

“Reform” of Patent Damages: S. 1145 and H.R. 1908

by
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The provisions of the current Senate and House patent reform bills, S.1145² and H.R. 1908,³ purporting to reform patent damages law are more akin to “repeal” than “reform.” Upon close inspection the proposed legislation would not codify existing law, and in fact would make substantial changes destructive to the patent system. This paper examines the components of the damages reform legislative provisions and explains how the “prior art subtraction” approach used in the bills would completely eliminate reasonable royalty damages in many cases. This paper also examines the logic behind the “need” that has been expressed for reform of patent damages law in the context of the bills. But first, this paper will summarize the relevant, current law.

The Law of Patent Damages in a Nutshell

Damages in patent cases are governed by section 284 of the statute, which states in relevant part:

Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer, together with interest and costs as fixed by the court.⁴

This statute requires adequate compensation for use of the invention, and sets a reasonable royalty as the minimum of this adequate compensation. The reasonable royalty may take the form of a lump sum or running payments, but in either case is often calculated on a “base” of sales of a particular infringing product or uses of a particular infringing process. That base is not always the same as the claimed invention, a fact that results both from the market for the product or process and the way patent claims are drafted. The market affects the royalty base because some inventions lend significant value to more complex products or processes, while others have little impact on the demand for such products or processes. The form of patent claim affects the royalty base because the patent drafter may draft the claim narrowly to a particular component of the product or step of the process, or may draft the claim broadly to the product or process itself.

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² S. 1145, the Patent Reform Act of 2007, 110th Cong., 1st Sess. (introduced April 18, 2007).

³ H.R. 1908, the Patent Reform Act of 2007, 110th Cong., 1st Sess. (introduced April 18, 2007). The House and Senate bills are virtually identical.

⁴ 35 U.S.C. §284

Patent law addresses the effect of these factors on the royalty base in two principal ways. The first is the “entire market value rule,” which recognizes that the economic value added to a product or process by a patented feature may be greater than the value of the feature alone. A decade ago, in the *Rite-Hite* case, the Federal Circuit reviewed the background and rationale of the entire market value rule, and confirmed that patent infringement damages should be based on the full value of the infringing product or process in those instances where the patented feature is the basis for customer demand for the entire product or process.⁵ This expansion of the royalty base beyond the patented invention requires that the patentee establish that the patented feature is the basis for the market demand for the entire product or process.⁶

The second principal way in which patent damages law addresses the effect of the market and patent claim scope on the royalty base is contraction of the royalty base by a method known as “apportionment.” The district court opinion in the *Georgia-Pacific* case identified a list of factors that may be relevant to determining a reasonable royalty for patent infringement damages,⁷ including factor 13, which is often cited for the proposition that courts should consider “[t]he portion of the realizable profit that should be credited to the invention as distinguished from non-patented elements, the manufacturing process, business risks, or significant features or improvements added by the infringer” when apportioning damages.⁸ In other words, even though the claimed invention is drawn to an entire product or process, portions of the value or profit associated with that product or process can be subtracted from the damages base because they are attributable to the infringer, rather than the patentee. In this instance, the burden is on the accused infringer to establish that damages should be apportioned.⁹

⁵ *Rite-Hite Corp. v. Kelley Co., Inc.*, 56 F.3d 1538, 1549 (Fed. Cir.) (*en banc*), cert. denied, 116 S. Ct. 184 (1995).

⁶ Courts early on placed on the patentee the burden of justifying expansion of the damages base using the entire market value rule. See *Garretson v. Clark*, 111 U.S. 120, 121 (1884) (refusing to use the entire market value rule to expand the damages base for a patent on an improvement in the method of moving and securing in place the movable jaw or clamp of a mop head to the entire mop). This makes sense both because expansion of the damages base would benefit the patentee and because the patentee (or its predecessor in interest) controlled the drafting of the claims that led to the disparity in scope between the claimed invention and the product or process it seeks to include in the damages base through the entire market value rule.

⁷ *Georgia-Pacific Corp. v. United States Plywood Corp.*, 318 F. Supp. 1116 (S.D.N.Y. 1970), *modified and aff'd*, 446 F.2d 295 (2nd Cir. 1971), cert. denied, 404 U.S. 870 (1971).

⁸ *Id.* at 1120.

⁹ Courts early on placed on the infringer the burden of justifying contraction of the damages base through apportionment. See *Elizabeth v. Pavement Co.*, 97 U.S. 126, 141 (1877).

The House and Senate Bills on Patent Damages Reform

Against this background, the Senate and House bills would add the following provisions to 35 U.S.C. §284:¹⁰

(2) RELATIONSHIP OF DAMAGES TO CONTRIBUTIONS OVER PRIOR ART. –The court shall conduct an analysis to ensure that a reasonable royalty under paragraph (1) is applied only to that economic value properly attributable to the patent’s specific contribution over the prior art.¹¹ . . . The court shall exclude from the analysis the economic value properly attributable to the prior art, and other features or improvements, whether or not themselves patented, that contribute economic value to the infringing product or process.

(3) ENTIRE MARKET VALUE RULE.—Unless the claimant shows that the patent’s specific contribution over the prior art is the predominant basis for market demand for an infringing product or process, damages may not be based upon the entire market value of that infringing product or process.

(4) OTHER FACTORS.—In determining damages, the court may also consider, or direct the jury to consider, the terms of any nonexclusive marketplace licensing of the invention, where appropriate, as well as any other relevant factors under applicable law.¹²

Paragraph 2 would require damages apportionment in every patent infringement case in which the patentee seeks reasonable royalty damages, that is, every patent

¹⁰ S. 1145, *supra* note 2, section 5; H.R. 1908, *supra* note 3, section 5. The history of the previous patent reform bills and their damages discussion may be found in William C. Rooklidge, *Legislative Developments*, [http://www.patentmatter.com/issue/1.16.2007%20 TX_IPconference.pdf](http://www.patentmatter.com/issue/1.16.2007%20TX_IPconference.pdf), 7-14 (2007); William C. Rooklidge, *Reform of the Patent Laws: Forging Legislation Addressing Disparate Interests*, 88 J. Pat. & Trademark Off. Soc’y 9, 16-21 (2006).

¹¹ This provision also states “In a reasonable royalty analysis, the court shall identify all factors relevant to the determination of a reasonable royalty under this subsection, and the court or jury, as the case may be, shall consider only those factors in making the determination.” This sentence would make jury verdicts more easily reviewable by requiring detailed instructions on the relevant factors and by possibly requiring trial courts to use special interrogatories to ensure that juries consider only the relevant factors. See Amy Landers, *2007 Patent Reform: Proposed Amendments on Damages*, <http://patentlaw.typepad.com/patent/> (April 29, 2007). Although this sentence would change the law, it would not appear to do so in a way harmful to the system, and it does not appear to be in any way unbalanced.

¹² Paragraph 4 may be argued to be completely superfluous as it boils down to authorizing the court to consider or direct the jury to consider any relevant factor. It does, however, confirm that the apportionment provision of paragraph 2 and the entire market value rule provision of paragraph 3 do not completely supplant the law of reasonable royalty damages. As this provision would not change the law, it would not harm the system or favor one group over another.

infringement case.¹³ “The court shall,” the proposal commands, “conduct an analysis to ensure that a reasonable royalty under paragraph (1) is applied only” Damages apportionment is not relevant in every patent infringement case, indeed far from it. Apportionment is only “occasionally addressed by courts in the reasonable royalty context.”¹⁴ Forcing the courts to conduct an apportionment analysis in every case would be a colossal waste of time, time that the overburdened federal district courts can ill afford to spend.¹⁵

The same sentence carries another problem, it removes the burden of proof on apportionment from the infringer and places it on the court: “The court shall conduct an analysis to ensure that a reasonable royalty under paragraph (1) is applied only to that economic value properly attributable to the patentee’s specific contribution over the prior art.” At least since the Supreme Court’s 1877 decision in *Elizabeth v. Pavement Co.*¹⁶ the infringer has had the burden of proving that apportionment is appropriate. In that case, the patent was directed to a pavement system consisting of tar paper, wooden blocks and tar, the very combination used by the City of Elizabeth. “The Nicholson patent was a complete thing, consisting of a central combination of elements,” the Court explained, and “[t]he defendants used it as such,—the whole of it.”¹⁷ “If they superadded the addition made to it by [a third party],” the Court reasoned, “they failed to show that such addition contributed to the profits realized. The burden of proof was on them to do this.”¹⁸ Placing the burden of proving that apportionment is appropriate on the infringer makes sense both because contraction of the damages base would benefit the infringer and because evidence of the value of any contributions of the infringer lies within the infringer’s control. To lift the burden off the infringer in a provision that fails to even assign the burden of proof makes little sense.

¹³ As a practical matter, patentees always seek reasonable royalty damages if, for no other reason, only as a backup should their lost profits damages claim fail.

¹⁴ Eric E. Bensen, *Apportionment of Lost Profits in Contemporary Patent Damages Cases*, 10 Va. J. L. & Tech. 1, 3 n.2 (2005).

¹⁵ There is no indication that Congress has sought the input of the Administrative Office of the Federal Judiciary on either this provision, which is unlikely to find favor amongst federal judges with crowded dockets.

¹⁶ 97 U.S. 126, 141 (1877).

¹⁷ *Id.*

¹⁸ *Id.* The Court has distinguished between situations like *Garretson*, 111 U.S. at 121, where the patent claims are directed to only a part of the accused product or process, and those, like *Elizabeth v. Pavement Co.*, “Where profits are made by the use of an article patented as an entirety,” in which case “the infringer is liable for all the profits ‘unless he can show—and the burden is on him to show—that a portion of them is the result of some other thing used by him.’” *Westinghouse Elec. & Mfg. Co. v. Wagner Elec. & Mfg. Co.*, 225 U.S. 604, 614 (1912).

In addition to the procedural problems with paragraph 2, the final sentence of that section introduces a substantive problem. Requiring courts to “exclude from the analysis the economic value properly attributable to the prior art, and other features or improvements, whether or not themselves patented, that contribute economic value to the infringing product or process” would dramatically change the law of patent damages apportionment. Instead of requiring the infringer to prove the value its own contributions, this proposal would have courts first deduct the value of all the prior art components, then deduct the value of “other features or improvements, whether or not themselves patented, that contribute economic value to the infringing product or process,” regardless of who provided those features or improvements. The first step, commonly called “prior art subtraction,”¹⁹ proceeds on the theory that subtracting the value of the prior art components from the value of the infringing product leaves the value of the inventive contribution.²⁰ The principal problem with “prior art subtraction” is that it does not work at all with combination inventions, that is, inventions made up of combinations of old elements. “Prior art subtraction ignores the reality that at some level all inventions are combinations of old elements.”²¹ Inventions from the telephone to the Post-It® Note would have been ineligible for patent damages under this prior art subtraction approach. Another problem with prior art subtraction is that it vastly oversimplifies the analysis of which contributions should be apportioned, a complex analysis explored in depth in the *Georgia-Pacific* case in connection with infringing plywood sheets.²²

An additional substantive problem with the final sentence of paragraph 2 is the additional required subtraction. To the extent an invention could survive the prior art subtraction, the provision requires subtraction of the value of “other features or improvements, whether or not themselves patented, that contribute economic value to the infringing product or process.” Like the prior art subtraction, this subtraction is not limited to contributions made by the infringer. For example, if the patentee sold a product with two new features, one patented and the other not, and the infringer copied the product, including both features, the infringer would be able to deduct the value of the patentee’s unpatented feature along with the value of the prior art components. Another example is that this additional subtraction would appear to preclude damages for

¹⁹ See Testimony of Gary Griswold, Hearing on H.R. 1908, The Patent Reform Act of 2007 (April 26, 2007) (<http://judiciary.house.gov/media/pdfs/Griswold070426.pdf>) (“Griswold testimony”).

²⁰ Prior art subtraction was first proposed by the Business Software Alliance in 2005. See September 28, 2005 letter from David Simon, Chief Patent Counsel of Intel, to Representative Zoe Lofgren (“Under the test proposed by the BSA, the inventor would be awarded for the value added over and above the prior art, which is his or her inventive contribution – exactly what the patent law contemplates, no more and no less”).

²¹ Griswold testimony, *supra* note 19, at 6.

²² *Id.* at 1133-37 (rejecting apportionment based on patented technique of preventing warping of the plywood panel because prior art showed many ways to prevent warping and patented technique neither saved money nor created consumer demand).

conveyed sales, spare parts or any other application of the entire market value rule, which would otherwise appear to be authorized by paragraph 3.²³ The combination of the prior art subtraction and the catch-all subtraction would effectively eliminate all but nominal value in most patent infringement cases.

“Unless the claimant shows that the patent’s specific contribution over the prior art is the predominant basis for market demand for the infringing product or process,” paragraph 3 states, “damages may not be based upon the entire market value of that infringing product or process.” Unlike paragraph 2, this provision is not limited to reasonable royalty damages, but would instead apply to lost profits damages as well. And while this provision appears similar to *Rite-Hite*’s “customer demand” test for application of the entire market value rule, it substitutes “patent’s specific contribution over the prior art” for “claimed invention.” This substitution is not mere semantics, as “patent’s specific contribution over the prior art” is nowhere defined, is not commonly used in patent law, and suggests something far narrower than “claimed invention,” likely another form of prior art subtraction that would preclude application of the entire market value rule in all but a few cases.

In sum, Section 5 of the Senate and House bills suffers both substantive and procedural problems. In no way can this proposal be said to merely codify current law; the changes are substantial and, if implemented, would dramatically reduce, if not eliminate, patent damages in many cases. Now is not the time to be dramatically reducing patent infringement damages. The Supreme Court’s recent *eBay* ruling, which curtailed the remedy of injunctive relief as a deterrent to infringement, coupled with the pending bills’ limitation on the willful infringement source of enhanced damages, leave liability for monetary damages as the principal deterrent to blatant disregard for the inventor’s rights. The limitations on damages proposed in Section 5 would further encourage infringement, which would in turn discourage innovation.

The Need for Patent Damages Reform

In introducing the Senate bill, Senator Leahy explained, “As products have become more complex, often involving hundreds or thousands of patented aspects, litigation has not reliably produced damages awards in infringement cases that correspond to the value of the infringed patent.”²⁴ “Some claim that courts have allowed damages for infringement to be based on the market for an entire product when all that was infringed is a minor component of the product,” Senator Hatch explained, and the current bill “requires the court to conduct an analysis to ensure that when a reasonable

²³ See Landers, *supra* note 11. (“An open question exists as to the interaction between the proposed subsection (a)(2) governing reasonable royalties and (a)(3) governing the entire market value rule. Specifically, proposed subsection (a)(2) precludes recovery for the value of unpatented features of an infringing product or process. On the other hand, proposed subsection (a)(3) arguably permits such compensation where the inventive element is the “predominant basis for market demand.””).

²⁴ Cong. Rec. S4685 (April 18, 2007).

royalty is the award, it reflects only the economic value of the patent's specific contribution over the prior art."²⁵

A much more complete statement of the supposed need for patent damages reform was presented by Professor John R. Thomas during the recent hearing of the House Subcommittee on Courts, the Internet, and Intellectual Property.²⁶ Professor Thomas testified that "reform of patent damages law . . . could ameliorate two factors that contribute to the current troubles of the U.S. patent system: Uncertainty concerning the extent and value of patent rights; and the high licensing, litigation and transaction costs that innovative industry must pay in order to obtain clear answers."²⁷ The premise of Professor Thomas's analysis appears to be speculation on his part, "Routine expansion of the damages base to include components that the patent proprietor did not invent may leave the patent proprietor and accused infringer sharply at odds regarding the value of that infringement, thereby discouraging private settlement of disputes."²⁸ Recent studies suggest, however, that the size of patent infringement damages awards may well be significantly less than is popularly assumed.²⁹ "The net results," Professor Thomas claims, "appear to be reduced rates of innovation, decreased voluntary patent-based transactions, and higher prices for goods and services."³⁰ Nowhere in his testimony, however, does he cite any empirical evidence for this proposition.

Professor Thomas's claims are dramatic, but the examples offered to support them at worst are little more than questionable applications of well-established rules. A close look at each of the decisions cited reveals that none conflict with long-standing legal principles for making a fair determination of what may be credited to the patented invention. While there may be complaints about the resulting fact finding under such legal principles, those complaints are for the judiciary to correct, not the Congress. Let's examine his support.

Professor Thomas begins his analysis with a passing comment on the recent jury verdict against Microsoft Corporation in *Lucent Technologies v. Gateway*,³¹ "As suggested by the \$1.52 billion damages award Alcatel-Lucent recently obtained against Microsoft, evidence is mounting that judicial determinations of damages for patent

²⁵ Cong. Rec. S4691 (April 18, 2007).

²⁶ Testimony of Professor John R. Thomas, Hearing on H.R. 1908, the Patent Reform Act of 2007 (April 26, 2007) (<http://judiciary.house.gov/media/pdfs/Thomas070426.pdf>) ("Thomas testimony").

²⁷ *Id.*

²⁸ *Id.*

²⁹ See Paul Janicke, *Patent Litigation Remedies: Some Statistical Observations*, <http://www.patentmatter.com/issue/resources.php> (2007).

³⁰ Thomas testimony, *supra* note 26.

³¹ *Lucent Technologies v. Gateway* (S.D. Cal. February 21, 2007).

infringement have begun to exceed market rates.”³² Without pausing to analyze the *Lucent v. Gateway* verdict or the fact that that verdict is still subject to appeal, he states, “case law and empirical evidence alike reveal that the courts are inclined towards awarding damages that may far exceed an individual patent’s contribution to an infringing product.”³³ His support for all this is “ten such recent cases,” but as we shall see, these cases do not support his arguments and certainly do not justify legislative action in the form of the present bills.³⁴

Before reviewing his ten cases, though, let us look at the *Lucent v. Gateway* verdict. The gargantuan verdict has proved enough to draw criticism of the patent system, and that is the only aspect of the verdict on which Professor Thomas relies. The mere size of this verdict can be and has been used as a basis to attack many aspects of the patent system, and the system itself. An editorial in *The Los Angeles Times* summed it up nicely, “The patent system in the United States is so dysfunctional that it can even generate sympathy for Microsoft.”³⁵ But already that verdict may be crumbling. A large portion of the award was for damages based on foreign sales of computer systems, damages that are imperiled by the Supreme Court’s recent decision in *Microsoft Corp. v. AT&T Corp.*,³⁶ which rejected patent infringement based on 35 U.S.C. § 271(f) for foreign sales of software copied abroad from masters supplied from the United States.³⁷ The rest of the damages were based on a royalty rate applied against a base of sales of the computer systems with the Windows operating system sold in the United States. The infringing method, however, was performed by only a small part of the computer systems, namely the “Windows Media Player,” which is a software program in the Windows operating system. The district court instructed the jury both on damages apportionment³⁸ and the entire market value rule. The entire market value rule jury instruction, No. 62, explained: “An award on damages based on a percentage of sales of

³² Thomas testimony, *supra* note 26, at 3.

³³ *Id.*

³⁴ *Id.*

³⁵ Editorial, *Level Playing Field: Patent Problems in Patent Law*, *Los Angeles Times* (February 24, 2007). See also Steven Levy, *Changes in Patents May Be Pending: “Patent trolls” come out of the woodwork after companies have spent billions on a product*, *Newsweek* (March 12, 2007) (“nutty verdicts like the \$1.52 billion MP3 judgment”).

³⁶ No. 05-1056 (April 30, 2007).

³⁷ See Jess Bravin, *Patent Holders’ Grip Weakens*, *Wall Street Journal* (May 1, 2007) (“The same legal theory used by AT&T has been used by nearly all of the 45 patents suits pending against his company, said Brad Smith, Microsoft’s general counsel. ‘Simply by winning this decision today, we reduce the liability exposure in these various lawsuits by something close to 60%,’ Mr. Smith estimated.”).

³⁸ The instruction on damages apportionment was Instruction 60, which counseled the jury to consider: “The portion of the profit that is due to the patented invention, as compared to the portion of the profit due to other factors, such as unpatented elements or unpatented processes, or features or improvements developed by Microsoft.”

computer systems with a Windows operating system is permitted if Lucent proves . . . the specific features covered by the patent claims . . . were the basis for customer demand or that the patented features and the computer function together as a single unit.” This instruction goes further than the current law on “entire market value,” as explained below in the review of cases. The instruction’s disjunctive “or” is the problem: the Federal Circuit’s *Rite-Hite* decision requires that the claimed invention be the basis for the customer demand for the entire computer system before applying the entire market value rule. The functional relationship test is an additional test that that the Federal Circuit applied in *Rite-Hite* in a lost-profits context to conveyed goods sold with the claimed invention, not an alternative test for applying the entire market value rule.³⁹

But *Lucent v. Gateway* is arguably not the first case in which a court applied the functional relationship test as an alternative to the customer demand test. In one of Professor Thomas’s ten cases “awarding damages that may far exceed an individual patent’s contribution to an infringing product,” *Code-Alarm, Inc. v. Electromotive Technologies Corp.*,⁴⁰ the Federal Circuit issued a brief, unpublished, and therefore non-precedential, opinion affirming a district court’s award of damages on non-infringing components in addition to infringing car alarm sensors under the entire market value rule. This cryptic opinion could be, and has been, read to have applied the entire market value rule to unpatented components solely because they were sold with the patented components, without a showing that the infringing components were the basis for the customer demand for the entire machine,⁴¹ an interpretation at odds with the Federal Circuit’s earlier opinion in *Rite-Hite*.⁴²

³⁹ *Rite-Hite*, 56 F.3d at 1549-51. The patented goods in *Rite-Hite* were truck restraint and the goods sold with them, dock levelers, did not have a functional relationship with the truck restraints to warrant application of the entire market value rule. The *Rite-Hite* court began its analysis by recognizing that its “predecessor court held that damages for component parts used with a patented apparatus were recoverable under the entire market value rule if the patented apparatus ‘was of such paramount importance that it substantially created the value of the component parts,’” citing *Marconi Wireless Telegraph Co. v. United States*, 99 Ct. Cl. 1, 52 (Ct. Cl. 1942), *aff’d in part and vacated in part*, 320 U.S. 1 (1943). Subsequent commentators have viewed the functional relationship test as an added test for unpatented goods sold with patented goods. See, e.g., Susan Perng Pan, *Patent Damage Assessments after Rite-Hite and Grain Processing*, 43 IDEA 481, 506 (2002).

⁴⁰ 114 F.3d 1206 (Fed. Cir. 1997) (nonprecedential, table), 1997 WL 311542.

⁴¹ On the other hand, *Code-Alarm* could be read to have applied the royalty rate to a base of car alarms that included the patented car alarm sensor as a result of findings equivalent to the consumer demand test, that “the non-infringing components function together with the infringing components as a system” and that the “sensor was the most important component of Code-Alarm’s vehicle security system, that it was the best performing shock sensor for years, and that the shock sensor lacked a non-infringing substitute.” 1997 WL 311542 at *2-3.

⁴² That interpretation could also be argued to be inconsistent with *King Instrument Corp. v. Otari Corp.*, 767 F.2d 853, 865-66 (Fed. Cir. 1985), which rejected inclusion of spare parts into the royalty base under the entire market value rule because those parts were not sold with the infringing machine and did not derive their value from the patent, that is, there was no evidence to show that “the availability of spare parts is critical to the uniqueness of the [patented] swing arm device.” The Federal Circuit’s treatment of spare parts under the entire market value rule is analyzed in Eric E. Bensen, *Understanding the Federal Circuit*

Although *Code-Alarm* may be dismissed as both non-precedential and potentially inconsistent with *Rite-Hite*, its interpretation of the customer demand and functional relationship tests as alternates appears to have resurfaced in Jury Instruction No. 62 in *Lucent v. Gateway*. Are these two cases enough to justify corrective legislation? No. The common law process should be allowed to take its course. Just as the Supreme Court in *Microsoft v. AT&T* resolved the dispute over infringement under section 271(f) by foreign sales of software copied abroad from domestically produced masters, and just as the Supreme Court in *eBay, Inc. v. MercExchange LLC*⁴³ resolved the dispute over the standards for injunctions against patent infringement, there is no reason to believe that the Federal Circuit cannot correct any departure from its precedent in *Lucent v. Gateway*.⁴⁴ Indeed, along with limiting the royalty base to domestic sales under *Microsoft v. AT&T*, rejecting use of the entire computer systems as the damages base without proof that the patented invention was the basis for the consumer demand for the entire system will undoubtedly be the centerpiece of Microsoft's appeal to the Federal Circuit in *Lucent v. Gateway*.⁴⁵

In addition to *Lucent v. Gateway* and *Code-Alarm*, Professor Thomas identified nine judicial opinions he says show award of "damages that may far exceed an individual patent's contribution to an infringing product."⁴⁶ Neither his analysis of these opinions nor the opinions themselves, however, show that the damages clearly exceeded the patent's contribution. While one could argue with the factual determinations made by the judge or jury in a given case, none of the opinions that Professor Thomas identified conflict with the basic law of patent damages apportionment or the entire market value rule.

on Patent Damages for Unpatented Spare Parts, 12 Fed. Cir. B.J. 57, 86 (2002), which concludes that to include sales of spare parts in the royalty base under the entire market value rule, "a patentee must show . . . that the spare parts derive their value from the patent, meaning that the device and the spare parts together are analogous to a single assembly, that the assembly derives its entire market value from the patent, and the spare parts are normally sold with the patented device."

⁴³ 126 S. Ct. 1837 (2006).

⁴⁴ This is not to predict or recommend how *Lucent v. Gateway* necessarily should be decided on appeal. The merits of an appeal depend not only on the jury instructions, but the evidence, arguments, any *Daubert*, in limine and other evidentiary motions, and any JMOL motions, matters this author has not investigated.

⁴⁵ Even if Congress were not inclined to wait for the Federal Circuit to decide Microsoft's appeal, it could address this issue by less intrusive legislative means. For example, The Coalition for 21st Century Patent Reform has proposed codifying the present law by mandating *Rite-Hite's* customer demand test. See Codifying Apportionment of Patent Damages, <http://www.patentmatter.com/issue/pdfs/Codifying%20Apportionment%20of%20Damages-1.pdf>. (April 25, 2007). Under this proposal, *Lucent v. Gateway's* jury instruction number 62 would have been improper.

⁴⁶ Thomas testimony, *supra* note 26, at 3.

Several of Professor Thomas's cases fall into the category of cases in which the court applied the correct law, but the factual basis for application of the law is debatable. In *Bose Corp. v. JBL, Inc.*,⁴⁷ the United States Court of Appeals for the Federal Circuit affirmed the district court's application of the entire market value rule after finding that the inventive component was an integral functioning element of the speaker system that resulted in improved performance that drove customer demand, and that it was this improved performance that the infringer sought to achieve by incorporating the patented invention into its speaker systems. Bose sued JBL for infringement of its patented loudspeaker enclosure having a port tube that radiated acoustic energy to a region outside the enclosure. JBL asserted that the royalty determination should be based only on the value of the port tube. The district court found that the port tube was an integral functioning element of the speaker system that resulted in improved performance that drove customer demand, and that it was this improved performance that JBL sought to achieve by incorporating the patented invention into its speaker systems. Accordingly, the district court calculated damages based on the value of the entire speaker systems. In confirming the judgment, the Federal Circuit said:

The district court found that the invention of the '721 patent inextricably worked with other components of loudspeakers as a single functioning unit to provide the desired audible performance. The court also found that the invention of the '721 patent improved the performance of the loudspeakers and contributed substantially to the increased demand for the products in which it was incorporated. Bose presented un rebutted evidence that the invention of the '721 patent was integral to the overall performance of its loudspeakers by way of the elliptical port tube, which eliminated port noise and reproduced improved bass tones. JBL's marketing executive also acknowledged that improved bass performance was a prerequisite for JBL's decision to go forward with manufacturing and selling certain loudspeakers. Bose presented evidence detailing its efforts to market the benefits of its loudspeakers using the invention of the '721 patent and provided testimony on its increase in sales in the year following the introduction of its speakers containing the invention. All of this was substantial evidence to support an award of a reasonable royalty based upon the entire value of the loudspeakers.

Thus, even though the patent claim specifically related to the overall enclosure within which the inventive port operated, the court neither limited the royalty base to the enclosure, nor apportioned the base to the port alone. Instead, the court considered the effect of the port on the consumer demand for a speaker system having the qualities provided by this combination, found that the port was the basis for the value of the overall speaker system assembly, and determined that it was appropriate to award damages accordingly. In other words, the *Bose* court correctly applied the entire market value rule to the facts it found.

⁴⁷ 274 F.3d 1354 (Fed. Cir. 2001).

Fonar Corp. v. General Electric Co.,⁴⁸ is another case applying the correct legal rule to a debatable set of facts. The Federal Circuit affirmed a jury verdict that the patented invention was directed to a unique patented imaging feature incorporated into an MRI machine that enabled the machine to produce multiple oblique image slices of a patient in a single scan. This feature reduced the required imaging time, resulting in less patient discomfort and increased machine utilization. Other MRI machines available in the market lacked this feature and the infringer actually used this patented feature as a marketing tool to distinguish the infringing machine from others in the market. On this basis, the Court found that it was not unreasonable to conclude that the inclusion of this feature created the customer demand for the entire infringing machine. Rather than a misapplication of the law, this case presented a straightforward application of the entire market value rule to the facts found by the jury.

Another case applying the correct law to a debatable set of facts is *Tec Air Inc. v. Denso Manufacturing Michigan, Inc.*,⁴⁹ in which the Federal Circuit upheld the jury's award of reasonable royalty damages under the entire market value rule based on sales of an entire fan, even though the patent was directed to only a method for balancing the fan blades, where the evidence supported that the balancing method was the basis for the consumer demand for the fan and the patented method and unpatented components formed a single functional unit. Again, a straightforward application of the entire market value rule to the facts found by the jury. While one could debate the factual basis for the jury verdicts in *Bose*, *Fonar* and *Tec Air*, one must bear in mind that the standard of review of jury findings is "substantial evidence," an extremely deferential standard.

Another group of Professor Thomas's cases involves unpatented components sold with infringing products. An example is *Hem, Inc. v. Behringer Saws, Inc.*,⁵⁰ in which the Federal Circuit upheld a jury award of reasonable royalties based on unpatented saws sold with the infringing saw tables. The saw tables used a patented feeding device for moving wood or metal toward machine tools, such as saws or drills. The *Hem* court recognized that "[T]he entire market value rule permits recovery of damages based on the value of a patentee's entire apparatus containing several features when the patent-related feature is the 'basis for customer demand,'" and relied on "testimony that the basis for consumer demand was the end result that was obtained from the use of the patented feed table in conjunction with the unpatented saws" in holding that the patentee "established that the unpatented saws function together with the patented feed table so as to produce the desired end result, which was the basis of consumer demand."⁵¹ Clearly, the *Hem* court followed *Rite-Hite's* requirements.

⁴⁸ *Fonar Corp. v. General Elec. Co.*, 107 F.3d 1543 (Fed. Cir. 1997).

⁴⁹ 192 F.3d 1353, 1362 (Fed. Cir. 1999).

⁵⁰ 2003 WL 23213578 (N.D. Okla. 2003).

⁵¹ *Id.* at *3.

Another case involving unpatented components is *Interactive Pictures Corp. v. Infinite Pictures, Inc.*,⁵² in which the Federal Circuit upheld a jury award of reasonable royalties based on a royalty base that included non-infringing products that were sold bundled with the infringing computer software against a challenge based on the arguments that the bundled goods were non-infringing and that the bundling had been considered already in setting the royalty rate. The relevant holding was merely that non-infringing components properly can be considered in the royalty base in certain circumstances, a principle already well-established in *Rite-Hite* and earlier cases.

Another group of Professor Thomas's cases are those in which there was inadequate evidentiary or procedural basis for a full exploration of the apportionment or entire market value rule issues. One such case is *Lucent Technologies, Inc. v. Newbridge Networks, Inc.*,⁵³ in which the Federal Circuit affirmed application of the entire market value rule to data networking patents so as to include in the royalty base certain non-infringing software that the evidence showed must be sold along with the patented device. The trial court recognized that the entire market value rule applies when the patented feature constitutes the basis for customer demand, and held that "[w]here the plaintiff has shown the propriety of applying the entire market value rule and the defendant fails to offer evidence of apportionment, it is appropriate to include the unpatented items in the royalty basis." This case lacked the evidentiary basis for a full exploration of the entire market value and apportionment issues, not the kind of case on which to build legislation.

Another case that falls into the inadequate evidentiary or procedural basis category is *State Contracting & Engineering Corp. v. Condotte*,⁵⁴ in which the Federal Circuit affirmed the trial court's application of the entire market value rule to expand the royalty base beyond the patented integrated column and pile used in constructing highway sound barrier walls to the entire construction project because the undisputed testimony was that the contract was for a single integrated project (that is, the infringer could not have bid on just the sound barrier walls), and required use of the patented construction. The infringer does not appear to have argued that the damages should have been apportioned, and its challenge to jury instruction on application of the entire market value rule failed because the infringer itself had proposed a functionally equivalent instruction.⁵⁵ Accordingly, this opinion does not establish a principle of law on damages apportionment or the entire market value rule.

Another category of cases is the surrogate royalty cases, where the court looked at something other than the value of the infringing product or process to establish

⁵² 274 F.3d 1371, 1384 (Fed. Cir. 2001).

⁵³ 168 F. Supp.2d 181 (D. Del. 2001).

⁵⁴ 346 F.3d 1057 (Fed. Cir. 2003).

⁵⁵ This same instruction acknowledged that the patents only covered the integrated column and pile.

damages.⁵⁶ For example, in *Micro Chemical, Inc. v. Lextron, Inc.*,⁵⁷ the Federal Circuit affirmed the trial court's basing the reasonable royalty on sales of unpatented fused silica produced by infringing use of a rotary furnace where silica sales "[were] or should have been reasonably foreseeable." This case did not involve apportionment or entire market value, but instead was directed to establishing a surrogate royalty using sales of unpatented goods produced by infringing use of a patented method. Nonetheless, one commentator views this case as one of a pair of cases establishing a troubling trend in courts permitting application of the entire market value rule where there is merely a functional relationship between the infringing and non-infringing products and the sale of the noninfringing products is foreseeable, rather than requiring the infringing product to be a central reason for the consumers' purchase of the noninfringing product (or, as stated in *Rite Hite*, the patented product be "the basis of the customer demand" for the unpatented product).⁵⁸ But to support her hypothesized trend, she cites only two appellate cases allowing royalties based on sales of unpatented products made by patented processes or equipment, *Micro Chemical* and *Minco, Inc. v. Combustion Engineering, Inc.*⁵⁹ Against this "trend," this commentator recognizes that the Federal Circuit's decision in *Riles v. Shell Exploration & Production Co.*,⁶⁰ goes the other way. The *Riles* court rejected use of the value of an offshore oil platform as a surrogate royalty base for infringement of a patent on a method of erecting such a platform. "Shell may lawfully use its platform without infringing a patent on a method of anchoring the jacket during erection," the court explained, thus the patentee's theory that it "deserves a royalty based on the cost of the entire platform rests on a predicate that this record does not support."⁶¹ The *Riles*

⁵⁶ See generally Robert L. Harmon, PATENTS AND THE FEDERAL CIRCUIT 902-03 (7th ed. 2005).

⁵⁷ 318 F.3d 1119 (Fed. Cir. 2003) (based royalty on sales of ingredients used with microingredient weighing machine that incorporated claimed invention but were given away for free).

⁵⁸ Amy L. Landers, *Let The Games Begin: Incentives To Innovation In The New Economy Of Intellectual Property Law*, 46 Santa Clara Law Review 307, 357-59 (2006). Professor Landers recently has returned to the topic of patent infringement damages in the patent reform context in Landers, *supra* note 10, on the Patently-O blog. In both works she identifies what she sees as an expansion in the Federal Circuit's application of the entire market value rule to include unpatented components "so long as there is a "functional relationship" between the infringing and the non-infringing components" and "where the patentee demonstrates a 'reasonable probability' of selling the non-infringing components with the infringing part." As the case law analysis in this section shows, this author disagrees with Professor Landers on the extent to which the Federal Circuit has expanded application of the entire market value rule. A detailed study in the spare parts context also concludes that the Federal Circuit has not expanded application of the entire market value rule. See Bensen, *supra* note 41, at 85-88. But others have noted that the Federal Circuit case law in this area is "in a state of flux" and subject to "ambiguity." Karen D. McDaniel & Gregory M. Ansems, *Damages in the Post-Rite-Hite Era: Convoyed Sales Illustrate the Dichotomy in Current Damages Law*, 78 J. Pat. & Trademark Off. Soc'y 461, 481 (1996).

⁵⁹ 95 F.3d 1109, 1108 (Fed. Cir. 1996) (based royalty on sale of unpatented fused silica produced by patented rotary furnace where silica sales "[were] or should have been reasonably foreseeable").

⁶⁰ 298 F.3d 1302 (Fed. Cir. 2002).

⁶¹ *Id.* at 1311-12.

court also rejected use of the oil platform's first year of gross revenue as a surrogate royalty because that revenue of the platform "bears no relation to the value of the patented method."⁶² Certainly, if Professor Thomas was going to cite *Micro Chemical*, he should have acknowledged *Riles*.

In *Symbol Technologies v. Proxim*,⁶³ the jury awarded damages as a percentage royalty calculated against the infringer's sales, a royalty base that was not challenged or disputed. Neither apportionment nor the entire market value rule was involved in the case. Professor Thomas's statement that because many patents cover the standard involved, infringers could be forced to pay damages exceeding the product's sales price finds no support in the facts of the case. In the only Federal Circuit case where the royalty stacking issue has come up, *Integra Lifesciences I, Ltd. v. Merck KGaA*,⁶⁴ the Federal Circuit vacated the damages award and remanded to the trial court with express instructions to consider the cumulative effect of stacking royalties. The Federal Circuit is not insensitive to the royalty stacking issue, at least in cases where it is raised.

What do Professor Thomas's cases suggest about the law of patent infringement damages apportionment and the entire market value rule? That reasonable royalty cases have refused apportionment and applied the entire market value rule proves nothing; other reasonable royalty cases have applied apportionment⁶⁵ and denied application of the entire market value rule.⁶⁶ The area of law is complex, the scope of the royalty base is often difficult to know,⁶⁷ "the relative contribution of the patented feature often is a difficult matter to determine,"⁶⁸ and the detailed rules that may be teased out from the cases are the culmination of the courts' long and careful efforts to adhere to the statutory requirement to provide damages adequate to compensate for the infringement of an

⁶² *Id.* at 1313.

⁶³ Civ. No. 01-801-SLR, 2004 WL 1770290 (D. Del. 2004).

⁶⁴ 331 F.3d 860, 871-72 (Fed. Cir. 2003), *reversed on other grounds*, 545 U.S. 193 (2005).

⁶⁵ *See, e.g., Riles*, 298 F.3d at 1311-12; *Slimfold Mfg. Co. v. Kinkead Indus., Inc.*, 932 F.2d 1453, 1458-59 (Fed. Cir. 1991); *Procter & Gamble Co. v. Paragon Trade Brands, Inc.*, 989 F. Supp. 547, 612-13 (1997); *Mosinee Paper Corp. v. James River Corp.*, 22 USPQ2d 1657, 1662 (E.D. Wis. 1992); *Medtronic, Inc. v. Catalyst Research Corp.*, 547 F. Supp. 401, 414-16 (D. Minn. 1982); *see also* cases cited at Donald S. Chisum, CHISUM ON PATENTS §20.03[3][b][vii] n.146 (2005).

⁶⁶ *See, e.g., American Seating Co. v. USSC Group, Inc.*, 2006 WL 3472196 (W.D. Mich. 2006); *Promega Corp. v. Lifecodes Corp.*, 53 USPQ2d 1463, 1471-72 (D. Utah 1999); *Additive Controls & Measurement Sys., Inc. v. Flowdata, Inc.*, 29 USPQ2d 1890, 1900-01 (S.D. Tex. 1993); *Baldwin Tech. Corp. v. Dahlgren*, 27 USPQ2d 1096, 1104 (N.D. Tex. 1992); *Hilleby v. FMC Corp.*, 25 USPQ2d 1423, 1425-26 (N.D. Cal. 1992); *ITT Corp. v. United States*, 11 USPQ2d 1657, 1663-72 (Cl. Ct. 1989); *Julien v. Gomez & Andre Tractor Repairs, Inc.*, 512 F. Supp. 955, 959 (M.D. La. 1987); *see also* cases cited at Chisum, *supra* note 62, at §20.03[3][b][vii] n.

⁶⁷ Harmon, *supra* note 55, at 903.

⁶⁸ Chisum, *supra* note 64, at §20.03[3][b][vii].

inventor's patent. Apportionment recognizes the reality that consumer demand for an infringing product or process may in part spring from contributions from the infringer, and to reward the inventor for those contributions is inappropriate. On the other hand, the entire market value rule recognizes the reality that even complex assemblies may owe their marketability to a patented feature—a feature that drives consumer demand for the overall assembly. In those cases, it is entirely appropriate to reward the inventor according to the worth of her invention. To do otherwise would only encourage those who trespass and discourage inventors from making their intellectual efforts available to the public.

The “*Panduit Kicker*”

Professor Thomas suggests that the courts tend to award reasonable royalty damages at what he calls “supracompetitive rates,” based on an old Sixth Circuit lost profits case, *Panduit Corp. v. Stahl Bros. Fibre Works, Inc.*, that has been interpreted by some to authorize adding a “kicker” to the damages award. What Professor Thomas fails to mention in his testimony is that the United States Court of Appeals for the Federal Circuit rejected the “*Panduit kicker*” in the reasonable royalty context in *Mahurkar v. C.R. Bard, Inc.*⁶⁹ The Federal Circuit in *Mahurkar* rejected the “*Panduit kicker*” as inconsistent with the statutory scheme for awarding enhanced damages or attorney fees for willful infringement, the very basis on which Professor Thomas relies in his testimony.

Extension of the Legislation Beyond Reasonable Royalty Damages to Lost Profits Damages

Professor Thomas's suggestion that the damages provision should be extended beyond reasonable royalty damages to lost profits damages, on the basis that “the identical concerns over apportionment appear to arise for both sorts of damages calculations” overlooks at least four problems. First, the need for reform in this area has been couched entirely in terms of reasonable royalty damages. Such damages are the only damages available to what Professor Thomas calls “speculative patent acquisition and enforcement ventures.”⁷⁰ Such ventures do not sell patented or other competing products, and therefore cannot obtain lost profits damages.

Second, the discussion and analysis of the merits and consequences of this provision has taken place entirely in the context of reasonable royalty damages. Considerable analysis would have to be performed to identify potential unintended consequences in the lost profits damages arena. Notwithstanding Professor Thomas's assertion that “the identical concerns over apportionment appear to arise for both sorts of

⁶⁹ 79 F.3d 1572, 1579-81 (Fed. Cir. 1996). This holding does not preclude in certain circumstances the award of damages over and above a reasonable royalty, that is, “additional damages necessary to compensate for infringement.” *Maxwell v. J. Baker, Inc.*, 86 F.3d 1098, 1109-10 & n.4 (Fed. Cir. 1996), *cert. denied*, 530 U.S. 1115 (1997).

⁷⁰ Thomas testimony, *supra* note 26, at 1-2.

damages calculations,”⁷¹ there are subtle but important differences. For example, in the reasonable royalty context the facts underlying apportionment (which relate to the infringing product or process as opposed to the patentee’s product or process) and the entire market value rule can affect either or both the royalty base and rate,⁷² while in the lost profits context those facts relate only to the damages rate, the base being set by the sales the patentee would have made but for the infringing sales.⁷³ Because of potential differences, courts⁷⁴ and commentators⁷⁵ have been careful to note the distinction between the two analyses, and Congress should be no less careful.

Third, at the very least, the Federal Circuit’s introduction of market-share based lost-profits damages has reduced the need for damages apportionment in many lost profits cases in which the patentee is a market participant.⁷⁶ The patentee’s contribution is argued to be measured indirectly by market share, and several cases have allowed a calculation of the lost profits damages base by that market share.⁷⁷ Mandating courts to apply an apportionment analysis in such cases would be a waste for all concerned.

Fourth, both courts and commentators have taken the position that lost profits damages never requires apportionment.⁷⁸ They argue that the test for lost profits

⁷¹ *Id.* at 8.

⁷² *See, e.g., Slimfold*, 932 F.2d at 1458-59 (affirming limitation of royalty rate rather than apportionment of royalty base on automobile door); *Procter & Gamble*, 989 F. Supp. at 612-13 (lowering royalty rate because the patented “feature is only a single element in a complex system that forms a disposable diaper” but not apportioning the royalty base); *Marconi Wireless*, 99 Ct. Cl. at 47 (“It would make no difference in the ultimate compensation to plaintiff if the reasonable royalty were fixed at 5 percent of the selling price of the complete machine rather than 20 percent of one quarter of the sales price of the machine.”); *see also Rite-Hite*, 56 F.3d at 1549 n.9 (“This issue of royalty base is not to be confused with the relevance of anticipated collateral sales to the determination of a reasonable royalty rate”).

⁷³ *See, e.g., Rite Hite*, 56 F.3d at 1549-50 & n.9 (addressing entire market value rule in connection with lost profits base but recognizing same facts apply in reasonable royalty context in connection with base and rate); Bensen, *supra* note 14, at 29-45 (addressing entire market value rule in connection with lost profits base).

⁷⁴ *Rite-Hite*, 56 F.3d at 1549.

⁷⁵ Bensen, *supra* note 14, at 3 n.2.

⁷⁶ *See* Roger D. Blair & Thomas F. Cotter, *Rethinking Patent Damages*, 10 Tex. Intell. Prop. L.J. 1, 25-28 (2001).

⁷⁷ *See, e.g., State Indus., Inc. v. Mor-Flo Indus., Inc.*, 883 F.2d 1573, 1577-78 (Fed. Cir. 1989) (patentee with 40% market share entitled to lost profits on 40% of infringer’s market share and reasonable royalty damages on the rest); *see also* cases cited in Harmon, *supra* note 55 at 890-91.

⁷⁸ *See W.L. Gore & Assocs., Inc. v. Carlisle Corp.*, 198 USPQ 353, 364 (D. Del. 1978) (“Once the fact that sales have been lost has been proven, there is no occasion for the application of apportionment.”); *Saginaw Prods. Corp. v. Eastern Airlines, Inc.*, 196 USPQ 129, 133 (E.D. Mich. 1977); Brett Rabowsky, *Note, Recovery of Lost Profits on Unpatented Products in Patent Infringement Cases*, 70 S. Cal. L. Rev. 281,

damages is a mere “but for” test. While another commentator has argued that there is still a place for apportionment in lost profits damages,⁷⁹ Congress should hesitate to expand the apportionment analysis to lost profits damages before the Federal Circuit has even decided whether apportionment should apply in that context.

CONCLUSION

The patent infringement damages reform provisions of the pending Senate and House bills contain flaws that are exacerbated by the fact that there is no need for such substantial changes. Further judicial development and less-intrusive legislation could solve any problems that truly exist in the patent damages area. The attempt in recent legislative testimony to justify the legislation based on problems in the case law cannot withstand scrutiny.

294-95 (1996); Ned L. Conley, *An Economic Approach to Patent Damages*, 15 AIPLA Q. J. 354, 371 (1987).

⁷⁹ Bensen, *supra* note 14, at 3-4, 13-23.