

E-BUSINESS PATENT INFRINGEMENT: QUEST FOR A DIRECT INFRINGEMENT CLAIM MODEL*

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I. OVERVIEW: BEYOND SEPTEMBER 11th

The business world is now slowly starting to move past the events of September 11th: Global transactions now move ever more quickly away from face to face meetings to the world of E-business. Unique patent infringement challenges are raised by multiple party transactions, particularly the instantaneous, cross-border transaction. Often, no one party performs all aspects of a patented invention, which is spread amongst two or more sovereign states.

An E-business transaction typically involves several parties sequentially and electronically interacting at different work stations. There may be a customer terminal, a central server, and a distribution or manufacturing center. There may be one or two or more servers that are involved with the overall transaction. In terms of patent protection to cover all or part of the E-business transaction under American patent law, an initial and primary challenge is to create a claim model where there is an act of “direct” infringement at only *one* station by *one* party — whether it is the party who controls the business and operates the server or the customer at a remote terminal or someone else, elsewhere.

Two different sets of claims are needed to cover the activities of a competitor who utilizes a patented E-commerce system: In the first instance, there is at least one set of claims where the actions at the server — controlled by the owner of the E-business — constitute acts of “direct” infringement: Then, liability is placed squarely on the business owner. But, this does not provide a complete framework of protection against the business owner; there is a loophole with this type of claim coverage where the server is placed offshore (and outside the realm of direct infringement under American patent law). Specifically to deal with this possibility, it is useful to have at least one set of claims where *direct* infringement takes place at the customer’s (or some other remote) terminal located in the United States: Here, the operation of the server may constitute an act of *indirect* infringement complementary to the direct infringement by the customer.

The present paper is focused substantially exclusively on United States patent law and does not take into consideration claim models that are necessary or desirable for protection in Japan or other countries. It is hoped that out of the current SOFTIC symposium that through the interaction of global panelists and participants from experts on the different patent systems of the world there will be two results:

First, we must learn what types of claims are necessary for protection in Japan, Europe *and* the United States: To identify differences should an object of this conference. Only where global protection covering at least these three areas can there be a fair use of the patent system.

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Second, as to any differences, a better understanding will further the movement toward global simplification and harmonization: It is difficult in *any* technology to craft patent claims suitable for the global patent village. *A fortiori*, the task is geometrically more difficult in the complex world of transborder practice of inventions in the real world of E-commerce.

The statutory scheme for consideration of infringement liability is considered in § II, *The Statutory Scheme for Patent Infringement*. Recognizing the challenge of finding a claim that is infringed by one party, this question is addressed under §III, *Searching for a Claim that has a Direct Infringer*. The challenges of finding a claim where the business operator of the server is an infringer is considered. See §IV, *Pinning Infringement Liability on the Business Operator*.

Because the topic has general importance and is specifically a part of this SOFTIC symposium, this paper also considers whether there should be an implementation of a transborder enforcement of E-method claims in a single court for a single invention — whether that tribunal is in Tokyo, the Hague, London, Delaware, Düsseldorf or elsewhere. See § V, *Going Beyond Mars: Transborder Enforcement*.

II. THE STATUTORY SCHEME FOR PATENT INFRINGEMENT

There are two general categories of patent infringement under U.S. law, "direct" and "indirect" infringement. If there is no direct infringer, then as a general rule there can *never* be an indirect infringer. But, if, for example, a customer is a "direct" infringer, then it may be possible that a company that conducts business with the customer may be an "indirect" infringer: Then, it is necessary only to sue the indirect infringer, without a lawsuit against the direct infringer.

But, unless *someone* is a direct infringer, the model collapses.

A. Direct Infringement

For direct infringement to occur, one party must use or sell *the patented invention* (or perform some other direct act of infringement). The direct infringement statute says "[W]hoever * * * uses * * * or sells a [] patented invention[] within the United States" is a direct infringer.¹ In a claim to a combination of elements or steps, the "patented invention" means the

¹35 USC § 271(a). The complete text provides that "[e]xcept as otherwise provided in this title, whoever without authority makes, uses, offers to sell or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent."

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entire, claimed invention. This means that if there are elements or steps (a), (b) and (c), then there is a direct infringement only if *all* of the elements or steps (a), (b) *and* (c) are performed in the United States. This is the so-called "all elements" rule of the *Pennwalt* case.²

B. Indirect Infringement

Indirect infringement by the owner or operator of an E-business is a particularly important challenge for the patentee. Perhaps only through a theory of indirect infringement may there be a possibility to capture the owner of the E-business who operates his server offshore: Thus, where the owner of the E-business is entirely offshore (and performs no act of infringement within the United States), there is no way to find direct liability under the American patent law:

Instead, *indirect* infringement may be shown that is tied to the direct infringement of a different party operating within the United States. Here, a claim should be crafted where the customer may well be a direct infringer. Then, it may be possible that the owner of the business who operates the offshore server may have full infringement liability as an *indirect* infringer: Then, it is still possible to sue the offshore user of the server for such indirect infringement by proving, for example, his offshore active inducement coupled with an act of direct infringement by the American-based customer.

Additionally, in the case of claims to a process of making a product, use or sale of that product in the United States is also an act of infringement by virtue of a 1988 amendment to the patent law, 35 USC § 271(g): "Whoever without authority imports into the United States or offers to sell, sells, or uses within the United States a product which is made by a process patented in the United States shall be liable as an infringer, if the importation, offer to sell, sale, or use of the product occurs during the term of such process patent."

²*Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931 (Fed. Cir. 1987) (en banc), *cert. denied*, 485 U.S. 961, 1009 (1988); see also *DeMarini Sports, Inc. v. Worth, Inc.*, 239 F.3d 1314, 1332 (Fed. Cir. 2001) (Linn, J.).

There is a statutory exception for a combination of elements where the components are sold, unassembled, in the United States but only assembled offshore. See 35 USC §§ 271(f)(1) ("Whoever * * * supplies * * * in or from the United States all or a substantial portion of the components of a patented invention, where such components are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer."). This was introduced to deal with the contrary holding in *Deepsouth Packing Co., Inc. v. Laitram Corp.*, 406 U.S. 518 (1972).

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1. Active Inducement

If a customer is a direct infringer, a business that "actively induces" the customer to directly infringe is also liable as an indirect infringer. The "active inducement" provision of the patent infringement statute provides that "[w]hoever actively induces infringement of a patent shall be liable as an infringer."³

2. Contributory Infringement

Process patent contributory infringement occurs when someone "sells within the United States * * * a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing [that it is] especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use".⁴

There are generally⁵ two elements necessary for a party to be a contributory infringer of a process patent when he or she sells the material or apparatus used in a step of the claimed process:

First, the person must *know* that the specific material or apparatus is "made or especially adapted for use" in the infringing process.⁶

Second, even if the material or apparatus *is* thusly made or especially adapted, there still is no contributory infringement unless that material or apparatus is "not a staple article or commodity

³35 USC § 271(b).

⁴35 USC § 271(c) ("Whoever offers to sell or sells within the United States or imports into the United States a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.")

⁵There is also an exception under 35 USC § 271(f)(2) for offshore assembly situations as in *Deepsouth*, a parallel to the modification of "all elements" rule for the export of unassembled components under 35 USC § 271(f)(1) as a direct infringement.

⁶35 USC § 271(c).

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of commerce suitable for substantial noninfringing use".⁷ Thus, even if a particular material is clearly useful for an infringing process, if it is already a commercial product for other uses, there can never be a case of "contributory infringement." (This second element of contributory infringement is not a part of the requirement for "active inducement", which is a separate statutory provision.)

C. "Partial" Infringement Leaves No Direct Infringer

What happens if there are steps (a), (b) and (c) in a claim and one party practices only steps (a) and (b) without step (c)? And, a *different* party practices step (c) as an independent matter (as opposed to being an agent or otherwise acting on behalf of the first party)? Assuming the two parties are operating independently of each other, then *neither* party has practiced the complete *claimed* invention. There is therefore no act of direct infringement of the complete invention by anyone.

The result of noninfringement follows from the "all elements" rule: If there is a claim with two or more steps or elements, there can be an act of direct infringement only if *all* the elements of the claim are practiced by the direct infringer. If one party practices less than *all* of the steps or elements of a claim, then there is only a partial completion of the act of direct infringement: This is *not* an act of direct infringement.

Then, there being no act of direct infringement by anyone, there also can be no act of *indirect* infringement by anyone.

1. Recent Movement Toward a Strict Construction

More and more in recent years the patent owner has been ever more strictly held to the limits of his claims. This trend forms a backdrop for an *already* strict viewpoint against the patent owner, but one that is in a state of flux, particularly until the Supreme Court issues its opinion in the *Festo* case.⁸

⁷*Id.*

⁸*Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd., cert. granted*, 121 S.Ct. 2519 (2001), *opinion below*, 234 F.3d 558 (Fed. Cir. 2000) (en banc). When this paper was prepared, the Supreme Court had not as yet set the case for oral argument; oral argument may be expected in Winter 2002. (There is no strict time limit set by the Supreme Court for making a decision; the court will probably decide the case before its session adjourns in June 2002. Alternatively, it could dismiss the appeal or reset the case for argument in the following term that commences October 2002.)

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2. The *Pennwalt* Line of Cases for Combination Claims

A generation ago, and particularly up until 1988, there was a vocal, minority judicial view that one could look to the invention "as a whole" and find infringement of a combination claim of elements (a), (b) and (c) under the doctrine of equivalents even where the entire combination was not practiced by a single party. Thus, if step (c) were entirely trivial and completely unimportant insofar as the overall result achieved, then the practice of steps (a) and (b) was said by some to constitute infringement, even if the "trivial" or "unimportant" step (c) were completely lacking in the accused infringement. Under this minority view, some courts could have a sympathy toward finding infringement where the "essence" of the invention were practiced by an accused infringer, even if the overall patented combination were not, literally, directly used.

The minority view was put to rest in 1988 in an *en banc* opinion of the Federal Circuit in the very important leading case, the *Pennwalt* case.⁹ Ever since *Pennwalt* it has been clear that if there are multiple steps of a patented combination, there can be direct infringement if and only if every element of the claim is practiced. The only exception is that if the accused infringement has an *equivalent* of a missing element, this may permit a finding of infringement under the doctrine of equivalents. Even here, the seeming liberality shown shortly after *Pennwalt* — where the strict ruling of that case was distinguished to find infringement by Sumitomo in *Corning Glass*¹⁰ — has been tempered in recent times by cases such as *DeMarini Sports*.¹¹ The Federal Circuit with its *en banc* limitations put on the doctrine of equivalents in the *Festo* case only serves to further underline the strict construction trend against the patentee.

3. The "Unimportant" Element

Certainly, "inputting" data or "transmitting" data as part of an overall combination claim is,

⁹*Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931 (Fed. Cir. 1987) (en banc), cert. denied, 485 U.S. 961, 1009 (1988).

¹⁰*Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251 (Fed. Cir. 1989).

¹¹*DeMarini Sports, Inc. v. Worth, Inc.*, 239 F.3d 1314, 1332 (Fed. Cir. 2001) (Linn, J.) ("*Corning Glass* is factually quite different from the instant case, and therefore, does not control the outcome here. In *Moore U.S.A., Inc. v. Standard Register Co.*, 229 F.3d 1091 (Fed. Cir. 2000), we noted that "[w]hile *Sanitary Refrigerator [Co. v. Winters*, 280 U.S. 30 (1929)] undisputedly refers to 'reciprocal changes,' it nowhere authorizes the rearrangement of claim limitations." *Id.* at 1108. Similarly, we note that *Corning Glass* does not authorize rearrangement of structural claim limitations.").

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arguendo. a trivial limitation in terms of establishing patentability of the combination. Yet, the Federal Circuit has repeatedly emphasized that the *Pennwalt* "all elements" rule applies strictly as to *all* limitations, no matter how minor or how little they relate to patentability of the overall combination.

4. A Totally "Insubstantial" Change

Failure to prove that all elements or their equivalents are present in an accused infringement is fatal to establish direct infringement under the doctrine of equivalents. As explained by Circuit Judge Linn, "the question of insubstantiality of the differences is inapplicable if a claim limitation [or element] is totally missing from the accused device."¹²

D. "Joint Infringement" Theory

"Joint infringement" has been widely known under one Supreme Court and numerous appellate court opinions, but this classic usage does *not* implicate any partial infringement. An odd usage dealing with partial infringement is found in *Metal Film v. Metlon*¹³ which, however, has not found adoption by the Federal Circuit.

1. Joint Infringement is not Partial

"Partial" infringement has been urged as being a possible infringement under a "joint infringement" theory. However, under Supreme Court and appellate case law, "joint infringement" has no such meaning. For at least 127 years¹⁴, "joint infringement" has been conventionally understood in the American patent case law to refer to the liability of more than one infringer — but always in the context of Supreme Court and appellate usage where at least one of the infringers is a direct infringer of the entire, patented invention.

¹²*DeMarini Sports, Inc. v. Worth, Inc.*, 239 F.3d 1314, 1332 (Fed. Cir. 2001) (Linn, J.) (citing *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 33-34 (1997); *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 934-35 (Fed. Cir. 1987) (en banc), *cert. denied*, 485 U.S. 961, 1009 (1988)).

¹³*Metal Film Co. v. Metlon Corp.*, 316 F. Supp. 96 (S.D. N.Y. 1970).

¹⁴See *Wells v. Jacques*, 29 F.Cas. 658, 662 (No. 17,398)(C.C.N.J. 1874).

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The Supreme Court has used the terminology just one time — in the *Aro* case — again consistent with a fact pattern where there was an actual, individual direct infringement by an individual party.¹⁵ The Federal Circuit has never used the terminology "joint infringement"; but, there are eleven pre-Federal Circuit regional circuit opinions that have used the same terminology in a manner consistent with the Supreme Court usage in *Aro*.¹⁶

Just as in the *Aro* case of the Supreme Court, all eleven Circuit Court opinions that have used "joint infringement" have dealt with fact patterns where at least one party, alone, was a *direct* infringer under what is today 35 USC § 271(a).¹⁷

2. Metal Film v. Metlon, a Different Definition

There *is*, however, a limited number of trial level cases — all before the era of the Federal Circuit — where the terminology "joint infringement" has been used to describe a case where a party made, used or sold less than all the elements of a claimed invention; even here, the third party who performed the missing element was contracted to do so by the other party. This was the factual situation in *Metal Film v. Metlon*.¹⁸ Furthermore, it was decided before the 1988 strict "all elements" *en banc* ruling in *Pennwalt*.

Even before the creation of the Federal Circuit, *Metal Film v. Metlon* was disavowed by an

¹⁵*Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 506 (1964).

¹⁶*Minnesota Min. & Mfg. Co. v. Technical Tape Corp.*, 313 F.2d 306, 307 (7th Cir. 1963); *Wells v. Universal Pictures Co.*, 166 F.2d 690, 692-93 (2nd Cir. 1948); *Schiff v. Hammond Clock Co.*, 69 F.2d 742, 745 (7th Cir. 1934); *Gerosa v. Columbia Metal Stamping & Die Co.*, 8 F.2d 611 (6th Cir. 1925); *Dowagiac Mfg. Co. v. Deere & Webber Co.*, 284 F. 331, 333 (8th Cir. 1922); *Taggart v. Bremner*, 236 F. 544, 546-47 (7th Cir. 1916); *Reed v. Cropp Concrete Machinery Co.*, 225 F. 764, 769 (7th Cir. 1915); *Bliss v. Spangler*, 217 F. 394, 399 (9th Cir. 1914); *Capewell Horse Nail Co. v. Green*, 188 F. 20, 26 (2nd Cir. 1911); *Simonds Rolling-Mach. Co. v. Hathorn Mfg. Co.*, 93 F. 958, 963 (1st Cir. 1899); *Consolidated Car-Heating Co. v. West End St. Ry. Co.*, 85 F. 662, 663 (1st Cir. 1898).

¹⁷*Id.*

¹⁸A second trial opinion also uses "joint infringement" in a similar vein. See *Decca Ltd. v. United States*, 206 USPQ 1041 (Ct. Cl. Trial Div. 1979), *subsequent proceedings*, 640 F.2d 1156 (Ct. Cl. 1980).

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appellate court in *Mobil Oil v. Filtrrol*.¹⁹ It "question[ed] whether a method claim can be infringed when two separate entities perform different operations and neither has control of the other's activities."²⁰ In dismissing the theory, the Ninth Circuit said that "[n]o case in point has been cited" that supports this viewpoint.²¹

For the Federal Circuit to accept the joint infringer theory it would have to move in the direction of a relaxation of the "all elements" rule of *Pennwalt*. If anything, the trend in the law of the Federal Circuit is manifested by *DeMarini Sports* where failures to provide the appropriate claims to capture infringers will be viewed unsympathetically.

In addition to appellate court repudiation of *Metal Film v. Metlon*, there are three trial court opinions that distinguish the case, *du Pont v. Monsanto*,²² *Avery Dennison*²³ and *Faroudja Laboratories*.²⁴

In *du Pont v. Monsanto*, Chief Judge Longobardi distinguished the "joint infringement theory" of *Metal Film v. Metlon*. Monsanto performed one step of a patented process and then sold the product of that step of the process to a third party who was a direct infringer. Du Pont sought liability on the part of Monsanto under a "joint infringement theory". Denying application of this theory, the trial court showed that Monsanto did not perform the complete invention:

The cases cited by [the patentee] in support of its joint infringement theory are distinguishable. The *Shields [v. Halliburton Co.]*, 493 F.Supp. 1376 (W.D.La.1980),

¹⁹*Mobil Oil Corp. v. Filtrrol Corp.*, 501 F.2d 282, 291-92 (9th Cir. 1974).

²⁰*Id.*

²¹*Id.*, 501 F.2d at 283.

²²*E. I. du Pont de Nemours & Co. v. Monsanto Co.*, 903 F.Supp. 680 (D.Del. 1995), *decision aff'd on other grounds rendering infringement issue moot*, 92 F.3d 1208 (Fed. Cir. 1996) (Archer, C.J.) (nonprecedential).

²³*Avery Dennison Corp. v. UCB Films PLC*, 1997 WL 567799 (N.D. Ill. 1997), *clarifying opinion as to 35 USC § 271(g)*, 1997 WL 665795 (1997).

²⁴*Faroudja Laboratories, Inc. v. Dwin Electronics, Inc.*, 1999 WL 111788 (N.D.Cal. 1999) (order granting summary judgement of noninfringement), subsequent proceedings on different patent, 76 F.Supp.2d 999 (1999), 83 F.Supp.2d 1119 (N.D.Cal. 2000).

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aff'd, 667 F.2d 1232 (5th Cir.1982)], *Crowell [v. Baker Oil Tools, Inc.]*, 143 F.2d 1003, 1004 (9th Cir.), and *Metal Film [Co., Inc. v. Metlon Corp.]*, 316 F.Supp. 96, 110 n. 12 (S.D.N.Y.1970),] cases establish that a party cannot avoid liability for infringement by having someone else perform one or more steps of a patented process for them. * * * See *Ralston Purina Co. v. Far-Mar-Co., Inc.*, 586 F.Supp. 1176, 1226 (D.Kan.1984) ("[i]t is well settled that a party cannot avoid infringement merely by having a third party practice one or more of the required steps."), *aff'd in part*, 772 F.2d 1570 (Fed. Cir. 1985). None of these cases holds * * * that the third party who performs one step of a patented process and then sells the resulting product to the direct infringer * * * is also liable as a *direct* infringer under § 271(a). * * *.²⁵

III. SEARCHING FOR A CLAIM THAT HAS ANY DIRECT INFRINGER

For there to be a finding of indirect infringement under United States law, the general rule is that there must be a *direct* infringer before one can consider any liability for indirect infringement. A necessary goal for any claim to have commercial value is that the claim admits the possibility of a direct infringement.²⁶

A. The Customer-Server-Distributor Model:

Customer C (Term.a), Bus. B (Serv. S), Distr. D (Term.c)

The model pictured here is used to illustrate an E-business patent situation where software is integrated into a system with a server that receives data from a first remote terminal, "crunches" the data, and then does something with that data — whether it is to send a signal back to the original (first) remote terminal to trigger some action there or whether it is to a second remote terminal to trigger an action there, such as sending an order for a product that is to be sent somewhere. In the most simple form of this representation, one has

a first terminal — "Terminal_a", operated by Customer C

a server — "Server S", operated by a Business B and

a second terminal — "Terminal_c", operated by a Distributor D.

²⁵*du Pont v. Monsanto*, 903 F.Supp. at 734-35.

²⁶Without *someone* being a direct infringer, there can be no contributory infringement of any kind.

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The overall business pattern may be therefore seen as involving the following set of operations:

- (1) The Customer **C** inputs data or answers questions on Terminal_a and at the appropriate time when he is finished following all instructions, he clicks a mouse which triggers a signal;
- (2) The signal travels to the Server **S** that "crunches" the data under a special computer program that is novel and unobvious;
- (3) After the "crunching" step (2), a signal is sent from Server **S** to the Distributor **D** at Terminal_c, whereupon the Distributor **D** fills an order and ships a product to some destination (that could either be the Customer **C** at Terminal_a or yet another remote recipient).

There are a variety of claims that can be envisioned for the totality of the operation. Assuming that each of these claims is valid, the claims have various merits and demerits from the standpoint of the goal of protection of the proprietary software by focusing liability on the Business **B**.

B. Claims with a Single Direct Infringer

Keeping in mind the goal of having a single, direct infringer for every claim as the starting point, a model is sought in each case for a claim that involves operations only at one location by one party:

1. Customer C at Terminal_a

[Customer Terminal Claim] "A method of filling an order for a Certain Product which comprises reviewing instructions and questions generated at Terminal_a and inputting answers thereto at said Terminal_a and transmitting a data stream to a Server **S**, wherein said Server **S** is capable of recognition of the appropriate Certain Product and further capable of sending a signal to Terminal_c that instructs the recipient at Terminal_c of the identification of the Certain Product and provides necessary instructions for shipment."

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The only actual *steps* involved in the above claim are performed by the Customer **C** at the Terminal_a:

A method * * * which comprises reviewing instructions and questions generated at Terminal_a and inputting answers thereto at said Terminal_a and transmitting a data stream to a Server **S** * * *.

The remainder of the claim language is functional and not a step limitation of the claim itself. Thus, the only direct infringer under 35 USC § 271(a) is the Customer **C** at Terminal_a who operates that terminal and sends the signal.

2. Business B at Server S

[Business Owner Direct Infringement Claim] “A method of generating a data stream to fill a product order which comprises transmitting from Server **S** a signal to Terminal_c that instructs the recipient at Terminal_c of the identification of a Certain Product and provides necessary instructions for shipment, said signal from Server **S** having been generated at Server **S** in response to a data stream that was received from Terminal_a that provided input from a Customer **C** to permit a request for a specified product configuration for said Certain Product and to provide instructions for delivery thereof.”

Here, the only steps of the claimed method are performed by the Business **B** at the Server **S**: "A method * * * which comprises transmitting from Server **S** a signal to Terminal_c that instructs the recipient at Terminal_c of the identification of a Certain Product and provides necessary instructions for shipment * * *." The only steps in the claim are performed at Server **S** so that only Business **B** is a direct infringer.

The remainder of the claim is entirely functional and not a step limitation to the claim: "[S]aid signal from Server **S** ha[s] been generated at Server **S** in response to a data stream that was received from Terminal_a that provided input from a Customer **C** to permit a request for a specified product configuration for said Certain Product and to provide instructions for delivery thereof."

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3. Distributor D at Terminal_c

[Distributor Infringement Claim Model] “A method of receiving orders for a Certain Product including instructions for configuration and delivery thereof which comprises receiving at Terminal_c a data stream to fill a product order which contains the specific production configuration and exact instructions for the delivery thereof, said data stream having been generated from Server S responsive to a signal from a Customer C at Terminal_a that includes the Customer C's answers to requests for data provided at the Terminal_a, said Server S having transformed the information received from the Terminal_a to generate the necessary said data stream.”

Here, the only step in the claim is conducted by the Distributor D at Terminal_c: "A method * * * which comprises receiving at Terminal_c a data stream to fill a product order which contains the specific production configuration and exact instructions for the delivery thereof[.]"

The remainder of the claim is functional and not a step limitation to the claimed invention: "[S]aid data stream ha[s] been generated from Server S responsive to a signal to signal from a Customer C at Terminal_a that includes the Customer C's answers to requests for data provided at the Terminal_a, said Server S having transformed the information received from the Terminal_a to generate the necessary said data stream”

C. The Problem with the Multiple Actor Claims

Combination claims are likely to cause trouble where the actual acts required by the claim are to be performed at different locations by different parties. To provide an example of an early case, there has been found one early, pre-Internet example of a remote location electronic method patent. In the *MAGICorp.* case²⁷, there were claims to an apparatus for automatically generating 35 mm color photographic slides where customers from a remote terminal would electronically send data to the E-factory. The only claim coverage was for the overall system:

[An a]pparatus for automatically generating [35 mm color photographic slides which comprises]:

- (a) a plurality of micro-computer terminals [with] input means for enabling the user to enter data * * *;
- (b) means for transmitting [such] data * * * to a location remote from said terminals;

²⁷*MAGICorp. v. Kinetic Presentations, Inc.*, 718 F.Supp. 334 (D.N.J. 1989).

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- (c) a central computer at a location remote from said terminals and receiving the data from said means for transmitting data, said central computer being programmed to generate data defining the raster points for computer pictures * * * based on the data * * *, said computer pictures having enhanced resolution over the terminal pictures generated and displayed by the terminals, and
- (d) picture producing means for creating photographic pictures from the higher resolution raster point data generated by the central computer.²⁸

Denying infringement in *MAGICorp.*, the court distinguished the *Decca* case on the basis that the "master stations" that controlled the overall process were found in the United States — finding infringement where some of the elements of the claim were performed offshore:²⁹

[A]t issue [in *Decca*] was a navigation system which had master stations in the United States and a subordinate station abroad. There, the court concluded that infringement took place at the master stations, rather than at the subordinate stations, because all of the stations had to be brought into synchronization with the master

²⁸The claim is more complex than pictured in the text: "Apparatus for automatically generating [35 mm color photographic slides which comprises] a plurality of micro-computer terminals, each with a color display and input means for enabling the user to enter data, said terminals being programmed to generate information defining a plurality of standard graphical representations having certain variable characteristics, a particular one of said standard graphical representations including its characteristics being entered by users through the input means as answers to questions presented by the terminals, the color displays being capable of creating terminal color pictures of the particular graphical representations based on the user's answers, the terminals also being capable of modifying the variable characteristics of the particular graphical representations in response to user entries which change the answers to said questions so as to create final answers; means for transmitting data representing the final answers from said terminals to a location remote from said terminals; a central computer at a location remote from said terminals and receiving the data from said means for transmitting data, said central computer being programmed to generate data defining the raster points for computer pictures of the particular graphical representations based on the data representing the final answers, said computer pictures having enhanced resolution over the terminal pictures generated and displayed by the terminals, and picture producing means for creating photographic pictures from the higher resolution raster point data generated by the central computer."

²⁹*Decca Ltd. v. United States*, 544 F.2d 1070, 1074-75 (1976).

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stations. 544 F.2d at 1074. Similarly, here, the conversion of the information, the critical task in the patented process, takes place at the service bureaus outside New Jersey. As in *Decca*, when considering the patented process as a "unity," the location of the process, and thus the infringement, must be where the master station/service bureau is located. That location is not in New Jersey. Therefore, I do not find that the defendant's alleged infringing acts took place in New Jersey for venue purposes.³⁰

An Amazon.com patent "one click" patent is currently in litigation.³¹ Claim 1 calls for:

A method of placing an order for an item comprising: under control of a client system,

- [(a)] displaying information identifying the item;
- [(b)] and in response to only a single action being performed, *sending a request* to order the item along with an identifier of a purchaser of the item to a server system;
- [(c)] under control of a single-action ordering component of the server system, receiving the request;
- [(d)] retrieving additional information previously stored for the purchaser identified by the identifier in the received request; and
- [(e)] generating an order to purchase the requested item for the purchaser identified by the identifier in the received request using the retrieved additional information; and
- [(f)] fulfilling the generated order to complete purchase of the item whereby the item is ordered without using a shopping cart ordering model.³²

³⁰*MAGIC Corp.*, 718 F.Supp. at 453.

³¹Hartman, Bezos, Kaphan & Spiegel, *Method and Apparatus for Placing an Order via a Communications Network*, U.S. Patent 5,960,411 (1999). *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 73 F.Supp.2d 1228 (W.D. Wash. 1999), *preliminary injunction vacated*, 239 F.3d 1343 (Fed. Cir. 2001).

³²Paraphrasing, lettering and emphasis added. The only other independent method claim in the case is claim 11 that also requires that one step of the combination be performed by the customer: "A method for ordering an item using a client system, the method comprising: displaying

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To the extent that infringement of this claim requires that every element be performed by one accused infringer for there to be "direct infringement" under 35 USC § 271(a), the claims of this type are not infringed because at least one of the steps ("sending") is performed by the customer. It will be an interesting exercise to see how this claim fares in the judicial system, first at the trial level and then, if the case is not settled, at the Federal Circuit.

IV. PINNING INFRINGEMENT LIABILITY ON THE BUSINESS OPERATOR

Generally, it is the ultimate goal to be able to sue only the business operator or manufacturer, and not an individual customer. Yet, while some claims can be created where the business operator or manufacturer is the direct infringer (the ideal situation), claims must also be included where the business operator is an indirect infringer. This latter situation may be the only way to pin liability on the business operator who has a server offshore, outside the normal territorial reach of the U.S. patent law.

A. The Business B as the Direct Infringer

1. The Optimum Claim for Domestic Infringers

A claim where the Business **B** is the direct infringer is manifestly the best from the standpoint of the business objectives of the patentee. It is self-evident that the principal goal of patent enforcement is generally to obtain enforcement of a patent against the business and not its customers — who, after all, may also be the actual customers of the patentee or potential customers. To sue the customer generally makes little sense if you can sue the business. Thus, a claim that involves the operation of the Server **B** is obviously the best claim. The Server **B** is a direct infringer, and there is no need to prove the direct infringement of the Customer **C** or the Distributor **D**.

2. The Offshore Server: *Deepsouth*

If there are only claims with a direct infringement by the Server **B**, then the patent picture presents a potentially fatal flaw to enforcement against the Business **B** that operates fully within the United States with its domestic customers but where the acts contemplated by the Server **B** take place outside the United States.

information identifying the item and displaying an indication of a single action that is to be performed to order the identified item; and in response to only the indicated single action being performed, *sending to a server system* a request to order the identified item whereby the item is ordered independently of a shopping cart model and the order is fulfilled to complete a purchase of the item."

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The "all elements" rule has been interpreted as requiring that all elements of the claimed process be practiced *within the United States*. For the past 150 years or so, it has been axiomatic that the patent law "do[es] not, and w[as] not intended to, operate beyond the limits of the United States."³³

Where a patentee needs protection against foreign acts of infringement, the U.S. judiciary has established that foreign patent laws should be utilized. As stated by the Supreme Court in *Deepsouth*, "[t]o the degree that the inventor needs protection in markets other than those of th[e] [United States], the wording of [the U.S. patent statutes] reveals a congressional intent to have him seek it abroad through patents secured in countries where his goods are being used."³⁴

Deepsouth and *Pennwalt* have both at one time been thought to be inequitable to the patentee who has a combination claim which can be easily circumvented by the extraterritorial practice of one element. Indeed, a law was passed to expressly, legislatively overrule the holding of *Deepsouth*.³⁵ In the early years of the Federal Circuit, there was a seeming reluctance to literally

³³*Brown v. Duchesne*, 19 How. (60 U.S.) 183, 195 (1856) (quoted in *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 531 (1972)).

In *Deepsouth*, the claimed invention was a device to remove the veins from shrimp that comprised several elements. The apparatus was sold, *unassembled* in a package that included all the parts and instructions on how to put them together. As long as the parts were not put together in the United States, there was no act of direct infringement.

But, the appropriate claim form is a "kit" claim. E.g., "a kit comprising the components for assembly into a device for removing shrimp veins including instructions for putting the components together." This is precisely what was sold and would have been a direct infringement in the United States. The leading case supporting "kit" claiming is *In re Venezia*, 530 F.2d 956 (CCPA 1976).

³⁴*Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 531 (1972).

³⁵35 USC § 271(f). Pub. L. 98-622, § 101 (1984). The statute overriding *Deepsouth* was very narrowly worded to deal *only* with the specific facts of the case where there is a sale of unassembled components in the United States that are assembled offshore, 35 USC § 271(f)(1), or where a sale of a component that would be an indirect infringement if the combination were assembled in the United States is an act of infringement, 35 USC § 271(f)(2).

This deliberately *narrow* statutory override underscores the viability of the broad teachings of *Deepsouth* (beyond the specific area of the statutory override).

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enforce the limitations of the statute, as manifested by the *Paper Converting* case.³⁶

The mood of the judiciary in recent years has swung away from sympathy for the patentee who has not crafted claims that cover a direct infringement. This was true even before the most recent strict construction era of *Festo*. As pointed out in a case that preceded *Festo* by some time by Circuit Judge Rader in *Waymark v. Porta Systems*:

No [actionable] wrong [under the law of direct infringement] is done [against] the patentee until the [claimed] combination is formed. His monopoly does not cover the manufacture or sale of separate elements capable of being, but never actually, associated to form the invention. Only when such association is made is there a direct infringement of his monopoly, *and not even then if it is done outside the territory for which the monopoly was granted.*³⁷

Denying a finding of infringement because the accused infringer used only a portion of the combination in the United States, Judge Rader explained that "because [accused infringer] Porta Systems [used] only components of the [patented] combination within the United States, it did not use the claimed invention and did not infringe under [35 USC] § 271(a)."³⁸

Prior to the Federal Circuit in *Decca*, infringement was found where a combination claim included an element performed outside the United States, but where the *control* of that element was from within the United States.³⁹

However, recent years have involved a stricter construction of the patent law with greater

³⁶*Paper Converting Machine Co. v. Magna-Graphics Corp.*, 745 F.2d 11, 19-20 (Fed. Cir. 1984).

³⁷*Waymark Corp. v. Porta Systems Corp.*, 245 F.3d 1364, 1366 (Fed. Cir. 2001) (Rader, J.) (quoting *Deepsouth Search Term End Packing Co. v. Laitram Corp.*, 406 U.S. 518, 529 (1972)) (emphasis added).

³⁸*Id.*

³⁹*Decca Ltd. v. United States*, 544 F.2d 1070 (Ct. Cl. 1976). See also *Hughes Aircraft Co. v. United States*, 29 U.S.P.Q.2d 1974 (Ct. Cl. 1993), and *Rosen v. NASA*, 152 U.S.P.Q. 757 (Bd. Pat. Inter. 1966), cited with approval in an isolated, Advisory Opinion of an Administrative Patent Judge following *Decca*. *In the Matter of Certain Hardware Logic Emulation Systems and Components Thereof*, 2000 WL 1468389 (Initial Advisory Proceeding U.S.I.T.C. 2000), subsequent proceedings, *Notice of Commission Decision Not To Review an Initial Advisory Opinion Issued by the Administrative Law Judge* September 28, 2000 65 FR 58287-01, 2000 WL 1421019 (Commission refrained from expressing a view on this issue).

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adherence to the "all elements" rule. Judge Rader said that as to *Paper Converting* case:

this court recognized an infringement where the party tested all components necessary to meet the claim limitations and shipped them to customers, but did not assemble them until after the patent expired. This court stated:

Where ... significant, unpatented assemblies of elements are tested during the patent term, enabling the infringer to deliver the patented combination in parts to the buyer, without testing the entire combination together as was the infringer's usual practice, testing assemblies can be held to be in essence testing the patented combination and, hence, infringement.

Id. This court distinguished *Deepsouth* as concerned primarily with "giving extraterritorial effect to United States patent protection." *Id.* at 17. *Paper Converting Machine*, on the other hand, addressed enforcement of a patent beyond its expiration. This court thus held "that the expansive language used in *Deepsouth* is not controlling in the present case." *Id.*⁴⁰

But, a distinction was drawn. *Deepsouth* was instead used by Judge Rader to find noninfringement:

Like *Deepsouth*, this case presents the possibility of giving United States patent protection extraterritorial effects. Like the accused infringer in *Deepsouth*, Porta Systems exported components for assembly in a foreign country. *See Deepsouth*, 406 U.S. at 523-24, 92 S.Ct. 1700. Accordingly, the analysis of *Deepsouth* controls in this case.

Because Porta Systems [used] within the United States only components without patent protection, *Deepsouth* dictates that Porta Systems has not infringed the '929 patent under § 271(a). Accordingly, this court affirms the district court's summary judgment under § 271(a).⁴¹

⁴⁰*Waymark v. Porta Systems*, 245 F.3d at 1366-67.

⁴¹*Id.*, 245 F.3d at 1367.

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Even before *Waymark v. Porta Systems*, the *Paper Converting* case had been distinguished in *Johns Hopkins v. CellPro*.⁴² In this earlier case, the Federal Circuit quotes with approval a different portion from *Paper Converting* that said that "by the terms of the patent grant, no activity other than the unauthorized making, using, or selling of any patented invention, within the United States * * * infringes the patent."⁴³

B. Business B as the Offshore Indirect Infringer

To anticipate the possibility that the Business **B** would move its Server **S** offshore (and hence avoid any direct infringement liability whatsoever), claims must be crafted to attack the Business **B** as an *indirect* infringer.

1. Direct Infringer: Customer C or Distributor D

Since Business **B** is not a direct infringer with its Server **S** offshore, a claim must be found where *either* Customer **C** at Terminal_a and/or Distributor **D** at Terminal_c is a direct infringer. Then, the activities of Business **B** to *induce* either or both of Customer **C** and/or Distributor **D** to directly infringe the claim makes Business **B** an active inducer under 35 USC § 271(b).

It is not necessary to actually sue the direct infringers, but only to prove in the lawsuit against Business **B** that there is an act of direct infringement by Customer **C** and/or Distributor **D**.

2. Offshore Liability for Business B

Where a third party is a direct infringer, a party that "actively induces" the direct infringer is also liable as an infringer. The active inducement provision states that "[w]hoever actively induces infringement of a patent shall be liable as an infringer."⁴⁴ In terms of *where* the acts occur, as long as the act of direct infringement by the third party takes place in the United States, active inducement can be found by a person who operates entirely outside the United States.⁴⁵

⁴²*Johns Hopkins University v. CellPro, Inc.*, 152 F.3d 1342, 1366 (Fed. Cir. 1998). The Federal Circuit has said that "judicial restraint of lawful noninfringing activities must be avoided." *Johns Hopkins*, 152 F.3d at 1366 (citing *Joy Techs., Inc. v. Flakt, Inc.*, 6 F.3d 770, 777 (Fed. Cir. 1993), in turn citing *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 529-30 (1972)).

⁴³*Paper Converting*, 745 F.2d at 16.

⁴⁴35 USC § 271(b).

⁴⁵*Honeywell, Inc. v. Metz Apparatewerke*, 509 F.2d 1137 (7th Cir. 1975) (German manufacturer

V. GOING BEYOND MARS: TRANSBORDER ENFORCEMENT

If the United States has jurisdiction over an E-claim infringement matter based upon alleged infringing acts within the United States, should a United States court exercise its supplemental jurisdiction to deal with parallel infringement under identical patents in foreign countries? This is an open question, with a seemingly straightforward and clear "no" from Circuit Judge Alan D. Lourie, whilst there is a growing number of critics who see an expansive role for the U.S. courts:

A. Judge Lourie says "No" in *Mars v. Conlux*

Whether the Court in **A** country should entertain jurisdiction of the infringement claim in **B** country is one that has no special relationship to the technology involved. There *is* the possibility for a U.S. court to entertain jurisdiction over transborder enforcement, yet Circuit Judge Alan Lourie has spoken out against this in *Mars v. Nippon Conlux*.⁴⁶ Beyond *Mars*, there are limited precedents supporting this case.⁴⁷

B. Has the Time Come to Say "Yes"?

If the claims of the two patents in **A** and **B** are identical one could very well say that this is an appropriate case to say "yes" to transborder enforcement.

Supplemental jurisdiction may be exercised in appropriate cases: The United States trial courts have the *discretion* to hear a parallel foreign patent infringement suit concurrently with a

who shipped infringing electronic flash units to Chicago camera store that became direct infringer was liable for acts of inducement in Germany).

⁴⁶*Mars Inc. v. Kabushiki-Kaisha Nippon Conlux*, 24 F.3d 1368, 1375 (Fed. Cir. 1994) (Lourie, J.).

⁴⁷See *Stein Assoc. v. Heat & Control, Inc.*, 748 F.2d 653, 658 (Fed. Cir. 1984) (a party's "notion that it could establish a basis for its requested injunction by proving invalidity of [the] United States patent is in direct conflict with the total independence of the patents of signatory countries, as set forth in Article 4 bis of the Paris Convention[.]"); *Heineken Technical Services, B.V. v. Darby*, 103 F.Supp.2d 476, 479 (D.Mass. 2000) (citing *Cuno Inc., v. Pall Corporation*, 729 F.Supp. 234, 238 (E.D.N.Y.1989); *Medtronic, Inc. v. Daig Corp.*, 789 F.2d 903, 908 (Fed.Cir.1986); *Skil Corp. v. Lucerne Products, Inc.*, 684 F.2d 346, 351 n. 4 (6th Cir.1982); *Timely Products Corp. v. Arron*, 523 F.2d 288, 295 (2d Cir.1975); *Ditto, Inc. v. Minnesota Mining and Manufacturing Co.*, 336 F.2d 67, 71 (8th Cir.1964)).

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domestic suit because there is inherently judicial economy and the avoidance of "piecemeal litigation".⁴⁸ Professor Rochelle Cooper Dreyfuss notes that "U.S. courts have considerable discretion over hearing claims that are supplemental to the one on which their subject matter authority is based."⁴⁹

Perhaps the earliest and most cogent critic of the result in *Mars v. Nippon Conlux* is the comparative scholar, Professor John R. Thomas, who contrasts a "parochial attitude" of *Mars* with the positive attitude of the European courts of the early 1990's:

In high relief [to transborder enforcement in Holland and elsewhere in Europe], the U.S. Court of Appeals for the Federal Circuit has evinced a far more parochial attitude. In *Mars, Inc. v. Kabushiki-Kaisha Nippon Conlux*, the court held that the district court lacked jurisdiction to reach the merits of an infringement complaint based on a Japanese patent. In so doing, the Federal Circuit rejected both theories asserted by the patentee, based on subject matter and supplemental jurisdiction, and even one that was not offered, jurisdiction based on diversity of citizenship. The holding in *Mars* is a conservative one in keeping with the "exclusionary rule" favored by some U.S. courts, whereby foreign patent systems are essentially ignored in the absence of a specific statutory mandate to the contrary. It nonetheless contrasts strongly with the increasingly strained dichotomy between international patent acquisition and enforcement as well as the Federal Circuit's own expansive view of personal jurisdiction over parties situated abroad and striking concerns over fractionalized patentee enforcement efforts.

⁴⁸*Schroeder v. West*, 212 F.3d 1265, 1270 (Fed. Cir. 2000)(Gajarsa, J.) (citing *Mars Inc. v. Kabushiki-Kaisha Nippon Conlux*, 24 F.3d 1368, 1372 (Fed.Cir.1994).) ("The notions of efficiency of judicial economy and avoidance of 'piecemeal litigation' provide the basis for supplemental jurisdiction.")

⁴⁹Rochelle Cooper Dreyfuss, *An Alert to the Intellectual Property Bar: The Hague Judgments Convention*, 2001 U. Ill. L. Rev. 421, 433 (2001) (footnote omitted).

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Consideration of the judicial power to adjudicate foreign patent infringement disputes is hardly a new theme in international patent circles. Concern over national comity has been among the factors leading to Europe's experience of continued delays in realizing a true European patent through the Community Patent Convention. * * * Foreign patent litigation in the world's favorite forum, the courts of the United States, thus remains an interesting legal problem worthy of extended discussion.⁵⁰

Professor Thomas concludes that the the *Mars* "ruling with respect to supplemental jurisdiction is troublesome."⁵¹

Other academics also take issue with the Federal Circuit panel opinion in *Mars*. Shortly after Professor Thomas' critique of *Mars v. Nippon Conlux*, Professor Chisum provides a parallel criticism of *Mars v. Nippon Conlux*: "The Federal Circuit's position that the U.S. and Japanese infringement claims were unrelated is tenuous at best."⁵²

Even if there are divergent opinions on validity issues, Chisum points out that "[i]f a U.S. court could avoid complex issues of validity by staying an infringement claim for a period of time during which the defendant could challenge the patent's validity in a foreign country's patent agency or courts."⁵³

Professor Curtis Bradley contrasts *Mars v. Nippon Conlux* with other precedent which would permit considering parallel foreign patent matters in the same case.⁵⁴

⁵⁰John R. Thomas, *Litigation Beyond the Technological Frontier: Comparative Approaches to Multinational Patent Enforcement*, 27 Law & Pol'y Int'l Bus. 277, 280-81 (1996) (footnotes omitted).

⁵¹Thomas, 27 Law & Pol'y Int'l Bus. at 323.

⁵²Donald S. Chisum, *Normative and Empirical Territoriality in Intellectual Property: Lessons from Patent Law*, 37 Va. J. Int'l L. 603, 613 (1997).

⁵³Chisum, 37 Va. J. Int'l L. at 613.

⁵⁴Curtis A. Bradley, *Extraterritorial Application of U.S. Intellectual Property Law: Territorial Intellectual Property Rights in an Age of Globalism*, 37 Va. J. Int'l L. 505, 579, n. 368 (1997) ("For a decision exercising such supplemental jurisdiction over foreign intellectual property claims, see *Ortman v. Stanray Corp.*, 163 U.S.P.Q. (BNA) 331 (N.D. Ill. 1969), *rev'd on other grounds*, 437 F.2d 231 (7th Cir. 1971); see also *Packard Instrument Co. v. Beckman Instruments, Inc.*, 346 F.

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The comparative scholar Fritz Blumer has opined that “[i]n cases where the patents are similar and the allegedly infringing goods are identical, the courts may well accept supplemental jurisdiction for claims based on foreign patents.”⁵⁵ Others have said that Mars “seems to leave open, however, the possibility that there may be cases where a claim of foreign patent infringement may be so related [as part of the same case or controversy] under Article III as to be heard and decided in the United States.”⁵⁶

VII. CONCLUSION

As the E-commerce patent community gains practical experience and litigation, primitive attempts to provide coverage through comprehensive claims have given way to more sophisticated claiming. Open questions remain on the complex nature of transborder transactions where not all elements of a claim are performed by a single party or where a single party performs some of the elements in a second country.

Supp. 408, 408 (N.D. Ill. 1972) ('For purposes of this opinion, it is assumed that subject matter jurisdiction over the foreign patent claim exists on the basis of pendent jurisdiction...'). But cf. *Mars*, 24 F.3d at 1375 * * *").

⁵⁵Fritz Blumer, *Jurisdiction and Recognition in Transatlantic Patent Litigation*, 9 Tex. Intell. Prop. L.J. 329, 345 (2001).

⁵⁶Gerald J. Mossinghoff & Vivian S. Kuo, *World Patent System Circa 20XX A.D.*, 38 IDEA: J.L. & Tech. 529, 541 (1998).