Rules* Committee) has recently been taking steps to reduce the length of time it takes for infringement actions to get to trial. For example, in recent years, additional judges and prothonotaries have been appointed to the Federal Court, and in many cases trials have been scheduled within six to eight months of the date of the pre-trial conference (which takes place after the completion of discovery). Moreover, in recent years, the Court has permitted (and encouraged) parties to seek a detailed schedule, including a trial date, at the outset of a proceeding. This can lead to a matter proceeding to trial within approximately two years from the date of commencement of proceedings. The early scheduling of trials is discussed further below.

5. Settlement

As a practical matter, most intellectual property actions in Canada settle in advance of a hearing on the merits.

The *Federal Courts Rules* include several procedures to promote settlement early in the litigation process. For example, settlement discussions between the parties must take place within sixty days after the close of pleadings.[294] Furthermore, prior to obtaining a trial date, a pre-trial conference must be held with the Court that will typically include discussions between the parties and the Court directed to settling all or part of the case, and/or narrowing the issues

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such actions will typically be granted.

291. *Federal Courts Rules*, Rule 383. A prothonotary is a judicial officer of the Federal Court with jurisdiction more limited than that of a judge, who serves a role similar to a 'magistrate' or 'master' in other court systems.
292. *Federal Courts Rules*, Rule 385(1).
293. In practice, most interlocutory motions are heard by the case management Prothonotary assigned to the action.
294. *Federal Courts Rules*, Rule 257.

for trial.[295] A dispute resolution conference may be conducted by order of the Court. A dispute resolution conference can take the form of mediation, a neutral evaluation of the proceeding, or a mini-trial.[296] Overall, the Federal Court is proactive in encouraging settlement discussions or other alternative dispute resolution procedures, including volunteering its own services as a mediator or arbitrator. Most provincial court systems in Canada have also adopted similar systems of case management and alternative dispute resolution.

6. Severance/Bifurcation

In practice, the parties to a Canadian patent infringement action usually agree to bifurcate (i.e., divide) the determination of liability (including patent infringement and validity) from the quantification of any monetary remedies awarded (i.e., damages or profits).[297] As a result, the quantification of damages or profits is often the subject of a reference or second trial, if necessary, after the issue of liability has been determined, such that the issues of damages/profits are not the subject of discovery until after the first liability trial. The theory of bifurcation is that the extensive discovery of sensitive financial information required to establish damages or profits and time spent at trial on these issues can be deferred or, if the patent is found not to have been infringed or invalid, completed avoided.

7. Summary Judgment/Trial

Summary judgment is available in both the federal and most provincial court systems in Canada to resolve proceedings lacking a genuine issue for trial or where the only genuine issue for trial is a question of law.[298]

Both the Federal Court and the provincial courts have been reluctant to embrace this procedure to resolve patent cases, largely as a result of their complexity and the typical need for expert evidence. For instance, in the past the Federal Court had held that the 'general rule' is that summary judgment is not proper where the issues before the Court involve the infringement or the validity of a patent,[299] particularly where 'technical words' used in the patent

295. *Federal Courts Rules*, Rules 258–267.
296. *Federal Courts Rules*, Rules 386–388.
297. *Federal Courts Rules*, Rules 107 and 153. See also *H-D Michigan v. Berrada*, 2007 FC 995, where the Court held that the moving party must make out a case for the bifurcation.
298. *Federal Courts Rules*, Rule 215. See also *Federal Courts Rules*, Rule 220 which permits a party to bring a motion before trial to request that the Court determine a question of law, a question as to the admissibility of any document, exhibit or other evidence or questions stated by the parties in the form of a special case.
299. *Norac Systems International Inc. v. Elliot*, 1999 CarswellNat 2348 (WL Can) at paras 13–15 (F.C.T.D.).

claims require interpretation and the assistance of expert evidence.[300] Indeed, the Federal Court of Appeal overturned a decision of the Federal Court granting summary judgment holding that the construction of non-technical terms 'comprising' and 'characterized in that' contained in the claims was inadvisable to resolve on a summary judgment motion.[301]

The *Federal Courts Rules* have recently been amended to introduce a new summary trial procedure to allow the Federal Court to summarily dispose of actions in a greater range of circumstances than provided under the summary judgment procedure.[302] Pursuant to the new rules, where the Court is satisfied that there is sufficient evidence for adjudication, regardless of the monetary amounts involved, the complexities of the issues and the existence of conflicting evidence (including expert evidence), the Court may grant judgment either generally or on an issue, unless the Court is of the opinion that it would be unjust to decide the issues on the motion.[303] The Federal Court has held that on a summary trial motion, the following principles apply:

(a) the onus of proof is the same as at trial, that being that the party asserting the claim or defence must prove it on a balance of probabilities;
(b) if the judge can find the facts as he or she would upon a trial, the judge should give judgment, unless to do so would be unjust, regardless of complexity or conflicting evidence; and
(c) in determining whether summary trial is appropriate, the Court should consider factors such as the amount involved, the complexity of the matter, its urgency, any prejudice likely to arise by reason of delay, the cost of taking the case forward to a conventional trial in relation to the amount involved, the course of the proceedings and any other matters that arise for consideration.[304]

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300. *Fox 40 International Inc. v. J. Hudson & Co. (Whistles) Ltd.* (1996), 71 C.P.R. (3d) 481 at 497 (F.C.T.D.).
301. *Stamicarbon B.V. v. Urea Casale S.A.*, 2002 FCA 10 at paras 23–27, rev'g 8 C.P.R. (4th) 206 (F.C.). However, in recent years, the Federal Court and Federal Court of Appeal have granted summary judgment:
    - on the issues of infringement and ambiguity of the claims where the defendant led no expert evidence to dispute the expert evidence of the plaintiff: see *Rachalex Holdings Inc. v. W & M Wire & Metal Products Ltd.*, 2007 FC 502; and
    - on the basis of anticipation by a prior sale by the inventor/patentee where there was a clear admission by the inventor/patentee that the article sold was within the scope of the claims in issue: see *Sterling Lumber Co. v. Harrison*, 2010 FCA 21.
302. *Federal Courts Rules*, Rule 216.
303. *Federal Courts Rules*, Rule 216(6).
304. *Louis Vuitton Malletier S.A. v. Singga Enterprises (Canada) Inc.*, 2011 FC 776 at paras 92–97. See also *Wenzel Downhole Tools Ltd. v. National-Oilwell Canada Ltd.*, 2010 FC 966 at paras 36–38.

8. Protective Orders

The parties in patent infringement actions in Canada often obtain 'protective orders' (also called 'confidentiality orders') to limit the disclosure of confidential and commercially sensitive information produced by the parties in the action.[305] Some orders provide two levels of protection, namely 'confidential' (where the information can typically be disclosed to a limited number of employees of the receiving party but not to third parties) and 'confidential – counsel's eyes only' (where counsel for the receiving party cannot disclose the information to the receiving party or may only disclose to a single representative of the party). Where there is corresponding litigation between the same or related parties in the US in which a protective order has been issued by the US Court, it is common for the Canadian parties to seek to obtain an order in Canada of similar scope.

9. No Markman Hearings

In US patent litigation, claim construction is typically carried out before a judge alone in a separate hearing before trial. This procedure is known as a *Markman* hearing.[306]

In May 2003, a Canadian court for the first time approved of a *Markman*-type hearing taking place in the Federal Court. However, the decision was overturned on appeal, and there is currently no *Markman*-type proceeding in Canadian litigation.[307] As a result, patent construction issues are not typically addressed or resolved until trial.

10. Discovery

Following the close of pleadings, the next stage is discovery, which has two steps, namely documentary and oral discovery.

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305. *Federal Courts Rules*, Rules 151 and 152. It should also be noted that information and/or documents disclosed by virtue of the discovery process in the Federal Court are subject to an implied undertaking that they will be used only for the action in which they are disclosed and for no other purpose. The implied undertaking is to some extent the 'backstop' to any confidentiality order that may be obtained. See *N.M. Paterson & Sons Ltd. v. St. Lawrence Seaway Management Corp,* 2004 FCA 210.
306. This procedure evolved as a result of the 1996 decision of the US Supreme Court in *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996). In the *Markman* case, the Supreme Court held that the construction of a patent was not subject to the Seventh Amendment guarantee of the US Constitution preserving the right of trial by jury in suits at common law involving claims exceeding CAD 20. This decision opened the door in the US for the construction of patent claims by a judge prior to trial.
307. *Realsearch Inc. v. Valon Kone Brunette Ltd*., 2004 FCA 5, 31 C.P.R. (4th) 101, rev'd (2003), 27 C.P.R. (4th) 274 (F.C.T.D.).

a. Documentary Discovery

For documentary discovery, each party must list in an Affidavit of Documents all documents known by the party to have been, at any time, in the party's possession, power or control that are relevant to any issue in the action.[308] A relevant document, as defined in the *Federal Courts Rules*, is one that a party intends to rely upon or that tends to adversely affect its case or support the other party's case.[309] Typically, the Affidavit of Documents is sworn by an employee of the party who can attest to the fact that appropriate searches were conducted to locate relevant documents. If a party suspects that the Affidavit of Documents of the opposite party is inaccurate or deficient, it is possible to bring a motion to the Court seeking to compel the opposite party to serve a Supplementary Affidavit of Documents that includes the missing documents.[310]

A party must make all documents listed in its Affidavit of Documents that are not subject to privilege available for inspection by opposing parties,[311] although usually the parties simply agree to exchange copies of documents.

Documentary discovery can be a challenging and time-intensive task. In many patent cases, key documents (e.g., inventor's notebooks) may have been created twenty or more years prior to the litigation. An issue of recent concern is the proliferation of electronic documents, including e-mail. Technical assistance (internal or external) may be required to locate and manage thousands of potentially relevant documents.

As soon as a party is sued for patent infringement, an immediate document destruction freeze should be instituted for electronic and non-electronic documents (in particular for organizations where the application of document retention policies may lead to the automatic destruction of documents older than a certain age). Destruction of relevant documents (known as spoliation) may lead to Court sanctions, or may make it difficult for a party to prove an important aspect of its case.

b. Oral Discovery

Following the documentary discovery stage, the parties are entitled to conduct an oral examination (deposition) of a single representative of each of the adverse parties.[312] In actions in the Federal Court, in the first instance, the representative is chosen by the party to be examined.[313] The examining party

308. *Federal Courts Rules*, Rule 223.
309. *Federal Courts Rules*, Rule 222(2).
310. *Federal Courts Rules*, Rules 226, 227.
311. *Federal Courts Rules*, Rule 228.
312. *Federal Courts Rules*, Rules 235, 236.
313. *Federal Courts Rules*, Rule 237.

may bring a motion objecting to this choice.[314] The representative must answer any question that is relevant to any unadmitted allegation of fact in the pleadings.[315]

The courts have held that the test for relevancy on oral discovery is whether the information sought may fairly lead to a chain of inquiry that would either directly or indirectly advance its own case or damage the case of its adversary.[316] This test, on its face, is broader than that provided in Rule 222(2) in respect of documentary discovery. A witness for a corporation must not only answer on the basis of personal knowledge but also based upon the information of the company.[317] If the representative proves to be uninformed, the Court may grant leave to examine another representative.[318] The transcript of the testimony of an opposite party's representative can be read in as evidence at trial against that party.[319]

Overall, the oral discovery process in Canada is similar to the discovery of the corporate representative that may take place in a US action.[320] However, pursuant to the *Federal Courts Rules*, a litigant does not have the right to conduct depositions of fact witnesses as is the case in the US. Rather, discovery in Canada is limited, in most cases, to the examination of the opposite party's corporate representative as described above. This is one reason why the cost of litigating a patent is typically much lower in Canada than in the US

Additionally, a defendant in a patent case may conduct an oral examination of the assignor(s) of a patent.[321] This provides a mechanism by which the inventor(s) of the patent can be examined by the defendant. However, the transcript of the examination of the assignor/inventor cannot be read into evidence at trial (and in this way differs from the transcript of the opposing party's representative) and can only be used for the purpose of impeachment should the inventor testify at trial.[322] A defendant may seek an order from the Court requesting that a foreign court compel the testimony of a non-resident assignor/inventor, but the Court will only do so where an

314. *Federal Courts Rules*, Rule 237(3). See also *Benisti Import-Export Inc. c. Modes TXT Carbon Inc*., 2004 FC 539.
315. *Federal Courts Rules*, Rule 240.
316. *The Compagnie Financière et Commerciale du Pacifique v. The Peruvian Guano Company* (1882), 11 Q.B. 55 at 62–63 (C.A.); *Everest & Jennings Canadian Ltd. v. Invacare Corp.* (1984), 79 C.P.R. (2d) 138 at 139 (F.C.A.).
317. *Federal Courts Rules*, Rule 241.
318. *Federal Courts Rules,* Rule 237 (3). See e.g., *Liebmann v. Canada (Minister of National Defence)* (1996), 110 F.T.R. 284.
319. *Federal Courts Rules*, Rules 234–248, 288.
320. US, Fed.R.Civ. P. 30(b)(6).
321. *Federal Courts Rules*, Rule 237(4).
322. *Eli Lilly & Co. v. Apotex Inc.,* 2006 FC 282 at paras 13–16.

international convention exists that would make it likely that such an order would be enforced by the foreign jurisdiction.[323]

It is also possible under certain circumstances to examine non-parties in an infringement action.[324] To grant leave to examine a non-party, the Court must be satisfied that:

(i) the person may have information on an issue in the action;
(ii) the party has been unable to obtain the information informally from the person or from another source by any other reasonable means;
(iii) it would be unfair not to allow the party an opportunity to question the person before trial; and
(iv) the questioning will not cause undue delay, inconvenience or expense to the person or to the other parties.[325]

In practice, the Federal Court has not readily granted leave to examine non-parties. In addition, the testimony of the non-party cannot be used at trial, except for the purpose of impeachment in the event the witness testifies.[326]

During an oral examination for discovery, the party being examined (typically through counsel) can object to questions on a number of grounds, including privilege, relevance, that the question is unreasonable or unnecessary, or that it would be unduly onerous to provide a response.[327] The party may then answer the question under reserve of any objection, or refuse to answer the question outright.[328] The latter case is quite common in Canadian Federal Court litigation and leads to interlocutory motions to determine the propriety of questions for which answers were refused. If the Court ultimately orders that certain questions be answered, the answers are typically provided in writing, and a further oral examination for discovery takes place to permit the examining party to ask follow-up questions.

11. Pre-Trial

Following the close of pleadings and completion of discovery, a party who is not in default who is ready for trial can file a requisition for a pre-trial conference.[329] This requisition must include a pre-trial conference

323. It is somewhat easier to obtain such an order from the provincial courts, often called a Letters Rogatory. However, pursuant to the US Federal Rules, a Canadian party may not need to seek issuance of a Letters Rogatory in Canada to seek an order from a US Court for examination of a US resident in view of 28 U.S.C. § 1782(a) (assistance to foreign and international tribunals and to litigants before such tribunals).
324. *Federal Courts Rules*, Rule 238(1).
325. *Federal Courts Rules*, Rule 238(3).
326. *Federal Courts Rules*, Rule 239(6). Also, an examination of a witness may be conducted out of Court with leave: see *Federal Courts Rules*, Rules 271–272.
327. *Federal Courts Rules*, Rule 242.
328. *Federal Courts Rules*, Rule 95.
329. *Federal Courts Rules*, Rule 258(1).

memorandum setting out, among other things, the nature of the proceeding, the factual and legal contentions of the party, and a statement of the issues to be determined at trial.[330] A pre-trial conference memorandum is accompanied by a copy of all documents that are intended to be used at trial that may be of assistance at the pre-trial conference.[331] The opposing party or parties are also required to file a pre-trial conference memorandum prior to the pre-trial conference.[332]

The pre-trial conference is attended by the solicitors of record, and typically also by representatives of the parties.[333] At the pre-trial conference, a number of issues may be discussed, including the following:

(i) the possibility of settlement of any or all of the issues in the action;
(ii) the possibility of obtaining admissions that may facilitate the trial;
(iii) the estimated duration of the trial;
(iv) suitable dates for a trial; and
(v) any other matter that may promote the timely and just disposition of the action.[334]

The pre-trial conference is typically where the parties would also seek a date for the trial. In the past, there have been delays of twelve months or more between the pre-trial conference and the date of the trial being assigned. However, as discussed above, this delay has diminished in recent years.

Also as noted above, in recent years, the Court has permitted (and encouraged) parties to seek a detailed schedule, including a trial date, at the outset of a proceeding.[335] This practice has been confirmed by the Court's 1 May 2009 Practice Direction, which further states that where a trial date is requested early in the proceeding, the Court will endeavour to schedule the trial within two years of the commencement of the proceeding.

12. Expert Reports

The Court may consider relevant opinion evidence from a witness who is a properly qualified expert in the field to which the testimony relates if it is necessary and not otherwise excluded by an exclusionary rule.[336] In patent

330. *Federal Courts Rules*, Rule 258(3).
331. *Federal Courts Rules*, Rule 258 (4). Pursuant to a recent amendment to this Rule, the parties are now required to serve and file all affidavits or statements of expert witnesses with their pre-trial conference memoranda, discussed below.
332. *Federal Courts Rules*, Rule 262.
333. *Federal Courts Rules*, Rule 260. The representatives of the parties are often excused from attending, in particular where settlement will be discussed at a separate settlement conference.
334. *Federal Courts Rules*, Rule 263.
335. In *Sanofi-Aventis Canada Inc. v. Apotex Inc.*, 2007 FC 906 at para. 15, the Federal Court confirmed that it has the power to set a trial date prior to the pre-trial conference without the consent of all parties.
336. *R. v. Mohan*, [1994] 2 S.C.R. 9.

infringement actions, expert witnesses commonly provide testimony to assist the Court regarding the proper construction of the patent at issue from the perspective of persons skilled in the art, and testimony regarding infringement and validity issues. The value of a well-prepared and effective expert witness to a party's case should not be underestimated.

In practice, the expert witnesses set out their evidence in respect of the parties' case in chief (in the case of the plaintiff, construction and infringement; in the case of the defendant, construction and invalidity) in the form of an affidavit or statement, which is served on all other parties.[337] Pursuant to recent changes in the *Federal Courts Rules*, the parties' expert affidavits or statements in chief must be served and filed with the Court at the same time as their pre-trial conference memorandum (although the Court may dispense with such requirement).[338] The timing for service of any additional or rebuttal expert affidavits, if applicable, is to be set out in the order following the pre-trial conference.[339] An expert witness cannot be cross-examined prior to trial except with leave of the Court.[340]

At trial, the expert's evidence may be tendered by the reading into evidence by the expert witness of all or part of the expert affidavit or statement.[341] The expert may also provide testimony at trial explaining any of the content of the affidavit or statement that was read into evidence.[342] The expert may not otherwise testify without leave of the Court.[343] Following the direct testimony of the expert witness, the witness is subject to cross-examination by all adverse parties. No expert witness's evidence is admissible at trial in respect of any issue unless the witness is available at trial for cross-examination.[344]

Very recently, the Federal Court has introduced new rules regarding expert witnesses which, according to the accompanying Regulatory Impact Analysis Statement, seek to address issues relating to the independence of experts and the impact of expert evidence on the length and cost of litigation. The amendments include a Code of Conduct emphasizing the 'overriding duty' of expert witnesses to assist the Court impartially,[345] streamlined mechanisms for qualifying and challenging expert witnesses at pre-trial conferences,[346] the

337. *Federal Courts Rules*, Rules 55.2, 279(b).
338. *Federal Courts Rules*, Rule 258(4). Previously, the parties were simply required to serve and file their expert evidence in chief at least sixty days before the commencement of trial.
339. *Federal Courts Rules*, Rules 265(2). Previously, rebuttal affidavits were required to be served at least thirty days prior to trial.
340. *Federal Courts Rules*, Rules 280(3).
341. *Federal Courts Rules*, Rule 280(1)(a). Alternatively, with leave of the Court and if all other parties consent, all or part of the affidavit or statement can be taken as read into evidence: Rule 280(2).
342. *Federal Courts Rules*, Rule 280(1)(b).
343. *Federal Courts Rules*, Rule 280(1.1).
344. *Federal Courts Rules*, Rule 279(c).
345. *Federal Courts Rules*, Rule 52.2(1)(c), Form 52.2.
346. *Federal Courts Rules*, Rules 262(2), 263(c).

right of parties to name joint experts,[347] the power of the Court to order expert conferences to narrow issues in advance of hearings,[348] and the power of the Court to require expert witnesses to testify as a panel at trial – so-called hot-tubbing of expert witnesses.[349]

13. Trial

a. Time to Trial

While in the past it had typically taken many years to complete an action for patent infringement in Canada, more recently, patent infringement trials have been scheduled within two years from commencement. This has in large part been the result of the efforts of the Federal Court to facilitate efficient conduct of actions through case management, and through the acceptance of early requests for trial dates. There are now a growing number of examples of complex patent infringement actions which have proceeded to trial, and in some instances a decision, within two years of commencement.[350]

b. Conduct of Trial

As discussed above, patent infringement actions in Canada take place before a judge alone. In the usual case, the action opens with the opening statement of the plaintiff. While the judge can direct otherwise, the defendant will normally make its opening statement later, at the commencement of its case in chief.[351]

Following the opening statement or statements, the plaintiff adduces evidence on infringement.[352] The evidence in a patent infringement action is

347. *Federal Courts Rules*, Rule 52.1(2).
348. *Federal Courts Rules*, Rule 52.6.
349. *Federal Courts Rules*, Rules 282.1, 282.2. Hot-tubbing was recently utilized in *Apotex Inc. v. AstraZeneca Canada Inc*., 2012 FC 559.
350. See e.g.:

- *Janssen-Ortho Inc. v. Novopharm Ltd*., 2006 FC 1234; statement of claim filed Dec. 6, 2004; trial conducted 5 September – Oct. 5, 2006; decision Oct. 17, 2006.
- *Laboratoires Servier* FC; *supra* n. 76, statement of claim filed Aug. 25, 2006; trial conducted 5 March – 8 May 2008; decision Jul. 2, 2008
- *Eli Lilly Canada Inc. v. Novopharm Ltd.* 2009 FC 1018, rev'd and remanded 2010 FCA 197, further decision 2011 FC 1288; statement of claim filed Jun 5, 2007; trial conducted Nov. 17, 2008 – Apr. 3, 2009; decision Oct. 5, 2009.
- *Sanofi-Aventis Canada Inc. v. Apotex Inc.,* 2009 FC 676, aff'd 2011 FCA 300; statements of claim were filed on Jan. 26, 2007 (*Apotex*) and Jun. 22, 2007 (*Novopharm*); trial conducted Jan. 12, 2009-Apr. 15, 2009; decision Jun. 29, 2009.
- *Apotex Inc. v. Sanofi-Aventis* 2011 FC 1486; statements of claim filed Apr. 22, 2009 and Jun. 8, 2009; trial conducted 8 April – Jun. 15, 2011; decision Dec. 11, 2011.

351. *Federal Courts Rules*, Rule 274(1).
352. *Federal Courts Rules*, Rule 274.

introduced by the *viva voce* (i.e., oral) evidence of fact and expert witnesses,[353] by the admission of documents, or by the reading in of examination for discovery of the adverse party.[354] The defendant may cross-examine the plaintiff's witnesses, who are then subject to limited re-examination by the plaintiff.

Once the plaintiff's case is complete, the defendant makes its opening statement (assuming it was not done previously) and then adduces its evidence in response to the plaintiff's case of infringement and in respect of its case regarding invalidity.[355] The defendant's witnesses are subject to cross-examination and re-examination in the same manner.

Following the defendant's case, the plaintiff is able to respond to the defendant's case of invalidity and provide any reply (or rebuttal) evidence on infringement. The defendant then has an opportunity to reply or rebut the plaintiff's evidence on invalidity. The trial concludes with the closing statements of the parties supported by detailed written submissions, in the same order in which they adduced evidence.[356]

14. Appeals

All decisions of prothonotaries can be appealed as of right by motion to a judge of the Federal Court.[357] All decisions of the Federal Court in respect of interlocutory orders and final orders can be appealed as of right to the Federal Court of Appeal. Decisions of the Federal Court of Appeal can be appealed, with leave, to the Supreme Court of Canada.

C. How Damages Are Assessed and Enforced: How Injunctions Are Awarded and Enforced

1. Remedies for Patent Infringement

There are a number of remedies that may be available to a patentee who is successful in an action for infringement, including the following:

(i) the patentee's damages or, if the plaintiff elects (and if permitted by the Court), an accounting of the defendant's profits;[358]

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353. *Federal Courts Rules*, Rule 282.
354. *Federal Courts Rules*, Rule 288.
355. *Federal Courts Rules*, Rule 274(1).
356. *Federal Courts Rules*, Rule 278.
357. *Federal Courts Rules*, Rule 51.
358. *Patent Act*, s. 57. With respect to damages, a patentee may be entitled to recover damages on sales made outside of Canada where the infringing product was made in Canada: *Allied Signal Inc. v. Du Pont Canada Inc*. (1998), 78 C.P.R. (3d) 129 at 139–140 (F.C.T.D.), aff'd (1999), 86 C.P.R. (3d) 324 (F.C.A.). With respect to an accounting of profits, it should be noted that an accounting is an equitable remedy and is at the discretion of the Court: see e.g., *Merck & Co.*

(ii) punitive, exemplary, or aggravated damages (in appropriate circumstances);[359]
(iii) a permanent injunction;[360]
(iv) delivery up or destruction of the offending products;[361] and
(v) pre- and post-judgment interest.[362]

Furthermore, a successful party in a Canadian patent infringement action (including a successful defendant) may also be entitled to its legal costs, which includes a portion of its attorney fees (which are determined according to a tariff) and all reasonable disbursements, including expert fees.[363] Increased costs may be awarded against a party where there was an offer to settle made to the party that was more favourable than the terms of judgment.[364]

A plaintiff's damages are typically based on the plaintiff's lost profits (which it can should would have been made but for the defendant's infringing activities) and/or a reasonable royalty.

A defendant is also liable to pay the patentee of an issued patent 'reasonable compensation' for any damages sustained after the patent application became open for public inspection and before the grant of the patent, if such actions of the defendant would have constituted an infringement if the patent had been granted.[365] Recently, a Court held that 'reasonable royalty' was the appropriate measure of 'reasonable compensation' for the case before it.[366]

As a point of contrast, the remedies available to a successful patentee in the US have some significant differences. In the US a successful patentee is not typically entitled to the remedy of the defendant's profits, nor to attorney fees. On the other hand, the US *Patent Act* does permit the awarding of treble

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v. Apotex Inc., 2006 FC 524 at paras 227–229, rev'd in part 2006 FCA 323 [*Merck & Co.*].

359. However, such awards are rare in Canadian patent infringement actions. In *Lubrizol Corp. v. Imperial Oil Ltd.*, the trial judge awarded CAD 15 million in punitive damages: (1994), 58 C.P.R. (3d) 167 (F.C.T.D.) [*Lubrizol Corp.*]. However, this decision was subsequently set aside by the Federal Court of Appeal on the basis that, *inter alia*, the Court was first required to consider the issue of general damages prior to making a punitive damages award: (1996), 67 C.P.R. (3d) 1 (F.C.A.).
360. The *Patent Act* provides a patentee with the exclusive right, privilege and liberty of making, constructing and using the invention and selling it to others to be used (s. 42) and provides that an injunction may issue restraining or enjoining the opposite party from further use, manufacture or sale of the subject matter of the patent (s. 57). However, recent comments of the Federal Court confirm that a permanent injunction is an equitable remedy and suggest that an injunction may not automatically issue against an infringing party: see *Merck & Co.*, *supra* n. 358 at para. 230.
361. See *Merck & Co.*, *supra* n. 358 at para. 121.
362. *Federal Courts Act*, s. 36.
363. *Federal Courts Rules,* Rule 400.
364. *Federal Courts Rules*, Rule 420.
365. *Patent Act*, s. 55(2).
366. *Jay-Lor International Inc. v. Penta Farm Systems Ltd.*, 2007 FC 358 at para. 122.

damages.[367] The decision to increase damages is most often awarded in cases where the patentee proves that the defendant wilfully infringed the patent.[368] In Canada, while punitive damages may be awarded in appropriate circumstances,[369] there is no doctrine of wilful infringement and no treble damage awards.

VII. FUTURE DIRECTIONS

The patenting of computer-implemented inventions, including software, and some 'business methods', is at a cross-roads in Canada.

The paucity of jurisprudence in Canada means that the arguments concerning the patentability of such subject matter must frequently be made based on analogies to cases bearing limited, if any, factual similarity. By way of example *Shell Oil*, a decision concerning the patentability of a new use for known chemical compound, is the leading decision of the Supreme Court on the meaning of patentable 'art', the category of 'invention' applicable to computer-implemented methods.

The holding and reach of *Amazon.com* will no doubt be the centre of debate in this area for the next few years.

On the one hand, the Court of Appeal in *Amazon.com* confirmed that the Patent Office was incorrect in many aspects of its approach, including a 'form and substance' or 'actual invention' approach to claims construction, the creation of a 'technological' limitation to patentable subject matter, and by imposing a per se prohibition against the patentability of business methods.

On the other hand, the Court of Appeal in referring to the 1981 *Schlumberger* case, and reinterpreting and perhaps breathing new life into the two-page decision (which had cast a long shadow over the patentability of software and other computer-implemented inventions in the twenty years since it was decided) has created some uncertainty as to the full scope and effect of the *Amazon.com* decision.

Of most immediate concern will be the approach taken by the Patent Office with respect to the scope of the *Amazon.com* decision. The 8 March 2013 practice guidelines show that the Office is now acknowledging the Court's direction that questions of subject matter must be determined on the basis of a 'purposive construction' of the claims of the application under

367. 35 U.S.C. § 284.

368. In the US where jury trials are common, the availability of treble damages can lead to very large damage awards.

369. See *Lubrizol Corp.*, *supra* n. 359. The courts have held that consideration of the issue should be deferred until after damages or profits have been awarded because until that time, it is impossible to determine whether punitive damages are required to meet the objectives of punishment, deterrence and denunciation: *Apotex Inc. v. Merck & Co.*, 2003 FCA 291 at para. 34 and *Laboratoires Servier* FC, *supra* n. 76 at paras 514–515.

consideration.However, the guidelines suggest that the Office may approach purposive construction in a manner which is not entirely consistent with the jurisprudence. Further decisions of the Commissioner and the Courts may be required before the effect of the *Amazon.com* decision, and the Office guidelines, are fully understood.