

Nominal Reasonable Royalties for Patent Infringement

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INTRODUCTION

In recent years, government officials, legislators, industry executives, and academic commentators have all raised questions about excesses of the patent system, particularly with respect to damage awards. In 2003, the Federal Trade Commission issued a broad report on suggested patent reforms, noting the negative economic effects of overvalued patents: “Poor patent quality and legal standards and procedures that inadvertently may have anticompetitive effects can cause unwarranted market power and can unjustifiably increase costs.”¹ In the years following this report, Congress has drafted, but not yet passed, patent reform bills modifying postgrant opposition procedures, increasing funding for the US Patent and Trademark Office (PTO) to improve patent prosecution, revising the standard for willful infringement, and addressing other patent system issues.² Proposed legislation further includes a requirement that the PTO conduct a study of reasonable royalty damages, looking for patterns of “excessive and inequitable damage awards,” but not suggesting any immediate reforms on this issue.³ Technology industry executives, in particular, have supported patent reform legislation and publicly questioned the current system’s large damage awards.⁴ Legislative and industry reformers

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¹ Federal Trade Commission, *To Promote Innovation: The Proper Balance of Competition and Patent Law and Policy* 5 (Oct 2003), online at <http://www.ftc.gov/os/2003/10/innovationrpt.pdf> (visited Aug 29, 2008).

² See generally Patent Reform Act of 2007, HR 1908, 110th Cong, 1st Sess (Sept 10, 2007).

³ Patent Reform Act of 2007 at § 19 (cited in note 2). The Act contains a statutory modification with respect to reasonable royalties: “The court shall conduct an analysis to ensure that a reasonable royalty . . . is applied only to that economic value properly attributable to the patent’s specific contribution over the prior art.” *Id.* at § 5(b)(2). However, it is unclear how much of a change this would represent over the existing reasonable royalty factors considered by courts. See Part I.C.

⁴ See, for example, Greg Hitt, *Industries Brace for Tough Battle over Patent Law: Drug Makers Oppose Overhaul Plan Backed by Tech, Finance Firms*, Wall St J A1 (June 6, 2007) (quoting the general counsel of Cisco Systems as saying that the “current patent system has encouraged ‘lottery ticket’ litigation and deterred innovation”). Industry commentators agree. See, for example, Edi-

draw support from academic commentary criticizing court-determined reasonable royalty rates as overcompensating patent holders.⁵ Despite some court-initiated reform on patent remedies,⁶ courts appear hesitant to reform reasonable royalty damages.

Reasonable royalty damage awards derive from 35 USC § 284, which provides that awards must be “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.”⁷ Since 1965, federal courts have followed a fifteen-factor reasonable royalty analysis laid out in *Georgia-Pacific Corp v US Plywood Corp*,⁸ compiled from earlier patent infringement cases.⁹

Patent infringement suits present special concerns that can cloud reasonable royalty determinations under *Georgia-Pacific*. A patent infringement suit may be complicated by the availability of a noninfringing alternative¹⁰—an alternate technology or process that performs the same function as the infringing portion within the product but does not fall within the claims of the patent- or patents-in-suit. The *Georgia-Pacific* factors, however, do not directly address noninfringing alternatives, resulting in potential overcompensation of the patent holder. The most elaborate discussion of the importance of noninfringing alternatives on reasonable royalty analysis came in *Grain Processing Corp v American Maize-Products Co*,¹¹ where the district

torial, *Patently Absurd*, Wall St J A14 (Mar 1, 2006) (“U.S. patent law has been hijacked so that it now operates nearly in reverse, deterring research and penalizing innovation.”).

⁵ See Mark A. Lemley and Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 Tex L Rev 1991, 2020–25 (2007) (giving particular attention to practical difficulties with court royalty calculations in cases involving combination products that “tend to drive royalty rates up”). See also Amy L. Landers, *Let the Games Begin: Incentives to Innovation in the New Economy of Intellectual Property Law*, 46 Santa Clara L Rev 307, 335–40 (2006); Vincent O’Brien, *Economics and Key Patent Damages Cases*, 9 U Balt Intell Prop L J 1, 3 (2000).

⁶ The Supreme Court recently carved back the Federal Circuit’s policy of near-automatic injunctions in infringement suits. See *MercExchange, LLC v eBay, Inc*, 547 US 388, 393–94 (2006). The Federal Circuit itself significantly raised the bar for plaintiffs attempting to establish willful infringement. See *In re Seagate Technology, LLC*, 497 F3d 1360, 1371 (Fed Cir 2007) (“[T]o establish willful infringement, a patentee must show by clear and convincing evidence that the infringer acted despite an objectively high likelihood that its actions constituted infringement of a valid patent.”). The prior willfulness doctrine was akin to a negligence standard. *In re Seagate* now requires “a showing of objective recklessness” on the part of the infringer, rather than mere negligence. *Id.*

⁷ 35 USC § 284 (2000). See also Part I.A for discussion of this statutory language.

⁸ 318 F Supp 1116 (SDNY 1965).

⁹ See *id.* at 1120.

¹⁰ This concept is also referred to in case law as a “noninfringing substitute.” See, for example, *Wechsler v Macke International Trade, Inc*, 486 F3d 1286, 1298 (Fed Cir 2007).

¹¹ 893 F Supp 1386 (ND Ind 1995) (“*Grain Processing VI*”), reversed, 1997 WL 71726 (Fed Cir) (“*Grain Processing VII*”), judgment entered at 979 F Supp 1233 (ND Ind 1997) (“*Grain Processing VIII*”), affirmed, 185 F3d 1341 (Fed Cir 1999) (“*Grain Processing IX*”). Multiple

court found that the existence of noninfringing substitutes could provide an effective cap on a reasonable royalty.¹²

While *Grain Processing* suggests that the presence of noninfringing alternatives provides a damages ceiling, the Federal Circuit has elsewhere indicated that a reasonable royalty serves as a damages floor.¹³ The court in *Grain Processing* was able to duck the problem of collision between floor and ceiling because the noninfringing alternative was more expensive than the infringing method, meaning a cap would still permit a somewhat substantial royalty.¹⁴ The Federal Circuit's subsequent unclear stand on the implications of *Grain Processing* has left district courts reluctant to use *Grain Processing*'s cap on reasonable royalty damages.

This Comment seeks to examine a narrow issue raised by *Grain Processing*: when a noninfringing alternative to a patented invention is available, with a minimal cost difference from the patented invention, does the patent damage statute permit or even require an award of nominal damages based on this minimal cost difference? In other words, what happens when *Grain Processing*'s reasonable-royalty ceiling falls through the Federal Circuit's reasonable-royalty floor? While many *Grain Processing* cases¹⁵ avoid this question, courts should confront this issue before deciding whether *Grain Processing* should be widely applied (as the Federal Circuit has weakly suggested) or should be cabined by continued use of *Georgia-Pacific* (as district court cases have done).

To that end, Part I discusses reasonable royalty damages and the statutory and case law basis for nominal damages, examining *Georgia-Pacific* and cases that preceded and followed it. Part II discusses the implications of *Grain Processing* for reasonable royalty analysis and examines the uncertainty that has followed in district courts as well as in the Federal Circuit. Part III suggests that courts should embrace *Grain Processing*'s reasoning in cases of infringement in the presence of noninfringing alternatives and considers how issues of deterrence and willful infringement are affected by this choice of a legal rule.

Grain Processing opinions are referenced in this Comment; I have followed the numbering scheme used by the Federal Circuit in *Grain Processing IX*.

¹² See *Grain Processing VI*, 893 F Supp at 1392 (observing that such a cap could be based on the cost difference between the patented invention and the noninfringing alternative).

¹³ See *Trans-World Manufacturing Corp v Al Nyman & Sons, Inc.*, 750 F2d 1552, 1568 (Fed Cir 1984).

¹⁴ See *Grain Processing VI*, 893 F Supp at 1392–93 (noting expert testimony on a cost difference of 2.3 percent, and setting a 3 percent reasonable royalty to account for uncertainty in temporal variance in costs as well as to account for the hypothetical amount that the infringer would have paid to avoid the risk of litigation). The resulting award exceeded \$2.4 million. See *id* at 1397.

¹⁵ I use this term to refer to cases involving reasonable royalty calculations in the presence of available, noninfringing alternatives.

I. REASONABLE ROYALTY DAMAGES

A. Statutory Basis

The patent damage statute, 35 USC § 284, provides for damages in infringement suits as follows: “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.*”¹⁶ The word “reasonable” suggests an objective analysis, which might exclude, for example, the patent licensing policies of a particular patentee. In contrast, the statutory phrase “damages adequate to compensate for infringement” suggests a subjective inquiry, directing courts to examine the actual injury suffered by this patentee as a result of the infringement. Courts reconcile these two clauses of the statute by interpreting them as alternative bases for recovery: (1) lost profits, as compensation for a provable injury suffered by the patentee; and (2) a reasonable royalty, when no provable injury exists.¹⁷ Accordingly, when plaintiffs have difficulty proving lost profits, they seek to recover reasonable royalty damages. The statute leaves wide discretion to courts to enhance damages, allowing them to “increase the damages up to three times the amount found or assessed.”¹⁸ Any such damage enhancements have generally followed the doctrine of willful infringement—that is, when the infringer knew her actions were highly likely to infringe the patent in question, yet infringed nonetheless.¹⁹ The statute further provides that the court, when making reasonable royalty determinations, may be assisted by experts.²⁰

The patent statutes’ definition of infringement suggests that the function of a reasonable royalty damage award is to cure the unauthorized use of the patented technology. Infringement occurs when a party “makes, uses, offers to sell, or sells any patented invention” and does

¹⁶ 35 USC § 284 (emphasis added). The reasonable royalty language first appeared in the patent statutes in 1946: “[C]omplainant shall be entitled to recover general damages which shall be due compensation for making, using, or selling the invention, not less than a reasonable royalty therefor.” An Act to Amend Revised Statutes, 4921 (U.S.C.A., Title 35, Patents, Sec. 70) Providing that Damages Be Ascertained on the Basis of Compensation for Infringement, Pub L No 79-587, 60 Stat 778 (1946), originally codified at 35 USC § 70. The current language reflects revisions made in An Act to Revise and Codify the Laws Relating to Patents and the Patent Office and to Enact into Law Title 35 of the United States Code Entitled “Patents,” Pub L No 82-593, 66 Stat 792, 813 (1952), codified at 35 USC § 284 (2000).

¹⁷ See, for example, *Grain Processing Corp v American Maize-Products Co*, 893 F Supp 1386, 1389 (ND Ind 1995) (“*Grain Processing VI*”) (“An aggrieved patent holder thus receives the greater of lost profits or a reasonable royalty.”).

¹⁸ 35 USC § 284.

¹⁹ See note 6.

²⁰ 35 USC § 284.

so “without authority.”²¹ Accordingly, a reasonable royalty compensates for infringement when it corresponds to the amount needed to obtain consent for authorized use by the infringer.

B. Before *Georgia-Pacific*

Explicit “reasonable royalty” language made its way into the patent statutes only after federal courts had applied this language for decades. Federal courts viewed a reasonable royalty as a sound basis for a determination of damages for infringement, particularly in the absence of data on lost profits:

The plaintiff was clearly entitled to damages for the infringement. If there had been an established royalty, the jury could have taken that sum as the measure of damages. In the absence of such royalty, and in the absence of proof of lost sales or injury by competition, the only measure of damages was such sum as, under all the circumstances, would have been a reasonable royalty for the defendant to have paid.²²

Early patent cases used reasonable royalty theory to limit damages for the patentee. For example, the Seventh Circuit in 1911 affirmed an award of nominal damages where the infringer only achieved a modest efficiency gain.²³

Just prior to the rise of *Georgia-Pacific*, the Supreme Court itself took the position that patent holders are not necessarily entitled to damage awards in all cases. In *Aro Manufacturing Co, Inc v Convertible Top Replacement Co, Inc*,²⁴ the Court noted that § 284 damages are intended to address “the difference between [the patentee’s] pecuniary condition after the infringement, and what his condition would have been if the infringement had not occurred.”²⁵ In that case, the Court found it clear from the statutory language that “the statute allows the award of a reasonable royalty, or of any other recovery, *only if such amount constitutes ‘damages’ for the infringement.*”²⁶ Thus in *Aro*

²¹ 35 USC § 271(a) (2000).

²² *Dowagiac Manufacturing Co v Minnesota Moline Plow Co*, 235 US 641, 649 (1915), quoting *Hunt v Cassidy*, 64 F 585, 587 (9th Cir 1894).

²³ See *Columbia Wire Co v Kokomo Steel & Wire Co*, 194 F 108, 110 (7th Cir 1911) (arguing that awarding greater damages would “attribute to the patent a virtue it did not really have”). See also *Horvath v McCord Radiator & Manufacturing Co*, 100 F2d 326, 335 (6th Cir 1938) (“In fixing damages on a royalty basis against an infringer, the sum allowed should be reasonable and that which would be accepted by a prudent licensee who wished to obtain a license but was not so compelled and a prudent patentee, who wished to grant a license but was not so compelled.”).

²⁴ 377 US 476 (1964).

²⁵ *Id* at 507, quoting *Yale Lock Manufacturing Co v Sargent*, 117 US 536, 552 (1886).

²⁶ *Aro*, 377 US at 505 (emphasis added).

the Supreme Court clearly articulated that reasonable royalties are recoverable only as “damages,” again construing this term strictly against patentees.

C. The *Georgia-Pacific* Factors

In the context of this mix of statute and precedent, federal courts embraced the fifteen-factor test compiled in *Georgia-Pacific* for determining reasonable royalties.²⁷ By purporting to summarize and combine prior case law, *Georgia-Pacific* effectively replaced the analysis of earlier cases with a set of factors to balance. Courts following *Georgia-Pacific* have adopted its test in spite of the fact that the *Georgia-Pacific* court itself hardly suggested that it was proposing a complete or sufficiently general set of factors applicable to all other cases.²⁸

The court in *Georgia-Pacific* identified fifteen factors for consideration, without grouping or otherwise organizing the suggested considerations. The varied forms of inquiry—both objective and subjective—are better understood by considering groups of factors together.

One group of factors weighs the value of the patented invention. The eighth²⁹ and ninth³⁰ factors look to the objective value of the patent as evidenced by the market and by comparisons to other products. The sixth³¹ and tenth³² factors consider the subjective perspective of the patentee, looking at the value of the particular commercial embodiment that the patentee has pursued and its role within the patentee’s product lines. The eleventh factor³³ switches perspectives, examining the value of the patented technology to the infringer. The thirteenth

²⁷ 318 F Supp at 1120.

²⁸ The court introduced the factors rather tentatively: “The following are some of the factors *mutatis mutandis* seemingly more pertinent to the issue herein.” *Id.* The use of the Latin phrase *mutatis mutandis* (“the necessary changes having been made”) strongly suggests to future readers that this particular list in its form may not be suitable or appropriate for application in future cases.

²⁹ “The established profitability of the product made under the patent; its commercial success; and its current popularity.” *Id.*

³⁰ “The utility and advantages of the patent property over the old modes or devices, if any, that had been used for working out similar results.” *Id.*

³¹ “The effect of selling the patented specialty in promoting sales of other products of the licensee; the existing value of the invention to the licensor as a generator of sales of his non-patented items; and the extent of such derivative or convoyed sales.” *Georgia-Pacific*, 318 F Supp at 1120.

³² “The nature of the patented invention; the character of the commercial embodiment of it as owned and produced by the licensor; and the benefits to those who have used the invention.” *Id.*

³³ “The extent to which the infringer has made use of the invention; and any evidence probative of the value of that use.” *Id.*

factor³⁴ considers a special case of value to an infringer, where the patented invention only constitutes a portion of the product as sold and may not constitute a significant portion of the product's value.

A second group of factors considers a reasonable royalty as a proxy for a license. The first,³⁵ second,³⁶ and fourth³⁷ factors are subjective inquiries into the prior patent licensing activities of the patentee and the infringing party, including a consideration of whether the patentee had ever decided to license the patent at all. The twelfth factor³⁸ makes an objective licensing inquiry, looking to the customary policies of the particular relevant industry. The third³⁹ and seventh⁴⁰ *Georgia-Pacific* factors address the hypothetical scope and duration of the license for which the reasonable royalty is being calculated. Finally, the fifteenth *Georgia-Pacific* factor directs courts to conduct a hypothetical licensing negotiation between the parties:

The amount that a licensor (such as the patentee) and a licensee (such as the infringer) would have agreed upon (at the time the infringement began) if both had been reasonably and voluntarily trying to reach an agreement; that is, the amount which a prudent licensee—who desired, as a business proposition, to obtain a license to manufacture and sell a particular article embodying the patented invention—would have been willing to pay as a royalty and yet be able to make a reasonable profit and which amount would have been acceptable by a prudent patentee who was willing to grant a license.⁴¹

This hypothetical negotiation is objective, as it takes place between hypothetical parties positioned like the patentee and infringer, but not

³⁴ “The 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.” *Id.*

³⁵ “The royalties received by the patentee for the licensing of the patent in suit, proving or tending to prove an established royalty.” *Georgia-Pacific*, 318 F Supp at 1120.

³⁶ “The rates paid by the licensee for the use of other patents comparable to the patent in suit.” *Id.*

³⁷ “The licensor’s established policy and marketing program to maintain his patent monopoly by not licensing others to use the invention or by granting licenses under special conditions designed to preserve that monopoly.” *Id.*

³⁸ “The portion of the profit or of the selling price that may be customary in the particular business or in comparable businesses to allow for the use of the invention or analogous inventions.” *Id.* It is ambiguous as to which “particular business” is the appropriate venue for inquiry—that of the patentee or of the infringer, which may not be the same.

³⁹ “The nature and scope of the license, as exclusive or non-exclusive; or as restricted or non-restricted in terms of territory or with respect to whom the manufactured product may be sold.” *Georgia-Pacific*, 318 F Supp at 1120.

⁴⁰ “The duration of the patent and the term of the license.” *Id.*

⁴¹ *Id.*

the parties themselves. However, as noted above, several of the previous *Georgia-Pacific* factors direct courts to examine these same considerations from the perspective of the parties, who may not be behaving “reasonably and voluntarily.”⁴²

Two *Georgia-Pacific* factors stand apart from these groupings. The fourteenth factor⁴³ simply allows for expert testimony supporting the other factors. The fifth factor⁴⁴ considers the competitive position of the patentee and infringer. Because lost profits can generally be recovered when the patentee and infringer are competitors, it is unclear why this analysis should be part of a reasonable royalty calculation, which is performed as an alternative when lost profits are unavailable or too difficult to prove.

D. The Impact of *Georgia-Pacific*

1. The *Georgia-Pacific* factors and a “reasonable” royalty.

Georgia-Pacific offers a broad set of factors that combine objective inquiries into the value of the patent with subjective inquiries into the use of the patent by both the patentee and infringer, as well as the relevant licensing activities of the parties. Because the use of the term “reasonable” in the statute suggests that an objective “reasonable person” standard should be applied to reasonable royalty calculations, it is unclear whether the *Georgia-Pacific* court erred in including subjective, party-specific inquiries in its calculus.

Not all subjective *Georgia-Pacific* factors are necessarily in conflict with the “reasonable person” standard suggested by the statute. The eleventh (and to some extent, the thirteenth) factor looks at how the particular infringing party has used the patented invention.⁴⁵ The infringer may be utilizing the patented invention in a manner nearly identical to the patentee’s use, or the infringer’s product may only fall under the claims of the patent in a peripheral and non-essential way. This use clearly impacts the royalty that a reasonable person in the infringer’s position would be willing to pay, and examining these particularities of the parties’ conduct seems appropriate.

⁴² *Id.* Specifically, the fourth factor (the licensing policy of the patentee), the sixth and tenth factors (the value and use of the patented invention by the patentee), and the eleventh factor (the value of the patented invention to the infringing party) would seem to influence heavily an actual negotiation.

⁴³ “The opinion testimony of qualified experts.” *Georgia-Pacific*, 318 F Supp at 1120.

⁴⁴ “The commercial relationship between the licensor and licensee, such as, whether they are competitors in the same territory in the same line of business; or whether they are inventor and promoter.” *Id.*

⁴⁵ See *id.*

However, the fourth factor's subjective consideration of the patentee's licensing policy, or lack thereof, could result in a computation of a less-than-reasonable royalty. If the court is performing a reasonable royalty analysis, the patentee and infringer are likely not directly aligned competitors (or else lost profits would be recoverable). Accordingly, a reasonable, profit-maximizing patentee may well license the patent to a noncompetitor to deploy technology covered by the claims of the patent in a noncompeting market. If, however, this particular patentee has never licensed the patent in this manner, this inquiry will cut the wrong way, increasing the size of a reasonable royalty award but making it less reasonable.

Patent infringement consists of the use of a patented technology without the consent of the patent holder.⁴⁶ *Georgia-Pacific's* factors, however, require courts to inquire into the cost of obtaining consent, both from the actual patentee and a fictitious, objective person. Due to this combination of objective and subjective factors, adherence to *Georgia-Pacific's* list pulls courts in multiple directions, especially when confronting infringement in the presence of noninfringing alternatives.

2. The *Georgia-Pacific* factors and noninfringing alternatives.

In a case where noninfringing alternatives are alleged to be available, certain *Georgia-Pacific* factors appear particularly relevant. Factual investigation under the first factor (licensing royalties actually received by the patentee) could reveal circumstantial evidence of the availability of acceptable noninfringing alternatives. If the patent has been licensed successfully, it seems unlikely that noninfringing alternatives are readily available at comparable cost, or licensees would have adopted those alternatives. However, this may not be the case if the patented product is not being used by the infringer in the same way as it has been used by the patentee's existing licensees.⁴⁷

Consideration of the ninth factor (the advantages of the patented invention over previous methods for obtaining the same result) may amount to consideration of noninfringing alternatives, although the *Georgia-Pacific* court only mentions "old modes or devices."⁴⁸ Accordingly, this factor does not seem to cover alternatives developed after the filing of the patent but before the period of infringement. Analysis under the ninth factor may also indicate why—other than for economic rea-

⁴⁶ See Part I.A. See also 35 USC § 271(a).

⁴⁷ See, for example, *Grain Processing VI*, 893 F Supp at 1390. The customers of the infringing party in *Grain Processing* did not actually need their product to have the particular descriptive ratio of saccharides that was present in the patented product—that ratio was not an important commercial attribute of the infringing party's product.

⁴⁸ *Georgia-Pacific*, 318 F Supp at 1120.

sons—the infringer adopted the patented invention and whether such use is itself evidence that no acceptable substitutes were actually available.

Finally, the presence of noninfringing alternatives would seem to have a heavy influence on the fifteenth factor—the hypothetical negotiation. When noninfringing alternatives are available, the cost increase (if any) incurred by using the alternative instead of the patented technology effectively caps the value of the patentee's offer of a license to this infringer. If the product or process the infringer seeks to implement can be achieved without use of the patented product and at a lower cost than the offered license, the hypothetical negotiation will push the license cost down to the cost of the available noninfringing alternative.

II. REASONABLE ROYALTIES AND *GRAIN PROCESSING*

Georgia-Pacific's set of reasonable royalty factors provides no specific guidance for courts confronting noninfringing alternatives. While the Federal Circuit has acknowledged the relevance of noninfringing alternatives in reasonable royalty calculations,⁴⁹ it has yet to clarify the extent to which available alternatives may reduce damages for infringement.

A. The *Grain Processing* Opinions

The clearest exposition of the significance of available noninfringing alternatives came through a series of district court opinions by Seventh Circuit Judge Frank Easterbrook (sitting by designation in the Northern District of Indiana) in *Grain Processing Corp v American Maize-Products Co.*⁵⁰ The plaintiff in *Grain Processing* sought lost profits and, in the alternative, reasonable royalties from a defendant whose food products infringed the plaintiff's malto-dextrin patent.⁵¹ Following a finding of infringement in the course of litigation, the defendant company adopted an alternative process, yielding a noninfringing final product.⁵² Judge Easterbrook found that the noninfringing process could have been used by the infringer for the entire period of time following the assignment of the patent to the plaintiff, a de-

⁴⁹ See, for example, *Zygo Corp v Wyko Corp*, 79 F3d 1563, 1571–72 (Fed Cir 1996) (remanding for recalculation of reasonable royalty damages because the defendant “would have been in a stronger position to negotiate for a lower royalty rate knowing it had a competitive noninfringing device ‘in the wings’”).

⁵⁰ 893 F Supp 1386 (ND Ind 1995) (“*Grain Processing VI*”), reversed, 1997 WL 71726 (Fed Cir) (“*Grain Processing VII*”), judgment entered at 979 F Supp 1233 (ND Ind 1997) (“*Grain Processing VIII*”), affirmed, 185 F3d 1341 (Fed Cir 1999) (“*Grain Processing IX*”).

⁵¹ See *Grain Processing VI*, 893 F Supp at 1389.

⁵² See *id.*

termination that “scotch[ed] [the plaintiff’s] request for lost-profits damages.”⁵³ The infringing party would have been able “to offer perfectly lawful competition” because a noninfringing process could have been used, and the plaintiff was thus unable to recover lost profits.⁵⁴

Judge Easterbrook then proceeded to a reasonable royalty analysis. The alternative noninfringing process was available but would have been more expensive to implement than the infringing process.⁵⁵ Judge Easterbrook first considered the cost difference between the infringing and noninfringing processes (approximately 2.3 percent) as a basis—in fact, the sole basis—for a reasonable royalty: “[T]he only [costs] relevant to this case are the incremental costs of avoiding infringement.”⁵⁶ However, due to uncertainties in the variation of this cost difference across the entire period of infringement,⁵⁷ Judge Easterbrook instead adopted a royalty of 3 percent of the defendant’s sales.⁵⁸

While the reasonable royalty award in *Grain Processing* was not challenged on appeal,⁵⁹ the Federal Circuit nevertheless addressed the

⁵³ See *id.* at 1392. The patent was assigned to the plaintiff by a third party, but no right to recover damages for pre-assignment infringement was transferred. See *id.* at 1391. Much of the district court opinion concerns whether the noninfringing process was available during the relevant period of time, as the infringing party did not actually implement the process until much later. See *id.* at 1389–92. The court stated that it need not decide whether the defendant “could have employed the [noninfringing] dual-enzyme process from the get-go” because, by the time of the assignment of the patent, the court was “confident” that defendant could have implemented the noninfringing process. *Id.* at 1391.

⁵⁴ *Id.* at 1392. See also *Grain Processing VIII*, 979 F Supp at 1236 (“A product that is within a firm’s existing production abilities but not on the market . . . effectively constrains the patent holder’s profits.”); *Panduit Corp v Stahlin Brothers Fibre Works Inc*, 575 F2d 1152, 1156 (6th Cir 1978) (requiring that a patentee prove the “absence of acceptable noninfringing substitutes” in order to recover lost profits).

⁵⁵ See *Grain Processing VI*, 893 F Supp at 1392.

⁵⁶ *Id.* Judge Easterbrook asked, “What, then, is the reasonable royalty to which [plaintiff] is entitled?” and answered that the defendant’s expert “calculated a cost difference approximating 2.3%.” *Id.*

⁵⁷ Judge Easterbrook suggested that but for these uncertainties, the reasonable royalty would have been set by the cost difference: “Nonetheless, I hesitate to set the royalty at [defendant expert’s] figure for glucoamylase cost differences.” *Id.*

⁵⁸ *Id.* at 1392–93. Note that the 3 percent royalty is computed from the defendant’s sales and bears no relation to the 2.3 percent cost difference between the processes. Judge Easterbrook considered prior licenses issued by the patentee, customary industry licenses, and a hypothetical negotiation (*Georgia-Pacific* factors one, twelve, and fifteen) in reaching this number. See *id.* at 1393.

⁵⁹ The plaintiffs appealed the district court’s determination that the noninfringing alternative in question was actually available to the infringer for the relevant period. See *Grain Processing VII*, 1997 WL 71726 at *1–2 (indicating that an alternative that the infringer “could have developed [] sooner and that [] would have been a noninfringing substitute” could not be considered an alternative that was “available or on the market”). Accordingly, the Federal Circuit remanded the case. See *id.* at *1. On remand, Judge Easterbrook was forced to remind the Federal Circuit of its own precedent for determining the availability of noninfringing substitutes. See *Grain Processing VIII*, 979 F Supp at 1235 (“I am confident that the court of appeals did not

issue of noninfringing alternatives and reasonable royalties. The Federal Circuit appeared to interpret Judge Easterbrook's reasonable royalty rate as a modification of the 2.3 percent cost difference, not as a separately determined percentage of net sales: "The district court also found that [defendant's] production cost difference between infringing and noninfringing Lo-Dex 10 effectively capped the reasonable royalty award."⁶⁰ The court resisted the plaintiff's contention that such a damage award "ceiling" was somehow unfair: "[A]lthough [plaintiff] stresses that [defendant] should not reap the benefit of its 'choice' to infringe rather than use the more expensive Process IV, [plaintiff] does not allege willful infringement and the record shows none."⁶¹ In the absence of willful infringement, therefore, the Federal Circuit seemed comfortable with a reasonable royalty ceiling based on an available noninfringing alternative.

In the same opinion, however, the Federal Circuit also characterized reasonable royalties as a floor for "damages adequate to compensate for the infringement."⁶² Under either characterization of a reasonable royalty—whether the damage amount is a floor or a ceiling—the court affirmed the view that "the statute specifically envisions a reasonable royalty as a form of adequate compensation."⁶³

Grain Processing managed to dodge the sticky question of what might happen when this floor and ceiling meet, squeezing out any damage recovery. Judge Easterbrook ended up applying a combination of *Georgia-Pacific* factors to reach a reasonable royalty, but the 2.3 percent cost difference would have allowed for nonzero recovery even if it had operated as a cap.⁶⁴ Essentially, the *Grain Processing* decisions confirm what "availability" means for noninfringing substitutes⁶⁵ but do not decide whether such substitutes actually create a damages ceiling. Notably, the Federal Circuit's restatement of the district court's holding to this effect is at best dicta, not only because that decision was not being reviewed by the Federal Circuit but because its interpretation of exactly how the reasonable royalty was reached does not appear to be correct.

mean to say that a particular product must be sold contemporaneously with the infringement to count as an 'available' non-infringing substitute." He again entered the same judgment. *Id.* at 1238.

⁶⁰ *Grain Processing IX*, 185 F3d at 1347. Note that this discussion of the reasonable royalty award occurs in the Federal Circuit's second review of this issue.

⁶¹ *Id.* at 1353.

⁶² *Id.* at 1352.

⁶³ *Id.*

⁶⁴ See *Grain Processing VI*, 893 F Supp at 1392–93.

⁶⁵ See *Grain Processing IX*, 185 F3d at 1356 ("[A]n acceptable substitute not on the market during the infringement may nonetheless become part of the lost profits calculus and therefore limit or preclude those damages.").

B. The Implications of *Grain Processing*

In *Grain Processing*, the available noninfringing alternative not only played a role in determining a reasonable royalty but also sank the plaintiff's lost profits claim. *Grain Processing* is most widely noted for this lost profits result and for its construction of availability.⁶⁶ However, the less examined features of the decision raise a critical question: what if the evidence had shown a noninfringing substitute available at marginal (or even zero) additional cost to the infringer—might this have precluded any damage award at all? The Federal Circuit suggested an affirmative answer in its characterization of Judge Easterbrook's reasonable royalty calculation as capped by the cost difference, without expressing any expression of concern as to how low this damages ceiling could drop. Notably, the court did not require a significant damage award to meet the threshold of reasonableness. Nor did the court suggest that other *Georgia-Pacific* factors should play a role in enhancing an otherwise negligible royalty based on a cost difference.

Examination of the Federal Circuit's other opinions on noninfringing alternatives, however, calls into question its endorsement of a reasonable royalty damage ceiling that could fall so low. For example, in *Rite-Hite Corp v Kelley Co, Inc*,⁶⁷ Judge Helen Nies suggested that § 284 was not intended to support nominal damages: "A reasonable royalty is in fact a Congressional largesse for cases where a patentee might otherwise receive only nominal damages. A patentee is now statutorily entitled to a reasonable royalty even though it has not suffered or cannot prove a financial loss to its market in patented goods."⁶⁸ Judge Nies provided a quotation from Congressman Frede-

⁶⁶ See, for example, *Bass Pro Trademarks, LLC v Cabela's, Inc*, 2006 WL 120174, *1 (D Mo) (noting that under *Grain Processing*, "[t]he presence of acceptable noninfringing substitutes may preclude lost profit damages"); *Honeywell International, Inc v Hamilton Sundstrand Corp*, 166 F Supp 2d 1008, 1029 (D Del 2001) (discussing the *Grain Processing* standard for availability of alternatives not actually on the market during the time of infringement). See generally Mark Chretien, Note, *The Question of Availability: Grain Processing Corp. v. American Maize-Products Co.*, 38 Hous L Rev 1489, 1492 (2002) (discussing the ramifications of the expansion of "availability" under *Grain Processing*); Margaret E.M. Utterback, *Substitute This! A New Twist on Lost Profits Damages in Patent Infringement Suits: Grain Processing Corp. v. American Maize-Products Co.*, 2000 Wis L Rev 909, 910 (noting that *Grain Processing's* construction of availability created a "new hurdle to jump" for patentees attempting to recover lost profits).

⁶⁷ 56 F3d 1538 (Fed Cir 1995). While it precedes *Grain Processing*, the *Rite-Hite* decision provides some of the broadest discussion of the issue. However, drawing firm conclusions about the Federal Circuit's opinion from *Rite-Hite* is difficult to do. The case was decided en banc: six judges fully joined the opinion of the court; four judges joined the opinion of the court as to one particular part but filed a separate opinion dissenting in part and concurring in part; two other judges joined the opinion of the court with respect to another part and filed their own separate opinion dissenting in part and concurring in part.

⁶⁸ *Id* at 1574 (Nies dissenting in part and concurring in part). Judge Pauline Newman provided a contrary view in her dissenting opinion, asserting (and following the Supreme Court in

rick Lanham prior to the revision of the patent statute in support of her argument against nominal damages, but Lanham's words seem to cut the opposite way: "Of course, in a case of an innocent infringement, it is to be presumed that the court would assess *no more* than a reasonable royalty for such time as the patent infringed by the innocent user."⁶⁹ While Congressman Lanham's "no more than a reasonable royalty" language is inverted in the statute as adopted in 1952, in which a patentee is entitled to "no less than a reasonable royalty,"⁷⁰ his language supports the notion that reasonable damage awards shrinking to zero might comport with congressional intent.

1. The Federal Circuit has hesitated to embrace *Grain Processing*.

The Federal Circuit has not explicitly adopted the district court's reasoning in *Grain Processing*. In *Micro Chemical, Inc v Lextron, Inc*,⁷¹ the Federal Circuit backed away from *Grain Processing*'s implications for shrinking reasonable royalty damages, stating that it "has not had occasion to address whether the holding of *Grain Processing* has applicability in the reasonable royalty context. We need not decide that issue here."⁷² The "holding" the court refers to is that "a non-infringing substitute not on the market during the time of infringement may nevertheless have been 'available' for purposes of defeating a lost profits claim."⁷³ While the court reasonably construes its *Grain Processing* ruling as narrowly as possible, the reasonable royalty damage award (which was affirmed by the Federal Circuit) was predicated on precisely the same reasoning: a noninfringing substitute not on the market during the time of infringement was considered "available" for purposes of capping a reasonable royalty award. It seems disingenuous, therefore, for the court to question whether *Grain Processing* "has applicability" to reasonable royalty calculations when that case itself addressed the issue.

Although *Micro Chemical* suggests a retreat from the implications of *Grain Processing*, the Federal Circuit appeared more amenable to its application in a reasonable royalty setting in *Riles v Shell Exploration*

Aro) that "the purpose of the award of damages for patent infringement is to compensate the claimant for the losses incurred." *Id* at 1580 (Newman dissenting in part and concurring in part).

⁶⁹ *Id* at 1574 n 22 (Nies dissenting in part and concurring in part), quoting Patent Infringement Suits, 79th Cong, 2d Sess, in 92 Cong Rec 1857 (Mar 4, 1946) (Rep Lanham) (emphasis added).

⁷⁰ An Act to Revise and Codify the Laws Relating to Patents § 284, 66 Stat at 813.

⁷¹ 317 F3d 1387 (Fed Cir 2003).

⁷² *Id* at 1393.

⁷³ *Id*.

and Production Co.⁷⁴ In *Riles*, the defendant argued that it could have used a noninfringing alternative costing an additional \$350,000 and that this amount should cap damages under the reasoning articulated in *Grain Processing*.⁷⁵ However, the plaintiff-patentee argued that the alleged alternative was not viable in the given conditions.⁷⁶ The Federal Circuit found the evidence on the alternative conflicting and remanded the case without stating directly whether the damages could really be capped at \$350,000 as the defendant alleged.⁷⁷

By implying that the defendant's damage-cap argument might succeed with additional factual support, *Riles* offers support for *Grain Processing*'s reasoning, but the Federal Circuit muddied any such conclusion by showing its continuing preference for the use of the *Georgia-Pacific* factors when it admonished the plaintiff's expert for inadequate consideration of the first *Georgia-Pacific* factor (the patentee's prior licensing agreements).⁷⁸ While this could be viewed solely as a criticism of the reasonable royalty analysis conducted at the district court level, consideration of this subjective *Georgia-Pacific* factor may have been irrelevant if the *Riles* court had fully embraced *Grain Processing*.⁷⁹

The Federal Circuit's most recent statement on noninfringing alternatives and reasonable royalties came in *Mars, Inc v Coin Acceptors, Inc.*⁸⁰ The Federal Circuit found that no "available and acceptable noninfringing alternative" actually existed at the time infringement began, sinking the defendant's argument that reasonable royalty damages could be capped.⁸¹ However, in dicta following this holding, the court suggested that the defendant's argument would fail anyway and stated that the defendant was "wrong as a matter of law to claim that reasonable royalty damages are capped at the cost of implementing the cheapest available, acceptable, noninfringing alternative."⁸² The court stated, "We have previously considered and rejected such an

⁷⁴ 298 F3d 1302 (Fed Cir 2002). Judge Paul Michel, who joined the opinion of the court in *Micro Chemical*, filed a dissenting opinion in *Riles* but disputes only the finding of infringement itself, not the reasonable royalty analysis. See id at 1314 (Michel dissenting).

⁷⁵ See id at 1313 (majority).

⁷⁶ Id.

⁷⁷ See id. The court vacated the \$8.7 million jury award. See id at 1305, 1307.

⁷⁸ See *Riles*, 298 F3d at 1313.

⁷⁹ If an available, noninfringing alternative provides a cap on reasonable royalty damages, the patentee's prior licensing policy would only seem relevant if the patentee had consistently licensed the patent for less than that cap, depressing a reasonable royalty award even further. Permitting a patentee's high licensing fees or a refusal to license at all to raise a damage award above the cap makes the notion of a "cap" meaningless.

⁸⁰ 527 F3d 1359 (Fed Cir 2008).

⁸¹ Id at 1373.

⁸² Id.

argument,” citing *Monsanto Co v Ralph*⁸³ for the principle that reasonable royalties can exceed a defendant’s profit margin.⁸⁴ *Monsanto*, however, did not involve noninfringing alternatives, and the *Mars* court made no reference to its prior rulings in *Grain Processing* and *Riles*—cases that did involve noninfringing alternatives and supported the *Mars* defendant’s argument.

2. District courts have continued to apply *Georgia-Pacific* in *Grain Processing* cases.

As the Federal Circuit sends mixed signals about *Grain Processing* and reasonable royalties, several district courts continue to insist on considering *Georgia-Pacific* factors, even when the presence of noninfringing alternatives, coupled with *Grain Processing*’s economic analysis, argues against its influence. For example, in *Schofield v United States Steel Corp.*,⁸⁵ the Northern District of Indiana rebuffed the defendant’s invocation of a *Grain Processing* cost-difference argument, stating that “[t]he other *Georgia-Pacific* factors should be considered in making the reasonable royalty determination,” even in the presence of noninfringing alternatives.⁸⁶ The court contended that noninfringing alternatives were only part of the analysis, asserting that “[w]hile the economic effects of noninfringing alternatives available to the infringer is a key factor in determining the reasonable royalty in the hypothetical negotiation, it is not dispositive.”⁸⁷ Similarly, in *Linear Tech Corp v Micrel, Inc.*,⁸⁸ the Northern District of California noted that “the Federal Circuit has specifically declined to decide whether the *Grain Processing* decision concerning the import of noninfringing alternatives is applicable in the reasonable royalty context.”⁸⁹ The court declined to adopt *Grain Processing*’s implications, arguing that a cap on the plaintiff’s royalty damages “would frustrate the very purposes of the patent damages statute which are to make the patentee whole.”⁹⁰

⁸³ 382 F3d 1374 (Fed Cir 2004).

⁸⁴ See *Mars*, 527 F3d at 1373, citing *Monsanto*, 382 F3d at 1383.

⁸⁵ 2006 US Dist LEXIS 39605 (ND Ind).

⁸⁶ *Id.* at *21.

⁸⁷ *Id.*, citing *Cardiac Pacemakers, Inc v St Jude Medical, Inc*, 2002 WL 1801525, *72 (SD Ind). Like the Federal Circuit, the *Schofield* court appeared to misunderstand the royalty calculation in *Grain Processing*. “The district court found that it cost only 2.3% more to make non-infringing products, and thus determined that when faced with a hypothetical offer to license the patent in suit, the accused infringer would not have paid more than a 3% royalty rate, a number which reflected the cost difference and other possible cost fluctuations.” *Schofield*, 2006 US Dist LEXIS 39605 at *17.

⁸⁸ 2006 US Dist LEXIS 96860 (ND Cal).

⁸⁹ *Id.* at *268.

⁹⁰ *Id.* Notably, the court found that the defendant willfully infringed the patent. See *id.* at *206.

These district court cases demonstrate a need for clarity from the Federal Circuit on this issue: Do all of the *Georgia-Pacific* factors still apply in *Grain Processing* cases? Or does the presence of noninfringing alternatives merit a strict *Grain Processing* analysis?

C. Commentary on *Grain Processing*, *Georgia-Pacific*, and Reasonable Royalties

Some commentary seeks to reconcile *Georgia-Pacific* factors with *Grain Processing*'s economically based reasonable royalty analysis, rather than discard the factors as misleading. For example, Liane Peterson argues that “[m]any of the *Georgia-Pacific* factors involve factual inquiries that are compatible with the recently approved economic methods of calculating damages.”⁹¹ John Schlicher argues that broad application is desirable, as *Grain Processing* is “likely to bring patent damages more in line with economic reality.”⁹² Schlicher also notes that “[i]f damages for patent infringement always exceed the economic value of patent rights, there will be too little licensing, and too much litigation.”⁹³ From this perspective, the lower awards available to a patentee in the face of a reasonable royalty cap would encourage negotiation and settlement in *Grain Processing* cases.

In contrast, other commentators argue that *Grain Processing* is a serious problem for patent damage calculations, not part of a solution toward more economically reasonable royalty calculations. Jerry Hausman, Gregory Leonard, and J. Gregory Sidak heavily criticize *Grain Processing*'s logic:

If a court finds the patent valid and infringed, the [defendant] can argue under *Grain Processing* that it would have switched to the noninfringing technology in the but-for world, thereby effectively making the switch retroactively. *Grain Processing* thereby makes the option essentially free. This option reduces the deterrent effect of litigation and therefore encourages infringement.⁹⁴

However, Hausman, Leonard, and Sidak make their “free option” argument in the setting of higher-cost noninfringing alternatives, and

⁹¹ Liane M. Peterson, *Grain Processing and Crystal Semiconductor: Use of Economic Methods in Damage Calculations Will Accurately Compensate for Patent Infringement*, 13 Fed Cir B J 41, 70–71 (2003) (“Several of the [*Georgia-Pacific*] factors involve the same type of market reconstruction approach required in *Grain Processing*.”).

⁹² John W. Schlicher, *Measuring Patent Damages by the Market Value of Inventions—The Grain Processing, Rite-Hite, and Aro Rules*, 82 J Patent & Trademark Off Socy 503, 532–34 (2000).

⁹³ *Id.*

⁹⁴ Jerry A. Hausman, Gregory K. Leonard, and J. Gregory Sidak, *Patent Damages and Real Options: How Judicial Characterization of Noninfringing Alternatives Reduces Incentives to Innovate*, 22 Berkeley Tech L J 825, 830–31 (2007) (emphasis omitted).

their criticism may be better addressed by the doctrine of willful infringement than by a rejection of *Grain Processing*.⁹⁵ Ultimately, these commentators conclude that *Grain Processing* “is at odds with standard economic theory.”⁹⁶

III. THE CASE FOR NOMINAL REASONABLE ROYALTY DAMAGES

This Part presents an example *Grain Processing* case with a non-infringing alternative available at no additional cost, based on a recent Federal Circuit appeal. Part III.A suggests that *Grain Processing*'s reasoning would support an award of only nominal reasonable royalty damages in the case of the example. Part III.B outlines additional support for this result, and Part III.C analyzes the impact of such a result on litigation and settlement. Finally, Part III.D addresses criticisms of *Grain Processing*'s approach.

A. A Real World Example

To help give a framework for evaluating nominal reasonable royalty damages, this Part tracks an example drawn from a 2005 Federal Circuit case, *Dorel Juvenile Group, Inc v Graco Children's Products, Inc.*⁹⁷ Suppose that Company A manufactures a child car seat consisting of a molded plastic base and a molded plastic seat, attached to the base with a screw. The two pieces of the car seat, once assembled, are not intended to be separated during use by the consumer. Company B holds a patent on a child car seat consisting of a base and a seat that, according to the claims of the patent, must be “removably attached” to the base. Company B markets a car seat (an embodiment of this patent) that allows parents to attach and remove the seat from the base during normal use—the base may be left behind in a car while the seat (and the child) may be carried around. Company B then sues Company A for patent infringement, and the court finds that Company A's seat is “removably attached” to the base because the screw could be removed by a consumer. Accordingly, Company A is found to infringe Company B's patent.⁹⁸

⁹⁵ If the infringer has indeed knowingly chosen to adopt a cheaper, patented technology over a more costly, unpatented alternative, treble damages would be available under the doctrine of willful infringement. See, for example, *In re Seagate*, 497 F3d at 1371. See also 35 USC § 284 (“[T]he court may increase the damages up to three times the amount found or assessed.”).

⁹⁶ Hausman, Leonard, and Sidak, 22 Berkeley Tech L J at 853 (cited in note 94).

⁹⁷ 429 F3d 1043 (Fed Cir 2005). The district court ruling focused only on claim construction and contained few facts. See *Dorel Juvenile Group, Inc v Graco Children's Products*, 2004 WL 2269760 (SD Ind).

⁹⁸ While such claim interpretation may sound implausible or even obviously erroneous, this is precisely what occurred in *Dorel*. The district court concluded that the car seat did not

In this case, Company A has not sought to replicate the patented feature in its product, nor does it have any desire to do so—Company A's car seat could just as easily have been designed with a rivet (instead of a screw) permanently joining the two pieces for the same cost, or the seat and base could have been one molded unit. In other words, the value of the patented feature (seat and base being “removably attached”) to Company A is exactly zero, as is the cost difference of a noninfringing rivet alternative. Following the guidance of *Grain Processing*, this cost difference should cap any reasonable royalty award, leading to a zero damage award for Company B in spite of a finding of infringement.⁹⁹

B. Support for Nominal or Zero Reasonable Royalties

The focus of the patent damages statute is on infringement, not on injustice, but the statute provides no explicit guidance on whether zero damages could “compensate for infringement.”¹⁰⁰ A reasonable royalty award compensates for an unauthorized use, and should be equivalent to the value that would have to be transferred in order to obtain consent for this use. In the example, that value must be zero, as Company A attributes no value to the patented invention and would immediately adopt a noninfringing substitute. Again, the statute's key provision is for a *reasonable* royalty. If “reasonable” equates to “objectively rational” as it does elsewhere in the law,¹⁰¹ then zero damages are supported by the statute precisely when that amount corresponds to the value a rational potential infringer would be willing to transfer to the patentee in order to obtain a license.

Because the reasonable royalty calculation is conducted only when the patentee is unable to prove any actual injury (foreclosing a lost profits recovery), a transfer from the infringing party (who values the patent at zero) to the patentee can only be characterized as a windfall.

infringe because the base and seat were essentially integral parts of a whole. See *Dorel*, 2004 WL 2269760 at *4. The Federal Circuit adopted the district court's construction of the claim terms but did not agree with its conclusion as to infringement. See *Dorel*, 429 F3d at 1047. According to the Federal Circuit, if “the top structure is capable of functioning as a ‘seat’ upon being removed from the bottom structure,” then the car seat would infringe the patent's claims. See *id.*

⁹⁹ A critique of the scenario presented by this example revolves around invalidity. If the claimed feature has been inadvertently adopted by the infringer, but not for its intended purpose (as had been done in *Dorel* and the example), then it could be argued that the claim was obvious and therefore invalid. While *Dorel* demonstrates that reaching this point without succeeding on an invalidity argument is certainly realistic, the district court's opinion does not make it clear whether the argument was even advanced. See generally *Dorel*, 2004 WL 2269760.

¹⁰⁰ 35 USC § 284.

¹⁰¹ Consider *Monitor Patriot Co v Roy*, 401 US 265, 275 (1971) (“The reasonable-man standard of liability, for example, serves admirably the essential function of imposing an objective and socially acceptable limit on the freedom of an individual to act with relation to others.”).

The patentee has not been injured, and the infringer has gained no value by infringing since she could have achieved the same end product through noninfringing technology at no additional cost. It is difficult to see how a windfall to the patentee can be characterized as “reasonable.”

Awards of zero or nominal damages are entirely unremarkable elsewhere in the law where there is no actual injury. Following a finding of trademark infringement, a plaintiff is entitled to recover damages for provable injuries and may also recover a defendant’s profits.¹⁰² However, the defendant’s profits are not recoverable if “the defendant can show that the infringement had no relationship to those earnings.”¹⁰³ If the plaintiff in a trademark infringement case has no provable injuries and the infringement did not contribute to the defendant’s profits, the plaintiff recovers nothing.¹⁰⁴ Trademark law, therefore, is entirely unapologetic about the prospect of no recovery even given a finding of liability when the plaintiff has not been injured and the defendant has not been enriched. Nominal damages may also be all that are recoverable in contract¹⁰⁵ and tort¹⁰⁶ law in spite of a finding of liability. Even in the case of trespass to real property, intentional but harmless intrusions may lead to recovery of only nominal damages.¹⁰⁷

The Supreme Court’s pre-*Georgia-Pacific* cases also support the possibility of zero-damage reasonable royalty awards. In *Aro*, the court suggested that damages should be tied to “the difference between [a patentee’s] pecuniary condition after the infringement, and what his condition would have been if the infringement had not occurred.”¹⁰⁸ If low-cost, noninfringing alternatives could have substituted for the in-

¹⁰² See 15 USC § 1117 (2000 & Supp 2004).

¹⁰³ *George Basch Co, Inc v Blue Coral, Inc*, 968 F2d 1532, 1539 (2d Cir 1992).

¹⁰⁴ See, for example, *The Belmonts v DiMucci*, 1996 WL 280473 (2d Cir) (affirming a jury award of nominal damages of \$1 for trademark infringement); *Downtowner/Passport International Hotel Corp v Norlew, Inc*, 841 F2d 214, 220 (8th Cir 1988) (finding trademark infringement under the Lanham Act and remanding for entry of nominal damages because “any award greater than nominal damages would be based on sheer speculation”).

¹⁰⁵ See, for example, *Shepard v State Auto Mutual Insurance Co*, 463 F3d 742, 748 (7th Cir 2006); *McClaran v Plastic Industries, Inc*, 97 F3d 347, 357 (9th Cir 1996).

¹⁰⁶ See, for example, *Boule v Hutton*, 328 F3d 84, 94–95 (2d Cir 2003) (affirming a nominal damage award for defamation); Restatement (Second) of Torts § 569, comment c (1965) (noting that in defamation cases, even without proof of harm, “nominal damages . . . perform a vindicatory function by enabling the plaintiff publicly to brand the defamatory function as false”). See generally Restatement (Second) of Torts § 907.

¹⁰⁷ See Restatement (Second) of Torts § 163, Reporter’s Notes. The analogy between patents and real property has linguistic support. Patent law borrows its terminology from real property law—to this day, the Federal Circuit refers to the patent examination process as a progression “toward defining the *metes and bounds* of the invention to be patented.” *In re Buszard*, 504 F3d 1364, 1367 (Fed Cir 2007) (emphasis added).

¹⁰⁸ *Aro*, 377 US at 507, quoting *Yale Lock Manufacturing Co v Sargent*, 117 US 536, 552 (1886).

fringer's use of the patented invention, the patentee's "pecuniary condition" would be the same with or without the infringement.

C. Litigation and Settlement with or without *Grain Processing*

Where a party's product falls under the claims of another's patent and a noninfringing alternative is not available, the patentee's source of leverage in a pre-suit negotiation comes from two sources: (1) the likelihood of obtaining damages in the form of a reasonable royalty; and (2) the likelihood of obtaining an injunction. If the infringer wishes to continue producing the product and a suit is brought by the patentee, the amount of any settlement reached will reflect both the possible reasonable royalty damages for the prior period of infringement, as well as a future royalty to avoid the injunction and compensate the patentee for future use.

For infringers like Company A in the example—those who could have adopted a noninfringing alternative had they known of the patent¹⁰⁹—the patentee's leverage is decidedly different. The infringer does not want a license for future use of the product, preferring instead to adopt the noninfringing alternative. It only wants to avoid an injunction to the extent necessary to recover sunk costs¹¹⁰ and any costs of switching to the noninfringing alternative.¹¹¹ In the setting of the example, Company A has sunk costs in the design of its car seat—the manufacturing process of the base and seat as separate pieces and the production of existing units. While a noninfringing alternative (using a rivet as opposed to a screw) may have essentially zero extra cost, Company A's sunk costs and the capital expenditures required to alter its manufacturing process mean it cannot immediately and costlessly adopt the noninfringing alternative.

At this point, the choice of whether or not to strictly apply *Grain Processing* has a significant impact on the negotiations between these parties. If the parties expect courts to allow consideration of all *Georgia-Pacific* factors even in the presence of noninfringing alternatives (as suggested by *Micro Chemical*), the patentee can extract at least the sunk costs, and likely much more, from the infringer. The measurable value of the patentee's intellectual property is now the original value of the patent plus this potential damage award. The increase in value

¹⁰⁹ Even if Company A knew of the patent, it may well have reasonably thought that its product would not be found to infringe.

¹¹⁰ Sunk costs are "the acquisition costs of tangible and intangible assets that cannot be recovered through the redeployment of these assets outside the relevant market." US DOJ and FTC, 1992 Horizontal Merger Guidelines, 57 Fed Reg 41552, 41556.

¹¹¹ Note that these latter costs are distinct from the per-unit cost difference (if any) between the infringing product and the noninfringing alternative.

comes only from the threat of a nonzero reasonable royalty damage award—a windfall to the patentee because this value does not arise from the patent's independent economic value. However, if courts instead strictly apply *Grain Processing's* reasoning, a suit by the patentee would at most result in an injunction. The patentee would have to balance the costs of litigation against the value of this injunction, which may be significantly limited where the infringer is not a competitor. Avoiding this injunction may be of some value to the infringer; but if the infringer does not compete with the patentee and would simply switch to a noninfringing alternative, the injunction offers little economic benefit to the patentee.

D. Meeting Criticism of the *Grain Processing* Approach

Criticism of the *Grain Processing* approach tracks the commentary noted in Part II.C—following *Grain Processing* underdeters harmful conduct and allows infringers a free pass to infringe. Commentators have criticized proposed patent legislation on a similar basis, arguing that it will undermine patentee rights.¹¹² For example, Richard Epstein argues that the proposed legislation weakens patent damage remedies when it “instructs courts to exclude from the damage calculations any economic value properly attributable to other patented or nonpatented improvements.”¹¹³ A court applying *Grain Processing's* reasoning would raise the same concern—the court excludes the entire economic value of the patent except for any cost savings over an available noninfringing alternative. Such critics are especially concerned about the aftermath of *MercExchange, LLC v eBay, Inc*¹¹⁴ and the decreased availability of injunctions—in the absence of an injunction, the possibility of a significant damage award is all that remains to deter infringement.¹¹⁵

¹¹² See, for example, Stephen Haber, Scott Kieff, and Troy Paredes, *Patent Reform Legislation: No Final Cut for Examiners*, Nat'l L J *1 (May 14, 2007), online at <http://law.wustl.edu/faculty/documents/kieff/Otherpubs/HaberKieffParedesonPatentReforminNLJ.pdf> (visited Aug 29, 2008) (“The power of patents to spur innovation and its commercialization is blunted when patentees cannot exclude infringers.”); F. Scott Kieff, *A Keirestu Approach to Patents*, Intellectual Asset Management 51, 52 (Feb/Mar 2007), online at <http://law.wustl.edu/faculty/documents/kieff/Otherpubs/KieffKeirestuApproachtoPatentsinIAM.pdf> (visited Aug 29, 2008) (arguing that proposed patent reforms will undermine inventors' incentives by weakening their “right to exclude”).

¹¹³ Richard Epstein, *A Dangerous One-Two Punch*, Financial Times 1 (Oct 24, 2007).

¹¹⁴ 547 US 388 (2006).

¹¹⁵ See Epstein, Financial Times at 1 (cited in note 113) (“Now that trial courts have given broader discretion in opening or shutting the injunction door, damage calculations loom ever larger.”).

1. Reasonable royalties should not function as punitive damages.

Opponents of *Grain Processing* maintain that social harm arises from the infringement, even without provable damages or benefits obtained by the infringer. In the example, this reasoning justifies a nonzero reasonable royalty as a sort of punitive damages. At least a kernel of a punitive damages concept already appears in patent law through the treble damages enhancement for willful infringement. This damage enhancement, however, does not function like punitive damages in tort, and this does not appear to be what Congress intended when it allowed additional recoveries in patent cases. Unlike punitive damage doctrines, the patent statute has a cap on recovery—up to three times the amount of damages found by the court.¹¹⁶ There is no analogous fixed cap in tort law.

By capping recovery at a low multiple of either the provable damages or a reasonable royalty, the patent statute suggests that other social harms are not meant to be addressed through recovery of patent damages. The Federal Circuit has offered support for this perspective: “Under our cases, enhanced damages may be awarded only as a penalty for an infringer’s increased culpability, namely willful infringement or bad faith. Damages cannot be enhanced to award the patentee additional compensation to rectify what the district court views as an inadequacy in the actual damages awarded.”¹¹⁷

2. Lingering concerns about willful infringement.

Grain Processing critics may still be concerned about adequate deterrence of willful infringement, especially because the difference between nominal damages and a trebled nominal damage award is itself nominal. A potential infringer with knowledge of the patent (a potential willful infringer) who truly has a noninfringing alternative available at minimal cost is unlikely to adopt the infringing option, as the costs of litigation remain a deterrent. Under the *Grain Processing* rule, the patentee might be less likely to file suit as damages would be more difficult to recover; however, if a suit is filed, the infringer must establish that the noninfringing alternative is both acceptable and available. A willful infringer may have difficulty justifying the selection of the infringing technology over the noninfringing alternative.

Accordingly, a finding of willful infringement may in itself imply that no noninfringing alternatives were actually available at any compa-

¹¹⁶ See 35 USC § 284.

¹¹⁷ *Beatrice Foods Co v New England Printing and Lithographing Co*, 923 F2d 1576, 1579 (Fed Cir 1991).

erable cost to the infringing technology—otherwise, the infringer would not have chosen to infringe. This conclusion, however, is not immediate. Consider the view of a patent as a probabilistic right, ultimately tested only through litigation.¹¹⁸ From this perspective, knowledge of the patent corresponds only to a probability of its validity and enforceability. These probabilities determine the costs of pursuing the patented option for the potential infringer.¹¹⁹ A failure to switch to a noninfringing alternative after acquiring knowledge of the patent may be explained by sunk costs, even if such an act would constitute willful infringement.

Regardless of changes in the doctrine of willful infringement (due to the *In re Seagate* decision and possible patent reform legislation), application of *Grain Processing* in settings like that of the example seems to create a willful infringement problem. If the patentee has insufficient incentives to file suit (either because no significant damage award can be expected or an injunction has low value against a non-competitor that can adopt an alternative), the infringer may continue to infringe the patent indefinitely. Whether this constitutes a social harm of concern to the patent system is open to policy debate; but absent willful infringement, *Grain Processing* cases suggest a legal resolution to the treatment of noninfringing alternatives in reasonable royalty calculations.

CONCLUSION

When noninfringing alternatives are available, zero (or nominal) reasonable royalty awards in patent infringement suits are supported by the patent statutes and by Federal Circuit jurisprudence. The implications of the economic approach of *Grain Processing* are clear for reasonable royalty cases, yet the Federal Circuit has proved reluctant to follow the implications of that decision. As a result, district courts are left to compute reasonable royalties under *Georgia-Pacific* that can result in inefficient transfers from patentees to inadvertent infringers who get no value from the patented technologies. As a response to the growing support for remedying the excesses of the patent system, particularly with respect to overvalued patents, an embrace of *Grain Processing* by the Federal Circuit or Supreme Court would provide a narrowly tailored but significant curtailment of over-recovery.

¹¹⁸ See Lemley and Shapiro, 85 *Tex L. Rev.* at 2019 (cited in note 5) (noting that “nearly half of all litigated patents are invalidated”).

¹¹⁹ If adopting a noninfringing alternative costs \$100 more than the patented technology, a willfulness-enhanced reasonable royalty award would be capped at \$300. If the perceived probabilistic value of the patent is less than 33 percent, the rational potential infringer would choose to infringe.