Federal Court  Cour fédérale

Date: 20161006

Docket: T-2204-14

Citation: 2016 FC 1117

Ottawa, Ontario, October 6, 2016

PRESENT: The Honourable Mr. Justice Southcott

BETWEEN:

CASCADE CORPORATION

Plaintiff

and

KINSHOFER GmbH and KINSHOFER LIFTALL INC.

Defendants

JUDGMENT AND REASONS

I. Overview

[1] The parties to this action manufacture and sell products known as a quick hitches or couplers, which are used with earth working machines such as excavators to be able to quickly attach and remove implements at the end of an excavator arm. The Plaintiff, Cascade Corporation [Cascade], is the owner of a Canadian patent related to a safety locking device for quick couplers and claims that the Defendants, Kinshofer GmbH and its subsidiary Kinshofer

Liftall Inc. [together Kinshofer], have infringed or induced infringement of this patent through their sale of a product known as the X-LOCK coupler.

[2] As will be explained in more detail below, quick couplers attach to two pins on an implement, referred to as the front pin and the back pin. The dispute between the parties turns on construction of Cascade's patent and in particular on the claim language referring to the safety locking device releasing the front pin using a hydraulic circuit which operates independently of the hydraulic locking mechanism for the back pin. Kinshofer defends this infringement action by arguing that, properly construed, Cascade's patent claims are limited to couplers that have independent hydraulic circuits for operating the front pin and back pin locks. Kinshofer argues that this independence represents an essential element of Cascade's patent which is missing from Kinshofer's X-LOCK product.

[3] Liability and quantification issues have been bifurcated by previous order of the Court, and the parties have cooperated to narrow the liability issues and to seek determination of these issues by way of motion for summary trial. The Court has received affidavit evidence and has heard oral testimony in chief and cross-examination by the parties' experts.

[4] For the reasons that follow, I am dismissing Cascade's action. I find that this dispute is suitable for adjudication by summary trial. I have construed the patent with the benefit of the expert evidence but have reached my own conclusions on the appropriate construction. I find that it is an essential element of Cascade's patent that the hydraulic circuit which releases the front pin operates independently of the back pin hydraulic locking mechanism. This means that

the hydraulic circuit which releases the front pin must be able to perform its designed functions without regard for the status or function of the back pin hydraulic locking mechanism. I also find that the back pin hydraulic locking mechanism includes the mechanical components of the back pin lock and the hydraulic components that actuate these mechanical components.

[5] As explained below, it is my conclusion that Kinshofer's X-LOCK coupler employs a hydraulic circuit to release the front pin which does not operate independently of the back pin locking mechanism including its hydraulic components. Therefore the X-LOCK coupler does not infringe Cascade's patent.

II. Background

A. *The Parties and the Action*

[6] Cascade is an Oregon corporation which describes itself as one of the world's largest manufacturers of lift truck load-handling attachments. It has recently branched out into construction machinery attachments, including quick hitch assemblies. Kinshofer GmbH is a German company which manufactures attachments for loader cranes and hydraulic excavators as well as quick hitch assemblies. Its subsidiary, Kinshofer Liftall Inc., is an Ontario corporation.

[7] Cascade is the owner of Canadian Patent No. 2,587, 065 [the Patent] which is the subject of this action. The Patent claims priority from a New Zealand patent and was originally filed by Wedgelock Equipment Limited, a New Zealand company. Similar patents also exist in

Europe. Cascade acquired the patent rights in the United States and Canada to the invention described and claimed in the Patent, while Kinshofer GmbH acquired the corresponding patent rights in Europe.

[8] Cascade manufactures and sells in North America a coupler called the Cascade I-LOCK quick coupler that uses the technology disclosed in the Patent. In Europe, Kinshofer manufactures and sells two products: Kinshofer I-LOCK couplers and X-LOCK couplers (although, as explained later in these Reasons, there are two versions of the X-LOCK product). Kinshofer sells only the X-LOCK couplers in North America.

[9] Cascade alleges that the X-LOCK coupler infringes the Patent and commenced this action claiming damages, injunctive relief and other remedies against Kinshofer for infringement or inducement/procurement of infringement of the Patent. Kinshofer does not dispute the validity of the Patent but defends the action on the basis that its X-LOCK product does not contain all of the essential elements of any of the claims of the Patent.

B. *Background on Quick Couplers*

[10] As noted above, the Patent relates to a safety locking device for quick couplers, devices which are used with earth working machines such as excavators to be able to quickly attach and remove implements at the end of an excavator arm. The implement is equipped with two pins, identified as the front pin (which is closer to the cab of the excavator) and the back pin. In the coupling process, the operator of the excavator first causes a hook shaped portion of the coupler to engage the front pin and then lowers the so-called mounting portion of the coupler

onto the back pin. Once the back pin is engaged, a locking mechanism is activated to hold that pin and therefore the implement in place.

[11] If the back pin is not properly engaged, the implement may detach from the excavator arm, which is a safety concern. Safety locking devices, including the one disclosed in the Patent, were developed to address this problem. The safety locking device secures the front pin in the hook portion of the coupler, preventing detachment even if the back pin is not properly engaged.

[12] As will be discussed in greater detail later in these Reasons, there were shortcomings in the prior art safety locking devices due to relationships between the safety locking device and the locking mechanism for the back pin, such that a failure in one could affect the other. The invention claimed in the Patent involves a coupler that has a front pin safety locking device that engages automatically with the front pin and is independent of the back pin locking mechanism. The parties' disagreement as to the nature of this independence as claimed in the Patent is the subject of this dispute.

C. *The Parties' Products*

[13] Cascade describes the I-LOCK coupler sold by it in North America as a commercial embodiment of the Patent. Viewed from the perspective of the operator of an excavator, both the I-LOCK coupler and Kinshofer X-LOCK coupler behave in the same way. The hook portion of the coupler is equipped with a front pin safety locking device, consisting of a knuckle that has a hydraulic or spring loaded bias in a position that locks the pin into place

after the pin is pushed past the knuckle into the hook portion. In attaching an implement, the front pin safety locking device engages automatically when the front pin on an implement is inserted into the hook portion of the coupler. The mounting portion of the coupler is then placed over the back pin, and the operator must take an action to engage the back pin locking mechanism. This action by the operator does not affect the front pin safety locking device.

[14] To remove the implement, the operator must take an action to disengage the back pin locking mechanism. Again, this has no effect on the front pin safety locking device. Then, the operator must take another action in order to move the knuckle in the hook portion from its biased position, so as to disengage the front pin safety locking device.

[15] These three operator-controlled actions (engagement of the back pin locking mechanism, disengagement of the back pin locking mechanism, and disengagement of the front pin safety locking device) employ hydraulic systems in both the I-LOCK and X-LOCK couplers. The principal difference between the I-LOCK and X-LOCK products is the configuration and operation of the hydraulics. Both products employ a dual acting hydraulic cylinder (i.e. a cylinder at either end of which hydraulic fluid can be supplied), that can be moved to engage and disengage the back pin locking mechanism, and a separate hydraulic cylinder to disengage the front-pin safety locking device. This represents three locations to which hydraulic fluid must be supplied. The I-LOCK's hydraulics direct the fluid to these locations using three different hydraulic lines running from the body of the excavator down the boom to the coupler, while the X-LOCK uses only two lines.

[16] With three lines, the I-LOCK achieves the three operator-controlled actions in a binary way, i.e. each of the three lines is either pressurized or not. Therefore, the disengagement of the front pin safety locking device is achieved by pressurizing the hydraulic line that is dedicated to the hydraulic cylinder attached to that device. In contrast, the X-LOCK disengages the front pin safety locking device by varying the pressure in one of the lines to the back pin locking mechanism. There is a branch from the back pin locking mechanism hydraulic components to the hydraulic cylinder attached to the front pin safety locking device. At a lower pressure in the hydraulic system serving the back pin locking mechanism, the hydraulic cylinder attached to the front pin safety locking device is unaffected. However, at a higher pressure, that cylinder is supplied with hydraulic fluid by means of a pressure valve which permits flow through the branch to that cylinder. This causes disengagement of the front pin safety locking device.

[17] Kinshofer refers to the I-LOCK as achieving the required actions through hydraulic isolation and the X-LOCK as achieving these actions through pressure modulation. Cascade's position is that both the I-LOCK and X-LOCK can be characterized as employing hydraulic isolation.

D. *The Dispute*

[18] In the Patent, Cascade asserts its monopoly to the disclosed invention through 13 claims. Cascade alleges that the X-LOCK product infringes claims 1, 2, 5, 6, and 8-13. However, these claims all depend on claim 1. The parties do not dispute that, if claim 1 is infringed, so are others, and if claim 1 is not in infringed, neither are the others. For example, claim 2 of the Patent is for the "coupler of claim 1 wherein the locking element is based into the locking

position by a spring". It is worth noting that there are two X-LOCK products, known as the CMX coupler and the CMX-S coupler. The CMX-S coupler uses a hydraulic bias rather than a spring bias for the knuckle in the front pin safety locking device. If claim 1 is infringed, the CMX coupler would also infringe claim 2, but the CMX-S coupler would not.

[19] Claim 1 is therefore the only claim required to be construed in this matter. Claim 1 is for:

> A coupler for attaching an implement to an arm of an earth working machine, comprising:
>
> an upwardly facing portion adapted to fix the coupler to an end of the arm of the earth working machine;
>
> a downwardly facing mounting portion positioned near one end of the coupler, comprising a hydraulic locking mechanism to lock a back pin of the implement in the mounting portion;
>
> an outwardly facing hook portion positioned near an opposite end of the coupler, including a safety locking device comprising a locking element biased into a locking position to lock a front pin of the implement into the hook portion of the coupler, the locking element being configured to be moved against the bias into an open position by the front pin as the coupler engages with the front pin, and then to move under the bias back into the locking position once the front pin is fully engaged with the hook portion;
>
> wherein the safety locking device of the hook portion is configured to release the front pin by being moved into an unlocked position using a hydraulic circuit which operates independently of the hydraulic locking mechanism of the mounting portion.

[20] The dispute can be further narrowed, as the only portion of claim 1 for which construction is at issue is what the parties have referred to as the seventh element. Although there are only five paragraphs in claim 1, the parties characterize the fourth paragraph as including three elements. The seventh element is therefore the last paragraph which reads: "wherein the safety locking device of the hook portion is configured to release the front pin by

being moved into an unlocked position using a hydraulic circuit which operates independently of the hydraulic locking mechanism of the mounting portion." Cascade's position is that Kinshofer's X-LOCK products contain all the essential elements of claim 1. Kinshofer's position is that, as the hydraulic componentry of the X-LOCK achieves release of the front pin through pressure modulation rather than hydraulic isolation, the hydraulic circuit operating the X-LOCK front pin safety locking device does not operate independently of the back pin hydraulic locking mechanism. Therefore, argues Kinshofer, one of the essential elements of claim 1 is missing in the X-LOCK product.

E. *Procedural History*

[21] This action is subject to a bifurcation order issued by Prothonotary Aalto on May 11, 2015. The issues to be decided following the hearing before me are the liability issues, namely:

A. Whether claims 1, 2, 5, 6 and 8-13 of the Patent have been infringed by Kinshofer;

B. Whether Kinshofer has induced or procured the infringement of claims 1, 2, 5, 6 and 8-13 of the Patent; and

C. The issue of Cascade's entitlement to the remedies it claims.

[22] Cascade has brought the liability issues before the Court through a motion for summary trial under Rule 213 of the *Federal Courts Rules*, SOR/98-106. Kinshofer does not oppose adjudication through summary trial, other than the claim for inducement or procurement of infringement, on which it argues that the evidence adduced on this motion is insufficient.

[23] The record before the Court on this motion includes affidavit evidence of witnesses of fact, transcripts of cross-examination of those witnesses, and an expert report filed by each of the parties related to the construction of claim 1 and whether the X-LOCK products infringe the Patent. Each of the parties' experts testified orally before the Court, providing evidence in chief and being subjected to cross-examination, following which the parties provided written and oral argument in support of their respective positions.

III. Evidentiary Ruling

[24] At the commencement of the hearing of this matter, Kinshofer sought leave of the Court to file a Third Supplementary Motion Record, containing material that Kinshofer described as updating the status of Canadian and US patent applications by Kinshofer that were included in the record before the Court. The previously filed affidavit of Christoph Scholz, an engineer working in the Research and Development Department of Kinshofer GmbH, deposed to Kinshofer having filed these patent applications related to the design of the two line systems in its X-LOCK products. Mr. Scholz's affidavit attached the relevant US patent application and the Canadian patent application along with a related notice of allowance.

[25] Kinshofer describes the Third Supplementary Motion Record as intended to add to the record a copy of the Canadian patent that has now been issued to Kinshofer on April 5, 2016 and documents relating to the allowance of the US patent application on April 27, 2016.

[26] Cascade objected to the filing of this material, on the bases that the request was being made at the last minute, that the material took the form of an affidavit sworn on information

and belief with the information having been provided by Kinshofer's counsel, and that the material is of no relevance. Cascade relied upon the decision of this Court in *Pfizer Canada Inc. v Canada (Minister of Health)*, 2007 FC 168 [*Pfizer*] in support of its position.

[27] Kinshofer argued that the new material is relevant to the issue of the non-obviousness of its invention over Cascade's Patent, that the supporting affidavit is just attesting to the authenticity of the documents, and that these documents were not available when previous affidavits in the record were filed.

[28] Following argument at the hearing, I denied Kinshofer's request to file its Third Supplementary Motion Record and advised that I would provide written reasons to follow in support of this decision. The following are those reasons.

[29] In *Pfizer*, the Court dismissed a motion to permit the filing of a supplementary affidavit in support of two motions under the *Patented Medicines (Notice of Compliance) Regulations*, SOR 93-133. Justice Hughes considered the criteria to be applied in granting leave to file such material under Rule 312: (i) whether the evidence could have been anticipated earlier; (ii) whether the evidence would be of assistance to the Court in making its final determination; (iii) whether the refusal to do so would cause substantial prejudice to the tendering party; (iv) whether it would serve the interests of justice; and (v) whether it would cause unreasonable delay. Justice Hughes dismissed the motion based principally upon the fact that the affidavit could have been tendered earlier, the fact that the affidavit was hearsay evidence from a student-at-law in the office of the applicants' counsel, and the fact that the evidence to be taken

from the affidavit was of little consequence to the arguments presented on the principal motions.

[30] I agree with Kinshofer's argument that *Pfizer* is somewhat distinguishable on the basis that the documentation sought to be introduced in the present case was not available prior to April 2016. However, I share the concern expressed by Justice Hughes in *Pfizer* about the affidavit being hearsay and of questionable admissibility given that it relies on evidence of a member of the law firm representing the tendering party. As argued by Cascade, Rule 81 does not permit affidavits based on information and belief in motions for summary trial. Rule 82 also prevents a solicitor from arguing a matter based on his or her affidavit without leave of the Court. The affidavit tendered by Kinshofer was sworn by a clerk in the office of Kinshofer's counsel, based on information provided by Christopher Bury, one of the solicitors of record for Kinshofer in this matter.

[31] Kinshofer submitted that the affidavit merely serves to authenticate the patent documentation and that the introduction of such documentation as evidence in this manner is the sort of approach that very often parties would agree to. While this may be the case, and while the Court may permit counsel to argue a matter based on a solicitor's affidavit where the affidavit is not controversial, Cascade objected to the introduction of the affidavit in the present case and argued that it had not been provided an opportunity to cross-examine upon information in the affidavit on the prosecution history of the patents.

[32] Kinshofer did not explain why it was necessary to introduce the evidence updating the status of the Canadian and US patents in a manner which raised Rule 81 and 82 concerns, as opposed for instance to providing the evidence through an updated affidavit of Mr. Scholz. It is also my view that the update on the status of the patent applications, and the associated documentation, adds little probative evidence to that which is already before the court, particularly given that the record already includes the notice of allowance of Kinshofer's Canadian patent application. Applying the criteria relevant to Kinshofer's request under Rule 312 does not support granting leave for the filing of its Third Supplementary Motion Record.

IV. Issues

[33] Cascade identifies the following issues for adjudication by the Court:

A. Whether this matter will be heard by way of summary trial;

B. Whether Kinshofer infringes claims 1,2 5-6 and 8-13 of the Patent;

C. Whether Kinshofer has induced or procured others to infringe the Patent; and

D. Whether Cascade is entitled to declaratory relief, injunctive relief, delivery up/destruction, reasonable compensation, damages and/or profits, costs and interest.

[34] Kinshoffer's articulation of the issues requires essentially the same determinations by the Court. For purposes of this decision, I adopt Cascade's articulation of the issues.

V. Analysis

A. *Whether this matter will be heard by way of summary trial*

[35] In a motion for summary trial, Rule 216(6) provides that, if the Court is satisfied that there is sufficient evidence for adjudication, regardless of the amounts involved, the complexities of the issues and the existence of conflicting evidence, the Court may grant judgment either generally or on an issue, unless the Court is of the opinion that it would be unjust to decide the issues on the motion. In determining whether summary trial is appropriate, the Court should consider factors such as the amount involved, the complexity of the matter, its urgency, any prejudice likely to arise by reason of delay, the cost of taking the case forward to a conventional trial in relation to the amount involved, the course of the proceedings, and any other matters that arise for consideration (see *Louis Vuitton Malletier S.A. v Singga Enterprises (Canada) Inc.*, 2011 FC 776).

[36] Cascade argues that the present matter is one suitable for summary trial, given that the amount involved (while not yet quantified) is expected to be nominal because Kinshofer's X-LOCK product has only recently entered the Canadian market. Cascade submits that an early decision through summary trial will adjudicate the dispute prior to further market penetration and that the cost of taking this matter to trial as a regular action that could well exceed the amount of any damage or profit claim that would have accrued to date. Most significantly, the parties have worked cooperatively to reduce complexity and narrow the issues in this dispute to focus largely on the construction of a single element of claim 1 of the Patent. Particularly given that, with the exception of the issue of inducement or procurement of infringement, the parties

agree that this matter is one suitable for summary trial, I have little difficulty agreeing with this position.

[37] Given my decision on the merits of this matter, that for the reasons explained below Kinshofer has not infringed the Patent, it is unnecessary for me to address the issue of inducement or procurement of infringement. It is therefore unnecessary for me to address Kinshofer's arguments that the inducement/procurement issue is not suitable for adjudication by summary trial.

B. *Whether Kinshofer infringes claims 1,2 5-6 and 8-13 of the Patent*

(1) Principles of Patent Construction

[38] While the parties largely agree on the principles applicable to the construction of the claims in a patent, they disagree to some extent on whether their respective experts have applied these principles correctly. It is therefore useful to review briefly the applicable principles, commencing with the following summary at paragraph 31 of *Free World Trust v Électro Santé Inc*, 2000 SCC 66 [*Free World Trust*]:

> (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;
> >
> > (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 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.

[39] The role of experts in assisting the Court with claim construction is well summarized at paragraph 74 of *Bell Helicopter Textron Canada Limitée v. Eurocopter*, 2013 FCA 219 [*Eurocopter*]:

> As noted in *Whirlpool* at para. 53, the words used in a patent must be looked at and understood "through the eyes and with the common knowledge of a worker of ordinary skill in the field to which the patent relates." This enables the reader to appreciate the nature and description of the invention on a technical level. Consequently, in construing the claims, a judge may be assisted by expert witnesses. However, a judge is not bound by the opinion of any expert. A judge's assessment of the expert evidence will not be reversed on appeal absent palpable and overriding error: *Halford v. Seed Hawk Inc.* 2006 FCA 275, 54 C.P.R. (4th) 130 at para. 11; *Weatherford* at para. 24.

[40] As will be explained in greater detail below, each of the parties has taken issue with the manner or extent to which the other's expert has taken into account the disclosure portion of the Patent in formulating his construction of the claims. The role for the disclosure in claim construction is summarized as follows at paragraph 37 of *Monsanto Canada Inc. v Schmeiser*, 2002 FCA 309 [*Schmeiser*] (varied on other points in 2004 SCC 34):

> It is also well settled that in construing the claims of a patent, recourse to the disclosure portion of the specification is (1) permissible to assist in understanding the terms used in the claims, (2) unnecessary where the words are plain and unambiguous, and (3) improper to vary the scope or ambit of the claims: *Dableh* v. *Ontario Hydro (C.A.)*, [1996] 3 F.C. 751 at paragraph 30, leave to appeal refused, [1996] S.C.C.A. No. 441 (QL).

[41] Each of the parties supported its arguments on this issue by recourse to this Court's decision in *Janssen-Ortho Inc. v Canada (Minister of Health)*, 2010 FC 42 [*Janssen-Ortho*], in which Justice Zinn explained the interaction of the disclosure and claims of a patent as follows at paragraphs 119 to 120:

> 119 I do not take the Supreme Court of Canada to be saying that in every case one must examine the disclosure prior to construing the claims of the patent; rather, I take the Court in *Whirlpool* and *Free World Trust* to be raising a caution that one should not reach a firm conclusion as to the meaning of the words in the claims being construed without having tested one's initial interpretation against the words of the disclosure. When that is done, if the disclosure suggests another interpretation of the terms used in the claims, then resort to the meanings given in the disclosure is proper, subject to the proviso that the invention that is protected is what is expressed in the claims which cannot be added to by anything mentioned in the disclosure that has not found its way into the claims as drafted. As was noted by Justice Taschereau in *Metalliflex Ltd. v. Rodi & Wienenberger Aktiengesellschaft*, [1961] S.C.R. 117, at p. 122:
>
> > The claims, of course, must be construed with reference to the entire specifications, and the latter

> may therefore be considered in order to assist in apprehending and construing a claim, but the patentee may not be allowed to expand his monopoly specifically expressed in the claims "by borrowing this or that gloss from other parts of the specifications".
>
> [emphasis added]
>
> Mr. Stainsby, counsel for Novopharm, put that principal more colourfully when he said in his oral submissions that the "jurisprudence does not permit an unescorted and unchaperoned romp through the disclosure." I agree.
>
> 120 The purpose of claim construction, at the end of the exercise, is to ascertain what exactly is contained within the garden bounded by the fences set out by the inventor. To wander afield, outside the garden's fences, picking sunflowers and petunias, and then say the garden is a flower garden, when all that one can see when standing within the garden's fences are red zinnias, illustrates why one must first have some view of the scope of the garden from the inside before one traipses through the adjoining fields seeking clarification or confirmation of the nature of the garden. Without such an initial view, one may inappropriately borrow the flora outside to define that which grows inside the fence. In short, one should not take an unescorted and unchaperoned romp through the disclosure; one must have a guide or compass which one obtains from first examining all of the claims of the patent.

[42] The parties' expert evidence must be considered against this jurisprudential backdrop.

(2) Cascade's Expert Evidence

[43] Cascade relied upon the evidence of John E. Johnson, a mechanical engineer registered in the state of Oregon. Mr. Johnson has approximately 40 years of experience in the design, test and evaluation of industrial equipment utilizing hydraulic power. He is currently employed as a consultant in a privately owned business. Cascade tendered, and at the hearing the Court

accepted, Mr. Johnson as an expert in the field of hydraulic and mechanical components and systems, as well as an expert in the field of electrical systems insofar as they relate to hydraulic and mechanical components and systems.

[44] Mr. Johnson's report identifies the scope of his engagement and the materials he reviewed in reaching his conclusions. His report provides a brief review of the history of safety locking devices and quick couplers, describes the qualifications and common general knowledge he would consider to be possessed by the person of ordinary skill in the art [POSITA] to which the Patent is directed, provides his proposed construction of the claims in the Patent from the perspective of the POSITA, and then analyzes Kinshofer's X-LOCK products to assess whether they contain all the essential elements of the claims as construed.

[45] Mr. Johnson's construction of the claims essentially aligns with that of Kinshofer's expert (as detailed below), with the exception of the seventh element of claim 1. For ease of reference, the language of the seventh element of claim 1 reads:

> wherein the safety locking device of the hook portion is configured to release the front pin by being moved into an unlocked position using a hydraulic circuit which operates independently of the hydraulic locking mechanism of the mounting portion.

[46] In relation to that element, Mr. Johnson's construction is as follows:

> This passage clearly specifies that there is a hydraulic circuit that moves the locking element on the hook portion to the unlocked position.
>
> This hydraulic circuit is said to operate independently of the locking mechanism on the mounting portion, rather than

> independent of the hydraulic circuit that forms part of the locking mechanism.
>
> This clearly implies the absence of a mechanical sequence between the safety locking device and the hydraulic locking mechanism [which was a relatively commonplace occurrence in the prior art leading up to the invention], that is, the hydraulic circuit performs the unlocking function without regard to movement of the locking mechanism.

[47] In subsequently comparing this element of claim 1 to the X-LOCK couplers, Mr. Johnson notes that the manufacturer's operating instructions state that the X-LOCK safety system operates independently of the primary lock. He then states his own conclusions with respect to the X-LOCK couplers:

A. The operation of the hydraulic circuit to allow the front pin to disengage is independent of the operation of the hydraulic circuit that moves the locking device for the back pin;

B. The hydraulic conduit for the cylinder of the front pin securing feature is hydraulically isolated from the hydraulic circuit of the cylinder for the back pin securing feature by a pressure switching valve; and

C. Hydraulic isolation of the two circuits prohibits operational hydraulic flow or improper conditions (e.g. leakage) in one circuit from affecting the other circuit, thereby forming circuits that operate independently of each other.

[48] In reaching his conclusion expressed at the end of his report, that the X-LOCK couplers contain all of the essential elements claimed in the Patent, Mr. Johnston states that both versions of the X-LOCK couplers utilize hydraulic circuits that operate independently to isolate the operation of the hydraulic cylinder at the front pin from the operation of the hydraulic cylinder at the back pin.

[49] At the hearing of this matter, Mr. Johnson provided direct evidence consistent with his report and was subjected to cross-examination. The parties also confirmed that it was their intention that the expert reports be taken as read into evidence, and the Court granted leave to this effect.

(3) Kinshofer's Expert Evidence

[50] Kinshofer relied upon the evidence of Peter J. Weller, a mechanical engineer registered in the state of California. Mr. Weller has 45 years of experience in engineering and manufacturing, including the manufacture of attachments for earth working machines, and 14 years of experience in forensic engineering and expert testimony. He is currently the owner of a consulting engineering firm. Kinshofer tendered, and at the hearing the Court accepted, Mr. Weller as an expert in mechanical engineering and hydraulics, with experience in engineering and manufacturing, including the manufacture of attachments for earth working machines.

[51] Like Mr. Johnson, Mr. Weller's report identifies the scope of his engagement and the materials he reviewed in reaching his conclusions. His report canvasses the history of quick couplers and their safety locking devices, focusing on particular patents in the prior art, and

canvasses the understanding the POSITA to which the Patent is directed would have about terms used in the Patent and his report and about hydraulic systems generally. (While Mr. Weller defines the POSITA as the "Skilled Person", I will continue to employ the term "POSITA" in these Reasons.) Mr. Weller's report reviews the disclosure portion of the Patent, explaining what the POSITA would understand from such disclosure, and then offers his opinion of how the POSITA would understand the Patent claims, along with an explanation of his agreement or disagreement with the construction offered in Mr. Johnson's report.

[52] Mr. Weller's proposed construction of claim 1 is such that he does not disagree with Mr. Johnson's construction, other than in relation to the seventh element of claim 1. In relation to the seventh element, I would summarize Mr. Weller's conclusions as follows:

A. The POSITA would understand the "hydraulic locking mechanism of the mounting portion" to be referring to the lock for the back pin and the hydraulic system that operates it, including the directional control valve [DCV], the two hydraulic lines that run from the DCV in the body of the excavator to the coupler, the double acting hydraulic cylinder which deploys and retracts the wedge-shaped component that prevents removal of the back pin, and the pilot operated check valve mounted at the cylinder;

B. The term "hydraulic circuit" is somewhat ambiguous. However, in the context of the Patent, the POSITA would understand the "hydraulic circuit" for the front pin lock to include the single acting ram type hydraulic cylinder which retracts the front pin lock, the DCV that controls

the cylinder, and the single hydraulic line which runs from the body of the excavator to the coupler to feed hydraulic fluid to and from the cylinder;

C. As claim 1 states that the two hydraulic systems operate independently, the POSITA would understand that they have separate hydraulic lines, valves, cylinders, and components that allow each of them to operate independently. Independent hydraulic operation means that each hydraulic system can perform its designed functions without regard for the status or functions being performed by the other hydraulic system;

D. Mr. Weller then comments on the construction of the seventh element of claim 1 in Mr. Johnson's report. The first sentence of Mr. Johnson's construction states:

> This passage clearly specifies that there is a hydraulic circuit that moves the locking element on the hook portion to the unlocked position.

Mr. Weller interprets Mr. Johnson to be saying that the front pin lock is actuated hydraulically, and he agrees with this interpretation;

E. Mr. Weller refers to the second sentence in Mr. Johnson's construction of the seventh element of claim one, which sentence states:

> This hydraulic circuit is said to operate independently of the locking mechanism on the mounting portion, rather than independent of the hydraulic circuit that forms part of the locking mechanism.

Mr. Weller describes this construction as saying that claim 1, in defining independent operation of the front pin lock, excludes the hydraulic components in the system that locks the back pin. He disagrees with Mr. Johnson, concluding that the POSITA would interpret the term "hydraulic locking mechanism" to mean the hydraulic components that deploy and retract the mechanical component, as well as the actual mechanical component. Mr. Weller states that the patent disclosure reinforces this definition by discussing the problem of hydraulic cross-talk between the hydraulic components of the back pin lock and the front pin lock and describes how this problem is avoided by keeping the two hydraulic systems separate;

F. Mr. Weller then refers to the third sentence in Mr. Johnson's construction of the seventh element of claim 1, which reads:

> This clearly implies the absence of a mechanical sequence between the safety locking device and the hydraulic locking mechanism [which was a relatively commonplace occurrence in the prior art leading up to the invention], that is, the hydraulic circuit performs the unlocking function without regard to movement of the locking mechanism."

Mr. Weller states that the POSITA would understand this sentence to mean that the invention solves the problem in some of the prior art of incorporating mechanical linking systems between the front and back pin lock systems. As the invention does not have a mechanical linking system, instead operating the two locks hydraulically through circuits that are independent of each other, Mr. Weller agrees that the invention achieves this;

G. However, Mr. Weller also refers to the seventh element of claim 1 as introducing a concept which, at the time of patent publication, was new to the field of quick couplers for earth working machines, this being hydraulic circuits to operate the front pin and back pin lock mechanisms which are independent of each other. He states that the POSITA would understand this independence between the two hydraulic circuits to obviate the need for any mechanical linkage between the two locks and that this means the two lock systems can be operated independently by the excavator operator. Mr. Weller refers to the description of a preferred embodiment in the disclosure portion of the Patent as illustrating this and indicating the inventor's intent, noting that the disclosure states that the hydraulic conduits to the two cylinders are separate, conferring the advantage that, if the seal in the cylinder operating the front lock fails, there is no effect on the locking mechanism of the back pin.

[53] Mr. Weller subsequently analyzes Kinshofer's X-LOCK products, to compare them with the seventh element of claim 1 of the Patent, and comments on Mr. Johnson's conclusions on the comparison that he had performed. Mr. Weller's conclusions can be summarized as follows:

A. The X-LOCK couplers operate on the principle of pressure modulation, rather than fluid separation as the Patent does;

B. The X-LOCK is dependent on the status of hydraulic components in the whole hydraulic system. There is no hydraulic supply independence as there is in the Patent;

C. The X-LOCK couplers require only two hydraulic lines running from the body of the excavator to the end of the excavator boom and the coupler, while the invention in the Patent requires three lines to maintain the hydraulic supply separation dictated in claim 1 of the Patent;

D. Noting Mr. Johnson's reference to the operating instructions for the X-LOCK couplers, which state that the X-LOCK front pin lock operates independently of the back pin lock, Mr. Weller states that this is a direction to the operator for operating the coupler, not an explanation of the engineering principles used in its design. While both the invention disclosed in the Patent and the X-LOCK couplers can be operated independently, the systems that deploy and retract the front and back pin locks are independent from each other only for the invention in the Patent disclosure;

E. Referencing Mr. Johnson's statement that in the X-LOCK couplers the line going to the front pin lock cylinder through the pressure valve is "independent of the operation of the hydraulic circuit that moves the locking device for the back pin", Mr. Weller comments that it is impossible for this line to power the front pin lock cylinder without receiving high-pressure from one of the hydraulic lines to the cylinder controlling the back pin lock. The line powering the front pin lock cylinder is therefore highly dependent on the operation of the hydraulic system for the back pin lock;

F. Referencing Mr. Johnson's statement that the pressure valve in the X-LOCK couplers causes the line running to the front pin lock cylinder to be hydraulically isolated from the hydraulic circuit of the cylinder for the back pin securing feature, Mr. Weller comments that this is not true. For example, he states that, when the pressure valve is open, the line to the front pin lock cylinder carries high pressure fluid from the lines for the back pin lock cylinder to the front pin lock cylinder;

G. Referencing Mr. Johnson's statement that hydraulic isolation of the two circuits in the X-LOCK couplers prohibits operational hydraulic flow or improper conditions (e.g. leakage) in one circuit from affecting the other circuit, thereby forming circuits that operate independently of each other, Mr. Weller opines that this statement is incorrect. He disagrees that hydraulic lines in the X-LOCK couplers are isolated from each other and gives examples of leakage that can occur. However, he notes that this will not cause retraction of the front pin lock, because of the lack of mechanical sequencing between the two locks and because upstream relief valves in the hydraulic circuit limit the fluid pressure to below the cracking pressure of the pressure valve, preventing the fluid from getting through to the front pin lock cylinder. Therefore, the X-LOCK couplers prevent inadvertent release of the front pin through pressure modulation, not supply line isolation; and

H. Referencing Mr. Johnson's conclusion that the X-LOCK couplers "utilize hydraulic circuits that operate independently", Mr. Weller disagrees,

stating that the Kinshofer designs have only one fluid supply system, the pair of lines going from the excavator body to the end of the boom, which are used together for all modes of operation for the front and back pin locks.

[54] Mr. Weller's report ends by stating the following conclusions:

A. The X-LOCK couplers and the invention described in the Patent all obviate the need for mechanical sequencing between the lock systems for the front and back pins, preventing the problem in some of the prior art which included such mechanical sequencing;

B. The Patent uses the concept of hydraulic isolation to prevent cross-talk between the hydraulic features operating the front and back pin locks. The POSITA would understand this to mean that the hydraulic lines to the front and back pin lock actuators are completely separate. The preferred embodiment described in the Patent is consistent with this understanding;

C. The X-LOCK couplers use only one hydraulic circuit to operate the locking systems for both the front and back pins, with branches to each linear actuator system. They use pressure modulation to control fluid flow to the branch effecting retraction of the front pin lock; and

D. The two concepts for separating the mechanical behaviour of the front and back pin lock systems are different from each other, and the X-LOCK couplers do not infringe the Patent.

[55] At the hearing of this matter, Mr. Weller provided direct evidence consistent with his report and was subjected to cross-examination.

(4) Analysis of Expert Evidence and Construction of the Patent

[56] Each of the parties has advanced various arguments as to why the evidence of the other's expert should be discounted and its own expert evidence should be preferred. One of the principal arguments made by both parties is that the other's expert, when construing the seventh element of claim 1, erred in his treatment of the disclosure portion of the Patent. Having reviewed these arguments, the evidence of the experts, and the applicable jurisprudence, I find myself with some concerns, similar to those expressed by Justice Zinn in *Janssen-Ortho*, with respect to the analysis by each of the experts in the present case.

[57] *Janssen-Ortho* explains that the wording of claims of a patent should be examined before considering what, if any, effect the disclosure has upon the interpretation of the claims. In that case, Justice Zinn found that the applicants' experts failed to come to any view as to the meaning of the claims at issue before turning to the disclosure. In the present case, Mr. Weller's report devotes considerable time to review and analysis of the disclosure sections of the Patent, including what the POSITA would understand from the disclosure, before turning to the claim language and how that language would be interpreted by the POSITA.

[58] I would have preferred to see a focus upon the meaning of the claims in the Patent before turning to interpretation of the disclosure, to ensure that the jurisprudential principles surrounding claim construction have been respected. However, in reviewing the substance of Mr. Weller's analysis, as opposed to the structure of his report, I find that his analysis is sufficiently consistent with these principles. Recourse to the disclosure portion of a Patent is unnecessary where the words of the claim are plain and unambiguous (see *Schmeiser*). However, Mr. Weller concluded early in his analysis of the construction of the seventh element of claim 1 that the definition of the term "hydraulic circuit", on its own, is somewhat ambiguous (having previously offered a generic definition as a collection of hydraulic components though which hydraulic fluid flows). I agree with Mr. Weller's conclusion as to the ambiguity of this term. Therefore, it was permissible for him to have recourse to the disclosure to assist in understanding the meaning of this term. He concludes that, in the context of the Patent, the POSITA would consider this term to include the hydraulic cylinder which retracts the front pin lock, the DCV that controls the cylinder, and the hydraulic line that runs from the body of the excavator to the coupler to feed hydraulic fluid to and from the cylinder.

[59] The meaning of the term "hydraulic locking mechanism of the mounting portion", as employed in the seventh element of claim 1, is essential to construing the patent. Mr. Weller does not expressly conclude this term to be ambiguous before turning to the disclosure to assist with its interpretation. However, my view is that such term as employed in the claim language is ambiguous, in particular as to the significance of the word "hydraulic" within this term.

[60] In reaching this conclusion, I have taken into account Cascade's argument that the interpretation of this term is assisted by the third paragraph of claim 1, which reads: "a downwardly facing mounting portion positioned near one end of the coupler, comprising a hydraulic locking mechanism to lock a back pin of the implement in the mounting portion." Cascade argues that this paragraph indicates that the "hydraulic locking mechanism" is positioned near one end of the coupler, meaning that this term cannot be intended to incorporate the hydraulic circuit which powers the locking mechanism, as that circuit includes hydraulic components located on the boom arm and at the cab of the excavator. I agree with Cascade that this argument favours its interpretation, i.e. that the term "hydraulic locking mechanism" refers to the locking mechanism itself, which is hydraulically actuated, but not to the circuit that powers such actuation. However, I do not consider this argument to be determinative of the interpretation so as to eliminate the ambiguity in the term.

[61] In so concluding, I note that Cascade's own expert appears to acknowledge that this term encompasses, at least in some measure, the hydraulic componentry which actuates the locking mechanism. In the portion of his report identifying the POSITA, Mr. Johnson refers to the Patent as follows:

> The 065 Patent describes and relates to a quick hitch with an automatically locking retention of the front pin, which is unlocked by a hydraulic circuit that operates independently of the locking mechanism and hydraulic system for the back pin, thereby significantly reducing the potential for an improperly attached implement. [emphasis added]

[62] Mr. Johnson does not elaborate upon what he means by the phrase "hydraulic system". However, his characterization of the Patent in this matter supports a conclusion that

Kinshofer's proposed construction, that the term "hydraulic locking mechanism" refers to both the mechanical components of the back pin locking mechanism and the hydraulic circuit which actuates them, is at least arguable. In my view, the meaning is not clear from a review only of the language of the claim portion of the Patent and recourse to the disclosure is both permissible and necessary in order to properly construe the Patent.

[63] Turning to such recourse, Mr. Weller refers to the disclosure's discussion of the problem of hydraulic cross-talk between the hydraulic components of the back pin lock and the front pin lock and how this problem is avoided by keeping the two hydraulic systems separate. He quotes the following language from the portion of the disclosure entitled "Detailed Description of Preferred Embodiments of the Invention":

> Hence the hydraulic circuit for the safety locking device (front pin) is independent of the hydraulic circuit used for operating the ram 16 of quick hitch locking mechanism (back pin lock). As a result of this any failure in the hydraulic circuit e.g. failure of the seal 38 in the piston 36 (the rod in the hydraulic cylinder in the front pin lock system) will have no effect on the locking mechanism of the quick hitch.

[64] I note that the parenthetical language in the above quotation was added by Mr. Weller, but I agree that this language accurately captures the components to which the quotation refers. Drawing on this quotation, Mr. Weller states that the disclosure is discussing how the invention prevents cross-talk between two hydraulic circuits in the front and back pin lock mechanisms. He notes that the disclosure is expressly saying that it is the two hydraulic circuits that are independent and that the disclosure is using the term "locking mechanism" to include the hydraulic components that actuate the mechanical components in the back pin lock system.

[65] Mr. Weller's analysis of the seventh element of claim 1, and his comments on Mr. Johnson's construction, also rely on a statement in the disclosure portion of the Patent, again under the heading "Detailed Description of Preferred Embodiments of the Invention", to the effect that the hydraulic supply conduits to the two cylinders (i.e. the cylinders that operate the two locking mechanisms) are separate.

[66] Mr. Weller's reliance on the disclosure in his report can be contrasted with Mr. Johnson's report, from which reference to the disclosure is largely absent. Mr. Johnson's report does refer to having reviewed the Patent as a whole. Further, in his oral evidence in chief, he explained that he approached the interpretation of the patent claims by first reading the patent from beginning to end to get an understanding of what the patent lays out. He stated that one would then look at the claims to identify the features the patent is trying to claim are new and what comprises this new invention, and that one can then go back to the descriptive or exemplary parts of the patent to put into perspective what the claims of the patent are referring to. Mr. Johnson testified that the description does not define the patent, but it helps one to understand the patent.

[67] I find no fault with Mr. Johnson's description of his approach to construction of the Patent. However, it is not apparent to me from his analysis that Mr. Johnson did in fact take the disclosure portion of the Patent into account, or that he did so sufficiently, in developing his construction of the claim language.

[68] Mr. Johnson's conclusion is that the language in the seventh element of claim 1 clearly implies the absence of a mechanical sequence between the safety locking device and the hydraulic locking mechanism; that is, the hydraulic circuit performs the unlocking function without regard to the movement of the locking mechanism. He refers to the mechanical sequence as being a relatively commonplace occurrence in the prior art leading up to the invention. I note that it appears to be common ground between the parties that such mechanical sequencing was a shortcoming of the prior art which the invention disclosed in the Patent was intended to address. This aspect of the prior art is expressly described in the "Background to the Invention" section of the disclosure portion of the Patent, which refers to the drawbacks of known safety devices.

[69] However, the same section of the Patent goes on to refer to the problem that many known safety lock devices are controlled by the hydraulic circuit that operates the primary locking mechanism. It explains that failure in the hydraulics of one locking mechanism can result in the other locking mechanism failing as well, with potentially disastrous results if this leads to the implement falling from the quick hitch. As an example, the Patent refers to a seal failure in the ram of one of the locking devices, resulting in hydraulic fluid bypass. I interpret this to be the problem to which Mr. Weller refers as "hydraulic cross-talk" (although the Patent does not use this term).

[70] In short, the Patent discloses drawbacks in the prior art arising from both mechanical dependencies and hydraulic dependencies between the locking mechanisms for the two pins. While Mr. Johnson's construction of the Patent refers to the former, it entirely fails to take into

account the latter. Mr. Johnson's construction similarly fails to take into account the descriptions of the preferred embodiments of the Patent which, as detailed above in the analysis of Mr. Weller's report, also speak to the independence between the hydraulics of the two locking mechanisms. As noted in *Janssen-Ortho* at para 119, one should not reach a firm conclusion as to the meaning of the words in the claims being construed without having tested one's initial interpretation against the words of the disclosure.

[71] In summary, both experts have departed from what I would describe as optimal adherence to the principles applicable to patent claim construction. However, I consider Mr. Weller's approach to be the better of the two, as it takes into account the Patent disclosure's identification of the problem in the prior art of hydraulic dependence between the two locking systems, as well as the disclosure's explanation of how the preferred embodiment of the Patent addresses this problem. I consider this information to be necessary for purposes of construing the ambiguous language in the seventh element of claim 1. I am conscious that the disclosure cannot be relied on to vary the scope or ambit of the claims (see *Schmeiser*). However, I do not regard Mr. Weller's analysis to contravene this principle, as it is the claim language which employs the phrase "hydraulic locking mechanism" and it is the inclusion of the term "hydraulic" in this phrase to which this analysis is directed.

[72] In preferring Mr. Weller's construction to that of Mr. Johnson, I am conscious that the Court is not required to choose between the constructions offered by the experts but rather should, with the assistance of the expert evidence, reach its own conclusion as to the proper

construction (see *Eurocopter*). In doing so, I have considered certain other arguments raised by Cascade in response to Mr. Weller's evidence.

[73] Cascade notes that Mr. Weller acknowledges that both the invention disclosed in the Patent and the X-LOCK couplers can be operated independently, although he draws a distinction between independent operation from the perspective of the operator in the cab and independence from an engineering or systems perspective. Cascade argues that the claim language requires only independent operation and not independent systems.

[74] This distinction is well illustrated by the analogy of a gas fired kitchen range as explained in Mr. Weller's report. Mr. Weller notes that the cook can operate any of the burners on the range either one at a time or in combination with the others. To the cook, each of the burners can be operated independently. However, to the engineer who designed the range, the technical means by which the burners operate may or may not be independent. One way to design the ranges is to have a separate gas line from the utility source to each burner. Another way is to run one line from the utility source to a manifold inside the range which splits the gas so that one feed from the manifold goes to each burner. In the first design, the gas lines in the range are independent, and in the second they are not, even though the operation of the burners appears independent to the cook.

[75] Turning to the claim language, the monopoly requires "using a hydraulic circuit which operates independently of the hydraulic locking mechanism of the mounting portion." To the extent this language could be argued to support either of the two types of operational

independence highlighted by the gas range analogy, I again consider recourse to the disclosure in the Patent to be necessary to resolve the contest. The problem to be solved from the known locking devices, and the solutions reflected in the preferred embodiment section of the Patent, do not relate to independence from the perspective of an operator. They relate to independence of the sort such that one locking device will not affect the other locking device.

[76] I consider this interpretation to be consistent with the definitions offered by both experts for the language "operates independently" found in claim 1. Mr. Weller states that independent hydraulic operation means that each hydraulic system can perform its designed functions without regard for the status or functions being performed by the other hydraulic system. He also notes that Mr. Johnson in his report provided the following definition consistent with this understanding:

> **Operates Independently**: the state in which a component or a group of components are separate and unaffected by the function or condition of some other component or group of components. The components may be of the same type, such as hydraulic, but the operation (or the capability to operate) of one is not conditioned on or dependent on the other.

[77] I agree with Mr. Weller's opinion that these definitions are consistent and, particularly given that this is an area in which the parties' experts appear to be on common ground, I find that the expert evidence favours Mr. Weller's construction of element seven of claim 1 as requiring that the hydraulic circuit, which moves the front pin safety locking device into an unlocked position, be able to perform its designed functions without regard to the status or function of the back pin hydraulic locking mechanism. This is a construction based on systemic independence rather than independence from the perspective of the operator.

[78] Cascade also notes that Mr. Weller admitted on cross examination that the Patent discloses no particular fluid paths or hydraulic schematics and that there are many possible configurations of hydraulic componentry which would achieve the purpose described in the claims. Cascade therefore argues that the particular hydraulic configuration employed in connection with the safety locking device is a non-essential element of the invention claimed in the Patent. In that respect, I agree with Cascade that the particular hydraulic configuration is non-essential. I would reach this conclusion regardless of whether I was considering this issue from the perspective of the inventor's intent, as expressed or inferred from the claims, or from the perspective of a skilled reader at the time the patent was published considering whether variation of the hydraulic configuration would make a difference to the way the invention works (see *Free World Trust*).

[79] I would similarly conclude that it is unnecessary, for the purposes of claim construction, to identify a particular collection of hydraulic components as falling within the term "hydraulic circuit" in the language of the seventh element of claim. I also place no reliance on what is apparently the commercial innovation in the X-LOCK products, the ability to operate the locking mechanisms for both pins with two hydraulic lines rather than three, so as to avoid having to install a third line along the boom of the excavator.

[80] Rather, while the particular configuration of hydraulic componentry is not itself essential, in my view it is an essential element of the invention disclosed in the Patent that the particular hydraulic componentry confers the independence described above.

[81] I would similarly analyse Cascade's argument that Mr. Weller's construction of the Patent, as requiring that the front and back pin locks be controlled by separate hydraulic circuits, should be rejected because it is inconsistent with the preferred embodiment of the invention disclosed in the Patent and with the commercial embodiment represented by the I-LOCK coupler. Cascade supports this argument with the fact that, in these embodiments, the hydraulic circuits for the front and back pin locks share at least some hydraulic components, such as the pump, DCV and tank. I would not adopt a construction of the Patent that is expressed as a requirement for separate hydraulic circuits. Rather, the requirement is that the hydraulic circuit unlocking the front pin safety locking device operate independently (within the meaning canvassed above, and both mechanically and hydraulically) of the back pin locking mechanism.

[82] In summary, in reliance on the expert evidence, to the extent accepted and/or discounted above, and the above analysis, I construe the disputed language of the seventh element of claim 1 of the Patent to require that the hydraulic circuit (meaning the collection of hydraulic components) that moves the front pin safety locking device into an unlocked position operates independently of (meaning it is able to perform its designed functions without regard to the status or function of) the back pin hydraulic locking mechanism (meaning the mechanical components of the back pin lock and the hydraulic components that actuate these mechanical components).

(5) Infringement of the Patent

[83] It remains to determine whether the X-LOCK products infringe the Patent as construed above. My conclusion is that they do not.

[84] The parties' experts diverge in their opinions as to whether the Patent is infringed. As explained earlier in these Reasons, Mr. Johnson opines that the operation of the hydraulic circuit to disengage the front pin is independent of the operation of the hydraulic circuit that moves the locking device for the back pin, because one is hydraulically isolated from the other by the pressure switching valve. Mr. Weller disagrees, opining that the operation of the pressure valve does not result in hydraulic isolation.

[85] My conclusion on this issue turns not on preferring one of these opinions over the other, as they differ principally on the meaning of hydraulic isolation, not on the manner in which the X-LOCK hydraulics operate. The question is whether the X-LOCK products, operating the front and back pin locking systems as they do through what Mr. Weller refers to as pressure modulation, contain all the essential elements of the invention as claimed in the Patent (as construed above).

[86] I find that the X-LOCK products do not infringe the Patent, because the essential element of the Patent (that the hydraulic componentry that moves the front pin safety locking device into an unlocked position operate independently of the hydraulic componentry of the back pin locking mechanism) is missing from the X-LOCK products. In order for the front pin lock to be disengaged, the pressure in one of the hydraulic lines which operates the back pin locking mechanism must exceed a particular pressure, such that the pressure valve permits flow of

hydraulic fluid to the cylinder that retracts the front pin lock. Therefore, it cannot be said that the hydraulic componentry that moves the front pin safety locking device into an unlocked position is able to perform that function without regard to the status or function of the hydraulic componentry of the back pin locking mechanism.

[87] In reaching this conclusion, I am conscious of Mr. Weller's opinion that the X-LOCK couplers do, through pressure modulation, prevent inadvertent release of the front pin. However, the fact that the Kinshofer products may achieve the same safety objectives as the invention in the Patent does not translate into infringement, if such objectives are achieved in a different way than that which is claimed.

[88] I therefore find that the Defendants have not infringed Cascade's patent.

C. *Whether Kinshofer has induced or procured others to infringe the Patent*

[89] Given my finding that the Defendants' X-LOCK products do not infringe Cascade's Patent, it necessarily follows that the Defendants have not induced or procured infringement of the Patent.

D. *Whether Cascade is entitled to declaratory relief, injunctive relief, delivery up/destruction, reasonable compensation, damages and/or profits, costs and interest.*

[90] Given the above findings, Cascade is not entitled to any of the relief claimed.

VI. Conclusion and Costs

[91] The result of my findings is that Cascade's action is dismissed.

[92] Each of the parties has claimed costs in the event of success in this matter. However, the parties advised at the hearing that they would prefer an opportunity to confer on costs following receipt of the result of the liability determination and that, failing agreement, they would provide limited representations on costs to the Court. My Judgment will so reflect.

JUDGMENT

THIS COURT'S JUDGMENT is that:

1. The Plaintiff's action is dismissed; and

2. The parties shall confer with each other on the disposition of costs in this matter and, within 30 days of the date of this Judgment, shall:

    a. advise the Court in writing if agreement has been reached on such disposition; or

    b. failing such agreement, provide the Court with brief written representations on such disposition.

"Richard F. Southcott"
Judge

FEDERAL COURT

SOLICITORS OF RECORD

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