THE COLUMBIA
SCIENCE & TECHNOLOGY
LAW REVIEW

VOL. XVII STLR.ORG SPRING 2016

ARTICLE

HOW RELEVANT IS JUSTICE CARDOZO'S "BOOK OF WISDOM" TO PATENT DAMAGES?†

J. Gregory Sidak*

Section 284 of the Patent Act specifies that damages for patent infringement must be "adequate to compensate for the infringement, but in no event less than a reasonable royalty." To determine a reasonable royalty, courts often rely on the hypothetical-negotiation framework, which aims to determine a royalty upon which the infringer and patent holder would have agreed, had they negotiated a license for the use of the patented technology immediately before the infringement began. Determining a reasonable royalty requires a court to return in time to the moment of the hypothetical negotiation and account for the limited information available to the parties at that time. That limited information would have affected the parties' negotiating positions and consequently the outcome of the hypothetical negotiation. Conversely, because the parties at the time of the hypothetical negotiation would not have known information that became available only after the infringement began, information that postdates the hypothetical negotiation would not have affected a hypothetically negotiated reasonable royalty. Some commentators have proposed, nonetheless, that courts should allow a reasonable-royalty calculation to incorporate information that postdates the hypothetical negotiation. The proposition that one can use such information to inform a court's determination of a reasonable royalty—called the "book of wisdom" doctrine—originated in Justice Benjamin Cardozo's

† This Article may be cited as http://www.stlr.org/cite.cgi?volume=17&article=Sidak. This work is made available under the Creative Commons Attribution–Non-Commercial–No Derivative Works 3.0 License.

* Chairman, Criterion Economics, L.L.C., Washington, D.C. Email: jgsidak@criterioneconomics.com. The views expressed here are solely my own. I thank Urška Petrovčič, Shinji Ryu, Blount Stewart, and Andrew Vassallo for helpful research assistance and comments. Copyright 2016 by J. Gregory Sidak. All rights reserved.

evocative but characteristically Delphic phrase in Sinclair Refining Co. v. Jenkins Petroleum Process Co. in 1933. When translated into plain English, Justice Cardozo's reasoning is seen to rest on fallacious economic reasoning. Not surprisingly, the party that benefits the most from the facts discovered after the date on which the defendant incurred liability commonly invokes the "book of wisdom." However, basing the determination of a reasonable royalty on information that postdates the hypothetical negotiation would violate fundamental legal and economic principles for calculating patent damages. The Federal Circuit has emphasized that courts should calculate a reasonable royalty on the basis of the parties' expectations at the time of the hypothetical negotiation, not on post-infringement facts. The Federal Circuit has allowed reliance on post-infringement data only when they are necessary to infer the parties' bargaining position at the time of the hypothetical negotiation. Outside this exception, there is no valid legal or economic justification to rely on post-infringement data when calculating a reasonable royalty. Rather the contrary: calculating a reasonable royalty based on post-infringement data would give an infringer a free option to use the patent and later ask the court to determine a reasonable royalty on the basis of the infringer's actual, rather than expected, use of the patent. Infringing the patent would carry no risk of overpaying for the use of the patent if the infringer's actual sales were less than the initial expectations. Basing the calculation of a reasonable royalty on information that postdates the hypothetical negotiation would thus create a perverse incentive for the potential licensee to infringe the patent rather than to negotiate a license in a timely manner.

I. INTRODUCTION

Section 284 of the Patent Act provides that damages for patent infringement shall be of an amount "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."[1] The Supreme Court has said that damages for patent infringement "should be consistent with Congress' overriding purpose of affording patent owners complete compensation."[2] When examining damages for past infringement, the Court explained that a patent holder is entitled to receive "damages" that resulted from the infringement, but it is not entitled to the "infringer's profits."[3] That is, a patent holder is entitled to receive damages to compensate the patent holder "for the pecuniary loss he . . . has suffered from the infringement, without regard to the question [of] whether the defendant has gained or lost by his unlawful acts."[4]

Damages for patent infringement may consist of the profits that the patent holder would have earned in the absence of the infringement, a reasonable royalty, or a combination of both. Reasonable-royalty damages rest on the rationale that, had the transaction between the patent holder and the infringer been voluntary rather than involuntary, the infringer would have paid the patent holder a royalty to use the patent. If no established royalty for the patent in suit has emerged from multiple market transactions at a readily observable price, then the court needs to infer a reasonable royalty upon which the parties would have agreed in a hypothetical negotiation occurring immediately before the infringement began.[5] The determination of a reasonable

---

1. 35 U.S.C. § 284 (2015); *see also* DONALD. S. CHISUM, CRAIG ALLEN NAIRD, HERBERT F. SCHWARTZ, PAULINE NEWMAN & F. SCOTT KIEFF, PRINCIPLES OF PATENT LAW 1284–85 (3d ed. 2004).

2. Gen. Motors Corp. v. Devex Corp., 461 U.S. 648, 655 (1983).

3. Aro Mfg. Co. v. Convertible Top Replacement Co., 377 U.S. 476 (1964). The plaintiff sued the defendant for contributory infringement and sought damages for past infringement as well as ongoing infringement. The Court, however, concluded that the defendant was liable only for past infringement because defendant's ongoing use of the patented product was covered under a license agreement executed between the plaintiff and a third party. Thus the Court considered only the defendant's liability and damages for the past infringement.

4. *Id.* at 507 (quoting Coupe v. Royer, 155 U.S. 565, 582 (1895)).

5. *See* Hanson v. Alpine Valley Ski Area, Inc., 718 F.2d 1075, 1079 (Fed. Cir. 1983); Riles v. Shell Exploration & Prod. Co., 298 F.3d 1302, 1311 (Fed. Cir. 2002); Integra Lifesciences I, Ltd. v. Merck KGaA, 331 F.3d 860, 869–70 (Fed. Cir. 2003) (stating that a hypothetical negotiation occurs "at a time before the

royalty based on a hypothetical negotiation typically relies on the fifteen factors established in the *Georgia-Pacific* decision.[6]

The court needs to analyze the limited information that was actually available to the parties at the time of the hypothetical negotiation. That limited information would have affected the parties' bargaining positions during the hypothetical negotiation and consequently would have affected the royalty upon which the parties would have voluntarily agreed. In contrast, because the parties at the time of the hypothetical negotiation could not have known information that became available only after the infringement began, post-infringement information could not have affected a hypothetically negotiated reasonable royalty. Consequently, information that became available after the hypothetical negotiation is less relevant, if not entirely irrelevant, to determining a reasonable royalty.[7]

Some commentators have argued, nonetheless, that courts should rely on information that postdates the hypothetical negotiation. The proposition that a royalty calculation may consider information that postdates the hypothetical negotiation is called the book of wisdom doctrine. Those commentators posit that accounting for information that postdates the hypothetical negotiation when determining a reasonable royalty could deter infringement or ensure the patent holder's adequate compensation. Not surprisingly, the party that would benefit from the court's reliance on post-infringement data when calculating a reasonable royalty has typically invoked that argument. For example, infringers that sell fewer infringing products than initially expected at the time of first infringement might try to persuade the court to

---

infringing activity began"); Lucent Techs., Inc. v. Gateway, Inc., 580 F.3d 1301, 1324 (Fed. Cir. 2011) (stating that a hypothetical negotiation takes place "just before infringement began").

6. Georgia-Pacific Corp. v. U.S. Plywood Corp., 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970), *mod. and aff'd*, 446 F.2d 295 (2d Cir. 1971), *cert. denied*, 404 U.S. 870 (1971). I explain how a court can reconcile the much-maligned *Georgia-Pacific* factors with rigorous economic reasoning in J. Gregory Sidak, *Bargaining Power and Patent Damages*, 19 STAN. TECH. L. REV. 1 (2015).

7. For an explanation of the economic rationale behind the general damages principle of using only the information known at the time of injury, *see* James M. Patell, Roman L. Weil & Mark A. Wolfson, *Accumulating Damages in Litigation: The Roles of Uncertainty and Interest Rates*, 11 J. LEGAL STUD. 341 (1982); *see also* Franklin M. Fisher & R. Craig Romaine, *Janis Joplin's Yearbook and the Theory of Damages*, 5 J. ACCT., AUDITING & FIN. 145, 153–56 (1990) ("[T]he stream of returns [forgone by the plaintiff because of the injury] should be estimated using the information available as of the time of violation. . . . [E]xpectations as of that time are particularly relevant.").

consider actual (rather than projected) sales data when calculating a reasonable royalty.[8] However, I explain in this article that reliance on information that postdates the hypothetical negotiation contradicts sound legal and economic principles for calculating damages for patent infringement and therefore should be rejected in cases where damages are determined as a reasonable royalty.

In Part II, I explain that the genesis of the book of wisdom doctrine is Justice Benjamin Cardozo's 1933 opinion for the Supreme Court in *Sinclair Refining Co. v. Jenkins Petroleum Process Co.*[9] *Sinclair* was not a patent-infringement case but rather a breach-of-contract case. Because the breach concerned the failure to assign a patent application, the Court evaluated whether, in determining damages for breach of contract, it was proper to allow the plaintiff to conduct discovery of information about the use of the patented technology after the date of breach. Justice Cardozo found that data about the actual use of the patented technology after the date of breach is a "legitimate aid to the appraisal of the value of the patent at the time of the breach" of the contract,[10] saying: "Here is a book of wisdom that courts may not neglect."[11] However, Justice Cardozo's opinion certainly did not address the question of how to calculate damages for patent infringement, let alone the question of how to determine patent damages by applying the hypothetical-negotiation methodology. Justice Cardozo never addressed the question of whether the hypothetical-negotiation methodology in patent law should rely on information that became available only after the infringement of the patent. It is therefore inappropriate to cite *Sinclair* in a patent case to justify reliance on information that postdates the hypothetical negotiation when calculating a reasonable royalty for patent infringement.[12]

---

8. *See, e.g.*, Defendants' Notice of Motion and Motion to Exclude Expert Testimony of Paul K. Meyer at 21, Oracle USA, Inc. v. SAP AG, No. 4:07-cv-01658-PJH (N.D. Cal. Sept. 30, 2010) (criticizing the damages expert for "turn[ing] a blind eye to the reality that [the infringer] had only 358 customers").

9. 289 U.S. 689 (1933).

10. *Id.* at 697.

11. *Id.* at 698.

12. Of course, sometimes courts do not actually cite *Sinclair* and invoke its imagery of unclasping and opening the "book of wisdom" when resorting to the use of post-infringement facts to inform the hypothetical negotiation used to calculate damages for patent infringement. A prominent and highly consequential example is the Ninth Circuit's landmark decision on reasonable and nondiscriminatory (RAND) royalties for standard-essential patents. Microsoft Corp. v. Motorola, Inc., 795 F.3d 1024 (9th Cir. 2015). The Ninth Circuit affirmed the bench-trial royalty determination by Judge James Robart.

In Part III, I show that the Federal Circuit has largely recognized the principle that the calculation of a reasonable royalty should rest on the information extant at the time of the hypothetical negotiation. In 1988, in *Fromson v. Western Litho Plate & Supply Co.*, the Federal Circuit did rely on *Sinclair* to permit the use of facts learned and events that occurred after the infringement to calculate a reasonable royalty under the hypothetical negotiation framework.[13] Not surprisingly, the Federal Circuit's statement in *Fromson* has injected ambiguity with respect to which information should influence the determination of a reasonable royalty. Nonetheless, analysis of the Federal Circuit's decisions shows that the Federal Circuit has never endorsed broad reliance on post-infringement data to calculate a reasonable royalty. The Federal Circuit emphasized—both before and after it decided *Fromson*—that a reasonable royalty "must relate to the time infringement occurred, and not be an after-the-fact assessment."[14] The Federal Circuit has allowed trial courts to rely on information that postdates the hypothetical negotiation only in limited circumstances—specifically when reliance on post-infringement information was necessary to infer the parties' negotiating position at the time of the hypothetical negotiation.

In Part IV, I show that reliance on information that postdates the hypothetical negotiation would also contradict the basic framework of the U.S. patent system in the sense that it would give a potential licensee an incentive to infringe a patent rather than to promptly negotiate a license. A licensee that signs a license agreement before using the patented technology and opts for a lump sum (rather than a running-royalty structure) faces the risk of overpaying for the use of that technology if the licensed product is

---

Microsoft Corp. v. Motorola, Inc., No. C10-1823JLR, 2013 WL 2111217 (W.D. Wash. Apr. 25, 2013). For purposes of a hypothetical negotiation between Microsoft and Motorola, Judge Robart treated Motorola as though it were Google, which had purchased Motorola. *Id.* However, Google did not buy Motorola until 2012, which was three years after Microsoft's alleged infringement began, which would be the latest possible date for a hypothetical negotiation. It is well established, of course, that the selection of an incorrect date for the hypothetical negotiation is grounds for reversal. *See, e.g.*, Wang Labs., Inc. v. Toshiba Corp., 993 F.2d 858, 869–70 (Fed. Cir. 1993). For a further critique of the Ninth Circuit's decision in *Microsoft v. Motorola*, see J. Gregory Sidak, *Apportionment, FRAND Royalties, and Comparable Licenses After* Ericsson v. D-Link, 2015 U. ILL. L. REV. (forthcoming 2015).

13. 853 F.2d 1568, 1576 (Fed. Cir. 1988).

14. Riles v. Shell Exploration & Prod. Co., 298 F.3d 1302, 1313 (Fed. Cir. 2002) (citing Hanson v. Alpine Valley Ski Area, Inc., 718 F.2d 1075 (Fed. Cir. 1983)).

less commercially successful than initially predicted. However, that same licensee could avoid the risk of overpaying for the patented invention by electing to infringe the patent and later asking the court to calculate a reasonable royalty using the post-infringement data. When a court determines the reasonable royalty on the basis of post-infringement data, the infringer will pay a royalty proportional to the sales of the patented technology. Put differently, when a court's determination of a reasonable royalty accounts for post-infringement data, it is in the potential licensee's best interest to infringe the patent, rather than obtain a license, because the decision to infringe allows the potential licensee to avoid the downside risk of overpaying for the patented technology. Therefore, accounting for post-infringement information in calculating a reasonable royalty would create a perverse incentive for the potential licensee to infringe the patent rather than to negotiate a license in a timely manner.

Some courts have suggested that accounting for that information would deter patent infringement and ensure the patent holder's adequate compensation. However, those courts fail to recognize that, during the hypothetical negotiation, the parties could have elected to use a running-royalty structure, such that the royalty compensation would be directly proportional to the actual sales (or use) of the patented technology. A running-royalty structure would ensure optimal deterrence of patent infringement as well as the patent holder's adequate compensation. Courts also have failed to recognize that, if in a hypothetical negotiation the parties would have agreed to a lump-sum royalty, then the parties also would have implicitly agreed *not* to account for the actual use of the patented technology in determining a reasonable royalty. There is consequently no valid justification to account for using those subsequently revealed data in the calculation of a reasonable royalty. Finally, courts that have allowed reliance on post-infringement information also fail to recognize that reliance on that data could disfavor the licensor if the licensee does not meet its projected sales of the product implementing the patented technology for reasons unrelated to the patented technology. Thus, none of the presented arguments provide a valid justification for using post-infringement information when calculating a reasonable royalty.

II. THE GENESIS OF REVELATION: *SINCLAIR* AND THE "BOOK OF WISDOM"

The genesis of the "book of wisdom" is Justice Benjamin Cardozo's 1933 opinion for the Supreme Court in Sinclair Refining Co. v. Jenkins Petroleum Process Co.[15] In this decision, Justice Cardozo introduced the Delphic phrase, "book of wisdom," which commentators and litigants have since interpreted as a justification for calculating a reasonable royalty for patent infringement on the basis of information that became available after the date of the hypothetical negotiation. However, in Sinclair, Justice Cardozo expounded on the limits of discovery in federal district court in a breach-of-contract case and the damages available to the plaintiff because of that breach. Sinclair was not a case of patent infringement. Justice Cardozo's opinion did not concern calculation of a reasonable royalty based on the hypothetical-negotiation framework, and it was entirely unrelated to the question of whether information that postdates the hypothetical negotiation should influence the trial court's determination of a reasonable royalty. It was a mere coincidence that, in Sinclair, the trial court needed to determine the value of a patent; that patent could just as well have been a pipeline or a refinery or any other asset. Thus, the "book of wisdom," which Justice Cardozo cryptically explained in the same year that Franklin Roosevelt moved into the White House, does not in fact have the intellectual pedigree that many commentators suppose it does.

A. The Facts of the Case

At the time of the Court's decision, Sinclair was a subsidiary of Sinclair Consolidated Oil Corporation—an industry giant that annually sold hundreds of millions of gallons of gasoline in the United States, Cuba, Mexico, and Europe, employed 20,000 people and operated 14,000 miles of pipelines, over 6,000 railroad tank cars, 8,000 service stations, and 21,000 other retail outlets.[16] Its founder, Harry F. Sinclair, was a successful and influential oilman, well connected both within the industry and within the government. Sinclair's board of directors included Theodore Roosevelt, Jr., the son of the former president, and William Boyce

15. 289 U.S. 689 (1933).

16. *1930s*, SINCLAIR HISTORY, https://www.sinclairoil.com/history/1930.html.

Thompson, the director of Rockefeller's Chase Bank.[17] From 1921 to 1924, Harry Sinclair had been implicated in the Teapot Dome Scandal, during which Sinclair's company allegedly obtained a contract to develop a tract of government land in return for making large contributions to Warren G. Harding's 1920 presidential campaign.[18] After a series of appeals that eventually reached the Supreme Court, the Court affirmed the lower court's conviction of Harry Sinclair on charges of contempt of Congress and contempt of court.[19] In contrast, Jenkins Petroleum was, at the time of Justice Cardozo's opinion, a small company with a handful of patents concerning oil refining.[20]

Despite the disparate sizes of the two parties, the Supreme Court ruled in favor of Jenkins Petroleum, deciding that Sinclair's profits were subject to discovery.[21] By the time the case had reached the Court in 1933, the parties had been litigating for a dozen years since Jenkins Petroleum first filed suit in 1921.[22] Even after the Supreme Court's decision, the dispute continued until 1939.[23] In 1937, a jury awarded Jenkins Petroleum $2 million—which was nearly 12 percent of Sinclair's net profits in 1936[24] and approximately $33 million in 2015 dollars—in damages for Sinclair's alleged breach, but the First Circuit later vacated that damages award.[25] How did Jenkins Petroleum sustain litigation—

17. *See* F. WILLIAM ENGDAHL, A CENTURY OF WAR: ANGLO-AMERICAN OIL POLITICS AND THE NEW WORLD ORDER 78 (Pluto Press rev. ed. 2004).

18. *See Harry Ford Sinclair*, KAN. HIST. SOC'Y, https://www.kshs.org/kansapedia/harry-ford-sinclair/12204 (last visited Feb. 28, 2016); *see also* Sinclair v. United States, 279 U.S. 263, 284–88 (1929).

19. *Sinclair*, 279 U.S. at 299; s*ee also 1920s*, SINCLAIR HISTORY, https://www.sinclairoil.com/history/1920.html; Robert W. Cherny, *Graft and Oil: How Teapot Dome Became the Greatest Political Scandal of Its Time*, GILDER LEHRMAN INST. AM. HIST., http://www.gilderlehrman.org/history-by-era/roaring-twenties/essays/graft-and-oil-how-teapot-dome-became-greatest-political-scand (last visited Feb. 27, 2016).

20. *See* Jenkins Petroleum Process Co. v. Credit Alliance Corp., 83 F.2d 532, 536 (10th Cir. 1936).

21. *See* Sinclair Ref. Co. v. Jenkins Petroleum Process Co., 289 U.S. 689, 700 (1933).

22. *Jenkins Process Co. Sues Sinclair Refining Co.*, PETROLEUM AGE, Mar. 1921, at 99.

23. *See* Jenkins Petroleum Process Co. v. Sinclair Ref. Co., 307 U.S. 651, 651 (1939) (denying motion for leave to file a second petition for rehearing).

24. That is, $2,000,000 ÷ $16,728,000 = 11.96%. Sinclair's net profit in 1936 was $16,728,000. *See At Twentieth Birthday Companies Consolidate Big Operational Gains*, *supra* note 16.

25. Sinclair Ref. Co. v. Jenkins Petroleum Process Co., 99 F.2d 9, 20 (1st Cir. 1938).

with moderate success—against one of the largest oil companies in the country for eighteen years?

Despite Jenkins Petroleum's small size relative to Sinclair's, it had imposing names among its legal counsel. Jenkins Petroleum's legal counsel included Philip G. Clifford (the grandson of Nathan Clifford, former U.S. Representative from Maine, U.S. Attorney General, and Associate Justice of the Supreme Court[26]) and Henry Herrick Bond (a former Assistant Secretary of Treasury during the Coolidge and Hoover administrations).[27] After leaving the Department of the Treasury in 1929, Henry Bond had founded a law practice with William J. "Wild Bill" Donovan,[28] who had served as the head of the Antitrust Division of the Department of Justice[29] and would later head the Office of Strategic Services (the predecessor of the Central Intelligence Agency) during the Second World War.[30] Donovan himself served as Jenkins Petroleum's legal counsel in Jenkins Petroleum Process Co. v. Credit Alliance Corp. in 1936.[31]

Sinclair's legal counsel included Robert Hale, the Speaker of the Maine House of Representatives from 1929 to 1930. Hale would later serve seven terms in the U.S. House of Representatives.[32] His law firm represented Sinclair from the

26. Philip Clifford served as the Secretary of the Maine State Board of Legal Examiners and in 1917 penned an article that advocated raising the standards of admission to the Maine State Bar Association. *See* Philip G. Clifford, *A Plea for Higher Entrance Requirements*, 10 ME. L. REV. 175 (1917). He also authored his famous grandfather's biography. *See* PHILIP GREELY CLIFFORD, NATHAN CLIFFORD, DEMOCRAT (1803–1881) (1922).

27. Bond left the Department of the Treasury on September 1, 1929—less than two months before the stock market crash on October 28, 1929. *See Henry Herrick Bond Retires as Assistant Treasury Secretary*, DAILY ILLINI, Aug. 8, 1929, at 1.

28. *See* Drew Pearson, *Chief Blame for Emasculated Tax Bill Placed on Alvord*, ST. PETERSBURG TIMES, Dec. 23, 1943, at 6.

29. JAMES R. WILLIAMSON, FEDERAL ANTITRUST POLICY DURING THE KENNEDY-JOHNSON YEARS 13 (1995).

30. Donovan had also unsuccessfully run for governor of New York in 1932. *See* Evan Thomas, *Spymaster General*, VANITY FAIR (Mar. 2011), *available at* http://www.vanityfair.com/culture/2011/03/wild-bill-donovan201103.

31. *Jenkins*, *see* 83 F.2d at 532, 533 (1936).

32. *Hale, Robert (1889–1976)*, BIOGRAPHICAL DIRECTORY OF THE UNITED STATES CONGRESS., http://bioguide.congress.gov/scripts/biodisplay.pl?index=H000036 (last visited Feb. 27, 2016). Hale was the son of Clarence Hale, who served as a district judge in Maine from 1902 to 1934. *See Hale, Clarence*, FED. JUDICIAL CTR., http://www.fjc.gov/servlet/nGetInfo?jid=943&cid=999&ctype=na&instate=na (last visited Feb. 27, 2016). Jenkins Petroleum's initial suit against Sinclair in 1921 was brought before Judge Clarence Hale, who did not

beginning of the litigation in 1921 to its end in 1939.[33] Sinclair also retained the services of Dean S. Edmonds, who would later become the president of the New York Intellectual Property Law Association from 1941 to 1942,[34] and Nathan L. Miller, the governor of New York from 1921 through 1922 and a director of U.S. Steel Corp.[35]

The white-shoe legal teams' involvement in the case for the duration of the suit implies that the dispute between Jenkins Petroleum and Sinclair was expensive and hard fought. Indeed, Judge Scott Wilson of the U.S. Court of Appeals for the First Circuit observed in his opinion on September 27, 1938 that there were "astute and experienced counsel on both sides, by whom every point involving a question of law was strenuously contested."[36] The stakes of the litigation were high because, at the time of the litigation, the demand for gasoline was increasing rapidly.

In 1916, the popularity of Ford Motor Company's Model T was soaring after Henry Ford inaugurated the assembly line, which lowered the cost and price of automobiles.[37] With the growth in demand for automobiles, the demand for complementary inputs, such as gasoline, also increased. Figure 1 shows the growth in the production of crude oil and motor vehicle registrations in the United States from 1910 to 1933.

---

recuse himself even though his son's law firm, Verrill, Hale, Booth & Ives, represented Sinclair.

33. *See* Jenkins Petroleum Process Co. v. Sinclair Ref. Co., 273 F. 527, 527 (1921); *see also* Jenkins Petroleum Process Co. v. Sinclair Ref. Co., 307 U.S. 651, 651 (1939).

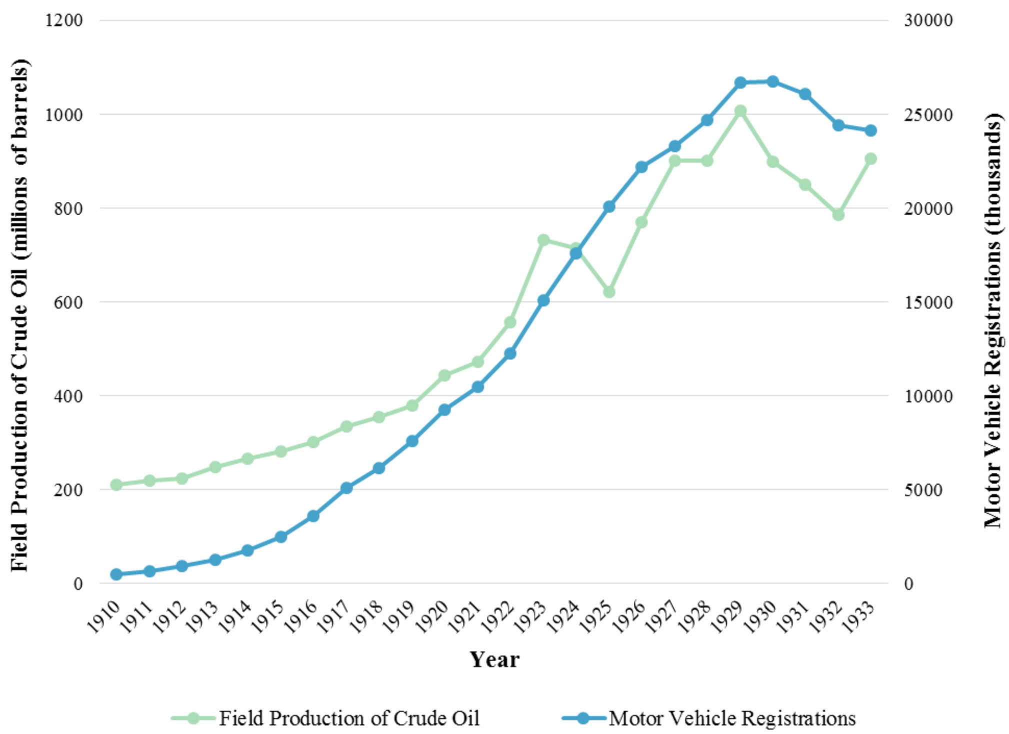
34. *See Presidents*, N.Y. INTELL. PROP. L. ASS'N, http://www.nyipla.org/nyipla/Presidents.asp?SnID=370264287 (last visited Feb. 27, 2016).

35. *New York Governor Nathan Lewis Miller*, NAT'L GOVERNORS ASS'N, http://www.nga.org/cms/home/governors/past-governorsbios/page_new_york/col2-content/main-content-list/title_miller_nathan.html (last visited Feb. 27, 2016).

36. Sinclair Ref. Co. v. Jenkins Petroleum Process Co., 99 F.2d 9, 11 (1st Cir. 1938).

37. RAY BATCHELOR, HENRY FORD, MASS PRODUCTION, MODERNISM, AND DESIGN 22 (Manchester Univ. Press 1994).

Figure 1: Field Production of Crude Oil and Motor Vehicle Registrations in the United States, 1910–1933



Sources: *Petroleum & Other Liquids*, U.S. ENERGY INFO. ADMIN., http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MCRFPUS1&f=A (last visited Feb. 27, 2016); *Motor Vehicle Registrations*, U.S. CENSUS 2000 ON WWW.ALLCOUNTRIES.ORG, http://www.allcountries.org/uscensus/1027_motor_vehicle_registrations.html (last visited Feb. 27, 2016).

That summer, four gentlemen—W.C. Black, Ulysses S. Jenkins, A.G. Maguire, and T.S. Black—organized the Jenkins Petroleum Process Co. under the laws of Wisconsin.[38] Ulysses S. Jenkins, the vice president of the new company, had invented a novel process and apparatus for "cracking" crude oil to produce gasoline. To obtain gasoline from crude oil, it is necessary to heat the crude oil and capture the distillate gasoline. A byproduct of cracking crude oil is carbon (or "coke"). At the time of Jenkins' invention, coke would accumulate in refinery stills, interfere with the cracking

38. *Sues Sinclair Refining Company for Use of Process Alleged to Be Jenkins'*, NAT. PETROLEUM NEWS, Feb. 9, 1921, at 24; *see also Sinclair Ref. Co.*, 99 F.2d at 16.

process, and sometimes damage the stills.[39] Oil refiners were required to interrupt the cracking process periodically to remove excess coke from the stills, which limited the efficiency of the refining process.[40] Jenkins claimed that his novel process and machine "practically eliminated" the formation of coke during the refining of crude oil into gasoline.[41]

Two of the other founders of Jenkins Petroleum, W.C. Black and T.S. Black were brothers; W.C. became the company's president, and the younger T.S. served as its secretary. The elder Black was a "well-known physician and oil operator" at the time of the founding of Jenkins Petroleum,[42] and by 1922 he had become the vice president of American Gasoline Corporation,[43] which was a subsidiary of what would later become Shell Oil Company.[44] The younger Black, within one year of Jenkins Petroleum's incorporation, founded and became president of Western Petroleum Co.[45] A.G. Maguire was the president of Bartles-Maguire Oil Co., which was in 1915 "one of the largest independents"[46] (that is, an upstream oil and gas company concerned with exploring and drilling but not refining or marketing[47]).

39. Jenkins Petroleum Process Co. v. Sinclair Ref. Co., 32 F.2d 252, 253 (1st Cir. 1929).

40. Jenkins Petroleum Process Co. v. Sinclair Ref. Co., 32 F.2d 247, 248 (D. Me. 1928), *aff'd as modified*, 32 F.2d 252 (1st Cir. 1929).

41. *Id.* at 248; *see also* W.C. Black, *Jenkins' Still and What Might Have Been*, PETROLEUM MAG., Feb. 1921, at 78. Jenkins's patent claimed that the invention was "a method for treating heavier hydrocarbons whereby they may be transformed with a minimum of waste through the production of permanent gases or of carbon, into gasolene [sic] and other condensable light by-products, it being entirely unnecessary to empty and refill stills or the like to treat separate charges of the petroleum oil, the process being continuous from beginning to end . . . ." U.S. Patent No. 1,226,526 col. 1, ll. 16–25 (filed July 13, 1916).

42. H.L. Wood, *Who's Who in Oil and Gas*, 7 FUEL OIL J., Sept. 1916, at 100, 102.

43. *Personal Mention – Men You Know*, 25 OIL WKLY., Apr. 8, 1922, at 71, 71.

44. *The History of Shell Oil Company*, SHELL IN THE U.S., http://www.shell.us/about-us/who-we-are/the-history-of-shell-oil-company.html (last visited Feb. 26, 2016).

45. *Trade and News Items*, 90 OIL, PAINT & DRUG REP., Nov. 27, 1916, at 15, 15.

46. *Defend Milwaukee Fuel Prices*, 45 MOTOR WORLD, Oct. 20, 1915, at 11.

47. *What Is an Independent?*, INDEP. PETROLEUM ASS'N AM., http://www.ipaa.org/economics-analysis-international/economic-reports (last visited Feb. 26, 2016).

Jenkins Petroleum began to design a still, shown in Figure 2, that would practice the patented Jenkins process in August 1916.[48] In addition, Jenkins Petroleum vigorously marketed its invention as the solution to "coking, the bane of practical oil men, which is responsible for more trouble, inefficiency, burned bottoms, ruined stills, and spoiled product, than any other single cause . . . ."[49] On September 21, 1916, Jenkins Petroleum executed with Consumers' Company an agreement to license the use of the invention.[50]

Figure 2: The Jenkins Still

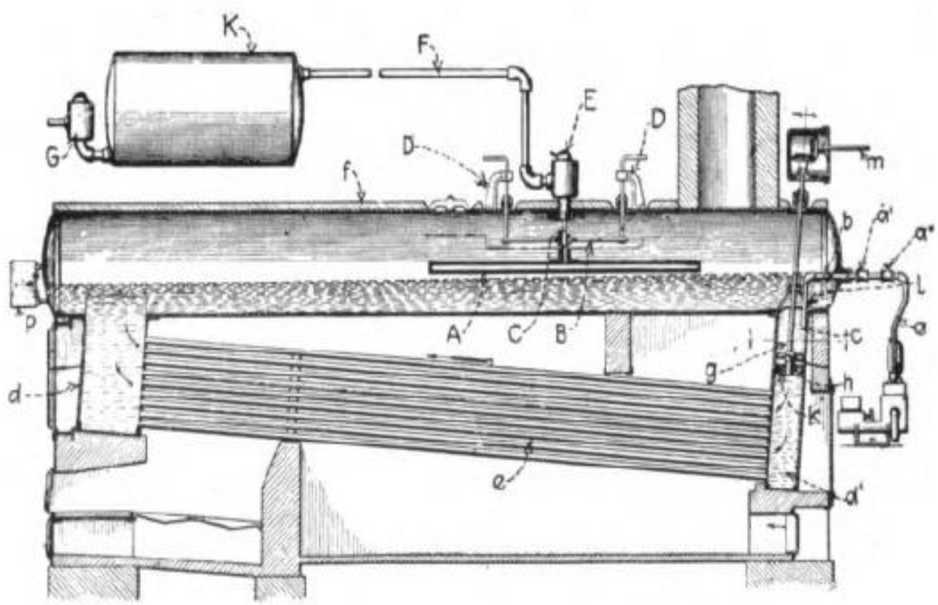


Fig. 84. — Jenkins' tube still with positive circulation of oil.

Source: CARLETON ELLIS & JOSEPH V. MEIGS, GASOLINE AND OTHER MOTOR FUELS 216 (1921).

At the time of Jenkins Petroleum's incorporation, Ulysses S. Jenkins was also working as a lubricating engineer for the Cudahy Refining Company—the predecessor of the Sinclair Refining

48. Jenkins Petroleum Process Co. v. Sinclair Ref. Co., 32 F.2d 252, 255 (1st Cir. 1929).

49. *Id.* at 253–54. Judge Peters of the U.S. District Court for the District of Maine observed wryly that "[t]he claims made by the Jenkins people . . . [were] very strong in their prospectus and in conversation, but rather milder in the application for patents . . . ." Jenkins Petroleum Process Co. v. Sinclair Ref. Co., 32 F.2d 247, 248 (D. Me. 1928), *aff'd as modified*, 32 F.2d 252 (1st Cir. 1929).

50. Jenkins Petroleum Process Co. v. Sinclair Ref. Co., 32 F.2d 252, 255 (1st Cir. 1929).

Company (Sinclair).[51] Jenkins notified his employer of his invention that potentially could improve the yield of gasoline from crude oil as well as the efficiency of the refining process. However, when Jenkins invited his superiors at Cudahy Refining to his garage to witness the efficacy of his invention, the demonstration of heating crude oil in his machine ignited a fire that inauspiciously burned down Jenkins's garage.[52] Despite this bumpy start, Sinclair requested and Jenkins sent a machine that embodied his invention to Sinclair to test at its refinery in Kansas, after which Sinclair and Jenkins Petroleum entered into a contract for Jenkins Petroleum to loan Sinclair an experimental apparatus for treating petroleum.[53] The contract, signed by A.G. Maguire on behalf of Jenkins Petroleum on October 2, 1916,[54] specified that (1) "any improvements . . . which may be developed as the result of the work of [Sinclair] engineers and experts . . . shall accrue to the Jenkins Petroleum Process Company," (2) Sinclair would, as much as it is able, take steps to file a patent application for those improvements, and (3) Sinclair would assign those patent applications or patents to Jenkins Petroleum.[55] Subsequently, under the supervision of Ulysses S. Jenkins, Sinclair tested his apparatus but found little potential for commercial use. Preliminary testing with water, instead of oil, revealed that the apparatus leaked, and attempts to seal the machine to make it watertight were futile. Sinclair did not subject the machine to further testing with oil.[56]

On September 10, 1917, a Sinclair employee, Edward W. Isom, applied to patent an invention, shown in Figure 3, related to cracking and assigned the patent to Sinclair.[57] In 1921, Jenkins Petroleum began its 18-year-long litigation against Sinclair alleging breach of contract, claiming that Sinclair's patent (the Isom patent) was an improvement on the Jenkins apparatus, and that, based on the provisions of the contract into which the parties entered on

---

51. Jenkins Petroleum Process Co. v. Sinclair Ref. Co., 32 F.2d 247, 248 (D. Me. 1928), *aff'd as modified*, 32 F.2d 252 (1st Cir. 1929).

52. *Id.* at 249.

53. Sinclair Ref. Co. v. Jenkins Petroleum Process Co., 289 U.S. 689, 690 (1933).

54. Jenkins Petroleum Process Co. v. Sinclair Ref. Co., 32 F.2d 252, 254 (1st Cir. 1929).

55. Jenkins Petroleum Process Co. v. Sinclair Ref. Co., 32 F.2d 247, 249 (D. Me. 1928), *aff'd as modified*, 32 F.2d 252 (1st Cir. 1929).

56. Jenkins Petroleum Process Co. v. Sinclair Ref. Co., 32 F.2d 252, 255 (1st Cir. 1929).

57. *Id.*; *Sinclair*, 289 U.S. at 690–91.

October 2, 1916, Sinclair should have assigned the Isom patent to Jenkins Petroleum.[58]

Figure 3: The Isom Still

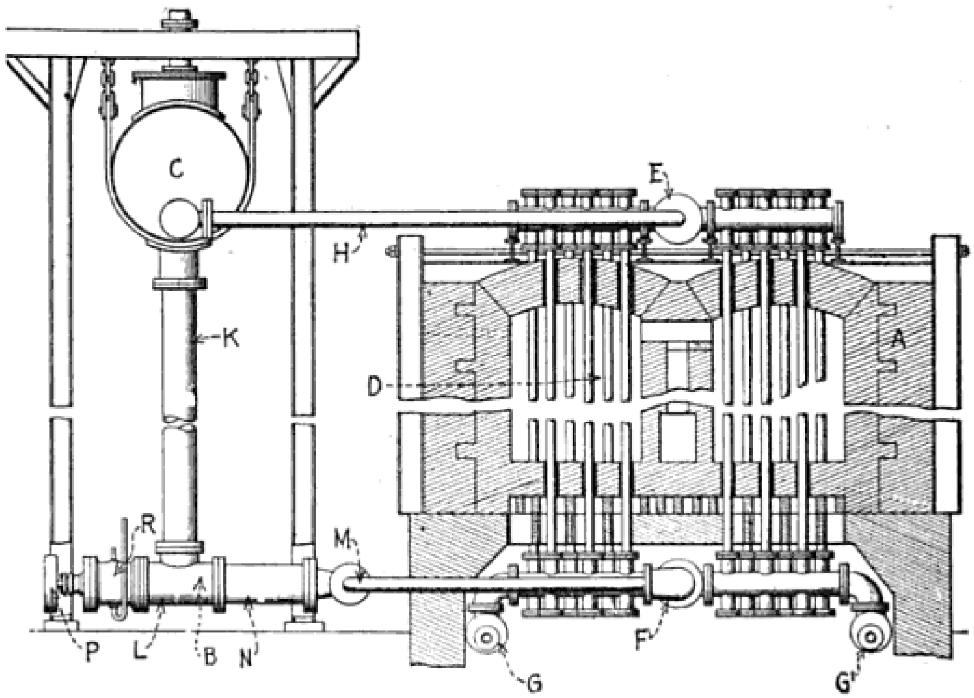


Fig. 85.—The Isom tube still.

Source: CARLETON ELLIS & JOSEPH V. MEIGS, GASOLINE AND OTHER MOTOR FUELS 218 (D. Van Nostrand Co. 1921).

While the litigation continued, W.C. Black, in his capacity as the vice president of the American Gasoline Corp., implemented the Jenkins process in multiple American Gasoline plants.[59] An industry magazine in 1922 listed the Jenkins process as one of the "best-known processes which are being used successfully in the refineries of the mid-continent field . . . ."[60]

B. The Request for Specific Performance

In a breach-of-contract suit, the court may order the breaching party to pay the innocent party a monetary sum that would

58. *Id.* at 690–91.

59. *Personal Mention*, *supra* note 43, at 71; *Oklahoma Refinery Sold*, 8 PETROLEUM AGE, Nov. 15, 1921, at 15, 52; *Rate Adjustments Not Entirely Satisfactory to Mid-Continent*, 24 OIL WKLY., Mar. 18, 1922, at 24, 25.

60. *Cracking Processes for Petroleum*, 27 CHEM. & METALLURGICAL ENG'G, Nov. 22, 1922, at 1009, 1015.

compensate that party for its loss resulting from the breach (typically, its lost "expectation interest"), or the court may order an equitable remedy, such as specific performance by the breaching party.[61] Jenkins Petroleum argued to the District Court of Maine that Sinclair's Isom patent was an improvement on Jenkins's invention, such that the court should order specific performance for Sinclair to assign the Isom patent to Jenkins Petroleum. Jenkins Petroleum claimed that improvements to the Jenkins process comprised the essential qualities of Sinclair's Isom patent.[62]

Judge John Andrew Peters of the District Court of Maine disagreed. He found that Sinclair did not breach its contractual obligation to Jenkins Petroleum.[63] Judge Peters examined the question of "what improvements" the contract between Jenkins Petroleum and Sinclair covered.[64] He emphasized that an "improvement" of Jenkins's invention would entail "something that would cause the apparatus used in [the Jenkins] process to function more efficiently, not an improvement in the general cracking art."[65] If Sinclair had "invented a different and better process for cracking oil, it would have no connection with Jenkins' process . . . and could not be regarded as an improvement in the Jenkins process."[66] Based on the evidence presented, Judge Peters concluded that the main features of Sinclair's Isom patent were improvements on prior art, not Jenkins's machine and process.[67] He consequently concluded that ordering Sinclair to convey the Isom patent to Jenkins Petroleum would be "inequitable and unjust," and thus Judge Peters dismissed the case.[68]

On appeal, Circuit Judge Charles Fletcher Johnson, writing for the U.S. Court of Appeals for the First Circuit, affirmed the district court's finding that Jenkins was not entitled to specific performance.[69] Judge Johnson found that it was not clear whether

---

61. *See, e.g.*, RICHARD A. POSNER, ECONOMIC ANALYSIS OF LAW 128–29 (9th ed. 2014); Thomas S. Ulen, *Specific Performance*, *in* 3 THE NEW PALGRAVE DICTIONARY OF ECONOMICS AND THE LAW 481 (Peter Newman ed., Macmillian Reference Ltd. 1998).

62. Jenkins Petroleum Process Co. v. Sinclair Ref. Co., 32 F.2d 247, 251 (D. Me. 1928), *aff'd as modified*, 32 F.2d 252 (1st Cir. 1929).

63. *Id.* at 252.

64. *Id.* at 250.

65. *Id.* at 251.

66. *Id.* (internal citation omitted).

67. *Id.* at 251.

68. *Id.* at 252.

69. Jenkins Petroleum Process Co. v. Sinclair Ref. Co., 32 F.2d 252, 257 (1st Cir. 1929).

Sinclair's Isom patent was the result of Sinclair's engineers studying the Jenkins apparatus, as Jenkins Petroleum claimed, or was the result of Sinclair's own "inventive genius and of information obtained from other sources . . . ."[70] He emphasized that, "[t]o sustain a decree of specific performance the contract not only should be clear and unambiguous, but the evidence in relation to acts alleged to have been done under it and necessary to give it effect should be clear and convincing."[71] Judge Johnson emphasized that, absent such evidence, the parties must resort to their lesser equitable remedies or their legal remedies.[72] The First Circuit thus affirmed the district court's decision to deny specific performance, but the First Circuit reversed the decision with respect to the other issues and remanded the case to the district court.[73]

C. Damages for Breach of Contract

After the First Circuit affirmed the denial of Jenkins Petroleum's request for specific performance, Jenkins Petroleum amended its complaint to seek damages for Sinclair's breach of contract.[74] For the purpose of calculating damages, Jenkins Petroleum requested discovery of evidence about Sinclair's use of the Isom patent, including Sinclair's profits from using the Isom patent. The amended complaint, of course, was subject to the narrow rights of discovery in federal court that existed before the Supreme Court promulgated the Federal Rules of Civil Procedure in 1938 pursuant to the Rules Enabling Act of 1934.[75] Judge Peters, however, found that "the question of the use or the value of the use of the Isom patent by the defendants [Sinclair] ha[d] no materiality whatsoever."[76] He emphasized that Jenkins Petroleum was not entitled to the Isom patent and that the court was not addressing a case of patent infringement.[77] Judge Peters emphasized that, in a case of breach of the contract, "the plaintiff is entitled to

70. *Id.*

71. *Id.*

72. *Id.*

73. *See* Jenkins Petroleum Process Co. v. Sinclair Ref. Co., 38 F.2d 820, 820 (D. Me. 1930).

74. *Id.*

75. Act of June 19, 1934, ch. 651, 48 Stat. 1064; *see generally* Stephen N. Subrin, *Fishing Expeditions Allowed: The Historical Background of the 1938 Federal Discovery Rules*, 39 B.C.L. REV. 691, 691 (1998).

76. Jenkins Petroleum Process Co. v. Sinclair Ref. Co., 56 F.2d 272, 274 (D. Me. 1932), *rev'd*, 62 F.2d 663 (1st Cir. 1933).

77. *Id.*

compensation commensurate with its loss at the time of the breach."[78] Such compensation "cannot take the form of compensation for defendant's use of the property after the breach . . . ."[79] Judge Peters emphasized that this principle applies even in cases when "it is difficult to fix the value of the property or otherwise determine the amount of the plaintiff's loss at the time of the breach."[80] Therefore, he concluded that the evidence that Sinclair used the Isom patent to carry on "an extensive business in the cracking of petroleum oils . . . and producing a large quantity of gasoline and other petroleum products"[81] would be "irrelevant and immaterial if offered in the trial of the suit . . . ."[82] Consequently, Judge Peters dismissed Jenkins Petroleum's request for discovery of the number and nature of the cracking stills that Sinclair operated and the amount of petroleum that those stills processed.[83]

Jenkins Petroleum again appealed.[84] Sinclair contended that the ultimate commercial use of the Isom patent was not admissible evidence of the value of the Isom patent application at the time of the alleged breach of contract and that such evidence was thus irrelevant to calculating damages for breach of contract.[85] The First Circuit, in an opinion by Judge James Madison Morton, Jr., reversed the district court's decision. He said that "[w]e do not think that a court . . . is obliged to shut its eyes to the results of the [patent] application, nor to the commercial utility of the invention as shown by the use of it . . . ."[86] Judge Morton acknowledged that the "commercial success of an invention may be due less to its own merit than to the ability with which it was exploited,"[87] but he nonetheless found that "[t]he weight to be given such evidence rests in the discretion of the jury or trier of the fact."[88] The evidence of the use of the Isom patent "is not for the purpose of showing increase in value or new uses, which . . . would not be admissible, but to show the inherent character and place of the

---

78. *Id.*
79. *Id.*
80. *Id.*
81. *Id.*
82. *Id.* at 275.
83. *Id.* at 274, 276.
84. Jenkins Petroleum Process Co. v. Sinclair Ref. Co., 62 F.2d 663, 664 (1st Cir. 1933).
85. *Id.* at 665.
86. *Id.*
87. *Id.*
88. *Id.*

invention in question."[89] Judge Morton deemed the purpose of showing the character of the Isom patent sufficient to warrant discovery of Sinclair's use of that patent.[90]

Conversely, Judge Morton found that Sinclair's profits from using the Isom patent were *not* relevant to computing damages for the alleged breach of contract.[91] He cited the Supreme Court's decision in *Cincinnati Siemens-Lungren Gas Illuminating Co. v. W. Siemens-Lungren Co.*, in which the Court established that "it is against all the rules in respect to damages for a breach of contract to give to the defendant the profits of a sale which it did not make, and which there is no reason to believe it ever would have made."[92] Adhering to that principle and observing that Jenkins Petroleum "is not suing as the equitable owner of the patent,"[93] Judge Morton determined that "[t]he plaintiff is entitled to show the general facts about the Isom invention, [but] not specific instances of [its] profitable use . . . ."[94] The First Circuit thus allowed discovery of evidence about Sinclair's actual use of the Isom patent but did not endorse using Sinclair's profit from the Isom patent to calculate damages. The First Circuit reversed the district court's decision and remanded the case for further proceedings.

D. The Supreme Court Ruling and Justice Cardozo's Annunciation of the "Book of Wisdom"

After the First Circuit reversed Judge Peter's district court ruling, Sinclair successfully petitioned the Supreme Court for a writ of certiorari. The case reached the Court not to decide whether Sinclair breached its contract with Jenkins Petroleum, but to decide a more quotidian question in civil procedure: when calculating damages for the alleged breach of contract, were Sinclair's profits and details of its business operation subject to discovery?

89. *Id.*
90. *Id.*
91. *Id.* at 666.
92. 152 U.S. 200, 204 (1894).
93. *Jenkins*, 62 F.2d at 665.
94. *Id.*

1. Sinclair in the Context of the Contemporary Antitrust Regime and Competition Among Oil Companies

In the early twentieth century, W.C. Black's employer, American Gasoline, was a subsidiary of the Shell Oil Co.,[95] a competitor of Standard Oil of Indiana.[96] As Shell expanded its business eastward from its traditional territory in California,[97] Shell and Standard Oil of Indiana competed not only for customers, but also for oil fields in the United States and abroad.[98] Competition between the two industry giants spilled over to antitrust controversies. On February 12, 1923, W.C. Black's younger brother, T.S. Black, testified before the U.S. Senate that Standard Oil of Indiana had pressured other oil companies to raise prices.[99] Standard Oil of Indiana called the accusation "flagrantly untrue."[100] It is reasonable to infer that Jenkins Petroleum, which had both W.C. Black and T.S. Black on its board of directors, had friendly ties to Shell. In contrast, Sinclair maintained friendly business ties with Standard Oil of Indiana and sought to hinder Shell's expansion.[101]

Thus, the litigation between Jenkins Petroleum and Sinclair likely was not a struggle between David and Goliath, as it might

95. *The History of Shell Oil Company*, SHELL, http://www.shell.us/aboutshell/who-we-are-2013/history.html (last visited Feb. 26, 2016).

96. *See* DORSEY HAGER, OIL-FIELD PRACTICE 13 (McGraw-Hill ed., 1st ed. 1921); *see also The Beginnings*, SHELL, http://www.shell.com/global/aboutshell/who-we-are/our-history/the-beginnings.html (last visited Feb. 26, 2016).

97. *See* C. F. Greeves-Carpenter, *The History of Oil in California*, LUFKIN LINE, 3d Quarter, 1936, at 3–7 (describing Shell's involvement in developing oil resources in California).

98. ENGDAHL, *supra* note 17, at 79; *The Beginnings*, SHELL, http://www.shell.com/global/aboutshell/who-we-are/our-history/the-beginnings.html (last visited Feb. 26, 2016).

99. *Standard Oil Set Prices, Testimony*, MILWAUKEE SENTINEL, Feb. 13, 1923, at 7.

100. *Standard Oil Asks Hearing on Charges*, BROOKLYN DAILY EAGLE, Feb. 20, 1923, at 16.

101. ENGDAHL, *supra* note 17, at 79 ("Harry Sinclair . . . was actually a convenient 'middle-man' for the Standard oil and banking interests to secure markets where a direct Standard bid might arouse suspicion, above all from Britain's powerful rival Shell group."). In addition, Sinclair, Standard Oil of New York, and Standard Oil of New Jersey were co-defendants charged with violating the Federal Trade Commission Act and the Clayton Act in *Federal Trade Commission v. Sinclair Refining Co.* in 1923. They leased equipment (storage tanks and pumps) to oil retailers under the condition that the retailers use the equipment only for oil that the provider of the equipment produced. Fed. Trade Comm'n v. Sinclair Ref. Co., 261 U.S. 463 (1923); Standard Oil Co. of N.Y. v. Fed. Trade Comm'n, 273 F. 478 (2d Cir. 1921).

first appear, but one of many proxy battles between Standard Oil of Indiana and Shell. This legal dispute was but an extension of the rivalry between two industry giants. Shell's motivation behind the lawsuit may have been more than simply to appropriate a portion of Sinclair's profit. From the very beginning of the lawsuit, Jenkins Petroleum argued that the details of Sinclair's business should be subject to discovery.[102] That is, one plausible explanation for the eighteen years of litigation associated with Justice Cardozo's *Sinclair* opinion is that Shell hoped to peek into the inner workings of its biggest rival—Standard Oil of Indiana—by using Jenkins Petroleum to initiate discovery of Sinclair's confidential and proprietary financial information. The litigation between Jenkins Petroleum and Sinclair predated the Securities Exchange Act of 1934, which required stock-issuing corporations to disclose publicly their balance sheets, income statements, and other financial information.[103] From this vantage, the motivation behind Jenkins Petroleum's request for discovery of Sinclair's profits from and extent of alleged use of the Jenkins process—and Jenkins Petroleum's ability and willingness to litigate for discovery of that information all the way up to the Supreme Court—becomes clearer.[104]

---

102. *See* Jenkins Petroleum Process Co. v. Sinclair Ref. Co., 273 F. 527, 528 (D. Me. 1921) ("[Jenkins Petroleum's] bill asks for a discovery of certain matters claimed to be essential in the cause. . . . [Sinclair's] motion seeks to strike out portions of the bill on the ground that they are immaterial, irrelevant, and impertinent.").

103. *See* Securities Exchange Act of 1934 § 78m, 15 U.S.C. § 78 (2012); George J. Benston, *Required Disclosure and the Stock Market: An Evaluation of the Securities Exchange Act of 1934*, 63 AM. ECON. REV. 132, 133 (1973). Although companies traded on the New York Stock Exchange voluntarily disclosed their balance sheets, income statements, and other financial information, some did not disclose their sales, cost of goods sold, and depreciation expenses. *See* George J. Benston, *The Value of the SEC's Accounting Disclosure Requirements*, 44 ACCOUNTING REV. 515, 519–20 (1969). Sinclair's applications in 1921 for its issuance of convertible gold notes and for its stock to be listed on the New York Stock Exchange report little detail about Sinclair's revenues and costs and comport with the notion that Jenkins Petroleum might have been using the litigation to acquire information about or to monitor Sinclair's business.

104. Cartel monitoring is another plausible motivation for litigating for discovery of a rival's business information. To keep prices high, members of a cartel might agree on a production schedule that limits each member's level of output below the competitive equilibrium. However, each member has an incentive to "cheat" and produce more than the schedule allows. If all members of a cartel cheat, the prices will decline toward competitive levels. *See* JOSEPH E. STIGLITZ, ECONOMICS 425–26 (W. W. Norton & Co. ed., 1st ed. 1993).

William J. "Wild Bill" Donovan's involvement in the litigation lends credence to the theory that the purpose of Jenkins Petroleum's lawsuit was discovery of information about Sinclair's business operations.[105] As the head of the Antitrust Division of the Department of Justice from 1925 to 1929, Donovan presided over a notably laissez-faire antitrust regime.[106] During Donovan's tenure, the Antitrust Division encouraged firms to share information and engage in private collective action.[107] After leaving the Department of Justice, Donovan defended oil companies accused of price-fixing in *United States v. Socony-Vacuum Oil Co.*, which reached the Supreme Court in 1940.[108] Discovery in a lawsuit is an opportunity for litigants to exchange (through outside counsel) information (or an opportunity for one party to compel another to share information) before trial.[109] If Jenkins Petroleum and Shell were using discovery to compel a stubborn competitor to share information, they might have found a sympathizer in Donovan as their outside counsel.

2. Justice Cardozo's "Book of Wisdom"

The question of whether Sinclair's proprietary business information was subject to discovery propelled the case to the Supreme Court in 1933. On May 29, 1933, Justice Benjamin Cardozo delivered the Court's unanimous opinion, which allowed Jenkins Petroleum discovery of Sinclair's business information.[110] Justice Cardozo observed that "[t]his is not a case where the

---

Monitoring each other's output might enable cartel members to prevent and punish cheating. Discovery of Sinclair's business information thus might have been Shell's attempt to monitor Sinclair's output and perpetuate any tacit collusion. In addition, a firm's knowledge of a rival's capacity to increase output could be crucial for determining the rival's ability to wage a price war by greatly increasing output in a short period of time.

105. *See supra* notes 25–28 and accompanying text.

106. MORTON KELLER, REGULATING A NEW ECONOMY: PUBLIC POLICY AND ECONOMIC CHANGE IN AMERICA, 1900–1933 36 (Harv. Univ. Press ed., 1990). In addition, Herbert Hoover, as the Secretary of Commerce from 1921 to 1928, encouraged trade associations and cooperation among competitors. *Id.* at 37; *see also* Alan J. Meese, *Competition Policy and the Great Depression: Lessons Learned and a New Way Forward*, 23 CORNELL J.L. & PUB. POL'Y 255, 280–81 (2013).

107. Meese, *supra* note 106, at 281.

108. 310 U.S. 150, 154 (1940).

109. *See* Steven Shavell, *Sharing of Information Prior to Settlement or Litigation*, 20 RAND J. ECON. 183, 184 (1989).

110. Sinclair Ref. Co. v. Jenkins Petroleum Process Co., 289 U.S. 689, 697–98 (1933).

recovery can be measured by the current prices of a market,"[111] and therefore "[t]he law will make the best appraisal that it can, summoning to its service whatever aids it can command."[112] Deciding that one such aid was Sinclair's use of the patent in dispute, Justice Cardozo wrote theatrically, "Here is a book of wisdom that courts may not neglect. We find no rule of law that sets a clasp upon its pages, and forbids us to look within."[113] With that metaphor, Justice Cardozo allowed Jenkins Petroleum discovery of information that postdated the breach of contract to calculate its claim of damages for breach. In the process, he coined a phrase that others would later widely cite—in patent cases, not contract cases—to justify using information that postdates the hypothetical negotiation to calculate patent damages.

Justice Cardozo's imposing reputation survives many decades after his passing.[114] Judge Richard Posner's biography of Justice Cardozo remarks on "his considerable narrative skill and his adroit selection of facts."[115] His opinion in *Sinclair* illustrates that rhetorical panache and ability to cull the facts that most ably buttress his judicial conclusion. Justice Cardozo's opinion extolled flexibility, rather than rigidity, in civil procedure: "Procedure must have the capacity of flexible adjustment to changing groups of facts."[116] He surveyed the history of discovery in civil procedure and the conditions for discovery.[117] He recognized both the litigant's need for discovery to prove the case[118] and the need for courts to protect parties against "impertinent intrusion."[119] In support of these propositions, Justice Cardozo meticulously cited case law on discovery in civil procedure.[120] In contrast, he

---

111. *Id.* at 697.

112. *Id.*

113. *Id.* at 698.

114. *See* RICHARD A. POSNER, CARDOZO: A STUDY IN REPUTATION, at vii (Univ. Chi. Press 1990) ("[T]he legal establishment canonized Cardozo during his lifetime and he is still widely considered not merely one of the greatest judges of all time but a judicial saint . . . .").

115. *Id.* at ix. For Judge Posner's analysis of Justice Cardozo's judicial technique in Justice Cardozo's opinions on *Palsgraf* and *Hynes*, see *id.* at 33–57 (discussing Palsgraf v. Long Island R. Co., 248 N.Y. 339 (Ct. App. N.Y. 1928); Hynes v. New York Cent. R. Co., 231 N.Y. 229 (Ct. App. N.Y. 1921)).

116. *Sinclair*, 289 U.S. at 693.

117. *Id.* at 693–96.

118. *Id.* at 693.

119. *Id.* at 696.

120. *Id.* at 694 (citing Schreiber v. Heyman, 63 L.J. Rep. 749 (1894); Elkin v. Clarke, 21 W.R. 447 (1873); Parker v. Wells, L. R. 18 Ch. Div. 477; Fennessy v. Clark, L. R. 37 Ch. Div. 184; CLARENCE JOHN PEILE, THE LAW AND

conspicuously declined to mention the legal principle that damages for breach of contract may not account for events that occur after the date of breach.[121] It is unthinkable that Justice Cardozo did not know that longstanding legal principle in contract law. Indeed, the district court had cited that principle when denying Jenkins Petroleum's request for discovery.[122]

Justice Cardozo allowed discovery of Sinclair's business information so that the information would "be available *in case of need*."[123] Acknowledging that the lower court's decision to disallow discovery "protects the petitioner [Sinclair] with sedulous forethought against an oppressive inquisition,"[124] Justice Cardozo nonetheless said that the requested discovery would enable "an inspection of the records" without delay if a need for such an inspection were to arise.[125] He mentioned only in passing that "the evidence of the facts to be discovered is contained *in voluminous books and documents* which could not be inspected or proved upon at trial at law for damages without confusion and delay,"[126] from which one must infer that the cost to Sinclair of complying with the discovery order would be significant. Having explained in principle the tradeoff that a discovery request presents, Justice Cardozo then became curiously mute on whether Sinclair's chore of readying those "voluminous" records for inspection would constitute "an oppressive inquisition."

More important, Justice Cardozo dismissed the possibility that the requested discovery would expose Sinclair's business information to a "competitor posing as a suitor."[127] He said that "[g]ood faith and probable cause were here abundantly established."[128] Established by what evidence? Justice Cardozo did not identify any fact or *a priori* rationale for finding Jenkins

---

PRACTICE OF DISCOVERY IN THE SUPREME COURT OF JUSTICE 26–29 (Stevens & Haynes 1883); EDWARD BRAY, THE PRINCIPLES AND PRACTICE OF DISCOVERY 14–15 (Reeves & Turner 1885); JAMES WIGRAM, POINTS IN THE LAW OF DISCOVERY § 45 (2d ed. 1840); Pressed Steel Car Co. v. Union Pac. R.R. Co., 240 F. 135, 137 (S.D.N.Y. 1917)).

121. *See, e.g.*, 17 CORPUS JURIS 850 (William Mack & William Hale eds., Am. L. Book Co. 1919) ("The rights of the parties in respect to a breach of contract become fixed at the time thereof.").

122. Jenkins Petroleum Process Co. v. Sinclair Ref. Co., 56 F.2d 272, 274 (D. Me. 1932), *rev'd*, 62 F.2d 663 (1st Cir. 1933).

123. *Sinclair*, 289 U.S. at 697 (emphasis added).

124. *Id.*

125. *Id.*

126. *Id.* at 691 (emphasis added).

127. *Id.* at 697.

128. *Id.*

Petroleum's good faith in a lawsuit that it had been litigating against a competitor for a dozen years.

By permitting discovery of Sinclair's confidential and proprietary business information after the date of the alleged breach, Justice Cardozo flouted the established legal rule for expectation damages for breach of contract.[129] He then implied that some other legal principle compelled him to depart from that rule of contract law: "This relief [the order granting discovery] may have been less than [what Jenkins Petroleum] should have had. It was certainly not more."[130] But on the basis of what legal right did Justice Cardozo find that Jenkins Petroleum "should have had" this relief? This portion of the *Sinclair* opinion exemplifies Judge Posner's observation that "[t]here were some occasions on which Cardozo—like every judge in history—concealed innovation as fidelity to settled law."[131]

In remarking that "[t]his is not a case where the recovery can be measured by the current prices of a market,"[132] Justice Cardozo failed to recognize that license agreements for the patent in dispute can provide the market price for the patent's use. He reasoned that such a market price is not observable because "[a] patent is a thing unique. There can be no contemporaneous sales to express the market value of an invention that derives from its novelty its patentable quality."[133] Justice Cardozo did not say whether Sinclair had executed any license agreement for the Jenkins patent. He also neglected to mention a key fact that the First Circuit found noteworthy: that Jenkins Petroleum had succeeded in executing only a single license agreement for the Jenkins patent before the date of suit, notwithstanding the fact that Jenkins Petroleum argued that the Jenkins patent had been the basis for the alleged improvements claimed in Sinclair's Isom patent.[134]

---

129. In *The Nature of the Judicial Process*, Justice Cardozo wrote, "Few rules in our time are so well established that they may not be called upon any day to justify their existence as means adapted to an end." BENJAMIN N. CARDOZO, THE NATURE OF THE JUDICIAL PROCESS 98 (Yale Univ. Press 1921).

130. *Sinclair*, 289 U.S. at 697. For Judge Posner's analysis of Justice Cardozo's innovative departure from established contract law in *Wood v. Lady Duff-Gordon* and *MacPherson*, see POSNER, *supra* note 114, at 92–97, 109 (discussing Wood v. Lady Duff-Gordon, 222 N.Y. 88, 118 N.E. 214 (1917); MacPherson v. Buick Motor Co., 217 N.Y. 382, 111 N.E. 1050 (1916)).

131. POSNER, *supra* note 114, at 13.

132. *Sinclair*, 289 U.S. at 697.

133. *Id.* at 698.

134. Jenkins Petroleum Process Co. v. Sinclair Ref. Co., 32 F.2d 252, 255 (1st Cir. 1929) ("The plaintiff, however, attempted to sell licenses to other oil refiners and made one license agreement with the Consumers' Company,

It bears emphasis that Justice Cardozo's decision in *Sinclair* did not address the question of whether post-infringement evidence would be pertinent to calculating *patent damages*—a critical point that subsequent commentators and litigants have since misinterpreted.[135] Jenkins Petroleum did not possess the Isom patent and did not seek damages for infringement of either the Isom patent or the Jenkins patent. Rather, Jenkins Petroleum sought damages for Sinclair's failure to assign a patent application for the Isom invention to Jenkins Petroleum, as Jenkins Petroleum claimed that the contract of October 2, 1916 specified. Justice Cardozo merely ruled that subsequent evidence of a patented invention's commercial utility could be subject to discovery for purposes of calculating damages for a breach of contract to convey ownership of the patent to that invention. There are multiple degrees of separation between the issue of damages in a patent case and the issue that Justice Cardozo addressed in *Sinclair*.

Furthermore, Justice Cardozo's reasoning in *Sinclair* defers to some vague notion of the innate, inchoate value of a patent, and that reasoning flouts the logic that economists use to compute damages. Justice Cardozo's subsequent opinions on the Court repeat the error in economic reasoning in his opinion in *Sinclair*. For example, in *United States v. Safety Car Heating Co.* in 1936, Justice Cardozo cited his opinion in *Sinclair* for the proposition that "a claim for damages like one for an infringer's profits is too contingent and uncertain to have a determinable market value when the validity of the patent is unsettled and contested and the factors making up the damage are arrived at by conjecture."[136]

September 21, 1916, prior to the date of the letter which is the basis of this suit.").

135. *See* Martha K. Gooding, *Reasonable Royalty Patent Damages: A Proper Reading of the Book of Wisdom*, BNA 1 (Apr. 18, 2014).

136. United States v. Safety Car Heating & Lighting Co., 297 U.S. 88, 98 (1936). Justice Cardozo repeated his error in economic reasoning again in Dayton Power & Light v. Pub. Util. Comm'n of Ohio, 292 U.S. 290 (1934), where he said that there is no certainty in estimating the market value of a land lease because "the intrinsic value of the leases is dependent upon the capacity of the lands to yield productive [gas] wells, a capacity seldom to be judged with even a fair approach to certainty until tested by experience." *Id.* at 299. However, advances in valuation techniques and development of financial markets likely have greatly increased the capacity of litigants to estimate the market value of a risky asset since the Supreme Court decided *Sinclair* in 1933. *See generally* ASWATH DAMODARAN, DAMODARAN ON VALUATION (2d ed. 2006); RICHARD A. BREALEY, STEWART C. MYERS & FRANKLIN ALLEN, PRINCIPLES OF CORPORATE FINANCE 15–19 (9th ed. 2008).

Justice Cardozo's romanticized view of the predestined value of an asset fits within the notion that the law is "a brooding omnipresence in the sky,"[137] but it does not accurately explain how markets function. In Justice Cardozo's annunciation of the "book of wisdom," a patent is a block of marble from which Michelangelo stands ready to liberate the figure of David. If, at a given moment in time, no one can perceive a particular block of marble in Florence as more than that, the market will value it as nothing more than a block of marble. After Michelangelo has sculpted the marble into the masterpiece *David*, the formerly undistinguished block of marble is considerably more valuable. However, the seller of that original block of marble cannot reasonably return to Michelangelo after he has completed his masterpiece and invoke the "book of wisdom" to obtain retroactively a greater price. Similarly, it would be incorrect as a matter of economic reasoning to calculate either the value of a contractual expectancy using information that became known only after the date of breach or the value of a patent license using information that became known only after the patent infringement had begun.

III. THE LIMITED RELIANCE BY THE FEDERAL CIRCUIT ON INFORMATION THAT POSTDATES THE HYPOTHETICAL NEGOTIATION

U.S. courts have typically applied the hypothetical-negotiation framework to calculate a reasonable royalty for patent infringement.[138] Even if one accepts for purposes of argument that *Sinclair* is relevant to that hypothetical negotiation, Justice Cardozo's reasoning in *Sinclair* does not support unlimited reliance on information that postdates the hypothetical negotiation. Judge Martha Gooding, a former patent litigator, has emphasized that, in *Sinclair*,

> the Supreme Court made clear that the book of wisdom . . . (1) is employed to fill an evidentiary gap, namely where the value to be ascertained is uncertain at the time of valuation—in that case due to a lack of actual market-based

137. S. Pac. Co. v. Jensen, 244 U.S. 205, 222 (1917) (Holmes, J., dissenting).

138. Uniloc USA, Inc. v. Microsoft Corp., 632 F.3d 1292, 1312 (Fed. Cir. 2011) (citing William C. Rooklidge & Martha K. Gooding, *When Hypothetical Turns to Fantasy: The Patent Reasonable Royalty Hypothetical Negotiation*, 80 BNA INSIGHTS 700, 701 n. 10) (internal citation omitted) ("A reasonable royalty is the predominant measure of damages in patent infringement cases.").

> valuation data on the valuation date; (2) extends only to ex post data revealing the values inherent in the patent or invention itself, the quintessential example of which is usage data; and (3) is firmly anchored in—and fully consistent with—the core principle that the value of the patent must be determined at the time of the breach, which in patent infringement cases is the eve of infringements.[139]

Judge Gooding's assessment accurately summarizes the Federal Circuit's limited reliance on *Sinclair* in patent infringement cases.

In its 1983 decision in *Hanson v. Alpine Valley Ski Area Inc.*, the Federal Circuit emphasized that a court should calculate a reasonable royalty using information that was available to the parties at the time of the hypothetical negotiation,[140] which it described in terms of "the necessity for return to the date when the infringement began."[141] The Federal Circuit also clarified that it is irrelevant whether a reasonable royalty calculated on the basis of data available at the time of the hypothetical negotiation would actually make the infringer's sale of the infringing product unprofitable.[142] The Federal Circuit said that "the infringer's profit is to be determined not on the basis of a hindsight evaluation of what actually happened, but instead on the basis of what the parties to the hypothetical license negotiation would have considered at the time of the negotiations."[143]

Not until 1988—more than half a century after the Supreme Court's decision in *Sinclair*—did a court apply the book of wisdom doctrine to the hypothetical-negotiation framework used to calculate a reasonable royalty for patent infringement. In *Fromson v. Western Litho Plate & Supply Co.*, the Federal Circuit permitted reliance on facts and events that postdated the hypothetical negotiation to calculate a reasonable royalty using the hypothetical-negotiation framework.[144] Howard Fromson sued Western in the Eastern District of Missouri for infringing his patent related to a "photographic plate for use in planographic printing and the method."[145] The district court found that Western had infringed Fromson's patents and ordered Western to pay royalties to

139. Gooding, *supra* note 135, at 5 (internal quotation marks omitted).

140. 718 F.2d 1075, 1079 (Fed. Cir. 1983).

141. *Id.*

142. *Id.* at 1081.

143. *Id.*

144. 853 F.2d 1568, 1575 (Fed. Cir. 1988).

145. Fromson v. W. Litho Plate & Supply Co., 670 F. Supp. 861, 862 (E.D. Mo. 1987), *aff'd in part, vacated in part*, 853 F.2d 1568 (Fed. Cir. 1988).

Fromson at the rate of 0.825 percent of the profits attributable to the patented invention.[146] Both Fromson and Western appealed the district court's judgment.[147] On appeal, the Federal Circuit said that the hypothetical-negotiation methodology encompasses "flexibility because it speaks of negotiation as of the time infringement began, yet permits and often requires a court to look to events and facts that occurred thereafter and that could not have been known to or predicted by the hypothesized negotiators."[148] In support of this statement, the Federal Circuit quoted significant parts of *Sinclair*, emphasizing the "book of wisdom" that the courts supposedly should not neglect.[149] However, the Federal Circuit failed to acknowledge that the Supreme Court did not examine in *Sinclair* the framework of the hypothetical negotiation in a patent-infringement case, let alone whether a court could use information that became available only after the date of the first infringement to calculate patent damages.

Although the Federal Circuit said in *Fromson* that a court could consider information that postdates the hypothetical negotiation when calculating a reasonable royalty, it did not provide a clear principle for determining when that information would be relevant. The Federal Circuit said, nonetheless, that, in applying the hypothetical-negotiation framework, "a court is not at liberty . . . to abandon entirely the statutory standard of damages 'adequate to compensate' [the patent holder] for the infringement."[150] The Federal Circuit reasoned that the awarded reasonable royalty "must be 'reasonable' under all circumstances"[151] and added that "the law [is not] without means for placing the injured patentee 'in the situation he would have occupied if the wrong had not been committed.'"[152] The Federal Circuit's reasoning—which emphasized the statutory requirement of section 284 that damages for patent infringement be "adequate to compensate for the infringement, but in no event less than a reasonable royalty"[153]—implied that a court may rely on post-

146. *Id.* at 867–69.

147. *Fromson*, 853 F.2d at 1569.

148. *Id.* at 1575.

149. *Id.* at 1575–76 (quoting Sinclair Ref. Co. v. Jenkins Petroleum Co., 289 U.S. 689, 698–99 (1933)) (citations omitted).

150. *Id.*

151. *Id.* (quoting 35 U.S.C. § 284).

152. *Id.* (quoting Albemarle Paper Co. v. Moody, 422 U.S. 405, 418–19 (1975)).

153. 35 U.S.C. § 284 (2001).

infringement information when doing so is necessary to compensate the patent holder adequately.

Fromson created ambiguity concerning the relevance of information that postdates the hypothetical negotiation when calculating a reasonable royalty. After *Fromson*, some courts have allowed reliance on information that postdates the hypothetical negotiation when calculating a reasonable royalty.[154] However, an analysis of subsequent decisions shows that the Federal Circuit has never approved an unfettered reliance on information that postdates the hypothetical negotiation. Rather, it has allowed reliance on post-infringement information only to the extent that that information could assist the court in inferring the parties' positions *at the time of the hypothetical negotiation*.[155]

For example, the Federal Circuit has permitted reliance on data about the actual use of the patented technology if those data reflect what the parties would have predicted at the time of the hypothetical negotiation. In 2009, the Federal Circuit said in *Lucent Technologies, Inc. v. Gateway, Inc.* that data about the infringer's actual use of the patented technology "may provide information that the parties would frequently have estimated during the negotiation."[156] The Federal Circuit reasoned that, although the parties "will usually not have precise data about future usage, they often have rough estimates."[157] It concluded that, in specific circumstances, information about the actual use of the patented technology might help a court understand what the parties' negotiating positions would have been at the time of the hypothetical negotiation.[158] The Federal Circuit thus used data

---

154. *See* Finjan, Inc. v. Secure Computing Corp., 626 F.3d 1197, 1210–11 (Fed. Cir. 2010); Lucent Techs., Inc. v. Gateway, Inc., 580 F.3d 1301, 1334 (Fed. Cir. 2009); Trell v. Marlee Elecs. Corp., 912 F.2d 1443, 1446 (Fed. Cir. 1990); Personal Audio, LLC v. Apple, Inc., No. 9:09cv00111, 2011 WL 3269330, at *10 (E.D. Tex. July 29, 2011); Affinity Labs of Texas, LLC v. BMW N. Am., LLC, 783 F. Supp. 2d 891, 898 n.6 (E.D. Tex. 2011).

155. *See, e.g.*, William C. Rooklidge & Martha K. Gooding, *Splitting Profits Between Patent Owners and Manufacturers* 3, L. Seminars Int'l (Conference Paper, 2014) (on file with author); D. Christopher Holly, *The Book of Wisdom: How to Bring a Metaphorical Flourish into the Realm of Economic Reality by Adopting a Market Reconstruction Requirement in the Calculation of a Reasonable Royalty*, 92 J. PAT. & TRADEMARK OFF. SOC'Y 156, 188 (2010); *see also* William C. Rooklidge, *Infringer's Profits Redux: The Analytical Method of Determining Patent Infringement Reasonable Royalty Damages*, BLOOMBERG BNA (Feb. 4, 2015), http://www.bna.com/infringers-profits-redux-n17179922755/.

156. 580 F.3d at 1334.

157. *Id.*

158. *Id.* at 1333–34.

about actual use of the patented technology only as "inferential evidence" of the parties' expectations at the time of the hypothetical negotiation.[159]

Similarly, the Federal Circuit has said that data about the infringer's actual profits might, in some circumstances, inform the court about the parties' expectations during the hypothetical negotiation. In 2010, in *Finjan, Inc. v. Secure Computing Corp.*, Finjan's damages expert relied on the infringer's financial data for the years after the infringement began to calculate royalty rates for the infringing patents.[160] The Federal Circuit affirmed the decision of the district court, which had declined to exclude the damages expert's testimony, reasoning that the expert used the subsequent data about the infringer's actual profit margins "as a reflection of the profits the parties *might have anticipated* . . . *in the hypothetical negotiation*."[161] Other Federal Circuit decisions employ this reasoning. In *Trell v. Marlee Electronics Corp.*, the Federal Circuit said that, "[i]n determining the result of such a hypothetical negotiation, the district court may consider the infringer's anticipated profits, as indicated by evidence of actual profits."[162] Further, in *Trans-World Manufacturing Corp. v. Al Nyman & Sons, Inc.*, the Federal Circuit said that the parties in a hypothetical negotiation would have accounted for the licensee's anticipated profits, and "[e]vidence of the infringer's actual profits . . . is admissible as probative of his anticipated profits."[163] In short, when data about the infringer's actual profit reflect what the parties would have anticipated at the time of the hypothetical negotiation, that information can assist the finder of fact in calculating a reasonable royalty and therefore has been deemed admissible.

Under the principle that post-infringement data might reveal the parties' preferences at the time of the hypothetical negotiation, courts have also allowed reliance on comparable licenses that postdate the hypothetical negotiation, if the parties executed those licenses under economic circumstances comparable to the circumstances surrounding the hypothetical negotiation between the parties in suit.[164] In *Commonwealth Scientific and Industrial*

159. Gooding, *supra* note 135, at 1, 7.

160. 626 F.3d 1197, 1209 (Fed. Cir. 2010).

161. *Id.* at 1210 (emphasis added).

162. 912 F.2d 1443, 1446 (Fed. Cir. 1990) (citing Trans-World Mfg. Corp. v. Al Nyman & Sons, Inc., 750 F.2d 1552, 1568 (Fed. Cir. 1984)).

163. 750 F.2d at 1568 (internal citation omitted).

164. *See, e.g.*, ActiveVideo Networks, Inc. v. Verizon Commc'ns, Inc., 694 F.3d 1312, 1332–33 (Fed. Cir. 2012).

Research Organization v. Cisco Systems, Inc., for example, Chief Judge Leonard Davis of the Eastern District of Texas allowed the Commonwealth Scientific and Industrial Research Organization (CSIRO) to rely on licenses signed between CSIRO and third parties several years after the hypothetical negotiation to calculate damages.[165] He explained that, "[a]lthough these licenses were entered posthypothetical negotiation, they are indicative of how CSIRO prefers to license its intellectual property."[166] Chief Judge Davis thus considered licenses that postdated the hypothetical negotiation indicative of the royalty *structure* (lump sum versus running royalty, for example)—in addition to, for example, the total level of royalties—that the parties would have chosen during the hypothetical negotiation.

Thus, in specific circumstances, licenses executed after the date of the hypothetical negotiation can assist the finder of fact in determining the parties' negotiating positions at the time of the hypothetical negotiation. Evidence from comparable licenses is generally admissible if such licenses are sufficiently comparable to the hypothetical license under examination.[167] Judge Gooding has succinctly expressed the proposition this way: the admissibility of evidence from licenses executed after the hypothetical negotiation

> depends on whether the nature of the agreements and the circumstances under which they were entered into are sufficiently comparable to those of the hypothetical licenses [so] that . . . they fairly can be said to be probative of how the parties to the hypothetical negotiation would have valued the patented technology at the time of the hypothetical negotiation.[168]

When relying on information from comparable licenses, one needs to account for the differences in the economic circumstances at the time of a hypothetical negotiation and the time when the parties executed the license. However, when one accounts for those considerations, licenses executed post-infringement might assist the finder of fact in inferring the parties' negotiating positions at the time of the hypothetical negotiation.

---

165. No. 6:11-cv-00343, 2014 WL 3805817, at *11 (E.D. Tex. July 23, 2014).

166. *Id.* (citing Lucent Techs., Inc. v. Gateway, Inc., 580 F.3d 1301, 1334 (Fed. Cir. 2009)).

167. J. Gregory Sidak, *The Meaning of FRAND, Part I: Royalties*, 9 J. COMPETITION L. & ECON. 914, 989, 1000–01 (2013).

168. Gooding, *supra* 135, at 9.

In contrast, the Federal Circuit has consistently rejected reliance on post-infringement information that did not assist the finder of fact in inferring the parties' negotiating positions at the time of the hypothetical negotiation. For example, the Federal Circuit has rejected reliance on information about the infringer's actual sales or actual profits when that information differs from what the parties would have projected at the time of their hypothetical negotiation. In its 1986 decision in *Radio Steel & Manufacturing Co. v. MTD Products, Inc.*, the Federal Circuit affirmed the district court's refusal to account in its damages calculation for the fact that the awarded reasonable royalty would make the infringer's sales unprofitable.[169] The Federal Circuit reiterated that "[t]he determination of a reasonably royalty . . . is based not on the infringer's profit, but on the royalty to which a willing licensor and a willing licensee would have agreed at the time the infringement began."[170] It found that the royalty that the district court awarded was consistent with the infringer's *expected* profit (though not with the infringer's actual profit) and concluded that there was no basis for reversing the district court's damage award.[171]

In *Interactive Pictures Corp. v. Infinite Picture, Inc.*, the Federal Circuit similarly affirmed the district court's damages award after the court had refused to account for the infringer's failure to meet expected sales projections.[172] The Federal Circuit said that reliance on evidence of what actually happened in the market (as opposed to what the parties expected to happen) "would essentially eviscerate the rule that . . . sales *expectations* at the time when infringement begins" provide the basis for determining a reasonable royalty.[173] The Federal Circuit emphasized that the infringer's "failure to meet its projections may simply illustrate the 'element of approximation and uncertainty' inherent in future projections" that the parties use when negotiating a reasonable royalty.[174] In *Powell v. Home Depot U.S.A., Inc.*, the Federal Circuit again said in 2011 that "it is settled law that an *infringer's* net profit margin is not the ceiling by which a

169. 788 F.2d 1554 (Fed. Cir. 1986).

170. *Id.* at 1557.

171. *Id.*

172. 274 F.3d 1371, 1385 (Fed. Cir. 2001).

173. *Id.* (emphasis added).

174. *Id.* (quoting Unisplay S.A. v. Am. Elec. Sign Co., Inc., 69 F.3d 512, 517 (Fed. Cir. 1995)).

reasonable royalty is capped."[175] In December 2014, in *Aqua Shield v. Inter Pool Cover Team*, the Federal Circuit, in an opinion by Judge Richard Taranto, confirmed the principle that the infringer's profit earned during the infringement does not cap the patent holder's reasonable royalty.[176] Judge Taranto wrote that an infringer's profit may be relevant for purposes of calculating a reasonable royalty, "but only in an indirect and limited way—as some evidence bearing on a directly relevant inquiry into anticipated profits."[177] Therefore, as of mid-2015, the Federal Circuit had never found an infringer's failure to realize its expected sales to be a legitimate basis for reducing the estimate of a reasonable royalty.

In sum, *Fromson* created initial confusion in 1988 with respect to the relevance of information that postdates the hypothetical negotiation to calculating a reasonable royalty. However, the Federal Circuit soon removed that confusion. Its subsequent decisions demonstrate a clear principle that the courts should calculate a reasonable royalty on the basis of the parties' expectations at the time of the hypothetical negotiation. The Federal Circuit has allowed reliance on post-infringement data (such as data about the actual use of the patented technology or about the licensor's licensing practice as revealed in comparable license agreements) only in limited circumstances—specifically, when post-infringement data could inform the finder of fact about the parties' negotiating positions at the time of the hypothetical negotiation. Conversely, the Federal Circuit has not allowed reliance on post-infringement information if that information does not assist the finder of fact in determining the parties' positions at the time of the hypothetical negotiation. In particular, the Federal Circuit has never allowed a defendant to use evidence about its failure to realize its expected sales as a justification to reduce the awarded reasonable royalty. The Federal Circuit's decisions thus do not condone using post-infringement data in a way that would contradict the expectations-based principles of the hypothetical-negotiation framework.

---

175. 663 F.3d 1221, 1238 (Fed. Cir. 2011) (emphasis in original) (citing Golight, Inc. v. Wal-Mart Stores, Inc., 355 F.3d 1327, 1338 (Fed. Cir. 2004)).

176. 774 F.3d 766, 772 (Fed. Cir. 2014).

177. *Id.* at 770.

IV. DOES THE "BOOK OF WISDOM" WITHSTAND ECONOMIC SCRUTINY?

In economic terms, accounting for information that postdates the hypothetical negotiation would confer upon the potential licensee a "free option" to infringe the patent and avoid the risk that a licensee faces when signing a license before using the patented invention.[178] Contrary to what some authors have suggested, calculating a reasonable royalty based on information that postdates the hypothetical negotiation would provide the potential licensee with an incentive to infringe the patent, rather than to negotiate a license upfront.

Despite the Federal Circuit's limited reliance on post-infringement data, some courts and commentators nonetheless have argued that using post-infringement data to calculate a reasonable royalty might be necessary to deter infringement and to compensate the patent holder adequately.[179] However, the proponents of this view have not provided a persuasive economic justification for relying on post-infringement data for purposes of calculating damages using the hypothetical-negotiation framework.

A. How Reliance on Information That Postdates the Hypothetical Negotiation Creates a Free Option to Infringe

Suppose that there is a patent regime that adjudicates reasonable-royalty damages by considering information that postdates the hypothetical negotiation, and that a potential licensee faces a choice of whether or not to negotiate a license for a patent. By licensing the patent, the licensee bears the risk of overpaying for the patented technology—that is, paying a royalty disproportionately higher than the benefits from using the patented technology. That risk is particularly acute if the license specifies a fully paid lump-sum royalty, which one typically calculates on the basis of the licensee's expected sales (without any true-up

---

178. *See* Jerry A. Hausman, Gregory K. Leonard & J. Gregory Sidak, *Patent Damages and Real Options: How Judicial Characterization of Noninfringing Alternatives Reduces Incentives to Innovate*, 22 BERKELEY TECH. L.J. 825 (2007) (providing an analysis of how a free option can distort incentives in the context of patent licensing).

179. *See* Michael K. Dunbar & Roman L. Weil, *Ex Ante Versus Ex Post Damages Calculations*, *in* LITIGATION SERVICES HANDBOOK: THE ROLE OF THE FINANCIAL EXPERT § 5.4.b.i (Roman L. Weil et al. eds., Wiley 5th ed. 2012) (analyzing possible arguments in favor of using information that postdates the hypothetical negotiation).

mechanism that might retrospectively adjust the royalty owed on the basis of the licensee's actual sales). After negotiating a license, if the licensee's actual sales fall short of its expected sales, the licensee would have overpaid for access to the patented technology. For example, consider a licensee whose expected sales revenue is $1000. If the licensee and the patent holder negotiate a lump-sum royalty of $50, the effective royalty rate is 5 percent (that is, $50 ÷ $1000 = 5 percent). However, if the licensee's actual sales revenue turns out to be only $200, then the licensee would have paid an effective royalty rate of 25 percent for the patented technology. A licensee that elects to obtain a license before it starts using a patented technology thus risks overpaying for the use of that technology.

A potential licensee could avoid the risk of overpaying for the use of a patented technology if it chooses to infringe the patent and asks the adjudicator to determine a reasonable royalty based on information that postdates the hypothetical negotiation. If the potential licensee's actual sales fall short of expected sales, the court, considering information that postdates the hypothetical negotiation, would grant only a small amount of damages to the patent holder. For example, if the potential licensee's sales reach $200, and the court considers that a royalty rate of 5 percent is appropriate, it will award the patent holder damages of only $10. In that scenario, the potential licensee is better off infringing the patented technology than obtaining a license to the patented technology before using it.

If the actual sales exceed the expected sales, the potential licensee would pay a portion of the increase in profit to the patent holder as damages. For example, if the potential licensee's sales reach $2000 (twice the expected sales revenue of $1000), the courts might apply the same effective royalty rate (5 percent) and award damages of $100 (twice the royalty upon which the parties would have agreed in the hypothetical negotiation). Although the potential licensee pays an increased royalty as a result of the higher-than-expected sales, the potential licensee does not bear the risk of overpaying for the use of the patented technology. Even if one calculates a reasonable royalty based on the actual sales, the potential licensee would still pay damages that equal a five-percent royalty rate. Put differently, the infringer risks a greater outlay if it obtains a license before it begins using the patented technology than it does if it decides to infringe the patents.

Accounting for information that postdates the hypothetical negotiation would encourage companies to infringe patents rather than to enter into licensing agreements. If the potential licensee negotiates a license before it starts using the patented technology and agrees on the lump-sum royalty, the licensee faces uncertainty about the success of the licensed technology. Put differently, the licensee bears the risk of overpaying for the patented technology if the technology is not as commercially successful as initially predicted.[180] By infringing the patent, however, the infringer avoids that downside risk. Infringing is thus the more profitable option for the potential licensee in a regime in which information that postdates the hypothetical negotiation determines damages. Therefore, accounting for post-infringement information in calculating a reasonable royalty would create a system with perverse incentives for the potential licensee to infringe the patent, rather than to negotiate a license in a timely manner.

B. *Does Concern About Inadequate Compensation Justify Invoking the "Book of Wisdom?"*

An analysis of district court decisions shows that some courts have incorrectly applied the book of wisdom doctrine by permitting the use of post-infringement information in a way that contradicts the expectations-based principles that the Federal Circuit has stressed. One such example is *Honeywell International, Inc. v. Hamilton Sundstrand Corp.*, in which the District Court for the District of Delaware permitted the use of sales projections that postdated the hypothetical negotiation as a royalty base for the calculation of damages.[181] The court said that, if courts cannot account for post-infringement data in determining a damages award, prospective infringers might "rationally conclude that, at worst, upon finding of infringement, 'a license can be compelled, probably at the same royalty that would have been paid if the patentee's rights had been respected at the outset.'"[182] The court reasoned that "the 'book of wisdom' prevents the hypothetical negotiation method from determining a reasonable royalty at a point in time before the patent has proven its worth."[183] The court added that the book of wisdom doctrine "protects the *quid pro*

180. *See, e.g.*, *id.*

181. 378 F. Supp. 2d 459, 466 (D. Del. 2005). *See* Sidak, *supra* note 12 and J. Gregory Sidak, *The Proper Royalty Base for Patent Damages*, 10 J. COMPETITION L. & ECON. 989 (2014) (providing a legal and economic analysis of the Federal Circuit's jurisprudence on the proper royalty base).

182. 378 F. Supp. 2d at 465 (quoting Fromson v. Western Litho & Plate Supply Co., 853 F.2d 1568, 1575 (Fed. Cir. 1988)).

183. *Id.* at 466.

quo arrangement underlying patent law by ensuring that the patentee will be adequately compensated for infringement."[184]

The court's reasoning assumes that the patented invention generated a greater profit than the parties expected at the time of their hypothetical negotiation. For example, suppose that a patent holder invented a technology that a potential licensee expected would enable it to generate a profit of $1 million. Suppose further that the potential licensee infringed the patent and used the patented technology to generate actual profits of $50 million. Calculating a reasonable royalty on the basis of information available at the time of the hypothetical negotiation would result in patent damages much closer to $1 million than $50 million. In that scenario, the *Honeywell* court suggests that the infringer would unfairly benefit from infringing the patent rather than securing a license before using the patented technology.[185] Conversely, calculating patent damages based on evidence that postdates the hypothetical negotiation would account for the infringer's actual use of the patented invention and would therefore result in damages closer to $50 million. According to the court's reasoning, using information that postdates the hypothetical negotiation would require the infringer to forfeit benefits that it might have gained through patent infringement.[186] Under such a regime, using information that postdates the hypothetical negotiation would be more likely to ensure that a reasonable royalty would adequately compensate the patent holder, as section 284 requires.

However, for at least three reasons, this argument is not compelling on economic grounds. First, the argument implicitly assumes that the parties cannot specify the royalty to be volume-variable. That is, the argument assumes that the parties to a hypothetical negotiation must structure the royalty as a lump sum, which the parties determine on the basis of expected sales of the patented technology and which the licensee fully pays up front. The argument fails to recognize that the parties instead could choose a running-royalty structure, which defines the royalty payment to be a percentage of the actual sales revenue of the implementing product or a fee for each unit sold of that product. Such a royalty structure would permit periodic payments based on the licensee's actual licensed sales or use of the patent in suit. If the parties preferred to have an up-front payment, they could still have subsequent "true-up" payments to reflect the difference between

184. *Id.* (emphasis in original).
185. *Id.*
186. *Id.*

expected and actual revenues or units practicing the patent in suit. If the court determines a running-royalty rate or a per-unit royalty on the basis of information available at the time of the hypothetical negotiation, there is no risk that the patent holder would be under-compensated for the use of its patented technology. Because the infringer's actual use of the patented technology determines the amount of a royalty under either a running-royalty rate or a per-unit royalty, such a royalty will adequately compensate the patent holder, even in the case of an unanticipated windfall in the infringer's sales. Similarly, the infringer will pay a royalty amount that will be proportional to its actual use of the patented technology. Therefore, determining a running-royalty rate on the basis of information available at the time of the hypothetical negotiation can ensure that the damages award adequately compensates the patent holder and prevents the infringer from exercising the free option to infringe that concerned the *Honeywell* court.

It could happen that the evidence available at the time of the hypothetical negotiation indicates that the parties would have negotiated a lump-sum royalty rather than a running-royalty rate. In that case, actual sales could deviate from what the parties had expected at the time of their hypothetical negotiation. Actual sales might exceed the expected sales, such that the patent holder would receive a royalty less than that which it would have received had the parties chosen a running-royalty structure, or had they used more accurate sales predictions. Conversely, actual sales could fall short of expected sales, such that the patent holder would obtain a reasonable royalty greater than what it would have received had the parties chosen a running-royalty structure, or had they used more accurate sales predictions. However, that the amount of a lump-sum royalty is greater than or less than the amount of a running royalty does not mean that the royalty is either too high or too low. By deciding on the royalty structure, the parties implicitly agree to a method of allocating the risk that the value of the calculated royalty would exceed or fall short of their expectations at the time of their hypothetical negotiation. Thus, any evidence that the parties would have agreed to a lump-sum royalty without any true-up mechanism is also necessarily evidence that they would have agreed that the reasonable-royalty calculation should not account for subsequent information about the infringer's *actual* sales or *actual* use of the patented technology. Put differently, a party to the hypothetical negotiation should not get two bites at the risk-allocation apple. It should not refrain from a running-royalty structure (choosing instead a lump sum with no true-up mechanism) and then seek to have the finder of fact adjust the lump sum to reflect information that the parties did not possess at the time of their hypothetical negotiation. If the parties would have chosen a lump-sum royalty with no true-up mechanism, there is no valid justification to consider data on actual sales in the reasonable-royalty calculation.

The second problem with *Honeywell* is that the court's reasoning implicitly assumes that the patented technology is responsible for the infringer's unexpected success. That argument fails to recognize that the infringer might have contributed to its own success by effectively commercializing the patented technology or investing in research and development (R&D) to achieve greater network effects or complementarity effects from using the patented technology.[187] The flaw in the court's reasoning becomes evident if one considers again Michelangelo's *David*. The argument that post-infringement data are necessary to reward the patent holder unfairly assumes that, if Michelangelo sculpts a block of marble into the statue *David*, the original owner of the block of marble is responsible for the value of that sculpture because he provided the original block of marble. That conclusion would be nonsense because Michelangelo's devotion of time, effort, and skill was clearly disproportionately responsible for the sculpture's value. There would be no valid justification to increase the compensation due to the original owner of the block of marble because of the extraordinary creation that Michelangelo made from it.

The third problem with *Honeywell* is that calculating a royalty that relies on post-infringement data does not allow finality. If the courts do not restrict the record of information to be considered in determining a damages award to the information available at the time of the hypothetical negotiation, then what should be the limiting principle for refusing to consider further information? With no limiting principle to determine the scope of admissible evidence for calculating damages, any newly available data at the date of trial arguably could affect the amount of the damages award. Consequently, allowing the use of information that postdates the hypothetical negotiation would create an incentive for the patent holder to wait as long as possible before filing an infringement suit, and then to slow the pace of litigation if the patent holder believed that delay would permit the revelation of subsequent information that would increase its damages award. Conversely, the alleged

187. *See, e.g.*, Dunbar & Weil, *supra* note 179, § 5.4.b.ii.

infringer would have an incentive to delay the litigation (beyond the incentive that defendants in commercial litigation are typically thought to have) if it believed that the revelation of subsequent information would lower its damage exposure. Such delay would increase private litigation costs, consume judicial resources, and prolong uncertainty.

C. Does the "Book of Wisdom" Produce One-Tailed Distortions?

William Lee and Douglas Melamed argue against relying on information that postdates the hypothetical negotiation, reasoning that doing so would likely overcompensate the patent holder.[188] They argue that the use of information that postdates the hypothetical negotiation incorrectly assumes that "actual profits would have been unforeseen entirely at the time of the hypothetical negotiation," whereas, in reality, the "parties negotiating ex ante would likely have understood that there would be a range of possible outcomes . . . and would have taken all of them into account in selecting a reasonable royalty ex ante."[189] They reason that, before infringement, when the value of the patented technology was unknown, both parties would have agreed to a lower royalty because possible outcomes would have included the licensee realizing lower-than-expected profit. Lee and Melamed argue that focusing on actual profit would add to the damages award a "premium based on ex post economic developments that increase the infringer's reliance on the patent" and would, in their view, generate a damages estimate that exceeds the royalty upon which the parties would have agreed had they voluntarily negotiated a license.[190]

Although Lee and Melamed correctly observe that a reasonable-royalty calculation should not account for information that became available after the hypothetical negotiation, they incorrectly suggest that courts would routinely overcompensate the patent holder because they focus on a narrow range of realized outcomes—those in which the licensee's actual profits exceed its expected profits at the time of the hypothetical negotiation. Lee and Melamed analyze only one tail of the distribution of possible valuations of a patented technology—the positive tail, which would increase the patent holder's royalty. They ignore the opposite

188. William F. Lee & A. Douglas Melamed, *Breaking the Vicious Cycle of Patent Damages*, 101 CORNELL L. REV. 385, 413–17 (2016).

189. *Id.*

190. *Id.*

possibility—the negative tail of the distribution, which would reduce the patent holder's royalty. Using information that postdates the hypothetical negotiation might under-compensate the patent holder if the court focuses on outcomes in which the infringer had actual profit that fell short of its expected profit at the time of the hypothetical negotiation.

For example, suppose that a patent holder and a manufacturer of mobile devices enter into a licensing agreement for a period of five years. The license expires on December 31, 2014, but the parties have the option to extend the license for an additional five years. However, the parties fail to agree on terms to extend the license. After the license expires on December 31, 2014, the manufacturer continues to produce its products that practice the patented technology. That is, as of January 1, 2015, the manufacturer's products infringe the patent holder's technology. The patent holder sues the manufacturer for patent infringement and asks the court to determine a damages award at trial, which will occur in December 2015. On January 1, 2015, the manufacturer predicted a modest increase in its sales of products that implement the patented technology. However, the manufacturer thereafter suffers an unexpected decrease in sales.[191] Consequently, by the time of the trial in December 2015, the manufacturer's sales projection for the next five years is lower than the sales projection for that period that was available in January 2015. In that scenario, calculating a reasonable royalty on the basis of information that was available at the date of the first infringement—that is, the manufacturer's sales projection that was available in January 2015—would result in a higher royalty than one based on information that postdates the hypothetical negotiation—that is, the sales projections available in December 2015. In this scenario, Lee and Melamed would overlook the possibility that reliance on information that postdates the

191. *See, e.g.,* Rhiannon Williams, *World's Biggest Smartphone Market Hits Saturation as Sales in China Fall for First Time*, TELEGRAPH (Aug. 20, 2015, 8:00 AM BST), http://www.telegraph.co.uk/technology/mobile-phones/11812322/smartphone-sales-in-china-fall-says-gartner.html ("Smartphone sales in China, the world's biggest market, have fallen for the first time as the country's authorities attempt to restore investor confidence in the rapidly cooling economy. Sales fell 4 per cent year-on-year during the second quarter of 2015, according to research from Gartner. The fall contributed to the slowest worldwide growth since 2013, with around 330 million units sold globally during the second quarter, a year-on-year increase of 13.5 per cent. Chinese economic uncertainty coupled with an increasingly saturated smartphone market caused the downturn, said Anshul Gupta, research director at Gartner.").

hypothetical negotiation might under-compensate the patent holder.

V. CONCLUSION

The Federal Circuit has emphasized that proper application of the hypothetical-negotiation framework requires the court to rely on information that was available to the parties at the time of their hypothetical negotiation. Only information available at that time would have affected the royalty upon which the parties would have agreed. Conversely, information that became available after the hypothetical negotiation would not have affected the bargaining positions of the parties at the time of their hypothetical negotiation. The Federal Circuit has correctly emphasized that information that postdates the hypothetical negotiation is relevant to the calculation of a reasonable royalty only to the extent that such information reveals what the parties to the hypothetical negotiation would have expected before the infringement began.

The reliance on post-infringement data would give the potential licensee a free option to infringe, which would discourage the potential licensee from promptly entering into a licensing agreement. Even without this fault, the argument for relying on information that postdates the hypothetical negotiation cannot withstand economic scrutiny. It purports to address the concern that, by excluding post-infringement information, a reasonable-royalty calculation might under-compensate the patent holder. However, that argument contains three errors of economic reasoning. First, it assumes that the hypothetical negotiation would result in a fully paid lump-sum royalty, rather than a running royalty that the licensee would pay periodically (or in a lump sum with periodic true-ups that reflected the licensee's actual revenues from sales of its patent-practicing product or its actual number of units using the patent in suit). The argument fails to recognize that structuring the royalty as a running-royalty rate, on the basis of information available at the time of first infringement, could prevent under-compensation of the patent holder and hence work as a mechanism to deter infringement. Second, the argument disregards the fact that if the parties would have agreed to a lump-sum royalty, they would have been implicitly agreeing not to account for the actual use of the patented technology in determining a reasonable royalty. Third, the argument depends on an incorrect economic assumption that relying on information that postdates the hypothetical negotiation would necessarily favor the patent holder. However, reliance on such information could under-compensate the patent holder. These three considerations provide a sound basis for concluding that no valid economic justification exists to use information that postdates the hypothetical negotiation to calculate a reasonable royalty.

Subject to the limited exceptions that the Federal Circuit has recognized, there is no valid justification for using information that became available after the date of the hypothetical negotiation when the finder of fact is calculating a reasonable royalty for patent infringement. It is time, with due respect, to fasten the clasp on Justice Cardozo's "book of wisdom."