

**VAUPEL TEXTILMASCHINEN KG and Vaupel North America,
Plaintiffs-Appellants, v. MECCANICA EURO ITALIA S.P.A. and
American Trim Products, Inc., Defendants/Cross-Appellants.**

United States Court of Appeals for the Federal Circuit

September 13, 1991

944 F.2d 870; 20 U.S.P.Q.2d 1045

Melvin M. Goldenberg, Christensen, O'Connor, Johnson & Kindness, Seattle, Wash., argued, for plaintiffs-appellants. With him on the brief, were Michael W. Bocianowski and Jeffrey W. Reis. Also on the brief, was Charles W. Helzer, Arnold, Md.

Gregory B. Wood, Nilsson, Robbins, Dalgarn, Berliner, Carson & Wurst, Los Angeles, Cal., and Susan Lerner, Los Angeles, Cal., argued, for defendants/cross-appellants.

Before NEWMAN, LOURIE and RADER, Circuit Judges.

LOURIE, Circuit Judge.

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This appeal and cross-appeal are from the June 1, 1990, judgment of the United States District Court for the Western District of North Carolina, ST-C-88-127. The court, in a suit brought by Vaupel Textilmaschinen KG (Vaupel KG) and Vaupel North America (Vaupel NA) (collectively Vaupel), found that Meccanica Euro Italia, S.P.A. and American Trim Products (collectively MEI) infringed U.S. Patent 3,961,650 ('650 patent), but that Vaupel was barred from maintaining its infringement action by laches and estoppel. Vaupel appeals the court's conclusion that its infringement action is barred. MEI cross-appeals, alleging that Vaupel, as a mere licensee, has no standing to bring suit and that the district court clearly erred in finding infringement. We reverse that part of the judgment relating to laches and estoppel and affirm the judgment in all other respects.

BACKGROUND

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The '650 patent, entitled "Weaving Method and Machine" and issued to Ruthard Marowsky, discloses a method for use on what is commonly called a "broad weaving loom," which produces cut strips of woven labels for garments. For many years prior to the invention of the '650 patent, labels were woven on narrow loom machines. Because of the physical constraints of narrow looms, any label manufacturer who wanted to offer a wide variety of label widths had to maintain a number of narrow looms of different sizes.

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Marowsky's invention took advantage of the faster weaving ability of the modern broad loom to make a woven label. The prior art had taught that the materials used to make labels could be cut by heat and that such fibers could be severed by using electrically heated blades which would also melt and fuse together the weft threads of the fiber. Marowsky envisioned that the cutting means could be made adjustable across the width of the fabric, so that adjustment of the cutters would permit labels in a variety of widths to be woven on a single machine. He improved upon this art and found a way to not only cut the fibers into the desired width, but also to melt and fuse the ends of the weft threads and thereby form a solid edge or "selvage" so there would be no loose ends. He also knew that it was important that the finished label not be lopsided, so he envisioned the use of a guiding station extending across the weft yarns in a rectilinear position. In addition, he used heat to thermostabilize the labels after they were cut to provide a smooth finish of the product.

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On January 22, 1974, Marowsky filed a patent application in the United States Patent and Trademark Office (PTO). The application issued as the '650 patent on June 8, 1976. Only Claims 1 and 2 are at issue in this appeal.

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Claim 1 is directed to a process involving weaving and cutting fabric in such a way as to avoid weft arching, i.e., to ensure that the warp and weft threads are at right angles to each other. The broad woven fabric is then transformed into individual strips whose edges are simultaneously cut and welded by heated blades. The strips are then thermostabilized by heating at a temperature lower than the cutting and welding temperature before being removed from the loom. Claim 1 reads as follows:

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1. A method of forming a plurality of patterned strips of fabric woven from threads of synthetic material using a broad weaving machine having a sley and a breast beam, which method comprises:

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weaving on the broad weaving machine a unitary broad fabric with said strips to be formed extending in parallel relation along the warp direction of said fabric;

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conveying said fabric from the position where the sley of said machine beats up the fabric at a sufficiently low warp tension that a boxing condition occurs to obviate weft arching;

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guiding the woven fabric leaving the position where the sley beats up the fabric to allow movement towards the breast beam of said machine, but not in the opposite direction;

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cutting the guided woven fabric in the warp direction with a heated cutting blade means maintained at a first temperature of at least about 300° C to form strips whereby the edges are welded by the heat and thereby avoids ripping;

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separating said strips;

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and thereafter further heating the entire body of said separated strips at a second temperature lower than said cutting temperature to relieve varying tensile stress therein by thermostabilization.

Claim 2 is an apparatus claim:

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2. In a broad fabric weaving machine having a sley and a breast plate for forming a plurality of strips of fabric from threads of synthetic fiber, the improvement comprising: a fabric guiding station extending across the width of said machine at the output from the machine where the sley beats up the fabric and ahead of the breast plate, said fabric guiding station comprising a slot and a rounded guide bar there-behind to define a re-entrant part-annular path for passage of woven fabric into said slot, round said bar and back out of said slot;

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said guide bar being formed with a left-hand fabric guided thread over the right-hand half of its length in the direction towards a cutting station, and a right-hand guiding thread over its left-hand half;

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a heating and cutting station downstream from said guiding station in the fabric path to said breast plate, which station includes a plurality of electrically heated cutting wires successively spaced across the width of said machine in the direction of the weft and extending into the path of the fabric for heating and cutting said woven fabric into desired width separated strips parallel to the warp of the fabric and for heating the cut edges of said strips to weld the same;

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and a second heating station comprising an elongated heating member to heat said separated strips extending across the width of said machine downstream from said hot wire cutting and cut edge heating station towards said breast beam for heating the strips at a temperature lower than said cutting temperature to effect thermostabilization of said strips.

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Before trial, MEI moved to dismiss under Fed.R.Civ.P. 19(b) on the ground that Vaupel KG and Vaupel NA were mere licensees of the '650 patent and as such could not maintain an infringement action without the joinder of Marowsky. The district court concluded that by virtue of a series of agreements, the Vaupel companies were assignees of the patent and had the right to bring suit without joining Marowsky.

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At trial the issues were narrowed to include only infringement and the defenses of laches and estoppel. The district court held that MEI had directly infringed, contributorily infringed, and induced infringement of the '650 patent. It further held, however, that Vaupel was barred from maintaining the action and from any relief because of laches and estoppel. These appeals followed.

DISCUSSION

A. License v. Assignment

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MEI contends in its cross appeal that this suit must be dismissed because Vaupel KG and Vaupel NA were mere licensees under the '650 patent and could not maintain an infringement action without the joinder of Marowsky. As mentioned above, MEI first raised this issue in a pretrial motion, and the district court concluded that by virtue of a series of agreements, Vaupel KG and Vaupel NA were the assignees of the '650 patent and therefore had the right to bring this action

without the joinder of Marowsky. MEI again raised this issue at trial and the district court again concluded that Vaupel had standing.

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MEI's contention requires us to decide as a matter of law whether the district court was correct in concluding that Vaupel KG and Vaupel NA were assignees of the '650 patent, or, in any event, could maintain suit without joining Marowsky as an indispensable party.

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The Patent Act provides that "patents shall have the attributes of personal property ... [;] any interest therein, shall be assignable in law by an instrument in writing." 35 U.S.C. § 261. The right to sue under a patent was discussed by the Supreme Court one hundred years ago:

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The patentee or his assigns may, by instrument in writing, assign, grant and convey, either, 1st, the whole patent, comprising the exclusive right to make, use, and vend the invention throughout the United States; or, 2d, an undivided part or share of that exclusive right; or, 3d, the exclusive right under the patent within and throughout a specified part of the United States. A transfer of either of these three kinds of interests is an assignment, properly speaking, and vests in the assignee a title in so much of the patent itself, with a right to sue infringers; in the second case, jointly with the assignor; in the first and third cases, in the name of the assignee alone. Any assignment or transfer, short of one of these, is a mere license, giving the licensee no title in the patent and no right to sue at law in his own name for an infringement.

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Waterman v. Mackenzie, 138 U.S. 252, 255, 11 S.Ct. 334, 335, 34 L.Ed. 923 (1891) (citations omitted).

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To determine whether a provision in an agreement constitutes an assignment or a license, one must ascertain the intention of the parties and examine the substance of what was granted. "An assignment of an interest in an invention secured by letters-patent, is a contract, and like all other contracts is to be construed so as to carry out the intention of the parties to it." *Nicolson Pavement Co. v. Jenkins*, 81 U.S. (14 Wall.) 452, 456, 20 L.Ed. 777 (1871). One of our predecessor courts has also made this point:

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Whether a transfer constitutes a sale or license is determined by the substance of the transaction and a transfer will suffice as a sale if it appears from the agreement and surrounding circumstances that the parties intended that the patentee surrender all his substantial rights to the invention.

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Bell Intercontinental Corp. v. United States, 381 F.2d 1004, 1011, 180 Ct.Cl. 1071, 152 USPQ 182, 184 (1967) (emphasis added). We must therefore examine whether the agreements transferred all substantial rights to the '650 patent and whether the surrounding circumstances indicated an intent to do so.

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In 1973, Marowsky entered into an agreement with Theobald Vaupel oHG, the predecessor to Vaupel KG, wherein Marowsky granted "the exclusive right, to solely use [the label weaving machine and process embodied in the '650 patent]." The agreement provided further that "[a] sublicensing agreement given by Vaupel needs a written consent"; that "Marowsky has the right ... to register patents in all countries of his choice in reference to the invention which forms the basis of this contract"; and that "the contract is cancelled automatically on the same day on which Vaupel files for bankruptcy or stops production of [the machine]." It also provided that:

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A possibly necessary litigation to sue for violation of the patent registrations which are the basis of this contract will have to be dealt with among the parties, case by case. In principle, both parties will work together towards prohibiting third parties of making use of the object of this contract.

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In January, 1977, the agreement was modified to include Vaupel KG, and provided that "VAUPEL KG will handle the production and distribution of the contractual product as of January 1, 1975 according to all the rights and responsibilities of the contract."

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On March 21, 1988, Marowsky and Vaupel KG entered into another agreement which provided in pertinent part:

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1. MAROWSKY hereby grants to VAUPEL an exclusive license under United States Patent 3,961,650 to make, have made, use, sell, lease, rebuild and maintain in the United States and its territories weaving machines which practice the inventive method and apparatus covered by the claims of patent 3,961,650, and with the prior written consent of MAROWSKY, to grant sublicenses to others under the patent.

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2. MAROWSKY hereby grants to VAUPEL the rights to sue for past, present and future infringements of patent 3,961,650 (if any) including the right to seek injunctions and/or money damages, in any effort by VAUPEL to protect the invention covered by the patent against encroachment by third parties; provided, however, that VAUPEL first notifies MAROWSKY in writing of its intention to sue for enforcement of the patent against a particular party. The final decision, whether or not a particular party is to be sued lies, however, solely with VAUPEL. All costs arising in connection with any infringement are carried by VAUPEL.

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The agreement further provided that Vaupel agrees "to pay to MAROWSKY any money damages obtained from third parties based on infringement of [the '650 patent]" up to a maximum of five percent of third party sales.

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Finally on August 2, 1988, Marowsky entered into another agreement nearly identical to the March 1988 agreement except that Vaupel NA was joined with Vaupel KG as a grantee. The 1988 agreements thus purported to grant to Vaupel the exclusive right to make, use, and sell in the United States weaving machines and practice the method covered by the claims of the '650 patent. As we shall discuss, Marowsky retained certain other rights.

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It is well settled that "[w]hether a transfer of a particular right or interest under a patent is an assignment or a license does not depend upon the name by which it calls itself, but upon the legal effect of its provisions." *Waterman*, 138 U.S. at 256, 11 S.Ct. at 335. Therefore, the use of the term "exclusive license" in the 1988 agreements is not dispositive; what the documents in fact recite is dispositive. However, the term "assignment" has a particular meaning in patent law, implying formal transfer of title. We conclude that the subject agreements here, although not constituting a formal assignment of the U.S. patent, were a grant of all substantial

rights and, in accordance with Rule 19, permitted Vaupel to sue without joining Marowsky.

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A patent provides its owner with the right to exclude others from making, using, and selling the claimed invention. 35 U.S.C. § 154 (1988); *Bloomer v. McQuewan*, 55 U.S. (14 How.) 539, 549, 14 L.Ed. 532 (1852). It is, in effect, a bundle of rights which may be divided and assigned, or retained in whole or part. In determining whether a grant of all substantial rights was intended, it is helpful to look at what rights have been retained by the grantor, not only what was granted. The agreements show that Marowsky retained 1) a veto right on sublicensing by Vaupel; 2) the right to obtain patents on the invention in other countries; 3) a reversionary right to the patent in the event of bankruptcy or termination of production by Vaupel; and 4) a right to receive infringement damages. However, as the district court properly held, none of these reserved rights was so substantial as to reduce the transfer to a mere license or indicate an intent not to transfer all substantial rights.

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The sublicensing veto was a minor derogation from the grant of rights. It did not substantially interfere with the full use by Vaupel of the exclusive rights under the patent, and it has been held not to bar capital gains treatment. *Bell*, 381 F.2d at 1017, 152 USPQ at 189 (citing *Rollman v. Commissioner*, 244 F.2d 634, 639-40 (4th Cir.1957)). Nor did the right to obtain patents in other countries affect Vaupel's rights arising from the '650 patent, which are limited to the United States. Further, the termination provisions in the agreements were entirely consistent with an assignment. An assignment of a patent "may be either absolute, or by way of mortgage and liable to be defeated by non-performance of a condition subsequent...." *Waterman*, 138 U.S. at 256, 11 S.Ct. at 336. Finally, the right to receive infringement damages was merely a means of compensation under the agreement; this was not inconsistent with an assignment. See *Rude v. Westcott*, 130 U.S. 152, 162-63, 9 S.Ct. 463, 467, 32 L.Ed. 888 (1889) (retention of portion of "sales, royalties, or settlements, or other sources" does not limit the assignment of patent).

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The agreements also transferred the right to sue for infringement of the '650 patent, subject only to the obligation to inform Marowsky. This grant is particularly dispositive here because the ultimate question confronting us is whether Vaupel can bring suit on its own or whether Marowsky must be joined as a party. The policy

underlying the requirement to join the owner when an exclusive licensee brings suit is to prevent the possibility of two suits on the same patent against a single infringer. *Crown Die & Tool Co. v. Nye Tool & Mach. Works*, 261 U.S. 24, 38, 43 S.Ct. 254, 257, 67 L.Ed. 516 (1923) (citing *Gayler v. Wilder*, 51 U.S. (10 How.) 477, 13 L.Ed. 504 (1850)). This policy is not undercut here because the right to sue rested solely with Vaupel.

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Under Rule 19, a court must undertake a two-step analysis to determine whether a person in question should be joined. Fed.R.Civ.P. 19(a). A person is necessary if "complete relief cannot be accorded among those already parties," or if the disposition of an action may leave "persons already parties subject to a substantial risk of incurring double, multiple or otherwise inconsistent obligations." *Id.* The district court's decision, and our affirmance thereof, assure that the provisions of this rule have not been transgressed: complete relief can be afforded among those already parties and there is no substantial risk of a party incurring double obligations.¹

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Based on the above, we hold that the district court was correct in concluding that Vaupel KG and Vaupel NA had standing to sue for infringement without joinder of Marowsky. The contractual documents constituted a transfer of all substantial rights under the patent, thereby permitting Vaupel to sue; the agreements expressly granted Vaupel the sole right to sue for all infringements, past, present, and future as well.

B. Laches and Estoppel

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Laches and estoppel are both equitable defenses, matters within the trial court's discretion; they depend on the particular factual circumstances of a case. *Jamesbury Corp. v. Litton Indus. Prods.*, 839 F.2d 1544, 1551, 5 USPQ2d 1779, 1785 (Fed.Cir.), cert. denied, 488 U.S. 828, 109 S.Ct. 80, 102 L.Ed.2d 57 (1988); *Studiengesellschaft Kohle mbH v. Eastman Kodak Co.*, 616 F.2d 1315, 1325, 206 USPQ 577, 586 (5th Cir.), cert. denied, 449 U.S. 1014, 101 S.Ct. 573, 66 L.Ed.2d 473 (1980). We review the trial court's exercise of discretion to determine whether (1) the decision was clearly unreasonable, arbitrary, or fanciful; (2) the decision was based on an erroneous conclusion of law; (3) the court's findings were clearly erroneous; or (4) the record contains no evidence upon which the court rationally could have based

its decision. *Western Elec. Co. v. Piezo Technology*, 860 F.2d 428, 430-31, 8 USPQ2d 1853, 1855 (Fed.Cir.1988).

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A finding of laches can occur when an accused infringer shows unreasonable and unexcused delay in filing suit and material prejudice or injury as a result of the delay. See *Leinoff v. Louis Milona & Sons*, 726 F.2d 734, 741, 220 USPQ 845, 850 (Fed.Cir.1984). A key factor in considering this question is the length of the patentee's delay in bringing suit from "the time the patentee knew, or in the exercise of reasonable diligence should have known, of the alleged infringing activity." *Jamesbury*, 839 F.2d at 1552, 5 USPQ2d at 1785 (footnote omitted).

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In this case, the parties dispute whether Vaupel's period of delay began in 1980, when MEI first displayed and sold the accused infringing machines in the United States, or sometime after early 1985, when reissue proceedings on the '650 patent were terminated. Since Vaupel brought the instant suit August 26, 1988, Vaupel's unexcused delay was either zero to 3 1/2 years or approximately 8 years. Vaupel argues that its delay was excused by the reissue proceedings in the PTO, and thereafter because it neither knew nor should have known of MEI's alleged infringing activity until late 1987. Relying on a presumption of laches after a delay of longer than six years, the district court found that Vaupel did not show evidence sufficient "to excuse their failure to institute this action within six years of the time they knew or should have known of the infringement" by MEI. In so finding, the district court erred.

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A patent owner may avoid the consequences of what would otherwise be an unreasonable delay in filing suit by establishing that he or she was engaged in "other litigation." *Watkins v. Northwestern Ohio Tractor Pullers Ass'n*, 630 F.2d 1155, 1162, 208 USPQ 545, 551 (6th Cir.1980). Although here we are dealing with a reissue proceeding, such proceedings should be treated similarly to infringement litigation for purposes of laches. There is no demonstrable distinction for this purpose between judicial proceedings raising the issue of patent validity and a PTO proceeding involving patentability.

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For other litigation to excuse a delay in bringing suit, there must be adequate notice of the proceedings to the accused infringer. *Hottel Corp. v. Seaman Corp.*,

833 F.2d 1570, 1573, 4 USPQ2d 1939, 1940-41 (Fed.Cir.1987). The notice must also inform the alleged infringer of the patentee's intention to enforce its patent upon completion of that proceeding. *Id.* (citing *Watkins*, 630 F.2d at 1162-63, 208 USPQ at 551-52).

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The "other litigation" excuse normally applies when a patentee defers suit against an alleged infringer until the conclusion of another lawsuit. If the party is ultimately sued and had received proper notice, the time delay consumed by the original proceeding may be excused in evaluating whether laches occurred.

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Notice is important for several reasons. It informs the accused infringer of the existence of the suit and that a subsequent suit will be filed against him. He can then change his activities to avoid liability. He can also bring a declaratory judgment action if the delay in waiting for a judicial determination would be a burden upon his proposed activities. To establish whether such notice was given, the district court must look not only at the actions of the patentee, but also at evidence showing whether the alleged infringer was in fact on notice of an existing lawsuit.

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In this case, on December 14, 1979, Marowsky filed a reissue application pursuant to the then-existing "no-fault" reissue practice.² One month later, Marowsky notified MEI that the reissue application had been filed and that MEI was invited to participate if it desired. During the reissue proceeding, MEI (through a related company, Nastroificio Eurotessile S.R.I. (NE))³ actively and continuously opposed maintenance of the patent claims. Based on these protests, the PTO issued an order stating that the Office would review not only the patentability of Marowsky's claims, but also any possible inequitable conduct in procuring the '650 patent. The issues of patentability and enforceability were finally resolved in favor of the '650 patent, and the PTO effectively confirmed the patent as originally issued and terminated the proceedings in February 1985.

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During the reissue proceeding, from October 18 to October 25, 1980, MEI exhibited its accused machine at a textile machinery show in South Carolina. Representatives from Vaupel inspected the machine and determined that it infringed the '650 patent. Two of the allegedly infringing machines were then sold

to Universal Label Company. Vaupel sent Universal a letter warning that the purchased machines infringed the '650 patent. The parties settled the dispute when Universal purchased parts from Vaupel to replace MEI parts.

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MEI, apparently concerned about the loss of Universal's business, demanded that Vaupel withdraw its warning letter. It asserted that the accused devices were manufactured according to one of its own patents and noted that the validity and enforceability of the '650 patent remained subject to the reissue proceedings. MEI also threatened Vaupel with litigation, as evidenced from its April 20, 1982 letter:

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It is evident that we can no longer delay the initiation of court proceedings. We intend to have our rights protected and to obtain compensation for the enormous damages that we have suffered.

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We are, therefore, compelled to inform you in all clarity that we are going to initiate court proceedings if we do not receive a conclusive and satisfactory response from you within fifteen days from today (April 20, 1982)].

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Rather than filing suit, MEI continued with its opposition in the PTO.

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MEI argues that our decision in Hottel requires that to excuse the delay during the period the '650 patent was in reissue proceedings, notice must not only have informed MEI of the reissue proceeding, but also have stated Vaupel's intention of enforcing its patent upon completion of the reissue proceeding. Both parties agree that Vaupel did not explicitly inform MEI that Vaupel would sue after the reissue proceedings. However, Vaupel argues that its actions clearly satisfied the notice requirement for such an excuse, that all the communications showed that Vaupel intended to enforce its rights, and that MEI knew of those intentions. We agree.

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Our decision in Hottel does not require that notice of other litigation and of a patentee's intent to sue after that other litigation is terminated be expressly stated in writing. What is important is whether MEI had reason to believe it was likely to be sued. A review of the extensive communications between MEI and Vaupel leaves no doubt that MEI was concerned about being sued by Vaupel. Among these

communications was a July 1982 letter from NE to the Commissioner wherein MEI stated that there were "continued threats of infringement by applicant's attorney against prospective purchasers of the apparatus manufactured and sold by the protester." A May 1982 letter from Vaupel KG to MEI stated that "[w]e will protect our patent No. 3,961,650 and look after our rights.... [and] highly recommend an elucidating discussion before plunging into court proceedings...." Also, as previously mentioned, in an April 1982 letter to Vaupel, MEI threatened a declaratory judgment action. These are but a sampling of the communications indicating that MEI believed during the years in question that it was threatened. Where there is explicit notice of a reissue proceeding in which an alleged infringer actively participated, and the evidence as a whole shows that the accused infringer was in fear of suit, there is no further requirement to notify the alleged infringer of an intent to sue after the reissue proceeding has been concluded in order to avoid a holding of laches. Such a notification would be superfluous, telling the accused infringer what he already knew.

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In the instant case, MEI was deeply involved in protesting the reissue proceeding and acknowledged a continuing conflict between it and Vaupel. The present lawsuit is part of that conflict. We therefore hold that the district court erred in concluding that MEI lacked notice concerning Vaupel's intention to sue and that Vaupel's delay in filing suit during the proceeding was not excused.

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The district court also found that the period the '650 patent was in reissue could not be excused because Vaupel "knew in 1980 or 1981 that the reissue proceeding would affirm the original patent allowance." The record shows that patentability issues were resolved in September 1981. However, the record also shows that enforceability was not resolved until early 1985. Without a valid and enforceable patent, Vaupel could not reasonably be held to an obligation to sue in order to avoid a laches holding. MEI itself stated, as a protestor in the PTO proceedings, that "[a] final decision on this [enforceability] issue is vital to the resolution of the ongoing conflict between protestor and applicant." Patentees should be encouraged to avoid litigation when their patents are being reevaluated in the PTO rather than being forced into premature litigation on penalty of being held to have been guilty of laches.

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We next examine the circumstances existing during the 3 1/2 year period between the end of the reissue proceeding and the filing of the instant suit. Between April 25 and May 3, 1985, after the reissue proceeding was terminated, MEI again displayed its accused infringing machine at a trade show in South Carolina. Vaupel representatives attended the show, inspected MEI's machine, and explained to MEI representatives how its machine infringed the '650 patent. None of the alleged infringing machines was sold as a result of the trade show; consequently, Vaupel took no further action to protect its patent rights.

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In October 1987, MEI again displayed its accused infringing machine, this time at a trade show in Paris, France. After Vaupel warned MEI that shipment of its accused machine to the United States would constitute infringement, MEI responded that it was protected by its own patents and that MEI had already shipped accused infringing machines to the United States. After discovering the identity of the buyer of the alleged infringing machines, as well as observing other subsequent sales, Vaupel filed suit on August 26, 1988. Vaupel thus took prompt action to protect its rights once it learned of renewed infringing activity. Given the undisputed facts, it would have been an abuse of discretion for the district court to have held that these circumstances resulted in laches.

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We therefore conclude that Vaupel was not guilty of laches. Because of this disposition, we need not address the district court's finding and the parties' arguments relating to MEI's alleged material prejudice or injury.

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With respect to estoppel, the district court found that "the delay from 1981-1982 until 1988 is an extended period of non-enforcement and constitutes affirmative conduct from which [MEI] could infer the claims against them had been abandoned." In light of our determination regarding laches and the extensive communications evidencing a continuing conflict between the parties and the fear of imminent suit, the district court erred in holding that Vaupel's suit was barred by estoppel.

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"Estoppel requires representations or conduct by the patentee from which the alleged infringer could reasonably infer that the patentee had abandoned his claim."

Jamesbury, 839 F.2d at 1554, 5 USPQ2d at 1787. In this case, MEI could reasonably have drawn no such inference. MEI did not rely on any purported abandonment by Vaupel of its patent rights or any intentionally misleading silence to suggest abandonment, but relied on the existence of MEI's own patents. In MEI's communications with Vaupel and its customers, it repeatedly stated that because its own patent covered its loom, not Vaupel's '650 patent, it had the right to sell its allegedly infringing looms in the United States.⁴ Vaupel's actions did not constitute affirmative conduct from which defendants could reasonably have inferred that the claims of infringement against them had been abandoned.

C. Infringement

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In order to determine a question of patent infringement, a district court must (1) determine as a matter of law the scope and meaning of the claims at issue and (2) determine as a factual matter whether the properly construed claims encompass or "read on" the accused device. *ZMI Corp. v. Cardiac Resuscitator Corp.*, 844 F.2d 1576, 1578, 6 USPQ2d 1557, 1559 (Fed.Cir.1988). Liability for infringement requires that an accused device contain every limitation of a claim or its substantial equivalent. *Lemelson v. United States*, 752 F.2d 1538, 1551, 224 USPQ 526, 533 (Fed.Cir.1985). We review an issue of claim interpretation de novo, *ZMI*, 844 F.2d at 1578, 6 USPQ2d at 1559, and the factual application of a properly interpreted claim to an accused structure under the clearly erroneous standard. *SRI Int'l v. Matsushita Elec. Corp. of America*, 775 F.2d 1107, 1118, 227 USPQ 577, 583 (Fed.Cir.1985) (in banc).

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MEI argues that the preamble language "breast beam" and "breast plate" of Claims 1 and 2, respectively, requires a specific loom part which is absent from its accused device, and that the district court erred in concluding that the terms were used "only to fix the direction of movement of the woven fabric on the loom" and not to constitute claim limitations. After reviewing the claims, the specification and drawings, the prosecution history, and the expert testimony, we conclude that the district court was correct. "Breast beam" and "breast plate" are not structural limitations of Claims 1 and 2; as used in Claims 1 and 2, they indicate a reference point to fix the direction of movement of the woven fabric from the loom. Such alleged loom "parts" are not illustrated in any of the figures of the '650 patent or otherwise described in the specification.

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The district court interpreted Claim 1 and concluded that the claim does not require that "the steps of cutting and thermostabilizing be carried out in the specific manner contained in the preferred embodiment of the invention appearing in the patent description and drawings...." It also interpreted Claim 2 as not requiring that "the heating and cutting station and the thermostabilizing station be located before the take-up roll, breast beam or breast plate." We agree. The plain language of the claims supports the district court's construction. Even MEI recognized, when it was advantageous to do so, that the order of steps in Claim 1's method was not specifically set forth. In its July 31, 1980 protest, NE argued that Claim 1, as written, did not require that the cutting step take place before the take-off roll or breast plate:

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There is no specific language, nor any intimation whatsoever in Marowsky's claim 1 that the cutting step takes place before the take-off roll or breast plate.

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(Emphasis in original). In its March 18, 1982 protest, NE argued that Claims 1 and 2, as written, do not limit the steps or stations to any particular location or sequence:

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It is quite clear, even from a cursory reading of the Marowsky patent and the instant reissue application, that the location of Marowsky's invention relative to the breast beam or breast plate is not specifically set forth in the claims[.]

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The Examiner rejected NE's arguments, allowed the claims, and reemphasized that the location of the cutter between the breast beam and the sley was not the "critical factor" for patentability, that the applicant was entitled to claim the "broadest concept" of his invention.

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We also agree that the step of heating to relieve "varying tensile stresses" does not require that the heating be done between the guide bar and the take-up roll of the loom. The claims do not require the limitations MEI suggests.

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At trial the parties stipulated that MEI's off-loom machines did not infringe the '650 patent, and that MEI's accused device was represented by the following drawings:

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NOTE: OPINION CONTAINS TABLE OR OTHER DATA THAT IS NOT VIEWABLE

MEI argues that the district court clearly erred in finding that Claim 1 was literally infringed, because the MEI device does not perform the step of "cutting the guided woven fabric" and because MEI's heated setting bar does not "relieve varying tensile stresses." However the court found, relying on expert testimony, that the MEI machine guides the fabric using the spreader bar, take-up roll, pressure rollers, guide rollers, and the drive cloth roll, and that these various rolls keep a tension on the fabric and produce tensile stresses. Because the guiding of the woven fabric in the MEI device extends through and beyond a cutting step, and varying tensile stresses also continue up to the cloth roll, the district court properly found Claim 1 to be infringed.

MEI has not shown the district court's findings relating to guiding to be clearly erroneous, and it offers no factual support for its argument that somehow the tensile stresses in its machine are relaxed downstream of the take-up roll. Given this complete lack of proof, we cannot say that the district court clearly erred. The district court first properly interpreted Claim 1, and then properly found that the MEI machine performed each and every step of Claim 1. Therefore, the district court was correct in finding that MEI's purchaser, ATP, directly infringed method Claim 1 and MEI contributorily infringed and induced infringement of Claim 1.

MEI next argues that the district court clearly erred in holding that apparatus Claim 2 was infringed under the doctrine of equivalents. The apparatus in Claim 2 comprises a "guiding station," a "cutting station," and a "thermostabilizing station." The district court found each of these three elements to have equivalent structure in the MEI machine. MEI argues that the district court failed to properly apply the doctrine of prosecution history estoppel when it found the spreader bar to be equivalent to the "guiding station" in Claim 2. It specifically argues that the threaded temple bar limitation was added "to avoid an obviousness rejection." We disagree.

There is no indication in the file history as to why the threads were added to the guide bar. The threaded guide bar limitation was already present in original Claim 6,

which seems to have been combined with original Claim 5 to become Claim 2 of the '650 patent. The doctrine of prosecution history estoppel bars "a patentee from enforcing its claims against otherwise legally equivalent structures if those structures were excluded by claim limitations added in order to avoid prior art." *Mannesmann Demag Corp. v. Engineered Metal Prods. Co.*, 793 F.2d 1279, 1284, 230 USPQ 45, 48 (Fed.Cir.1986) (citations omitted). In determining whether prosecution history estoppel applies because of a change in claim language during prosecution, the court must consider not only what was changed, but the reason for such change. See *Sun Studs, Inc. v. ATA Equip. Leasing*, 872 F.2d 978, 987, 10 USPQ2d 1338, 1345 (Fed.Cir.1989).

Here, because the record does not indicate that the threaded guide bar limitation was added to avoid prior art, it does not support overturning the district court's finding that there is no estoppel against the combination of the smooth temple bar and the threaded spreader bar in the MEI machine being held to be the equivalent of the threaded guide bar limitation of Claim 2.

MEI also argues that the district court erred in finding equivalence of the "cutting station" and the "thermostabilizing station" in its accused device. MEI's argument must fail here too, because it hinges on its prior argument that the cutting and thermostabilizing stations are location-specific. We have already determined that the district court did not clearly err in finding that the claims did not require a specific sequence of the various stations.

The district court did not clearly err in finding that Claim 2 of the '650 patent was infringed under the doctrine of equivalents. Every limitation of Claim 2 has an equivalent in the MEI machine.

We have considered all the other arguments and conclude that they lack merit.

COSTS

Costs to Vaupel.

CONCLUSION

The judgment as it relates to laches and estoppel is reversed; in all other respects it is affirmed.

AFFIRMED-IN-PART, REVERSED-IN-PART.

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Only if a person is deemed necessary under Rule 19(a) must a court undertake the second step of the analysis. In other words, if a party is deemed necessary under Rule 19(a), but cannot be joined because it is not subject to process, then the court must consider in equity and good conscience whether the party is indispensable and dismissal appropriate. Fed.R.Civ.P. 19(b). In this case, the district court correctly held that Marowsky was not a necessary party under Rule 19(a) and thus analysis under Rule 19(b) was unnecessary

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This discontinued practice allowed an applicant to have his patent reexamined to allow the PTO to determine the effect of newly discovered prior art not previously before the examiner. See 37 C.F.R. § 1.175(a)(4) (1981)

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The district court found that NE was related to MEI and treated NE as the equivalent of MEI throughout the trial. MEI has not disputed this; therefore, we impute knowledge to MEI of all actions taken in the PTO and communications received by NE

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MEI's statements are evidence of its fear of suit, even though it is well-established that the existence of one's own patent does not constitute a defense to infringement of someone else's patent. It is elementary that a patent grants only the right to exclude others and confers no right on its holder to make, use, or sell. See 35 U.S.C. § 154 (1988)