Rational Reasonable Royalty Damages: A Return to the Roots

By John B. Scherling and Ryan M. Sullivan

The more things change, the more they stay the same. Nowhere is that more true than in the field of reasonable royalty damages. As stated by a diligent commentator addressing reasonable royalty damages in patent litigation:

There is no more interesting doctrine in the law . . . than that of reasonable royalty. The present state of the law is extremely confusing in view of the modern tendency of the courts to hold the infringer for some compensation no matter what may have been the actual facts as to his profits or the damage he has caused the plaintiff.1

Although written in 1915, this passage easily could be directed at the perceived abuses of the reasonable royalty in patent litigation today.

A rational framework for determining a reasonable royalty was set forth nearly a century ago in United States Frumentum Co. v. Lauhoff,2 which generally provides that a reasonable royalty is an amount of money determined by applying sound economic principles to case-specific facts. This basic framework has remained effectively unchanged for many years. The principles are simple. Over time, however, the implementation has gone awry, resulting in erratic—and frequently excessive—jury awards. As a result, reasonable royalty damages in patent litigation have been making headlines in recent times, from figuring prominently in proposed legislative reforms to putting patent damages into turmoil and, on the other hand, that those decisions are a much-needed reining in of damages analyses and awards run amok. But really, the case law in large part suggests a return to our roots.

Nearly a century ago, in 1914, Judge Denison of the Sixth Circuit Court of Appeals in Lauhoff reviewed the case law in the circuit courts and the Supreme Court pertaining to patent damages in general and reasonable royalty damages in particular. Judge Denison ultimately penned a key passage in that decision with respect to reasonable royalty damages:

The jury, in a patent case, can be shown what plaintiff’s patent property was, to what extent defendant has taken it, its usefulness and commercial value as shown by its advantages over other things and by the extent of its use and as shown by the profits and savings which could be made upon its sale or adoption. The jury can learn how much of the realizable profit should be credited to the manufacturing process and business risk and how much to the patent, also, what share of the profits or of the selling price it may be customary in that or similar business to allow for the use of such an invention. Experts may be amply qualified to give useful opinions as to the value of the property which is to be appraised. More or less of these things may appear in a given case, all having a bearing on the real value of that for which plaintiff is to be compensated, and the case presents no greater difficulty in computing and ascertaining damages than is met by a hundred juries every day. This damage or compensation is not, in precise terminology, a royalty at all; but it is frequently spoken of as a “reasonable royalty”; and this phrase is a convenient means of naming this particular kind of damage.3

In 1915, the Supreme Court in Dowagiac Manufacturing Co. v. Minnesota Moline Plow Co.4 approved the reasonable royalty concept set forth in Lauhoff, summarizing the proper analysis of a reasonable royalty as “considering the nature of the invention, its utility and advantages, and the extent of the use involved.”5

Judge Denison’s analysis in Lauhoff remains applicable today. The key take-away for navigating reasonable royalty issues is that a reasonable royalty is an amount of money determined by applying sound economic principles to case-specific facts. The reasonable royalty—used when the plaintiff cannot prove lost profits or an established royalty—is an amount of money, not just a rate (“[t]his damage or compensation is not, in precise terminology, a royalty at all”).6 Judge Denison aptly noted that each case has a unique fact pattern, that expert economic analysis using

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impacted by recent Federal Circuit rulings. A legally and economically rational approach can be found by reflecting contemporary issues on the historical roots of the reasonable royalty.

The New and the Old

Judge Rader and the Federal Circuit appear to be shaking things up in the world of patent litigation damages. Commentary suggests on the one hand that recent case law is putting patent damages into turmoil and, on the other hand, that those decisions are a much-needed reining in of damages analyses and awards run amok. But really, the case law in large part suggests a return to our roots.

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case-specific facts is appropriate, that the reasonable royalty should be tied to the technology claimed in the patent, and that such matters readily can be handled by the jury in a patent case—again all points guiding our analyses in cases arising 100 years after Lauhoff. As Judge Rader stated just last year, “The parties are reminded that expert testimony on the topic of damages will not be allowed absent a firm basis in accepted economic principles with an eye to the facts of this record.”7

Nearly everyone with knowledge of patent damages is aware that, in the absence of an established royalty, a reasonable royalty is determined under guidelines set forth in Georgia-Pacific Corp. v. United States Plywood Corp.8 based upon a hypothetical negotiation between a willing patent holder and a willing licensee on the eve of infringement. A list of factors is to be taken into account, with some being more important than others depending on the case.9

Using the Georgia-Pacific framework still embraced by the Federal Circuit,10 the goal of the reasonable royalty analysis is to determine the outcome of a hypothetical negotiation. This is an economic concept. While real-world factors are to be taken into consideration,11 we ultimately want the outcome, not the bargaining drama, of the hypothetical negotiation. The outcome of the negotiation is important because that is what enables a determination of the value owed to the patent holder.

Judge Denison’s framework for yielding this economic determination, as set forth in Lauhoff and enshrined in Georgia-Pacific, is relatively simple. Nonetheless, as recent Federal Circuit decisions reflect, the implementation has gone awry. In particular, problematic implementations by damages experts— with respect to: (1) the comparability or incomparability of technology agreements; (2) profit splitting (e.g., the so-called 25% rule); and (3) the EMVR—have met with a variety of new rulings issued by the Federal Circuit.12 While the corrective steps taken by the Federal Circuit are getting the attention of the lower courts and the patent bar, this piecemeal reactive approach does not necessarily provide cohesive guidance on desirable methodologies. Many of the current issues confounding rational reasonable royalty analyses can be resolved by a return to the roots—revisiting the fundamental concepts articulated long ago as the courts recognized the value of a reasonable royalty in the quiver of damages alternatives.

Technology Agreements

Established royalties for the patent-in-suit generally provide the best measure of economic value.13 More often than not, however, no established royalty exists. As Judge Denison nonetheless observed in Lauhoff, “[t]he law is not, in such case, impotent.”14 In such circumstances, other agreements may be informative for determining a reasonable measure of economic value.15

The problem, however, arises in the implementation. All too frequently, opposing damages experts point to vastly differing agreements as the most “comparable.” The patentee’s expert touts agreements with high royalties, the alleged infringer’s expert touts agreements with low royalties, and neither provides careful analysis of the true information revealed by those technology agreements. Even worse, the experts simply may rely on years of personal experience to proclaim what the appropriate royalty should be. Yet these experts frequently are unable to tie the cited agreements (or claimed wisdom) to the specific facts and circumstances underlying the hypothetical negotiation. Unsurprisingly, this approach often results in outlandish royalty opinions.

Although exact comparables and their corresponding established royalties are uncommon, other technology agreements can nevertheless provide useful information for determining a reasonable royalty. Actual technology agreements reflect the outcome of real-world negotiations. A rational approach is to extract relevant information, if available, from technology agreements that relate to the hypothetical negotiation. The framework set forth in Lauhoff and Georgia-Pacific can be used to adjust and weigh the information appropriately. What is the relationship between a subject technology agreement and the hypothetical negotiation? What rights are being granted? What is the technology? Who are the parties to the negotiation? What is the time period? Some or all of these questions may be relevant to a given situation.16

A useful analogy, noted in Lauhoff,17 is the real estate appraisal. A home appraisal is commonly based upon related transactions, with specific adjustments made for differences between the subject home and the related homes—e.g., lot size, square footage of the home, and number of bedrooms. A home appraiser would not discard a home sale from across the street simply because it has a pool and the subject property does not; instead, the appraiser would directly account for the absence of a pool. Similarly, potentially informative agreements can be adjusted to better correspond to the hypothetical negotiation. Differences among the related technology agreements go towards the weight placed on the information gleaned from the potentially relevant agreement. Accordingly, “taking into account all the special circumstances of the situation as bearing on the ultimate question,”18 other technology agreements can simply and meaningfully contribute to the reasonable royalty analysis.

Profit Splitting

The Uniloc decision pronouncing the death of the 25% rule19 has been followed by a cacophony of commentary in support of the execution. The 25% “rule of thumb” held that 25% (sometimes 33%) of the infringer’s expected profit should be attributed to the patent holder in the form of a royalty rate.20 Although few disagree that blind use of the 25% rule was flawed, a lack of consensus, or perhaps a lack of understanding, exists as to why it was flawed. Certainly the 25% rule was incapable of dealing with differences among patents; it yielded the same answer for both minor improvements and pioneering innovations. Likewise, the 25% rule yielded the same royalty for licensees with no bargaining leverage as licensees with a host of viable alternatives. Yet if the 25% rule was so obviously flawed, why did it survive for so long?21

One explanation is that the profit-splitting concept in general is valid, but the 25% rule simply was a rote application of a broader and more flexible profit-splitting framework that has both intuitive appeal and theoretically sound economic underpinnings. Beginning over 60 years ago, Nobel Prize winning economist John Nash developed a mathematical model of bargaining22 applicable to profit splitting. Essentially, the Nash bargaining solution compares the profits for each party—proceeding rationally, competently, and fully informed—both in entering and not entering into the contemplated transaction. Relative bargaining
positions determine how the parties split the gains provided by the contemplated agreement.

In contrast, the 25% rule arbitrarily locked in place the two key parameters of the profit-splitting analysis: (1) the amount of profit to be split (generally the operating profit on the infringing product); and (2) the split itself (25% of that profit paid to the patent holder).23 In this way, the 25% rule wholly ignored the contribution of the technology and the relative bargaining positions of the parties. Although the 25% rule is fundamentally flawed, the general concept of profit splitting, as exemplified in the work of John Nash, is sound.

Unsurprisingly, a key step in a profit-splitting approach is to determine the amount of profit to be split. As recognized in Lauhoff, this analysis looks to the contribution of the patented technology including “the extent of its use . . . as shown by the profits and savings which could be made upon its sale or adoption.”24 Thus, in many cases, the amount of profit to be split is the incremental profit generated by the technology—i.e., the additional profit earned by the alleged infringer from practicing the patented technology. This incremental profit can take the form of additional sales, increased prices, or reduced costs.

Another key step in a profit-splitting approach is to determine the share of the incremental profits that should go to the patent holder versus the licensee. Relative bargaining positions are typically the determining factor, with such positions primarily influenced by the alternatives faced by the parties in the absence of an agreement. Lauhoff, for example, notes that a patent’s commercial value can be shown “by its advantages over other things.”25 Thus, in a variety of situations, bargaining positions can be articulated by comparing the profits experienced by each party under the potential agreement with the profits experienced if the agreement were to fail. Using this rational yet simple framework for a profit split, economic analysis can yield a reasonable royalty grounded in reality.

**Entire Market Value Rule**

The EMVR, when applicable, is a legal doctrine that permits the patentee to recover damages in the form of a royalty rate applied to the entire market value of the accused product. Consider, for example, an automobile that is accused of infringing a patent claiming innovative windshield wiper blades. The EMVR would suggest that a royalty rate could be applied to the value of the entire vehicle. Critics, supported by Federal Circuit case law,26 argue that unless the patented technology is the basis of demand for the entire vehicle, applying the EMVR will result in an excessive damages award. While adherents argue that the EMVR can be used so long as the rate is sufficiently low, the Federal Circuit in Uniloc held that precedents do not allow the EMVR for minor patent improvements, even if the rate is “low enough.”27

To develop an understanding of these arguments, it is helpful to recognize that the EMVR is not an economic principle; rather, it is a legal concept that has acquired some odd characteristics. Indeed, these characteristics often have led to problematic implementations of the EMVR.

The EMVR frequently is analyzed in a binary world. This is not to say that it is analyzed in the context of computer products, which it is, but that analysts often consider only two possibilities: either (1) the EMVR applies, or (2) it does not apply. An implicit assumption in this either/or paradigm is that the royalty rate stays the same, but the royalty base is determined by whether the EMVR applies. This misses the fundamental tenet—as recognized by Judge Denison in Lauhoff—that a reasonable royalty in patent damages is an amount of money, not just a rate.28 The royalty rate and the royalty base therefore should be determined collectively, not separately.

In addition, the EMVR frequently divorces the determination of a reasonable royalty from real-world negotiations. Setting aside royalties structured as lump sum payments, patent holders and licensees specify royalty rates and the applicable royalty base within the same agreement. In the real world, the rate and base are not determined separately from each other. The EMVR, however, often is argued and applied as if the two royalty components are somehow separate from one another.

In part, sophisticated patent holders and licensees in the real world not only consider the expected contribution of the technology, they also consider the practicality of administering the technology agreement. Going back to the example of innovative windshield wiper blades, it would not be surprising for the parties to agree to a royalty base of an entire vehicle. This could be accomplished with a very low percentage rate applied to the value of the vehicle, or with a simple per-unit royalty such as twenty-five cents per vehicle. Although there may be countervailing factors, one benefit of such a structure is the relatively low cost of validating royalty payments. Available third-party sales data enables the patent holder to monitor royalty payments without costly audits. As a further example, some patent holders of technology used in mobile communication devices enter into technology agreements where the royalty is specified as a percentage of the wholesale selling price of the handset.

The actions of patent holders and licensees in real-world negotiations reflect true responses to underlying economic incentives. Contrary to the Federal Circuit’s current paradigm,29 the choice of royalty base in the real world does not turn on whether the patented technology is the basis of demand for the product included in the royalty base. Rather, the choice of royalty base can be influenced by a number of additional factors, including administrative convenience, bargaining positions, contribution of the patented technology, distribution channels, alternative technologies, enforcement costs, as well as consumer demand. Accordingly, economics demonstrates the artificiality of the EMVR and the requirement that the patented technology form the basis of demand. The EMVR was not a consideration in Lauhoff and it is not the consideration in real-world negotiations. The conflict between the EMVR and real-world negotiations suggests that the EMVR, as a legal construct, should have little to no role in determining a reasonable royalty.

**Conclusion**

Whether in the context of other technology agreements, profit splitting, or the EMVR, going back to Lauhoff and recognizing the fundamental principle that a reasonable royalty is an amount of money facilitates an economically sound framework for determining a reasonable royalty in patent litigation. In current-day terms, the Federal Circuit has explained that “evidence purporting to apply [the Georgia-Pacific or any other factors] must be tied to the relevant facts and circumstances of the particular case.
at issue and the hypothetical negotiations that would have taken place in light of those facts and circumstances at the relevant time.

Applying the sound economic principles discussed in this article to case-specific facts is a rational way to determine the proper amount of money that should be awarded as a reasonable royalty in patent infringement litigation.

**Endnotes**

2. 216 F. 610, 617 (6th Cir. 1914). In his 1915 article, Mr. Toulmin described *Lauhoff* as “a very able, comprehensive and learned opinion.” Toulmin, supra note 1, at 36.
3. 632 F.3d 1292, 1320 (Fed. Cir. 2011).
10. *See, e.g.*, Uniloc USA, Inc. v. Microsoft Corp., 632 F.3d 1292, 1317 (Fed. Cir. 2011); Wordtech Sys., Inc. v. Integrated Networks Solutions, Inc., 609 F.3d 1308, 1319 (Fed. Cir. 2010); Lucent Techs., Inc. v. Gateway, Inc., 580 F.3d 1301, 1324 (Fed. Cir. 2009).
11. *See Georgia-Pacific*, 318 F. Supp. at 1122 (instructing the court to consider the “realities of the bargaining table”).
12. *See, e.g.*, Uniloc, 632 F.3d at 1312–21 (rejecting the 25% rule and elaborating on the EMVR); ResQNet.com, Inc. v. Lansa, Inc., 594 F.3d 860, 872–73 (Fed. Cir. 2010) (finding that reliance on comparable agreements requires meaningful consideration of differences and similarities related to demand for technology at issue); *Lucent*, 580 F.3d at 1337 (holding that EMVR requires evidence demonstrating consumer demand for product based on patented feature).
13. *See Dowagiac*, 235 U.S. at 648; *Lauhoff*, 216 F. at 615; *Georgia-Pacific*, 318 F. Supp. at 1122 (factor (1)).
14. 216 F. at 616.
15. *Id.* at 616–17; *Georgia-Pacific*, 318 F. Supp. at 1122 (factor (2)).
16. *See ResQNet*, 594 F.3d at 873 (concluding that comparisons of past agreements to the alleged infringement must account for “the technological and economic differences” between them).
17. 216 F. at 616.
18. *Id.*
19. *Uniloc*, 632 F.3d at 1315.
20. *Id.* at 1312; *Robert Goldscheider*, *The Negotiation of Royalties and Other Sources of Income from Licensing*, 36 IDEA 1 (1995).
25. *Id.*
26. *See, e.g.*, Uniloc, 632 F.3d at 1318; *Lucent*, 580 F.3d at 1339.
27. 632 F.3d at 1319–20.
28. *Lauhoff*, 216 F. at 617 (“[t]his damage or compensation is not, in precise terminology, a royalty at all”).
29. *See Uniloc*, 632 F.3d at 1318.
30. *Id.*