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Reasonable Royalties in "Patent Remedies and Complex Products" (Chapter Review)

Amy L. Landers

REASONABLE ROYALTIES IN *PATENT REMEDIES AND COMPLEX PRODUCTS: TOWARD A GLOBAL CONSENSUS*

Amy L. Landers*

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Reasonable Royalties, a chapter authored by seven esteemed law professors in *Patent Remedies and Complex Products: Toward a Global Consensus*, provides a wide-ranging analysis of a complicated topic.[1] Directed to patent specialists, this work offers proposals for substantive change aimed toward worldwide adoption. Several of these ideas might require significant judicial oversight, or, alternatively, that legal authorities reformulate existing law. Because of their complexity, many of these proposals are implementable in jurisdictions where damages are set by the court. Where juries are assigned that role, a reexamination of their part in that process is necessary.

In the United States, the reasonable royalty was developed as a form of compensatory damages.[2] Its history includes its use in the courts of equity.[3] These proceedings, which included the now-defunct accounting procedure, were decided by the court or a specially appointed master.[4] Today, the relevant statute ensures that a patentee can receive a reasonable royalty as "damages adequate to compensate for the infringement."[5] Traditionally, this measure does not value the invention in the abstract. Rather, the relevant standard awards monetary damages based on the infringing uses of the invention in products sold

*Professor of Law and Director of the Intellectual Property Concentration, Drexel University Thomas R. Kline School of Law.

1. Thomas F. Cotter et al., *Reasonable Royalties*, *in* PATENT REMEDIES AND COMPLEX PRODUCTS: TOWARD A GLOBAL CONSENSUS 6 (C. Bradford Biddle et al. eds., 2019). Together with some discussion of international law, the primary focus of the piece considers the U.S. approach. Therefore, this commentary will do so as well.

2. The reasonable royalty's complex history is discussed in Amy L. Landers, *Patent Claim Apportionment, Patentee Injury, and Sequential Invention*, 19 GEO. MASON L. REV. 471, 498–500 (2012).

3. Dowagiac Manufacturing Co. v. Minnesota Moline Plow Co., 235 U.S. 641, 648 (1915) (in an action for an equitable accounting, recognizing that a patentee could obtain "what would have been a reasonable royalty, considering the nature of the invention, its utility and advantages, and the extent of the use involved").

4. George P. Dike, *The Trial of Patent Accountings in Open Court,* 36 HARV. L. REV. 33, 34–35 (1922).

5. 35 U.S.C. § 284 (2018).

in the market.[6] At least in theory, the royalty calculation considers that "the defendant likely contributed in part to the success of the patented technology as it is being sold, by paying to manufacture and market it or by bundling it with the defendant's own technological contributions."[7]

Now that the law and equity courts have merged, reasonable royalty awards are primarily determined by juries. This is no small task. As a general proposition, juries decide the bulk of contested factual issues relating to infringement and validity, which in some cases turn on minute details of highly technological subject matter. Together with this work, juries must sort through economic and financial evidence to calculate damages. Where a reasonable royalty is sought, the court instructs the jury to use factors derived from the *Georgia Pacific* case.[8] These frame this flexible and broad test, and are built to accommodate a wide range of patentable technologies under varying commercial conditions. In addition to an established royalty rate, this standard places significant weight on a hypothetical negotiation between the parties. This inquiry considers the rate that a willing licensor and licensee might have negotiated on the date that the defendant's infringement began.[9] There are few constraints on the types of evidence that fit within this hypothetical construct.

Typically, the patentee submits expert evidence supporting a high-end figure and the infringer something at the low end. To choose between them, juries rely on the fifteen-factor *Georgia Pacific* test. As some critics of the test have observed, asking juries to make accurate assessments at this stage presents significant challenges.[10] The problem is that, even if the finest and unbiased economic theories were presented to juries, the standard allows a grab bag of evidence, and so virtually any result may be arguably correct. Surely juries do their best with the information provided, but a significant question in complex patent cases is whether juries are guessing. Particularly where no special verdict forms are used to tease out the details of the juries' reasoning, under the broad *Georgia Pacific* standard, any errors are likely to remain uncorrected on appeal.

Moreover, expert testimony can rely on an economically sound *theory*, and yet a jury might still arrive at a questionable decision. As a general matter, such theories are built on assumptions. When these assumptions do not square with the reality of how the patented invention is used in the infringing products, the theory is unhelpful and perhaps misleading. Further, the damages inquiry does not stop with economic theory. The most important driver of the inquiry is legal. In other words, law should not accept the facts and economic theory as the sole

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6. ResQNet.com, Inc. v. Lansa, Inc., 594 F.3d 860, 869 (Fed. Cir. 2010) ("[T]he trial court must carefully tie proof of damages to the claimed invention's footprint in the market place."); Georgia-Pac. Corp. v. U.S. Plywood Corp., 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970), *modified sub nom.*, Georgia-Pac. Corp. v. U.S. Plywood-Champion Papers Inc., 446 F.2d 295 (2d Cir. 1971).

7. Daralyn J. Durie & Mark A. Lemley, *A Structured Approach to Calculating Reasonable Royalties*, 14 LEWIS & CLARK L. REV. 627, 639 (2010).

8. *Georgia-Pac. Corp.*, 318 F. Supp. at 1120 (S.D.N.Y. 1970), *modified sub nom.*, *Georgia-Pac. Corp.*, 446 F.2d at 295.

9. State Indus., Inc. v. Mor-Flo Indus., Inc., 883 F.2d 1573, 1580 (Fed. Cir. 1989).

10. *See* Durie & Lemley, *supra* note 7, at 628 (The *Georgia Pacific* test "overloads the jury with factors to consider that may be irrelevant, overlapping, or even contradictory").

determinants of damages. The law must guide the damages analysis to effectuate the purposes of the patent system rather than applying economic theory in the abstract.

Results matter. Stamped with the court's authority, a jury verdict has implications beyond the evidence at trial on which it is based. For example, the jury's royalty decision may inform a post-trial royalty imposed by the court where an injunction has been denied.[11] If *WesternGeco* is applied, monetary remedies may reach conduct that takes place outside U.S. borders.[12] Given that licensing rates are negotiated in the shadow of litigation, the jury's decision may impact license rates charged to non-litigants or later litigants.[13]

These circumstances require juries to consider patent value under suboptimal conditions. Further, expert economic opinion, if not properly filtered, may deliver results that are not aligned with the purpose of the law. Infusing this inquiry with policy requires careful treatment that the *Georgia Pacific* factors do not provide. Against this background, the most resonant portions of the *Reasonable Royalties* chapter are those that grapple with the intersections between (1) economic theory; (2) law; and (3) real-world evidence.

In particular, the authors call for research that would lead to a workable legal definition of the parties' bargaining power in the hypothetical negotiation.[14] As they point out, a significant disparity in the parties' financial resources gives the wealthier party bargaining power in the commercial context. At the same time, the chapter asks the deeper question about the propriety of importing this real-world power imbalance into the patent damages context. As the chapter details, bargaining power (as that term is used colloquially) may not translate to a legally acceptable valuation of the patented technology because it can lead to holdout. The authors assert that this skews the compensation award to include the value of the holdout, rather than targeting the award to isolate the incremental value of the patentee's invention.[15]

The authors discuss another dimension as part of their analysis of the hypothetical negotiation. This focuses on the current law, which pins the hypothetical negotiation to the date that infringement began. The authors note that this standard should be modified to account for the sunk cost problem. Specifically,

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11. *See e.g.*, XY, LLC v. Trans Ova Genetics, 890 F.3d 1282, 1297 (Fed. Cir. 2018) (a post-verdict royalty rate might vary from the rate awarded at trial given a change in the parties' bargaining position); Godo Kaisha IP Bridge 1 v. TCL Commc'n Tech. Holdings Ltd., No. CV 15-634-JFB, 2019 WL 1877189 (D. Del. Apr. 26, 2019).

12. *See* WesternGeco LLC v. ION Geophysical Corp., 138 S. Ct. 2129, 2136–39 (2018); Amy L. Landers, *Proximate Cause and Patent Law*, 25 B.U. J. SCI. & TECH. L. 329, 339 (2019) (*WesternGeco* permits the award of damages for overseas conduct, which has the potential to "permit[] the award of worldwide damages based on U.S. conduct . . . [This circumstance threatens to] implicate[] the sovereignty of other nations to formulate their own patent policy.").

13. Erik Hovenkamp & Jonathan Masur, *How Patent Damages Skew Licensing Markets*, 36 REV. LITIG. 379, 380 (2017) ("Such standards have a substantial impact on the private exchange of patent rights and should therefore be viewed as an important policy lever for encouraging the efficient dissemination and commercialization of patented technologies.").

14. Cotter et al., *supra* note 1, at 29.

15. *Id.* at 25. The authors consider that this skew may be acceptable result, but one that should be undertaken intentionally. *Id.*

this problem recognizes that "the user would inevitably have incurred sunk costs by the time of the first infringement, so that a license negotiated at that time would allow the patentee to hold up the user for part of those sunk costs, leading to a royalty over the value of the invention."[16] The authors maintain that current law, which does not account for sunk costs, distorts reasonable royalty determinations.

Further, the authors advocate for changing the law's conception of the information known to the parties at the time of the hypothetical negotiation.[17] In the *Reasonable Royalties* chapter, the authors endorse a contingent *ex ante* approach, which allows the hypothetical negotiation to account for *ex post* information based on actual (rather than anticipated) sales. Under this approach, the award should "replicate the *ex ante* bargain the parties would have reached contingent on the state of the world being as it is at" the date of the judgment.[18] So long as these ex ante figures have a sufficient causal connection to the infringer's use of the technology, the results should better mirror the harm caused to the patentee for use of the claimed invention over the current rule.

Section 1.4 of the *Reasonable Royalties* chapter is devoted to practical considerations raised by these proposals. In addition to the areas covered, this section would benefit from a discussion of the Seventh Amendment implications. One of the greatest challenges in patent damages law has been guiding the jury and improving error correction through the reviewability of their verdicts. The *Georgia-Pacific* test is an unwieldy mechanism to solve these concerns.[19] Handing the entire royalty issue to the jury, subject only to review of the rulings on the admissibility of expert testimony, does not cure the problem that the legal standard is unmanageable.[20]

The Seventh Amendment requires the jury to determine issues of fact. Nonetheless, many aspects of the royalty analysis present mixed questions of fact and law. In some of these, law and policy predominate. Therefore, these issues might be better decided by the court.[21] The definition of bargaining power, as well as the timing and state of information available at the time of the hypothetical negotiation, are some examples of court findings that would better

16. *Id.* at 29.

17. This approach is more fully described in Norman V. Siebrasse & Thomas F. Cotter, *A New Framework for Determining Reasonable Royalties in Patent Litigation*, 68 FLA. L. REV. 929, 944–46 (2016) (describing the approach).

18. *Id.* at 945.

19. Durie & Lemley, *supra* note 7, at 643 (referring to the *Georgia Pacific* test as "a multifactor morass").

20. *See id.* at 633–35 (concluding that trial court intervention into jury awards is limited and "while *Daubert* is sometimes used by district courts in patent damages cases, its effectiveness appears to be limited").

21. *See* William W. Schwarzer, *Summary Judgment Under the Federal Rules: Defining Genuine Issues of Material Fact*, 99 F.R.D. 465, 472–73 (1984) (regarding mixed questions of law and fact, a court should decide these issues where "it is fair to say that their law content predominates").

guide the jury. In addition, there may be pure issues of law that warrant more judicial control over instructions than is currently exercised.[22]

As the *Reasonable Royalties* authors observe, U.S. courts have implemented some rules to mitigate this problem. Some proposals have been circulated to replace the *Georgia Pacific* test.[23] For example, the Northern District of California has promulgated draft jury instructions that direct consideration of "all the facts known and available to the parties at the time that infringement began" and displaces the Georgia Pacific's fifteen factors with three.[24]

On this point, the *Reasonable Royalties* chapter proposes its version of a three-part test to substitute for the *Georgia Pacific* factors. The first proposed factor, which has three subparts, places emphasis on the incremental value of the invention against the next best alternative. This represents the most dramatic departure from the current law. For example, the authors propose that the hypothetical negotiation serve as "a proxy for the issues of how to split the surplus from the invention" between the patentee and the infringer, "rather than as a goal in and of itself."[25] Instead of considering the infringer's use of the technology as a stand-alone factor, this considers either party's investment and risk in calculating the appropriate split of the invention's incremental value.[26]

This test is laudable in that it simplifies, structures, and directs the royalty inquiry. If adopted, the test must be carefully applied and benefits from an understanding of economics and patent policy. Juries have not traditionally been asked to perform this role. Such an analysis does not seem akin to determining a witness' credibility or the type of "ultimate facts turning on examination and assessment of human behavior within the common experience of jurors."[27] The proposed considerations rest on an appreciation of the appropriate level of reward for invention and the costs of follow-on innovation. These matters, which can fairly be called mixed issues of fact and law, raise policy concerns that war-

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22. One example where this might be applied relates to the application of the entire market value rule, which is traditionally treated as a question of fact that is appropriate for resolution by the jury. *See, e.g.*, Uniloc USA, Inc. v. Microsoft Corp., 632 F.3d 1292, 1321 (Fed. Cir. 2011) (discussing jury instructions for the application of the entire market value rule). The *Reasonable Royalties* authors discuss that the issue has policy infused with economic principles, some of which touch on the core patent incentive. *See generally* Cotter et al., *supra* note 1. This may be a circumstance where the court should make findings on the applicability of the doctrine, rather than leaving that determination to the jury.

23. Fed. Cir. Bar Assoc. Model Pat. Jury Instrs. § 5.8 (May 2020); Durie & Lemley, *supra* note 7, at 631 n.13; *see also* Jorge L. Contreras & Michael Eixenberger, *Model Jury Instructions for Reasonable Royalty Patent Damages*, 57 JURIMETRICS J. 1, 14–15 (2017) (reviewing instructions used at seven patent trials).

24. U.S. Dist. Ct. N. Dist. of Cal. Model Pat. Jury Instrs. § 5.7 (Aug. 2017) (updated Oct. 2019).

> (1) The value that the claimed invention contributes to [the accused product].
>
> (2) The value that factors other than the claimed invention contributes to [the accused product].
>
> (3) Comparable license agreements, such as those covering the use of the claimed invention or similar technology.

Id.

25. Cotter et al., *supra* note 1, at 22.

26. *Id.* at 24 n.73, 25.

27. Schwarzer, supra note 21, at 472.

rant strong guidance by a court. Juries may not learn how to appreciate and apply these policy concerns during the course of the trial, given the deluge of information that they are expected to consider and the limited time allotted for trial.

During the 1980's, juries decided issues of claim construction.[28] After the U.S. Supreme Court's *Markman v. Westview Instruments, Inc.* decision, the court's expertise and a host of functional considerations allowed for the court to take a more active role.[29] A similar result might be attained for certain aspects of reasonable royalty determinations. The *Reasonable Royalties* chapter points the field toward a road that is likely to lead to more accurate valuation results. Such results will be best achieved if the reasonable royalty inquiry can be broken into component parts that are likely to be identified as mixed questions of fact and law. As such, their resolution would benefit from strong guidance from the court, which is capable of providing policy expertise and oversight.

A further example underscores this point. The authors propose that the starting point for determining the split is a rebuttable presumption based on the 50/50 Nash Bargaining theory. Despite the acknowledged shortcomings of the theory, the chapter asserts that this default is based on "empirical findings that people in Western societies generally view a 50/50 split of benefits as fair, and that economists often use the Nash Bargaining Solution in modeling bargaining behavior."[30] The authors argue that this presumption should be a "weak presumption" and applied "only after the incremental profit properly attributable to use of the claimed invention has been isolated from all other portions of overall revenue and profit."[31] It is not entirely clear whether juries will successfully apply a "weak presumption," given the cognitive overload that might result from the volume of tasks required of the jurors in a patent trial. Beyond this, navigating through the presentation of an economic model is functionally a more appropriate job for a judge.[32] Asking juries to consider whether to rely on an economic theory and applying a "weak presumption" appears to invite them to

28. Jerry A. Riedinger, Markman *Twenty Years Later: Twenty Years of Unintended Consequences*, 10 WASH. J.L. TECH. & ARTS 249, 256 n.18 (2015) (collecting cases and explaining that the Federal Circuit had approved the jury's role in construing claim terms).

29. Markman v. Westview Instruments, Inc., 517 U.S. 370 (1996).

30. Cotter et al., *supra* note 1, at 27.

31. *Id.* at 28. According to the authors, this weak presumption is designed to distinguish the 50/50 Nash Bargaining proposal from the 25 percent rule of thumb rejected by the Federal Circuit "because it fail[ed] to tie a reasonable royalty base to the facts of the case at issue." Uniloc USA, Inc. v. Microsoft Corp., 632 F.3d 1292, 1315 (Fed. Cir. 2011). Notably, the court rejected Nash Bargaining in *Virnext v. Cisco Systems*, 767 F.3d 1308, 1332 (Fed. Cir. 2014) (The court rejected reliance on Nash Bargaining in an expert report: "[W]e agree with the courts that have rejected invocations of the Nash theorem without sufficiently establishing that the premises of the theorem actually apply to the facts of the case at hand. The use here was just such an inappropriate 'rule of thumb.'"). The case cited by the authors, which the chapter asserts affirmed the use of Nash Bargaining, noted that the defendant did not challenge the expert's use of that methodology on appeal. Summit 6, LLC v. Samsung Elecs. Co., 802 F.3d 1283, 1297 n.3 (Fed. Cir. 2015).

32. Rebecca Haw Allensworth, *Law and the Art of Modeling: Are Models Facts?*, 103 GEO. L.J. 825, 856–57 (2015) (arguing that issues relating to the choice of an appropriate economic model in an antitrust case should be considered a mixed question of law and fact appropriate for resolution by the court).

make errors, which would become unreviewable if a general verdict form is used.[33]

The *Reasonable Royalties* chapter presents some fascinating insights that warrant further development and consideration for adoption. The most cohesive proposals successfully negotiate the interplay between economics, law, and real-world conditions. This chapter is a particularly rich mixture of analysis that incorporates virtually all components of the reasonable royalty inquiry. Based on complex economic and policy arguments, these proposals are more likely to deliver better results than the current regime. Because they have this aim, they may be unable to fully resolve all concerns with the *Georgia-Pacific* test in the absence of procedural reform, which allows more court decision-making.

There is additional work to consider before these suggestions are fully implementable. The field must reassess and recategorize various components of the reasonable royalty standard into the categories of fact, law, and mixed questions of fact and law. As some examples, analysis is needed to assess whether the court should determine the relevance of economic theories in specific contexts, set the date of the hypothetical negotiation, and consider how the parties' bargaining power fits within the scope of the case at issue. At that point, the authors' proposals will become more workable.

33. *Id.* at 857 ("Even if jurors can learn something about modeling in the course of the trial, achieving the condition that each of them be more often right than wrong seems unlikely, given the amount of complex information—even excluding [economic] models—that jurors are asked to absorb.").