

2009

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HYPOTHETICAL CANADIAN CLAIM CONSTRUCTION IN THE RIM LAWSUIT

(Spine title: Hypothetical Canadian claim construction in the RIM lawsuit)

(Thesis format: Monograph)

by

Sebastian Bernards

Graduate Program in Law

A thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Laws

The School of Graduate and Postdoctoral Studies
The University of Western Ontario
London, Ontario, Canada

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ABSTRACT AND KEYWORDS

The purpose of this thesis is (1) to test the hypothesis advanced by Canadian patent litigators that Canadian courts take a broader approach to patent claim construction than their American counterparts, and (2) to comment on a hypothetical patent claim construction for Research in Motion (“RIM”) litigation assuming that RIM would have been sued in Canada. The analysis for the first question is based on an evaluation of Canadian decisions rendered by Canadian courts after *Whirlpool Corp. v. Camco Inc.* and *Free World Trust v. Électro Santé Inc.* and does not include pharmaceutical cases. The findings of the thesis disprove the hypothesis advanced by the Canadian litigators and find that the Canadian courts construe patent claims narrowly. Moreover, a study prepared for the American Intellectual Property Law Association seems to support the findings of this thesis. In relation to answering the second question, based on the evidence, claim construction would likely be similar in Canada in relation to certain phrases and was inconclusive with respect to other phrases.

The following could be used to describe the thesis entitled “**HYPOTHETICAL CANADIAN CLAIM CONSTRUCTION IN THE RIM LAWSUIT**” which studies whether Canadian courts construe patent claims in a broader sense post *Whirlpool* and *Free World* compared with their American counterparts and how this finding could impact a hypothetical Canadian RIM litigation: **Keywords:** Patent claim construction, infringement, validity, Research In Motion, RIM, NTP, Canada, United States, Broad patent claim construction, Narrow patent claim construction, patents, intellectual property, patent litigation, *Whirlpool Corp. v. Camco Inc.*, *Free World Trust v. Électro Santé Inc.*

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INTRODUCTION

Based on an evaluation of Canadian decisions¹ rendered by Canadian courts after *Whirlpool Corp. v. Camco Inc.*² (“*Whirlpool*”) and *Free World Trust v. Électro Santé Inc.*³ (“*Free World*”), the goal of the thesis is: (1) to test the hypothesis whether Canadian courts take a broader approach to patent claim construction than their American counterparts and (2) to comment on a hypothetical patent claim construction for Research in Motion (“RIM”) litigation assuming that RIM would have been sued in Canada in addition to the American litigation.

Patent claim interpretation also known as construction is one of the most significant issues relating to patents. Once the scope of the claims is determined, questions relating to infringement, anticipation and obviousness can be answered immediately.⁴

In 2000, the Supreme Court of Canada (“Supreme Court”) rendered decisions in *Whirlpool* and *Free World* providing guidance for the lower courts in Canada to follow in

¹ Excluding pharmaceutical cases. In addition, when reading this thesis, please keep in mind that despite around 205,775 pending patent applications at the Canadian Intellectual Property Office and about 115,600 Canadian patents in force, the patents that are being litigated are actually very few. The main reason for keeping the number of litigated patents low in Canada is due to cost which is estimated at about \$500,000 to bring a patent case to trial and additional \$1 to \$ million to proceed with the litigation until the end. Please see: Marzena Czarnecka “The lonely guys of litigation” *The Globe and Mail* (25 March 2009) online: <<https://secure.globeadvisor.com/servlet/ArticleNews/story/gam20090325/RLAWMAIN25>>. Consequently, the thesis discusses eleven cases which are grouped into twenty seven decisions of both trial and appeal levels of Canadian courts and represent the Canadian landscape between 2000 and 2009 in relation to litigated patent cases (and contain a claim construction analysis) in the areas of telecommunications and mechanical patents.

² *Whirlpool Corp. v. Camco Inc.*, [2000] 2 S.C.R. 1067, 194 D.L.R. (4th) 193, Binnie J. [*Whirlpool* cited to S.C.R.].

³ *Free World Trust v. Électro Santé Inc.*, [2000] 2 S.C.R. 1024, 194 D.L.R.(4th) 232, Binnie J. [*Free World* cited to S.C.R.].

⁴ **Simon Thorley, Richard Miller & Guy Burkill, eds.**, *Terrell on the law of patents*. 16th ed. (London: Sweet & Maxwell Limited, 2006) at p. 122.

patent litigation specifically relating to patent claim construction. The Supreme Court ruled that patents in Canada are to be subject to “purposive construction” where claims are read in the context of the specification without reference to extrinsic evidence such as statements or admissions in the prosecution history.⁵ In “purposive construction” a court makes a determination as to which elements are essential and non-essential based on the intent of the inventor and viewed through the eyes of a person skilled in the art. Infringement is found if the defendant’s product contains all the essential elements found in the plaintiff’s patent claims. Varying or omitting non-essential elements will not save the defendant from infringement.

Some Canadian patent litigators argued that “purposive construction” combined with absence of prosecution history estoppel, which has an effect of limiting scope of patent claims,⁶ leads to a broader claim construction approach than in the United States. This broader claim construction in turn leads to an approach favouring inventors since with broader interpretation infringement is more likely to be found.⁷ According to the Canadian patent litigators, American and Canadian patents with identical patent claims may be construed differently leading to a finding of infringement in Canada with respect

⁵ Prosecution history refers to all the communication between a patent agent representing the inventor and a patent examiner representing the Canadian Intellectual Property Office (government). Prosecution history is sometimes referred to as a “file wrapper”.

⁶ “The prosecution history limits the interpretation of claim terms so as to exclude any interpretation that was disclaimed during prosecution”. *Southwall Tech., Inc. v. Cardinal IG Co.*, 54 F. 3d 1570, 1576 (Fed. Cir. 1995) cited in *CFM Corporation v. Dimplex North America Ltd.*, 2006 U.S. App. LEXIS 12630, Michel, Newman, Mayer J.A.

⁷ Andrew Shaughnessy & Andrew Bernstein, “Choosing between Canada and US: Patent Law Litigation” (19 January 2005), online: Intellectual Property Law <<http://www.ipfrontline.com/depts/article.asp?id=1906&deptid=4>>. See also: Michael Berg & Alisa Cahan “U.S. Appellate Court to Decide Whether Foreign Patent Claims Are in Play” (1 January 2006), online: Findlaw <<http://library.findlaw.com/2006/Jan1/245261.html>> [Shaughnessy].

to a given patent and a finding of non-infringement in the United States with respect to the same patent.⁸

This thesis examines Canadian court decisions, that were rendered by Canadian federal and provincial courts after *Whirlpool* and *Free World* and focuses specifically on claim construction analysis undertaken by these courts to determine whether the approach to patent claim construction in Canada is broader than in the United States. Pharmaceutical cases were specifically excluded from the decisions selected because the objective of the thesis was to select patent cases in closest proximity to the RIM litigation, namely telecommunications. Pharmaceutical patent cases involve Patented Medicines (Notice of Compliance) Regulations which is not present in other types of intellectual property litigation.

The thesis is divided into four chapters. Following this introduction, chapter 1 provides an overview of the RIM litigation in the United States. Chapter 2 discusses claim construction in Canada and the United States. Chapter 3 introduces Canadian court cases with patents in the telecommunication and mechanical areas and discusses claim construction undertaken by the Canadian courts in those cases. Chapter 4 analyzes the findings from chapter 3 and comments on patent claim construction in the hypothetical Canadian RIM litigation.

⁸ Jonathan Cutler & David Aitken, "Patent Protection Across the Northern Border" (May 2006), online: Osler NorthSouth <<http://www.osler.com/resources.aspx?id=10910>>.

CHAPTER 1 – Overview of the RIM litigation in the United States

The RIM litigation in the United States consisted of two separate issues: (1) patent claim construction and (2) statutory construction of the 35 U.S.C. § 271. The thesis will focus only on the claim construction aspect.

1. Case background

On November 13, 2001, NTP sued RIM in the United States District Court for the Eastern District of Virginia (the “American District Court”) alleging infringement of its forty system and method claims on the following United States Patent Numbers: 5,436,960 (“the ‘960 Patent”); 5,625,670 (“the ‘670 Patent”); 5,361, 946 (“the ‘946 Patent”); 5,819,172 (“the ‘172 Patent”); 6,067,451 (“the ‘451 Patent”); and 6,317,592 (“the ‘592 Patent”).⁹

According to NTP, the infringing products and services comprised of:

- (a) BlackBerry Handheld Units (model number 850, 857, 950, 957 and 5810);
- (b) BlackBerry Enterprise Server for Microsoft Exchange and BlackBerry Enterprise Server for Lotus Domino;
- (c) BlackBerry “Desktop” Redirector;
- (d) BlackBerry “ISP” Redirector; and
- (e) BlackBerry Wireless Email Service on the Mobitex, DataTAC and GPRS networks in connection with any of the foregoing products.

⁹ *NTP Inc. v. Research In Motion Ltd.*, 418 F.3d 1282, 2005 U.S. App. LEXIS 15920 at 11 [RIM2].

On August 14, 2002, the American District Court issued a Claim Construction Order in which the American District Court construed the disputed claim terms. The American District Court "construed the disputed terms according to their plain and ordinary meaning, as supported by the specification and prosecution history".¹⁰ The terms construed by the American District Court were as follows:

A. Terms in Contention, As Presented During Oral Argument¹¹

1. *Additional Processor Outside Any E-Mail System*: A processor or information source which originates electronic information without executing electronic mail programming.
2. *Information Source*: A place or thing which originates electronic information concerning particular subjects without executing electronic mail programming.
3. *Electronic Mail System*: A type of communication system which includes a plurality of processors running electronic mail programming wherein the processors and the electronic mail programming are configured to permit communication by way of electronic mail messages among recognized users of the electronic mail system. The various constituent processors in the electronic mail system typically function as both "originating processors" and "destination processors."
4. *Electronic Mail Message*: A formatted text message that is transmitted over a communication system. As originally inputted to an electronic mail system by the sender, the electronic mail message includes the following characteristics: (a) a destination address identifying the person(s), place(s) or object(s) to which the message is directed; (b) an indication of the sender (which may be added automatically by the electronic mail programming); (c) a subject field (which maybe blank); and (d) the inputted message text. The term "electronic mail message" encompasses all forms of the message as it moves through the communication system (information may be added or deleted to facilitate further transmission as it proceeds through the system).
5. *Electronic Mail Programming*: An application program specially designed to create, send, access and manage electronic mail messages. Electronic mail programming may operate on a variety of different types of processors (e.g., desktop computer, email server, handheld device, mainframe computer).

¹⁰ *NTP Inc. v. Research In Motion Ltd.*, 392 F.3d 1336 at 3 (U.S. Dist. LEXIS 27942 2002) [*RIM1*].

¹¹ *RIM1*, *supra* note 10.

6. *Originating Processor*: Any one of the constituent processors in an electronic mail system that prepares data for transmission through the system.

7. *Destination Processor*: Any one of the constituent processors in an electronic mail system to which information is transmitted by the system. Said processor is identified by an address, in order to initiate the transmission of the originated information from the originating processor.

8. *RF Information Transmission Network/RF Information Network/RF Information Transmission System/RF Transmission System*: A combination of circuits and devices for transmitting data, which combination includes a plurality of RF transmitters for transmitting RF signals carrying data and one or more RF receivers for receiving data. Each RF transmitter has a substantial geographic RF coverage area and is interconnected with other RF transmitters. [The combination may include pluralities of local, lata and hub switches].

9. *Interface/Interface Switch*: A device or system, which includes a processor, that transmits electronic mail messages to a wireless system for delivery to a mobile processor.

10. *RF Receiver*: A device for receiving radio frequency electromagnetic signals, for demodulating the radio frequency electromagnetic signals, and for recovering data that is carried by the radio frequency electromagnetic signals. The RF receiver can be carried by a person outside a home or office and can receive data while being carried.

11. a. *Program*: A sequence of coded instructions that can be loaded into a mechanism such as a computer.

b. *Application Program*: A software program that performs substantial useful functions for a user (e.g., electronic mail programming, word processors, spreadsheets, personal calendar programs, games) as opposed to software that primarily controls the allocation and use of computer resources (e.g., memory, display, storage devices, modem).

11. *Originated Information*: The message text of an electronic mail message. [Exception: certain claims of the '611 Patent refer to originating "other originated information" at "an additional processor from outside any electronic mail system." As the claim language makes clear, such "other originated information" in the '611 Patent is non-email data].

12. *Gateway Switch*: A processor in an electronic mail system which connects other processors in that system and has additional functions for supporting other conventional aspects of the electronic mail system such as receiving, storing, routing and/or forwarding electronic mail messages.

13. *Mobile Processor*: A processor which can be carried by a person outside of a home or office and which executes electronic mail programming to function' as a destination and/or source of electronic mail.

14. *Wireless Device*: A device that receives and/or transmits electromagnetic signals and can be carried by a person outside of a home or office.

B. Terms Originally in Contention, But Not Presented During Oral Argument¹²

1. *Address*: A series of digits or alphanumeric characters identifying the intended recipient or creator of the transmitted data.

2. *Broadcast*: The act of transmitting data by electromagnetic signals.

3. *Broadcast Location*: A location of an RF transmitter in an RF information transmission network.

4. *Communication System*: A group of devices that work together for transmitting and/or receiving information.

5. *Destination*: A person, place, or object to which something is sent.

6. *Destination Processor* ['592 Patent]: A processor which receives the electronic mail from the originating device, and transmits information contained in the electronic mail and an identification of a wireless device from said destination processor.

7. *Distributed System*: A group of devices or objects that work together to serve a common purpose wherein individual functions and operations are divided among several different constituent parts.

8. *Header*: Information within an electronic mail message other than the message text.

9. *Identification*: A designation or description that uniquely names a specific item or thing.

10. *Identification Number*: A series of digits or alphanumeric characters that uniquely names a specific item or thing.

11. *Inputted Information*: Information that is entered into a communication system.

12. *Inputted Message*: The text of an electronic mail message as introduced into an electronic mail system by the sender.

13. *Match*: A thing that corresponds to another.

14. *Memory*: An electronic component that stores information.

¹² *RIM1*, *supra* note 10 at 4.

15. *Originated Electronic Mail*: An electronic mail message generated by any one of the constituent processors in an electronic mail system.
16. *Originating Device*: A device that executes electronic mail programming to originate electronic mail.
17. *Output*: (1) A location, terminal or station from or at which information exits a device such as a processor; (2) The information that is produced by a processor.
18. *Packets*: A bundle of data, usually in binary form, organized in a specific way for transmission. A packet consists of the data to be transmitted and certain control information.
19. *Processed Output*: Information that is produced by a processor after performing execution of operations upon data.
20. *Processor*: A device that performs execution of operations upon data and is capable of running an application program.
21. *RF (Radio Frequency)*: Pertaining to the electromagnetic signals that propagate through space, which signals have a frequency usually between 500 KHz and 300 GHz.
22. *RF Device*: A device that requires and/or transmits RF signals and can be carried by a person outside of a home or office.
23. *RF Memory*: Memory in which information received by an RF receiver is stored.
24. *RF Network Information*: Information used to direct data transmissions to a particular RF information transmission network or the particular destinations within an RF information transmission network.
25. *Security Check/Check*: A determination as to whether certain information should be transmitted further by a communication system.
26. *System*: A group of devices or objects that work together to serve a common purpose.
27. *Transfer*: The conveyance of something (e.g., information) from one place to another.
28. *Transmission*: The sending of signals carrying information from one point to another.
29. *Wireless Receiver*: A device, which can be carried by a person outside a home or office, for receiving electromagnetic signals, for demodulating the electromagnetic signals, and for recovering information from the electromagnetic signals while being carried.
30. *Wireless System*: A combination of circuits and devices for transmitting data, which combination includes at least one wireless receiver and a plurality of transmitters for transmitting electromagnetic signals carrying data.

31. *Wireline*: Pertaining to the transmission of signals between processors via a physical cable connection.

There was no additional analysis by the American District Court in relation to the claim construction reproduced above. Figure 1 illustrates a block diagram of the electronic mail system described in the claims of patents '960, '670, '946, '172, '451, and '592.

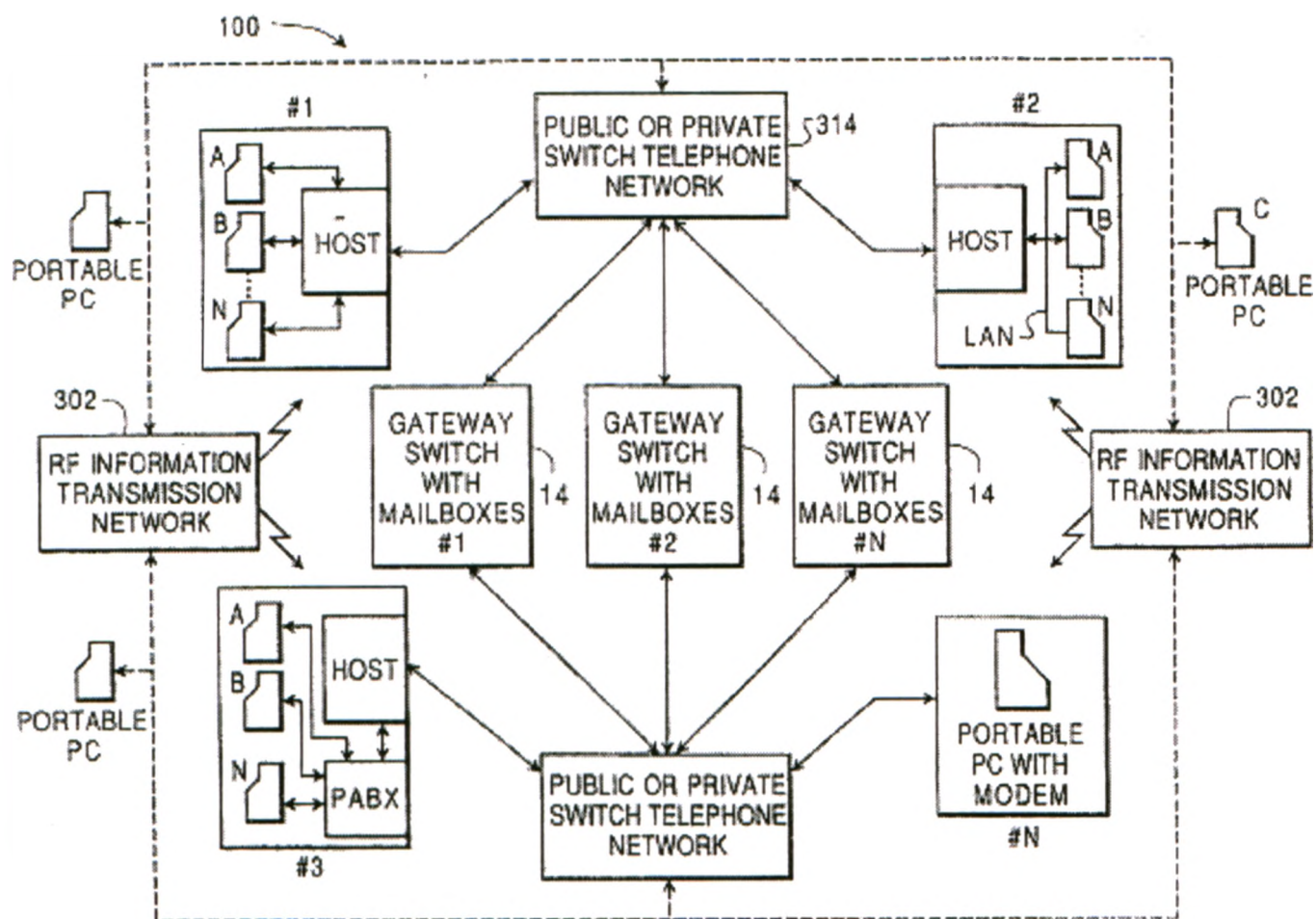


Figure 1: Block diagram of the electronic mail system common to patents '960, '670, '172, '451 & '592

RIM requested a summary judgment of both invalidity and non-infringement in a series of summary judgment motions following the Claim Construction Order. All of RIM's summary judgment motions were denied by the American District Court. Two of the issues raised by RIM in its summary judgments were later considered on appeal. In the

first issue, RIM argued that proper construction of the asserted claims failed to encroach on NTP's patents.¹³ In the second issue, RIM relied on the argument that physical location of the "Relay" system was outside of the United States thereby escaping the application of the 35 U.S.C. § 271.¹⁴

For the purposes of this thesis, the first issue remains relevant as it deals with claim construction. The second issue will not be considered as it deals with statutory construction of the 35 U.S.C. § 271.

In its motion, NTP requested that the American District Court grant partial summary judgment of infringement based on the following:¹⁵

- a. That claim 150 of the '592 patent and claim 248 of the '451 patent were infringed by RIM's Blackberry handhelds;¹⁶
- b. That claim 653 of the '592 patent was infringed by the BES software;
- c. That claim 15 of the '960 patent was infringed by RIM's system, software and mobile handhelds.

The following fourteen claims were submitted to the jury at trial:

- d. Patent '172: claim 199;
- e. Patent '451: claims 28, 248, 309, 313 and 317;
- f. Patent '592: claims 40, 278, 287 and 654;
- g. Patent '670: claim 8;
- h. Patent '960: claims 15, 32 and 34.

¹³ RIM2, *supra* note 9 at 11.

¹⁴ RIM2, *supra* note 9 at 11.

¹⁵ RIM2, *supra* note 9 at 11.

¹⁶ Of the 800 and 900 models.

On November 21, 2002, a jury verdict was rendered finding direct, contributory, or induced infringement by RIM of all the claims asserted by NTP. Damages of approximately \$23 million were awarded against RIM based on a reasonable royalty rate of 5.7%. Following the jury's verdict, RIM filed a motion for judgment as a matter of law ("JMOL") or a new trial, both of which were denied by the American District Court.¹⁷

On August 5, 2003, final judgment was rendered by the American District Court awarding damages of around \$53 million against RIM.¹⁸ Pursuant to the judgment and a subsequent injunction, RIM was enjoined from importation, manufacture, use and sale of all the infringing components namely, the various Blackberry models, and the associated software and systems.

On August 5, 2003, RIM appealed the American District Court's judgment to the United States Court of Appeals for the Federal Circuit ("American Appeals Court").

On December 14, 2004, the American Appeals Court affirmed in part, reversed in part, vacated in part, and remanded the American District Court's judgment. The analysis of the American Appeals Court with respect to claim construction is the focus of chapter 1.

¹⁷ RIM2, *supra* note 9 at 12.

¹⁸ RIM2, *supra* note 9 at 12.

2. Claim construction in RIM by the American Appeals Court

The American Appeals Court noted that the American District Court found RIM to have infringed sixteen system claims and method claims in five of NTP's patents. The infringed claims in question were:¹⁹

- '172 Patent: claim 199;
- '451 Patent: claims 28, 248, 309, 313, and 317;
- '592 Patent: claims 40, 150, 278, 287, 653, and 654;
- '670 Patent: claim 8; and
- '960 Patent: claims 15, 32, and 34.

With the exception of claim 150 of the '592, patent, all other claims were dependent with the parental lineage as indicated below:

Patent Number	Disputed claim	Parental Lineage
'960	15	-->11 --> 1
	32	-->28 --> 18
	34	--> 18
'670	8	--> 4 --> 1
'172	199	-> 194
'451	28	-->26 --> 1
	248	--> 247 --> 246
	309	--> 308 --> 250
	313	--> 311
	317	--> 313 --> 311
'592	40	--> 25 --> 10
	40	--> 4 --> 1
	150	
	278	--> 232
	186	--> 171
	156	--> 150
	653	--> 652
	654	--> 653 --> 652

Table 1: NTP's disputed patent claims and their parental lineage

¹⁹ RIM2, *supra* note 9 at 12.

Before the American Appeals Court,²⁰ RIM challenged the American District Court's finding of infringement and argued that the American District Court misconstrued the following claims terms:²¹

- (a) "electronic mail system";²²
- (b) "gateway switch";²³ and
- (c) "originating processor" and "originated information".²⁴

RIM's second argument was that the American District Court erred "in failing to impose general restrictions on certain asserted claims and in failing to construe certain terms relating to the asserted claims". Namely:

- (d) the "dual pathways" limitation, requiring at least one destination processor to be accessible via both a wireline and a wireless pathway;²⁵
- (e) the "separate and distinct" limitation, requiring a destination processor and an RF receiver to be separate and distinct components;²⁶ and
- (f) the construction of the term "additional processor outside any electronic mail system".²⁷

The American Appeals Court proceeded with its analysis noting that claim construction is a question of law to be considered by it *de novo*. The American Appeals Court found that since all NTP patents in question originated from the same application, the claim

²⁰ RIM2, *supra* note 9.

²¹ RIM2, *supra* note 9 at 13.

²² Patents: '172, '670 and '960.

²³ Patent: '960.

²⁴ Patents: '592, '670, '960.

²⁵ Relating to the asserted claims of the '670 and '960 patents.

²⁶ Patents: '592, '670, '960, '670 and some asserted claims of patent '451.

²⁷ In relation to the '960 patent.

construction had to be consistent with all the patents in question and thus limited making of distinctions to exceptional circumstances only.²⁸

Before embarking on claim construction analysis, the American Appeals Court commented on the general principles involved with such a task, which required analysis of the words of the claim in their ordinary and customary meaning from the perspective of a person skilled in the art. The American Appeals Court noted that the ordinary and customary meaning of a claim term could be determined using dictionaries, treatises, written description, drawings, and the prosecution history. Due to multiple possible meanings, depending on the context in which the words were being used, the American Appeals Court noted that the meaning of words in the claims should not be limited to dictionary meaning but also be considered in the context of the written description and viewed through the eyes of a person skilled in the art. Once the American Appeals Court construed the claims, the next step involved comparing the construed claims to the infringing device.²⁹

After the general background on claim construction, the American Appeals Court then proceeded with claim construction analysis. The American Appeals Court started with the disputed terms.

²⁸ *RIM2, supra* note 9 at 13.

²⁹ *RIM2, supra* note 9 at 14.

(i) “Electronic Mail System”

The first term under the American Appeals Court’s consideration was the term “electronic mail system”. This term was present in all of the claims in question of the ‘172, ‘670 and ‘960 Patents respectively. Claim 1 of the ‘960 Patent reads as follows:³⁰

1. A system for transmitting originated information from one of a plurality of originating processors in an electronic mail system to at least one of a plurality of destination processors in the electronic mail system comprising:

at least one gateway switch in the electronic mail system, one of the at least one gateway switch receiving the originated information and storing the originated information prior to transmission of the originated information to the at least one of the plurality of destination processors;

a RF information transmission network for transmitting the originated information to at least one RF receiver which transfers the originated information to the at least one of the plurality of destination processors;

at least one interface switch, one of the at least one interface switch connecting at least one of the at least one gateway switch to the RF information transmission network and transmitting the originated information received from the gateway switch to the RF information transmission network; and wherein

the originated information is transmitted to the one interface switch by the one gateway switch in response to an address of the one interface switch added to the originated information at the one of the plurality of originating processors or by the electronic mail system and the originated information is transmitted from the one interface switch to the RF information transmission network with an address of the at least one of the plurality of destination processors to receive the originated information added at the originating processor, or by either the electronic mail system or the one interface switch; and

the electronic mail system transmits other originated information from one of the plurality of originating processors in the electronic mail system to at least one of the plurality of destination processors in the electronic mail system through a wireline without transmission using the RF information transmission network.

³⁰ ‘960 patent, col. 49, ll. 2-45. See *RIM2*, *supra* note 9 at 14.

The American District Court construed “electronic mail system” as:³¹

A type of communication system which includes a plurality of processors running electronic mail programming wherein the processors and the electronic mail programming are configured to permit communication by way of electronic mail messages among recognized users of the electronic mail system. The various constituent processors in the electronic mail system typically function as both “originating processors” and “destination processors.”]

RIM argued in favor of two ordinary meanings for the term “electronic mail system”, one broader, and the other narrower. The broader definition, according to RIM, encompassed “communicating word processors, PCs, telex, facsimile, videotext, voicemail, and radio paging systems (beepers)”. The narrow definition defined “electronic mail system” in the context of “pull” technology.³² RIM’s argument was because the inventor of NTP patents, Campana, advocated for the “pull” technology definition during the prosecution stage of the patent application.

RIM also argued that during the prosecution, Campana referred to an “electronic mail system” as a wireline system in order to overcome the prior art reference in the Zabarsky patent. According to RIM, “electronic mail system” thus comprised of multiple processors interconnected to provide electronic mail through a wireline and utilizing the “pull” technology.³³

³¹ RIM2, *supra* note 9 at 15.

³² RIM2, *supra* note 9 at 15. “Incoming message is sorted by the recipient’s Internet Service Provider (“ISP”) mail server into the recipient’s particular “mailbox,” where it is stored until the recipient initiates a connection with the server and downloads the message off the server onto his or her personal machine. This configuration is commonly referred to as a “pull” system because emails cannot be distributed to the user’s machine without a connection being initiated by the user to “pull” the messages from the mail server”.

³³ RIM2, *supra* note 9 at 15.

NTP's position supported claim construction of the term "electronic mail system" as undertaken by the American District Court. In NTP's view, this construction was consistent with the written description and the requirement of the "pull" technology advanced by RIM was inconsistent with the plain language of the claim and the patent disclosure made by Campana. NTP further argued that RIM failed to argue its "pull" technology before the American District Court and was in fact arguing the opposite view. Lastly, with respect to RIM's argument that the "electronic mail system" be limited to wireline systems, NTP was of the view that this simply ignored Campana's use of the term as including wireless connections and instead cited prior art only.³⁴

The American Appeals Court agreed with NTP that RIM failed to argue its "pull" technology construction before the American District Court and relied mainly on the argument that the "electronic mail system" is limited to wireline systems. Because RIM, for the first time on appeal, attempted to argue the "pull" technology, the American Appeals Court declined to address it on its merits citing the waiver doctrine.³⁵

The American Appeals Court confirmed that the American District Court's claim construction of the term "electronic mail system", which included various combinations and numbers of processors, was correct. The American Appeals Court noted that the claim itself stated that an "electronic mail system" comprised of various configurations of originating processors and destination processors that communicate via wireline

³⁴ RIM2, *supra* note 9 at 15.

³⁵ RIM2, *supra* note 9 at 16.

connections or over a wireless network.³⁶ The American Appeals Court noted in addition, that the written description contemplated various processor configurations as part of the “electronic mail system”.³⁷

The American Appeals Court rejected RIM’s argument that “electronic mail system” was limited to only wireline systems. The American Appeals Court considered Claim 1 of the preamble noting that the system claimed therein transmitted “originated information” “from one of a plurality of originating processors in an electronic mail system to at least one of a plurality of destination processors in the electronic mail system”.³⁸ The American Appeals Court observed that all of the originating and destination processors were described in the claims as being part of the “electronic mail system” but found this language of limited assistance to determine whether the “electronic mail system” also included wireless connections.

In order to overcome this obstacle, the American Appeals Court analyzed the written description. Analyzing the written description, the American Appeals Court noted that the written description stated specifically that the “electronic mail system” in the patent claims could be comprised of wireless connections. Prior art relating to “electronic mail services” was described by Campana as “basically a wire line-to-wire line, point-to-point type of communications” system.³⁹ The American Appeals Court noted that using the

³⁶ Claim 1, '960 patent.

³⁷ RIM2, *supra* note 9 at 16. Claim 1, '960 patent. at col. 1, l. 60 - col. 2, l. 22; id. at col. 2, ll. 13-17 ("It should be understood that the illustrated architecture of the single and associated groups of processors is only representative of the state of the art with numerous variations being utilized."); see also '670 patent, col. 1, l. 64 - col. 2, l. 25; '172 patent, col. 1, l. 65 - col. 2, l. 25.

³⁸ RIM2, *supra* note 9 at 16, '960 patent, claim 1.

³⁹ RIM2, *supra* note 9 at 16, '960 patent, claim 1 at col. 1, ll. 52-54.

term “basically” contemplated that other types of connections, including wireless, could be part of the “electronic mail system”. In addition, Campana’s example of prior art in Figure 1 of the ‘960 Patent illustrated a block diagram of a typical commercial application “electronic mail system” used by AT&T Corp., and showed processors being linked by wireline or wireless links. Figure 1 of the ‘960 patent is shown below in Figure 2.

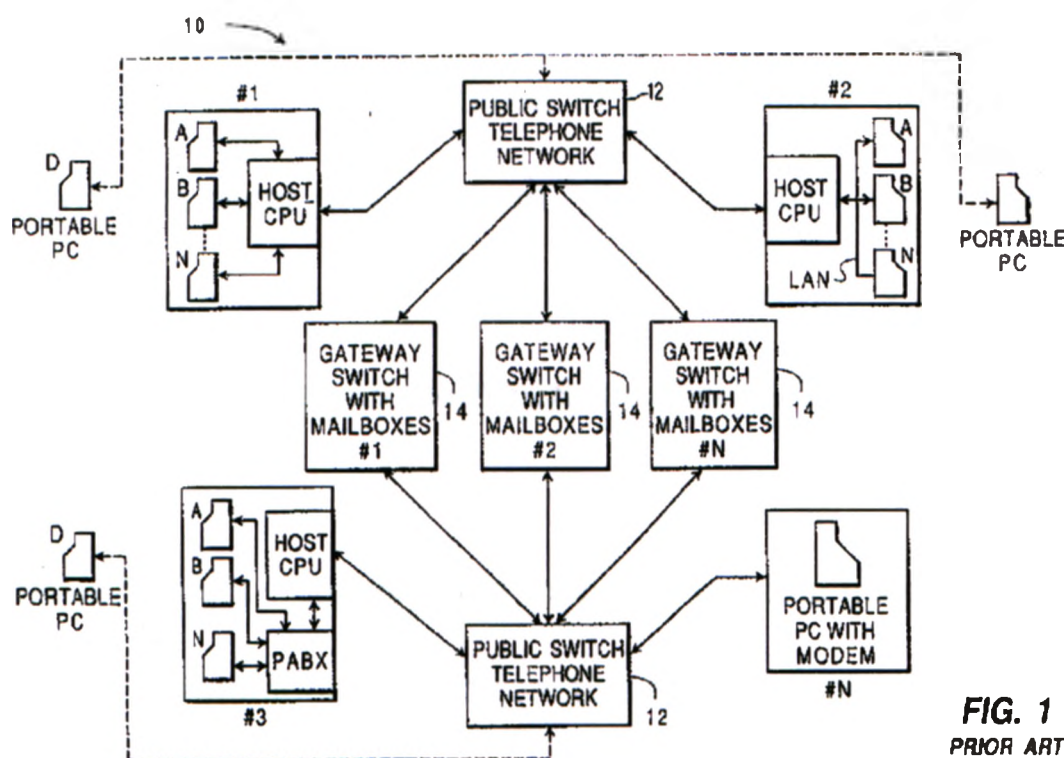


Figure 2: Figure 1 of the ‘960 Patent reproduced

The system in Figure 1 of the ‘960 Patent was incorporated into Figure 8 of that patent which was described by Campana as a “block diagram of an electronic mail system in

accordance with the present invention.”⁴⁰ Consequently, the American Appeals Court rejected RIM’s argument that the term “electronic mail system” could not comprise wireless connections as it contradicted the drawings, the text, and the written description.⁴¹

The American Appeals Court acknowledged that although the written description disclosed wireless connections with potential “pull” technology, this had no impact on the American Appeals Court’s analysis for two reasons. In the first place, the waiver doctrine precluded RIM from arguing the “pull” technology for the first time before the American Appeals Court having failed to do so before the American District Court. Second, RIM’s argument that the term “electronic mail system” used in the infringed patents was limited to “wireline” systems only, was contrary to the drawings and written description, and was refused by the American Appeals Court.⁴²

The American Appeals Court referred to the prosecution history, which failed to identify any disclaimers or limitations to indicate that the “electronic mail system” was restricted to a “wireline” system only. The American Appeals Court found it understandable for Campana to have focused on wireline connections while describing “electronic mail systems” given his acknowledgement that “electronic mail systems” were “basically a wire line-to-wire line, point-to-point type communication” systems.⁴³ The American Appeals Court found that it was not Campana’s intention to construe the term “electronic

⁴⁰ RIM2, *supra* note 9 at 16, ‘960 patent claim 1 at col. 22, ll. 60-61. Figure 8 of the ‘960 patent is reproduced in Figure 1 on page 9.

⁴¹ RIM2, *supra* note 9 at 16.

⁴² RIM2, *supra* note 9 at 17.

⁴³ RIM2, *supra* note 9 at 17, ‘960 patent claim 1 col. 1, ll. 52-54.

mail system” narrowly or to disclose the subject matter as to limit its meaning to wireline systems only. To the contrary, the American Appeals Court found that Campana disclosed that the transmission of information between the originating and destination processors formed part of his “electronic mail system” and could have been accomplished via either a wireline or a wireless radio frequency network.

In the end, the American Appeals Court affirmed American District Court’s claim interpretation of the term “electronic mail system”.

(ii) “Gateway Switch”

The second term under the claim construction analysis of the American Appeals Court was the term “gateway switch”. This term formed part of the claims 15, 32 and 34 of the ‘960 patent. RIM’s construction of the term before the American Appeals Court was based on the argument that Campana’s “electronic mail system” utilized the “pull” technology. RIM’s position was that the “gateway switch was the mechanism for maintaining the mailboxes needed to implement the pull technology”. The American District Court construed the term differently as:⁴⁴

“[a] processor in an electronic mail system which connects other processors in that system and has additional functions for supporting other conventional aspects of the electronic mail system such as receiving, storing, routing, and/or forwarding electronic mail messages.”⁴⁵

⁴⁴ RIM2, *supra* note 9 at 17.

⁴⁵ RIM2, *supra* note 9 at 17.

The American Appeals Court rejected RIM's argument that "gateway switches" were required to enable the "pull" technology on the same grounds used to reject the "pull" technology argument under the claim construction analysis of the term "electronic mail system" above.⁴⁶

(iii) "Originating Processor"

The next term construed by the American Appeals Court was the "originating processor". The term "originating processor" formed part of the claims of the '960, '670, and '592 patents.⁴⁷ The American Appeals Court reproduced claim 1 of the '960 patent on which dependent claim 15 was based on. Claim 1 is reproduced below:⁴⁸

1. A system for transmitting originated information from one of a plurality of originating processors in an electronic mail system to at least one of a plurality of destination processors in the electronic mail system comprising:

at least one gateway switch in the electronic mail system, one of the at least one gateway switch receiving the originated information and storing the originated information prior to transmission of the originated information to the at least one of the plurality of destination processors;

a RF information transmission network for transmitting the originated information to at least one RF receiver which transfers the originated information to the at least one of the plurality of destination processors;

at least one interface switch, one of the at least one interface switch connecting at least one of the at least one gateway switch to the RF information transmission network and transmitting the originated

⁴⁶ *RIM2*, *supra* note 9 at 17.

⁴⁷ The Appeals Court found that this term formed part of the reviewed claims of the '960 and '670 patents and in the parent claim 25 of the reviewed claim 40 of the '592 patent. The term "originating device", being a variation, formed part of claims 40, 150, 278, 287, 653, and 654 of the '592 patent. The term "originating device" was separately construed by the District Court was not under appeal. See *RIM2*, *supra* note 9 at 18.

⁴⁸ *RIM2*, *supra* note 9 at 18, '960 patent, col. 49, ll. 2-38.

information received from the gateway switch to the RF information transmission network; and wherein

the originated information is transmitted to the one interface switch by the one gateway switch in response to an address of the one interface switch added to the originated information at the one of the plurality of originating processors or by the electronic mail system and the originated information is transmitted from the one interface switch to the RF information transmission network with an address of the at least one of the plurality of destination processors to receive the originated information added at the originating processor, or by either the electronic mail system or the one interface switch

The American Appeals Court found that a claim construction error was made by the American District Court in relation to construing the term “originating processor”. The American Appeals Court found that, properly construed, “originating processor” is “a processor in an electronic mail system that initiates the transmission of a message into the system”. The American Appeals Court found that the “originating processor” did not always refer to the processor from which text of an email message originated, finding that on occasions, the text could have been prepared on a different processor then transferred to the “originating processor”.⁴⁹

The American Appeals Court noted that the term “originating processor” was construed by the American District Court as “any one of the constituent processors in an electronic mail system that prepares data for transmission through the system”⁵⁰ and the “originated information” was construed as “the message text of an electronic mail message”.⁵¹

⁴⁹ *RIM2, supra* note 9 at 19.

⁵⁰ *RIM2, supra* note 9 at 19.

⁵¹ *RIM2, supra* note 9 at 19. The Appeals Court noted an exception for the term as used in a patent which is not disputed on appeal.

RIM argued that the term “originating processor” was construed properly to mean “a processor that initiates or starts the transmission of data through the system, thereby excluding any of the “constituent processors” in the system which subsequently handled the data”. RIM argued that the term “originated information” signified an electronic mail message created by the “originating processor”. To support its argument, RIM relied on the dictionary definitions of the terms “originating” and “originate” which, in RIM’s view, imposed an “initiating” condition on the claims. Furthermore, RIM relied on the ‘960 patent specification which described an “originating processor” to mean a processor accepting a composed electronic mail message from a person or a machine.⁵²

NTP took the position that the question to be answered by the American Appeals Court was whether the term “originating processor” was comprised of gateway switches. At the American District Court, NTP argued in favor of construing “originating processor” to include not only “that processor upon which the sender types the message,” but also “all of the constituent processors in an electronic mail system that ran electronic mail programming to format and initiate transmission of electronic mail messages.”⁵³

NTP disagreed with RIM’s claim construction approach arguing that RIM’s approach ignored the language in the written description relating to the information that a gateway switch could originate information. NTP argued further that RIM’s dictionary definitions did not limit construing of the “originating processor” to only processors requiring input of the electronic mail message from senders.

⁵² RIM2, *supra* note 9 at 18.

⁵³ RIM2, *supra* note 9 at 19. NTP’s Claim Construction Memorandum at page 37.

The American Appeals Court started its construction of the term “originating processor” with the language of the claims and focused on claim 1 of the ‘960 patent reproduced below:⁵⁴

1. A system for transmitting originated information from one of a plurality of originating processors in an electronic mail system to at least one of a plurality of destination processors in the electronic mail system comprising: . . .

at least one gateway switch in the electronic mail system . . .

at least one interface switch

The American Appeals Court construed “originating processor” as “the processor that is the origin of the email message text”. This construction, in the American Appeals Court’s view, was consistent with the overall claim language and was within the spirit of the invention, which was to transmit text email message originating at one processor to the destination processor.⁵⁵

The American Appeals Court analyzed claim 1 of the ‘960 patent and noted that it contained several limitations relating to devices processing data such as “at least one gateway switch”, “a plurality of originating processors” and “at least one interface switch”.⁵⁶ The American Appeals Court found that nothing in the claim implied that “a plurality of originating processors” referred to a group comprising the claimed “gateway switch” or “interface switch”. In the American Appeals Court’s view, the three limitations were separate and described components in an electronic mail system

⁵⁴ RIM2, *supra* note 9 at 19, ‘960 patent, col. 49, ll. 2-19.

⁵⁵ RIM2, *supra* note 9 at 19.

⁵⁶ RIM2, *supra* note 9 at 19, ‘960 patent, col. 49, ll. 2-25.

designed to prepare and transmit electronic mail messages. The American Appeals Court relied on a convention that all claim terms have a meaning to conclude that nothing in the claim language signified that “at least one gateway switch” was comprised within “a plurality of originating processors”.

The American Appeals Court noted that claim 1 specified that the “originated information” originated from the “original processor”,⁵⁷ and concluded that the plain language pointed to concluding that “originating processor” failed to refer to every data-initiating component. In the American Appeals Court’s view, this indicated that the “originating processor” gave rise to the electronic mail message (“originated information”).

With respect to the “gateway switch”, the American Appeals Court noted that claim language supported a conclusion that a “gateway switch” formed a separate component from the “originating processor” and was not part of it.

The American Appeals Court found this to be the case because transmission of the “originated information” took place from an “originating processor” to the “gateway switch”, each component initiating different types of data. “Original processor” initiated the “originated information”, whereas the “gateway switch” was never claimed as the origin of the “originated information” only receiving the “originated information” from the “originating processor”.⁵⁸ A “gateway switch” could initiate address information to

⁵⁷ *RIM2*, *supra* note 9 at 20, '960 patent, col. 49, ll. 2-3.

⁵⁸ *RIM2*, *supra* note 9 at 20, '960 patent, col. 49, ll. 8-9; '611 Patent, col. 19, ll. 60-63, col. 47, ll. 52-54.

the "originated information" received from the "originating processor".⁵⁹ The American Appeals Court concluded from the language of the claims that "gateway switches" were components that received "originated information" from an "originating processor" and, on occasion, affixed supplemental data to it.

The American Appeals Court found that two different types of information "originated" and were transmitted as stated in the claims language. First, the American Appeals Court found existence of "originated information" and agreed with the American District Court's construction that this term referred to the text of the electronic mail message being transmitted. Second, the American Appeals Court found existence of address information or destination information, which referred to "an identifier of the intermediate components and/or the destination processors to which the electronic message text should be delivered".⁶⁰

The American Appeals Court found that the address information originating from a gateway switch or an interface switch was never referred to as "originated information", but was referred to as separate information affixed to the "originated information" received from the originating processor.⁶¹

⁵⁹ *RIM2, supra* note 9 at 20, '960 patent, col. 49, ll. 26-37.

⁶⁰ *RIM2, supra* note 9 at 20, '960 patent, col. 24, ll. 31-46 (discussing "address of the interface switch" and "identification number of the RF receiver").

⁶¹ *RIM2, supra* note 9 at 20, '960 patent, col. 21, ll. 54-56 (text notes that the address of the interface switch can be added "to the information originating from the originating processor"); '960 patent, col. 22, ll. 24-26 (text notes that the destination address can be "added to the information from the originating processor"); '960 patent, col. 26, ll. 39-41 (text notes adding information to the "information from the originating processor"); '960 patent, col. 49, ll. 27-29 (claims describe "adding" address information to "originated information"); '960 patent, col. 50, ll. 7-10 (text describes movement of both "originated information" and identification number in the RF transmission network); '960 patent, col. 54, ll. 49-51 (text notes identification number "added to the originated information").

In finding that the claimed invention gave rise to two types of information, the American Appeals Court made an analogy to an envelope mailed by regular mail, which contained text message (information) inside an envelope and address information on the exterior of the envelope.

The American Appeals Court stated that, with regard to the written description, a person skilled in the art would have found "originating processor" to signify a processor where electronic mail system received "originated information". On occasions, address information was affixed to the "originating processor", and on others, additional address information was appended to the original address information by the gateway switch after being received from the "originating processor".⁶²

In its simplest form, the American Appeals Court found that sending of information required only knowledge of the intended recipient on the user's part. The proper addressing could have been added to the electronic message by the "originating processor" or "gateway switches" or "electronic switches".⁶³ The American Appeals Court compared this with regular mail where the post office affixed bar codes to envelopes to facilitate routing.

In the American Appeals Court's view, the term "originating processor" did not refer to every data initiating processor. Rather, it referred to the processor inputting the

⁶² *RIM2, supra* note 9 at 21.

⁶³ *RIM2, supra* note 9 at 21, '960 patent, col. 24, ll. 25-30.

“originated message”⁶⁴ into the system. The American Appeals Court found that other components besides an “originating processor” also originated information. Gateway switches contributed parts of the address information to facilitate routing of electronic messages between the “original processor” and destination processors. In the American Appeals Court’s view, a person skilled in the art would have easily distinguished between a “gateway switch” which on occasion “originated” address information and an “originating processor” which was a separately claimed component from the “gateway switch” or the interface switch.

The American Appeals Court referred to the written description in Figure 1 of the ‘960 patent where “originating processor” in the prior art was shown as being separate from other components such as “gateway switches”.

The American Appeals Court noted that the specification made reference to Figure 1 which showed that “communications between an originating processor A-N, which may be any of the processors within the groups of associated processors # 1 - # 3 or processor # N and a destination processor A-N are completed through the public switch telephone network 12 to one or more gateway switches . . . 14.”⁶⁵ In the American Appeals Court’s view, the above quote explained the routing of the electronic mail message from the “original processor” to a subsequent gateway switch indicating that “originating

⁶⁴ Electronic message text.

⁶⁵ *RIM2*, *supra* note 9 at 21, ‘960 patent, col. 2, ll. 23-28 (emphasis added).

processor" was not a generic term used for all data producing processors in a system and being separate from gateway switches.⁶⁶

The American Appeals Court noted that the written description made several references to the "originating processor" in relation to generation of the electronic mail message.⁶⁷

The American Appeals Court could not find similar reference to "gateway switches" being used for generating email messages.

The American Appeals Court noted that the "originating processor" was not the only component that could initiate data. The American Appeals Court found for example that "the identification of the RF receiver 119 and the address of the interface switch may be implemented by the originating processor A-N of one of the computing systems # 1 - # N, a gateway switch 14 or an interface switch 304"⁶⁸ Based on this, the American Appeals Court concluded that initiation of the address information could have been done by three different components, namely: an "originating processor" A-N, the "gateway switch" 14 or the "interface switch" 304. The American Appeals Court found that although the "originating processor" was grouped with the other two components as being capable of initiating address information, this could not have referred to all of these components. Had the "originating processor" referred to all three components, the American Appeals Court was of the view that the wording of the specification would

⁶⁶ RIM2, *supra* note 9 at 21.

⁶⁷ RIM2, *supra* note 9 at 21, '960 patent, col. 3, ll. 12-21 ("Finally, the message or message text must be entered which is the information that is inputted by the person or machine which is originating the message at the originating processor A-N. Upon completion of the message text, the user . . . enters a series of commands or key-strokes on the originating processor to transmit the message to the gateway switch" (emphasis added)); '960 patent, col. 19, ll. 29-30 (explained how, in the claimed invention the "originating processor" might be associated with "an icon driven display" and a computer "mouse" for the user).

⁶⁸ RIM2, *supra* note 9 at 22, '960 patent, col. 24, ll. 42-46.

have specified "the identification of the RF receiver 119 may be implemented by an originating processor".

In American Appeals Court's view, the specification indicated that several processors were required for the electronic mail message to be initiated. The written description specified a sequence required to initiate an electronic message, namely: entering of the message text, entering and appending the addresses to the message of interface switches, and the receiving processor.⁶⁹ Entry of the addresses of the various interface switches, RF receivers, and destination processors could have been achieved by various components such as the gateway switch or the destination processors.⁷⁰

In the American Appeals Court's view, affixing of the address information by one of the components to the "originated information" arriving from the "originating processor" did not automatically transform that component into an "originating processor". Gateway switches were an example of components capable of affixing address information after message text was received from the "originating processor".

⁶⁹ *RIM2*, *supra* note 9 at 22, '960 patent, col. 19, ll. 26-39.

⁷⁰ *RIM2*, *supra* note 9 at 22, '960 patent, col. 21, ll. 54-56, 65-66 (noting that the address of the receiving interface switch may be added by the originating processor or a gateway switch); '960 patent, col. 22, ll. 10-15, 24-26 (noting that the address of the destination processor may be added by "the originating processor by an operator or a machine using the originating processor" or the gateway switch).

The written description also specified how information required for electronic mail transmission could have been affixed using the “originating processor”, the “interface switch” or the “gateway switch”.⁷¹

The American Appeals Court noted that Figure 11 of the ‘960 Patent showed how address information was affixed by the “originating processor”, the interface switch” and the “gateway switch”.⁷² The American Appeals Court found the invention to specify various ways in which data could flow. “Entry method 1” for instance, specified “originating processor” as adding destination address data.⁷³ Gateway switch 14 took no action when the “originated information” reached it, since the required address data was added by the “originating processor”.⁷⁴

In “Entry method 3” on the other hand, the gateway switch added wireless destination address after “originated information” was transmitted to it from the “originating processor”.⁷⁵

The American Appeals Court found that the gateway and the interface switches were not an “originating processor” and did not initiate the message text of an electronic mail message despite being described in Figure 11 of the ‘960 Patent as one of the components capable of affixing address information to the electronic mail message.

⁷¹ *RIM2, supra* note 9 at 22, ‘960 patent, col. 22, ll. 24-26 (“The address of the destination processor may also be added to the information originated by the originating processor by the gateway switch.”).

⁷² See ‘960 patent, col. 28, ll. 10-13 (“Figure 11 summarizes electronic mail message entry methods for messages (information) originating from originating processors within an electronic mail system.” (emphasis added)).

⁷³ *RIM2, supra* note 9 at 24, ‘960 patent, col. 28, ll. 13-17.

⁷⁴ *RIM2, supra* note 9 at 24.

⁷⁵ *RIM2, supra* note 9 at 24, ‘960 patent, col. 28, ll. 24-29.

In American Appeals Court's view, this was an illustration of how the "originating processor" referred to the processor that first initiated the "originated information" and concluded that "originating processor" was not meant to encompass a gateway switch. A person skilled in the art would have understood the term "originating processor" to signify the first processor as giving rise to the "originated information" and not as a generic term meaning all processors capable of affixing data into a system.

In its concluding remarks relating to the construction of the term "originating processor", the American Appeals Court found that it referred to the first processor that initiated address information. Gateway and interface switches were also capable of initiating address information but it was only the "originating processor" that initiated electronic mail message transmission to the electronic mail system.⁷⁶

(iv) "Originated Information"

The next term construed by the American Appeals Court was "originated information". The term "originated information" formed part of the '960, '670, '592, and '451 Patents.⁷⁷ The American Appeals Court found no error in the American District Court's claim construction of the term "originated information" as being "the message text of an electronic mail message". RIM did not submit any arguments to show that the term "originated information" meant something other than "the text of an electronic mail

⁷⁶ RIM2, *supra* note 9 at 24.

⁷⁷ The Appeals Court found that this term formed part in all of the reviewed claims of the '960 and '670 patents. A variation, "originating electronic mail," formed part of claims 313 and 317 (both dependent claims from independent claim 311) of the '451 patent. A slightly different variation, "originate the electronic mail," formed part of claims 40 (depending from independent claim 1), 150, 278, and 287 of the '592 patent. The Appeals Court treated these variations as being of identical scope and meaning to the term "originating information" as discussed the Court's decision.

message to be transmitted in the electronic mail system” and consequently the American Appeals Court found no reason to disturb the construction of the term “originated information” undertaken by the American District Court.⁷⁸

(v) “Dual Pathways” limitation

RIM argued that “‘dual pathways’ . . . whereby at least one of the destination processors in the system must be reachable through two independent pathways, one through the email system, and the other through the RF system” were required for the proper construction of claims 15, 32, 34 of the ‘960 patent and claim 8 of the ‘670 patent.⁷⁹

The American Appeals Court began its analysis looking at words of the claims starting with the claim 1 of the ‘960 patent which gave rise to dependent claim 15. Claim 1 is reproduced below:

1. A system for transmitting originated information from one of a plurality of originating processors in an electronic mail system to at least one of a plurality of destination processors in the electronic mail system comprising: . . .

a RF information transmission network for transmitting the originated information to at least one RF receiver which transfers the originated information to the at least one of the plurality of destination processors; . .

the electronic mail system transmits other originated information from one of the plurality of originating processors in the electronic mail system to at least one of the plurality of destination processors in the electronic mail system through a wireline without transmission using the RF information transmission network.

⁷⁸ RIM2, *supra* note 9 at 19.

⁷⁹ Appellant’s brief at page 20, see RIM2, *supra* note 9 at 24.

In its analysis of the “dual pathways” limitation argument, the American Appeals Court observed that there was a claim limitation in the preamble of claim 1 of the ‘960 patent. According to precedent, claimed invention was limited by the preamble if the preamble described essential steps or was necessary to give meaning to the claim.⁸⁰ It followed that a preamble was construed as part of the claims, if it helped to determine their meaning.⁸¹

The American Appeals Court noted that the preamble contained the two limitations of claim 1 namely the “at least one of a plurality of destination processors” and “electronic mail system” limitations.⁸² In the American Appeals Court’s view, RIM was correct to argue that claim 1 of the ‘960 patent required that “the same destination processor must therefore simultaneously be ‘in an electronic mail system’ and reachable through an ‘RF information transmission network’”.

The American Appeals Court further agreed with RIM’s argument that the phrase “a RF information transmission network for transmitting . . . originated information to the at least one of the plurality of destination processors,” in the claim 1 of the ‘960 patent employed the definite article “the” and referred to the antecedent “at least one of a plurality of destination processors in the electronic mail system.” Based on the general rule of law⁸³ that the definite article “the” particularizes the proceeded subject, the American Appeals Court agreed with RIM’s argument that the destination processor accessible by radio frequency transmission formed part of the electronic mail system.

⁸⁰ *Catalina Mktg. Int’l, Inc. v. Coolsav-ings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002).

⁸¹ *RIM2*, *supra* note 9 at 25.

⁸² *RIM2*, *supra* note 9 at 26, ‘960 patent, col. 49, ll. 2-45 (claim 1).

⁸³ *Warner-Lambert Co. v. Apotex Corp.*, 316 F.3d 1348, 1356 (Fed. Cir. 2003).

The American Appeals Court disagreed with RIM's conclusions of non-infringement, namely that "dual pathways" limitation was not found in RIM's Blackberries simply because a radio frequency pathway was the only method through which Blackberries received data. The American Appeals Court noted that this argument was based on a premise that Blackberries were not part of the electronic mail system. The American Appeals Court restated that an "electronic mail system" comprised "a plurality of processors running electronic mail programming wherein the processors and the electronic mail programming are configured to permit communication by way of electronic mail messages among recognized users of the electronic mail system". RIM failed to provide any support that Blackberries contained "processors running electronic mail programming" or were not "configured to permit communication by way of electronic mail messages among recognized users of the electronic mail system". Therefore, the American Appeals Court rejected RIM's argument of non-infringement requiring at least one destination processor in the electronic mail system and being accessible by radio frequency network.⁸⁴

RIM attempted to rely on the assertion requiring at least one destination processor in the electronic mail system and being accessible by radio frequency network to conclude that at least one of the destination processors was accessible via a "dual pathway". The American Appeals Court noted that "dual pathways" was a concept advanced by Campana during the prosecution of the '960 Patent and was not a claim term. To distinguish the Zabarsky patent from his invention, Campana stated that Zabarsky's patent "would not meet the claims because of the recited dual communication paths

⁸⁴ RIM2, *supra* note 9 at 26.

involving telephonic and wireless communications which use the claimed interface switch between the electronic mail system and the RF information transmission system.”

The distinction between dual pathways was made during the prosecution stage of the patent application and comprised part of the claims. The first pathway used a wireline and wireless pathways comprised of a wireline or wireless connection in the email system and wireless connections in the radio frequency network.⁸⁵

The second pathway found in the final paragraph of claim 1 was wireline only. This pathway was explicitly included in the claims to incorporate dual pathway limitation.⁸⁶

The American Appeals Court found that despite RIM’s correct assertion requiring at least one destination processor in the electronic mail system and being accessible by radio frequency network, this did not lead to the conclusion that at least one of the destination processors was accessible via a “dual pathway” comprising wireline and wireline/wireless pathways.

Despite agreeing that claim 1 in its final paragraph failed to specify the requirement of single destination processor being accessible by dual pathways, RIM argued that when the ‘960 patent was prosecuted, Campana emphasized a narrow description of the “electronic mail system” to distinguish his invention from the Zabarsky patent.

⁸⁵ See preamble in claim 1. *RIM2*, *supra* note 9 at 27, ‘960 patent, col. 49, ll. 13-17 (reciting transmission through an “RF information transmission network”).

⁸⁶ *RIM2*, *supra* note 9 at 27, ‘960 patent, col. 49, ll. 41-45 (reciting the transmission of information “to at least one of the plurality of destination processors in the electronic mail system through a wireline without transmission using the RF information transmission network”).

RIM's claim construction argument of the "dual pathways" was based on a narrow construction of the expression "electronic mail system". This argument was two fold requiring at least one destination processor to be accessible via dual pathways, namely:

- i. it required that the email system be comprised of at least one destination processor accessible via wireline/wireless pathway; and
- j. the destination processor was accessible via a wireline pathway only if it was present in the email system.

The American Appeals Court's rejection of RIM's argument was based on its earlier finding⁸⁷ that the term "electronic mail system" was not restricted to only wireline pathways.

RIM further relied on other examples used during the prosecution to distinguish NTP's patent from the Zabarsky patent namely: that Campana's emphasis on requiring dual pathways to distinguish Zabarsky's prior art disclaimed claim interpretations with the "dual pathway" component.

In response, NTP argued that no disclaimer existed to limit Campana's invention to dual pathways with the same destination processor. In NTP's view, Campana distinguished Zabarsky's patent as comprising a completely wireless system without a combination of wireless and electronic mail system. Lastly, the examiner's own understanding pointed to a lack of the "dual pathways" requirement according to NTP.

⁸⁷ RIM2, *supra* note 9 at 27, section II.A.2.a.

In response, RIM relied on an excerpt from the prosecution history as reproduced below:⁸⁸

The claims as described above . . . define the combination of an electronic mail system and an RF information transmission system which transmits originated information from an originating processor to at least one destination processor using both an electronic mail system including a telephone network and an RF information transmission network which transmits originated information to at least one receiver which transfers the information to at least one destination processor. Thus, it is seen that the Examiner has not provided a teaching in the prior art or reasoning justifying a conclusion of obviousness with regard to the claimed system and method of operation of the electronic mail system and the RF information transmission system which define dual transmission paths of originated information with one of the paths being in the electronic mail system using a telephone network and the other of the paths being from the electronic mail system through an interface switch and through the RF information transmission system to the at least one destination processor.

RIM argued that Campana's prosecution statement that the "claimed system defined dual transmission paths", rejected systems relying on both wireline and wireless transmission to reach the same destination processor. The American Appeals Court rejected this argument saying that Campana's prosecution statements illustrated how using a combination of a wireline and wireless systems distinguished Zabarsky's patent, which lacked the ability to transmit data via wireless transmission.⁸⁹

The American Appeals Court found that there was nothing in the prosecution history requiring wireless and wireline access of the same destination processor despite Campana's contemplation that the destination processors could be accessed via either wireless or wireline networks or both. The American Appeals Court noted that if an

⁸⁸ RIM2, *supra* note 9 at 28. Second Supplemental Amendment, May 13, 1994, at 23.

⁸⁹ RIM2, *supra* note 9 at 28.

inventor disclaimed the boundaries of the claim by using clear exclusions, then the ordinary meaning presumption would be rebutted.⁹⁰ The American Appeals Court failed to find such clear exclusions in the prosecution history.

In the American Appeals Court's view, NTP correctly submitted that the examiner found no requirement to have "dual" transmission pathways to the same destination processor in order for the invention to be patentable.⁹¹ The examiner's comment is reproduced below:⁹²

The prior art of record fails to teach or fairly suggest a system for transmitting originated information from an originating processor in an electronic mail system to a destination processor in the electronic mail system comprising an RF information transmission network . . . with an address of the destination processor added at the originating processor [and] the electronic mail system transmits other originated information from an originating processor to a destination processor in the electronic mail system through a wireline without transmission using the RF information transmission network.

The American Appeals Court found that no requirement for "dual" transmission pathways to the same destination processor existed despite the fact that transmission of information occurred via wireline or wireless systems. Consequently, in the Court's view, asserted claims of patents '960 and '670 were not subject to RIM's "dual pathways" limitation.

⁹⁰ *Gemstar-TV Guide Int'l, Inc. v. ITC*, 383 F.3d 1352, 1364 (Fed. Cir. 2004) (noting that "the presumption of ordinary meaning will be 'rebutted if the inventor has disavowed or disclaimed scope of coverage, by using words or expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.'" (quoting *ACTV, Inc. v. Walt Disney Co.*, 346 F.3d 1082, 1091 (Fed. Cir. 2003))).

⁹¹ Reasons for allowance.

⁹² *RIM2*, *supra* note 9 at 28.

(vi) “Separate and Distinct” limitation

RIM argued before the American District Court that when looking at the asserted claims, the RF receiver had to be “separate and distinct” from the destination processor. This limitation, according to RIM, was applicable to claims 248, 309, 313, 317 of the ‘451 Patent and all claims of the ‘592, ‘670, and ‘960 Patents. The American District Court rejected RIM’s argument stating that the claims did not impose such a requirement, even if Campana envisioned a mobile RF receiver separate from the destination processor. The American Appeals Court concurred with the American District Court’s claim construction.

The American Appeals Court agreed with RIM’s observation that the specification referred to a separate detachable part for increased portability. In addition, the specification also contemplated an invention with destination processors being portable.⁹³

RIM’s argument with relation to this claim limitation was based on two terms of the claims namely “transfer”⁹⁴ in the patents ‘670 and ‘960 and “connected to” or “coupled to” in patents ‘451 and ‘592.⁹⁵ Similarly, the specification also discussed this limitation when it mentioned that transfer of information occurred automatically from the RF receiver when the RF receiver was connected to the destination processor.⁹⁶

⁹³ RIM2, *supra* note 9 at 29, ‘960 patent, col. 18, ll. 57-58.

⁹⁴ See asserted claims of the ‘670 and ‘960 patents.

⁹⁵ See asserted claims 150, 278, and 287 of the ‘592 patent and claims 248, 309, 313, and 317 of the ‘451 patent.

⁹⁶ RIM2, *supra* note 9 at 29, ‘960 patent, col. 20, l. 66 - col. 21, l. 1.

The American Appeals Court observed that in order for a limitation to be imposed in the claim language, jurisprudence required a textual attachment or a textual reference in the language of the claims that would link it to a specific claim construction.⁹⁷

RIM first argued the claim term “transfer” to justify the limitation. For instance, claim 1 of the ‘960 patent, required the originated information to be transmitted from the RF receiver to at least one of the various destination processors.⁹⁸ RIM argued that the step requiring transmission from the one device to the other implied the two devices were physically separate from one another and housed separately. The American Appeals Court found this construction to over expand the meaning of the term “transfer”. NTP argued that a “transfer” could occur between devices housed together and no physical separation was required for a “transfer” to occur.

Furthermore, RIM cited the terms “connected to” and “coupled to” which were referenced in the ‘592 patent. Independent claim 150⁹⁹ disclosed:¹⁰⁰

a wireless receiver connected to the one mobile processor with the one mobile processor receiving the information contained in the electronic mail after the identification of the wireless device is detected by the wireless receiver in a broadcast by the wireless system.

The American Appeals Court noted that similarly claim 301¹⁰¹ of the ‘592 patent claimed the following:

⁹⁷ *Johnson Worldwide Assocs. Inc. v. Zebco Corp.*, 175 F.3d 985, 990 (Fed. Cir. 1999).

⁹⁸ *RIM2*, *supra* note 9 at 29, 960 patent, col. 49, ll. 15-18.

⁹⁹ Asserted claims 278 and 287 being dependent on claim 150.

¹⁰⁰ *RIM2*, *supra* note 9 at 29, ‘592 patent, col. 41, ll. 18-22 (emphasis added).

¹⁰¹ Asserted dependent claims 309, 313, and 317.

301. A communication system comprising:

mobile devices, each mobile device comprising a wireless device connected to a mobile processor which executes electronic mail programming to function as a destination of electronic mail, the wireless device after receiving a broadcast of information contained in the electronic mail and an identification of the wireless device transmits the information to the connected mobile processor

The American Appeals Court looked at the dictionary¹⁰² meaning of the term “connected” and found it to mean, “to join, fasten, or link together”. The American Appeals Court found lack of evidence in the claims’ language to suggest that devices transferring or being connected had to be housed together. The American Appeals Court found that although the term “connected” pointed to an existence of a physical connection more strongly than the term “transfer”, the American Appeals Court failed to conclude that this of itself was sufficient to show that the mobile processor and wireless receiver were to be housed separately. The American Appeals Court’s position affirmed the construction of the American District Court, which also abstained from imposing additional restriction on the claims.¹⁰³

(vii) “Additional Processor Outside an Electronic Mail System”

Although the term “additional processor outside an electronic mail system” was construed by the American District Court, the American Appeals Court refused to construe it because this term was not present in any of the claims on appeal.¹⁰⁴

¹⁰² Webster’s Third New International Dictionary 480 (1993).

¹⁰³ *RIM2*, *supra* note 9 at 30.

¹⁰⁴ *RIM2*, *supra* note 9 at 30.

This chapter outlined the claim construction of NTP's patents during the RIM litigation in the United States. The findings relating to claim construction of NTP's patents in this chapter will be used in chapter 4 to comment on claim construction in the hypothetical Canadian RIM litigation.

CHAPTER 2 – Claim construction in Canada and the United States

1. Origins of claim construction in Canada and the United States

United States was the first to require patent claims to be incorporated into the patent application. In *Evans v. Eaton*,¹⁰⁵ decided in 1822, the United States Supreme Court required inventors to describe in the specification explicitly what the party claimed as its own invention.¹⁰⁶ In 1836, the American *Patent Act* incorporated this requirement requesting that inventors specify the improvement claimed as their invention or discovery.¹⁰⁷ The American *Patent Act* of 1870 required the claims to be a separate and distinct part of the specification.¹⁰⁸ In 1883, England made a statutory requirement to include claims in the patent specification¹⁰⁹ and Canada followed suit by 1923.¹¹⁰

There are commonalities between the Canadian and American approaches to claim construction in the use of external materials to aid with the construction of the claims. In

¹⁰⁵ *Evans v. Eaton*, 20 U.S. (7 Wheat.) 356, (5 L.Ed. 472 1822).

¹⁰⁶ **Donald S. Chisum**, *Chisum on Patents*, vol. 3 (New York: Matthew Binder & Co. Inc., 2000) at p. 8-6 cited in Donald Cameron, "Cameron's Patent & Trade Secrets Law," online: Cameron's Patent & Trade Secrets Law <<http://www.jurisdiction.com/patweb04.pdf>> at p. 4-4.

¹⁰⁷ *Patent Act* of 1836, Ch. 357, 5 Stat. 117 s. 6 cited in Donald Cameron, "Cameron's Patent & Trade Secrets Law," online: Cameron's Patent & Trade Secrets Law <<http://www.jurisdiction.com/patweb04.pdf>> at p. 4-4.

¹⁰⁸ *Patent Act* of 1870, Ch. 230, 16 Stat. 198 at s. 26 in Donald Cameron, "Cameron's Patent & Trade Secrets Law," online: Cameron's Patent & Trade Secrets Law <<http://www.jurisdiction.com/patweb04.pdf>> at p. 4-4.

¹⁰⁹ Patents, Designs and Trademarks Act, 1883 (46 & 47 Vict.), c. 57, s. 5(5); cited in Donald Cameron, "Cameron's Patent & Trade Secrets Law," online: Cameron's Patent & Trade Secrets Law <<http://www.jurisdiction.com/patweb04.pdf>> at p. 4-4.

¹¹⁰ Gordon A. Asher, "Legislative History of the Patent Act", (1960) 33 C.P.R. 64 at 106 cited in Donald Cameron, "Cameron's Patent & Trade Secrets Law," online: Cameron's Patent & Trade Secrets Law <<http://www.jurisdiction.com/patweb04.pdf>> at p. 4-4. Section 14 of the Patent Act, 1923 states: "The specification shall...end with a claim or claims stating distinctly the things or combinations which the applicant regards as new and in which he claims an exclusive property and privilege."

both Canada and the United States, it is established that a dictionary definition is inferior to the meaning attributed to a particular word by a person skilled in the art.¹¹¹

One of the main differences between the Canadian and American approaches to claim construction is the inadmissibility of “prosecution history” in Canada for construing claims. Prosecution history includes all of the communication between a patent agent representing the inventor and a patent office examiner representing the government granting the patent. In the United States, the prosecution history is admissible at trial and can sometimes have an effect to limit the scope of the claims to the detriment of the inventor.¹¹²

The rationale for excluding the prosecution history from claim construction in Canada was explained in *Free World* for two reasons: (1) patent claims solely are to be used for determining the inventor’s intention without reliance on extrinsic evidence and (2) public notice function of the claims would be undermined by the use of extrinsic evidence.¹¹³

Another difference between Canadian and American approaches to claim construction is the fact that, in the United States, claim construction is accomplished in a pre-trial proceeding referred to as “Markman hearing” based on *Markman v. Westview*

¹¹¹ Donald Cameron, “Cameron’s Patent & Trade Secrets Law,” online: Cameron’s Patent & Trade Secrets Law <<http://www.jurisdiction.com/patweb04.pdf>> at p. 4-42. Donald Cameron has been an Adjunct Professor at the University of Toronto Law School (1993-96, 1998-99, 2001-09) and at the Osgoode Hall Law School (2007, 2009) teaching patent law and has over 25 years of legal experience in private practice relating to intellectual property.

¹¹² *Supra* note 111 at p. 4-43.

¹¹³ *Supra* note 111 at p. 4-44.

Instruments Inc.,¹¹⁴ (“*Markman*”) where the sole task of the judge (without the jury) is to construe patent claims. Lack of finality of the *Markman* decisions, high rate of erroneous *Markman* decisions, and lack of right to appeal only until the full trial, inject inefficiency into these pre-trial proceedings.¹¹⁵ In Canada, proceedings similar to *Markman* hearings were tried in 2003 in *Realsearch Inc. v. Valone Kone Brunette Ltd.*¹¹⁶ Based on the facts of that particular case, the Federal Court Trial division found this *Markman* type proceeding ineffective and cautioned that these preliminary proceedings could add delay and expense. In the Court’s view, the appellant could be at a disadvantage of not having the same judge to hear the whole case at the same time but did not entirely rule out *Markman* type proceedings in Canada.¹¹⁷

Another difference is that in the United States, claim construction is generally concluded without the benefit of expert testimony,¹¹⁸ whereas in Canada experts assist the judge in claim construction.

In an English decision of the House of Lords in *Catnic*,¹¹⁹ Lord Diplock outlined the approach to be used in claim construction:¹²⁰

¹¹⁴ *Herbert Markman and Positek Inc. v. Westview Instruments Inc. and Althon Enterprises Inc.*, (95-26), 517 U.S. 370 (1996) [*Markman*].

¹¹⁵ *Supra* note 111 at p. 4-19.

¹¹⁶ *Realsearch Inc. v. Valone Kone Brunette Ltd. et al.*, (2003), 27 C.P.R. (4th) 274 (F.C.T.D.) rev’d (2004), 31 C.P.R. (4th) 101 (F.C.A.).

¹¹⁷ *Supra* note 111 at p. 4-20.

¹¹⁸ *Johnson & Johnson Inc. v. Boston Scientific Ltd.*, [2008] F.C.J. No. 728, 2008 FC 552, Layden-Stevenson J. at para. 200. [*Johnson*].

¹¹⁹ *Catnic Components Ltd. v. Hill & Smith Ltd.*, (1982), R.P.C. 183 (H.L.) [*Catnic*].

¹²⁰ *Catnic*, *supra* note 119 at 242-243.

"My Lords, a patent specification is a unilateral statement by the patentee, in words of his own choosing, addressed to those likely to have a practical interest in the subject matter of his invention (i.e. 'skilled in the art'), by which he informs them what he claims to be the essential features of the new product or process for which the letters patent grant him a monopoly. It is those novel features only that he claims to be essential that constitute the so-called 'pith and marrow' of the claim. A patent specification should be given a purposive construction rather than a purely literal one derived from applying to it the kind of meticulous verbal analysis in which lawyers are too often tempted by their training to indulge. The question in each case is: whether persons with practical knowledge and experience of the kind of work in which the invention was intended to be used, would understand that strict compliance with a particular descriptive word or phrase appearing in a claim was intended by the patentee to be an essential requirement of the invention so that any variant would fall outside the monopoly claimed, even though it could have no material effect upon the way the invention worked. The question, of course, does not arise where the variant would in fact have a material effect upon the way the invention worked. Nor does it arise unless at the date of publication of the specification it would be obvious to the informed reader that this is so. Where it is not obvious, in the light of then-existing knowledge, the reader is entitled to assume that the patentee thought at the time of the specification that he had good reason for limiting his monopoly so strictly and had intended to do so, even though subsequent work by him or others in the field of the invention might show the limitation to have been unnecessary. It is to be answered in the negative only when it would be apparent to any reader skilled in the art that a particular descriptive word or phrase used in a claim cannot have been intended by the patentee, who was also skilled in the art, to exclude minor variants which, to the patentee, who was also skilled in the art, to exclude minor variants which, to the knowledge of both him and the readers to whom the patent was addressed, could have no material effect upon the way in which the invention worked.

The *Catnic* test asks two questions to determine whether an element in the claim is essential:¹²¹

1. "Does the variant materially affect the way the invention works and was that obvious at the date of publication? If "Yes", then the element is essential. If "No", then ask question #2;"
2. "Would it be apparent to a skilled reader that the particular descriptive word or phrase cannot have been intended by the patentee to exclude the minor variants? (Or, phrasing the double negative positive: Did the patentee intend to include the variant?) If "Yes", then the element is non-essential. If "No", then it is essential."

¹²¹ *Supra* note 111 at p. 4-14.

The real question to be asked is: “whether strict compliance with the particular piece of claim language would be understood to be an essential requirement of this invention. The necessary understanding is that of those skilled in the art.”¹²²

The patent in *Catnic* related to steel lintels where the claim required a “support member extending vertically”. Products of the defendant had backplates that were not exactly vertical and extended away from the vertical by 6° and 8° respectively. Lord Diplock analyzed the question before him using the “purposive approach”. He said:¹²³

“Put in a nutshell the question to be answered is: Would the specification make it obvious to a builder familiar with ordinary building operations that the description of a lintel in the form of a weight-bearing box grinder of which the back plate was referred to as ‘extending vertically’ from one of the two horizontal plates to join the other, could not have been intended to exclude lintels in which the back plate although not positioned at precisely 90° to both horizontal plates was close enough to 90° to make no material difference to the way the lintel worked when used in the building operations? No plausible reason has been advanced why any rational patentee should want to place so narrow a limitation on his invention. On the contrary, to do so would render his monopoly for practical purposes worthless, since any imitator could avoid it and take all the benefit of the invention by the simple expedient of positioning the back plate a degree or two from the exact vertical.”

Lord Diplock demonstrated that the word “vertical” could have different meanings in different contexts and its correct meaning was that as would have been understood by the relevant addressee.¹²⁴

¹²² *Supra* note 4 at p. 132.

¹²³ *Supra* note 4 at p. 133.

¹²⁴ *Supra* note 4 at p. 134.

"It may be that when used by a geometer addressing himself to fellow geometers, such expressions descriptive of relative position as 'horizontal', 'parallel', 'vertical' and 'vertically' are to be understood as words of precision only; but when used in a description of a manufactured product intended to perform the practical functioning of a weight-bearing box girder is supporting courses of brickwork over window and door spaces in buildings, it seems to me that the expression 'extending vertically' as descriptive of the position of what in use will be the upright member of a trapezoid-shaped box girder, is perfectly capable of meaning positioned near enough to the exact geometrical vertical to enable it in actual use to perform satisfactorily all the functions that it could perform if it were precisely vertical; and having regard to those considerations to which I have just referred that is the sense in which my opinion 'extending vertically' would be understood by a builder familiar with ordinary building operation. Or, putting the same thing in another way, it would be obvious to him that the patentee did not intend to make exact verticality in the positioning of the back plate an essential feature of the invention claimed."

In *Whirlpool*, the appellants invited the Supreme Court to reject the *Catnic* approach and to overrule Federal Court cases, which followed it, among them, *O'Hara Manufacturing Ltd. v. Eli Lilly & Co.*¹²⁵ ("*O'Hara*"). Justice Binnie noted however, that purposive construction was not a new concept, which Lord Diplock first applied to patent cases.¹²⁶ The appellants favoured a "plain and unambiguous" approach to claim construction arguing that *Catnic's* "purposive construction" injected factual issues more applicable in infringement analysis.¹²⁷ Justice Binnie agreed that the *Catnic* litigation dealt with infringement (and not validity) for a patent referring to steel structural members called lintels used in the construction industry.

Justice Binnie agreed with the Federal Court of Appeal to have applied "purposive construction" in *O'Hara*¹²⁸ and outlined numerous reasons at paragraph 49 to reject

¹²⁵ *O'Hara Manufacturing Ltd. v. Eli Lilly & Co.*, (1989), 26 C.P.R. (3d) 1 (F.C.A.), Pratte J.A. [*O'Hara*].

¹²⁶ *Whirlpool*, *supra* note 2 at para. 39.

¹²⁷ *Whirlpool*, *supra* note 2 at para. 40.

¹²⁸ *Whirlpool*, *supra* note 2 at para. 49. In *O'Hara*, *supra* note 125, the Court took a strict approach to claim construction. In that case, the plaintiff manufactured a tablet coating machine comprised of a drum

appellants' argument that the principle of purposive construction was wrong or that it applied only to infringement.

One of those reasons was that despite that *Catnic* dealt with infringement, the Court was first tasked with determining the scope of the patent and in doing so Lord Diplock linked essential features to the wording of the claim.¹²⁹ Justice Binnie noted that Lord Diplock's consideration of essential features without reference to validity and infringement issues constituted the "pith and marrow of the claim".

Another reason was that rejection of the "purposeful construction" would imply embracing of "purposeless" approach, which was rejected by the Supreme Court long before *Catnic*.¹³⁰

Another reason was that Justice Binnie was not convinced that "purposive construction" would necessarily open the door to extrinsic evidence of intent having noted that both *Catnic* and *O'Hara* limited their claim construction "to the words of the claims interpreted in the context of the specification as a whole".¹³¹

and vacuum plenum that was "flexibly biased against the drum" as stated in the claims. The plaintiff later found that its device's could also function with the plenum stationary instead of being close but not touching the drum. The defendant, O'Hara, copied the version with plenum being stationary and was sued for infringing the plaintiff's patent. The question before the Court was whether "flexibly biased against the drum" was an essential element of the claim. The Federal Court of Appeal asked how a claim element could be considered non-essential if it was put in the claim by the patentee. The Court stated at pages 5-6: "...the patentee is tied strictly to the invention which he claims and the mode of effecting an improvement which he says is his invention." The Court in this case found no infringement since O'Hara's device lacked the "flexibly biased against the drum" element – cited in *supra* note 112 at p. 4-8.

¹²⁹ *Whirlpool, supra* note 2 at subpara. 49(a).

¹³⁰ *Whirlpool, supra* note 2 at subpara. 49(d).

¹³¹ *Whirlpool, supra* note 2 at subpara. 49(d).

Justice Binnie noted that “purposive construction” has been present in the Canadian patent law for a long time but not under the “purposive construction” label.

2. Current patent claim construction in Canada

Subsection 27(4) of the *Patent Act*¹³² requires the claims and patent specification to delimit the scope of the invention that is to be protected by the claims. The Supreme Court in *Whirlpool* commented on section 34 (repealed in 1993) of the *Patent Act* at paragraph 42 of the decision:

42 The content of a patent specification is regulated by s. 34 of the Patent Act. The first part is a "disclosure" in which the patentee must describe the [page1089] invention "with sufficiently complete and accurate details as will enable a workman, skilled in the art to which the invention relates, to construct or use that invention when the period of the monopoly has expired": *Consolboard Inc. v. MacMillan Bloedel (Sask.) Ltd.*, [1981] 1 S.C.R. 504, at p. 517. The disclosure is the quid provided by the inventor in exchange for the quo of a 17 year (now 20-

¹³² *Patent Act* R.S., 1985, c.P-4.

Specification

27 (3) The specification of an invention must

- (a) correctly and fully describe the invention and its operation or use as contemplated by the inventor;
- (b) set out clearly the various steps in a process, or the method of constructing, making, compounding or using a machine, manufacture or composition of matter, in such full, clear, concise and exact terms as to enable any person skilled in the art or science to which it pertains, or with which it is most closely connected, to make, construct, compound or use it;
- (c) in the case of a machine, explain the principle of the machine and the best mode in which the inventor has contemplated the application of that principle; and
- (d) in the case of a process, explain the necessary sequence, if any, of the various steps, so as to distinguish the invention from other inventions.

Claims

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

(discussed in *Pfizer*, *supra* note 141). See also *Canamould*, *supra* note 137 at para. 17.

year) monopoly on the exploitation of the invention. The monopoly is enforceable by an array of statutory and equitable remedies and it is therefore important for the public to know what is prohibited and where they may safely go while the patent is still in existence. The public notice function is performed by the claims that conclude the specification and must state "distinctly and in explicit terms the things or combinations that the applicant regards as new and in which he claims an exclusive property or privilege" (s. 34(2)). An inventor is not obliged to claim a monopoly on everything new, ingenious and useful disclosed in the specification. The usual rule is that what is not claimed is considered disclaimed.

Subsection 27(4) of the Canadian *Patent Act* is very similar to the American § 1.75(a) in the Manual of Patent Examining Procedure. However it appears the American § 1.75(d)(1) adds more restrictions for the claims to conform to the invention which are not present in the Canadian *Patent Act*.¹³³ Although the Canadian *Patent Act* appears to be silent on the claims and their requirements to conform to the invention, Canadian courts frequently rely on the specification to construe patent claims making these differences between American and Canadian statutory requirements irrelevant.

In the early days, claim construction was not the first step undertaken by Canadian courts in patent lawsuits. Rather, the courts first analyzed the validity or infringement of the claims by applying "literal" reading to the claims. If the claims were found to be valid under the "literal" reading, next step required the court to analyze infringement of the claims. Infringement was a two-prong analysis: "literal" infringement, followed by

¹³³ R.S., 1985, c. P-4.

“substance” infringement, of the claims. If no infringement was found using the “literal” reading, the courts looked at the “substance” of the claims.¹³⁴

In general, Canadian courts had two different approaches to claim construction before *Whirlpool* and *Free Word*. In one approach, they considered all claim elements relevant and in another approach, not all claim elements were considered relevant. The second approach analyzed instead the “pith and substance” allowing for re-writing of the claims and ignoring claim elements.¹³⁵

In 2000, the Supreme Court of Canada rendered two decisions: *Whirlpool* and *Free World*, which clarified the approach to be taken in Canada with respect to patent claim construction. The Supreme Court agreed that “purposive construction” was the proper approach to patent claim construction in Canada and that the “two prong” approach was to be discontinued.¹³⁶ The Supreme Court also confirmed that “grammatical” and “meticulous verbal analysis” was to be rejected.¹³⁷

As mentioned above, both *Free World* and *Whirlpool* rejected the “two-step” approach, which first examined whether, on literal construction, the patented invention was embodied in the allegedly infringing device. If the answer to the first question was in the

¹³⁴ *Kramer v. Lawn Furniture Inc.* (1974), 13 C.P.R. (2d) 231 at p. 238 (discussed in *Pfizer Canada Inc. v. Canada (Minister of Health)* [2005] F.C.J. No. 2155 at para. 19).

¹³⁵ *Supra* note 111 at p. 4-5.

¹³⁶ *Free World*, *supra* note 3 at para. 45-50 and *Whirlpool*, *supra* note 2 at para. 42-50 (discussed in *Pfizer Canada Inc. v. Canada (Minister of Health)* [2005] F.C.J. No. 2155).

¹³⁷ *Whirlpool*, *supra* note 2 at para. 48 & 53 (discussed in *Pfizer Canada Inc. v. Canada (Minister of Health)* [2005] F.C.J. No. 2155).

negative, the second part of the analysis required an examination whether the allegedly infringing device embodied the “pith and marrow” or “substance” of the invention.¹³⁸ In *Free World*, the Supreme Court preferred the single step also known as “purposive construction” because “the greater the level of discretion left to courts to peer below the language of the claims in search for “the spirit of the invention”, the less the claims can perform their public notice function, and the greater the resulting level of unwelcome uncertainty and unpredictability.”¹³⁹ In the words of the Supreme Court, “purposive construction” does away with the first step of purely literal interpretation but disciplines the scope of “substantive” claims construction in the interest of fairness to both the patentee and the public.”¹⁴⁰

In *Free World*, the Supreme Court summarized the approach to claim construction:¹⁴¹

- (a) The Patent Act promotes adherence to the language of the claims.
- (b) Adherence to the language of the claims in turn promotes both fairness and predictability.
- (c) The claim language must, however, be read in an informed and purposive way.
- (d) The language of the claims thus construed defines the monopoly. There is no recourse to such vague notions as the “spirit of the invention” to expand it further.
- (e) The claims language will, on a purposive construction, show that some elements of the claimed invention are essential while others are non-essential. The identification of elements as essential or non-essential is made:
 - (i) on the basis of the common knowledge of the worker skilled in the art to which the patent relates;
 - (ii) as of the date the patent is published;

¹³⁸ *Canamould Extrusions v. Driangle Inc.*, [2003] F.C.J. No. 338, Layden-Stevenson J. at para. 20. [Canamould].

¹³⁹ *Free World*, *supra* note 3 at para. 50 (discussed in *Canamould*, *supra* note 137 at para. 20).

¹⁴⁰ *Free World*, *supra* note 3 at para. 50 (discussed in *Canamould*, *supra* note 137 at para. 20).

¹⁴¹ *Free World*, *supra* note 3 at para. 31 (discussed in *Quadco Equipment Inc. v. Timberjack Inc.* [2002] F.C.J. No. 113).

- (iii) having regard to whether or not it was obvious to the skilled reader at the time the patent was published that a variant of a particular element would not make a difference to the way in which the invention works; or
 - (iv) according to the intent of the inventor, expressed or inferred from the claims, that a [page1044] particular element is essential irrespective of its practical effect;
 - (v) without, however, resort to extrinsic evidence of the inventor's intention.
- (f) There is no infringement if an essential element is different or omitted. There may still be infringement, however, if non-essential elements are substituted or omitted.

The following questions can be asked when construing patent claims:¹⁴²

1. Who construes the claims?
2. When are the claims construed?
3. As of what date is the claim to be construed?
4. What are the criteria for construction?
5. What resources may be used for purposes of construction?
6. Through whose eyes is construction to be made?
7. What is to be made of the resulting construction?

In answering the first question above, it is the court's duty to construe the patent claims¹⁴³ and not that of an expert witness. The expert witness is only to assist the trial judge in construing the claims.¹⁴⁴

¹⁴² *Pfizer Canada Inc. v. Canada* (Minister of Health) [2005] F.C.J. No. 2155, Hughes J. [*Pfizer*].

¹⁴³ *Whirlpool*, *supra* note 2 at para. 43 & 45 (discussed in *Pfizer*, *supra* note 142).

¹⁴⁴ *Whirlpool*, *supra* note 2 at para. 57 (discussed in *Pfizer*, *supra* note 142).

In answering the second question above, the court is to construe the claims at the beginning of its judgment and hence patent claim construction is to take priority over patent validity and infringement considerations.¹⁴⁵

In answering the third question above, for patent applications applied for in Canada before October 1, 1989, claims are to be construed as of the date of granting of the patent. For patent applications filed in Canada after October 1, 1989, patent claims are to be construed as of the publication date of the patent.¹⁴⁶

In answering the fourth question above, the courts are to identify particular words and phrases in the claims describing the essential elements of the invention.¹⁴⁷ The courts are to read the words chosen by the inventor in a sense the inventor is presumed to have intended.¹⁴⁸ Reading of the words in a sense the inventor is presumed to have intended is not a subjective but an objective approach. In other words, the courts are to look through the prism of a person skilled in the art to figure out what that a person skilled in the art would understand the inventor to mean.¹⁴⁹

In answering the fifth question above, courts are to construe the claims through the eyes of a person skilled in the art and in the context of the specification.

¹⁴⁵ *Whirlpool*, *supra* note 2 at para. 43 and 49(a) (discussed in *Pfizer*, *supra* note 142).

¹⁴⁶ *Whirlpool*, *supra* note 2 at para. 42 & *Free World*, *supra* note 3 at para. 44 (discussed in *Pfizer*, *supra* note 142).

¹⁴⁷ *Whirlpool*, *supra* note 2 at para. 45 (discussed in *Pfizer*, *supra* note 142).

¹⁴⁸ *Free World*, *supra* note 3 at para. 51 (discussed in *Pfizer*, *supra* note 142).

¹⁴⁹ *Kirin-Amgen Inc. v. Hoechst Marion Roussel Ltd.*, [2004] UKHL 46 at para. 32 (discussed in *Pfizer*, *supra* note 142 at para. 39).

An element is found to be essential if it is required for the device to function as “contemplated and claimed” by the inventor. A non-essential element may be substituted without affecting the structure or operation of the invention.¹⁵⁰

In answering the sixth question above, claim construction is to be made through the eyes of an ordinary person skilled in the art and not through the eyes of grammarians relying on the dictionary approach. In *Whirlpool*, the Supreme Court at paragraph 53 stated:¹⁵¹

53 A second difficulty with the appellants' dictionary approach is that it urges the Court to look at the words through the eyes of a grammarian or etymologist [page1099] rather than through the eyes and with the common knowledge of a worker of ordinary skill in the field to which the patent relates. An etymologist or grammarian might agree with the appellants that a vane of any type is still a vane. However, the patent specification is not addressed to grammarians, etymologists or to the public generally, but to skilled individuals sufficiently versed in the art to which the patent relates to enable them on a technical level to appreciate the nature and description of the invention: H. G. Fox, *The Canadian Law and Practice Relating to Letters Patent for Inventions* (4th ed. 1969), at p. 185. The Court, writes Dr. Fox, at p. 203, must place itself

in the position of some person acquainted with the surrounding circumstances as to the state of the art and the manufacture at the time, and making itself acquainted with the technical meaning in that art or manufacture that any particular word or words may have.

The “ordinary worker” is someone who possesses common knowledge in the technical field applicable to the patent for which claims are being construed.¹⁵²

¹⁵⁰ *Free World*, *supra* note 3 at para. 20.

¹⁵¹ *Free World*, *supra* note 3 at para. 44.

¹⁵² *Whirlpool*, *supra* note 2 at para. 74.

In answering the seventh question above, it is possible to expand or limit the literal text of a patent claim by “purposively” construing patent claims.¹⁵³ Consequently, an inventor may inadvertently be disadvantaged if the court finds an unnecessary limitation in the claims created by the inventor.¹⁵⁴ The public is entitled to claim construction which balances the interests of both the public and the inventor.¹⁵⁵ After claim construction is complete, the courts proceed to examination of validity and infringement based on resulting claim construction.¹⁵⁶

Ambiguity in patent claims and the alleged inability of their construction is sometimes attempted as an argument to invalidate the claims. The courts made it clear that this approach is rarely grounds for success. In *Pioneer Hi Bred v. Commissioner of Patents*,¹⁵⁷ the Supreme Court of Canada stated that the *Patent Act* requires full disclosure to be contained in the specification and the claims. This requires disclosure of all essential elements of the invention and meeting of two conditions (1) description of the invention and (2) definition of its functionality. Failure to meet the first condition is grounds for invalidation of the patent application for ambiguity and failure to meet the second is grounds for invalidation for insufficiency. In addition to the jurisprudence, subsection 36(2) of the *Patent Act* requires ending the patent claims in a way that “clearly and distinctly” describe the invention.¹⁵⁸

¹⁵³ *Whirlpool*, *supra* note 2 at para. 49(h).

¹⁵⁴ *Whirlpool*, *supra* note 2 at para. 51.

¹⁵⁵ *Whirlpool*, *supra* note 2 at para. 51 and *Free World*, *supra* note 3 at para. 50.

¹⁵⁶ *Pfizer*, *supra* note 142 at para. 48.

¹⁵⁷ *Pioneer Hi Bred v. Commissioner of Patents*, [1989] 1 S.C.R. 1623 at 1637 & 1638.

¹⁵⁸ *Pfizer*, *supra* note 142 at para. 50.

The Supreme Court in *Free World* compared patent claims to "fences" which provided a bright line demarcation for the monopoly claimed.¹⁵⁹ The Supreme Court described the challenge in construing patent claims:¹⁶⁰

In reality, the "fences" often consist of complex layers of definitions of different elements (or "components" or "features" or "integers") of differing complexity, substitutability and ingenuity. A matrix of descriptive words and phrases defines the monopoly, warns the public and ensnares the infringer. In some instances, the precise elements of the "fence" may be crucial or "essential" to the working of the invention as claimed; in others the inventor may contemplate, and the reader skilled in the art appreciate, that variants could easily be used or substituted without making any material difference to the working of the invention. The interpretative task of the Court in claims construction is to separate the one from the other, to distinguish the essential from the inessential, and to give to the "field" framed by the former the legal protection to which the holder of a valid patent is entitled.

Justice Binnie in *Free World* approved the summary by Hoffman J. of the *Catnic* analysis comprising the following questions:¹⁶¹

- (i) Does the variant have a material effect upon the way the invention works? If yes, the variant is outside the claim. If no: -
- (ii) Would this (i.e.: that the variant had no material effect) have been obvious at the date of publication of the patent to a reader skilled in the art? If no, the variant is outside the claim. If yes: -
- (iii) Would the reader skilled in the art nevertheless have understood from the language of the claim that the patentee intended that strict compliance with the primary meaning was an essential requirement of the invention? If yes, the variant is outside the claim.

In Patent Law of Canada,¹⁶² the authors discussed the difficulty that patent agents are facing when they draft patent applications. The authors said:

¹⁵⁹ *Free World*, *supra* note 3 at para. 14 (discussed in *Canamould*, *supra* note 138 at para. 18).

¹⁶⁰ *Free World*, *supra* note 2 at para. 15 (discussed in *Canamould*, *supra* note 138 at para. 18).

¹⁶¹ *Free World*, *supra* note 3 at para. 55, citing to *Improver Corp. v. Remington Consumer Products Ltd.*, [1990] F.S.R. 181 at 182.

One must try to predict what may be produced in the way of ex post facto expert evidence when the patent is later litigated, before a judge who may have to assimilate a mass of material, perhaps with little or no prior exposure to the technology and to whom the specification may be largely unintelligible when he or she first sees it. The agent is well advised to try to make the specification intelligible to someone at the low end of skill in the art. It is no wonder that Justice Brown of the U.S. Supreme Court was moved to say one hundred years ago that a patent specification is one of the most difficult of legal instruments to draw with accuracy. A simple invention is often more difficult to claim than a complex one. Though in a few cases there may be only one way to write a claim, e.g., when claiming a chemical compound or a particular process, in many cases two patent agents are unlikely to write the same claim as two poets are to write identical poems.¹⁶³ [Emphasis added]

In *Xerox of Canada Ltd. v. IBM Canada Ltd.*¹⁶⁴ the Federal Court Trial Division observed the difficulty in communication that may arise even at the earliest stage that is the between the inventor and his or her agent:

“In drafting patent claims the agent must steer between the Scylla of a claim that is too wide to be valid and the Charybdis of a claim that is too narrow to cover potential infringers. The principal duty of a Patent Office examiner is to ensure that claims are comprehensible and not too comprehensive. It is immaterial to the Patent Office or to a Court that claim cover too little.” [Emphasis added]

“All too often the inventor does not understand the importance of claims or the niceties of claim drafting. All too often the inventor is content to ensure that the descriptive portion of the specification and any accompanying drawings are accurate, and that any prior art that may come to light can be distinguished, leaving the mysteries of claim drafting entirely to the agent. Hence the old saw that “the inventor invents the invention”. If the inventor does not understand the claims or the agent does not understand the invention a worthless patent may issue, perhaps not reformable by reissue or disclaimer under section 47 and 48 of the Patent Act.”¹⁶⁵ [Emphasis added]

¹⁶² Gordon F. Henderson & Howard P. Knopf, *Patent Law of Canada* (Scarborough: Thomson Canada Limited, 1994) [Knopf].

¹⁶³ Knopf, *supra* note 162 at p. 220.

¹⁶⁴ *Xerox of Canada Ltd. v. IBM Canada Ltd.*, (1977), 33 C.P.R. (2d) 24 at 88 (note 14) (Fed. T.D.).

¹⁶⁵ Knopf, *supra* note 162 at p. 204.

3. Current patent claim construction in the United States

Approach to patent claim construction in the United States shares some common critiques as those mentioned by the English courts. For example, in *White v. Dunbar*¹⁶⁶ cited by the Supreme Court of Canada in *Whirlpool*, the Supreme Court noted the abuse associated with patent claims construction where attempts were made to extend the meaning beyond the plain meaning of the language by referring to the specification of the patent application.

In the United States, the role of the specification in patent claim construction has been the subject of many court decisions. The United States Court of Appeals for the Federal Circuit discussed this issue at length in *Markman*.¹⁶⁷

The words of the claim are to be given their ordinary and customary meaning.¹⁶⁸ The ordinary and customary meaning of a claim term is to be attributed the meaning as understood by a person skilled in the art at the date the patent application was filed.¹⁶⁹

¹⁶⁶ *White v. Dunbar*, 119 US 47 (1886), Bradley J. at p. 51-52.

¹⁶⁷ *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979-81 (Fed. Cir. 1995) (en banc) [*Markman I*], aff'd, 517 U.S. 370, 134 L. Ed. 2d 577, 116 S. Ct. 1384 (1996). See also *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576 (Fed. Cir. 1996) and *Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc.*, 381 F.3d 1111 (Fed. Cir. 2004) (Discussed in *Phillips v. AWH Corporation*, 415 F.3d 1303; 2005 U.S. App. LEXIS 13954).

¹⁶⁸ *Vitronics Corp. v. Conceptronic Inc.*, 90 F.3d 1576 (Fed. Cir. 1996) at 1582 [*Vivtronics*]; *Toro Co. v. White Consol. Indus., Inc.*, 199 F.3d 1295, 1299 (Fed. Cir. 1999); *Renishaw PLC v. Marposs Societa'*, Azioni J., 158 F.3d 1243, 1249 (Fed. Cir. 1998) (Discussed in *Phillips v. AWH Corporation*, 415 F.3d 1303; 2005 U.S. App. LEXIS 13954).

¹⁶⁹ *Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc.*, 381 F.3d 1111 (Fed. Cir. 2004) at 1116 [*Innova*] ("A Court construing a patent claim seeks to accord a claim the meaning it would have to a person of ordinary skill in the art at the time of the invention."); *Home Diagnostics, Inc. v. LifeScan, Inc.*, 381 F.3d 1352, 1358 (Fed. Cir. 2004) ("customary meaning" refers to the "customary meaning in [the] art field"); *Ferguson Beauregard/Logic Controls v. Mega Sys., LLC*, 350 F.3d 1327, 1338 (Fed. Cir. 2003) (claim terms "are examined through the viewing glass of a person skilled in the art"); see also *PC Connector*

An objective starting point for patent claim interpretation is the inquiry into how a person of ordinary skill in the art understands claim terms.¹⁷⁰ This logic is based on a premise that inventors possess skills in the field of the invention and that audience targeted by patents is of similar skill in the art.¹⁷¹

The claims are read by the person skilled in the art in the context of the entire patent including the specification. In *Multiform Desiccants Inc. v. Medzam Ltd.*, 133 F.3d 1473, 1477 (Fed. Cir. 1998) ("*Multiform Dessicants*") the United States Court of Appeals for the Federal Circuit stated:

It is the person of ordinary skill in the field of the invention through whose eyes the claims are construed. Such person is deemed to read the words used in the patent documents with an understanding of their meaning in the field, and to have knowledge of any special meaning and usage in the field. The inventor's words that are used to describe the invention - the inventor's lexicography - must be understood and interpreted by the Court as they would be understood and interpreted by a person in that field of technology. Thus the Court starts the decision making process by reviewing the same resources as would that person, viz., the patent specification and the prosecution history.

Solutions LLC v. SmartDisk Corp., 406 F.3d 1359, 1363 (Fed. Cir. 2005) (meaning of claim "must be interpreted as of [the] effective filing date" of the patent application); *Schering Corp. v. Amgen Inc.*, 222 F.3d 1347, 1353 (Fed. Cir. 2000) (Discussed in *Phillips v. AWH Corporation*, 415 F.3d 1303; 2005 U.S. App. LEXIS 13954).

¹⁷⁰ *Innova*, *supra* note 166 (Discussed in *Phillips v. AWH Corporation*, 415 F.3d 1303; 2005 U.S. App. LEXIS 13954).

¹⁷¹ *Verve LLC v. Crane Cams Inc.*, 311 F.3d 1116, 1119 (Fed. Cir. 2002) [*Verve*] (patent documents are meant to be "a concise statement for persons in the field"); *In re Nelson*, 47 C.C.P.A. 1031, 280 F.2d 172, 181, 1960 Dec. Comm'r Pat. 369 (CCPA 1960) ("The descriptions in patents are not addressed to the public generally, to lawyers or to judges, but, as section 112 says, to those skilled in the art to which the invention pertains or with which it is most nearly connected.") (Discussed in *Phillips v. AWH Corporation*, 415 F.3d 1303; 2005 U.S. App. LEXIS 13954).

Depending on the claim language in a particular patent, some claims can easily be understood even by lay judges, this understanding being on par with the interpretation of the claims that the person skilled in the art would have. In such situations, claim construction still requires more than simply applying of the widely accepted meaning of commonly understood words.¹⁷² Reliance on the general-purpose dictionaries may be helpful, however in most cases; a determination of the ordinary meaning will require analysis of the claims in the context of a particular field to which the patent relates. In claim construction, courts look to sources available to the public that may shed the light on what the person skilled in the art would have understood the claims to mean because sometimes the meaning of the claims may not be apparent to a person skilled in the art.¹⁷³ Sources relied on by the courts include other words in the claims, prosecution history, specification and extrinsic evidence relating to the state of the art or meaning of technical terms.¹⁷⁴

Other words in the claim provide substantial assistance in ascertaining the meaning of particular claim terms¹⁷⁵ and the same can be said for the other claims in the patent.¹⁷⁶

¹⁷² *Brown v. 3M*, 265 F.3d 1349, 1352 (Fed Cir. 2001) (holding that the claims did "not require elaborate interpretation") (Discussed in *Phillips v. AWH Corporation*, 415 F.3d 1303; 2005 U.S. App. LEXIS 13954).

¹⁷³ *Innova*, *supra* note 166 (Discussed in *Phillips v. AWH Corporation*, 415 F.3d 1303; 2005 U.S. App. LEXIS 13954).

¹⁷⁴ *Innova*, *supra* note 166; see also *Gemstar-TV Guide Int'l, Inc. v. ITC*, 383 F.3d 1352, 1364 (Fed. Cir. 2004); *Vitronics*, 90 F.3d at 1582-83; *Markman*, 52 F.3d at 979-80 (Discussed in *Phillips v. AWH Corporation*, 415 F.3d 1303; 2005 U.S. App. LEXIS 13954).

¹⁷⁵ *Vitronics*, *supra* note 168; see also *ACTV, Inc. v. Walt Disney Co.*, 346 F.3d 1082, 1088 (Fed. Cir. 2003) ("the context of the surrounding words of the claim also must be considered in determining the ordinary and customary meaning of those terms") (Discussed in *Phillips v. AWH Corporation*, 415 F.3d 1303; 2005 U.S. App. LEXIS 13954).

¹⁷⁶ *Vitronics*, *supra* note 166 at 1582 (Discussed in *Phillips v. AWH Corporation*, 415 F.3d 1303; 2005 U.S. App. LEXIS 13954).

The terms in patent claims are consistently used throughout the claims, thus providing guidance on the meaning of a particular term when read in reference to another claim.¹⁷⁷

The claims are part of the specification and need to be construed in the context of the specification.¹⁷⁸ The courts look to the specification as a guide to determine the meaning of a disputed term.¹⁷⁹ This principle was stated in *Standard Oil Co. v. Am. Cyanamid Co.*:¹⁸⁰

"the descriptive part of the specification aids in ascertaining the scope and meaning of the claims inasmuch as the words of the claims must be based on the description. The specification is, thus, the primary basis for construing the claims."

The above was re-affirmed in *Multiform Dessicants*:¹⁸¹

"the best source for understanding a technical term is the specification from which it arose, informed, as needed, by the prosecution history."

¹⁷⁷ *Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1342 (Fed. Cir. 2001); *CVI/Beta Ventures, Inc. v. Tura LP*, 112 F.3d 1146, 1159 (Fed. Cir. 1997).

¹⁷⁸ *Markman I*, *supra* note 167 (Discussed in *Phillips v. AWH Corporation*, 415 F.3d 1303; 2005 U.S. App. LEXIS 13954).

¹⁷⁹ *Vitronics*, *supra* note 168 at 1582 (Discussed in *Phillips v. AWH Corporation*, 415 F.3d 1303; 2005 U.S. App. LEXIS 13954).

¹⁸⁰ *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 452 (Fed. Cir. 1985) (Discussed in *Phillips v. AWH Corporation*, 415 F.3d 1303; 2005 U.S. App. LEXIS 13954).

¹⁸¹ *Multiform Dessicants Inc. v. Medzam Ltd.*, 133 F.3d 1473, 1477 (Fed. Cir. 1998) at 1478; see also *Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1360 (Fed. Cir. 2004) ("In most cases, the best source for discerning the proper context of claim terms is the patent specification wherein the patent applicant describes the invention."); see also, e.g., *Kinik Co. v. ITC*, 362 F.3d 1359, 1365 (Fed. Cir. 2004) ("The words of patent claims have the meaning and scope with which they are used in the specification and the prosecution history."); *Moba, B.V. v. Diamond Automation, Inc.*, 325 F.3d 1306, 1315 (Fed. Cir. 2003) ("The best indicator of claim meaning is its usage in context as understood by one of skill in the art at the time of invention.").

The requirement that the patent specification describe the claimed invention in clear and precise terms originates from the statute 35 U.S.C. § 112, para. 1.¹⁸² The first two paragraphs of 35 U.S.C. § 112 are reproduced below:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

The United States Patent and Trademark Office ("USPTO") also construes patent claims in the context of the specification as understood by a person skilled in the art.¹⁸³ Pursuant to 37 C.F.R. § 1.75(d)(1),¹⁸⁴ patent claims must "conform to the invention as set forth in

¹⁸² *Netword, LLC v. Centraal Corp.*, 242 F.3d 1347, 1352 (Fed. Cir. 2001) ("The claims are directed to the invention that is described in the specification; they do not have meaning removed from the context from which they arose."); see also *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 389, 134 L. Ed. 2d 577, 116 S. Ct. 1384 (1996) ("[A claim] term can be defined only in a way that comports with the instrument as a whole."). In light of the statutory directive that the inventor provide a "full" and "exact" description of the claimed invention, the specification necessarily informs the proper construction of the claims. See *Merck & Co. v. Teva Pharms. USA, Inc.*, 347 F.3d 1367, 1371 (Fed. Cir. 2003) ("A fundamental rule of claim construction is that terms in a patent document are construed with the meaning with which they are presented in the patent document. Thus claims must be construed so as to be consistent with the specification, of which they are a part.") (citations omitted) (Discussed in *Phillips v. AWH Corporation*, 415 F.3d 1303; 2005 U.S. App. LEXIS 13954).

¹⁸³ In *Re American Academy of Science Tech. Center*, 367 F.3d 1359, 1364 (Fed. Cir. 2004), 2004 U.S. App. LEXIS 9382 (Discussed in *Phillips v. AWH Corporation*, 415 F.3d 1303; 2005 U.S. App. LEXIS 13954).

¹⁸⁴ § 1.75 Claim(s).

(a) The specification must conclude with a claim particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention or discovery.

(b) More than one claim may be presented provided they differ substantially from each other and are not unduly multiplied.

the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description.”

(c) One or more claims may be presented in dependent form, referring back to and further limiting another claim or claims in the same application. Any dependent claim which refers to more than one other claim ("multiple dependent claim") shall refer to such other claims in the alternative only. A multiple dependent claim shall not serve as a basis for any other multiple dependent claim. For fee calculation purposes under § 1.16, a multiple dependent claim will be considered to be that number of claims to which direct reference is made therein. For fee calculation purposes also, any claim depending from a multiple dependent claim will be considered to be that number of claims to which direct reference is made in that multiple dependent claim. In addition to the other filing fees, any original application which is filed with, or is amended to include, multiple dependent claims must have paid therein the fee set forth in § 1.16(j). Claims in dependent form shall be construed to include all the limitations of the claim incorporated by reference into the dependent claim. A multiple dependent claim shall be construed to incorporate by reference all the limitations of each of the particular claims in relation to which it is being considered.

(d)

(1) The claim or claims must conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description. (See § 1.58(a)).

(2) See §§ 1.141 to 1.146 as to claiming different inventions in one application.

(e) Where the nature of the case admits, as in the case of an improvement, any independent claim should contain in the following order:

(1) A preamble comprising a general description of all the elements or steps of the claimed combination which are conventional or known,

(2) A phrase such as "wherein the improvement comprises," and

(3) Those elements, steps, and/or relationships which constitute that portion of the claimed combination which the applicant considers as the new or improved portion.

(f) If there are several claims, they shall be numbered consecutively in Arabic numerals.

(g) The least restrictive claim should be presented as claim number 1, and all dependent claims should be grouped together with the claim or claims to which they refer to the extent practicable.

(h) The claim or claims must commence on a separate physical sheet or electronic page. Any sheet including a claim or portion of a claim may not contain any other parts of the application or other material.

(i) Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation.

[31 FR 12922, Oct. 4, 1966; 36 FR 12690, July 3, 1971; 37 FR 21995, Oct. 18, 1972; 43 FR 4015, Jan. 31, 1978; para. (c), 47 FR 41276, Sept. 17, 1982, effective Oct. 1, 1982; para. (g) amended, paras. (h) and (i) added, 61 FR 42790, Aug. 19, 1996, effective Sept. 23, 1996; para. (h) revised, 68 FR 38611, June 30, 2003, effective July 30, 2003; para. (h) revised, 68 FR 38611, June 30, 2003, effective July 30, 2003; para. (c) revised, 70 FR 3880, Jan. 27, 2005, effective Dec. 8, 2004]

If available, the courts are to consider patent prosecution history to aid in claim construction.¹⁸⁵ Patent prosecution history is the complete record of all the correspondence between the USPTO and the inventor or inventor's representative and includes the prior art cited by the USPTO examiner.¹⁸⁶ Another example of intrinsic evidence is the prosecution history. Similar to the specification, the prosecution history shows how the USPTO and the inventor understood the patent.¹⁸⁷ However, the prosecution history has its limits in being useful in claim construction because it is an ongoing and not final negotiation between the USPTO and the inventor and often lacks clarity in relation to the specification.¹⁸⁸ The advantage of the prosecution history is that it shows the evolution of the patent claims during the prosecution and may show how the scope of the claims was narrowed down.¹⁸⁹

In addition to intrinsic evidence, the courts can also rely on extrinsic evidence which is all evidence external to the patent and prosecution history and comprises of reliance on

¹⁸⁵ *Markman I*, *supra* note 167; see also *Graham v. John Deere Co.*, 383 U.S. 1, 33, 15 L. Ed. 2d 545, 86 S. Ct. 684 (1966) ("An invention is construed not only in the light of the claims, but also with reference to the file wrapper or prosecution history in the Patent Office.") (Discussed in *Phillips v. AWH Corporation*, 415 F.3d 1303; 2005 U.S. App. LEXIS 13954).

¹⁸⁶ *Autogiro Co. of America v. United States*, 384 F.2d 391 at 399 (Ct. Cl. 1967) (Discussed in *Phillips v. AWH Corporation*, 415 F.3d 1303; 2005 U.S. App. LEXIS 13954).

¹⁸⁷ *Lemelson v. Gen. Mills, Inc.*, 968 F.2d 1202, 1206 (Fed. Cir. 1992) (Discussed in *Phillips v. AWH Corporation*, 415 F.3d 1303; 2005 U.S. App. LEXIS 13954).

¹⁸⁸ *Inverness Med. Switz. GmbH v. Warner Lambert Co.*, 309 F.3d 1373, 1380-82 (Fed. Cir. 2002) (the ambiguity of the prosecution history made it less relevant to claim construction); *Athletic Alternatives, Inc. v. Prince Mfg., Inc.*, 73 F.3d 1573, 1580 (Fed. Cir. 1996) (the ambiguity of the prosecution history made it "unhelpful as an interpretive resource" for claim construction) (Discussed in *Phillips v. AWH Corporation*, 415 F.3d 1303; 2005 U.S. App. LEXIS 13954).

¹⁸⁹ *Vitronics*, *supra* note 168 at 1582-83; see also *Chimie v. PPG Indus., Inc.*, 402 F.3d 1371, 1384 (Fed. Cir. 2005) ("The purpose of consulting the prosecution history in construing a claim is to 'exclude any interpretation that was disclaimed during prosecution.'"), quoting *ZMI Corp. v. Cardiac Resuscitator Corp.*, 844 F.2d 1576, 1580 (Fed. Cir. 1988); *Southwall Techs., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1576 (Fed. Cir. 1995) (Discussed in *Phillips v. AWH Corporation*, 415 F.3d 1303; 2005 U.S. App. LEXIS 13954).

dictionaries, learned treatises, expert and inventor testimony.¹⁹⁰ In practice, extrinsic evidence is less useful than intrinsic evidence in determining the meaning of the claims.¹⁹¹

Extrinsic evidence in the form of dictionaries and treatises can be useful in claim construction.¹⁹² Technical dictionaries may be especially useful to understand the technology of the invention and how a person skilled in the art would interpret the claims.¹⁹³

Extrinsic evidence such as expert testimony can be helpful for the courts to understand the invention better and to ensure that the court's understanding is consistent with that of the person skilled in the art.¹⁹⁴

The courts view extrinsic evidence as being less reliable in claim construction than prosecution history for several reasons. In the first place, not being part of the patent, the extrinsic evidence does not contain the qualities of having been created during the prosecution process to explain the scope of the patent. Secondly, extrinsic evidence may

¹⁹⁰ *Markman I*, *supra* note 168 at 980, citing *Seymour v. Osborne*, 78 U.S. (11 Wall.) 516, 546, 20 L. Ed. 33 (1870); see also *Vitronics*, 90 F.3d at 1583 (Discussed in *Phillips v. AWH Corporation*, 415 F.3d 1303; 2005 U.S. App. LEXIS 13954).

¹⁹¹ *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 862 (Fed. Cir. 2004), quoting *Vanderlande Indus. Nederland BV v. Int'l Trade Comm'n*, 366 F.3d 1311, 1318 (Fed. Cir. 2004); see also *Astrazeneca AB v. Mutual Pharm. Co.*, 384 F.3d 1333, 1337 (Fed. Cir. 2004).

¹⁹² *Renishaw PLC v. Marposs Societa'*, Azioni J., 158 F.3d 1243, 1249 (Fed. Cir. 1998) at 1344 (Discussed in *Phillips v. AWH Corporation*, 415 F.3d 1303; 2005 U.S. App. LEXIS 13954).

¹⁹³ *Vitronics*, 90 F.3d at 1584 n.6 (Discussed in *Phillips v. AWH Corporation*, 415 F.3d 1303; 2005 U.S. App. LEXIS 13954).

¹⁹⁴ *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1308-09 (Fed. Cir. 1999) (Discussed in *Phillips v. AWH Corporation*, 415 F.3d 1303; 2005 U.S. App. LEXIS 13954).

not have been prepared by a person skilled in the art or target an audience skilled in the art, consequently lacking the perspective and understanding of a person skilled in the art. Thirdly, extrinsic evidence may be subject to bias since it is created during litigation and expert evidence provided may have certain bias.¹⁹⁵ Fourthly, due the abundance of extrinsic evidence, which sometimes is only marginally, relevant, the courts are faced with a daunting task of trying to distinguish between useful and useless extrinsic evidence.¹⁹⁶ Lastly, excessive reliance on extrinsic evidence may lead to changing of the meaning of the claims by expanding it beyond the claims, specification and prosecution history. This change in the meaning of the claims undermines the public notice that patents are intended to provide.¹⁹⁷

Overall, extrinsic evidence may be more reliable in claim construction if considered in the context of intrinsic evidence, otherwise its usefulness may be of limited value.

4. Conclusion

This chapter provided an overview of the approaches to patent claim construction in Canada and the United States. As it was shown in *Whirlpool* and *Free World*, the *Catnic* approach to claim construction is alive and well in Canada. Some critics argue that the test to claim construction in *Free World* inherited the legacy of an inherently self-

¹⁹⁵ *Senmed, Inc. v. Richard-Allan Med. Indus., Inc.*, 888 F.2d 815, 819 n.8 (Fed. Cir. 1989) (Discussed in *Phillips v. AWH Corporation*, 415 F.3d 1303; 2005 U.S. App. LEXIS 13954).

¹⁹⁶ *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 595, 125 L. Ed. 2d 469, 113 S. Ct. 2786 (1993) ("Expert evidence can be both powerful and quite misleading because of the difficulty in evaluating it.") (Discussed in *Phillips v. AWH Corporation*, 415 F.3d 1303; 2005 U.S. App. LEXIS 13954).

¹⁹⁷ *Southwall Tech., Inc. v. Cardinal IG Co.*, 54 F. 3d 1570, 1576 (Fed. Cir. 1995) at 1578 (Discussed in *Phillips v. AWH Corporation*, 415 F.3d 1303; 2005 U.S. App. LEXIS 13954).

contradictory test which on one hand considers the claim language to be paramount and on the other permits claim elements to be considered non-essential and subject to variation or elimination. The critics say a possible resolution of the inconsistency would be to count all claim elements as essential and this resolution can only come from the Parliament or from the Supreme Court of Canada.¹⁹⁸

The principles established in this chapter by the Canadian courts will be used in chapter 4 to provide an analysis of the possible claim construction of NTP's American patents that were subject to litigation in the United States. The chapter 4 analysis will be based on analysis of cases discussed in chapter 3, which is, in turn, are based upon the history set out in this chapter.

¹⁹⁸ *Supra* note 112 at p. 4-76.

CHAPTER 3 – Observations

1. Introduction

The Canadian cases collected in this chapter will serve as a foundation to construct a hypothetical claim construction for the American RIM litigation in chapter 4. In other words, the findings from this chapter will help to construe NTP's American patents through the prism of Canadian courts and the cases in this chapter will show how Canadian judges construe patent cases in Canada post *Whirlpool* and *Free World*.

As stated earlier, the Canadian cases selected for this chapter comprise of a set which has been decided post *Whirlpool* and *Free World*. Consequently, the cases collected incorporate the modern approach to claim construction in Canada, namely "purposive construction".

Specifically, eleven cases were selected. The rationale for selecting these cases was to discuss cases decided by the Canadian courts after 2000 to incorporate *Whirlpool* and *Free World*. This was to show whether Canadian courts took a broader approach to claim construction than in the United States. Secondly, an attempt was made to select cases that were as close as possible in technology to NTP's patents and since there were a limited number of cases in the telecommunications area,¹⁹⁹ cases with mechanical patents were added to the discussion. Thirdly, it was also an objective to collect cases that were

¹⁹⁹ *Polansky Electronics Ltd. v. AGT Ltd.*, [1999] A.J. No. 1230, 3 C.P.R. (4th) 34, Lefsrud J; *Polansky Electronics Ltd. v. AGT Ltd.*, [2001] A.J. No. 153, 11 C.P.R. (4th) 7, Fraser*, Bielby, Conrad J.A.; *Polansky Electronics Ltd. v. AGT Ltd.*, [2003] A.J. No. 636, 26 C.P.R. (4th) 370, Clarke J.

appealed to show the level of review undertaken by the appellate courts in relation to patent claim construction.

Other Canadian patent cases were examined in selecting these eleven but were not chosen for detailed study because no new grounds of patent claim construction were established by the courts in these cases. The main reason for including these cases was to increase the sample size and show the overall trend relating to patent claim construction in Canada. This trend in turn led to finding of infringement and to an overall observation of whether the Canadian approach to claim construction is broader than in the United States. These cases include the following: (1) *Johnson & Johnson Inc. v. Boston Scientific Ltd.*²⁰⁰ where the Federal Court construed patents for coronary artery stents finding no infringement of the valid (first) patent; (2) In *Visx Inc. v. Nidek Co.*,²⁰¹ (“Visx”) the Federal Court – Trial Division construed three patents relating to a method and apparatus for ophthalmologic surgery of the cornea. The Federal Court found the Visx patents to be valid and not infringed by Nidek. It dedicated ninety-eight paragraphs to claim construction²⁰² all being construed prior to *Whirlpool* and *Free World*. The Visx trial decision was appealed to the Federal Court of Appeal, where Justice Noël observed that the trial decision was pre *Whirlpool* and *Free World* but the appeal was argued on the basis that the trial judge instructed himself properly as to the applicable law.²⁰³ Justice Noël found that the trial judge properly concluded on validity and did not err in the

²⁰⁰ *Johnson*, *supra* note 118. This was a fifteen day trial with a decision delivered on May 8, 2008 by Justice Layden-Stevenson of the Federal Court. This decision was not appealed to the Federal Court of Appeal (Source: Quicklaw QuickCITE). Claim construction is at para. 88 to 188.

²⁰¹ *Visx Inc. v. Nidek Co.*, [1999] F.C.J. No. 1971, Dubé J. [*Visx*], affirmed in *Visx Inc. v. Nidek Co.*, [2001] F.C.J. No. 1076, Linden, Isaac, Noël J.*. The trial decision was mentioned in *Canamould*, *supra* note 138 at para. 52.

²⁰² *Visx*, *supra* note 201 at para. 9 to 106.

²⁰³ *Visx Inc. v. Nidek Co.*, [2001] F.C.J. No. 1076, Linden, Isaac, Noël J.A.* at para. 4 [*VisxFCA*].

construction of the claims;²⁰⁴ (3) In *Halford v. Seed Hawk Inc.*²⁰⁵ (“*Halford*”) the Federal Court construed a patent relating to farming equipment and found no infringement based on its construction. The Federal Court of Appeal²⁰⁶ (“*Appeal Court*”) found that the trial judge did not err in his construction of the patent claims or identification of their essential elements.²⁰⁷ The Appeal Court found that the trial judge made minor errors in stating the applicable legal principles but that these errors did not lead to the wrong result.²⁰⁸ The Appeal Court noted that the trial judge’s determination of essential elements was a difficult task being faced with lack of objectivity in the expert evidence presented.²⁰⁹ In relation to the errors made by the trial judge, the Appeal Court noted that the trial judge incorrectly stated that for an element to be essential, it had to be novel and inventive.²¹⁰ Pursuant to *Free World* however, an element is essential if “it is required for the device to work as contemplated and claimed by the inventor”. The element is considered non-essential if “it may be substituted or omitted without having a material effect on either the structure or operation of the invention described in the claims”;²¹¹ (4) In *Illinois Tool Works Inc. v. Cobra Anchors Co.*,²¹² (“*Illinois*”) the Federal Court – Trial Division construed a patent relating to a self-drilling drywall anchor and found that the claims asserted by the Plaintiff were not infringed as the defendant’s products lacked two

²⁰⁴ *VisxFCA*, *supra* note 203 at para. 15.

²⁰⁵ *Halford v. Seed Hawk Inc.*, [2004] F.C.J. No. 189, 31 C.P.R. (4th) 434, Pelletier J.) [*Halford*].

²⁰⁶ *Halford v. Seed Hawk Inc.*, (2006), 275 D.L.R. (4th) 556, (2006), 54 C.P.R. (4th) 130, Sexton, Sharlow, Malone J.A. [*HalfordFCA*].

²⁰⁷ *HalfordFCA*, *supra* note 206 at para. 28.

²⁰⁸ *HalfordFCA*, *supra* note 206 at para. 12.

²⁰⁹ *HalfordFCA*, *supra* note 206 at para. 19.

²¹⁰ *Halford*, *supra* note 205 at para. 83.

²¹¹ *HalfordFCA*, *supra* note 206 at para. 14. See also *Free World*, *supra* note 3 at paragraph 20.

²¹² *Illinois Tool Works Inc. v. Cobra Fixations Cie* [2002] F.C.J. No. 1104, 20 C.P.R. (4th) 402, Pelletier J. [*Illinois*].

essential elements.²¹³ The decision was appealed²¹⁴ and the Federal Court of Appeal dismissed the appeal; (5) In *Norac Systems International Inc. v. Prairie Systems and Equipment Ltd.*,²¹⁵ (“Norac”) the trial judge found no infringement on a rather restrictive claim construction of a patent relating to mobile weighting systems but the Federal Court of Appeal found no reason to disturb these findings.²¹⁶

The three observations that will be sought after in this chapter are: (1) whether the selected cases demonstrate the anticipated Canadian claim construction approach, (2) whether a pattern exists in how the cases cite each other or cite other law and (3) whether the American cases they cite seem to influence the Canadian approach.

2. The patent case litigated in both Canada and the United States

The first court decision²¹⁷ discussed in this chapter²¹⁸ features claim construction, in both Canada and the United States, of virtually identical patent claims. The other Canadian cases are presented in a chronological order as heard by the trial level courts. Lastly, one

²¹³ *Illinois*, *supra* note 212 at para. 91.

²¹⁴ *Illinois Tool Works Inc. v. Cobra Anchors Co.* [2003] F.C.J. No. 1477, 29 C.P.R. (4th) 417, Richard, Létourneau, * Noël J.A. [*IllinoisFCA*].

²¹⁵ *Norac Systems International Inc. v. Prairie Systems and Equipment Ltd.*, [2002] F.C.J. No. 448, 19 C.P.R. (4th) 360, Pelletier J. [*Norac*].

²¹⁶ *Norac Systems International Inc. v. Prairie Systems and Equipment Ltd.* [2003] F.C.J. No. 582, Décary, * Linden and Sharlow J.A. [*NoracFCA*].

²¹⁷ *CFM Corporation v. Dimplex North America* 2005 U.S. Dist. LEXIS 5562; *CFM Corporation v. Dimplex North America Ltd.*, 2006 U.S. App. LEXIS 12630, Michel, Newman, Mayer J.A.; *Dimplex North America Ltd. v. CFM Corp.*, [2006] F.C.J. No. 776; *Dimplex North America Ltd. v. CFM Corp.*, [2007] F.C.J. No. 1165, 60 C.P.R. (4th) 277.

²¹⁸ Kelly Gill, “Global Patent Strategies: The Big Picture – The enforcement of United States and Canadian Intellectual Property Rights in North America and Globally” (Paper presented to the Canada-United States Law Institute Conference On Comparative Aspects of Innovation in Canada and the United States, April 8 2006) 32 Can.-U.S. L.J. 118. - Court cases featuring litigation related to the same invention in Canada and the United States are rare to find. According to Kelly Gill, rarely are cases litigated in both United States and Canada on the same patent. American actions go to trial much faster than Canadian actions and often there is a settlement in Canada immediately after the American action is resolved (regardless if it favorable or not).

of the cases²¹⁹ from the telecommunications field was heard by provincial courts and the remaining cases were heard by the Federal Court.

(i) CFM Corporation v. Dimplex North America Limited

As background, the lawsuit between CFM Corporation and Dimplex in the United States and its subsequent similar lawsuit in Canada offers a rare glimpse of claim construction undertaken by the American and Canadian courts of two virtually identical patents.²²⁰ Adding to the value of these judgments is the fact that in both instances, the decisions of the lower courts were also appealed and affirmed by the courts of appeal in both countries. Hence, there was a rare occurrence of a two-level review in both countries. Since the American litigation predated the Canadian litigation, it will be discussed first. It is also apparent that the Federal Court in Canada awaited the decision of the American courts before releasing its own decision.²²¹ The abstract and claims of Canadian Patent No. 2,175,442 and the American Patent No. 5,647,580 (patents in suit) can be found in Appendix 1.

²¹⁹ *Polansky Electronics Ltd. v. AGT Ltd.*, [1999] A.J. No. 1230, 3 C.P.R. (4th) 34, Lefsrud J; *Polansky Electronics Ltd. v. AGT Ltd.*, [2001] A.J. No. 153, 11 C.P.R. (4th) 7, Fraser*, Bielby, Conrad J.A.; *Polansky Electronics Ltd. v. AGT Ltd.*, [2003] A.J. No. 636, 26 C.P.R. (4th) 370, Clarke J.

²²⁰ See Appendix 1 for side by side comparison of the Canadian Patent No. 2,175,442 and the American Patent No. 5,647,580. Claims of these two patents are virtually identical as can be seen in Appendix 1.

²²¹ The jury verdict in the U.S. District Court for the Northern District of Illinois was delivered on May 11, 2005 (2005 U.S. Dist. LEXIS 12592) and it was affirmed by the U.S. Circuit of Appeals for the Federal Circuit on May 3, 2006 (180 Fed. Appx. 942; 2006 U.S. App. LEXIS 12630) – discussed in *Dimplex North America Ltd. v. CFM Corp.* [2006] F.C.J. No. 776 at para. 6. The Canadian trial (*Dimplex North America Ltd. v. CFM Corp.*, [2006] F.C.J. No. 776) was heard between September 19 and September 30, 2005 by Justice Mosley of the Federal Court (Canada) and the judgment was delivered on May 11, 2006 thus eight days after the jury verdict in the United States. The Federal Court of Appeal (*Dimplex North America Ltd. v. CFM Corp.*, [2007] F.C.J. No. 1165, 60 C.P.R. (4th) 277) heard the appeal of Justice Mosley's decision on September 10, 2007 and delivered a decision from the bench on the same day.

a. CFM Corporation v. Dimplex North America Limited (U.S. District Court for the Northern District of Illinois) (May 2005)

The lawsuit in the United States was commenced by CFM who filed an action against Dimplex in the U.S. District Court for the Northern District of Illinois for a declaratory judgment of non-infringement, invalidity and unenforceability of Dimplex's American Patent No. 5,647,580 (the '580 Patent).²²² Dimplex counterclaimed for infringement and was awarded victory by a jury verdict dated March 8, 2005 that found willful infringement by CFM. The U.S. Circuit Court of Appeals affirmed the judgment against CFM for the Federal Circuit on May 3, 2006.²²³

The first step in the American proceedings was construction of the claims of the '580 Patent which the United States District Court for the Northern District of Illinois did in its Markman order delivered on April 22, 2004.²²⁴ Justice Leinenweber delivered the opinion.

The first clause to be construed by the Court in Claim 1 of the '580 patent related to the following words: "A flame effect having means for transmitting light from said light source to produce a moving flame effect" ("Clause 1").²²⁵ The parties agreed that Clause 1 was written in a "means-plus-function" format that required the Court to first determine the claimed function looking only to limitations in the claim language and not the specification. Second, after the function was identified, the Court had to look to the

²²² *Dimplex North America Ltd. v. CFM Corp.*, [2006] F.C.J. No. 776 [*Dimplex*] at para. 6.

²²³ Comment in *Dimplex*, *supra* note 223 at para. 6.

²²⁴ *CFM Corporation v. Dimplex North America Ltd.* 2004 U.S. Dist. LEXIS 7065, Leinenweber J. [*DimplexUS*].

²²⁵ *DimplexUS*, *supra* note 224 at p. 5.

specification to find the corresponding function claimed. The Plaintiff CFM took the position that the claimed function in this case was “transmitting light through a moving flame effect element”. Specifically, in Plaintiff’s view this function included “both (1) permitting a passage of light through the flame effect and (2) permitting movement of the flame effect element”. CFM also argued in favor of a corresponding structure to carry out the function as being “a single sheet of light-weight, substantially opaque, material that can “ripple, billow, or otherwise move”. CFM was of the view that the proper construction of Clause 1 should read as:²²⁶

“A device used in simulating flames that is made of flexible opaque material and is movable, with light transmitting areas such that light passing therethrough is seen to change in response to movement of opaque material.”

The Defendant Dimplex disagreed with claim construction proposed by CFM. The disagreement between the parties as to the construction of terms in Clause 1 was “whether the means-plus-function limitation in Claim 1 required the flame element to be a moving structure”.²²⁷ CFM relied on the clause “to produce a moving flame effect” to argue that creating the moving flame effect was part of the function which consequently required the corresponding structure (flame effect element) to move. Dimplex argued that CFM erroneously focused its claim construction on the flame effect element as the means for transmitting light instead of reading the claim in its plain meaning and should have focused instead on the clause “having means for transmitting light”.²²⁸ In

²²⁶ *DimplexUS*, *supra* note 224 at p. 5.

²²⁷ *DimplexUS*, *supra* note 224 at p. 5.

²²⁸ *DimplexUS*, *supra* note 224 at p. 5.

Dimplex's view, the "means for transmitting light" referred to openings, gaps, or slits permitting passing of light in the flame effect element. Dimplex next attacked CFM's characterization of the claimed function arguing that its function is the transmission of light instead of a creation of a moving flame effect.

The Court favored Dimplex's argument. It looked to the "means for" phrase to determine the function and found that in this case the "means for" clause indicated that the claimed function was "transmitting light from said light source". The Court found the subsequent clause "to produce a moving flame effect" of no value since it simply stated the ultimate desired result of the claim's limitation being "a moving flame effect". Consequently, the Court found that the function in this case was to exclude the creation of a moving flame effect as this was "the ultimate result of a series of operations in the device" and inconsistent with the immediate function stated in Claim 1, which was the transmission of light.

The Court then turned to the function of "transmitting light from said light source" and the structure required for carrying it out and found that the specification pointed to the flame element being linked with this function. The Court clarified that the function in this case related to the transmission of light and not creation of the moving flame effect. There was no support in the specification or from the plain reading of the limitation for concluding that the flame effect element had to move to create the effect of the moving flame. There was support in the specification to show that the flicker element was related

to the movement of colored flames as well as upwardly moving gasses. Having considered the above, the Court construed Clause 1 as:

“A stationary or mobile component made of light-weight material that contains openings for transmitting light to produce an impression of moving flames”.²²⁹

The second clause that the Court had to construe related to portions of Claims 1 and 30, namely “flicker element having at least one reflective surface” (“Clause 2”).²³⁰ The parties disagreed as to Clause 2 in relation to the treatment of the word “flicker” in the context of the other language in the claims. The Court noted that as a general rule, its job was first to apply the plain and ordinary meaning of the word “flicker” as it would have been understood by a person skilled in the art. Subsequently, the Court could look to intrinsic evidence such as the specification to determine the uniformity between the inventor’s use of the word “flicker” and its ordinary meaning. In this case, the Court found that on a plain and ordinary construction of the word “flicker”, as a noun or a verb, to mean wavering light. This interpretation was consistent with the description of the flicker element as stated in the specification. Consequently, the Court construed the word “flicker” as “a component part having at least one surface that reflects light in a wavering motion”.²³¹

²²⁹ *DimplexUS*, *supra* note 224 at p. 6. As will be seen in subsequent proceedings, *CFM Corporation v. Dimplex North America Ltd.*, 2005 U.S. Dist. LEXIS 5562, the term “light-weight” was removed as it was not necessary to accomplish the limitation of the function which was “transmitting light from said light source.”

²³⁰ *DimplexUS*, *supra* note 224 at p. 7.

²³¹ *DimplexUS*, *supra* note 224 at p. 7.

The third clause of Claim 1 that the Court construed was “a screen having a partially reflecting surface and a diffusing surface” (“Clause 3”).²³² CFM relied on prior art American Patent No. 4,965,707 (the ‘707 patent) for construing Clause 3. Relying on the description of the screen in the ‘707 patent, CFM argued that as in the ‘707 patent the screen in this case should be construed as a “panel with two surfaces...that acts as a mirror”. Secondly, CFM relied on the language in the specification which indicated that the screen was “positioned immediately behind the fuel bed 26 so that the fuel bed 26 will be reflected in the reflecting surface 44 to give the illusion of depth” to argue that the “entire point if this mirrored surface is to provide the clear image of simulated flames from between the fuel bed and its reflection on the screen”. Dimplex on the other hand argued that Clause 3 was clear and unambiguous. Dimplex relied on dictionary definitions to argue that a “partially reflecting surface” was a surface that “partially bends light”. In Dimplex’s view, a “diffusing surface” related to a surface that “disperses and softens light”.

The Court was of the view that these terms were straightforward therefore merited the application of everyday meaning. The Court rejected CFM’s approach, which in the Court’s view “not only seeks to introduce improperly the specifications from another patent but also attempts to limit the claims of the specification terms”. The Court construed Clause 3 as:

“a screen having a surface that partially bends light or gives back an image and also having a surface that disperses and softens light.”²³³

²³² *DimplexUS*, *supra* note 224 at p. 7.

²³³ *DimplexUS*, *supra* note 224 at p. 7.

The fourth and fifth clauses that the Court construed related to Claims 1 and 30 were: “an image...which resembles moving flames” (“Clause 4”) and “an image which resembles moving gasses” (“Clause 5”).²³⁴ CFM argued that “an image of moving flames” in Claim 1 was different from a simulation of “moving gasses from a fire” in Claim 30 of the ‘442 patent. According to CFM, image of moving flames is “something defined by vertically oriented slits cut into the moving flame effect element” but the “simulation of upwardly moving gasses” was effected by the use of the flicker element. Dimplex argued that the language was clear and unambiguous and asked the Court to construe the clause according to the plain and ordinary meaning.

The Court had difficulty in pinpointing the disagreement between the parties in relation to construing these clauses. It noted that Dimplex appeared to agree that the two images were distinct. The Court qualified the disagreement basing it on CFM’s argument, which required the image of moving gasses to be above the image of the moving flames. The Court noted that nothing in the claim or intrinsic evidence specified that the image of moving gasses had to appear above the image of moving flames. As a result, the Court adopted the following construction for Clause 4:

“a representation that gives the appearance of moving flames”

For Clause 5 the Court adopted the following construction:

“a representation that gives the appearance of moving gasses from a fire.”²³⁵

²³⁴ *DimplexUS*, *supra* note 224 at p. 7.

²³⁵ *DimplexUS*, *supra* note 224 at p. 8.

The sixth clause to be construed by the Court relating to Claims 1 and 30 related to: “the image of moving flames [or moving gasses] appears to emanate between the simulated fuel bed and its image on the screen” (“Clause 6”). In the end, the Court found no disagreement between the parties as to Clause 6 and refrained from construing it.²³⁶

In the subsequent proceeding before Justice Leinenweber of the United States District Court for the Northwestern District of Illinois, the issues involved infringement, validity, and inequitable conduct.²³⁷ In these proceedings decided February 8, 2005, the Court amended its earlier claim construction and in particular Clause 1 of the Markman order to eliminate the term “light-weight”.²³⁸ As indicated in the Markman order, Claim 1 initially read as follows:²³⁹

A flame simulating assembly comprising:

a light source;

a flame effect element having means for transmitting light from said light source to produce a moving flame effect;

at least one flicker element having at least one reflective surface, said flicker element being positioned intermediate of said light source and said flame effect element to reflect light from said light source for subsequent transmission by said flame effect element;

a screen having a partially reflecting surface and a diffusing surface, said flame effect element extending proximate to said diffusing surface wherein said transmitted light produces an image on the screen which resembles moving flames;

and a simulated fuel bed positioned adjacent to said partially reflecting surface wherein an image of the fuel bed is displayed on the screen and wherein the image of moving flames appears to emanate between the simulated fuel bed and its image in the screen.

²³⁶ *DimplexUS*, *supra* note 224 at p. 8.

²³⁷ *CFM Corporation v. Dimplex North America* 2005 U.S. Dist. LEXIS 5562. [*DimplexUS1*].

²³⁸ *DimplexUS1*, *supra* note 237 at p. 9.

²³⁹ *DimplexUS1*, *supra* note 237 at p. 8.

The claim construction of Claim 1 after the Markman order was as follows:

A "flame effect having means for transmitting light from said light source to produce a moving flame effect" as construed reads "a stationary or mobile component made of light-weight material that contains openings for transmitting light to produce an impression of moving flames."

A "flicker element having at least one reflective surface" as construed reads "a component part having at least one surface that reflects light in a wavering motion."

"[A] screen having a partially reflecting surface and a diffusing surface" as construed reads "a screen having a surface that partially bends light or gives back an image and also having a surface that disperses and softens light."

"An image . . . which resembles moving flames" and "an image which resembles moving gasses" from claims 1 and 30 as construed reads "a representation that gives the appearance of moving flames" and "a representation that gives the appearance of moving gasses from a fire."

The Court concluded to amend Claim 1 and eliminate the term "light-weight" because this term was not necessary to accomplish the limitation of the function, which was "transmitting light from said light source".²⁴⁰

On May 11, 2005, Justice Leinenweber granted a permanent injunction against CFM based on the jury's findings that CFM's products infringed multiple claims of Dimplex's '580 Patent and finding that the '580 Patent was valid.²⁴¹

²⁴⁰ *DimplexUS1*, *supra* note 237 at p. 9.

²⁴¹ *CFM Corporation v. Dimplex North America Ltd.*, 2005 U.S. Dist. LEXIS 12731.

b. CFM Corporation v. Dimplex North America Ltd. (United States Court of Appeals for the Federal Circuit) (May 2006)

In a short judgment dated May 3, 2006, the United States Court of Appeals for the Federal Circuit affirmed Justice Leinenweber's decision that granted the permanent injunction.²⁴²

c. Dimplex North America Ltd. v. CFM Corp. (Federal Court) (May 2006)

In *Dimplex North America Ltd. v. CFM Corp.*,²⁴³ the issue before Justice Mosley of the Federal Court was an action for infringement of Dimplex's Canadian Patent No. 2,175,442 (the '442 Patent) entitled "Flame Simulating Assembly".²⁴⁴ The patent related to an assembly built into electric fireplaces which provided a realistic "flame effect" common in wood and coal fuelled fireplaces.²⁴⁵ Justice Mosley acknowledged the existence of a similar lawsuit in the United States involving CFM and Dimplex that predated the current proceedings.²⁴⁶ One of the questions to be answered by the Court was the appropriate construction of the '442 Patent.²⁴⁷ The Court dedicated thirty three paragraphs to claim construction²⁴⁸ noting that the relevant date for undertaking the claim

²⁴² *CFM Corporation v. Dimplex North America Ltd.*, 2006 U.S. App. LEXIS 12630, Michel, Newman, Mayer J.A. [*DimplexUS4*].

²⁴³ *Dimplex*, *supra* note 222.

²⁴⁴ *Dimplex*, *supra* note 222 at para. 3.

²⁴⁵ *Dimplex*, *supra* note 222 at para. 1.

²⁴⁶ *Dimplex*, *supra* note 222 at para. 6.

²⁴⁷ *Dimplex*, *supra* note 222 at para. 8.

²⁴⁸ *Dimplex*, *supra* note 222 at para. 49 to 81.

construction was October 31, 1997 being the publication date of the '442 Patent.²⁴⁹ It was agreed by the experts that the ordinary person skilled in the art would "have some knowledge or equivalent experience in electrical services and sheet metal work."²⁵⁰ Dimplex alleged infringement of claims 1, 5, 7, 13, 14, 15, 16, 24, 25, 31, 32 and 33 of the '442 Patent.²⁵¹ Claims 1 and 31 were the only independent claims with claims 5, 7, 13, 14, 15, 16, 24 and 25 being dependent on Claim 1, claim 32 being dependent on claim 31 and claim 33 being dependent on claims 1 to 25, 31 and 32.²⁵² The Court noted the main difference between Claims 1 and 31 of the '442 Patent to be that Claim 31 did not require a flame effect element and referred to moving gasses instead of moving flames.²⁵³

The disputed terms from Claim 1 of the '442 Patent were: "a flame effect element having means for transmitting light from said light source to produce a moving flame effect" ("Clause 1"),²⁵⁴ "a screen having a partially reflecting surface" ("Clause 2"),²⁵⁵ and "wherein an image of the fuel bed is displayed on the screen" ("Clause 3").²⁵⁶ The disputed terms of Claim 31 was "image which resembles moving gasses from a fire" ("Clause 4").²⁵⁷

²⁴⁹ *Dimplex*, *supra* note 222 at para. 49.

²⁵⁰ *Dimplex*, *supra* note 222 at para. 53.

²⁵¹ *Dimplex*, *supra* note 222 at para. 54.

²⁵² *Dimplex*, *supra* note 222 at para. 54.

²⁵³ *Dimplex*, *supra* note 222 at para. 56.

²⁵⁴ This clause is identical to Clause 1 construed in *DimplexUS*, *supra* note 224.

²⁵⁵ This clause is almost identical to Clause 3 construed in the American proceedings (*DimplexUS*, *supra* note 224), the only difference being that Clause 3 in *DimplexUS*, *supra* note 224 included "and a diffusing surface" and the Canadian litigation (*Dimplex*, *supra* note 222) omitted these words despite the fact that part of Claim 1 in both U.S. Patent No. 5,647,580 and Canadian Patent No. 2,175,442 are identical – see Appendix 1 and *DimplexUS*, *supra* note 224.

²⁵⁶ *Dimplex*, *supra* note 222 at para. 55.

²⁵⁷ *Dimplex*, *supra* note 222 at para. 55. This clause is almost identical to Clause 4 in the litigation in the United States see *DimplexUS*, *supra* note 224 and Appendix 1.

In respect of construing Clause 1, the Defendant's expert²⁵⁸ considered the specification with the concluding words of Claim 1 and deducted that "flame effect element" had to be movable. To support this reasoning, the Defendant's expert referred to limitations set out in claims 2, 3, and 4. Claim 2 set out a limitation that assembly in claim 1 comprised "means for moving the flame effect element to produce the moving flame effect". Claim 3 referred to means as an airflow generator. Claim 4 required the flame effect element to be adapted "to move in response to an airflow".²⁵⁹ In its closing argument, the Defendant did not insist that the "flame effect element" had to be moveable²⁶⁰ acknowledging the possibility that the source of the motion in Claim 1 could be the "flicker element" instead of the "flame effect element".²⁶¹ Having said this, the Defendant argued that the "flame effect element" had to at least be capable of motion to give meaning to the claims being dependent on Claim 1.²⁶² To support this argument, the Defendant noted that the dependant Claim 14 requiring movement of the flicker element would be redundant if that movement were an essential part of Claim 1.²⁶³ The Plaintiff's expert was of the opinion that the language in Claim 1 was broad enough allowing the flame effect element to be either movable or immovable as it transmitted light to produce the flame effect.²⁶⁴

Justice Mosley observed that in *Halford*²⁶⁵ Justice Pelletier stated that dependent claims included all the features of the claim referenced by it. Similarly, independent claims could not be construed in a way that was inconsistent with claims that were dependent on

²⁵⁸ Dr. Samir Barudi, see *Dimplex*, *supra* note 222 at para. 45.

²⁵⁹ *Dimplex*, *supra* note 222 at para. 62.

²⁶⁰ *Dimplex*, *supra* note 222 at para. 64.

²⁶¹ *Dimplex*, *supra* note 222 at para. 64.

²⁶² *Dimplex*, *supra* note 222 at para. 64.

²⁶³ *Dimplex*, *supra* note 222 at para. 64.

²⁶⁴ *Dimplex*, *supra* note 222 at para. 63.

²⁶⁵ *Halford*, *supra* note 205; see *Dimplex*, *supra* note 222 at para. 65.

them.²⁶⁶ Justice Mosley found that construction of the flame element of Claim 1 as either movable or immovable to be consistent with claims being dependant on Claim 1.²⁶⁷ Justice Mosley opined that an ordinary person skilled in the art having read the patent in its entirety would understand Clause 1 to be one that is movable or immovable depending on the circumstances. The Court found the key in the flame element having the ability to transmit light to produce a moving flame effect through the “flame shaped and other holes that pierce the element”.²⁶⁸ The source of the movement of this light came from rotation of the flicker element as being claimed in Claim 14. The Court found that structure of claims 1 to 4 of the ‘442 patent read together supported this construction of Clause 1.²⁶⁹ The Court found the limitation of the flame effect element in Claim 1 to be that it had the means for transmitting light. The other limitations were in the dependent claims requiring the flame effect element to be adapted to move in response to airflow. Nothing in Claim 2 made reference to any particular means to move the flame effect element, Claim 3 defined the means as “comprising an airflow generator” Claim 4 required an additional feature, namely, airflow response.²⁷⁰

In respect of construing Clause 2, Dimplex’s expert construed it as referring “to a screen with a surface that partially bends the light”. The Court noted this interpretation was similar to the one used in the American proceedings discussed earlier. The Court noted that the ‘442 Patent specification referred to the ‘707²⁷¹ Patent which described a

²⁶⁶ *Dimplex, supra* note 222 at para. 65.

²⁶⁷ *Dimplex, supra* note 222 at para. 66.

²⁶⁸ *Dimplex, supra* note 222 at para. 66.

²⁶⁹ *Dimplex, supra* note 222 at para. 67.

²⁷⁰ *Dimplex, supra* note 222 at para 67.

²⁷¹ American Patent No. 4,965,707 – same as in the American litigation see *DimplexUS, supra* note 224.

“suitably partially reflecting screen that could be successfully used as part of the invention”.²⁷² CFM’s expert interpreted the clause “partially reflecting surface” in claim 1 of the ‘442 Patent and read into it a requirement for a partly or lightly silvered surface from the ‘707 Patent. The Court noted however that the CFM’s expert failed to consider other acceptable embodiments listed in the ‘707 Patent, some of which also included “partially reflecting screen ranging from plain glass to a semi-silvered surface”.²⁷³ According to Dimplex’s expert, this range was consistent with the meaning of “partially reflecting surface” since each would have this effect to varying extent. The Court agreed with this interpretation of the ‘707 Patent and found the essential element to be “a screen that is sufficiently reflective to create an illusion of depth in the displayed image of the fuel bed”. The Court found that screens with gloss finish would have such effect irrespective of material they were made of and found that CFM’s acrylite screens had a gloss finish.

Justice Mosley found the meaning of the diffusing surface in the ‘442 Patent to be clear. Experts for both sides agreed that diffusion meant “dispersion in the scattering sense” and consequently applying the ordinary meaning of diffusion, the Court concluded that Claims 1 and 31 recited a “screen with a surface that disperses and softens light”.²⁷⁴

In respect of construing Clause 3, the Court accepted testimony of Dimplex’s expert who explained that the context in which “image” was used in the claims would create an illusion that sheet of flames would appear to be rising from the middle of back half of the

²⁷² *Dimplex, supra* note 222 at para. 69.

²⁷³ *Dimplex, supra* note 222 at para. 69.

²⁷⁴ *Dimplex, supra* note 222 at para. 71.

fuel bed. There was also agreement between experts on this issue. The Court found that the object was to “produce an illusion of depth so that you appear to have a real fuel bed with real flames, the effect the inventors were seeking to achieve”.²⁷⁵

In respect of construing Clause 4, the Court first noted the difference between Claims 1 and 31. This difference was that Claim 31 lacked a flame effect element and referred to an image of moving gasses instead of an image of moving flames. Dimplex’s expert argued that reference to gasses was consistent with the fact that no element was present to create a shape of flames by the transmitted light and understood the image to be “of rising gasses in combustion emitting light”.²⁷⁶ CFM’s expert understood reference to moving gasses to represent “heat shimmer rising from the fuel bed”. The Court noted that there was no reference to a “heat shimmer” in the specification and stated that the inventors were not referring to “heat shimmer” when they used the term gasses.²⁷⁷ The Court agreed with the defendant that by using two different terms, “flames” and “gasses” the inventors envisioned two different kinds of images.²⁷⁸ The Court noted that intention of the inventors was to create an illusion of fire and not a real fire. Furthermore, it noted that the flame effect element to simulate the appearance of flames rising from fire was included in the preferred embodiment but was excluded and was not claimed in the assembly. The effect of excluding the element from the assembly was to create a display created by the flicker element on the “diffusing screen without masking by the flame

²⁷⁵ *Dimplex, supra* note 222 at para. 74.

²⁷⁶ *Dimplex, supra* note 222 at para. 76.

²⁷⁷ *Dimplex, supra* note 222 at para. 77.

²⁷⁸ *Dimplex, supra* note 222 at para. 78.

effect element". The Court concluded that the patent claims pointed to simulated fire and not real fire.²⁷⁹

The defendant's expert was of the view that since certain elements of the '442 Patent believed by the defendant to be essential were not present in its products, there was no infringement. The defendant's expert construed the following as essential elements of the '442 Patent: (1) "moving flame effect element"; (2) "partially reflecting screen that is semi-silvered"; (3) "a crisp image of the fuel bed reflected in the screen" but the Court disagreed that these elements were essential and found infringement of the '442 Patent.²⁸⁰ Justice Mosley also found that the '442 Patent was valid.²⁸¹

The Court found that the novel and inventive features of the '442 Patent comprised of the following essential elements:²⁸²

- Light;
- A static or movable sheet of material with cut outs to transmit that light in the shape of flames (flame effect element);
- A rotisserie like rod with reflective strips rotating about an axis to reflect the light (the "flicker" element);
- A screen having a partially reflecting surface and a diffusing surface wherein the light reflected from the rotating flicker element and transmitted by the flame effect element produces an image on the screen resembling moving flames from a fire;
- A simulated fuel bed adjacent to the partially reflecting surface such that an image of the bed can be seen in the screen, producing an image of flames, which appear to rise from the middle of the fuel bed.

²⁷⁹ *Dimplex*, *supra* note 222 at para. 79.

²⁸⁰ *Dimplex*, *supra* note 222 at para. 118.

²⁸¹ *Dimplex*, *supra* note 222 at para. 1.

²⁸² *Dimplex*, *supra* note 222 at para. 81.

The decision of Justice Mosley was appealed to the Federal Court of Appeal.²⁸³ This decision cited the following decisions mentioned in chapters 2 and 3:²⁸⁴ *Halford*,²⁸⁵ *Norac*,²⁸⁶ *Whirlpool*, and *Free World*.

The following international (English) case was cited in this case: *Lister v. Norton Brothers and Co.*²⁸⁷

As noted above, this case was decided by Justice Mosley²⁸⁸ who was appointed as a Justice of the Federal Court on November 4, 2003. Prior to being appointed to the bench, Justice Mosley practiced criminal law and as Justice of the Federal Court heard six intellectual property cases before deciding *Dimplex* on May 11, 2006.²⁸⁹

²⁸³ *Dimplex North America Ltd. v. CFM Corp.*, [2007] F.C.J. No. 1165, 60 C.P.R. (4th) 277 [*DimplexFCA*].

²⁸⁴ Source: CanLii Reflex.

²⁸⁵ *Halford*, *supra* note 205 at para. 65 in relation to a discussion on the relationship of dependent and independent claims where Justice Pelletier observed that "it is clear from section 87 of the Patent Rules SOR/96-423 that a dependent claim includes all the features and limitations of the claim which it incorporates by reference. As a corollary to that principle, the independent claim cannot be given a construction which is inconsistent with the claims which are dependent upon it."

²⁸⁶ *Norac*, *supra* note 215 at para. 80 in a statement that "a determination of the essential elements of a patent must relate to the inventiveness of the invention and be more than a mere summary of the main elements of a device. In other words, what produces a useful result is a novel and inventive manner and without which the device ceases to be inventive."

²⁸⁷ *Lister v. Norton Brothers and Co.* (1886), 3 R.P.C. 199 at 203 (Ch.D.) at para. 50 in relation to construction: "A patent "must be read by a mind willing to understand, not by mind desirous of misunderstanding"."

²⁸⁸ Biography of the Honourable Richard Mosley online: Federal Court of Canada <http://cas-ncr-nter03.cas-satj.gc.ca/portal/page/portal/fc_cf_en/Mosley>.

²⁸⁹ Other intellectual property judgments/motions heard by this judge before first case in chapter 3 was heard: (1) *Letourneau v. Clearbrook Iron Works Ltd.*, 2005 FC 1229 (CanLII) (Sept 26, 2005) (Motion); (2) *Merck & Co. Inc. v. Apotex Inc.*, 2005 FC 582 (CanLII) 28th day of April, 2005 (Order); (3) *Pfizer Canada Inc. v. Canada* (Attorney General), 2004 FC 370 (CanLII) (11th day of March, 2004) Judicial Review; (4) *Janssen-Ortho Inc. v. Novopharm Ltd.*, 2004 FC 1631 (CanLII) 19th day of November, 2004 (Order); (5) *Pfizer Canada Inc. v. Apotex Inc.*, 2005 FC 1421 (CanLII) 17th day of October, 2005 (Application); (6) *Merck & Co. Inc. v. Apotex Inc.*, 2005 FC 755 (CanLII) 26th day of May, 2005 (Order) (CanLii). The other case decided by this judge from Chapter 3 is *Calgon Carbon Corp. v. North Bay*, [2006] F.C.J. No. 1719 decided on November 14, 2006.

The overall observation about this decision, in light of the themes of the thesis, is that the Federal Court took a broad approach to claim construction to find infringement of the claims in suit. The Court rejected the limitations presented by the defendant's expert and agreed with the plaintiff's argument that Claim 1 was broad enough allowing the flame element to be either movable or immovable.

d. Dimplex North America Ltd. v. CFM Corp. (Federal Court of Appeal) (Sept. 2007)

In a two paragraph oral judgment, Justice Sharlow speaking for the Federal Court of Appeal affirmed the trial judgment.²⁹⁰

This decision was not appealed to the Supreme Court of Canada and did not cite any cases from chapter 3.²⁹¹

The overall observation about this court case, in light of the themes of the thesis, shows that the Federal Court of Appeal affirmed the broad approach to claim construction taken by the Federal Court at trial.

One of the most valuable cases in this chapter is the litigation between Dimplex and CFM, which is of particular importance because it provides a glimpse into claim construction in both Canada and the United States of virtually identical patents. In the American litigation, there were six clauses that were being construed by the United States

²⁹⁰ *DimplexFCA*, *supra* note 283. Source: Quicklaw QuickCITE.

²⁹¹ Source: CanLii Reflex.

Court for the Northern District of Illinois and in Canada; there were four clauses that were being construed by the Federal Court. Table 2 below shows similarity between the three clauses of the Canadian patent No. 2,175,442 (the '442 Patent) and of the American Patent No. 5,642,580 (the '580 Patent) and their construction by the American and Canadian courts. Comparison of claim construction undertaken by the courts in both countries will specifically focus on the (pairs) of three clauses as highlighted below.

United States Patent No. 5,642,580 "Flame Simulating Assembly"	Canadian Patent No. 2,175,442 "Flame Simulating Assembly"
<p>(1) "A flame effect having means for transmitting light from said light source to produce a moving flame effect" (Clause 1 as indicated above and relating to Claim 1 of the '580 patent);</p> <p><u>Construction:</u> Justice Leinenweber construed Clause 1 as:</p> <p>"A stationary or mobile component that contains openings for transmitting light to produce an impression of moving flames".²⁹²</p>	<p>(1) "A flame effect having means for transmitting light from said light source to produce a moving flame effect" (Clause 1 as indicated above and relating to Claim 1 of the '442 patent);</p> <p><u>Construction:</u> Justice Mosley found construction of Clause 1 as:</p> <p>"A static or movable sheet of material with cut outs to transmit that light in the shape of flames (flame effect element)."</p>
<p>(2) "flicker element having at least one reflective surface" (Clause 2 as indicated above and relating to Claims 1 and 30 of the '580 patent);</p>	
<p>(3) "a screen having a partially reflecting surface and a diffusing surface" (Clause 3 as indicated above and relating to Claim 1 of the '580 patent);</p> <p><u>Construction:</u> Justice Leinenweber construed Clause 3 as:</p> <p>"A screen having a surface that partially bends light or gives back an image and also having a surface that disperses and softens light".²⁹³</p>	<p>(2) "a screen having a partially reflecting surface" (Clause 2 as indicated above and relating to Claim 1 of the '442 patent);</p> <p><u>Construction:</u> Justice Mosley found the meaning of the diffusing surface to mean:</p> <p>"A screen having a partially reflecting surface and a diffusing surface wherein the light reflected from the rotating flicker element and transmitted by the flame effect element produces an image on the screen resembling moving flames from a fire;"</p>

²⁹² *DimplexUS*, *supra* note 224 at p. 6.

²⁹³ *DimplexUS*, *supra* note 224 at p. 7.

(4) “an image ...which resembles moving flames” (Clause 4 as indicated above and relating to Claim 1 of the ‘580 patent);	This clause was not being construed in the Canadian litigation.
This clause was not being construed in the American litigation.	(3) “wherein an image of the fuel bed is displayed on the screen” (Clause 3 as indicated above and relating to Claim 1);
<p>(5) “an image which resembles moving gasses” (Clause 5 as indicated above relating to Claim 30 of the ‘580 patent);</p> <p><u>Construction:</u> Justice Leinenweber construed Clause 5 as:</p> <p>“a representation that gives the appearance of moving gasses from a fire”.</p>	<p>(4) “[image which resembles] moving gasses from a fire” (Clause 4 as indicated above and relating to Claim 31 of the ‘442 patent).</p> <p><u>Construction:</u> Justice Mosley construed Clause 4 as:</p> <p>“What the inventors sought to create is not a real fire but an illusion of fire. While the preferred embodiment includes a flame effect element to simulate the appearance of flames rising from a fire, the inventors have also claimed the assembly absent that element. <u>They intended to claim the image of moving gasses from a fire</u> when the assembly does not include a flame effect element. What remains is the display that the flicker element produces on the diffusing screen without masking by the flame effect element.” (at para. 79) (My emphasis).</p>
<p>(6) “the image of moving flames [or moving gasses] appears to emanate between the simulated fuel bed and its image on the screen” (Clause 6 as indicated above);</p> <p><u>Construction:</u> As there was no controversy about construing this clause, the Court refrained from doing so.</p>	This clause was not being construed in the Canadian litigation.

Table 2: Claims construed by Canadian and American courts in the *Dimplex* litigation

As can be seen from Table 2, the first clause (Clause 1 in both patents) “a flame effect having means for transmitting light from said light source to produce a moving flame effect” was identical in both the ‘580 Patent and the ‘442 Patent. The United States District Court of the Northern District of Illinois construed this clause as “A stationary or mobile component that contains openings for transmitting light to produce an impression

of moving flames”. The Federal Court (Canada) construed this clause as: “A static or movable sheet of material with cut outs to transmit that light in the shape of flames (flame effect element).” The result of construing the clause is identical even if the wording varies in both constructions. The Federal Court concluded that the flame effect element could be either movable or immovable²⁹⁴ and the United States District Court of the Northern District of Illinois found that the ‘component’ could be either stationary or mobile. The approaches to reach this conclusion differed slightly but yielded the same result in construction of the claims (i.e., identification of essential elements).

With respect to Clause 3 of the ‘580 Patent and Clause 2 of the ‘442 Patent, Justice Mosley of the Federal Court (Canada) concluded that plain and ordinary meaning of the term ‘diffusion’ and consequently, Claims 1 and 31 in the ‘442 patent referred to a screen “with a surface that disperses and softens light”.²⁹⁵ This was the construction given to Clause 3 of the American ‘580 patent.

With respect to Clause 5 of the ‘580 Patent and Clause 4 of the ‘442 Patent, Justice Mosley agreed, as did Justice Leinenweber, that by using different terms “flames” and “gasses”, the inventors envisioned two different kinds of images.²⁹⁶ Justice Leinenweber construed Clause 5 as “a representation that gives the appearance of moving gasses from a fire” and Justice Mosley also concluded that the inventors “intended to claim the image of moving gasses from a fire when the assembly does not include a flame effect element” (see Table 2).

²⁹⁴ *Dimplex, supra* note 222 at para. 66.

²⁹⁵ *Dimplex, supra* note 222 at para. 71.

²⁹⁶ *Dimplex, supra* note 222 at para. 78.

It is interesting to note that the American court at the trial level identified the “means plus function”. In Canada, because there are no equivalents to the 35 U.S.C. 112(6), “means, plus function” claims are generally interpreted more broadly under Canadian law.²⁹⁷

The *Dimplex*²⁹⁸ Canadian and American litigation obviously cannot be used to make general conclusions to claim construction in Canada and the United States as the sample size would have to be larger to make this determination but as stated earlier, unfortunately cases of this kind are very rare.²⁹⁹ Justice Mosley even mentioned that it was regrettable that Dimplex’s expert witness in the Canadian proceedings “chose to rely upon the terms and phrases employed in the U.S. brief to convey his views”.³⁰⁰ Justice Mosley was not convinced however that in doing so, the expert “lost the objectivity and impartiality required to assist the court with his expertise”.³⁰¹

It is interesting to observe that in the Dimplex/CFM saga both in Canada and the United States, the trial levels found infringement of the patents and the appeal courts in both countries affirmed the finding of the trial courts.

²⁹⁷ *Supra* note 8.

²⁹⁸ *CFM Corporation v. Dimplex North America* 2005 U.S. Dist. LEXIS 5562; *CFM Corporation v. Dimplex North America Ltd.*, 2006 U.S. App. LEXIS 12630, Michel, Newman, Mayer J.A; *Dimplex North America Ltd. v. CFM Corp.*, [2006] F.C.J. No. 776; *Dimplex North America Ltd. v. CFM Corp.*, [2007] F.C.J. No. 1165, 60 C.P.R. (4th) 277.

²⁹⁹ Bart Showalter, “Cost of Patent Litigation”, (25 January 2008), online: AIPLA Mid-Winter Conference <http://www.aipla.org/Content/ContentGroups/Speaker_Papers/Mid-Winter1/20083/Showalter-slides.pdf>. No question that it comes down to costs. After litigation in the United States, the parties rarely have the funds to proceed in other jurisdictions. For example, the American Intellectual Property Law Association (“AIPLA”) conducts a bi-annual economic survey that includes an assessment of the total cost of patent litigation. For patent cases in which the amount in dispute exceeded U.S. \$25 million, the AIPLA survey reported that the average cost in 2001 was U.S. \$2.99 million, in 2003 U.S. \$3.99 million, in 2005 was U.S. \$4.5 million and in 2007 it was \$5.0 million.

³⁰⁰ *Dimplex*, *supra* note 222 at para. 44.

³⁰¹ *Dimplex*, *supra* note 222 at para. 44.

3. Patent cases litigated in Canada

(i) Polansky Electronics Ltd. v. AGT Ltd.

a. Polansky Electronics Ltd. v. AGT Ltd. (Alberta Court of Queen's Bench) (Nov. 1999)

In *Polansky Electronics Ltd. v. AGT Ltd.*,³⁰² (“*Polansky*”) the issue before Justice Lefsrud of the Court of Queen's Bench of Alberta involved a patent infringement action of a Canadian Patent No. 1,223,059³⁰³ (the ‘059 Patent or the “Polansky patent”) entitled “Facsimile Mobile Interface Device”³⁰⁴ (“FMID”). The invention encompassed a device to enable transmission of facsimile and other data over mobile radios.³⁰⁵ The Plaintiff alleged that the Defendant “manufactured and sold two devices, namely an accessory interface module known as AIM 44 and a two-wire interface known as TWIN”.³⁰⁶ The judgment was delivered on November 1, 1999, thus preceding *Free World* and *Whirlpool*. In the end, Justice Lefsrud found that the Defendant infringed the ‘059 Patent.³⁰⁷ Justice Lefsrud found infringement without claim construction analysis and making a determination as to essential and non-essential elements basing his conclusion mainly on the submissions of one of the experts.³⁰⁸ The abstract and claims of the ‘059 Patent can be found in Appendix 2.

³⁰² *Polansky Electronics Ltd. v. AGT Ltd.*, [1999] A.J. No. 1230, 3 C.P.R. (4th) 34, Lefsrud J. [*Polanskyl*], reversed at 11 C.P.R. (4th) 7 (Alt. CA).

³⁰³ *Polanskyl*, *supra* note 302 at para. 12.

³⁰⁴ *Polanskyl*, *supra* note 302 at para. 26.

³⁰⁵ *Polanskyl*, *supra* note 302 at para. 1.

³⁰⁶ *Polanskyl*, *supra* note 302 at para. 25.

³⁰⁷ *Polanskyl*, *supra* note 302 at para. 74.

³⁰⁸ *Polanskyl*, *supra* note 302 at para. 73 & 74.

There were no international cases cited in this decision and since this decision preceded *Whirlpool* and *Free World*, none of the cases from chapter 3 was cited.

Because this decision was construed prior to *Whirlpool* and *Free World* and because finding of infringement was concluded without claim construction analysis, it is of limited use in relation to the themes of the thesis.

b. Polansky Electronics Ltd. v. AGT Ltd. (Alberta Court of Appeal) (Feb. 2001)

The judgment of Justice Lefsrud was appealed to the Alberta Court of Appeal³⁰⁹ (“Appeal Court”) where the Chief Justice Fraser delivered the judgment with Justice Bielby concurring³¹⁰ and Justice Conrad dissenting. The Appeal Court noted that Claim 1 of the ‘059 Patent was key in the analysis. Claim 1 provided as follows:³¹¹

An interface to connect a data transfer device with a radio transceiver comprising a receiving circuit to receive an analog data signal from said transceiver, a transmitting circuit to transmit an analog data signal to said transceiver, an analog data bus to one of said circuits with said analog data bus and control means to control said switch means, said control means being responsive to change in the operational mode of said data transfer device to disconnect said one circuit and connect the other of said circuits to said databus.

³⁰⁹ *Polansky Electronics Ltd. v. AGT Ltd.* [2001] A.J. No. 153, 11 C.P.R. (4th) 7, Fraser*, Bielby, Conrad J.A. [*Polansky2*].

³¹⁰ Ad hoc: *Polansky2*, *supra* note 309.

³¹¹ *Polansky2*, *supra* note 309 at para. 7.

The Appeal Court noted that the dispute arose over the meaning of essential elements 1, 5, 6, and 7 of the '059 Patent as reproduced below:³¹²

1. An interface to connect a data transfer device with a radio transceiver;
5. Switch means to connect one of said circuits with said analog data bus;
6. Control means to control said switch means; and
7. Said control means being responsive to change in the operational mode of said data transfer device to disconnect said one circuit and connect the other of said circuits to said databus.

The Appeal Court noted that the main question to be answered was whether the “hybrid circuit” used in the AIM 44 and the TWIN was different from the “switch means” and “control means” described in Claim 1 of the '059 Patent or whether “either or both the AIM 44 and TWIN omitted some essential elements of the Polansky patent”.³¹³

The Appeal Court noted that the trial judge never construed the meaning of the “switch means”, “control means”, or the “radio transceiver”³¹⁴ and has not provided a road map with the necessary assurance that critical issues were considered and resolved.³¹⁵

Both parties argued that new trial was not required and the Defendant invited the Appeal Court to construe the claims of the Plaintiff's patent. The Appeal Court noted that this involved an interpretation of highly disputed technical words and phrases, which received contradictory expert evidence at trial.³¹⁶ The Appeal Court noted that the trial judge was

³¹² *Polansky2, supra* note 309 at para. 8.

³¹³ *Polansky2, supra* note 309 at para. 19.

³¹⁴ *Polansky2, supra* note 309 at para. 19.

³¹⁵ *Polansky2, supra* note 309 at para. 19.

³¹⁶ *Polansky2, supra* note 309 at para. 20.

faced with a difficult task since the trial judgment predated *Whirlpool* and *Free World*.³¹⁷ In the end, Chief Justice Fraser speaking for the majority ordered a new trial.³¹⁸ In his dissent, Justice Conrad concluded that the trial judge construed the patent in the manner contended by the Plaintiff. Justice Conrad construed Plaintiff's patent narrowly to mean a "means of isolation by a device which operated as an interface between an alternating data transmission device and a mobile radio, successfully isolating the signals for the purpose of avoiding data corruption". Having construed the patent narrowly, Justice Conrad concluded that the trial judge did not err in its construction.³¹⁹

This decision cited *Free World*,³²⁰ *Whirlpool*³²¹ and no other decisions from chapter 3.

The following international (English) cases were cited in this case: *Electric and Musical Industries Ltd. v. Lissen Ltd.*,³²² *Gillette Safety Razor Co. v. Anglo-American Trading Co.*³²³

The overall observation about this case, in light of the themes of the thesis, is of limited use since the Alberta Court of Appeal failed to construe the claims and sent the matter back for a re-trial to the Alberta Court of Queen's Bench.

³¹⁷ *Polansky2*, *supra* note 309 at para. 23.

³¹⁸ *Polansky2*, *supra* note 309 at para. 24.

³¹⁹ *Polansky2*, *supra* note 309 at para. 37.

³²⁰ *Free World*, *supra* note 3 at para. 19.

³²¹ *Whirlpool*, *supra* note 2 at para. 6.

³²² *Electric and Musical Industries Ltd. v. Lissen Ltd.*, (1938), 56 R.P.C. 23 (H.L.) at para. 6 in relation to a discussion that "claims construction is therefore a necessary forerunner to a correct consideration of both validity and infringement issues."

³²³ *Gillette Safety Razor Co. v. Anglo-American Trading Co.*, (1913) 30 R.P.C. 465 (H.L.) at para. 5 in relation to a discussion on invalidation of the patent by anticipation.

c. Polansky Electronics Ltd. v. AGT Ltd. (Alberta Court of Queen's Bench) (May 2003)

A new trial was heard by Justice Clarke of the Alberta Court of Queen's Bench.³²⁴ The parties agreed that Claim 1 of the Patent was in issue.³²⁵ The Court dedicated seven paragraphs to claim construction.³²⁶ Justice Clarke started the claim construction analysis with Claim 1 of the Plaintiff's patent with an objective to determine essential and non-essential elements. The Court found on the evidence presented that the worker skilled in the art would have found elements 5, 6 and 7 of Claim 1 to be essential.³²⁷ As noted above in the decision of the Appeal Court, element 1 referred to: "An interface to connect a data transfer device with a radio transceiver..." The Plaintiff urged the Court to first construe the word "radio transceiver" as a "mobile radio transceiver" and later as a "portable radio transceiver". The Court did not find support for this construction noting that page 4 of the patent taught a transceiver connected through a landline. The patent did not use either "mobile" or "portable" and upon purposive construction, Justice Clarke refused to read those words into the patent.³²⁸

The Court continued with construction of elements 5 and 7 finding that these should be read together. The Court found that "the disagreement amongst persons skilled in the art in this field was whether the AIM and the TWIN contained a switch means and a control means to control the switch means and whether the control means was responsive to the operational mode of the data transfer device to "disconnect" one circuit and "connect" the

³²⁴ *Polansky Electronics Ltd. v. AGT Ltd.*, [2003] A.J. No. 636, 26 C.P.R. (4th) 370, Clarke J. [*Polansky3*].

³²⁵ *Polansky3*, *supra* note 324 at para. 18.

³²⁶ *Polansky3*, *supra* note 324 at para. 136 to 142 inclusive.

³²⁷ *Polansky3*, *supra* note 324 at para. 136 & 47.

³²⁸ *Polansky3*, *supra* note 324 at para. 138.

other circuit". Element 5 provided for: "...switch means to connect one of the said circuits with said analogue databus..." The Plaintiff argued that the word "means" in element 5 referred to the functional sense so that switching would be covered by element 5 irrespective how it was achieved. The Court stated that the argument could have merit if the words used in the element were "some means" or "any means" but noted that at the same time a broad claim would likely jeopardize the patent's validity. The Court noted that in this case, the word "switch" qualified the word "means". This term was commonly understood by a person skilled in the art of electrical circuitry to mean "the use of an electronic or physical means in this particular case to connect one circuit and disconnect the other circuit, that is, the Patent defines what means will be employed." The Plaintiff further submitted that "switch means" should be interpreted as a routing or the isolation of the circuit. The Court disagreed, stating that the Plaintiff's patent did not say this literally. In the Court's view, such submission by the Plaintiff was inconsistent with the requirement in element 7, which required the switch means, "to disconnect said one circuit and connect the other of the said circuits".³²⁹

Justice Clarke was satisfied that the hybrid device in the TWIN and the AIM excluded the "switch means" and achieved the data transfer and isolation of the circuitry in a different manner as taught by the Plaintiff's patent.³³⁰

Element 6 stated: "...a control means to control said switch means..." The Court noted that page 8 of the Polansky patent made it clear that a wire had to be connected from the

³²⁹ Polansky3, *supra* note 324 at para. 139.

³³⁰ Polansky3, *supra* note 324 at para. 140.

FMID to the control circuit of the fax machine. The hybrid in the TWIN and the AIM did not have such a connecting device.³³¹

Element 7 stated: "...said control means being responsible to change in the operational mode of the said data transfer device to disconnect said one circuit and connect the other of said circuits to said databus." The Court was clear on the point that FMID used the switch to disconnect either the transmit or the receive circuit depending on whether the G3 fax machine was in a transmit or receive mode. Plaintiff has argued that reference to control means to "disconnect" one circuit and "connect" the other circuit has a different meaning and stands instead for activation and isolation of the respective circuits. The Court disagreed with this interpretation stating that no support was found in the context of elements 5, 6 and 7 finding that the function of the switch was to connect one circuit and disconnect the other. The Court contrasted this with the transmit and receive circuit in the AIM and the TWIN which were never disconnected and were continuously conductive. The Court concluded that the interface device in the AIM and the TWIN did not have any of the essential elements found in elements 5, 6 and 7 of the interface device and consequently there was no infringement of the '059 patent.³³²

The judgment by Justice Clarke of the Alberta Court of Queen's Bench was not appealed further³³³ and the judgment cited only *Whirlpool* and no other cases from chapter 3.³³⁴

³³¹ Polansky3, *supra* note 324 at para. 141.

³³² Polansky3, *supra* note 324 at para. 142.

³³³ Source: Quicklaw QuickCITE.

³³⁴ Source: CanLii "Reflex".

The overall observation about this decision, in light of the themes of the thesis, is that the Alberta Court of Queen's Bench took a narrow approach to claim construction to find no infringement of the claims in suit. The Court was presented with expert testimony on behalf of the plaintiff arguing that the definition of both "switch means" and "control means" in essential elements 5 and 7 was "broad enough to include the hybrid circuits used in the AIM and TWIN devices". The Court disagreed with this broad approach.³³⁵

(ii) **Almecon Industries Ltd. v. Anchortek Ltd.**

a. Almecon Industries Ltd. v. Anchortek Ltd. (Federal Court – Trial Division) (Dec. 2001)

In *Almecon Industries Ltd. v. Anchortek Ltd.*,³³⁶ ("Almecon") the action before Justice Gibson of the Federal Court – Trial Division concerned infringement of Canadian Patent No. 1,220,134 (the '134 Patent or the "Almecon Patent")³³⁷ entitled "topping and tamping plug". The claimed invention was for a molded plastic device used for tamping and plugging bore holes to confine the force of the blast in the boreholes.³³⁸ The abstract and claims of the '134 patent can be found in Appendix 3.

The Almecon patent was also the subject of an earlier litigation between the Plaintiff and Nurton Manufacturing Ltd. in *Almecon Industries Ltd. v. Nurton Manufacturing Ltd.*,³³⁹

³³⁵ Polansky3, *supra* note 324 at para. 50.

³³⁶ *Almecon Industries Ltd. v. Anchortek Ltd.*, [2001] F.C.J. No. 1956, 17 C.P.R. (4th) 74, Gibson J. [Almecon].

³³⁷ *Almecon*, *supra* note 336 at para. 1.

³³⁸ *Almecon*, *supra* note 336 at para. 15.

³³⁹ *Almecon Industries Ltd. v. Nurton Manufacturing Ltd.*, [1996] F.C.J. No. 240, 65 C.P.R. (3d) 417.

("Nurton") which resulted in a decision from Justice Weston of the Federal Court Trial Division on February 26, 1996. Justice Weston's decision was affirmed by the Federal Court of Appeal on February 6, 1997.³⁴⁰ Consequently, claims 1 and 5 of the Almecon Patent were construed and the person skilled in the art to which the patent related was identified.³⁴¹ One of the issues before Justice Gibson was whether one of the variations of the plugs infringed claims 1 and 5 of the Almecon Patent taking into consideration the phrase "somewhat flattened end part" in *Nurton*.³⁴² These claims read as follows:

1. A tamping and topping plug for use in a seismic bore hole; and comprising:
a body member having a forward and a rearward end and terminating at its forward end with a somewhat flattened end part;
a plurality of elongated members extending outwardly and rearwardly from at least one end of the said body member, said members so arranged as to give said plug axial stability when inserted into a bore hole.
5. The plug of claim 1 in which the configuration of the said end part is a truncated cone.

Upon commencement of claim construction analysis, Justice Gibson commented that Justice Weston in *Nurton* identified the person skilled in the art as an experienced seismic crew technician.³⁴³

Justice Gibson summarized the construction of Claims 1 and 5 of the Almecon Patent by Justice Weston in *Nurton*. In relation to Claim 1, Justice Weston wrote on pages 425-6:³⁴⁴

³⁴⁰ *Almecon*, *supra* note 336 at para. 5 (at para. 19 of the Agreed Statement of Facts reproduced in the decision). Leave to appeal to the Supreme Court of Canada was refused: [1997] S.C.C.A. No. 374 (QL).

³⁴¹ *Almecon*, *supra* note 336 at para. 5 (at para. 19 of the Agreed Statements of Facts reproduced in the decision).

³⁴² *Almecon*, *supra* note 336 at para. 19.

³⁴³ *Almecon*, *supra* note 336 at para. 21.

³⁴⁴ *Almecon*, *supra* note 336 at para. 22.

The Almecon plug's forward end terminates in a "somewhat flattened end part". In my view, this means that the forward end of the plug's body member is substantially closed, and has a surface area which is perpendicular to the longitudinal axis of the body member, so as to intercept the pressure wave resulting from the detonation of the charge. If the somewhat flattened end part were not substantially closed, the force of the blast would be incapable of moving the plug slightly upward in the bore hole so that its elongated members could embed in the walls of the hole, as required by the Almecon patent.

Similarly, in relation to Claim 5, Justice Weston wrote at pages 427-8:³⁴⁵

...As discussed above, the Almecon plug terminates in a flattened end portion. I have interpreted this to mean that a flat surface closes off the forward end of the body of the plug. Since the plug terminates at the forward end in both a flattened end portion and a truncated cone, I interpret claim 5 to mean that the pointed tip of the conical end section has been replaced by a flat surface which is substantially or completely closed.

The Almecon patent also states that the plug's forward end section may be profiled in a number of different configurations other than a truncated cone, including hemispherical and pyramidal. Therefore, a variation in the shape of the closed end section is within the claims of the patent.

The Federal Court of Appeal where Justice Strayer stated affirmed the decision of Justice Weston:³⁴⁶

We perceive the trial judge as having undertaken the construction of the claims with "a mind willing to understand". From claims 1 and 5 he was able to deduce that the plug described, being both for tamping and topping, would have to fill all or most of the hole. This function would have to be performed by the body, as the elongated members would not present a continuous blocking surface. We cannot say that he erred in law in going to the disclosures for further clarification as to whether both the body and the elongated members would contribute to the axial stability; a fair reading of the claim would be ensured in that way....There was

³⁴⁵ *Almecon*, *supra* note 336 at para. 23.

³⁴⁶ *Almecon*, *supra* note 336 at para. 24.

possible ambiguity at least in the words "said members" and "axial stability" in claim 1 which could be clarified by resort to the disclosures. The disclosures revealed how the plug would function, namely by the elongated members, referred to as "claws", being embedded into the walls of the hole upon explosion of the charge. This information, combined with the expert evidence as to what a skilled workman would understand from it, provided an adequate basis for the Trial Judge to conclude that relatively stiff claws would be required, and that the plug would function best if the body were nearly as large as the diameter of the hole. Thus he was able to construe the claims as he did.

Justice Gibson reached the same conclusion in relation to construing Claims 1 and 5, as did Justices Weston and Strayer.³⁴⁷ Justice Gibson found the following essential elements of the Almecon patent: "body, a "somewhat flattened" front end, a "substantially closed" front end, claws which extend outwards and rearwards from the body, axial stability provided by the body and the claws, the fact that all such features contribute to the prevention or minimization of blowouts and the retention of the energy of a blast in the drill hole below the plug itself, and that the plug acts as a "topping plug"". ³⁴⁸ Justice Gibson found the '134 patent to be valid and infringed by Anchortek's Energy Plug.³⁴⁹

This decision was appealed to the Federal Court of Appeal. In addition, it cited *Whirlpool and Free World*³⁵⁰ and no other cases from chapter 3.

As indicated above, the *Almecon* decision was decided by Justice Gibson³⁵¹ who was appointed as a Justice of the Federal Court on April 1, 1993. Prior to being appointed to

³⁴⁷ *Almecon*, *supra* note 336 at para. 30.

³⁴⁸ *Almecon*, *supra* note 336 at para. 70.

³⁴⁹ *Almecon*, *supra* note 336 at para. 93.

³⁵⁰ Source: CanLii Reflex.

the bench, Justice Gibson practiced law in the private and the public practice. As a Justice of the Federal Court, he heard five intellectual property cases before hearing *Almecon* on December 19, 2001.³⁵²

The overall observation about this decision, in light of the themes of the thesis, is that the Federal Court Trial Division took a broad approach to claim construction to find infringement of the claims in suit. In particular, the Court was satisfied in this case that even if the design of the Defendant's invention was different, it nevertheless encompassed all of the essential elements of the claims 1 and 5 of the plaintiff's patent.³⁵³

b. Almecon Industries Ltd. v. Anchortek Ltd. (Federal Court of Appeal) (Apr. 2003)

The decision of Justice Gibson was appealed to the Federal Court of Appeal³⁵⁴ where again Claims 1 and 5 of the Almecon patent were at issue.³⁵⁵ The ground relating to claim construction alleged that the trial judge erred in concluding that Anchortek's "Energy Plug" was an infringement of Claim 5 of the patent³⁵⁶ and that "the trial judge erred in concluding that Anchortek's "Energy Plug" was an infringement of Claim 1 of the patent

³⁵¹ Biography of the Honourable Frederick E. Gibson online: Federal Court of Canada <http://cas-ncr-nter03.cas-satj.gc.ca/portal/page/portal/fc_cf_en/Gibson>.

³⁵² Other intellectual property judgments/motions heard by this judge before first case in chapter 3 was heard: (1) *Baker Petrolite Corp. v. Canwell Enviro-Industries Ltd.* (T.D.), 2001 FCT 889 (CanLII) (Aug. 15, 2001); (2) *SmithKline Beecham Pharma Inc. v. Apotex Inc.* (T.D.), 2001 FCT 770 (CanLII) (Jul. 6, 2001); (3) *Apotex Inc. v. Canada* (Minister of National Health and Welfare), 1998 CanLII 8208 (F.C.) (July 29, 1998); (4) *Merck & Co., Inc. v. Novopharm Ltd.*, 1998 CanLII 8260 (F.C.) (Aug. 21, 1998). 671905 *Alberta Inc. v. Q Max Solutions Inc.*, 2001 FCT 888 (CanLII) (Aug 15, 2001); (5) *Bayer Ag v. Apotex Inc.*, 1998 CanLII 8740 (F.C.) Nov. 3, 1998.

³⁵³ *Almecon*, *supra* note 336 at para. 85.

³⁵⁴ *Almecon Industries Ltd. v. Anchortek Ltd.* [2003] F.C.J. No. 536, 25 C.P.R. (4th) 129, Strayer, Sexton, Sharlow* J.A. [*AlmeconFCA*].

³⁵⁵ *AlmeconFCA*, *supra* note 354 at para. 9.

³⁵⁶ *AlmeconFCA*, *supra* note 354 at para. 10.

in failing to apply Mr. Justice Weston's construction."³⁵⁷ Justice Weston's claim construction in *Nurton* was not an issue before the parties.³⁵⁸ Justice Sharlow on behalf of the Federal Court of Appeal affirmed the judgment of the lower court and left Justice Weston's claim construction undisturbed.³⁵⁹ Justice Sharlow opined that regrettably, Justice Gibson failed to explain why he preferred the opinion of a professional engineer to the opinion of an experienced seismic crew technician but this was not a fatal error on the part of Justice Gibson.

The judgment of Justice Sharlow was not appealed to the Supreme Court of Canada.³⁶⁰ This decision cited the following case from chapter 3:³⁶¹ *Calgon Carbon Corp. v. City of North Bay*³⁶² ("*Calgon*"). Also cited were *Whirlpool* and *Free World*.

The overall observation about this decision, in light of the themes of the thesis, is that the Federal Court took a broad approach to claim construction established in *Nurton* and confirmed by Justice Gibson in *Almecon*. The Federal Court of Appeal noted that Justice Gibson did not provide his own summary of the construction of claims 1 and 5. This according to the Federal Court of Appeal was because construction was *per se* not an issue as both parties accepted Justice Weston's construction of the claims in *Nurton*.³⁶³

³⁵⁷ *AlmeconFCA*, *supra* note 354 at para. 11.

³⁵⁸ *AlmeconFCA*, *supra* note 354 at para. 13.

³⁵⁹ *AlmeconFCA*, *supra* note 354 at para. 22.

³⁶⁰ Source: Quicklaw QuickCITE.

³⁶¹ Source: CanLii Reflex.

³⁶² *Calgon Carbon Corp. v. North Bay*, [2006] F.C.J. No. 1719, Mosley J. [*Calgon*]. In a discussion relating to validity: "the statutory presumption imposes an onus on the party attacking the patent to prove invalidity. The party attacking a patent must prove its invalidity on a balance of probabilities, failing which, the presumption prevails."

³⁶³ *AlmeconFCA*, *supra* note 336 at para. 20.

It is also interesting to observe that *Justice Weston decided Nurton* on February 26, 1996 and yet the parties in this case commenced litigation before Justice Gibson in September 2001 having accepted claims as construed prior to *Whirlpool* and *Free World*. This begs the question whether in practice the approach to claim construction really changed post *Whirlpool* and *Free World*.

(iii) **Quadco Equipment Inc. v. Timberjack Inc.**

Quadco Equipment Inc. v. Timberjack Inc. (Federal Court – Trial Division) (Jan. 2002)

In *Quadco Equipment Inc. v. Timberjack Inc.*,³⁶⁴ (“*Quadco*”) the Federal Court – Trial Division was faced with construing the claims of the Canadian patent number 1,103,130 (the ‘130 Patent) entitled “accumulator felling head”.³⁶⁵ In this case, Quadco Equipment Inc. (the “Plaintiff”) commenced an action for patent infringement against Timberjack Inc. (the “Defendant”) alleging that that the Defendant has made and distributed in Canada an accumulator felling head which was described in claims 1, 4, and 7 of the ‘130 Patent.³⁶⁶

The ‘130 Patent application was filed on September 6, 1978,³⁶⁷ the ‘130 Patent was issued on June 16, 1981 to Logging Development Corporation³⁶⁸ and it was assigned to

³⁶⁴ *Quadco Equipment Inc. v. Timberjack Inc.*, [2002] F.C.J. No. 113, Tremblay-Lamer J. [*Quadco*].

³⁶⁵ *Quadco*, *supra* note 364 at para. 14.

³⁶⁶ *Quadco*, *supra* note 364 at para. 1. The claims and abstract of the ‘130 patent are reproduced in Appendix 6.

³⁶⁷ Online: Canadian Intellectual Property Office Patent Database <
<http://patents.ic.gc.ca/cipo/cpd/en/patent/1103130/summary.html>>.

³⁶⁸ *Quadco*, *supra* note 364 at para. 7.

the Plaintiff on July 13, 1995.³⁶⁹ The abstract and claims of the '130 Patent can be found in Appendix 4.

Accumulator felling heads are typically used on snow plows or backhoes.³⁷⁰ The three claims in issue were 1, 4 and 7. They are reproduced below:³⁷¹

Claim 1: An improved accumulator arm means in a device for gathering and retaining a plurality of trees, said improved accumulator arm means comprising a first arm mounted on a frame of the device for swinging through an arc about a first axis, a finger member swingably mounted on the free end of the arm, a hydraulic piston cylinder unit connected at one end thereof to the frame and at the other end to a lug member pivoted for free movement about said first axis, and a link member pivotally connected adjacent opposed ends thereof respectively to said lug member and said finger.³⁷²

Claim 4: A device for severing trees and having an improved accumulator arm means thereon for use in accumulating trees as they are severed from their roots comprising a frame, a tree severing device mounted on said frame and having a first jaw means openable and closeable relative to a first area respectively for receiving and severing the trunk of a standing tree; means for supporting the butt ends of trees severed from their roots in a second area offset laterally from said first area and which includes a shelf secured to said frame and projecting therefrom; a first sweep arm pivotally mounted on said frame for movement about a first axis to sweep through an arc traversing said first area and at least part of said second area to shift trees after they have been severed from their roots from said first area to second area; and accumulator arm means comprising a second arm pivotally mounted on said frame for movement about a second axis; a finger member swingably mounted on the free end of said second arm to sweep through an arc traversing a major portion of second area and including that portion traversed by said first sweep arm; a hydraulic piston cylinder unit connected at one end thereof to said frame and at the other end to a lug member pivoted for free movement about said second axis, and a link member pivotally connected adjacent opposed ends thereof respectively to said lug member and said finger member.³⁷³

³⁶⁹ *Quadco, supra* note 364 at para. 8.

³⁷⁰ *Quadco, supra* note 364 at para. 2.

³⁷¹ *Quadco, supra* note 364 at para. 9.

³⁷² *Quadco, supra* note 364 at para. 10.

³⁷³ *Quadco, supra* note 364 at para. 11.

Claim 7: A device as defined in claims 4, 5 or 6 wherein said first and second pivot axes are parallel and spaced apart from one another.³⁷⁴

The Court embarked on construing the patent claims starting at paragraph 15 of the decision by first reproducing the principles of claim construction as set out in *Free World* and *Whirlpool*.³⁷⁵

Secondly, the Court analyzed the expert evidence by first describing the witnesses³⁷⁶ then the evidence³⁷⁷ and finally assessing the evidence.³⁷⁸ The description of the witnesses consisted of stating the credentials of each party's expert. As for the presentation of the evidence, the Court first presented the Plaintiff's expert opinion followed by the Defendant's expert opinion, both relating to claim 1 of the '130 Patent. For the Plaintiff's expert, the essential elements of the '130 Patent described a two axis operating principle for the accumulator structure.³⁷⁹ In addition, the Plaintiff's expert was of the view that the mechanism of the first axis was extended by adding an extra pin.³⁸⁰ The Defendant's expert found the frame, number of constituent parts and their topology to be an essential element of the mechanism. He did not find the hydraulic cylinder to be an essential element in claim 1.³⁸¹ In relation to assessing the expert evidence, the Court was impressed overall with the Defendant's expert and in particular with his testimony relating to the functioning of the "accumulator arm" in both the '130 Patent and the

³⁷⁴ *Quadco, supra* note 364 at para. 12.

³⁷⁵ *Quadco, supra* note 364 at para. 15 to 28.

³⁷⁶ *Quadco, supra* note 364 at para. 29 to 33.

³⁷⁷ *Quadco, supra* note 364 at para. 34 to 48.

³⁷⁸ *Quadco, supra* note 364 at para. 49 to 53.

³⁷⁹ *Quadco, supra* note 364 at para. 35.

³⁸⁰ *Quadco, supra* note 364 at para. 40.

³⁸¹ *Quadco, supra* note 364 at para. 42. Detailed submission of the Defendant's expert can be found at para. 43 to 47.

Defendant's device.³⁸² The Court found the explanation of the Plaintiff expert confusing and inconsistent.³⁸³

Thirdly, the Court presented its findings.³⁸⁴ Adopting the view of the Defendant's expert as reflecting a worker skilled in the art, the Court agreed that the essential elements of claim 1 were comprised of:³⁸⁵

1. A frame
2. A mechanism consisting of 4 parts that are arranged as follows:
 - i. a "first arm" that swings about an axis that is fixed in the frame of the felling head.
 - ii. a "lug member" that pivots about the same frame-fixed axis as the first arm.
 - iii. a "finger member" that is pinned to the free end of the first arm.
 - iv. a "link member" that is pinned at its two ends to the lug and the finger.
3. A hydraulic cylinder that provides an actuating force between the frame and the lug.

The Court accepted the Defendant's expert evidence that proper interpretation of claim 1 required "that the lug and the inner arm to be pinned to the frame at the same point, i.e., that the lug must pivot about the same axis so that the lug is free to pivot independently of the movement of the inner arm." This meant that the pin and pin joint formed the connection for the lug.³⁸⁶

³⁸² *Quadco, supra* note 364 at para. 51.

³⁸³ *Quadco, supra* note 364 at para. 52.

³⁸⁴ *Quadco, supra* note 364 at para. 54 to 73.

³⁸⁵ *Quadco, supra* note 364 at para. 54 and 55.

³⁸⁶ *Quadco, supra* note 364 at para. 56.

The Court also commented on the argument submitted by the Plaintiff's expert, which stated that claim 1 did not require a co-axial movement of the pin. The Plaintiff's expert relied on the disclosure of the '130 Patent to support his argument.³⁸⁷ The discussion focused on the construction of the word "preferably" in the disclosure describing the location of the various pivots. The Plaintiff's expert was of the view that the use of the word "preferably" implied a choice in design of the connectivity mechanism whereas the Defendant's expert argued against this approach stating that by doing so the Plaintiff's expert misread the sentence from the claims. According to the Defendant's expert, the word "preferably" referred to the order in which the arms were moving.³⁸⁸

The Court agreed with the Defendant's expert evidence that the word "preferably" did not imply different connectivity, this being supported by the wording of claim 1 and reasoning that a line defined an axis.³⁸⁹

The Court accepted that claim 1 of the '130 patent required that "the lug and the inner arm be pinned to the frame at the same point" making this connectivity pattern an essential element of the '130 patent.³⁹⁰

The Court accepted that Plaintiff's design was different from the Defendant's device. At paragraph 72, Justice Tremblay-Lamer stated:

³⁸⁷ *Quadco, supra* note 364 at para. 58.

³⁸⁸ *Quadco, supra* note 364 at para. 60.

³⁸⁹ *Quadco, supra* note 364 at para. 61.

³⁹⁰ *Quadco, supra* note 364 at para. 71.

72 I am convinced by the testimony of Mr. Micacchi, Mr. McPhee and Mr. Wildey that the Timberjack "Watt-1 six bar mechanism" is a different mechanism from the Quadco "four bar mechanism". In the Timberjack device design, the lug is not pinned to the frame, it is pinned to the moving first arm. It also does not pivot about the same axis as the inner arm and the lug is not free to pivot independently of the movement of the inner arm. This difference in connectivity substantially alters the operation and design of the Timberjack mechanism from the mechanism claimed in the '130 patent. Considering that it is sufficient that one essential element be different, the Timberjack device does not infringe claim 1 of the '130 patent since an essential element of claim 1 is that the lug and the inner arm be pinned to the frame at the same point.

It was not necessary for the Court to construe claims 4 and 7, having found that the defendant's device did not infringe claim 1.³⁹¹

This case was not appealed to the Federal Court of Appeal and it was followed in *MacLennan v. Gilbert Tech Inc.*³⁹² ("MacLennan") at paragraph 9 where the Federal Court in that case agreed with principles of construction followed by Justice Tremblay-Lamer³⁹³ established in *Free World* and *Whirlpool*. Lastly, this case cited *Free World* and *Whirlpool* and no other cases from chapter 3.³⁹⁴

The following international (English) cases were cited in this case: *Catnic*³⁹⁵ and *Improver Corp. v. Remington Consumer Products Ltd.*³⁹⁶

³⁹¹ *Quadco*, *supra* note 364 at para. 73.

³⁹² *MacLennan c. Gilbert Tech Inc.*, [2004] F.C.J. No. 2087, Beaudry J. [*MacLennan*].

³⁹³ *Quadco*, *supra* note 364 at para. 16 to 28.

³⁹⁴ Source: CANLII Reflex.

³⁹⁵ *Catnic*, *supra* note 119 cited in *Quadco*, *supra* note 364 at para. 26.

³⁹⁶ *Improver Corp. v. Remington Consumer Products Ltd.*, [1990] F.S.R. 181 at 182 cited in *Quadco*, *supra* note 364 at para. 16.

The *Quadco* case was decided by Justice Tremblay-Lamer³⁹⁷ who was appointed as a Justice of the Federal Court Trial Division on June 16, 1993. Prior to being appointed to the bench, Justice Tremblay-Lamer practiced law in the public and private sectors not related to intellectual property and as a Justice of the Federal Court Trial Division heard seven intellectual property cases before hearing *Quadco* on January 28, 2002.³⁹⁸

The overall observation about this decision in light of the themes of the thesis is that the Federal Court was careful not to extend the claim construction outside to what was in the claims and consequently found no infringement of the claims in suit.

(iv) Canamould Extrusions Ltd. v. Driangle Inc.

a. Canamould Extrusions Ltd. v. Driangle Inc. (Federal Court – Trial Division) (Feb. 2003)

In *Canamould Extrusions Ltd. v. Driangle Inc.*,³⁹⁹ (“*Canamould*”) there were four issues before the Federal Court – Trial Division, one associated with patent claim construction. Specifically, the Court had to decide on the construction of claims 1, 2, 3, 6, 9, 10, 11, 14, 16 and 17 of the plaintiff’s Canadian patent number 2,184,205 (the ‘205 Patent) entitled

³⁹⁷ Biography of the Honourable Danièle Tremblay-Lamer online: Federal Court of Canada <http://www.cmac-cacm.ca/bios/tremblay_e.shtml>.

³⁹⁸ Other intellectual property judgments/motions heard by this judge before first case in chapter 3 was heard: (1) *Trojan Technologies, Inc. v. Cargon Carbon Canada, Inc.*, 1999 CanLII 8748 (F.C.) (Sept. 30, 1999) (Motion for summary judgment); (2) *Litebook Company Ltd. v. Apollo Light Systems Inc.*, 2006 FC 399 (CanLII) (March 29, 2006) (Motion); (3) *Novartis Pharmaceuticals Canada Inc. v. RhoxalPharma Inc.* (T.D.), 2001 FCT 137 (CanLII) March 1, 2001; (4) *Dek-Block Products Ltd. v. Patio Drummond Ltée.*, 2000 CanLII 16760 (F.C.) DECEMBER 15, 2000; (5) *Aventis Pharma Inc. v. Apotex Inc.*, 2005 FC 1504 (CanLII) November 4, 2005; (6) *Glaxo Group Limited v. Novopharm Limited*, 1998 CanLII 7440 (F.C.) February 9, 1998 (application for an order); (7) *Merck Frosst Canada Inc. v. Canada*, 1996 CanLII 3929 (F.C.) December 13, 1996 (application) (CanLii). The other case decided by this judge from chapter 3 is *M.K. Plastics Corp. v. Plasticair Inc.*, [2007] F.C.J. No. 772 decided on May 30, 2007.

³⁹⁹ *Canamould*, *supra* note 138. Affirmed in *Canamould Extrusions Ltd. v. Driangle Inc.*, [2004] F.C.J. No. 266, Stone*, Sexton, Sharlow.

“Method and Apparatus for Manufacturing Decorative Mouldings”.⁴⁰⁰ Abstract and claims of the ‘205 Patent can be found in Appendix 5.

The application for the ‘205 Patent was filed in Canada on August 27, 1996 and the patent was issued on January 27, 1998.⁴⁰¹ The patent describes a method and a device that “allows for the industrial, high-volume production of pre-coated mouldings”. In this case, Canamould Extrusions Ltd. (the “Plaintiff”) commenced an action for patent infringement against Driangle Inc. (the “Defendant”) alleging that the Defendant constructed an automated high-volume machine and method covered in claims of the ‘205 Patent.⁴⁰²

The Court’s approach in this case consisted of outlining the (1) issues,⁴⁰³ (2) evidence,⁴⁰⁴ (3) principles of claim construction,⁴⁰⁵ (4) plaintiff’s patent,⁴⁰⁶ (5) infringement,⁴⁰⁷ and (6) validity of the patent.⁴⁰⁸

The evidence presented by the Plaintiff focused on the history how the invention was conceived and the challenges the Plaintiff encountered in bringing the invention to fruition.⁴⁰⁹ The evidence presented by the Defendant established that the Defendant had prior knowledge of the Plaintiff’s patent before the Defendant developed its own

⁴⁰⁰ *Canamould, supra* note 138 at para. 17.

⁴⁰¹ *Canamould, supra* note 138 at para. 25.

⁴⁰² *Canamould, supra* note 138 at para. 1.

⁴⁰³ *Canamould, supra* note 138 at para. 17.

⁴⁰⁴ *Canamould, supra* note 138 at para. 18 to 29.

⁴⁰⁵ *Canamould, supra* note 138 at para. 30 to 36.

⁴⁰⁶ *Canamould, supra* note 138 at para. 37 to 50.

⁴⁰⁷ *Canamould, supra* note 138 at para. 51 to 53.

⁴⁰⁸ *Canamould, supra* note 138 at para. 54 to 74.

⁴⁰⁹ *Canamould, supra* note 138 at para. 18 to 25.

machine. The Defendant attempted to distinguish its machine from that of the Plaintiff stating that “the Driangle foam profile is notched through the surface and is aligned by means of a dovetail that runs the entire length of the process. The dovetail is the datum surface. There is a spiked belt that engages the foam. When the foam goes through the containment chamber, there is a well and the foam runs on two dams that act as wipers to eliminate material from the edges. The belt then pulls the product away after it is coated. The wipers, or dams, allow the coating to go beneath the surface of the moulding as it progresses through the chamber but prevent the coating from going underneath the moulding itself. The wipers also prevent material from collecting around the edges of the shape. The foam contacts the dam on the bottom surface and also on the side edge of the dam.”⁴¹⁰

After outlining the principles of patent claim construction enunciated in *Free World* and *Whirlpool*,⁴¹¹ the Court proceeded to apply them to the Plaintiff’s patent. As the first step in this analysis, the Court identified the expert witnesses representing both parties including their academic and professional credentials. Next, the Court identified independent claims of the ‘205 patent to be claims 1 and 9 as reproduced below:⁴¹²

1. A method of manufacturing an elongate decorative moulding having a decorative surface, comprising the steps of:

(a) placing a flat surface of an elongate foam moulding core on an input portion of a flat elongate table, the foam core comprising a flexible resilient expanded polymer foam solid having: said flat surface on one side; a decorative surface on another side and a cross-sectional profile, the cross-sectional profile of the core being proportionally smaller than the desired cross-sectional profile of

⁴¹⁰ *Canamould*, *supra* note 138 at para. 28.

⁴¹¹ *Canamould*, *supra* note 138 at para. 30 to 36.

⁴¹² *Canamould*, *supra* note 138 at para. 38.

the finished decorative moulding, the table including a smooth continuous planar top surface and a longitudinal axis;

(b) aligning the foam core on said longitudinal axis of the table;

(c) sliding the foam core on the top surface of the table forwardly along the axis through a coating containment chamber, the coating chamber: having a bottom surface defined by the top surface of the table; having a rearward opening larger than the core profile; side walls and a forward wall which includes a die, the die having a die opening with a profile proportionally larger than the cross-sectional profile of the moulding core, the die opening having a profile conforming a desired cross-sectional profile;

(d) applying a liquid coating material to the decorative surface of the moulding core as the foam core slides through the coating chamber, the flat surface of the core slidingly engaging the top surface of the table thus being shielded from coating material;

(e) passing the coated moulding core through the die opening on to an output portion of the table top surface; and

(f) curing the coating material after the moulding has passed the die.

9. A device manufacturing an elongate moulding having a flat surface on one side, a decorative surface on another side and a cross-sectional profile, the device comprising: table means, having a smooth continuous elongate planar top surface, a longitudinal axis, an input portion, a midportion and an output portion, for supporting a flexible foam moulding core on said flat surface thereof as the core slides along the longitudinal axis; alignment means, on said input portion, for aligning the foam core on the longitudinal axis; a first coating containment chamber on said midportion having: a bottom surface defined by the top surface of the table; having a rearward opening larger than the core profile; side walls and a forward wall which includes a first die, the first die having a die opening with a profile proportionally larger than the cross-sectional profile of the moulding core, the die opening having a profile conforming a desired cross-sectional profile; and driving means for driving the foam core through the coating chamber, the flat surface of the core slidingly engaging the top surface of the table thus being shielded from coating material, and for passing the first coated core through the first die opening onto the output portion of the table top surface.

The Court identified the disagreement between the parties relating to claim construction to be the meaning to be given to the surface of the table that is “flat, smooth, continuous and planar.” The parties were in agreement that words in claim 9 may be used for interpretation and construction of claim 1.⁴¹³

⁴¹³ *Canamould*, *supra* note 138 at para. 40.

The Court concluded that claim 1 described a method for manufacturing elongate mouldings with a decorative surface and associated steps comprising this method. Claim 9 described a device for manufacturing elongated mouldings with a flat surface on one side and a decorative surface on the other side.⁴¹⁴

The Court construed claim 1 at paragraph 41 and claim 9 at paragraph 42:

41 Claim 1 (the method), construed, consists of placing the flat surface of the foam moulding on the flat surface of the table; aligning the moulding lengthwise; sliding the moulding through the coating containment chamber, the chamber having a bottom surface defined by the top surface of the table, a rearward opening larger than the core profile, side walls and a forward wall that includes a die with an opening that conforms to the cross sectional profile and is proportionally larger than the profile; applying a liquid coating material to the decorative surface of the moulding as it slides through the coating chamber, the flat surface of the core engaging the top surface of the table thus shielding the flat surface of the foam from the coating material; passing the coated moulding through the die opening of the output portion of the table then curing the coating material.

42 Claim 9 (the device), construed, is for manufacturing a decorative moulding with a flat surface on one side, a decorative surface on another side and a cross sectional profile. The device is comprised of a table; an alignment means for aligning the foam core lengthwise on the table; a coating chamber such as that described in claim 1 and a driving means for moving the coated moulding through the coating chamber by mechanical means.

43 The table in claim 9 is defined as "having a smooth continuous elongate planar top surface, a longitudinal axis, an input portion and an output portion, for supporting a flexible foam moulding core on said flat surface thereof as the core slides along the longitudinal axis". The construction to be given to the word "table" is a matter of debate.

⁴¹⁴ *Canamould*, *supra* note 138 at para. 39.

The Defendant adopted a strictly literal approach arguing that the words “flat, smooth, continuous and planar” were common words without being strictly limited in meaning to the EIFS industry.⁴¹⁵ In the Defendant’s view, the words applied to the tabletop and that projections and interruptions were outside the definition. Lastly, the Defendant argued that on purposive construction of the words used to define the table, the table had to be “completely flat, smooth, continuous, and planar”.⁴¹⁶

The Plaintiff construed the descriptive words relating to the table to mean “a surface that is flat, planar, and smooth for the sliding, shielding and supporting of the flexible foam core and is continuous so that there is no interruption of the motion of the foam and the supporting and shielding occurs throughout the motion of the foam core”. The Plaintiff’s approach was based on the expressed purpose of the table, which in Plaintiff’s view was to support and shield the foam core as it slid on the surface.⁴¹⁷

The Court found the Plaintiff’s claim construction too broad and that of the Defendant too narrow. The Court looked to the disclosure to ascertain the inventor’s intention. Specifically, the Court noted that the following passages from the disclosure were useful:⁴¹⁸

In some cases it has been found necessary to use rollers to press down on the foam core to maintain contact with the table top, however where input conveyors have a rubber surface, the friction with the conveyor holds the foam core down ...

⁴¹⁵ *Canamould, supra* note 138 at para. 44.

⁴¹⁶ *Canamould, supra* note 138 at para. 44.

⁴¹⁷ *Canamould, supra* note 138 at para. 45.

⁴¹⁸ *Canamould, supra* note 138 at para. 46.

The surface of the conveyor belts are rubber or other resilient frictional material to hold the core against the flat table surface and drive the core through the coating chamber.

The Court also found statements in the claim relating to the chamber having “a bottom surface defined by the top surface of the table and the application of the coating requirement that the flat surface of the moulding engages the top surface of the table”. The Court noted however that the description described alternatives in the form of alignment pins and outfeed conveyor located at the surface of the table.⁴¹⁹

The Court concluded that the word “table” on purposive and contextual construction was “flat, smooth, continuous and planar”, in other words uninterrupted. This applied to claims 1 and 9.⁴²⁰ The Court found that understanding other claims was not in issue. Claims 2, 3, 4, 5, 6, 7, 8 were dependent on claim 1 and claims 10, 11, 12, 13, 14, 15, 16, 17, 18, were dependant on claim 9.⁴²¹

The Court found the essential elements of claim 1 to be: (1) the table, (2) an alignment, and (3) a coating containment chamber. With respect to claim 9, the essential elements were almost identical to claim 1 except that element three was “a coating containment chamber and a driving means”.⁴²²

⁴¹⁹ *Canamould, supra* note 138 at para. 47.

⁴²⁰ *Canamould, supra* note 138 at para. 48.

⁴²¹ *Canamould, supra* note 138 at para. 49.

⁴²² *Canamould, supra* note 138 at para. 50.

The Court then proceeded with its analysis for infringement and found that given the construction of the word “table”, the Defendant’s table did not infringe the essential element of claim 1 or claim 9 of the ‘205 Patent.⁴²³ The Defendant’s counterclaim for invalidity was fruitless as the Court found the ‘205 Patent to be valid since the invention required an imaginative step.⁴²⁴

This decision was affirmed by the Federal Court of Appeal and it was neither followed nor mentioned in any of the cases in chapter 3.⁴²⁵ This case cited the following cases from chapter 3 and chapter 2:⁴²⁶ *Visx Inc. v. Nidek Co. Ltd.*,⁴²⁷ *Free World* and *Whirlpool*.

The *Canamould* case was decided by Justice Layden-Stevenson⁴²⁸ who was appointed as a Justice of the Federal Court on January 25, 2002. Prior to being appointed to the bench, Justice Layden-Stevenson practiced law in the private practice and as a Justice of the Federal Court heard five intellectual property cases before hearing *Canamould* on February 26, 2003.⁴²⁹

⁴²³ *Canamould*, *supra* note 138 at para. 53.

⁴²⁴ *Canamould*, *supra* note 138 at para. 73 and 74.

⁴²⁵ Source: Quicklaw database.

⁴²⁶ Source: CanLii Reflex.

⁴²⁷ *VisxFCA*, *supra* note 203 referring to discussion on infringement at para. 52.

⁴²⁸ Biography of Justice Carolyn Layden-Stevenson online: Federal Court of Canada <http://cas-ncr-nter03.cas-satj.gc.ca/portal/page/portal/fc_cf_en/Layden-Stevenson>.

⁴²⁹ Other intellectual property judgments/motions heard by this judge before first case in chapter 3 was heard: (1) *Astrazeneca AB v. Apotex Inc.*, 2002 FCT 1249 (CanLII) Dec. 2, 2002; (2) *Pharmaceutical Partners of Canada Inc. v. Faulding (Canada) Inc.*, 2002 FCT 1010 (CanLII) Sept. 26, 2002; (3) *Wyeth-Ayerst Canada Inc. v. Faulding Canada Inc.*, 2002 FCT 969 (CanLII) Sept. 13, 2002 (patent construction at paragraph 30); (4) *Astrazeneca Canada Inc. v. Apotex Inc.*, 2002 FCT 1250 (CanLII) Dec. 2, 2002; (5) *Eli Lilly Canada Inc. v. Canada* (Minister of Health), 2002 FCT 1248 (CanLII) Dec. 2, 2002 (Claim construction at paragraph 34) (CanLii). The other case decided by this judge from chapter 3 is *Johnson & Johnson Inc. v. Boston Scientific Ltd.*, 2008 FC 552 (CanLII) (May 8, 2008).

The overall observation about this decision in light of the themes of the thesis is that the Federal Court took a narrow approach to claim construction to find non-infringement of the claims in suit.

b. Canamould Extrusions Ltd. v. Driangle Inc. (Federal Court of Appeal) (Feb. 2004)

The decision in *Canamould* was appealed to Federal Court of Appeal (the “FCA”).⁴³⁰ One of the issues before the FCA was to determine whether the trial judge erred in construing claims 1 and 9 of the ‘205 Patent.⁴³¹

The FCA commenced its analysis by first outlining the principles of claim construction,⁴³² subsequently construing the claims⁴³³ and finally analyzing whether the ‘205 Patent was infringed.⁴³⁴

The FCA commenced applying the principles of claim construction to the ‘205 Patent at paragraph 29 of the decision. The FCA noted that the trial judge, in purposively construing claims 1 and 9, found it essential that top surface area of the table be “uninterrupted” defining that top surface area as “the portion of the table top that supports the foam core from the input portion of the table through to and including the exit of the foam core from the coating containment chamber.” The FCA found that this included the

⁴³⁰ *Canamould Extrusions Ltd. v. Driangle Inc.* [2004] F.C.J. No. 266, Stone*, Sexton, Sharlow J.A. [*CanamouldFCA*].

⁴³¹ *CanamouldFCA*, *supra* note 430 at para. 16.

⁴³² *CanamouldFCA*, *supra* note 430 at para. 17 to 28.

⁴³³ *CanamouldFCA*, *supra* note 430 at para. 29 to 38.

⁴³⁴ *CanamouldFCA*, *supra* note 430 at para. 39 to 43.

“top surface of the table in the pathway of the foam core located within the coating containment chamber”.⁴³⁵ The appellants contented that the trial judge erred in construing the claims and advanced two arguments. The first argument was that the patent language used by the patentee allowed for “interruptions” to the top surface of the table. The second argument was that contact with the top surface of the table was necessary only at the outside edges of the foam core. This was to achieve the dual purpose of supporting and shielding as taught by the patent and would have been recognized as necessary by the person skilled in the art on the date of publication of the patent.⁴³⁶

With respect to the first point, the FCA found no error in the trial judge’s construction methodology. In doing so, the FCA was in agreement with the trial judge that even if the disclosure may have suggested an existence of interruptions in the output of the table, it was not essential that the top surface of the table was continuous in that area.⁴³⁷ In addition, the FCA found that “neither the belt drives, nor the alignment pins or the walls of the coating containment chamber are located in the pathway of the foam core within the chamber”.⁴³⁸

With respect to the second argument made by the appellants, the FCA took into consideration the specification of the patent and expert evidence. The FCA stated at paragraph 35:

⁴³⁵ *CanamouldFCA*, *supra* note 430 at para. 29.

⁴³⁶ *CanamouldFCA*, *supra* note 430 at para. 30.

⁴³⁷ *CanamouldFCA*, *supra* note 430 at para. 33.

⁴³⁸ *CanamouldFCA*, *supra* note 430 at para. 33.

[...] It is to be noted that at line 21 of page 8 of the Patent, the patentee wrote: "In both methods of producing the coated moulding, the flat surface of the moulding is shielded or covered so that it is not coated with the coating material. This creates a finished product having a coated decorative surface, and a non-coated flat surface." In addition, the patentee discusses Figure 3 of the Patent at the bottom of page 8 and the top of page 9, and states that the "flat surface of [the] moulding core ... is in contact with the top surface of [the] table". At the top of page 10, the patentee states: "A variety of methods of applying the coating material to the surface of the moulding can be used including spraying or pouring." Lines 10 through 15 on the same page read: "Flat surface ... is not coated with the coating material because it is shielded by close contact with the top surface of [the] table In some cases it has been found necessary to use rollers to press down on the foam core ... to maintain contact with the table top, however where input conveyors ... have a rubber surface, the friction with the conveyor holds the foam core down." At line 15 of page 12, the patentee writes that as "best shown in Figure 3, the device preferably includes separate input and output conveyors ..., with independent drives. The surface of the conveyor belts ... are rubber or other resilient frictional material to hold the core ... against the flat table ... surface and drive the core through the coating chamber".

The FCA found on the evidence presented that a person skilled in the art would not have found⁴³⁹ that contact of the foam core with top surface of the table to be necessary only at the foam core outside edges. In the words of the expert, "the continuity of the tabletop from the input to the output portions provides continuous support for the foam core to slide along" and "the flat surface moves along the table maintaining contact, thereby preventing the coating material from being applied to the flat surface."⁴⁴⁰

The FCA found the essential element of the patent to be a table that was "continuous across the width of the foam core from the input portion through to and including the exit of the core from the coating containment chamber". The FCA stressed that importance of the claims language could not be ignored even if the patentee could have done without a

⁴³⁹ While reading the patent on the date of publication.

⁴⁴⁰ *Canamould FCA*, *supra* note 430 at para. 37.

“continuous” table or if the invention lacking the bottom surface of the coating containment chamber would have performed just as well. The FCA concluded that even if the patentee created a limitation in the claims, this was a self inflicted wound and language of the claims had to be adhered to.⁴⁴¹ In the end, the FCA was not convinced that the trial judge misconstrued claims 1 and 9 of the patent.⁴⁴² On the issue of infringement, the FCA concurred with the trial judge who found no infringement.⁴⁴³ The FCA dismissed the appeals with costs.⁴⁴⁴

The FCA decision was not appealed to the Supreme Court of Canada⁴⁴⁵ and was mentioned in the following cases from chapter 3:⁴⁴⁶ *McKay v. Weatherford Canada Ltd.*,⁴⁴⁷ *Gold v. Serratus Mountain Products Ltd.*, (trial level)⁴⁴⁸ and *Gold v. Serratus Mountain Products Ltd.*, (appeal level).⁴⁴⁹ This decision also cited the following cases mentioned in chapter 2:⁴⁵⁰ *Free World* and *Whirlpool*.

*Catnic*⁴⁵¹ was the only international (English) case was cited in this decision.

⁴⁴¹ *CanamouldFCA*, *supra* note 430 at para. 38.

⁴⁴² *CanamouldFCA*, *supra* note 430 at para. 38.

⁴⁴³ *CanamouldFCA*, *supra* note 430 at para. 41.

⁴⁴⁴ *CanamouldFCA*, *supra* note 430 at para. 43.

⁴⁴⁵ Source: Quicklaw QuickCITE.

⁴⁴⁶ Source: Quicklaw noteup with QuickCITE.

⁴⁴⁷ *McKay v. Weatherford Canada Ltd.*, [2008] F.C.J. No. 1677, Linden, Ryer, Trudel* J.A. [*McKayFCA*] at para. 8. Stating that construction of patent claims is a question of law, see *CanamouldFCA*, *supra* note 430 at para. 61.

⁴⁴⁸ *Gold v. Serratus Mountain Products Ltd.*, [2004] F.C.J. No. 1292, Blais J. at para. 18 [*Gold*]. Confirming that it is the task of the trial judge to determine on a purposive construction of the patent which elements of the claimed invention are crucial see *CanamouldFCA*, *supra* note 421 at para. 100.

⁴⁴⁹ *Gold v. Serratus Mountain Products Ltd.*, [2006] F.C.J. No. 373, Richard*, Noël, Nadon J.A. [*GoldFCA*] at para. 10. Confirming that construction of patent claims is a matter of law: *CanamouldFCA*, *supra* note 430 at para. 10.

⁴⁵⁰ CanLii Reflex.

⁴⁵¹ *Catnic*, *supra* note 119.

The overall observation about this decision, in light of the themes of the thesis, is that the Federal Court of Appeal affirmed a narrow approach to patent claim construction and finding of infringement.

(v) Wessel v. Energy Rental Inc.

Wessel v. Energy Rentals Inc. (Federal Court) (May 2004)

In *Wessel v. Energy Rentals Inc.*, (“Wessel”)⁴⁵² the issue surrounded an alleged infringement of Canadian patent number 2,206,675 (the ‘675 Patent) entitled “trailer mounted power swivel”. The invention was developed by Mr. Wessel (the “Plaintiff”) who filed the patent application on May 29, 1997⁴⁵³ and obtained the patent on March 21, 2000. The abstract and claims of the ‘675 Patent is found in Appendix 6.

The invention was used in the petroleum industry by the petroleum companies for the purpose of reworking or servicing oil and gas wells. The Plaintiff was, at the relevant time, the president of Westmen Oilfield Rentals (Alberta) Ltd., (“Westmen”). Westmen acquired a license from the Plaintiff giving it the exclusive rights to construct and use the invention and had twelve trailers on the road available to be used by petroleum companies. After two years of operating the trailers on the road by Westmen, the Defendant began operating similar trailers.

⁴⁵² *Wessel v. Energy Rentals Inc.*, [2004] F.C.J. No. 952, Snider J. [Wessel].

⁴⁵³ Online: Canadian Intellectual Property patent database
<<http://patents.ic.gc.ca/cipo/cpd/en/patent/2206675/summary.html>>.

The Plaintiff commenced an action for infringement which the Defendant denied alleging that the '675 Patent was invalid adding that designs were different.

The issue before the Federal Court was whether the '675 Patent was invalid for (1) obviousness, having regard to the lack of inventiveness of the Westmen trailer; or (2) anticipation, having regard to the prior public design and use of trailers that were in operation prior to the invention date. The second issue was that if the '675 Patent was valid, did the trailers of Energy Rentals infringe on that patent.⁴⁵⁴

The Court dedicated seven paragraphs of the decision to claim construction⁴⁵⁵ before moving on to the issues of validity and infringement.

Evidence was submitted by the parties to assist the Court in understanding the nature of the invention.⁴⁵⁶ Specifically, the parties submitted a copy of the Instruction Manual for the Bowen Model S-2.5 Power Swivel. At paragraphs 9 and 10, the Court stated as follows with respect to submitted evidence:

9 [...] The Bowen models, which I accept as representative of the units that are accommodated on the Westmen trailers and the Energy Rental trailers, are described as "hydraulic motor driven, pipe rotating machines". The swivel head alone is a rotary tool that is suspended over the well head allowing the drill stem to rotate freely. All Bowen power units, in addition to the swivel head, consist of an engine assembly with a direct driven, variable displacement hydraulic pump, hydraulic piping, hydraulic fluid reservoir, a trailer or skid assembly, and a hose reel assembly with necessary hoses to supply hydraulic fluid power to the power swivel motor. All of these components are skid or trailer mounted to form a

⁴⁵⁴ Wessel, *supra* note 452 at para. 6.

⁴⁵⁵ Wessel, *supra* note 452 at para. 12 to 18.

⁴⁵⁶ Wessel, *supra* note 452 at para. 9.

portable unit that can be moved from well site to well site and utilized from the trailer as required.

10 Drill collars are heavy, thick-walled tubes - usually steel - used between a drill pipe and the bit in the drill stem to stiffen the drilling assembly and put weight on the bit. This allows the bit to drill more effectively. Although not required in all circumstances, drill collars are more often than not used in association with the operation of a power swivel. When needed, they are supplied together with the power swivel unit and transported to the well site at the same time.

In following the teachings of *Whirlpool*,⁴⁵⁷ the Court first identified the essential elements claimed in the '675 Patent. The Court reiterated that claim 1 of the '675 Patent comprised the following embodiments:

A trailer mounted power swivel, comprising in combination:

1. an elongate trailer having ground engaging wheels and a cargo deck; the cargo deck being divided lengthwise into a first section and a second section; and
2. a power swivel unit secured solely to the first section, thereby causing a load imbalance which renders the trailer unstable for highway travel until the second section of the cargo deck is under load, the second section of the cargo deck being adapted to carry a sufficient number of drill collars to sufficiently counterbalance the weight of the power swivel unit until the stability of the trailer is restored

In construing the '675 Patent, the Court took into consideration guidance from *Whirlpool* and *Free World*, namely that "patent claims are to be construed in an informed and purposive fashion and that excessive literalism is to be avoided". The Court quoted Justice Binnie who explained in *Whirlpool*,⁴⁵⁸ that the "key to purposive construction is therefore the identification by the Court, with the assistance of the skilled reader, of the

⁴⁵⁷ *Wessel, supra* note 452 at para. 43.

⁴⁵⁸ *Wessel, supra* note 452 at para. 45.

particular words or phrases in the claims that describe what the inventor considered to be the 'essential' elements of his invention".⁴⁵⁹

The parties presented no experts to assist the Court with claim construction. Accordingly, the Court commenced its analysis by looking at the plain and ordinary meaning of the words used in the specialized context of the petroleum industry.⁴⁶⁰

After considering the words of the claim, principles of claim construction and evidence associated with the invention, the Court found the following to be essential elements of claim 1:⁴⁶¹

1. The claim as a whole is addressed to a trailer that has been adapted to transport all of the components of a power swivel unit, as described in paragraph 9 above.
2. The trailer is divided lengthwise into two sections, with the components of the power swivel affixed to one section.
3. Without the addition of weight to the second section, the trailer will be sufficiently unbalanced to be unstable for highway travel.

It was agreed by the parties that the term "highway" was to be interpreted according to subsection 1(g) of the *Alberta Highway Traffic Act*⁴⁶², which defined that term as follows:⁴⁶³

- (g) "highway" means any thoroughfare, street, road, trail, avenue, parkway, driveway, viaduct, lane, alley, square, bridge, causeway, trestleway or other place, whether publicly or

⁴⁵⁹ *Wessel, supra* note 452 at para. 13.

⁴⁶⁰ *Wessel, supra* note 452 at para. 14.

⁴⁶¹ *Wessel, supra* note 452 at para. 15.

⁴⁶² R.S.A.2000, C. H-8.

⁴⁶³ *Wessel, supra* note 452 at para. 16.

privately owned, any part of which the public is ordinarily entitled or permitted to use for the passage or parking of vehicles

...

In the Court's opinion, the term "highway" would have been purposively construed to include all types of roads suitable for travel by the trailers since they were to be used in the petroleum industry.⁴⁶⁴

The Court construed the term "unstable for highway travel" as to have restrictive meaning applying in situations where "there is a reasonable possibility that the trailer, without the balancing load, could overturn in certain driving situations or that the driver of the towing vehicle could lose control" and not in all circumstances.⁴⁶⁵

In its last paragraph relating to claim construction, the Court noted that the patent embodied more than a simple design and that it had mechanical or structural qualities but the determination whether it was novel or inventive remained to be determined.⁴⁶⁶ The Court then proceeded with analysis to determine whether the '675 Patent was invalid for the reasons of obviousness⁴⁶⁷ and anticipation⁴⁶⁸ and whether there was infringement of the '675 Patent.⁴⁶⁹ The Court found that the '675 Patent was valid and it was infringed by the Defendant's product.⁴⁷⁰

⁴⁶⁴ *Wessel, supra* note 452 at para. 16.

⁴⁶⁵ *Wessel, supra* note 452 at para. 17.

⁴⁶⁶ *Wessel, supra* note 452 at para. 18.

⁴⁶⁷ *Wessel, supra* note 452 at para. 19 to 23.

⁴⁶⁸ *Wessel, supra* note 452 at para. 24 to 30.

⁴⁶⁹ *Wessel, supra* note 452 at para. 31 to 62.

⁴⁷⁰ *Wessel, supra* note 452 at para. 64.

This decision was not appealed to the Federal Court of Appeal.⁴⁷¹ It was not cited in any of the cases mentioned in chapter 3 and cited *Free World* and *Whirlpool*.⁴⁷²

The *Wessel* case was decided by Justice Snider⁴⁷³ who was appointed as a Justice of the Federal Court on October 10, 2002. Prior to being appointed to the bench, Justice Snider practiced law in the private practice and may have had exposure to intellectual property. As a Justice of the Federal Court, she heard three intellectual property cases before hearing *Wessel* on May 31, 2004.⁴⁷⁴

The overall observation about this decision, in light of the themes of the thesis, is that the Federal Court took a narrow approach to claim construction to find non-infringement of the claims in suit. In addition, there were no experts to assist the Court with claim construction in this case, making it the only decision in chapter 3 where claims were construed without expert testimony. Because this decision was not appealed to the Federal Court of Appeal, it is difficult to make any concrete observations in relation to whether the approach to claim construction was properly applied given the lack of expert testimony. It appears that the trial judge only relied on plain meaning of the phrases to construe the claims. Arguably, with the help of expert evidence the trial judge would have been at more ease to rely on drawings, specification, or the written description.

⁴⁷¹ Source: Quicklaw QuickCITE.

⁴⁷² Source: CanLii Reflex.

⁴⁷³ Biography of the Honourable Judith A. Snider online: Federal Court of Canada <http://cas-ncr-nter03.cas-satj.gc.ca/portal/page/portal/fc_cf_en/Snider>.

⁴⁷⁴ Other intellectual property judgments/motions heard by this judge before first case in chapter 3 was heard: (1) *Pfizer Canada Inc. v. Apotex Inc.*, 2003 FC 1428 (CanLII) January 21, 2004, (2) *Pfizer Canada Inc. v. Apotex Inc.*, 2003 FCT 40 (CanLII): Jan 17, 2003; (3) *Procter & Gamble Pharmaceuticals Canada Inc. v. Canada* (Minister of Health), 2004 FC 204 (CanLII) Feb. 12, 2004 (Construction at paragraph 17) (CanLii).

(vi) Gold v. Serratus Mountain Products Ltd.

a. Gold v. Serratus Mountain Products Ltd. (Federal Court) (Aug. 2004)

In *Gold v. Serratus Mountain Products Ltd.*,⁴⁷⁵ (“*Gold*”) Mr. Gold (the “Plaintiff”) commenced an action for infringement against Serratus Mountain Products Ltd. and Mountain Equipment Cooperative (the “Defendants”)⁴⁷⁶ alleging that the Defendants infringed his patent by manufacturing, selling and promoting various articles comprising the Plaintiff’s closure mechanism.⁴⁷⁷

The issues before the Federal Court as agreed by the parties included an interpretation of the patent claims and a determination as to whether, on purposive construction, the defendant’s invention fell in the scope of the plaintiff’s Canadian Patent No. 1,324,357 (the ‘357 Patent).⁴⁷⁸ The Court rephrased these issues and asked instead whether the defendant’s products infringed the plaintiff’s patent.⁴⁷⁹ The abstract and the claims of the ‘357 Patent is found in Appendix 7.

The ‘357 Patent is entitled “Closure Mechanism” and the ‘357 Patent application was filed on May 24, 1989 leading to its granting on November 16, 1993.⁴⁸⁰ The invention was summarized as follows:⁴⁸¹

⁴⁷⁵ *Gold*, *supra* note 448.

⁴⁷⁶ *Gold*, *supra* note 448 at para. 1.

⁴⁷⁷ *Gold*, *supra* note 448 at para. 5.

⁴⁷⁸ *Gold*, *supra* note 448 at para. 28.

⁴⁷⁹ *Gold*, *supra* note 448 at para. 30.

⁴⁸⁰ *Gold*, *supra* note 448 at para. 2.

The '357 patent relates to a closure mechanism for open-ended containers, with particular application to gloves, handbags, knapsacks and other like articles featuring an open-ended portion of tubular opening, the diameter of which may be optimally adjusted or closed, when the article is in use. The closure mechanism of the '357 patent is characterized by the use of a stretchable cord means received by an open channel means which is disposed proximate to the perimeter or circumference of the open-ended portion or tubular opening. The stretching and releasing of the stretchable cord modifies its cross-sectional area, thereby enabling it to slide freely within the channel or be impeded or retained therein. The sliding movement (or lack thereof) of the stretchable cord within the channel means consequently reduces or enlarges the diameter and size of the open-ended portion or tubular opening, all as set forth in the disclosure and claims of the '357 patent.

The Defendant argued that on strict construction of the patent, the closure mechanism incorporated in their products was different from the '357 Patent.⁴⁸²

The Court found the Plaintiff's witnesses more credible⁴⁸³ but did not feel bound by their evidence to make its own findings.⁴⁸⁴ The Court found it irrelevant for the purposes of construction that the Plaintiff's experts had a clearer understanding of the terms used in the patent⁴⁸⁵ stating instead that it was the Court's job to find support in the text of the patent.⁴⁸⁶

For the purposes of patent claim construction, the Court found the most important part of the evidence to be the gloves and mittens that were presented as material evidence and the most important feature being the closure system.⁴⁸⁷

⁴⁸¹ *Gold, supra* note 448 at para. 3 quoting the statement of claim.

⁴⁸² *Gold, supra* note 448 at para. 15.

⁴⁸³ *Gold, supra* note 448 at para. 16.

⁴⁸⁴ *Gold, supra* note 448 at para. 17.

⁴⁸⁵ *Gold, supra* note 448 at para. 17.

⁴⁸⁶ *Gold, supra* note 448 at para. 20.

⁴⁸⁷ *Gold, supra* note 448 at para. 20.

The Court narrowed down the number of submitted examples of gloves with a drawstring closure system to five.⁴⁸⁸

The Court first outlined the applicable legislation to claim construction, namely, subsections 27(3), 27(4) and 27(5) of the *Patent Act* which addressed a requirement that a patent specification contains a full disclosure of the invention.⁴⁸⁹

The Court then started its analysis at paragraph 32, first providing the background behind the patent system and principles of claim construction⁴⁹⁰ and then by analyzing the teaching of the '357 Patent⁴⁹¹ by analyzing the claims⁴⁹² and the summary of the invention.⁴⁹³

In relation to the teaching of the patent, the parties agreed that the core of the patent comprised of the independent claims 1, 17, 33 and 36. The four claims described a closure mechanism "where a stretchable cord within a channel extends beyond either two closely spaced openings or at least one opening".⁴⁹⁴ Common to all four claims were the (1) stretched cross-sectional area smaller than the opening and (2) un-stretched cross sectional area being larger than the opening.⁴⁹⁵ The Court identified the principle of the invention to be the cord which by returning to its non-stretched position, expanded and

⁴⁸⁸ *Gold, supra* note 448 at para. 21.

⁴⁸⁹ *Gold, supra* note 448 at para. 31.

⁴⁹⁰ *Gold, supra* note 448 at para. 32 to 36.

⁴⁹¹ *Gold, supra* note 448 at para. 37 to 45.

⁴⁹² *Gold, supra* note 448 at para. 39 to 40.

⁴⁹³ *Gold, supra* note 448 at para. 41.

⁴⁹⁴ *Gold, supra* note 448 at para. 37.

⁴⁹⁵ *Gold, supra* note 448 at para. 37.

filled the opening providing a locking system to the opening.⁴⁹⁶ The Court continued looking at the claims and identified “insert means” as being capable of functioning as a brake on the cord instead of the opening.⁴⁹⁷ The Court also found that the claims provided for two possible additions to the closure mechanism comprising an outside handle and a release mechanism.⁴⁹⁸

In addition to analyzing the independent claims, the Court also relied on the summary of the invention as an aid in interpreting the object of the patent.⁴⁹⁹ The summary is reproduced below:

The invention is generally directed to a closure mechanism for an open-ended container. A channel member is coupled at or near the open end of the container for forming a channel of an open length, corresponding to the distance around the open end. The channel has a channel cross-sectional area and terminates in two closely spaced openings, each having an opening cross-sectional area. A stretchable cord member is located within the channel and extends outwardly beyond both the openings. A stretchable cord has an unstretched cross-sectional area and a stretched cross-sectional area. The unstretched cross-sectional area is larger than the stretched cross-sectional area and the opening cross-sectional area. By pulling on the portion of the stretchable cord member extending out of both openings, the stretchable cord member takes on the stretched cross-sectional area proximate the opening. As a result, the stretchable cord member freely slides in the channel. When the cord member is then released, the stretchable cord member takes on the unstretched cross-sectional area proximate the openings, thereby locking the stretchable cord member in the openings and shortening the channel member to a closed length which is less than the open length and secures the open end of the container in a closed position.

⁴⁹⁶ *Gold, supra* note 448 at para. 38.

⁴⁹⁷ *Gold, supra* note 448 at para. 39.

⁴⁹⁸ *Gold, supra* note 448 at para. 40.

⁴⁹⁹ *Gold, supra* note 448 at para. 41.

The Court also looked at the detailed description of the preferred embodiments and the disclosure which pointed to the possibility of adding an additional layer to further reduce the cross-sectional area within the channel region.⁵⁰⁰

The Court found the essential elements of the '357 patent to be an "elastic drawstring system where closure is maintained as the elastic cord fills the space through which it slid when stretched."⁵⁰¹

The Court found that no infringement existed in this case. Construed narrowly, the '357 Patent could not cover the Defendant's gloves since the closure mechanism operated differently and had a different structure. Construed broadly, the Defendant's gloves would be caught but so would other types of gloves as well.⁵⁰²

This decision was appealed to the Federal Court of Appeal and was affirmed.⁵⁰³ It was not mentioned in any decision in chapter 3. This decision cited *Free World* and *Whirlpool* and no other decision in chapter 3.⁵⁰⁴

*Catnic*⁵⁰⁵ was the only international (English) case cited in this decision.

⁵⁰⁰ *Gold, supra* note 448 at para. 44.

⁵⁰¹ *Gold, supra* note 448 at para. 49.

⁵⁰² *Gold, supra* note 448 at para. 72.

⁵⁰³ *GoldFCA, supra* note 449.

⁵⁰⁴ Source: CanLii reflex.

⁵⁰⁵ *Catnic, supra* note 119.

The *Gold* case was decided by Justice Blais⁵⁰⁶ who was appointed as a Justice of the Federal Court in June 1998. Prior to being appointed to the bench, Justice Blais held various government positions and practiced law not related to intellectual property. As a Justice of the Federal Court, he heard two intellectual property cases before hearing *Gold* on August 5, 2004.⁵⁰⁷

The overall observation about this decision, in light of the themes of the thesis, is that the Federal Court took a narrow approach to claim construction and found non-infringement.

b. *Gold v. Serratus Mountain Products Ltd.* (Federal Court of Appeal) (March 2006)

As mentioned above, *Gold* appealed the judgement of Justice Blais to the Federal Court of Appeal.⁵⁰⁸ Writing for the majority, Chief Justice Richard reviewed the '357 Patent and found Claims 1, 17, 33 and 36 to be the essence of the patent.⁵⁰⁹ Chief Justice dedicated four paragraphs to reviewing the construction of the '357 Patent.⁵¹⁰ In doing so, he confirmed that the trial judge was correct to rely on *Free World* and *Whirlpool* as the leading cases in the area of patent claim construction.⁵¹¹ Chief Justice noted that the trial judge applied the principles of construction to Claim 17 and reproduced paragraphs

⁵⁰⁶ Biography of the Honourable Pierre Blais online: Federal Court of Canada <http://www.cmac-cacm.ca/bios/blais_e.shtml>.

⁵⁰⁷ Other intellectual property judgments/motions heard by this judge before first case in chapter 3 was heard: (1) *Hassle v. Apotex Inc.*, 2001 FCT 530 (CanLII) (May 25, 2001) (claim construction paragraph 63); (2) *Novartis Pharmaceuticals Canada Inc. v. Apotex Inc.*, 2001 FCT 1129 (CanLII) (October 18, 2001) (claim construction paragraph 98) (CanLii).

⁵⁰⁸ *GoldFCA*, *supra* note 449.

⁵⁰⁹ *GoldFCA*, *supra* note 449 at para. 11.

⁵¹⁰ *GoldFCA*, *supra* note 449 at para. 14 to 17.

⁵¹¹ *GoldFCA*, *supra* note 449 at para. 15.

37 and 38 of the findings of the trial judge as they related to Claim 17. Chief Justice Richard found that the language of the patent supported trial judge's interpretation and that the essential element of the '357 Patent as recognized by the trial judge was "a single closure mechanism characterized by the use of a stretchable cord and which depends upon the relationship between the cross-sectional diameter of the shock cord and the cross-sectional area of the opening of the channel."⁵¹² Chief Justice Richard found that the trial judge made no palpable and overriding error in reaching the conclusion of non-infringement⁵¹³ and dismissed Gold's appeal, affirming the trial judgment.⁵¹⁴

This decision was not appealed to the Supreme Court of Canada or mentioned/cited in any decision in chapter 3.⁵¹⁵ This decision also cited *Gold*,⁵¹⁶ *Free World* and *Whirlpool*.⁵¹⁷

The overall observation about this decision, in light of the themes of the thesis, is that the Federal Court of Appeal re-affirmed a narrow approach to claim construction to find non-infringement of the claims in suit.

⁵¹² *GoldFCA*, *supra* note 449 at para. 17.

⁵¹³ *GoldFCA*, *supra* note 449 at para. 23.

⁵¹⁴ *GoldFCA*, *supra* note 449 at para. 25.

⁵¹⁵ Source: Quicklaw database.

⁵¹⁶ *Gold*, *supra* note 448.

⁵¹⁷ Source: CanLii reflex.

(vii) MacLennan v. Gilbert Tech Inc.

a. MacLennan v. Gilbert Tech Inc. (Federal Court) (Dec. 2004)

In *MacLennan v. Gilbert Tech Inc.*,⁵¹⁸ (“*MacLennan*”) one of the issues before the Federal Court was the proper interpretation of claims in the Canadian patent No. 2,011,788 (the ‘788 Patent)⁵¹⁹ entitled “saw tooth and holder”.⁵²⁰ The abstract and the claims of the ‘788 Patent are reproduced in Appendix 8.

In this case, the inventor Charles MacLennan (the “Plaintiff”) commenced an action alleging infringement of his ‘788 Patent by Gilbert Tech Inc (the “Defendant”).⁵²¹ The patent application was filed on March 8, 1990⁵²² and the ‘788 Patent was issued on April 14, 1992.⁵²³

The Court commenced its analysis at paragraph 8 with first outlining the principles of claim construction.⁵²⁴ Next, the Court qualified expert witnesses and listed their academic and experience credentials⁵²⁵ followed by outlining the evidence submitted by each expert witness.⁵²⁶ Lastly, the Court evaluated the expert evidence.⁵²⁷

⁵¹⁸ *MacLennan*, *supra* note 392.

⁵¹⁹ *MacLennan*, *supra* note 392 at para. 6.

⁵²⁰ Online: Canadian Intellectual Property Office Patent Database
<<http://patents.ic.gc.ca/cipo/cpd/en/patent/2011788/summary.html>>.

⁵²¹ *MacLennan*, *supra* note 392 at para. 1.

⁵²² Canadian Intellectual Property Office Patent Database online:
<<http://patents.ic.gc.ca/cipo/cpd/en/patent/2011788/summary.html>>.

⁵²³ *MacLennan*, *supra* note 392 at para. 1.

⁵²⁴ *MacLennan*, *supra* note 392 at para. 8 and 9.

⁵²⁵ *MacLennan*, *supra* note 392 at para. 10 to 16.

⁵²⁶ *MacLennan*, *supra* note 392 at para. 18 to 25.

⁵²⁷ *MacLennan*, *supra* note 392 at para. 26 to 29.

According to the Plaintiff's expert, the essential elements of the invention were as follows:⁵²⁸

- (a) a tooth holder with the following characteristics:
 - (i) two legs extending on either side of the saw disc so that the tooth holder straddles the disc;
 - (ii) the tooth holder is permanently fastened to the saw blade by bolting;
 - (iii) a hollow tube which projects beyond the periphery of the saw blade at a tangential axis with the latter; and
 - (iv) an abutment means against which the back and one side of the tooth rest;

in combination with

- (b) a saw tooth having the following characteristics:
 - (i) the front face of the tooth is concave so as to form tips and cutting edges at the intersection of the sides of the tooth with its front face; and
 - (ii) the tooth is permanently fastened in the hollow tube of the tooth holder at a tangential axis with the saw.

According to the Defendant's expert, the essential elements were as follows:⁵²⁹

- (i) the presence of a combination, the patentee did not intend to claim a saw tooth without tooth holder or a tooth holder without a saw tooth, or at any rate did not express any intention of so claiming;
- (ii) the tooth claimed which was part of this combination must be in the frusto-pyramidal shape;
- (iii) the tooth must contain a shank which is fastened to the pyramidal tooth;
- (iv) the tooth and its attached shank are held in place by a bolt or a spring pin;
- (v) the abutment means are adapted to take a pyramidal tooth, that is, two surfaces forming an L;
- (vi) the tooth holder is installed on the tooth blade by two fasteners, each comprised of a pair of fittings.

In evaluating the expert evidence, the Court acknowledged that both experts agreed that this was a combination patent.⁵³⁰ In this regard, the Court preferred the Plaintiff's expert

⁵²⁸ *MacLennan*, *supra* note 392 at para. 18.

⁵²⁹ *MacLennan*, *supra* note 392 at para. 21.

evidence when this expert stated, “the patentee did not intend to claim a saw tooth without a tooth holder or a tooth holder without a saw tooth or at any rate did not express any intention of so claiming”.⁵³¹

Relying on expert evidence in cross-examination, the Court also found the shank, irrespective of its connection to the tooth, to be an essential element.⁵³² There was a disagreement between the parties as to the shape of the tooth. The Defendant’s expert witness argued in favor of pyramidal shaped tooth saying that the patent could not cover anything but this shape. The Plaintiff’s expert did not share this view. The Court favored the opinion of the Plaintiff’s expert who referred to his analysis made “in connection with claim 1, the specifications, designs and very wording of claim 2 – “small end”, “large end”, “divergent surfaces and the abutment means.”⁵³³

The Court found the abutment means of the tooth holder as another essential element in the patent. The Court was persuaded by the Defendant’s expert witness who was of the view that “the abutment means are adapted to take a pyramidal tooth, that is, two surfaces forming an L”. The Court stated at paragraph 28:

[...] The two surfaces forming an L are made in such a way that they marry the shape of the pyramidal tooth. They are thus backed on a flat surface and supported on one side on a small platform. With the shank, and a means of fastening, this tooth holder and saw tooth combination prevents rotation and tangential movement.

⁵³⁰ *MacLennan, supra* note 392 at para. 26. A “combination patent” means that each of the claims begins with the words “a saw tooth and tooth holder combination” – see paragraph 19.

⁵³¹ *MacLennan, supra* note 392 at para. 26.

⁵³² *MacLennan, supra* note 392 at para. 26.

⁵³³ *MacLennan, supra* note 392 at para. 27.

Another element, which the parties agreed to be essential, was the method of attachment of the tooth holder to the saw blade, namely by bolting.⁵³⁴ The Court then proceeded to determine whether the '788 patent was infringed,⁵³⁵ found there was no infringement and consequently dismissed the action for infringement.⁵³⁶

The decision of Justice Beaudry was appealed to the Federal Court of Appeal and was reversed.⁵³⁷ As indicated above, this decision was followed in *Quadco*.⁵³⁸ Lastly, this decision cited *Whirlpool* and *Free World*.⁵³⁹

As indicated above, the *MacLennan* decision was decided by Justice Beaudry⁵⁴⁰ who was appointed as a Justice of the Federal Court on January 25, 2002. Prior to being appointed to the bench, Justice Beaudry practiced law in the private practice not related to intellectual property. As a Justice of the Federal Court, he heard no intellectual property cases before hearing *MacLennan* on Dec. 6, 2004.⁵⁴¹

The overall observation about this decision, in light of the themes of the thesis, is that the Federal Court took a narrow approach to claim construction to find non-infringement of the claims in suit.

⁵³⁴ *MacLennan*, *supra* note 392 at para. 29.

⁵³⁵ *MacLennan*, *supra* note 392 at para. 30 to 39.

⁵³⁶ *MacLennan*, *supra* note 392 at para. 39.

⁵³⁷ *MacLennan v. Produits Gilbert Inc.*, [2008] F.C.J. No. 128, 67 C.P.R. (4th) 161, Noël*, Nadon, Pelletier J.A. [*MacLennanFCA*].

⁵³⁸ *Quadco*, *supra* note 364 at para. 9.

⁵³⁹ Source: CanLii Reflex.

⁵⁴⁰ Biography of the Honourable Michel Beaudry online: Federal Court of Canada <http://cas-ncr-nter03.cas-satj.gc.ca/portal/page/portal/fc_cf_en/Beaudry>.

⁵⁴¹ Source: CanLii.

b. MacLennan v. Produits Gilbert Inc. (Federal Court of Appeal) (Jan. 2008)

As noted above, the decision of Justice Beaudry was appealed to the Federal Court of Appeal.⁵⁴² Writing for the majority, Justice Noël, found that the trial judge made an error in finding no direct infringement. At paragraph 23, Justice Noël stated:

23 With respect, the trial judge misunderstood the nature of the patented invention and failed to consider the claims when he determined that replacing the Quadco tooth with the Gilbert tooth constituted a simple repair. Since the very essence of the patent is that the tooth is attached to the tooth holder in such a way that it can separate from it in the course of normal wear and tear before the disc is damaged, it is clear that forestry operators remake the patented invention every time they use a Gilbert tooth to replace a Quadco tooth. Accordingly, Beaudry J. was incorrect when he concluded that there had been no direct infringement on the ground that the forestry operators were repairing the patented article. [Emphasis added].

Justice Noël remarked that although the matter could have been returned back to the trial judge for analysis, both parties insisted that the Court of Appeal disposed of the dispute and make findings of fact even if this meant addressing evidence which the trial judge did not consider.⁵⁴³ The remainder of the judgment focused on establishing whether there was direct infringement and infringement by inducement but the Court undertook no claim construction analysis.⁵⁴⁴ The Court reviewed the evidence noting that the defendant conceded at trial that its invention comprised the essential elements of claims 1, 4 and 5

⁵⁴² *MacLennanFCA*, *supra* note 537 at para. 27.

⁵⁴³ *MacLennanFCA*, *supra* note 537 at para. 24.

⁵⁴⁴ *MacLennanFCA*, *supra* note 537 at para. 25.

of the Quadco patent which was enough to establish direct infringement.⁵⁴⁵ In the end, the Court found infringement by inducement and set aside the trial judgment.⁵⁴⁶

This decision cited the following case from chapter 3:⁵⁴⁷ *MacLennan v. Gilbert Tech Inc.*⁵⁴⁸ and mentioned the following case in chapter 3: *Halford*.⁵⁴⁹ The decision was not appealed to the Supreme Court of Canada.⁵⁵⁰

The following international (English) cases were cited in this case: *Townsend v. Haworth*,⁵⁵¹ *Innes v. Short and Beal*⁵⁵² and *Dunlop Pneumatic Tyre Co. v. David Mosley & Sons Ltd.*⁵⁵³

The overall observation about this decision, in light of the themes of the thesis, is that the Federal Court of Appeal has demonstrated how critical it is for trial judges to properly understand the nature of patented invention before claim construction is undertaken. As demonstrated above, the trial judge's wrong understanding led to the incorrect conclusion.

⁵⁴⁵ *MacLennanFCA*, *supra* note 537 at para. 26.

⁵⁴⁶ *MacLennanFCA*, *supra* note 537 at para. 50.

⁵⁴⁷ CanLii Reflex.

⁵⁴⁸ *MacLennanFCA*, *supra* note 537.

⁵⁴⁹ *Halford*, *supra* note 205.

⁵⁵⁰ Source: Quicklaw QuickCITE.

⁵⁵¹ *Townsend v. Haworth* (1875), 12 Ch.D. 831. Discussion related to infringement. Cited in *MacLennan*, *supra* note 392 at para. 36.

⁵⁵² *Innes v. Short and Beal*, (1898), 15 R.P.C. 449 at para. 35. Discussion related to infringement. Cited in *MacLennan*, *supra* note 392 at para. 36.

⁵⁵³ *Dunlop Pneumatic Tyre Co. v. David Mosley & Sons Ltd.*, (1904), 15 R.P.C. 974 at para. 37. Cited in *MacLennan*, *supra* note 392 at para. 36.

(viii) Calgon Carbon Corp. v. City of North Bay

a. Calgon Carbon Corp. v. City of North Bay (Federal Court) (Nov. 2006)

In *Calgon*,⁵⁵⁴ the issue of claim construction in and of itself was not raised to be determined by the Federal Court.⁵⁵⁵ However, because two of the five issues to be determined involved validity and infringement of the plaintiff's Canadian patent number 2,331,525, (the '525 Patent) the Court had to undertake claim construction analysis.⁵⁵⁶ The abstract and claims of the '525 Patent is found in Appendix 9.

The '525 Patent is entitled "Method for Preventing Replication In *Cryptosporidium Parvum* Using Ultra Violet Light" and the patent application was filed on May 5, 1999 claiming priority from U.S. Application No. 09/078116 filed in the United States on May 13, 1998. The claim date is therefore the date of the American filing. The '525 Patent application was laid open for public inspection on November 18, 1999 and the patent was issued on February 19, 2002.⁵⁵⁷

The Court's analysis of claim construction began at paragraph 81 of the decision, by outlining the principles of claim construction⁵⁵⁸ then applying them to the '525 Patent.⁵⁵⁹

⁵⁵⁴ *Calgon*, *supra* note 362.

⁵⁵⁵ *Calgon*, *supra* note 362 at para. 76.

⁵⁵⁶ *Calgon*, *supra* note 362 at para. 81 to 110 inclusive.

⁵⁵⁷ *Calgon*, *supra* note 362 at para. 7.

⁵⁵⁸ *Calgon*, *supra* note 362 at para. 81 to 84.

⁵⁵⁹ *Calgon*, *supra* note 362 at para. 85 to 110.

In applying the principles of claim construction to the '525 Patent, the Court first examined the field of the invention⁵⁶⁰ and the summary of the invention.⁵⁶¹

The claims of the '525 Patent that required construing by the Court is reproduced below⁵⁶² with issues and terms to be construed being underlined:⁵⁶³

1. A method for the prevention of Cryptosporidium oocysts comprising irradiating water with a continuous broad band of ultraviolet light in doses of from about 10 mJ/cm² to about 175 mJ/cm².
2. A method as set forth in claim 1 wherein said broad band is a frequency of 200 to 300 nm using a UV lamp.
3. A method as set forth in claim 1 or 2 wherein said dose is from about 20 mJ/cm² to about 30 mJ/cm².
4. A method as set forth in claim 1 wherein said broad band is a frequency of 200 to 300 nm using a medium pressure UV light.

To assist with claim construction, the Court relied on expert evidence provided by experts representing both parties.⁵⁶⁴

The Court noted that nothing in the claims required irradiated water to be flowing. The Court made this inference from the description of the preferred embodiment which described how the pilot tests were undertaken but the Court found this to be non-essential since the invention could have been practiced in static water.⁵⁶⁵

⁵⁶⁰ *Calgon, supra* note 362 at para. 85.

⁵⁶¹ *Calgon, supra* note 362 at para. 87.

⁵⁶² *Calgon, supra* note 362 at para. 8.

⁵⁶³ *Calgon, supra* note 362 at para. 89.

⁵⁶⁴ *Calgon, supra* note 362 at para. 90 and 92.

⁵⁶⁵ *Calgon, supra* note 362 at para. 98.

The Court observed that the parties agreed about the incorrect use of the word “frequency” and that “wavelength” should have been used instead. The Court also observed that Calgon’s claim 3 narrowed down the range of the dose claimed but the limitation was inapplicable to North Bay’s system which required doses of ultraviolet light in the range of 40 to 50 mJ/cm².⁵⁶⁶

The Court found differences in expert evidence relating to the meaning of the phrase “a method for the prevention of *Cryptosporidium* oocysts” and the word “continuous” in the context of a “continuous broad band of ultraviolet light”.⁵⁶⁷

In relation to construing the phrase “a method of the prevention of *Cryptosporidium* oocysts”, the Court agreed with the expert evidence, which advanced the view that Crypto did not have to be present in the water to practice the method as long as UV irradiation was used as per prescribed dosage. Whether Crypto appeared once a day or never, the method was being practiced since the barrier was present.⁵⁶⁸

In relation to the word “continuous” in the context of a “continuous broad band of ultraviolet light”, the Court agreed with the plaintiff’s expert that the patent specification made it clear that the reference in the claims to a continuous broad band of ultraviolet light meant continuous in time and not pulsed.⁵⁶⁹

⁵⁶⁶ *Calgon, supra* note 362 at para. 100.

⁵⁶⁷ *Calgon, supra* note 362 at para. 102.

⁵⁶⁸ *Calgon, supra* note 362 at para. 106.

⁵⁶⁹ *Calgon, supra* note 362 at para. 109.

In summary, the Court found the following to be essential elements of the '525 Patent: (1) the irradiation of drinking water; (2) with continuous in time ultraviolet light; (3) in wavelengths of 200 to 300 nm; (4) generating doses in the range of 10 mJ/cm to 175 mJ/cm; and (5) to prevent infection by *Cryptosporidium* oocysts.⁵⁷⁰ The Court then proceeded to determination of the validity of the patent.⁵⁷¹ In the end the Court found that the '525 Patent was invalid by anticipation of prior use and publication.⁵⁷² Having made this finding, the Court found that North Bay has not infringed the '525 Patent.⁵⁷³

The decision of Mosley J. was appealed by the Calgon Carbon Corporation to the Federal Court of Appeal⁵⁷⁴ and the Federal Court of Appeal affirmed the trial judgment. The case from chapter 3 cited in this decision⁵⁷⁵ is *Almecon*.⁵⁷⁶ Lastly, *Whirlpool* and *Free World* were also cited in this case.⁵⁷⁷

The following international (English and American) cases were cited in this case: *Merrell Dow Pharmaceuticals v. H.N. Norton & Co.*,⁵⁷⁸ *Synthon BV v. Smithkline Beecham plc*,⁵⁷⁹ and *Wedeco UV Technologies Inc. v. Calgon Carbon Corporation*.⁵⁸⁰

⁵⁷⁰ *Calgon*, *supra* note 362 at para. 110.

⁵⁷¹ *Calgon*, *supra* note 362 at para. 111 to 192.

⁵⁷² *Calgon*, *supra* note 362 at para. 193.

⁵⁷³ *Calgon*, *supra* note 362 at para. 204.

⁵⁷⁴ *Calgon Carbon Corp. v. North Bay*, [2008] F.C.J. No. 343, Linden, Sexton, Ryer* J.A. [*CalgonFCA*].

⁵⁷⁵ Source: CanLii reflex.

⁵⁷⁶ *Almecon*, *supra* note 336.

⁵⁷⁷ Source: CanLii Reflex.

⁵⁷⁸ *Merrell Dow Pharmaceuticals v. H.N. Norton & Co.*, [1996] R.P.C. 76 (H.L.) at para. 117, related to discussion on anticipation. This case was also cited in *CalgonFCA*, *supra* note 574.

⁵⁷⁹ *Synthon BV v. Smithkline Beecham plc*, [2005] UKHL at para. 122, related to discussion on anticipation.

⁵⁸⁰ *Wedeco UV Technologies, Inc. v. Calgon Carbon Corporation*, 2006 U.S. Dist. LEXIS 48657 (American case) was cited in *Calgon*, *supra* note 362 at para. 127 relating to a determination of the validity of the U.S. Patent No. 6,565,803 and U.S. Patent No. 6,129,893 (which is equivalent to Canadian Patent No. 2,331,525) - see Appendix 9.

The overall observation about this decision, in light of the themes of the thesis, is inconclusive because the Federal Court found the patent to be invalid. Because an invalid patent cannot be infringed, the case cannot contribute to the analysis in this study relating to infringement.

b. Calgon Carbon Corp. v. City of North Bay (Federal Court of Appeal) (March 2008)

As indicated above, Calgon Carbon Corporation appealed the decision of Justice Mosley to Federal Court of Appeal⁵⁸¹ but only dealt with the issues related to anticipation and did not concern claim construction.

This decision did not cite any cases from chapter 3.⁵⁸²

For the same reasons as the trial decision, the overall observation about this decision, in light of the themes of the thesis, is inconclusive since the Federal Court found the patent to be invalid.

(ix) M.K. Plastics Corp. v. Plasticair Inc.

M.K. Plastics Corp. v. Plasticair Inc. (Federal Court) (May 2007)

In *M.K. Plastics Corp. v. Plasticair Inc.*,⁵⁸³ there were three issues before the Federal Court and one of the issues related to patent claim construction. Specifically, the Court

⁵⁸¹ *CalgonFCA*, *supra* note 574.

⁵⁸² Source: CanLii Relex.

was asked to determine the proper construction of claims 1 and 2 of the plaintiff's Canadian patent number 2,140,163 (the '163 Patent).⁵⁸⁴

The patent application was filed on January 13, 1995 and is entitled "exhaust fan apparatus".⁵⁸⁵ This patent was published on May 16, 1996.⁵⁸⁶ The abstract and claims of the '163 Patent can be found in Appendix 10.

In this case, M.K. Plastics Corporation (the "Plaintiff"), commenced a patent infringement action against Plasticair Inc. (the "Defendant") with respect to its '163 Patent claiming an injunction, damages plus punitive damages.⁵⁸⁷

Claim 1 of the patent in question reads as follows:⁵⁸⁸

"An exhaust fan apparatus comprising a housing having an upper portion and a lower portion, wherein the lower portion included a centrifugal fan scroll casing, the scroll casing having parallel side walls, a shaft, a first axis normal to the side wall and mounting an impeller for rotation therewithin, motor means for driving the shaft, an inlet port provided axially of the first axis on a side wall of the casing, a discharge port extending from the scroll, a first tubular portion communicating with the fan discharge port and a second tubular portion extending upwardly from the first tubular portion, the second tubular portion being bifurcated to provide at least two passageways having generally parallel axes normal to the first axis, and wherein the axes of the passageways lie in a plane which is parallel to the first axis."

Claim 2 of the patent in question reads as follows:⁵⁸⁹

⁵⁸³ *M.K. Plastics Corp. v. Plasticair Inc.*, [2007] F.C.J. No. 772, Tremblay-Lamer J. [*M.K. Plastics*].

⁵⁸⁴ *M.K. Plastics*, *supra* note 583 at para. 15.

⁵⁸⁵ *M.K. Plastics*, *supra* note 583 at para. 3.

⁵⁸⁶ *M.K. Plastics*, *supra* note 583 at para. 3.

⁵⁸⁷ *M.K. Plastics*, *supra* note 583 at para. 1.

⁵⁸⁸ *M.K. Plastics*, *supra* note 583 at para. 12.

⁵⁸⁹ *M.K. Plastics*, *supra* note 583 at para. 13.

"An exhaust fan apparatus as defined in claim 1, wherein the second tubular portion includes a pair of spaced-apart outlet ports corresponding to the two passageways, and a ring surrounds the second tubular portion at a level corresponding to the outlet ports to form an annulus therewith, whereby ambient air is induced through the annulus to mix with gases exhausting from the passageways."

The Court summarized the difference in each party's position relating to claim construction at paragraph 14:

- 14 The crux of the dispute between the parties with regard to claim construction centres on four elements: "the first tubular diffuser portion" (the diffuser); "the second tubular portion being bifurcated to provide at least two passageways" (the bifurcation of the nozzle, or the bifurcated nozzle; notably whether this refers to a physical separation in the nozzle, or alternately, a bifurcation of the resulting airflow), "wherein the axes of the passageways lie in a plane which is parallel to the first axis" (the orientation) and finally, "a ring surrounds the second tubular portion at a level corresponding to the outlet ports to form an annulus therewith, whereby ambient air is induced through the annulus"(the windband).

Having considered the evidence, the Court concluded that claim 1 comprised of the following essential elements: (1) "a first tubular diffuser portion communicating with the fan discharge port", (2) "a second tubular portion extending upwardly from the first tubular portion", (3) "the second tubular portion being bifurcated to provide two passageways having generally parallel axes generally normal to the first axis of the shaft"; and (4) "wherein the axes of the passageways lie in a plane which is parallel to the first axis".⁵⁹⁰

⁵⁹⁰ *M.K. Plastics*, *supra* note 583 at para. 82.

The Court arrived at its conclusion in relation to claim 1, after analyzing (1) the bifurcation of the airflow,⁵⁹¹ (2) whether the diffuser was an essential element,⁵⁹² and (3) orientation of the passageways as an essential element.⁵⁹³

In relation to bifurcation of the airflow, the Court found that the patent described an apparatus and not a process. In the Court's view, a plain reading of claim 1 pointed to the existence of two separate passageways inside the apparatus.⁵⁹⁴ The Court noted that reading claims 1 and 2 together pointed to a bifurcation into two passageways, this conclusion being supported by the plain reading of the term "bifurcation" in claim 1 and existence of the sentence "a pair of spaced-apart outlet ports corresponding to the two passageways" in claim 2.⁵⁹⁵

In relation to whether the diffuser formed an essential element, both parties were in disagreement.⁵⁹⁶ The Court found, on purposive reading of the patent, that the diffuser was an essential element having a functional impact on the operation of the invention.⁵⁹⁷ The Court also found that a person skilled in the art reading the patent in 1996 would have understood the diffuser to be an essential element.⁵⁹⁸

⁵⁹¹ *M.K. Plastics, supra* note 583 at para. 38 to 60.

⁵⁹² *M.K. Plastics, supra* note 583 at para. 61 to 68.

⁵⁹³ *M.K. Plastics, supra* note 583 at para. 69 to 75.

⁵⁹⁴ *M.K. Plastics, supra* note 583 at para. 57.

⁵⁹⁵ *M.K. Plastics, supra* note 583 at para. 58 and 60.

⁵⁹⁶ *M.K. Plastics, supra* note 583 at para. 61.

⁵⁹⁷ *M.K. Plastics, supra* note 583 at para. 65.

⁵⁹⁸ *M.K. Plastics, supra* note 583 at para. 67.

In relation to the orientation of the passageways as being essential, the Court was satisfied on purposive reading of claim 1 that the inventor would have intended the orientation to be essential even though it may be a self-inflicted wound.⁵⁹⁹

In relation to claim 2, the Court found the following to be essential elements: (1) “the second tubular portion includes a pair of spaced-apart outlet ports corresponding to the two passageways;” (2) “a ring surrounds the second tubular portion at a level corresponding to the outlet ports to form an annulus therewith”; and (3) “whereby ambient air is induced through the annulus to mix with gases exhausting from the passageways”.⁶⁰⁰

The Court found based on expert evidence that an induction of the “air into exhaust stream through the windband” to be an essential element intended to have a functional impact.⁶⁰¹ In addition, the Court accepted uncontradicted evidence that it would have been obvious to a person skilled in the art at the time the patent was published that the “induction of ambient air in relation to the windband would necessarily denote that the ring had a convergent shape”.⁶⁰² In the end, the Court was not satisfied that all of the essential elements of the ‘163 Patent were present in the Defendant’s device and consequently found no infringement of the ‘163 Patent.⁶⁰³

⁵⁹⁹ *M.K. Plastics, supra* note 583 at para. 75.

⁶⁰⁰ *M.K. Plastics, supra* note 583 at para. 83.

⁶⁰¹ *M.K. Plastics, supra* note 583 at para. 80.

⁶⁰² *M.K. Plastics, supra* note 583 at para. 81.

⁶⁰³ *M.K. Plastics, supra* note 583 at para. 133 and 134.

This decision was not appealed further to the Federal Court of Appeal⁶⁰⁴ and it cited the following cases mentioned in chapter 3: *Illinois*⁶⁰⁵ and *Norac*.⁶⁰⁶ The decision also cited *Whirlpool*⁶⁰⁷ and *Free World*.⁶⁰⁸

The overall observation about this decision in light of the themes of the thesis is that the Federal Court took a narrow approach to claim construction to find non-infringement of the claims in suit.

(x) McKay v. Weatherford Canada Ltd.

a. McKay v. Weatherford Canada Ltd. (Federal Court) (Nov. 2007)

In *McKay v. Weatherford Canada Ltd.*,⁶⁰⁹ (“*McKay*”) the issue before the Federal Court was an alleged infringement of McKay’s Canadian Patent No. 2,371,155 (the ‘155 Patent) entitled “method of removing stators from tubular stator housings” which entailed a special style of a pump. The pump “is composed of a metal pipe (the stator housing) into which a hollow rubber sleeve called a stator or elastomer is inserted and affixed to the inside of the pipe by adhesive, and a shaft which turns inside the elastomer thereby

⁶⁰⁴ Source: Quicklaw database.

⁶⁰⁵ *Illinois*, *supra* note 212 at para. 137, 138, 139 in relation to costs.

⁶⁰⁶ *Norac*, *supra* note 215 at para. 22 relating to the determination of essential elements.

⁶⁰⁷ *Whirlpool*, *supra* note 2 at para. 17, 18, 20, 25, 27 relating to the patent claim construction.

⁶⁰⁸ *Free World*, *supra* note 3 at para. 17, 19, 21, 23, 24, 54, 55, 75 relating to principles of construction.

⁶⁰⁹ *McKay v. Weatherford Canada Ltd.*, [2007] F.C.J. No. 1589, 63 C.P.R. (4th) 35, Campbell J. [*McKay*].

forcing liquid through the elastomer.”⁶¹⁰ The abstract and claims of the ‘155 Patent can be found in Appendix 11.

Justice Campbell dedicated ten paragraphs to claim construction.⁶¹¹ Only Claims 1 and 2 of the ‘155 Patent were in issue in this case, specifically relating to the “cryogenic refrigeration” aspect of these Claims.⁶¹² During the trial, the parties agreed that the words in Claim 1 “in order to have a tubular metal stator housing and elastomer stator shrink at substantially the same rate” constituted a statement of fact and should not be considered in construing the claims. Similarly, the word “and” following part of the sentence was not to be considered in construing the claims and should read as “to”.⁶¹³ The Court noted that the essential elements of Claim 1 were as follows:⁶¹⁴

- (1) subjecting a stator housing having an interior surface to which a worn elastomer is adhered by adhesive to cryogenic refrigeration until the elastomer shrinks and pulls away from the interior surface of the stator housing,
and
to avoid thermal shock,
- (2) the temperature of the stator housing being gradually lowered to cryogenic levels,
and
- (3) then gradually raised to ambient temperature.
(Original emphasis by the Court)

⁶¹⁰ *McKay, supra* note 609 at para. 2.

⁶¹¹ *McKay, supra* note 609 at para. 6 to 15 inclusive.

⁶¹² *McKay, supra* note 609 at para. 8.

⁶¹³ *McKay, supra* note 609 at para. 9.

⁶¹⁴ *McKay, supra* note 609 at para. 10.

The Court noted that Claim 2 was a dependant claim and that a reasonable and fair construction of it was as follows:⁶¹⁵

- (a) subjecting a stator housing having an interior surface to which a worn elastomer is adhered by adhesive to cryogenic refrigeration of between minus 150 degrees Celsius and minus 200 degrees Celsius until the elastomer shrinks and pulls away from the interior surface of the stator housing;
- (b) the temperature of the stator housing being gradually lowered to the cryogenic levels of between minus 150 degrees Celsius and minus 200 degrees Celsius and then gradually raised to ambient temperature to avoid thermal shock. (Original emphasis by the Court)

The Court noted that Claim 1 did not specify that “the stator housing is to be subjected to cryogenic refrigeration “and then goes on to say that the temperature of the housing is to be reduced to cryogenic levels””. According to the Court, Claim 1 specified that the stator housing was to be subjected to “cryogenic refrigeration until” elastomer shrank and pulled away from the housing of the stator.⁶¹⁶

The Court noted that the meaning of the term “cryogenic refrigeration” in Claim 1 was found in the ‘155 Patent to mean a “range of temperatures beginning at -50° C and below”. Similarly, the Court opined that the specification favored interpreting the words “subjecting a tubular metal stator housing” in Claim 1 and words “the tubular metal stator housing being subjected to” in Claim 2 to award patent protection to process in which temperatures below -50° Celsius are applied to a stator housing until the occurrence of a certain event, this being the shrinking and pulling away of the elastomer from the stator

⁶¹⁵ *McKay, supra* note 609 at para. 11.

⁶¹⁶ *McKay, supra* note 609 at para. 13.

housing.⁶¹⁷ The Court based its conclusion mainly on the “Detailed Description of the Preferred Embodiment” feature of the specification, which stated as follows:⁶¹⁸

The cryogenic temperature range starts at approximately minus 50 degrees celsius. It will be understood that the method works on a combination of temperature and time. As the temperature is made colder within the cryogenic temperature range, the less time it takes for the worn stator to shrink sufficiently to pull away from interior surface 14. In tests proving the concept of a temperature range of between minus 150 degrees celsius and minus 200 degrees celsius was used.

Justice Campbell concluded that McKay failed to prove that Weatherford’s process entailed all of the essential elements of the ‘155 Patent and dismissed the infringement allegation.⁶¹⁹ McKay appealed this decision to the Federal Court of Appeal.⁶²⁰

This decision cited *Free World* and no other decision mentioned in chapter 3.⁶²¹

Justice Campbell decided the *McKay* decision. Justice Campbell⁶²² was appointed as a Justice of the Federal Court – Trial Division on December 8, 1995. Prior to being appointed to the bench, Justice Campbell practiced law in the private practice, was a judge of a provincial court, and was a university professor of criminology. As a Justice

⁶¹⁷ *McKay*, *supra* note 609 at para. 14.

⁶¹⁸ *McKay*, *supra* note 609 at para. 14 (‘155 Patent at page 3).

⁶¹⁹ *McKay*, *supra* note 609 at para. 64.

⁶²⁰ *McKayFCA*, *supra* note 447.

⁶²¹ Source: CanLii Reflex.

⁶²² Biography of the Honourable Douglas R. Campbell online: Federal Court of Canada <http://cas-ncr-nter03.cas-satj.gc.ca/portal/page/portal/fc_cf_en/Campbell>.

of the Federal Court, he heard eight intellectual property cases before hearing *McKay* on November 23, 2007.⁶²³

The overall observation about this decision, in light of the themes of the thesis, is that the Federal Court took a narrow approach to claim construction to find non-infringement of the claims in suit.

b. *McKay v. Weatherford Canada Ltd.* (Federal Court of Appeal) (Nov. 2008)

The issue relating to claim construction before the Federal Court of Appeal related to cryogenic refrigeration and thermal shock, specifically “cryogenic refrigeration” in Claims 1 and 2.⁶²⁴ *McKay* agreed with the trial judge that “cryogenic refrigeration” in Claim 1 meant a range of temperatures beginning at -50° Celsius.⁶²⁵

McKay disagreed with the trial judge’s construction of Claim 2, namely, arguing that contrary to trial judge’s construction “Claim 2 does not require that the housing temperature be reduced to between -150° Celsius to – 200° Celsius, only that the housing

⁶²³ Other intellectual property judgments/motions heard by this judge before first case in chapter 3 was heard: (1) *Pfizer Canada Inc. v. Canada (Minister of Health)*, 2006 FC 210 (CanLII) (Feb 16, 2006); (2) *Merck Frosst Canada Inc. v. Canada (Minister of National Health and Welfare)*, 1998 CanLII 8936 (F.C.) (Dec. 18 1998); (3) *Abbott Laboratories v. Canada (Minister of Health)*, 2006 FC 69 (CanLII) (Jan 24, 2006); (4) *Heffco Ltd. v. Dreco Energy Services Ltd.*, 1997 CanLII 4992 (F.C.) (Apr. 9, 1997); (5) *Bristol-Myers Squibb Canada Inc. v. Canada (Attorney General)*, 2001 CanLII 22128 (F.C.) (January 19, 2001); (6) *Bayer AG v. Apotex Inc.*, 2004 FC 177 (CanLII) (Feb, 2 2004); (7) *Bourgault Industries Ltd. v. Flexi-Coil Ltd.*, 1998 CanLII 7338 (F.C.) (Feb. 27, 1998); (8) *AB Hassle v. Apotex Inc.*, 2003 FCT 771 (CanLII) (June 20, 2003).

⁶²⁴ *McKayFCA*, *supra* note 447 at para. 10.

⁶²⁵ *McKayFCA*, *supra* note 447 at para. 11.

“be subjected to” that temperature range”.⁶²⁶ McKay further argued that the trial judge erred “in finding that it was an essential element of each of the Patent Claims that the temperature of the stator housing be lowered and then raised at a rate of 2.5 per minute”.⁶²⁷ Justice Trudel speaking for the Federal Court of Appeal found no error in trial judge’s claim construction⁶²⁸ particularly since McKay was unable to prove error on the part of the trial judge relating to temperature range selected at trial.⁶²⁹ Justice Trudel found that the demonstrations presented by McKay at trial would have lead a person skilled in the art to the conclusion that “the stator housing at the bond line had to be subjected to significantly lower temperatures in order for the patented process to work as it was intended by the inventor”.⁶³⁰

This decision was not appealed to the Supreme Court of Canada⁶³¹ and cited the following case from chapter 3: *Canamould Extrusions v. Driangle Inc.*⁶³² Lastly, this decision also cited *Whirlpool* and *Free World*.

The overall observation about this decision, in light of the themes of the thesis, is that the Federal Court of Appeal re-affirmed a narrow approach to claim construction to find non-infringement of the claims in suit.

⁶²⁶ *McKayFCA*, *supra* note 447 at para. 12.

⁶²⁷ *McKayFCA*, *supra* note 447 at para. 15.

⁶²⁸ *McKayFCA*, *supra* note 447 at para. 21.

⁶²⁹ *McKayFCA*, *supra* note 447 at para. 20.

⁶³⁰ *McKayFCA*, *supra* note 447 at para. 20.

⁶³¹ Source: Quicklaw QuickCITE.

⁶³² *CanamouldFCA*, *supra* note 430 at para. 8: “The construction of patent claims being a question of law”; at para. 9: “infringement of a patent is a question of mixed fact and law”; at para. 18: “In construing the patent claims, “regard may be had to the whole of the specification, including the drawings and the disclosure...The onus is on the patentee to show that, to a skilled reader, a claimed feature of the invention was obviously substitutable”.

4. Summary of observations in relation to chapter 3 cases

(i) Whether cases demonstrate the anticipated Canadian claim construction approach

From the cases in chapter 3, the following findings and comments can be made in relation to whether the Canadian approach to claim construction is broader than its American counterpart.

Including *Dimplex*, eleven cases in chapter 3 were discussed in detail and additional five were mentioned. In *Polansky*⁶³³ at the first trial, there was a finding of infringement and during re-trial⁶³⁴ this finding was reversed. In *Quadco*,⁶³⁵ no infringement was found.⁶³⁶ In *Canamould*, both at trial⁶³⁷ and at the appellate level,⁶³⁸ no infringement was found. In *Wessel*,⁶³⁹ there was a finding of infringement. In *Gold*, no infringement was found at both the trial⁶⁴⁰ and the appellate⁶⁴¹ level. In *MacLennan*, no infringement was found at trial⁶⁴² and at the appellate⁶⁴³ level this finding was reversed. In *Calgon*, no infringement was found at trial⁶⁴⁴ and the appellate court⁶⁴⁵ affirmed this finding. In *M.K. Plastics*,⁶⁴⁶ no infringement was found. In *McKay*, no infringement was found at trial⁶⁴⁷ and the

⁶³³ *Polansky1*, *supra* note 302.

⁶³⁴ *Polansky3*, *supra* note 324.

⁶³⁵ *Quadco*, *supra* note 364.

⁶³⁶ *Quadco*, *supra* note 364 at para. 73.

⁶³⁷ *Canamould*, *supra* note 138.

⁶³⁸ *CanamouldFCA*, *supra* note 430.

⁶³⁹ *Wessel*, *supra* note 452.

⁶⁴⁰ *Gold*, *supra* note 448.

⁶⁴¹ *GoldFCA*, *supra* note 449.

⁶⁴² *MacLennan*, *supra* note 392.

⁶⁴³ *MacLennanFCA*, *supra* note 537.

⁶⁴⁴ *Calgon*, *supra* note 362.

⁶⁴⁵ *Calgon*, *supra* note 362.

⁶⁴⁶ *M.K. Plastics*, *supra* note 583.

⁶⁴⁷ *McKay*, *supra* note 609.

appellate court⁶⁴⁸ affirmed this finding. In *Almecon*, infringement was found at trial⁶⁴⁹ and was affirmed at the appellate level.⁶⁵⁰

In the five other cases mentioned in chapter 3, no infringement was found at either the trial level or the appellate levels. Table 3 below summarizes these results:

Number of decisions	Result	Case	Jurisdiction
1 (trial)	• Infringement	<i>DimplexUS</i>	U.S. District Court for the Northern District of Illinois
2 (appeal)	• Infringed	<i>DimplexUS4</i>	United States Court of Appeals for the Federal Circuit
3 (trial)	• Valid (para. 115) • Infringed	<i>Dimplex</i>	Federal Court
4 (appeal)	• Infringed	<i>DimplexFCA</i>	Federal Court of Appeal
5 (trial)	• Valid (para. 26 of Appeal Court decision) • Infringed	<i>Polansky1</i>	Alberta Court of Queen's Bench
6 (appeal)	• Sent back for re-trial (see footnote 668)	<i>Polansky2</i>	Alberta Court of Appeal
7 (trial)	• Valid (para. 144, 145) • No infringement	<i>Polansky3</i>	Alberta Court of Queen's Bench
8 (trial)	• Valid (para. 43, 64) • Infringed	<i>Almecon</i>	Federal Court
9 (appeal)	• Infringed	<i>AlmeconFCA</i>	Federal Court of Appeal
10 (trial)	• Court found it unnecessary to discuss validity (para. 73) • No infringement	<i>Quadco</i>	Federal Court
11 (trial)	• Valid (para. 79) • No infringement	<i>Canamould</i>	Federal Court

⁶⁴⁸ *McKayFCA*, *supra* note 447.

⁶⁴⁹ *Almecon*, *supra* note 336 at para. 93.

⁶⁵⁰ *AlmeconFCA*, *supra* note 354.

12 (appeal)	<ul style="list-style-type: none"> • No infringement 	<i>CanamouldFCA</i>	Federal Court of Appeal
13 (trial)	<ul style="list-style-type: none"> • Valid (para. 7), • Infringed 	<i>Wessel</i>	Federal Court
14 (trial)	<ul style="list-style-type: none"> • Court found that it was not necessary to discuss validity, patent presumed valid (para. 69). • No infringement 	<i>Gold</i>	Federal Court
15 (appeal)	<ul style="list-style-type: none"> • No infringement 	<i>GoldFCA</i>	Federal Court of Appeal
16 (trial)	<ul style="list-style-type: none"> • Validity not discussed by the court • No infringement 	<i>MacLennan</i>	Federal Court
17 (appeal)	<ul style="list-style-type: none"> • Infringement 	<i>MacLennanFCA</i>	Federal Court of Appeal
18 (trial)	<ul style="list-style-type: none"> • Invalid (para. 1, 193) • No infringement 	<i>Calgon</i>	Federal Court
19 (appeal)	<ul style="list-style-type: none"> • No infringement 	<i>CalgonFCA</i>	Federal Court of Appeal
20 (trial)	<ul style="list-style-type: none"> • No infringement, • Valid (para. 135) 	<i>M.K. Plastics</i>	Federal Court
21 (trial)	<ul style="list-style-type: none"> • Valid (para. 5, 81) • No infringement 	<i>McKay</i>	Federal Court
22 (appeal)	<ul style="list-style-type: none"> • No infringement 	<i>McKayFCA</i>	Federal Court of Appeal
23 (trial)	<ul style="list-style-type: none"> • '186 patent invalid (para. 396) • other patent valid • No infringement 	<i>Johnson & Johnson</i>	Federal Court
24 (trial)	<ul style="list-style-type: none"> • Valid (para. 128) • No infringement 	<i>Visx</i>	Federal Court
25 (appeal)	<ul style="list-style-type: none"> • No infringement 	<i>VisxFCA</i>	Federal Court of Appeal
26 (trial)	<ul style="list-style-type: none"> • Valid (para. 306, 316) • No infringement 	<i>Halford</i>	Federal Court
27 (appeal)	<ul style="list-style-type: none"> • No infringement 	<i>HalfordFCA</i>	Federal Court of Appeal
28 (trial)	<ul style="list-style-type: none"> • Valid (para. 130) • No infringement 	<i>Illinois</i>	Federal Court
29 (appeal)	<ul style="list-style-type: none"> • No infringement 	<i>IllinoisFCA</i>	Federal Court of Appeal
30 (trial)	<ul style="list-style-type: none"> • Valid (para. 40, 41) • No infringement 	<i>Norac</i>	Federal Court

31 (appeal)	• No infringement	<i>NoracFCA</i>	Federal Court of Appeal
Total decisions discussed in chapter 3	• 31 decisions (includes 2 American <i>Dimplex</i> decisions)		
Total Canadian trial level decisions	<ul style="list-style-type: none"> • 17 decisions (including <i>Polansky1</i> - 1st trial in 1999 - before <i>Whirlpool</i> and <i>Free World</i>) • 16 decisions (after the cases were decided in <i>Whirlpool</i> and <i>Free World</i>) 		
Total patents considered by the Canadian trial level courts	• 17 patents (In <i>Johnson & Johnson</i> there were 2 patents before the court, one was valid, other invalid)		
Total patents found by the Canadian trial courts to be <i>valid</i>	<ul style="list-style-type: none"> • 13 patents (includes 1 of the patents from <i>Johnson & Johnson</i>. Two patents including 1 from Johnson were found invalid, validity was not discussed in 3 cases). • $13/17 = 76\%$ 		
Total Canadian decisions where <i>infringement</i> was found at the trial level	<ul style="list-style-type: none"> • 3 decisions (<i>Dimplex</i>, <i>Almecon</i>, <i>Wessel</i>) • $3/16 = 19\%$ (3 Canadian decisions where infringement was found at the trial level, divided by 16 Canadian trial decisions decided post <i>Whirlpool</i> and <i>Free World</i> (i.e., excludes <i>Polansky1</i> – trial level)) 		
Total Canadian appellate level decisions	• 12 decisions (all decisions decided post <i>Whirlpool</i> and <i>Free World</i>)		
Total Canadian decisions where the appellate court found the patents valid	• 3 decisions (<i>DimplexFCA</i> , <i>AlmeconFCA</i> , <i>MacLennanFCA</i>)		
Percentage of Canadian patents where infringement was upheld by Canadian courts	• $4/27 = 24\%$ (4 patents in 4 decisions – <i>DimplexFCA</i> , <i>AlmeconFCA</i> , <i>Wessel</i> , <i>MacLennanFCA</i> – divided by 27 decisions (see footnote 668))		

Table 3: Status summary of cases and decisions in chapter 3

As summarized in Table 3 above, eleven cases were discussed in chapter 3 and five others were mentioned. These original eleven were broken down into thirteen trial level decisions⁶⁵¹ and nine appeal level decisions.⁶⁵² The five cases that were mentioned in chapter 3 were broken down into five trial level decisions⁶⁵³ and four appeal level

⁶⁵¹ Twelve Canadian and one American.

⁶⁵² Eight Canadian and one American.

⁶⁵³ All Canadian cases.

decisions.⁶⁵⁴ Collectively, counting the eleven cases discussed in chapter 3 and the other five mentioned, there were eighteen trial level decisions⁶⁵⁵ and thirteen appeal level decisions.⁶⁵⁶ Counting only Canadian seventeen⁶⁵⁷ trial decisions and twelve⁶⁵⁸ appellate decisions there were twenty nine Canadian decisions.

At the trial level in Canada, there were sixteen decisions decided by the Canadian courts after *Whirlpool* and *Free World*,⁶⁵⁹ three of which found infringement (19%)⁶⁶⁰ and thirteen of which found non-infringement (81%).⁶⁶¹ Only two trial decisions were reversed (13%),⁶⁶² one on re-trial⁶⁶³ and second one on appeal.⁶⁶⁴

At the appellate level in Canada from the selected cases in chapter 3, there were eleven decisions⁶⁶⁵ decided by the Canadian courts after *Whirlpool* and *Free World*, three of which found infringement (27%)⁶⁶⁶ and eight of which found non-infringement (73%).⁶⁶⁷

⁶⁵⁴ All Canadian cases.

⁶⁵⁵ Seventeen Canadian and one American.

⁶⁵⁶ Twelve Canadian and one American.

⁶⁵⁷ Includes *Polansky1*, *supra* note 302. See Table 3.

⁶⁵⁸ See Table 3.

⁶⁵⁹ Including *Dimplex*, *supra* note 222 and excluding *Polansky1*, *supra* note 302 to only consider decisions rendered after *Whirlpool*, *supra* note 2 and *Free World*, *supra* note 3.

⁶⁶⁰ Three (3) trial cases divided by sixteen (16) cases total. See Table 3.

⁶⁶¹ Thirteen (13) trial cases divided by sixteen (16) cases total. See Table 3.

⁶⁶² Two (2) trial cases divided by sixteen (16) cases total. See Table 3.

⁶⁶³ In *Polansky1*, *supra* note 302 at para. 73 & 74, Justice Lefsrud found infringement without claim construction analysis and making a determination as to essential and non-essential elements basing his conclusion mainly on the submissions of one of the experts (this decision was decided in 1999 thus before *Whirlpool* and *Free World*). This finding of infringement was reversed in *Polansky3*, *supra* note 324 where Justice Clarke had a benefit of the roadmap offered by *Whirlpool* and *Free World* to construe the claims and find non-infringement.

⁶⁶⁴ *MacLennan*, *supra* note 392. The finding of non-infringement in this decision was reversed because, according to Justice Noël, "the trial judge misunderstood the nature of the patented invention and failed to consider the claims when he determined that replacing the Quadco tooth with the Gilbert tooth constituted a simple repair". See *MacLennanFCA*, *supra* note 537 at para. 23.

⁶⁶⁵ Excludes *Polansky2*, *supra* note 309 which essentially ordered a re-trial and did not rule whether there was an infringement or non-infringement. See Table 3.

⁶⁶⁶ Three (3) decisions divided by eleven (11) decisions. See Table 3.

Counting the Canadian trial and appellate level decisions which in aggregate equal twenty seven that were decided by Canadian courts after *Whirlpool* and *Free World*;⁶⁶⁸ there were six findings (22%)⁶⁶⁹ of infringement and twenty one findings of non-infringement (78%).⁶⁷⁰

From the above statistics, it appears that Canadian courts only found infringement in about twenty two percent (22%)⁶⁷¹ of the cases. This represents a finding of infringement with respect to six patents, 24% of those litigated (see Table 3). As stated in the Introduction, the anticipated approach to claim construction post *Whirlpool* and *Free World* was initially assumed to be inventor friendly favoring a broad approach to claim construction and thus leading to more findings of infringement. This is not evident however from the cases in chapter 3. To the contrary, it seems that Canadian courts are reluctant to undertake a broad approach and are construing patent claims in a way that finding of non-infringement is more common.

(ii) Whether pattern exists in how the cases in chapter 3 cite each other

There does not appear to be any particular pattern to explain how and why cases in chapter 3 cite each other. For the most part, the referenced cases from chapter 3 refer to principles already established in *Whirlpool* or *Free World*.

⁶⁶⁷ Eight (8) decisions divided by eleven (11) decisions. See Table 3.

⁶⁶⁸ Excludes *Polansky1*, *supra* note 302 decided before *Whirlpool*, *supra* note 2 and *Free World*, *supra* note 3 and *Polansky2*, *supra* note 309 which essentially ordered a re-trial and did not rule whether there was an infringement or non-infringement.

⁶⁶⁹ Six (6) decisions divided by twenty seven (27) decisions. See Table 3.

⁶⁷⁰ Twenty one (21) decisions divided by twenty seven (27) decisions. See Table 3.

⁶⁷¹ This percentage represents the six Canadian (trial and appeal) of the twenty seven decided Canadian cases post *Whirlpool* and *Free World* where infringement was found.

(iii) Whether American cases cited influence the Canadian approach

In relation to differences between patent claim construction approaches in Canada and other jurisdictions found in cases in chapter 3, the Canadian courts re-affirmed the notion about significant differences in patent law and procedure in Canada and the United States. For example, in *Calgon*⁶⁷² Justice Mosley warned against reliance on American caselaw for Canadian purposes having observed that for example in *Wedeco UV Technologies Inc. v. Calgon Carbon Corporation*,⁶⁷³ the Federal Court relied on American prosecution history, which is not the practice in Canada according to *Free World*. Similarly in *Johnson & Johnson Inc. v. Boston Scientific Ltd.*,⁶⁷⁴ the Court stated as follows regarding the differences between Canada and the United States:

[200] The procedure and approach in the United States differs from that in Canada. There, the claims of the patent are construed during a Markman hearing. The file wrapper is given significant emphasis whereas extrinsic evidence, while within the discretion of the judge, is regarded as less reliable than the prosecution history in determining how to read the claim terms. Generally, the construction is concluded without the benefit of expert testimony. Witnesses at trial are confined to the definitions contained in the Markman Order. That is not the situation in Canada.

Two of the cases in chapter 3 cite American authorities. These cases are *Dimplex*⁶⁷⁵ and *Calgon*⁶⁷⁶ and the American authorities cited refer to the concurrent proceedings in the United States as explained in chapter 3. There is no reference to other American

⁶⁷² *Calgon*, *supra* note 362.

⁶⁷³ *Wedeco UV Technologies Inc. v. Calgon Carbon Corporation*, 2006 U.S. Dist. LEXIS 48657.

⁶⁷⁴ *Johnson*, *supra* note 118 at para. 200.

⁶⁷⁵ *Dimplex*, *supra* note 222.

⁶⁷⁶ *Calgon*, *supra* note 362.

authorities. The fact that no American authorities are being cited may be an indication that Canada has not adopted the American approach suggesting perhaps an independent Canadian approach to claim construction. In fact, many of the cases in chapter 3 cite English cases⁶⁷⁷ quite frequently, reaffirming the roots of Canadian patent jurisprudence in English rather than American caselaw.

One possible explanation to the overwhelming finding of non-infringement by Canadian courts could be the experience of trial and appellate level judges as discussed under each trial level case discussed in chapter 3.

In chapter 2, there was a discussion on patent claim drafting from the point of view of a patent agent representing the inventor. One of the points that authors Henderson and Knopf were making related to the variety of ways in which different patent agents could draft patent claims. Henderson and Knopf compared patent drafting to writing poems arguing that it was highly unlikely that two patent agents could draft identical claims, as it was unlikely that two poets would write identical poems.⁶⁷⁸ Henderson and Knopf also pointed out the old saying that “the inventor invents the invention” and that a worthless patent could result from possible misunderstandings that could arise during claim drafting stage between the inventor and the patent agent. They argued that patent agent could

⁶⁷⁷ See *Dimplex*, *supra* note 222 citing *Lister v. Norton Brothers and Co.*, (1886), 3 R.P.C. 199; *Polansky*2, *supra* note 309 citing *Electric and Musical Industries Ltd. v. Lissen Ltd.*, (1938), 56 R.P.C. 23 (H.L.) and *Gillette Safety Razor Co. v. Anglo-American Trading Co.*, (1913) 30 R.P.C. 465 (H.L.); *Quadco*, *supra* note 364 citing *Catnic*, *supra* note 119 and *Improver Corp. Remington Consumer Products Ltd.*, [1990] F.S.R. 181; *CanamouldFCA*, *supra* note 430 citing *Catnic*, *supra* note 119; *Gold*, *supra* note 448 citing *Catnic*, *supra* note 119; *MacLennanFCA*, *supra* note 537 citing *Townsend v. Haworth*, (1875), 12 Ch. D. 831, *Innes v. Short and Beal* (1898), 15 R.P.C. 449 and *Dunlop Pneumatic Tyre Co. v. David Mosley & Sons Ltd.*, (1904), 15 R.P.C. 974; *Calgon*, *supra* note 362 citing *Merrell Dow Pharmaceuticals v. H.N. Norton & Co.*, [1996] R.P.C. 76 (H.L.) and *Synthon BV v. Smithkline Beecham plc*, [2005] UKHL.

⁶⁷⁸ *Knopf*, *supra* note 162 at p. 220. It should be noted that this reference is over fifteen years old.

misunderstand the invention and the inventor could misunderstand the patent claims prepared by the patent agent.

If a possibility of misunderstanding exists in the claim drafting stage where arguably the inventor and his/her patent agent are at the heart of the drafting of the claims, this gap of construing the claims may be even larger once the claims are scrutinized and construed by a trial judge during patent litigation. As stated by Henderson and Knopf, the challenge faced by patent agents is based on many unknowns:⁶⁷⁹

One must try to predict what may be produced in the way of ex post facto expert evidence when the patent is later litigated, before a judge who may have to assimilate a mass of material, perhaps with little or no prior exposure to the technology and to whom the specification may be largely unintelligible when he or she first sees it...[].

In extending the logic expressed above, it is foreseeable that an outcome to claim construction will very much depend on who is the trial or appeal court judge construing the claims and the outcome of claim construction could potentially be different with each judge. Without doing an in-depth study to quantify the potential misunderstanding gap which may exist during the litigation stage amongst the judges, it is interesting to observe the experience in intellectual property cases of each trial judge that construed patent claims in cases discussed in chapter 3.

The average number of intellectual property cases heard by the trial judges before hearing trial cases in chapter 3 is 4.33 cases. Some of the other intellectual property case heard

⁶⁷⁹ *Knopf, supra* note 162 at p. 220.

by the judges did not require claim construction analysis, as they may have simply been motions; therefore, the experience relating to claim construction is even lower than the average of 4.33 cases. This average experience of 4.33 cases is rather small and could have potentially influenced some of the judges to take a conservative approach to claim construction leading to finding of fewer infringements.

To illustrate an example where experience of a judge might have played a role in one of the cases discussed in chapter 3. Namely, in *MacLennan v. Produits Gilbert Inc.*,⁶⁸⁰ where the parties insisted that the Federal Court of Appeal avoid sending the matter back to the trial judge for re-analysis. This could be an indication that courts may give a ruling which is unsatisfactory to both sides. The trial judge in this case was Justice Beaudry who was appointed Judge of the Federal Court of Canada, Trial Division on January 25, 2002 and as Justice of the Federal Court heard no other intellectual property cases before hearing *MacLennan* on December 6, 2004. Prior to being appointed to the bench, Justice Beaudry was in private law practice not related to intellectual property.

In other cases discussed in chapter 3, judges adopted claim construction suggested by an expert without their own independent analysis and despite the fact that ultimately claim construction is the job of the court and not the expert. This could potentially be an indication of lack of experience of the judge in patent litigation matters and a skillful expert could easily take advantage of this weakness to influence claim construction and ultimately finding of infringement or a lack thereof.

⁶⁸⁰ *MacLennanFCA*, *supra* note 537.

Even though parties may not have a choice in choosing the trial judge, knowing claim construction experience of the judge may help counsel tailor their submissions accordingly. The number of intellectual property related cases heard by a particular judge was discussed above in this chapter.

CHAPTER 4 – Comment on a hypothetical RIM patent claim construction in Canada

1. Whether the Canadian approach to claim construction is broader than the American approach

As can be seen from chapter 3, the Canadian courts generally took a narrower approach to claim construction and, based on this narrow construction, found infringement only in 22%⁶⁸¹ of the cases and non-infringement in 78%⁶⁸² of the cases decided post *Whirlpool* and *Free World*. As shown in Table 3, this represents finding of infringement of six (6) patents of seventeen (17) patents (or 24%) litigated in Canada since 2000. This conclusion seems to be consistent with a study prepared for the American Intellectual Property Law Association⁶⁸³ (“AIPLA”) which showed that courts were less likely to find

⁶⁸¹ Counting the Canadian trial and appellate level decisions which in aggregate equaled twenty seven that were decided by Canadian courts after *Whirlpool* and *Free World*. See chapter 3.

⁶⁸² Counting the Canadian trial and appellate level decisions which in aggregate equaled twenty seven that were decided by Canadian courts after *Whirlpool* and *Free World*. See chapter 3.

⁶⁸³ “The American Intellectual Property Law Association (AIPLA) is a national bar association constituted primarily of lawyers in private and corporate practice, in government service, and in the academic community, with more than 17,000 members. The AIPLA represents a wide and diverse spectrum of individuals, companies and institutions involved directly or indirectly in the practice of patent, trademark, copyright, and unfair competition law, as well as other fields of law affecting intellectual property. AIPLA members represent both owners and users of intellectual property. AIPLA was formed in 1897 to maintain a high standard of professional ethics, to aid in the improvement in laws relating to intellectual property and in their proper interpretation by the courts, and to provide legal education to the public and to its members on intellectual property issues. Approximately 63% of the regular members are in private practice, 33% in corporate practice, with the remainder in the government or academia. See our membership application for more information. AIPLA conducts three regularly scheduled conferences a year, mid-winter, spring, and fall, at which the Association offers educational seminars on the latest developments in intellectual property law. In addition, AIPLA conducts several stand-alone seminars on specialized areas of intellectual property law throughout the year around the country, as well as online educational programs. AIPLA is also actively involved in shaping US intellectual property policy through its work on legislation, federal regulations, and intellectual property cases in the US courts. Internationally, AIPLA has spearheaded a worldwide campaign to reduce the costs of procurement and enforcement of patents and trademarks, regularly participates in meetings of the World Intellectual Property Organization, and maintains close relations with foreign IP officials and practitioners.” History of the AIPLA online: <http://www.aipla.org/Content/NavigationMenu/About_AIPLA/History/History.htm>.

validity and infringement in Canada in comparison with the United States.⁶⁸⁴ The study compared the eleven most litigious countries in the world (see Table 4 below) between 1997 and 2005 and found the likelihood of a win for a patent holder in Canada to be 35.4%⁶⁸⁵ compared with a 59% success overall in the United States and 67% in American cases tried with a jury.⁶⁸⁶ For the purpose of the study, a “win” was defined as a “case where at least one claim was found valid and infringed in a court of first impression”.⁶⁸⁷ The same study found the chance of a “win” in England was 26% compared with 35.4% in Canada.⁶⁸⁸ Therefore, the study showed that Canada fell between Britain and the United States in the likelihood of finding patent validity and thus infringement at trial. The findings of the study are reproduced in Table 4⁶⁸⁹ below:

⁶⁸⁴ David Hill, “Global enforcement & exploitation of intellectual property”, (23 January 2007) online: <http://www.aipla.org/Content/Microsites152/IP_Practice_in_Japan/Committee_Meetings/2007_Mid-Winter_Pre_Meeting_For_AIPLA1/Presentations8/6-DHill-AIPLA-Japan-Presentation.ppt> [Hill].

⁶⁸⁵ Canadian patent cases do not involve juries, therefore, the most direct comparison between American and Canadian litigated patent cases are those which exclude juries in the United States (non-jury trials). In Table 5, I discussed the aids relied on by the American court in the RIM litigation but only from the perspective of the American Appeals Court (proceeding without a jury) and compared reliance on these aids with Canadian trial and appeal decisions, hence the jury trials in the United States were irrelevant to my methodology employed in this thesis.

⁶⁸⁶ One should be cognisant of the fact that in the United States, there may be a large discrepancy in the win rates among the various states.

⁶⁸⁷ See Table 4 note 1.

⁶⁸⁸ The difference between 35.4% win rate in the AIPLA study and the 19% found in cases discussed in chapter 3 may be explained by the fact that cases in chapter 3 start after the year 2000 and continue to 2008 whereas the AIPLA study covers 1997 to 2005.

⁶⁸⁹ This Table 4 is a reproduction of the table in Hill, *supra* note 684 slide no. 5.

Comparative Patentee Win Rate Chart 1997-2005, for most litigious countries¹				
		1997-2005 #of patent litigations filed	% of cases going to trial	1997-2004 Win Rate
1	US	20241	3.65%	59% overall 67% jury 51% non-jury (<i>this percentage was not mentioned in the AIPLA study, I calculated it: 51% = ((2*59%) - 67%)</i>)
2	China ²	10446	80% invalidity 34% infringement (2002-04)	33%
3	Germany ²	6850	45% invalidity 80% infringement	33%
4	France	2762	43%* (1196)	55%
5	Japan	1623	35% (565)	20% (112/565)
6	Italy ²	1200 ²	11% ² (135)	40.7%
7	G. Britain	752	16% (121/752)	26% (21/82) (1997-2005)
8	Canada	625	6% (37)	35.4%
9	Switzerland ²	550 ²	20% ² (108)	85%
10	Australia	316	16% (51)	31%
11	Netherlands ²	300 ²	70% ² (213)	51% (2002-2004)
12	Korea	Estimated to be about 40/year	Believed to be over 50% (to be determined)	Estimated to be about 26% (50% inf. x 52% validity)

¹ A "win" is defined as a case where at least one claim was found valid and infringed in a court of first impression

² Indicates number is estimate based on discussion with GIP participation.

³ 285 IP infringement cases (2002-04 mixed data) (what is best est. of patent cases for 1997-2005? Need accurate answer).

Table 4: Comparative patentee win rate chart 1997-2005 for most litigious countries⁶⁹⁰

From the cases in chapter 3 and as seen in Table 3 in that chapter, there were only three⁶⁹¹ trial cases in which the patent was found to be valid and infringed out of a total of seventeen⁶⁹² trial cases representing a win rate of 19%.

⁶⁹⁰ Hill, *supra* note 684.

⁶⁹¹ Includes *Polansky*, *supra* note 302 decided in 1999 since in this instance, the AIPLA study (which covers cases between 1997 to 2005) is being compared with findings of this thesis. Thus, to make as close

Overall though, the results of this study and of the AIPLA study demonstrate that inventors are actually more likely to be successful in the United States and not in Canada which dispels the initial assumption in the Introduction of the thesis that the approach to claim construction in Canada is broader than in the United States and would thus lead to more findings of infringement.

2. Comment on the hypothetical Canadian RIM litigation

In order to comment on the hypothetical Canadian RIM litigation, a three-part approach will be outlined in this part of chapter 4. First, a summary of NTP's patent claim construction by the American District Court will be outlined as discussed in chapter 1. Second, as discussed in chapter 1, a summary of the aids relied on by the American Appeals Court to construe the claims will be outlined. Third, a comment on a hypothetical Canadian RIM patent claim construction will be outlined.

(i) Summary of NTP's patent claim construction by the American District Court

As stated in chapter 1, the American District Court construed the disputed terms in the RIM/NTP litigation "according to their plain and ordinary meaning, as supported by the specification and prosecution history".⁶⁹³ The American District Court gave the following

of an approximation, the *Polansky I*, *supra* note 302 decided in 1999 is included to extend the time period of cases from chapter 3 for comparison purposes with the AIPLA study.

⁶⁹² Including *Polansky I*, *supra* note 302.

⁶⁹³ *RIM I*, *supra* note 10 at 3.

meanings to the five terms in the NTP patents that were later considered by the American Appeals Court⁶⁹⁴ (reproduced below for convenience from chapter 1):

Originating Processor: Any one of the constituent processors in an electronic mail system that prepares data for transmission through the system.

Electronic Mail System: A type of communication system which includes a plurality of processors running electronic mail programming wherein the processors and the electronic mail programming are configured to permit communication by way of electronic mail messages among recognized users of the electronic mail system. The various constituent processors in the electronic mail system typically function as both "originating processors" and "destination processors."

Gateway Switch: A processor in an electronic mail system which connects other processors in that system and has additional functions for supporting other conventional aspects of the electronic mail system such as receiving, storing, routing and/or forwarding electronic mail messages.

Originated Information: The message text of an electronic mail message. [Exception: certain claims of the '611 Patent refer to originating "other originated information" at "an additional processor from outside any electronic mail system." As the claim language makes clear, such "other originated information" in the '611 Patent is non-email data].

Additional Processor Outside Any E-Mail System: A processor or information source which originates electronic information without executing electronic mail programming.

The American District Court did not provide any further explanation as to why it ended up with this particular set of terms as key to its claim construction.

⁶⁹⁴ As will be shown below, the American Appeals Court, out of the five terms reproduced here, only construed the terms "originating processor" and "electronic mail system". For instance, as noted in chapter 1, the American Appeals Court found no error in the American District Court's claim construction of the term "originated information" as being "the message text of an electronic mail message". The American Appeals Court did not provide any extensive reasons for doing so, simply relied on the fact that RIM did not provide any arguments to convince the American Appeals Court that "originated information" meant something other than the "text of an electronic mail message to be transmitted in the electronic mail system". See *RIM2*, *supra* note 9 at 19.

(ii) Summary of NTP's patent claim construction by the American Appeals Court

From the claim terms construed by the American District Court, the American Appeals Court construed the following two claim terms *de novo* on appeal:⁶⁹⁵ (1) “originating processor” and (2) “electronic mail system”. In addition, the American Appeals Court also construed two limitation phrases (which RIM had argued the American District Court failed to construe): (1) the “dual pathways” limitation and (2) the “separate and distinct” limitation.

A brief summary of construction by the American Appeals Court is provided below taken from the detailed analysis in chapter 1. This summary focuses mainly on the process, which the American Appeals Court undertook to arrive at the result it did.

“Originating processor”

The American Appeals Court found that a claim construction error was made by the American District Court in relation to construing the term “originating processor”. The American Appeals Court found that, properly construed, the “originating processor” to be “*a processor in an electronic mail system that initiates the transmission of a message into the system*”. The American Appeals Court found that the term “originating processor” did not always refer to the processor from which text of an email message originated,

⁶⁹⁵ RIM2, *supra* note 9 at 13. The Appeals Court did advert the phrase “gateway switch” but decided not to construe it. With respect to the phrase “additional processor outside any electronic mail system”, the Appeals Court refrained from construing this phrase since it was not present in any of terms on appeal. Therefore, only claim construction by the American District Court is available.

finding that on occasions, the text could have been prepared on a different processor and then transferred to the “originating processor”.⁶⁹⁶ In addition, the American Appeals Court found that the term “originating processor” referred to the first processor that initiated address information. Gateway and interface switches were also capable of initiating address information but it was only the “originating processor” that initiated electronic mail message transmission to an electronic mail system.⁶⁹⁷

The American Appeals Court in its construction of the term “originating processor” considered the following: (1) analysis of the language of the claims, (2) written description, (3) drawings, (4) perspective of a person skilled in the art and (5) specification.

“Electronic mail system”

The American Appeals Court affirmed the American District Court’s claim construction of the term “electronic mail system”. The American Appeals Court in its analysis considered the (1) claim itself and its plain meaning, (2) written description, (3) drawings, (4) intention of the inventor and (5) the prosecution history. According to the American Appeals Court, the prosecution history failed to identify any disclaimers or limitations to indicate that “electronic mail system” was restricted to a “wireline system”.

⁶⁹⁶ *RIM2, supra* note 9 at 19.

⁶⁹⁷ *RIM2, supra* note 9 at 24.

“Dual pathways” limitation

RIM argued in favor of the “dual pathway” limitation which would essentially allow it to escape infringing NTP’s patents but the American Appeals Court rejected RIM’s argument. The American Appeals Court commenced construction of the “dual pathway” limitation by analyzing (1) the words of the claims and the preamble⁶⁹⁸ which in this case contained two limitations from one of the claims; (2) the application of the definite article “the” noting that as a general rule of law, this article particularized the proceeded subject; (3) the prosecution history noting that the inventor Campana advanced the concept of “dual pathways” during the prosecution but that this concept was not part of the claim term; (4) the patent examiner’s understanding who found no requirement to have “dual” transmission pathways to the same destination processor in order for the invention to be patentable.

“Separate and Distinct” limitation

RIM was arguing if favor of a limitation that a RF receiver and a destination processor had to be “separate and distinct” from one another. Both the American District Court and the American Appeals Court rejected this argument. The American Appeals Court in this case analyzed the claim language, specification, and dictionary meaning of the term “connected”.

⁶⁹⁸ In general, preamble is construed as part of the claims if it helps to determine their meaning – see chapter 1 where “dual pathways” limitation is discussed in detail.

Table 5 below summarizes the aids relied on by the American Appeals Court to construe the phrases in the claims of the American RIM litigation:⁶⁹⁹

Claim	Originating processor	Electronic mail system	“Dual pathways” limitation	“Separate and Distinct limitation”
Aid used				
Drawings	Considered by the American Appeals Court	Considered by the American Appeals Court	N/A	N/A
Specification	Considered by the American Appeals Court	N/A	N/A	Considered by the American Appeals Court
Language of the claims and plain meaning	Considered by the American Appeals Court	Considered by the American Appeals Court	Considered by the American Appeals Court	Considered by the American Appeals Court
Written description	Considered by the American Appeals Court	Considered by the American Appeals Court	N/A	N/A
Dictionary meaning	N/A	N/A	N/A	Considered by the American Appeals Court
Intention of the Inventor	N/A	Considered by the American Appeals Court	N/A	N/A
Prosecution history	N/A	Considered by the American Appeals Court	Considered by the American Appeals Court	N/A

Table 5: Summary of the aids considered by the American Appeals Court in the RIM litigation

⁶⁹⁹ As noted in chapter 1, the Appeals Court found no error in the District Court’s claim construction of the term “originated information” as being “the message text of an electronic mail message”. The Appeals Court did not provide any extensive reasons for doing so, simply relied on the fact that RIM did not provide any arguments to convince the Appeals Court that “originated information” meant something other than the “text of an electronic mail message to be transmitted in the electronic mail system”. See *RIM2*, *supra* note 9 at 19.

(iii) Comment on a hypothetical claim construction of NTP's claim terms by the Canadian courts and reasons for such construction based on chapter 3 cases

Comment on the hypothetical claim construction under this part assumes that NTP's claim terms, if construed by a Canadian court (trial level), would have been the same as those construed by the American District Court and the American Appeals Court in the United States, namely the terms: (1) "originating processor"; (2) "electronic mail system"; (3) "gateway switch"; (4) "originated information"; (5) "additional processor outside any electronic mail system"; (6) "dual pathways" limitation and (7) "separate and distinct" limitation.

As can be seen from Table 5, the phrases that were not construed by the American Appeals Court in the American RIM litigation and for which claim construction of the American District Court is the only one available are: (1) "gateway switch", (2) "originated information" and (3) "additional processor outside any electronic mail system". As noted earlier, the American District Court did not offer any guidance as to how it arrived at the resulting claim construction but simply construed the disputed terms "according to their plain and ordinary meaning, as supported by the specification and prosecution history".⁷⁰⁰

American District Court's claim construction

In respect of construing the term "gateway switch", it is apparent that the American District Court construed this term according to its plain and ordinary meaning, as

⁷⁰⁰ *RIM I*, *supra* note 10 at 3.

supported by the specification and the prosecution history similar to the remainder of the other terms.⁷⁰¹ Since the major difference between the Canadian and the American approaches to claim construction is the reliance on the prosecution history in the United States, it is difficult to comment on the likely claim construction outcome in a Canadian hypothetical RIM litigation because the American District Court did not quantify its reliance on the prosecution history relating to the term “gateway switch”. As will be shown below, reliance on the plain meaning and the specification is a common approach used in both Canada and the United States.

As indicated above, the only construction in the United States relating to the term in the NTP’s claim “originated information” stems from the American District Court which construed this term according to the plain and ordinary meaning taking into consideration specification and the prosecution history. As will be discussed later, one of the differences between Canadian and American approaches is that the Canadian approach prohibits reliance on the prosecution history in claim construction. Therefore, I looked to see how pivotal the prosecution history was in the American RIM litigation. Apart from NTP’s ‘611 Patent⁷⁰² which makes reference to “other originated information” outside any electronic mail system as described under the “disclosure of the invention” of the patent, the remainder of the NTP patents in the suit refers to originated information in the context of email. As this inference in relation to construing “originated information” is clear from the patent claims and the description alone, there does not seem to be any significant part that prosecution history played in this case. Since the prosecution history

⁷⁰¹ *RIM1*, *supra* note 10 at 3.

⁷⁰² See page 6 and 179 of the thesis.

was not the only aid relied on by the American District Court to construe the term “originated information”, it is uncertain what the likely claim construction would be in Canada because the American District Court did not quantify how much it relied on each of the aids.

In relation to the phrase “additional processor outside any electronic mail system” and from the review of NTP’s patents in the American litigation, it appears that the American District Court construed this term according to its plain and ordinary meaning, as supported by the specification and prosecution history, similar to the other terms in the suit. However, the American District Court did not quantify how much it relied on each aid, thus making it difficult to predict how a Canadian court would construe the phrase “additional processor outside any electronic mail system”.

American Appeals Court’s claim construction

As can be seen from Table 5 above, the American Appeals Court in the American RIM litigation used drawings as one of the aids to construe the patent claims. Therefore, in my examination of the Canadian cases, I looked for reference being made to drawings in the eleven cases in chapter 3 as well as in *Whirlpool* and *Free World*. I discovered that *Whirlpool* permitted making reference to patent drawings to clarify the meaning of the claims.⁷⁰³ I also discovered from the twenty nine⁷⁰⁴ decisions from the eleven cases in

⁷⁰³ *Whirlpool*, *supra* note 2 at para. 54.

⁷⁰⁴ There were seventeen Canadian trial and twelve Canadian appellate decisions decided post *Whirlpool* and *Free World* (*Polansky*, *supra* note 302 is excluded since it was decided in 1999 i.e., before *Whirlpool* and *Free World*).

chapter 3,⁷⁰⁵ that six decisions made reference to the principle established in *Whirlpool*⁷⁰⁶ and three decisions actually applied this principle.⁷⁰⁷ Therefore, I conclude that a Canadian court, in the hypothetical Canadian RIM litigation, would likely place a similar reliance on drawings in construing the phrases “originating processor” and “electronic mail system” as did the American Appeals Court. This is supporting evidence for my overall contention as a result of my analysis that the decision in the hypothetical RIM litigation in Canada would be similar in outcome as in the United States.

The second aid relied on by the American Appeals Court to construe the claims in the American RIM litigation was the specification. Therefore, in my examination of the Canadian cases, I looked for reference being made to specification in each of the eleven cases in chapter 3 as well as in *Whirlpool* and *Free World*. I discovered that in *Whirlpool*, the Supreme Court of Canada permitted relying on the specification to aid with claim construction.⁷⁰⁸ I also discovered that from the eleven cases in chapter 3, ten decisions⁷⁰⁹ made reference to the principle established in *Whirlpool* and six decisions⁷¹⁰

⁷⁰⁵ I do not need to distinguish here between Canadian trial and appeal decisions because there was never a question at the appeal level that the particular aid (from the seven relied on the American Appeals Court, see Table 5) was inappropriately used. See Table 3 in chapter 3 and also *supra*, note 663 and *supra*, note 664 for reasons why the two Canadian decisions were reversed.

⁷⁰⁶ The courts “may have regard to the patent specification, including the drawings, in order to understand the sense in which certain terms are used, but the specification cannot be used to enlarge or reduce the scope of the claims, properly understood: (1) *Dimplex*, *supra* note 222 at para. 51; (2) *Polansky3*, *supra* note 324 at para. 16; (3) *Quadco*, *supra* note 364 at para. 27; (4) *Canamould*, *supra* note 138 at para. 26; (5) *MacLennan*, *supra* note 392 at para. 27; (6) *McKay*, *supra* note 609 at para. 18.

⁷⁰⁷ (1) *Dimplex*, *supra* note 222 considered the drawings at para. 108; (2) *Polansky3*, *supra* note 324 considered the drawings at para. 52; (3) *Gold*, *supra* note 448 considered the drawings at para. 40 & 53.

⁷⁰⁸ For general discussion on reliance on the specification see *Whirlpool*, *supra* note 2 at para. 13, 16, 18, 33, 42, 44, 45, 48, 49(e), 49(f), 51, 52, 70, 73; *Free World*, *supra* note 3 at para. 33, 39, 52, 54.

⁷⁰⁹ *Dimplex*, *supra* note 222 at para. 51, 52, 73; *Polansky3*, *supra* note 324 at para. 6, 19, 43; *Almecon*, *supra* note 336 at para. 46, 67, 68, 105; *Canamould*, *supra* note 138 at para. 32, 36; *CanamouldFCA*, *supra* note 430 at para. 21, 22, 24, 25, 26, 35; *Quadco*, *supra* note 364 at para. 22, 27, 64; *Gold*, *supra* note 448 at para. 31, 61, 62; *MacLennan*, *supra* note 392 at para. 9; *Calgon*, *supra* note 362 at para. 82, 84; *M.K. Plastics*, *supra* note 583 at para. 19, 25; *McKay*, *supra* note 609 at par. 6; *McKayFCA*, *supra* note 447 at para. 14, 16, 18.

actually applied this principle. Therefore, I conclude that a Canadian court, in the hypothetical Canadian RIM litigation, would likely place a similar reliance on specification in construing the phrases “originating processor” and “‘separate and distinct’ RF Receiver and Destination Processor” as did the American Appeals Court. This is supporting evidence for my overall contention that the decision in the hypothetical RIM litigation in Canada would be similar in outcome as in the United States.

The third aid relied on by the American Appeals Court to construe the claims in the American RIM litigation was the plain meaning of the claims. Therefore, in my examination of the Canadian cases, I looked for reference being made to plain meaning in the eleven cases in chapter 3 as well as in *Whirlpool* and *Free World*. Although I did not discover any such reference in *Whirlpool* and *Free World*, I discovered that from the eleven cases in chapter 3 three decisions relied on the plain meaning to interpret the claims.⁷¹¹

The fourth aid relied on by the American Appeals Court to construe the claims in the American RIM litigation was the written description. Therefore, in my examination of the Canadian cases I looked for reference being made to written description in the eleven cases in chapter 3 as well as in *Whirlpool* and *Free World*. I discovered that in *Whirlpool*, the Supreme Court of Canada permitted relying on the written description to

⁷¹⁰ *Dimplex*, *supra* note 222 at para. 62, 69, 77, 115; *Almecon*, *supra* note 336 at para. 36, 42, 43, 45, 57; *MacLennan*, *supra* note 383 at para. 22, 24, 27; *Calgon*, *supra* note 362 at para. 69, 79, 86, 98, 107, 109, 197, 200, 201; *M.K. Plastics*, *supra* note 583 at para. 3; *McKay*, *supra* note 609 at par. 3, 14, 43, 70.

⁷¹¹ *Dimplex*, *supra* note 222 at para. 71; *Wessel*, *supra* note 452 at para. 14; *M.K. Plastics*, *supra* note 583 at para. 57, 58, 65.

aid with claim construction.⁷¹² I also discovered that from the eleven cases in chapter 3, six decisions⁷¹³ applied the principle established in *Whirlpool*.⁷¹⁴ Therefore, I conclude that a Canadian court, in the hypothetical Canadian RIM litigation, would likely place a similar reliance on written description in construing the phrases “originating processor” and “electronic mail system” as did the American Appeals Court. This is supporting evidence for my overall contention that the decision in the hypothetical RIM litigation in Canada would be similar in outcome as in the United States.

The fifth aid relied on by the American Appeals Court to construe the claims in the American RIM litigation was the dictionary meaning of certain claim terms.⁷¹⁵ Therefore, in my examination of the Canadian cases I looked for reference being made to dictionaries being used to construe certain claim terms in the eleven cases in chapter 3 as well as in *Whirlpool* and *Free World*. The Courts in *Whirlpool* and *Free World* did not rely on this fifth aid; however I discovered that from the eleven cases in chapter 3, three decisions⁷¹⁶ discussed the use dictionaries to construe certain claim terms.

⁷¹² *Whirlpool*, *supra* note 2 at para. 17, 53.

⁷¹³ *Dimplex*, *supra* note 222 at para. 58, 61; *Polansky*, *supra* note 324 at para. 54; *Almecon*, *supra* note 336 at para. 16, 17; *Canamould*, *supra* note 138 at para. 47; *Gold*, *supra* note 448 at para. 15, 23, 44, 53, 55, 62, 64; *MacLennan*, *supra* note 383 at para. 22.

⁷¹⁴ *Dimplex*, *supra* note 223 at para. 62, 69, 77, 115; *Almecon*, *supra* note 327 at para. 36, 42, 43, 45, 57; *MacLennan*, *supra* note 392 at para. 22, 24, 27; *Calgon*, *supra* note 362 at para. 69, 79, 86, 98, 107, 109, 197, 200, 201; *M.K. Plastics*, *supra* note 583 at para. 3; *McKay*, *supra* note 609 at para. 3, 14, 43, 70.

⁷¹⁵ This is not to be confused with a ‘dictionary’ approach which aims at using dictionaries to construe entire claims not specific claim terms. For example, in *Whirlpool*, *supra* note 2 at para. 52, the Supreme Court rejected the ‘dictionary’ approach in favor of an approach that took into consideration the specification and person skilled in the art and not grammarians’ or etymologists’ attributed meaning. See also *Quadco*, *supra* note 364 at para. 50.

⁷¹⁶ *Dimplex*, *supra* note 222 at para. 43, 73; *Canamould*, *supra* note 138 at para. 13; *M.K. Plastics*, *supra* note 583 at para. 64.

The sixth aid relied on by the American Appeals Court to construe the claims in the American RIM litigation was a determination of the intention of the inventor. Therefore, in my examination of the Canadian cases I looked for reference being made to the intention of the inventor in the eleven cases in chapter 3 as well as in *Whirlpool* and *Free World*. Although I did not discover any such reference in *Whirlpool* and *Free World*, I discovered that from the eleven cases in chapter 3, three decisions⁷¹⁷ discussed how intention of the inventor can be determined.

The seventh and final aid relied on by the American Appeals Court to construe the claims in the American RIM litigation was the prosecution history. As stated in chapter 2, reliance on prosecution history which is permitted in the United States and not permitted in Canada⁷¹⁸ constitutes one of the major differences distinguishing the American approach from the Canadian approach to claim construction.

I discovered, in the American RIM litigation in relation to the phrase “electronic mail system”, the prosecution history failed to identify any disclaimers or limitations to indicate that the “electronic mail system” was restricted to a “wireline system”. Furthermore, I discovered that in relation to the “dual pathways” limitation, the American Appeals Court found that there was nothing in the prosecution history requiring wireless and wireline access of the same destination processor despite Campana’s contemplation

⁷¹⁷ *Dimplex*, *supra* note 222 at para. 78, 114, 115; *Canamould*, *supra* note 138 at para. 31, 46; *Quadco*, *supra* note 364 at para. 27, 63, 65, 66.

⁷¹⁸ Even though the “prosecution history” is not allowed to be relied on in Canada, I looked for references to the “prosecution history” in the Canadian decisions in chapter 3 as well as in *Whirlpool* and *Free World*. I did find reference to the rule that the “prosecution history” cannot be used, namely in *Free World*, *supra* note 3 at para. 64 and *Calgon*, *supra* note 362 at para. 132. See also *Johnson*, *supra* note 118 at para. 200. in chapter 3.

that the destination processors could be accessed via either wireless or wireline networks or both.⁷¹⁹ These were the only two places in the American RIM litigation where the American Appeals Court used the prosecution history as an aid.⁷²⁰

Decisions and their importance	Out of the twenty nine Canadian decisions in chapter 3 (out of the eleven cases), number of decisions where particular aid mentioned	<i>Whirlpool</i>	<i>Free World</i>	Importance of each aid relied on by the Canadian courts in the decisions
Aid used				
Drawings	6	YES	NO	2
Specification	10	YES	NO	1
Language of the claims and plain meaning	3	NO	NO	3
Written description	6	YES	NO	2
Dictionary meaning	3	NO	NO	3
Intention of the Inventor	3	NO	NO	3
Prosecution history	N/A	NO	NO	-2*

Table 6: Occurrence of the aids in the Canadian decisions in chapter 3, *Whirlpool*, *Free World* and their importance

⁷¹⁹ See page 46 of the thesis.

⁷²⁰ As noted earlier in this chapter, the American District Court relied on the prosecution history as one of the aids to construe the five terms considered by the American Appeals Court, namely “originating processor”, “electronic mail system”, “gateway switch”, “originated information”, “additional processor outside any email system”. See also chapter 1 for detailed discussion on these five and other terms (that were not considered on appeal) construed by the American District Court.

As can be seen from Table 6, it is evident that the Canadian courts in the chapter 3 decisions attributed the highest significance to the following aids: (1) Specification and (2) the written description or Drawings tied in the second place. It is also evident that the Canadian courts attributed lesser significance to the following:⁷²¹ (1) language of the claims; (2) dictionary meaning and (3) intention of the inventor. In relation to the “prosecution history” and referring to the Table 6, the American Appeals Court only relied on the prosecution history in two cases. Since this did not appear to be an important aid for the American Appeals Court, it likely will not be a significantly important aid for the Canadian courts.

As can be seen from Table 5, the important aids relied on by the American Appeals Court are aids one and four from Table 6 relating to “electronic mail” and aids one, two and four relating to the “originating processor”. In relation to the “dual pathways” limitation and looking at Table 5, the American Appeals Court did not consider any of the important aids from Table 6. Lastly, in relation to the “separate and distinct” limitation, the American Appeals Court considered only the specification as the only significant aid from Table 6.

⁷²¹ All three attributed equal importance.

3. Importance of each aid as attributed by Canadian courts and its impact

(i) Comment on the hypothetical Canadian RIM litigation based on the American District Court's claim construction

As noted above in this chapter, the three terms that were considered but that were not construed by the American Appeals Court in the American RIM litigation were:⁷²² (1) “gateway switch”, (2) “originated information” and (3) “additional processor outside any electronic mail system”. I believe the likely outcome relating to these terms in the hypothetical Canadian RIM litigation would be as follows:

In relation to the phrase “gateway switch” as stated earlier in this chapter, it is difficult to comment on the likely claim construction outcome in the hypothetical Canadian RIM litigation because the American District Court did not quantify its reliance on the prosecution history, plain meaning or the specification. As shown in Table 5 and Table 6, reliance on the plain meaning and the specification is a common aid used in both Canada and the United States. As can be seen from Table 6, the Canadian courts seem to attribute lesser significance to the use of the “plain meaning” as an aid in claim construction but attribute a significant importance to the use of “specification” in claim construction. Overall, because of American District Court's lack of detailed description of how it relied on each particular aid, my study cannot predict how the “gateway switch” would have been construed in the hypothetical Canadian RIM litigation.

⁷²² Making only the American District Court's claim construction of these terms available.

In relation to the American District Court's construction of the term "originated information" as stated above in this chapter, the prosecution history did not seem to play a significant role in this instance. This is supporting evidence for my overall contention that the decision⁷²³ in the hypothetical RIM litigation in Canada would be similar in outcome as in the United States.

In relation to the phrase "additional processor outside any electronic mail system" as stated earlier in this chapter, it would be difficult to draw any conclusions in relation to the hypothetical Canadian RIM litigation for the same reasons as applicable to the phrase "gateway switch" above.

(ii) Comment on the hypothetical Canadian RIM litigation based on the American Appeals Court's claim construction

As noted above in this chapter, the four terms that were construed by the American Appeals Court in the American RIM litigation were (1) "originating processor" (2) "electronic mail system" (3) the "dual pathways" limitation and (4) the "separate and distinct" limitation. I believe the likely outcome in the hypothetical Canadian RIM litigation would be as follows:

In relation to the term "originating processor", it is highly likely that the outcome in the hypothetical Canadian RIM litigation would be the same as in Canada. This is because looking at Table 5 and Table 6, the term "originating processor" the three⁷²⁴ out of three

⁷²³ In relating to claim construction.

⁷²⁴ In order of importance: Specification and (drawings and written description). See Table 6.

aids considered important by the Canadian courts were relied on by the American Appeals Court.

In relation to the term “electronic mail system”, it is likely but with some uncertainty that the outcome in the hypothetical Canadian RIM litigation would be the same as in Canada. This is because looking at Table 5 and Table 6, the term “electronic mail system” the two⁷²⁵ out of three aids considered important by the Canadian courts were relied on by the American Appeals Court.⁷²⁶

In relation to the “dual pathway” limitations, the outcome in the hypothetical Canadian RIM litigation would be the uncertain because the American Appeals Court⁷²⁷ did not rely on any of the three aids considered important by the Canadian courts. Therefore, it would be uncertain whether the Canadian courts would do the same thing as the American Appeals Court.

In relation to the “separate and distinct” limitation, the outcome in the hypothetical Canadian RIM litigation would be the uncertain because the American Appeals Court⁷²⁸ only relied on one⁷²⁹ of the three aids considered important by the Canadian courts. The level of certainty would be slightly higher than the “dual pathways” limitation because the aid relied on by the American Appeals Court was considered very important by the

⁷²⁵ In order of importance: Specification and (drawings and written description). See Table 6.

⁷²⁶ See Table 5 and Table 6: The American Appeals Court relied on the Drawings and the written description both of which had equal importance attributed to the by the Canadian courts as seen in Table 6.

⁷²⁷ Looking at Table 5, the American Appeals Court did not rely on the Specification, drawings or the written description all of which were considered important as seen in Table 6.

⁷²⁸ Looking at Table 5, the American Appeals Court did not rely on the Specification, drawings or the written description all of which were considered important as seen in Table 6.

⁷²⁹ The American Appeals Court only relied on the Specification. See Table 5.

Canadian courts. Overall, it would be uncertain whether the Canadian courts would do the same thing as the American Appeals Court.

Thus, in Canada, my analysis demonstrates that the terms “originating processor” and “electronic mail system”⁷³⁰ would have been construed in a way similar to the construction in the American courts. On the other hand, in the cases of some terms in the litigations, such as “gateway switch”, “originated information”, “additional processor outside an electronic mail system”, “dual pathway” limitation and “separate and distinct” limitation, it was impossible for me to predict with any certainty the outcome of Canadian litigation.

4. Conclusion

In conclusion, this thesis set out to: (1) determine whether the Canadian courts construed patent claims⁷³¹ in a broader sense than in the United States and (2) to comment on the claim construction in the hypothetical Canadian RIM litigation.

(i) Summary of the observations in the thesis

In relation to whether the Canadian courts take a broader approach to patent claim construction compared to the United States, it appears from cases in chapter 3 and the

⁷³⁰ The phrase “electronic mail system” would have been construed in Canada as it was construed in the United States but there would be some uncertainty as indicated above.

⁷³¹ Post *Whirlpool*, *supra* note 2 and *Free World*, *supra* note 3.

AIPLA study⁷³² that Canadian courts overwhelmingly opt for a narrower claim construction and find infringement in a smaller percentage of the cases than in the United States.

This narrow patent claim construction approach followed by the majority of the Canadian courts post *Whirlpool* and *Free World* contradicts the view advanced by the Canadian litigators in the Introduction. That view favored a broader claim construction approach in Canada than in the United States where the result of claim construction could yield totally opposite results in relation to an identical patent.

As discussed earlier in chapter 3, it appears that the narrow patent claim construction was not influenced by the identity of the trial judges presiding over the chapter 3 decisions. There was also no apparent pattern to explain how the decisions in chapter 3 cited each other but the most significant pattern I was able to find were the aids relied on by the American Appeals and the Canadian courts in Table 5 and Table 6 respectively. Lastly, as seen in the *Dimplex*⁷³³ Canadian and American decisions (where the language of the patents was almost identical), the result of claim construction was very similar in Canada and the United States and in both jurisdictions, the patent was found to be infringed. I believe this to be important because the view advanced by the Canadian litigators in the Introduction favored a broader claim construction approach in Canada than in the United States where the result of claim construction could yield totally opposite results in

⁷³² See Table 4 in chapter 4.

⁷³³ The only decisions found where the same patent was litigated in Canada and the United States.

relation to an identical patent. However, the view advanced by the Canadian litigators is not evident from this thesis.

One of the questions to be answered in this thesis was whether the outcome for RIM would have been the same in Canada in relation to claim construction⁷³⁴ as it was in the United States. Finding similarity in the approach and the aids relied on by the Canadian courts in construing the phrases in the suit would indicate a similar outcome in Canada. As seen from chapter 4 analysis, it can be concluded that the outcome for RIM in Canada would probably be similar to the American result with respect to certain phrases and uncertain in relation to other phrases.

(ii) Significance of the thesis findings

Both this thesis and the AIPLA study conclude that findings of infringement are less likely to occur in Canada than the Canadian litigators predicted when they said that Canadian courts took a broader approach to claim construction.⁷³⁵

Because patent claim construction is a precursor to infringement considerations, it plays a determinative role whether patent claims are construed broadly or narrowly.

⁷³⁴ As indicated in Chapter 1, the RIM litigation in the United States consisted of two separate issues: (1) patent claim construction and (2) statutory construction of the 35 U.S.C. § 271. This thesis focused only on the claim construction aspect.

⁷³⁵ One should keep in mind that the cases considered in this thesis excluded pharmaceutical cases and hence may not be reflective of all the industries. On the other hand, the AIPLA study in chapter 4 may be a helpful general guide to all industries as that study did not indicate any restrictions to any particular industry.

As noted earlier, it appears from this thesis, based on the discussion in chapter 2 and the Canadian decisions in chapter 3, and the AIPLA study that Canada is not a jurisdiction favoring patent holders. This finding can significantly affect multiple aspects relating to the patent prosecution⁷³⁶ stage, the patent commercialization⁷³⁷ stage, and the patent litigation stage. If one was to study settled cases, which never reach trial (and therefore the terms and conditions of settlement are not publicly available), the outcome of such research might be different from this study, however, this study, based on publicly available data could only focus on cases that did come before the courts.

In relation to the patent prosecution stage, for example, findings of narrow claim construction (when patents are litigated before the courts) may deter potential patent applicants from filing patent applications in Canada because of the risks associated with a narrow claim construction. This, combined with a relatively small Canadian market of only 33 million people⁷³⁸ compared with other international markets such as the United States, may make Canada a less attractive venue for filing patent applications.

In relation to the commercialization stage, some examples of how narrow claim construction may play a role are: (1) It may diminish the value of current patent portfolios, especially in transactions requiring valuation of intellectual property, since narrower construction yields fewer findings of infringement; (2) In the transfer pricing

⁷³⁶ Refers to everything related to securing and obtaining a registration of patents with an intellectual property government agency.

⁷³⁷ Refers to everything related to use of the patents once registration is obtained. Examples can be licensing the patents to others.

⁷³⁸ According to Statistics Canada, Canada's current population is 33,614,799, Statistics Canada online: <http://www.statcan.gc.ca/edu/clock-horloge/edu06f_0001-eng.htm>.

context where transfer pricing relates to “the price charged to related parties for property (tangible and intangible) and services that are provided across the borders of the different taxing jurisdictions (whether international or interprovincial).”⁷³⁹ In the transfer-pricing context, a typical challenge is the valuation of the intellectual property and determining its value in non-arm’s length transactions. The key consideration in determining the transfer price of an intangible is the benefit expected to be received by the recipient of the intangible.⁷⁴⁰ Consequently, a narrow claim construction leading to finding of fewer patent infringements may lead to a diminished transfer price and (3) Holders of Canadian patents receiving revenues from licensing of their patents may notice a decline in rates charged on newly negotiated licenses. It is also foreseeable that competitors would abstain from signing licenses altogether with patent holders being armed with the knowledge that current narrow claim construction approach in Canada leads to a finding of fewer infringements. Consequently, these competitors could potentially prefer risking patent litigation instead of paying license fees to the patent holders.

In relation to the patent litigation stage, patent holders owning patents⁷⁴¹ in multiple jurisdictions such as United States and Canada may first choose to litigate in the United States and use the American ruling to negotiate a settlement in Canada. The AIPLA study in Table 4 certainly supports this tactic, however, my thesis only suggests this as a possible tactic because only eleven cases were discussed (see chapter 2) in this thesis and therefore this is not a definitive proof but supports other studies.

⁷³⁹ **Patrick Boyle & Christopher Steeves**, *Canadian Transfer Pricing* (Toronto: CCH Canadian Limited, 2002), at 2.

⁷⁴⁰ Canada Revenue Agency’s Information Circular 87-2R entitled “International Transfer Pricing” at para. 140.

⁷⁴¹ On the same invention.

(iii) Strengths and weaknesses of the thesis

This thesis is the first study of its kind to test the litigator's view that Canadian courts interpret patent claims more generously than in the United States thus favoring patent holders since the finding of infringement was more likely.⁷⁴² Based on the available evidence, this thesis disproves the claims made by the Canadian litigators. It is also the first study to apply the findings to comment on claim construction in the hypothetical Canadian RIM litigation⁷⁴³ and conclude that in many respects the outcome would have been similar in Canada compared with the American litigation. The strength of the thesis was reinforced by the AIPLA study.

As a weakness of the thesis, it was not possible to have a full trial of the issues within the constraints of an academic study. Given the opportunity of a full trial and the full examination as shown in *Dimplex*, the Canadian court would construe the claims. In writing this thesis, I did not have any more evidence about what a Canadian court might do that is different from the American courts in relation to the phrases that were not considered by the American Appeals Court. I acknowledge that if this case was actually going to trial in Canada, there may be some subtle differences as there were in the *Dimplex* case, but I can use the *Dimplex* case to conclude that in my opinion these

⁷⁴² See *Shaughnessy supra* note 7, where the Canadian patent litigators advanced the following: "In many cases, Canadian law is actually friendlier to the IP holder, particularly with respect to claim construction..." and "Canadian law's reliance on purposive interpretation, and the absence of prosecution history estoppel means that Canadian courts typically interpret patent claims more generously than their U.S. counterparts. Broader interpretation of claims means Canada provides more protection for inventors, since a finding of infringement is more likely."

⁷⁴³ Comparison focuses on patent claim construction looking at the American RIM litigation (which actually took place in the United States) and the hypothetical Canadian RIM litigation (which has not taken place in Canada).

differences would not be material. I believe that what was presented in this thesis in relation to the contentious phrases before the American District Court and the American Appeals Court is a useful guide for the Canadian courts.

Possible suggestions for further research using this thesis can involve a study of the Canadian pharmaceutical cases to determine whether the findings would be consistent with this thesis. In addition, a study of patent damage awards in the Canadian cases could be performed to make a determination whether the current damage awards serve as a sufficient deterrent to potential infringers given the small likelihood in finding of infringement by the Canadian courts. Finally, once more case law has accumulated in Canada, this study could be replicated on a larger scale which, with large numbers, would permit analysis of variance.

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APPENDICES

Appendix 1: *Dimplex* American & Canadian Patents

Legend:

- [REDACTED] color shows portions of the patent claim that are different in the two patents.
- [REDACTED] color shows the claims that were considered during claim construction in both patents;
- **Yellow** color shows the difference between the two patents in the claim portions that were being construed (i.e. yellow shows what was not considered in the claim construction in the Canadian Patent).

U.S. Patent No. 5,642,580 "Flame Simulating Assembly"	Canadian Patent No. 2,175,442 "Flame Simulating Assembly"
Abstract	Abstract
An electric fireplace is provided having an improved flame simulating apparatus. The flame simulating apparatus includes a light source, a flame effect element for transmitting light from the light source to produce a flame effect, and a flicker element having colored reflective strips for reflecting light for subsequent transmission by the flame effect element. A screen having a partially reflecting surface and a diffusing surface is positioned with the flame effect element extending proximate to the diffusing surface. A fuel bed is positioned immediately adjacent to the partially reflecting surface of the screen to produce an image of the fuel bed on the screen with the image of moving flames appearing to emanate between the fuel bed and its reflected image.	An electric fireplace is provided having an improved flame simulating apparatus. The flame simulating apparatus includes a light source, a flame effect element for transmitting light from the light source to produce a flame effect, and a flicker element having colored reflective strips for reflecting light for subsequent transmission by the flame effect element. A screen having a partially reflecting surface and a diffusing surface is positioned with the flame effect element extending proximate to the diffusing surface. A fuel bed is positioned immediately adjacent to the partially reflecting surface of the screen to produce an image of the fuel bed on the screen with the image of moving flames appearing to emanate between the fuel bed and its reflected image.
Claims	Claims
<p>1. A flame simulating assembly comprising: a light source; [REDACTED]; at least one [REDACTED]; [REDACTED], said flicker element being positioned intermediate of said light source and said flame effect element to reflect light from said light source for subsequent transmission by said flame effect element; [REDACTED], said flame effect element extending proximate to said diffusing surface wherein said transmitted light produces [REDACTED]; [REDACTED]; and a simulated fuel bed positioned adjacent to said partially reflecting surface wherein an image of the fuel bed is displayed on the screen and wherein the image of moving flames appears to emanate between the simulated fuel bed and its image in the screen.</p> <p>2. An assembly as claimed in claim 1, further comprising means for moving said flame effect element to produce said moving flame effect.</p> <p>3. An assembly as claimed in claim 2, wherein said moving means comprises an airflow generator.</p> <p>4. An assembly as claimed in claim 3, wherein said flame effect element is adapted to move in response to an airflow.</p>	<p>1. A flame simulating assembly comprising: a light source; [REDACTED]; at least one flicker element having at least one reflective surface, said flicker element being positioned intermediate of said light source and said flame effect element to reflect light from said light source for subsequent transmission by said flame effect element; [REDACTED] and a diffusing surface, said flame effect element extending proximate to said diffusing surface wherein said transmitted light produces an image on the screen which resembles moving flames; and a simulated fuel bed positioned adjacent to said partially reflecting surface [REDACTED] and wherein the image of moving flames appears to emanate between the simulated fuel bed and its image in the screen.</p> <p>2. An assembly as claimed in claim 1, further comprising means for moving said flame effect element to produce said moving flame effect.</p> <p>3. An assembly as claimed in claim 2, wherein said moving means comprises an airflow generator.</p> <p>4. An assembly as claimed in claim 3, wherein said flame effect element is adapted to move in response to an airflow.</p>

<p>5. An assembly as claimed in claim 1, wherein said light source is located beneath said simulated fuel bed.</p> <p>6. An assembly as claimed in claim 1, further comprising a parabolic mirror for reflecting light from said light source toward said flicker element and said flame effect element.</p> <p>7. An assembly as claimed in claim 1, wherein said flicker element reflective surface is substantially silver in color.</p> <p>8. An assembly as claimed in claim 1, wherein said flicker element reflective surface is at least partially red in color.</p> <p>9. An assembly as claimed in claim 1, wherein said flicker element reflective surface is at least partially blue in color.</p> <p>10. An assembly as claimed in claim 1, comprising a plurality of said flicker elements, wherein an upper flicker element and a lower flicker element are positioned rearwardly of said flame effect element.</p> <p>11. An assembly as claimed in claim 10, wherein said reflective surface of said lower flicker element is at least partially red in color.</p> <p>12. An assembly as claimed in claim 11, wherein said reflective surface of said upper flicker element is substantially silver in color.</p> <p>13. An assembly as claimed in claim 1, further comprising a rotor for rotating said flicker element about an axis.</p> <p>14. An assembly as claimed in claim 13, wherein said flicker element is rotated in a direction to simulate upwardly moving gasses from a fire.</p> <p>15. An assembly as claimed in claim 13, wherein said rotor is rotated by an electric motor.</p> <p>16. An assembly as claimed in claim 13, wherein said axis is arranged generally parallel to the simulated fuel bed.</p> <p>17. An assembly as claimed in claim 10, wherein said upper and lower flicker elements are rotated about axes that are generally parallel to the simulated fuel bed.</p> <p>18. An assembly as claimed in claim 10, wherein said upper flicker element is positioned in a horizontal plane above the simulated fuel bed.</p> <p>19. An assembly as claimed in claim 10, wherein said lower flicker element is positioned in a horizontal plane that is generally below the top of the simulated fuel bed.</p> <p>20. An assembly as claimed in claim 2, wherein said flame effect element is a single sheet of material that extends substantially across the width of the screen, said sheet having a plurality of slits defined therethrough to facilitate passage of light during movement of said</p>	<p>5. An assembly as claimed in claim 1, wherein said light source is located beneath said simulated fuel bed.</p> <p>6. An assembly as claimed in claim 1, further comprising a parabolic mirror for reflecting light from said light source toward said flicker element and said flame effect element.</p> <p>7. An assembly as claimed in claim 1, wherein said flicker element reflective surface is substantially silver in color.</p> <p>8. An assembly as claimed in claim 1, wherein said flicker element reflective surface is at least partially red in color.</p> <p>9. An assembly as claimed in claim 1, wherein said flicker element reflective surface is at least partially blue in color.</p> <p>10. An assembly as claimed in claim 1, comprising a plurality of said flicker elements, wherein an upper flicker element and a lower flicker element are positioned rearwardly of said flame effect element.</p> <p>11. An assembly as claimed in claim 10, wherein said reflective surface of said lower flicker element is at least partially red in color.</p> <p>12. An assembly as claimed in claim 11, wherein said reflective surface of said upper flicker element is substantially silver in color.</p> <p>13. An assembly as claimed in claim 1, further comprising a rotor for rotating said flicker element about an axis.</p> <p>14. An assembly as claimed in claim 13, wherein said flicker element is rotated in a direction to simulate upwardly moving gasses from a fire.</p> <p>15. An assembly as claimed in claim 13, wherein said rotor is rotated by an electric motor.</p> <p>16. An assembly as claimed in claim 13, wherein said axis is arranged generally parallel to the simulated fuel bed.</p> <p>17. An assembly as claimed in claim 10, wherein said upper and lower flicker elements are rotated about axes that are generally parallel to the simulated fuel bed.</p> <p>18. An assembly as claimed in claim 10, wherein said upper flicker element is positioned in a horizontal plane above the simulated fuel bed.</p> <p>19. An assembly as claimed in claim 10, wherein said lower flicker element is positioned in a horizontal plane that is generally below the top of the simulated fuel bed.</p> <p>20. An assembly as claimed in claim 2, wherein said flame effect element is a single sheet of material that extends substantially across the width of the screen, said sheet having a plurality of slits defined therethrough to facilitate passage of light during</p>
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element.

21. An assembly as claimed in claim 2, wherein said flame effect element comprises a plurality of elements that move in response to said moving means.

22. An assembly as claimed in claim 21, wherein said elements have reflective surfaces.

23. An assembly as claimed in claim 22, wherein each of said elements is twisted.

24. An assembly as claimed in claim 1, wherein said fuel bed comprises a vacuum formed plastic shell that is colored to realistically resemble combustive fuel.

25. An assembly as claimed in claim 24, wherein said fuel bed has translucent portions for permitting passage of light from said light source to produce an appearance of glowing embers.

26. A flame simulating assembly comprising:
a light source;
a flame effect element formed of a single sheet of a substantially opaque material having means for transmitting light from said light source to produce a flame effect, said flame effect element being adapted to move in response to an airflow;
an airflow generator;
a screen having a partially reflecting surface and a diffusing surface, said flame effect element extending proximate to said diffusing surface wherein said transmitted light produces an image on the screen which resembles moving flames; and
a simulated fuel bed positioned adjacent to said partially reflecting surface wherein an image of the fuel bed is displayed on the screen and wherein the image of moving flames appears to emanate between the simulated fuel bed and its image in the screen.

27. An assembly as claimed in claim 26, wherein said [REDACTED] a plurality of slits defined through said sheet.

28. An assembly as claimed in claim 26, wherein said opaque material is resistant to fraying.

29. An assembly as claimed in claim 26, wherein said opaque material is covered with a plastic film to resist fraying of the material.

30. A flame simulating assembly, comprising:
a light source;
at least one [REDACTED]
[REDACTED] for reflecting light from said light source
[REDACTED]

movement of said element.

21. An assembly as claimed in claim 2, wherein said flame effect element comprises a plurality of elements that move in response to said moving means.

22. An assembly as claimed in claim 21, wherein said elements have reflective surfaces.

23. An assembly as claimed in claim 22, wherein each of said elements is twisted.

24. An assembly as claimed in claim 1, wherein said fuel bed comprises a vacuum formed plastic shell that is colored to realistically resemble combustive fuel.

25. An assembly as claimed in claim 24, wherein said fuel bed has translucent portions for permitting passage of light from said light source to produce an appearance of glowing embers.

26. A flame simulating assembly comprising:
a light source;
a flame effect element formed of a single sheet of a substantially opaque material having means for transmitting light from said light source to produce a flame effect, said flame effect element being adapted to move in response to an airflow;
an airflow generator;
a screen having a partially reflecting surface and a diffusing surface, said flame effect element extending proximate to said diffusing surface wherein said transmitted light produces an image on the screen which resembles moving flames; and
a simulated fuel bed positioned adjacent to said partially reflecting surface wherein an image of the fuel bed is displayed on the screen and wherein the image of moving flames appears to emanate between the simulated fuel bed and its image in the screen.

[REDACTED]

28. An assembly as claimed in claim 26, wherein said [REDACTED] a plurality of slits defined through said sheet.

29. An assembly as claimed in claim 26, wherein said opaque material is resistant to fraying.

30. An assembly as claimed in claim 26, wherein said opaque material is covered with a plastic film to resist fraying of the material.

31. A flame simulating assembly, comprising:
a light source;
at least one flicker element having at least one reflective surface for reflecting light from said light source;

a rotor for rotating said flicker element about said axis;
a screen having a partially reflecting surface and a diffusing surface, wherein light reflected from said rotating flicker element onto said diffusing surface produces [REDACTED] from a fire; and

a simulated fuel bed positioned adjacent to said partially reflecting surface wherein an image of the fuel bed is displayed on the screen and wherein the image of moving gasses appears to emanate between the simulated fuel bed and its image on the screen.

31. An assembly as claimed in claim 30, wherein said flicker element [REDACTED].

32. An assembly as claimed in claim 31, wherein said strips are substantially silver in color.

33. An assembly as claimed in claim 31, wherein said strips have red or blue colored tips for coloring the reflected light.

34. An assembly as claimed in claim 31, wherein at least some of said strips are substantially gold in color.

35. An assembly as claimed in claim 31, wherein at least some of said strips are at least red in color.

36. An assembly as claimed in claim 31, wherein at least two of said flicker elements are provided.

37. An assembly as claimed in claim 1, further comprising a fuel bed light assembly located beneath said fuel bed, said light assembly including a plurality of lights that flicker at different times.

a rotor for rotating said flicker element about an axis;
a screen having a partially reflecting surface and a diffusing surface, wherein light reflected from said rotating flicker element onto said diffusing surface produces an image which resembles [REDACTED]; and

a simulated fuel bed positioned adjacent to said partially reflecting surface wherein an image of the fuel bed is displayed on the screen and wherein the image of moving gasses appears to emanate between the simulated fuel bed and its image on the screen.

32. An assembly as claimed in claim 31, wherein said flicker element [REDACTED].

[REDACTED]

34. An assembly as claimed in claim 33, wherein said strips are substantially silver in color.

35. An assembly as claimed in claim 33, wherein said strips have red or blue colored tips for coloring the reflected light.

36. An assembly as claimed in claim 33, wherein at least some of said strips are substantially gold in color.

37. An assembly as claimed in claim 33, wherein at least some of said strips are at least red in color.

38. An assembly as claimed in claim 33, wherein at least two of said flicker elements are provided.

39. An assembly as claimed in [REDACTED], further comprising a fuel bed light assembly located beneath said fuel bed, said light assembly including a plurality of lights that flicker at different times.

Appendix 2: *Polansky Patent*

Canadian Patent No. 1,223,059 entitled "Interface Device"

Abstract:

An interface device for connection between a facsimile reproduction machine and a simplex radio includes a receiving circuit and a transmitting circuit. A switch connects an appropriate one of the circuits to the machine. A control circuit monitors the change in the mode of operation of the machine and operates upon the switch to cause a corresponding change of connection to the machine. The control circuit also operates upon the transceiver to condition it to a transmit mode upon the transmit circuit being selected.

Claims:

THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. An interface to connect a data transfer device with a radio transceiver comprising a receiving circuit to receive an analog data signal from said transceiver, a transmitting circuit to transmit an analog data signal to said transceiver, an analog data bus to transfer analog data between said device and said circuits, switch means to connect one of said circuits with said analog data bus and control means to control said switch means, said control means being responsive to change in the operational mode of said data transfer device to disconnect said one circuit and connect the other of said circuits to said database.
2. An interface according to claim 1 wherein said control means operates upon said transceiver to condition said transceiver to a transmit mode upon connection of said analog database with said transmitting circuit.
3. An interface according to claim 1 wherein said control means is responsive to a change from an inactive to an active condition to connect said analog database to said transmitting circuit.
4. An interface according to claim 3 wherein said receiving circuit includes a "push pull" circuit.
5. An interface according to claim 4 including connection means to connect said transfer device to a land line, said connection means disconnecting said circuits upon connection to a land line.
6. An interface according to claim 3 including amplifying means in said receiving circuit.
7. An interface according to claim 6 wherein a buffer amplifier is included in said transmitting circuit to isolate said switch means and said transceiver.
8. A data transmission system for transmitting digital data between a pair of facsimile reproduction machines comprising a pair of radio transceivers, each associated with a respective one of said machines, interface means between each transceiver and machine to control operation thereof, each of said interface means being operable in a receive mode to transmit an analog signal from said transceiver and a transmit mode to transmit an analog signal to said transceiver and having switch means responsive to a change in the mode of operation of the machine to which the interface is connected to cause a corresponding change in the mode of operation of said interface means.
9. A data transmission system according to claim 8 wherein each of said interface means includes switch means operable upon a respective transceiver to change the mode of operation of said transceiver upon a change in operation of said respective one of said machines.

Appendix 3: *Almecon* Patent

Canadian Patent No. 1,220,134 entitled "Topping and tamping plug"

Abstract

There is provided a new and useful tamping and topping plug for use in a seismic bore hole and comprising a body member having a forward and a rearward end and terminating at its forward end with a closed end part, a plurality of elongated members extending outwardly and rearwardly from the body member, the members so arranged as to give the plug axial stability when inserted into a bore hole. There is also provided a process utilizing the plug for enhancing information available from seismic blasting.

Claims:

THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. A tamping and topping plug for use in a seismic bore hole, and comprising: a body member having a forward and a rearward end and terminating at its forward end with a somewhat flattened end part; a plurality of elongated members extending outwardly and rearwardly from at least one end of the said body member, said members so arranged as to give said plug axial stability when inserted into a bore hole.
2. The plug of claim 1 in which the said elongated members extend from at least the forward end of the said body member.
3. The plug of claim 1 in which the said elongated members extend from at least the rearward end of the said body member.
4. The plug of claim 1 in which the configuration of the said end part is chosen from the group consisting of a hemisphere, a truncated pyramid, a truncated cone and a flat surface.
5. The plug of claim 1 in which the configuration of the said end part is a truncated cone.
6. The plug of claim 1 including at least two said elongated members at each of the said forward and rearward ends of the said body member.
7. The plug of claim 6 in which the said end part is a cone.
8. The plug of claim 7 in which the said cone is truncated.
9. The plug of claim 6, 7 or 8 in which the plug is resilient and is formed of an elastomeric or plastic material.
10. The plug of claim 8 in which the said device is formed of a resilient elastomer or plastic and in which said elongated members are relatively wider circumferentially of said body member and relatively thinner radially of said body member.
11. The plug of claim 10 in which at least two of the said elongated members are located at each of the forward and rearward ends of the said body member and wherein the said members are located symmetrically about the circumference of said body member.
12. The plug of claim 10 in which four said elongated members are located symmetrically about a diameter at the rearward end, and two said elongated members are located symmetrically about a diameter at the forward end, of said body member, and the six said elongated members are substantially equispaced about the circumference of the said body member.
13. The plug of claim 1 in which the plug material is resilient, in which the said end part is curved convexly or is conical in configuration, and in which a plurality of said elongated members extend integrally from said front part, said elongated members being integral with each other near the said body member to form a screen section extending outwardly and backwardly from the forward edge of said body member.

14. The plug of claim 13 in which the diameter of the extremity of said screen section is approximately equal to the diameter of the bore hole in which the plug is to be used.

15. The plug of claim 14 including a series of reinforcing webs between said body member and said screen section.

16. The plug of claim 1 in which said body member is cylindrical.

17. A process for enhancing the information obtainable from seismic blasting comprising: inserting into a seismic borehole in which an explosive charge has been placed, and above the said charge, a tamping plug comprising a body member having a forward and a rearward end and terminating at its forward end with a conical end part, a plurality of elongated members extending outwardly and rearwardly from at least the forward end of the said body member, said members so arranged as to give said plug axial stability when inserted into the said bore hole.

18. The process of claim 17 in which said conical end part is truncated.

19. The process of claim 17 including the step of thereafter exploding the said charge.

CLAIMS SUPPORTED BY SUPPLEMENTARY DISCLOSURE

20. A tamping and topping plug for use in a seismic bore hole, and comprising:
a body member having a forward and a rearward end and terminating at its forward end with a somewhat flattened end part and; a plurality of elongated members extending outwardly and rearwardly from locations on at least one circumferential line around said body member.

21. The plug of claim 20 wherein said at least one circumferential line is intermediate the ends of said body member.

22. The plug of claim 21 in which the said elongated members are located at positions on a single circumferential line around said member and intermediate the ends thereof.

23. The plug of claim 22 in which the said end part is in the shape of a forwardly extending truncated cone.

24. The plug of claim 23 in which the said device is formed of a resilient elastomer or plastic and in which said elongated members are relatively wider circumferentially and narrower radially of said body member.

Appendix 4: Quadco Equipment Patent

Canadian Patent No. 1,103,130 entitled "accumulator felling head"

ABSTRACT⁷⁴⁴

A tree felling head having an accumulator for accumulating trees in an area offset from an area wherein the trees are severed by shear means from their stump. A sweep arm is swingably mounted on the felling head for moving the trees in succession as they are cut into the collecting or accumulating area and the trees are received therein and retained in the area by an accumulating arm means. The accumulating arm means is an articulated member consisting of a first arm pivotally attached to the frame and having a second arm or finger member pivotally attached to the free end thereof. A hydraulic cylinder actuates the two pivotally mounted arms of the accumulator, with the finger being actuated by way of a link that is pivotally attached at one end to a lug member freely pivotable on the pin mounting the other arm on the frame. Three separate hydraulic power cylinder units are utilized for respectively moving the shear jaw, the sweep arm and the accumulating arm means. The three cylinders are located vertically one above the other in overlapping relationship in three different horizontal planes, thus minimizing the overall width of the felling head and disposing the hydraulic cylinders in an area where they are protected from possible damage during use of the felling head.

Claims:⁷⁴⁵

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. An improved accumulator arm means in a device for gathering and retaining a plurality of trees, said improved accumulator arm means comprising a first arm mounted on a frame of the device for swinging through an arc about a first axis, a finger member swingably mounted on the free end of the arm, a hydraulic piston cylinder unit connected at one end thereof to the frame and at the other end to a lug member pivoted for free movement about said first axis, and a link member pivotally connected adjacent opposed ends thereof respectively to said lug member and said finger.
2. A device as defined in claim 1 including a pair of commonly oriented arm members mounted to swing in unison about said first axis and each having a finger member swingably mounted thereon, said finger members being interconnected to swing in unison by movement of said link member.
3. A device as defined in claims 1 or 2 including a second arm mounted on said frame for swinging through an arc about a second axis spaced from and parallel to said first axis.
4. A device for severing trees and having an improved accumulator arm means thereon for use in accumulating trees as they are severed from their roots comprising a frame, a tree severing device mounted on said frame and having a first jaw means openable and closable relative to a first area respectively for receiving and severing the trunk of a standing tree; means for supporting the butt ends of trees severed from their roots in a second area offset laterally from said first area and which includes a shelf secured to said frame and projecting therefrom; a first sweep arm pivotally mounted on said frame for movement about a first axis to sweep through an arc traversing said first area and at least part of said second area to shift trees after they have been severed from their roots from said first area to second area; and accumulator arm means comprising a second arm pivotally mounted on said frame for movement about a second axis; a finger member swingably mounted on the free end of said second arm to sweep through an arc traversing a major portion of second area and including that portion traversed by said first sweep arm; a hydraulic piston cylinder unit connected at one end thereof to said frame and at the other end to a lug member pivoted for free movement about said second axis, and a link member pivotally connected adjacent opposed ends thereof respectively to said lug member and said finger member.
5. A device as defined in claim 4 wherein there is individual hydraulic power piston cylinder means for respectively opening and closing the jaw means of the tree severing device, swinging said first sweep arm and swinging said accumulator arm means, said individual power piston cylinder means being disposed one above the other in overlapping relation in different ones of three horizontal planes spaced apart from one another thereby minimizing the overall width of the device.

⁷⁴⁴ Canadian Intellectual Property patent database online:
<http://patents.ic.gc.ca/cipo/cpd/en/patent/1103130/summary.html>

⁷⁴⁵ Canadian Intellectual Property patent database online:
<http://patents.ic.gc.ca/cipo/cpd/en/patent/1103130/claims.html>.

6. A device as defined in claim 4 including a pair of commonly oriented second arm members mounted to swing in unison about said second axis and each having a finger member swingably mounted thereon, said finger members being intereconnected to swing in unison by movement of said link member,

7. A device as defined in claims 4, 5 or 6 wherein said first and second pivot axes are parallel and spaced apart from one another.

Appendix 5: *Canamould Patent*

Canadian Patent No. 2,184,205 entitled “Method and Apparatus for Manufacturing Decorative Mouldings”

Abstract⁷⁴⁶

The invention provides a method of manufacturing an elongate decorative moulding having a decorative surface, comprising the steps of: (a) placing a flat surface of an elongate foam moulding core on an input portion of a flat elongate table, the foam core comprising a flexible resilient expanded polymer foam solid having: said flat surface on one side; a decorative surface on another side and a cross-sectional profile, the cross sectional profile of the core being proportionally smaller than the desired cross sectional profile of the finished decorative moulding, the table including a smooth continuous planar top surface and a longitudinal axis; (b) aligning the foam core on said longitudinal axis of the table; (c) sliding the foam core on the top surface of the table forwardly along the axis through a coating containment chamber, the coating chamber: having a bottom surface defined by the top surface of the table; having a rearward opening larger than the core profile; side walls and a forward wall which includes a die, the die having a die opening with a profile proportionally larger than the cross sectional profile of the moulding core, the die opening having a profile conforming a desired cross sectional profile; (d) applying a liquid coating material to the decorative surface of the moulding core as the foam core slides through the coating chamber, the flat surface of the core slidingly engaging the top surface of the table thus being shielded from coating material; (e) passing the coated moulding core through the die opening on to an output portion of the table top surface; and (f) curing the coating material after the moulding has passed the die. Also provided is a device for manufacturing an elongate moulding.

Claims:⁷⁴⁷

I CLAIM:

1. A method of manufacturing an elongate decorative moulding having a decorative surface, comprising the steps of:
 - (a) placing a flat surface of an elongate foam moulding core on an input portion of a flat elongate table, the foam core comprising a flexible resilient expanded polymer foam solid having: said flat surface on one side; a decorative surface on another side and a cross-sectional profile, the cross sectional profile of the core being proportionally smaller than the desired cross sectional profile of the finished decorative moulding, the table including a smooth continuous planar top surface and a longitudinal axis;
 - (b) aligning the foam core on said longitudinal axis of the table;
 - (c) sliding the foam core on the top surface of the table forwardly along the axis through a coating containment chamber, the coating chamber: having a bottom surface defined by the top surface of the table; having a rearward opening larger than the core profile; side walls and a forward wall which includes a die, the die having a die opening with a profile proportionally larger than the cross sectional profile of the moulding core, the die opening having a profile conforming a desired cross sectional profile;
 - (d) applying a liquid coating material to the decorative surface of the moulding core as the foam core slides through the coating chamber, the flat surface of the core slidingly engaging the top surface of the table thus being shielded from coating material;
 - (e) passing the coated moulding core through the die opening on to an output portion of the table top surface; and
 - (f) curing the coating material after the moulding has passed the die.
2. A method according to claim 1 wherein, the die opening is beveled expanding rearwardly, the opening in a rearward side of the die being proportionally larger than the opening in a forward side of the die.
3. A method according to claim 1 wherein, the die is a removable plate.
4. A method according to claim 1 wherein, the coating chamber has an open top.
5. A method according to claim 4 wherein, the step of applying the coating includes trowelling the coating onto the decorative surface of the foam core.

⁷⁴⁶ Canadian Intellectual Property patent database online:
<http://patents.ic.gc.ca/cipo/cpd/en/patent/2184205/summary.html>

⁷⁴⁷ Canadian Intellectual Property patent database online:
<http://patents.ic.gc.ca/cipo/cpd/en/patent/2184205/claims.html>

6. A method according to claim 1 wherein, prior to the step of placing the core on the table, the method includes the step of securing a reinforcing mesh to the decorative surface of the core.

7. A method according to claim 1 including the further steps of:

(g) sliding the first coated foam core on the top surface of the table forwardly along the axis through a second coating containment chamber, the second coating chamber: having a bottom surface defined by the top surface of the table; having a rearward opening larger than the first coated core profile; side walls and a forward wall which includes a second die, the second die having a second die opening with a profile proportionally larger than the cross sectional profile of the first coated moulding core, the second die opening having a profile conforming a desired cross sectional profile;

(h) applying a second liquid coating material to a cured first coated decorative surface of the moulding core as the foam core slides through a second coating chamber, the flat surface of the core slidingly engaging the top surface of the table thus being shielded from the second coating material;

(i) passing the second coated moulding core through a second die opening on to an output portion of the table top surface; and

(j) curing the second coating material after the moulding has passed the second die.

8. A method according to claim 1 including the further step of: sliding the coated foam core on the top surface of the table forwardly along the axis through a drying chamber, the drying chamber: having a bottom surface defined by the top surface of the table.

9. A device for manufacturing an elongate moulding having a flat surface on one side, a decorative surface on another side and a cross-sectional profile, the device comprising: table means, having a smooth continuous elongate planar top surface, a longitudinal axis, an input portion, a midportion and an output portion, for supporting a flexible foam moulding core on said flat surface thereof as the core slides along the longitudinal axis; alignment means, on said input portion, for aligning the foam core on the longitudinal axis; a first coating containment chamber on said midportion having: a bottom surface defined by the top surface of the table; having a rearward opening larger than the core profile; side walls and a forward wall which includes a first die, the first die having a die opening with a profile proportionally larger than the cross sectional profile of the moulding core, the die opening having a profile conforming a desired cross sectional profile; and driving means for driving the foam core through the coating chamber, the flat surface of the core slidingly engaging the top surface of the table thus being shielded from coating material, and for passing the first coated core through the first die opening onto the output portion of the table top surface.

10. A device according to claim 9 wherein the die opening is beveled expanding rearwardly, the opening in a rearward side of the die being proportionally larger than the opening in a forward side of the die.

11. A device according to claim 9 wherein, the first die is a removable plate.

12. A device according to claim 9 wherein, the first coating chamber has an open top

13. A device as defined in claim 9 further comprising a second coating chamber, on said midportion rearward of said first coating containment chamber, the second chamber having a bottom surface defined by the top surface of the table means; having a rearward opening larger than the first coated core profile; side walls and a forward wall which includes a second die, the second die having a second die opening with a profile proportionally larger than the cross sectional profile of the first coated moulding core, the second die opening having a profile conforming a desired cross sectional profile.

14. A device as defined in claim 9 wherein the driving means comprises a conveyor belt.

15. A device as defined in claim 14 wherein the conveyor belt has a resilient frictional surface.

16. A device as defined in claim 14 comprising an input conveyor belt with an associated input drive, and an independent output conveyor belt with an associated output drive.

17. A device as defined in claim 16 wherein the input and output drives each comprise gear drives.

18. A device as defined in claim 16 wherein the input and output drives each comprise chain drives.

Office patent

Patent/220

Office patent

Patent/220

Appendix 6: Wessel Patent

Canadian Patent No. 2,206,675 entitled “trailer mounted power swivel”

Abstract:⁷⁴⁸

A trailer mounted power swivel includes, in combination, a trailer and a power swivel unit. The trailer is elongate and has ground engaging wheels supporting a cargo deck. The cargo deck is divided lengthwise into a first section and a second section. The power swivel unit is secured solely to the first section, thereby causing a load imbalance which renders the trailer unstable for highway travel. This imbalance can be remedied by placing the second section of the cargo deck under load. The second section of the cargo deck is adapted to carry a sufficient number of drill collars to counterbalance the weight of the power swivel unit until the stability of the trailer is restored.

Claims:⁷⁴⁹

1. A trailer mounted power swivel, comprising in combination:

an elongate trailer having ground engaging wheels and a cargo deck; the cargo deck being divided lengthwise into a first section and a second section; and
a power swivel unit secured solely to the first section, thereby causing a load imbalance which renders the trailer unstable for highway travel until the second section of the cargo deck is under load, the second section of the cargo deck being adapted to carry a sufficient number of drill collars to sufficiently counterbalance the weight of the power swivel unit until the stability of the trailer is restored.

⁷⁴⁸ Canadian Intellectual Property Office patent database online:
<<http://patents.ic.gc.ca/cipo/cpd/en/patent/2206675/summary.html>>.

⁷⁴⁹ Canadian Intellectual Property Office patent database online:
<<http://patents.ic.gc.ca/cipo/cpd/en/patent/2206675/claims.html>>.

Appendix 7: Gold Patent

Canadian Patent No. 1,324,357 entitled "Closure Mechanism"

Abstract:⁷⁵⁰

A closure mechanism for a tubular member, open-ended container or glove. A channel member coupled to the portion to be closed forms a channel of an opened length corresponding to a distance around the portion to be closed. The channel has a cross-sectional area and terminates with one or two closely spaced openings having an opening cross-sectional area. A stretchable cord is present within the channel and extends outward beyond at least one of the openings. The stretchable cord has an unstretched cross-sectional area and a stretched cross-sectional area. The unstretched cross-sectional area is larger than the stretched cross-sectional area and the opening cross-sectional area. By pulling on the portion of the stretchable cord extending out of the opening or openings, the stretchable cord takes on the stretched cross-sectional area at least proximate the opening or openings. As a result, the stretchable cord freely slides in the channel and when the stretchable cord is then released, the stretchable cord returns to the unstretched cross-sectional area proximate the opening or openings. As a result, the stretchable cord is locked in the opening or openings and the channel is shortened to a closed length less than the opened length. This secures the tubular portion surrounded by the closure mechanism in a closed position. A release member is utilized to lengthen the channel from its closed length to an opened length and may be operated with only one hand.

Claims:⁷⁵¹

1. A closure mechanism for an open-ended container, comprising:

channel means coupled at or near the end of the container for forming a channel of an opened length, corresponding to a distance around the open end of the container, having a channel cross-sectional area and terminating with two closely spaced openings having an opening cross-sectional area;

stretchable cord means, within the channel and extending outward beyond both openings, having an unstretched cross-sectional area and a stretched cross-sectional area, the unstretched cross-sectional area being larger than the stretched cross-sectional area and the opening cross-sectional area;

whereby pulling on the portion of the stretchable cord means extending out of both openings causes the stretchable cord means to take on the stretched cross-sectional area at least proximate the openings to freely slide in the channel and then releasing the stretchable cord means causes the stretchable cord means to return to the unstretched cross-sectional area proximate the openings, thereby locking the stretchable cord means in the openings and shortening the channel to a closed length less than the open length and securing the open end of the container in a closed position.

2. The closure mechanism of claim 1 wherein the stretchable cord means includes a shockcord having two free ends, the free ends of the shockcord extending beyond both openings.

3. The closure mechanism of claim 2 wherein the free ends are coupled to a handle means for preventing entry of the free end into the channel and for providing a gripping surface.

4. The closure mechanism of claim 1 wherein the channel means is formed of a crushable material adapted to gather when the channel is shortened from the open length to the closed length.

5. The closure mechanism of claim 1 wherein the channel cross-sectional area is greater than the unstretched cross-sectional area of the stretchable cord means.

6. The closure mechanism of claim 5 wherein the opening cross-sectional area is less than the unstretched cross-sectional area of the stretchable cord means.

7. The closure mechanism of claim 1 wherein the opening cross-sectional area is greater than the stretched cross-sectional area of the stretchable cord means.

8. The closure mechanism of claim 1 wherein the channel means further includes insert means coupled to the channel means within the channel for providing an opening cross-sectional area less than the channel cross-sectional area.

9. The closure mechanism of claim 8 wherein the insert means includes a polyvinylchloride coated cotton material having a non-slip finish.

10. The closure mechanism of claim 8 wherein the insert means is sewn to the channel member proximate both openings.

⁷⁵⁰ Canadian Intellectual Property Office patent database online:
<<http://patents.ic.gc.ca/cipo/cpd/en/patent/1324357/summary.html>>.

⁷⁵¹ Canadian Intellectual Property Office patent database online:
<<http://patents.ic.gc.ca/cipo/cpd/en/patent/1324357/claims.html>>.

11. The closure mechanism of claim 1 wherein the stretchable cord means is an elastic shockcord including elastic strips surrounded by a stretchable cover. 12. The closure mechanism of claim 11 wherein the stretchable cover is formed of a woven cotton.

13. The closure mechanism of claim 1 further comprising release means for enabling enlargement of the channel from the closed length to the opened length, coupled to the container proximate the closely spaced openings. 14. The closure mechanism of claim 13 wherein the release means includes a handle member, adapted to be gripped between two fingers, coupled to the container proximate the closely spaced openings.

15. The closure mechanism of claim 13 wherein the release means includes a pliable sheet folded over a portion of the container and coupled to itself through the container.

16. The closure mechanism of claim 13 wherein the release means includes a handle operable with one hand.

17. A closure mechanism for a glove, comprising: channel means for forming a channel at or near a hand opening of the glove having an opened length corresponding to an opened distance around the hand opening, the channel having a channel cross-sectional area and terminating with two closely spaced openings having an opening cross-sectional area; stretchable cord means, within the channel extending outwardly beyond both openings, having an unstretched cross-sectional area and a stretched cross-sectional area, the unstretched cross-sectional area being larger than the stretched cross-sectional area and the opening cross-sectional area;

whereby pulling on the portion of the stretchable cord means extending out of both openings causes the stretchable cord means to take on the stretched cross-sectional area proximate at least one opening to freely slide in the channel and then releasing the stretchable cord means causing the stretchable cord means to take on the unstretched cross-sectional area proximate both openings thereby locking the stretchable cord means in the openings and shortening the channel means to a closed distance less than the opened length and securing the open end in a closed position.

18. The closure mechanism of claim 17 wherein the stretchable cord means includes a shockcord having two free ends, the free ends of the shockcord extending beyond both openings.

19. The closure mechanism of claim 18 wherein the free ends are coupled to a handle means for preventing entry of the free end into the channel and for providing a gripping surface.

20. The closure mechanism of claim 17 wherein the channel means is formed of a crushable material adapted to gather when the channel is shortened from the open length to the closed length.

21. The closure mechanism of claim 17 wherein the channel cross-sectional area is greater than the unstretched cross-sectional area of the stretchable cord means.

22. The closure mechanism of claim 21 wherein the opening cross-sectional area is less than the unstretched cross-sectional area of the stretchable cord means.

23. The closure mechanism of claim 17 wherein the opening cross-sectional area is greater than the stretched cross-sectional area of the stretchable cord means.

24. The closure mechanism of claim 17 wherein the channel means further includes insert means coupled to the channel means within the channel for providing an opening cross-sectional area less than the channel cross-sectional area.

25. The closure mechanism of claim 24 wherein the insert means includes a polyvinylchloride coated cotton material having a non-slip finish.

26. The closure mechanism of claim 24 wherein the insert means is sewn to the channel member proximate both openings.

27. The closure mechanism of claim 17 wherein the stretchable cord means is an elastic shockcord including elastic strips surrounded by a stretchable cover.

28. The closure mechanism of claim 27 wherein the stretchable cover is formed of a woven cotton.

29. The closure mechanism of claim 17 further comprising release means for enabling enlargement of the channel from the closed length to the opened length, coupled to the container proximate the closely spaced openings.

30. The closure mechanism of claim 29 wherein the release means includes a handle member adapted to the grip between two gloved fingers, coupled to the container proximate the closely spaced openings.

31. The closure mechanism of claim 29 wherein the release means includes a pliable sheet folded over a portion of the container and coupled to itself through the container.

32. The closure mechanism of 29 wherein the release means includes a handle operable with one hand.

33. A closure mechanism for a tubular member, comprising:

channel means coupled around the tubular member at a closure location for forming a channel of an opened length, corresponding to a distance around the tubular member at the closure location, having a channel cross-sectional area and terminating with two closely spaced openings having an opening cross-sectional area;

stretchable cord means, within the channel and extending outward beyond both openings, having an unstretched cross-sectional area and a stretched cross-sectional area, the unstretched cross-sectional area being larger than the stretched cross-sectional area and the opening cross-sectional area; whereby pulling on the portion of the stretchable cord means extending out of both openings causes the stretchable cord means to take on the stretched cross-sectional area at least proximate the openings to freely slide in the channel and then releasing the stretchable cord means causes the stretchable cord means to return to the unstretched cross-sectional area proximate the opening, thereby locking the stretchable cord means in the openings and shortening the channel to a closed length less than the open length and securing the tubular member at the closure location in a closed position.

34. The closure mechanism of claim 33 further including release means for lengthening the channel from the closed length to the opened length, coupled to the tubular member proximate the two closely spaced openings.

35. The closure mechanism of claim 34 wherein the release means includes a handle adapted to be operated by one hand.

36. A closure mechanism for a tubular member, comprising: channel means coupled to a tubular member at a closure location, for forming a channel of an opened length, corresponding to a distance around the tubular member at the closure location, having a channel cross-sectional area and terminating with at least one opening having an opening cross-sectional area:

stretchable cord means, within the channel and extending outward beyond the at least one opening, having an unstretched cross-sectional area and a stretched cross-sectional area, the unstretched cross-sectional area being larger than the stretched cross-sectional area and the opening cross-sectional area;

whereby pulling on the portion of the stretchable cord means extending out of the at least one opening causes the stretchable cord means to take on the stretched cross-sectional area at least proximate the at least one opening to freely slide in the channel and then releasing the stretchable cord means causes the stretchable cord means to return to the unstretched cross-sectional area proximate the at least one opening, thereby locking the stretchable cord means in the at least one opening and shortening the channel to a closed length less than the opened length and securing the closure location of the tubular member in a closed position.

37. The closure mechanism of claim 36 wherein the stretchable cord means includes two ends, one of the ends being fixed to the channel means within the channel and the other end extending outwardly beyond the opening.

38. The closure mechanism of claim 36 further including release means, for lengthening the channel from the closed length to the opened length, coupled to the tubular member proximate at least one opening.

39. The closure mechanism of claim 38 wherein the release means includes a handle adapted to be operated by one hand.

Appendix 8: MacLennan Patent

Canadian Patent No. 2,011,788 entitled "saw tooth and holder"

Abstract:⁷⁵²

A circular saw is provided with a disc and tooth holders mounted on the periphery of the disc, with each tooth holder having a pair of legs straddling the disc and fasteners such as a bolt and nut extending through the legs and discs for fastening the holder to the disc. A frusto-pyramidal tooth head having a square outline with four cutting tips is provided on a shank, and the shank extends through a bore having a tangential axis with the periphery of the disc. Shoulders are provided on the body of the holder for abutting the tooth head.

Claims:⁷⁵³

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A saw tooth and tooth holder combination for a cutting saw, wherein the saw includes a substrate and the holder is adapted to straddle the substrate, the holder includes a body defining a bore having an axis extending tangentially of the substrate and the saw tooth includes a frusto-pyramidal tooth head with a concave recess formed at the base of the pyramid creating cutting tips at the intersections of the planes of the sides forming the pyramid, and concave cutting edges between the cutting tips; a shank extends from the smaller end of the frusto-pyramidal tooth head within the bore in the holder and the body of the holder includes abutment means for receiving the small end and a side of the frusto-pyramidal head, characterized in that the holder includes a pair of legs extending from the body on either side of the substrate and a bight portion straddling the substrate, and two fastening means, one fore and the other aft of the legs of the holder with a nut and bolt passing through the substrate and the legs to retain the holder on the substrate, for attaching the legs of the holder to the substrate, the shank extending in the axis of the bore of the holder with the pyramidal base of the tooth head projecting in the direction of movement of the saw.
2. A saw tooth and tooth holder combination for a cutting saw, the saw including a substrate, the tooth holder formed as a clevis straddling the substrate, each clevis holder including a U-shaped member having a pair of legs extending on either side of the substrate, and having a body portion formed at the bight of the U-shaped member straddling the substrate, the body defining a bore, the saw tooth including a tooth head having a small end and divergent surfaces extending to a large end with a concave recess formed at the large end of the head and forming cutting edges at the intersection of the concave recess and the divergent surfaces, a shank extending within the bore and attached to the head at the small end thereof, and the body defining a tooth receiving seat including a platform and an abutment surface for receiving the divergent surfaces and the small end of the head respectively, the tooth including the tooth shank and head extending in a tangential axis to the substrate with the large end of the tooth head projecting in the direction of movement of the saw substrate, the legs defining two sets of recesses on the legs, one set fore and the other set aft of the legs of the holder, cupped sleeves being provided in each recess, and a pair of bolts and nuts extending through the respective sets of recesses on the legs and through the substrate to retain the cupped sleeves against the substrate and thereby retaining the tooth holder in position on the substrate.
3. A saw tooth and tooth holder combination as defined in claim 2, wherein the shank is in the form of a bolt extending from one end of the holder through the bore to threadably engage the head and secure the head against the holder.
4. A saw tooth and tooth holder combination as defined in claim 2, wherein the head is in the form of a frusto-pyramid having four sides.
5. A saw tooth and tooth holder as defined in claims 1, 2, 3 or 4, wherein the tooth holder is adapted to be mounted on a substrate which is in the form of a circular disc.

⁷⁵² <http://patents.ic.gc.ca/cipo/cpd/en/patent/2011788/summary.html>.

⁷⁵³ <http://patents.ic.gc.ca/cipo/cpd/en/patent/2011788/claims.html>.

Appendix 9: Calgon Patent

In *Wedeco UV Technologies, Inc. v. Calgon Carbon Corporation* 2006 U.S. Dist. LEXIS 48657, one of the patents in question, namely, American Patent No. 6,129,893 has claims almost identical to Canadian Patent No. 2,331,525.

U.S. Patent No. 6,129,893 "Method for preventing replication in <i>Cryptosporidium parvum</i> using ultraviolet light"	Canadian Patent No. 2,331,525 "Method for Preventing Replication In <i>Cryptosporidium Parvum</i> Using Ultra Violet Light"
Abstract ⁷⁵⁴	Abstract: ⁷⁵⁵
A method for prevention of cryptosporidium oocysts and similar organisms in water by irradiating the water with ultraviolet light in a range of 200 to 300 nm in doses of about 10 mJ/cm.sup.2 to 175 mJ/cm.sup.2.	A method for preventing the replication of cryptosporidium parvum oocysts and similar organisms comprising irradiating water with a broad band of ultraviolet light in doses from about 10 mJ/cm2 to about 175 mJ/cm2, wherein said broadband is a frequency of 200 to 300 nm using a medium pressure lamp.
What is claimed: ⁷⁵⁶	Claims: ⁷⁵⁷
1. A method for the prevention of cryptosporidium oocysts comprising irradiating water with a continuous broad band of ultraviolet light in doses of from about 10 mJ/cm.sup.2 to about 175 mJ/cm 2.	1. A method for the prevention of cryptosporidium oocysts comprising irradiating water with a continuous broad band of ultraviolet light in doses of from about 10 mJ/cm2 to about 175 mJ/cm2.
2. A method as set forth in claim 1 wherein said broad band is a frequency of 200 to 300 nm using an UV lamp.	2. A method as set forth in claim 1 wherein said broad band is a frequency of 200 to 300 nm using a UV lamp.
3. A method as set forth in claim 1 or 2 wherein said dose is about 20 mJ/cm.sup.2 to about 30 mJ/cm.sup.2.	3. A method as set forth in claim 1 or 2 wherein said dose is from about 20 mJ/cm2 to about 30 mJ/cm2.
4. A method as set forth in claim 1 wherein said broad band is a frequency of 200 to 300 nm using a medium pressure UV lamp.	4. A method as set forth in claim 1 wherein said broad band is a frequency of 200 to 300 nm using a medium pressure UV lamp.

⁷⁵⁴ United States Patent and Trademark Office website.

⁷⁵⁵ <http://patents.ic.gc.ca/cipo/cpd/en/patent/2331525/summary.html>.

⁷⁵⁶ United States Patent and Trademark Office website.

⁷⁵⁷ <http://patents.ic.gc.ca/cipo/cpd/en/patent/2331525/claims.html>.

Appendix 10: *M.K. Plastics Patent*

Canadian Patent No. 2,140,163 entitled “exhaust apparatus”

Abstract:⁷⁵⁸

An exhaust fan to be mounted on a roof and for exhausting spent gases from a building, including a centrifugal fan scroll casing with a centrifugal fan impeller mounted on an axle within the casing and having an axis of rotation at right angles to the side members of the scroll casing. A bifurcated stack including two generally parallel passageways is connected to the scroll casing so that the stack is upright and communicates with the outlet port of the scroll casing. A ring defining an annulus may be provided at the outlet end of the stack to induce ambient air to mix with the spent air exhausting from the bifurcated tubular member.

Claims:⁷⁵⁹

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. An exhaust fan apparatus comprising a housing having an upper portion and a lower portion, wherein the lower portion includes a centrifugal fan scroll casing, the scroll casing having parallel side walls, a shaft extending within the casing and having a first axis normal to the side wall and mounting an impeller for rotation therewithin, motor means for driving the shaft, an inlet port provided axially of the first axis on a side wall of the casing, a discharge port extending from the scroll, a first tubular diffuser portion communicating with the fan discharge port and a second tubular portion extending upwardly from the first tubular portion, the second tubular portion being bifurcated to provide at least two passageways having generally parallel axes generally normal to the first axis, and wherein the axes of the passageways lie in a plane which is parallel to the first axis.
2. An exhaust fan apparatus as defined in claim 1, wherein the second tubular portion includes a pair of spaced-apart outlet ports corresponding to the two passageways, and a ring surrounds the second tubular portion at a level corresponding to the outlet ports to form an annulus therewith, whereby ambient air is induced through the annulus to mix with gases exhausting from the passageways.
3. An exhaust fan apparatus as defined in claim 2, wherein the second tubular member is of frusto-conical cross-section but includes a central gap defined by opposed flat wall members defining the two respective passageways.
4. An exhaust fan apparatus as defined in claim 3, wherein the diffuser is an inverted frusto-conical tube extending from the outlet discharge port of the scroll casing.
5. An exhaust fan apparatus as defined in claim 1, wherein the plane containing the axes of the passageways also contains the first axis.

⁷⁵⁸ <http://patents.ic.gc.ca/cipo/cpd/en/patent/2140163/summary.html>.

⁷⁵⁹ <http://patents.ic.gc.ca/cipo/cpd/en/patent/2140163/claims.html>.

Appendix 11: McKay Patent

Canadian Patent No. 2,371,155 entitled "Method of removing stators from tubular housings"

Abstract

A method of removing stators from tubular stator housings involving subjecting a tubular stator housing having an interior surface to which a worn stator is adhered by adhesive to cryogenic refrigeration until the stator shrinks and pulls away from the interior surface of the tubular stator housing.

Claims:

THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

1. A method of removing stators from tubular stator housings, comprising:

subjecting a tubular metal stator housing having an interior surface to which a worn elastomer stator is adhered by adhesive to cryogenic refrigeration until the elastomer stator shrinks and pulls away from the interior surface of the tubular metal stator housing, the temperature of the tubular metal stator housing being gradually lowered to cryogenic levels and then gradually raised to ambient temperature in order to have the tubular metal stator housing and elastomer stator shrink at substantially the same rate and avoid thermal shock.

2. The method as defined in Claim 1, the tubular metal stator housing being subjected to temperatures between minus 150 degrees Celsius and minus 200 degrees Celsius.

3. A method of removing stators from tubular stator housings, comprising:

placing a tubular metal stator housing having an interior surface to which a worn elastomer stator is adhered by adhesive into a cryogenic refrigeration unit; lowering the temperature in the cryogenic refrigeration unit gradually to cryogenic levels in order to have the tubular metal stator housing and elastomer stator shrink at substantially the same rate and avoid thermal shock, the temperature in the cryogenic refrigeration unit reaching temperatures of between minus 150 degrees Celsius and minus 200 degrees Celsius; raising the temperature in the cryogenic refrigeration unit gradually to ambient temperatures in order to avoid thermal shock, the elastomer stator shrinking and pulling away from the interior surface of the tubular stator housing as the temperature is gradually lowered and then gradually raised; and exerting a force upon the worn stator to slide the worn stator out of the tubular stator housing.