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Edited by C. Bradford Biddle, Jorge L. Contreras, Brian J. Love, Norman V. Siebrasse

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PATENT REMEDIES AND COMPLEX PRODUCTS

Through a collaboration among twenty legal scholars from eleven countries in North America, Europe, and Asia, *Patent Remedies and Complex Products* presents an international consensus on the use of patent remedies for complex products such as smartphones, computer networks, and the Internet of Things. It covers the application of both monetary remedies like reasonable royalties, lost profits, and enhanced damages, as well as injunctive relief. Readers will also learn about the effect of competition laws and agreements to license standards-essential patents on terms that are “fair, reasonable, and nondiscriminatory” (FRAND) on patent remedies. Where national values and policy make consensus difficult, contributors discuss the nature and direction of further research required to resolve disagreements. This title is also available as Open Access on Cambridge Core at doi.org/10.1017/9781108594981.

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Patent Remedies and Complex Products

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Picht studied law at Munich University and Yale Law School, did his PhD (*summa cum laude*) at Munich University/the Max Planck Institute for Innovation and Competition, and holds a master's degree from Yale Law School. He has worked with the EU Commission's DG for Competition, with the Max Planck Institute for Innovation and Competition as a senior research fellow, and with other institutions, as well as with the law firms Allen & Overy LLP and Linklaters LLP. Professor Picht now holds a chair for commercial law at the University of Zurich and is head of the University's Centre for Intellectual Property and Competition Law (CIPCO). He remains affiliated with the Max Planck Institute as a research fellow. Professor Picht's academic teaching and writing, as well as his counseling activity, focus on intellectual property law, competition law, and international private and procedural law, in particular commercial arbitration (mainly IP and competition), trusts, and estates. In these fields, he has advised governments, companies, foundations, trusts, and other legal entities, as well as private persons and families. Professor Picht is admitted to the bar in Germany and Switzerland.

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appeared or is forthcoming in a variety of law reviews and journals, including the *Virginia Law Review*, the *Iowa Law Review*, the *Washington Law Review*, the *BYU Law Review*, the *Harvard Journal of Law and Technology*, the *Yale Journal of Law and Technology*, and the *Berkeley Technology Law Review*. His empirical study of willful patent infringement and enhanced damages was selected as a winner of the Samsung-Stanford Patent Prize competition for outstanding new scholarship related to patent remedies, and his co-authored article on patent injunctions at the Federal Circuit was chosen as a winner of the Federalist Society's Young Legal Scholars Paper Competition. Seaman received his BA in 2000 from Swarthmore College and his JD in 2004 from the University of Pennsylvania Law School, where he was an executive editor of the *University of Pennsylvania Law Review* and a recipient of the Edwin R. Keedy Award. After a judicial clerkship with the Honorable R. Barclay Surrick of the U.S. District Court for the Eastern District of Pennsylvania, he practiced intellectual property law at Sidley Austin LLP in Chicago from 2005 to 2009. Prior to joining Washington and Lee's faculty, Professor Seaman was a visiting assistant professor at IIT Chicago-Kent College of Law and an adjunct professor at Loyola University Chicago School of Law.

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Siebrasse joined UNB Law in 1993, after receiving an LLM from the University of Chicago and clerking at the Supreme Court of Canada for the Honorable Madam Justice McLachlin during the 1991 to 1992 term. His research and writing focuses on patent law, particularly pharmaceutical patent law, patent remedies, and the intersection of intellectual property law and commercial law. His blog, *Sufficient Description*, comments on recent Canadian patent law cases, and is widely read by the Canadian patent bar. His writing, including his blog, is regularly cited by the Canadian courts. He is an active member of the Intellectual Property Institute of Canada (the national association of intellectual property lawyers) and is a member of Life Sciences and Patent Legislation Committees.

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Sikorski is an assistant professor at the Adam Mickiewicz University in Poznań. He is also Senior Partner at SMM Legal in Poland, where he manages the Intellectual Property Department, advising clients on IP disputes and transactions, industrial property law, combating unfair competition, and the intricacies of competition law. Sikorski graduated from the Faculty of Law and Administration of Adam Mickiewicz University in Poznań in 1999. In 2000, he received the title of LLM in International Business Transactions from the Central European University in Budapest. Since 2005 he has held a PhD in legal science awarded by the Faculty of Law and Administration of Adam Mickiewicz University in Poznań. His scientific accomplishments include a number of publications on copyright law, industrial

property law, unfair competition law, competition law, and private international law. He is currently co-editing a series entitled *An Outline of Intellectual Property Law* (*Zarys Prawa Własności Intelektualnej*). Within his scientific work, he mainly focuses on relations between competition law and intellectual property law, with a particular emphasis on standardization and patent pools. Additionally, Professor Sikorski deals with issues in determining the governing law for intellectual property contracts and infringements of such.

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Suzuki is Dean and a professor of intellectual property Law at Nagoya University Graduate School of Law in Japan. Professor Suzuki is a member of the Intellectual Property Committee of the Industrial Structure Council at the Ministry of Economy, Trade and Industry (METI), and Deputy-Chair of the Subdivision on Copyright of the Council for Cultural Affairs at the Agency for Cultural Affairs in the Japanese Government. He also serves as a director of the Japan Association of Industrial Property Law, the Copyright Law Association of Japan, and the Japan Association of International Economic Law. Professor Suzuki has written and lectured widely on intellectual property law in Japanese and English. His publications in English include “Injunctive Relief for Patent Infringement: A New Trend in Japan?,” “Enforcement of FRAND-encumbered SEPs,” “International Investment Agreements, Intellectual Property Rights and Public Health,” “Domestic Measures for Public Health Policy and International IP/Trade Law: The Case of the Australian Plain Packaging Act,” and “Patent Enforcement in Japan” (co-written with Yoshiyuki Tamura). He also has edited several books including *Preventive Instruments of Social Governance* (2017), *Realization of Substantive Law through Legal Proceedings* (2017), and *Commentary on Trademark Act* (2015). Prior to entering academia, Professor Suzuki was an official at METI, where he served as Director of the Office of Intellectual Property Policy and in other positions.

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Taylor is an associate professor and founding Co-Director of the Tsai Center for Law, Science and Innovation at SMU Dedman School of Law. He serves on the Advisory Council of the U.S. Court of Appeals for the Federal Circuit, the Executive Board of the Institute for Law and Technology at the Center for American and International Law, the Amicus Committee and Patentable Subject Matter Task Force of the American Intellectual Property Law Association, and the Advisory Board of *The International Lawyer*. He has written and spoken extensively on patent law and policy, patent litigation, and civil procedure. He has published numerous articles in journals including the *Berkeley Technology Law Journal*, the *New York*

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University Law Review, the *Connecticut Law Review*, the *Georgia Law Review*, and the *University of California Davis Law Review*, and has given presentations at law schools across the United States, including Boston College, Berkeley, Cardozo, Stanford, and Texas, and internationally in China, Taiwan, and Vietnam. He also serves as an expert and consultant in intellectual property disputes. Taylor is the recipient of a Thomas Edison Innovation Fellowship from George Mason University Antonin Scalia Law School's Center for the Protection of Intellectual Property. Before entering academia, Taylor clerked for the Honorable Sharon Prost of the U.S. Court of Appeals for the Federal Circuit, and engaged in patent litigation, licensing, and prosecution at the international law firm Baker Botts LLP. He earned his bachelor of science, *magna cum laude*, in mechanical engineering from Texas A&M University and his juris doctor, *cum laude*, from Harvard Law School.

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de Werra has been Professor of Contract Law and Intellectual Property Law at the Law School of the University of Geneva since 2006 and Vice-Rector of the University since 2015. He completed his PhD thesis in copyright law while a visiting scholar at the Max-Planck Institute for IP, Competition and Tax Law in Munich in 1996. He was admitted to the Swiss bar (1999) and the New York bar (2002), and holds an LLM degree from Columbia Law School (2001). He was a faculty associate at Harvard's Berkman Center for Internet and Society and has held visiting professor positions at Stanford Law School, Nagoya University, and City University of Hong Kong. Professor de Werra's scholarly interests cover IP law, contract law, and Internet/IT and technology law. He has developed a particular expertise in IP commercial law and in ADR mechanisms for IP and technology disputes (specifically arbitration). He has published widely in leading law reviews (including the *Harvard Journal of Law and Technology* and the *Columbia VLA Journal of Law and the Arts*) and has authored or edited various books of reference, including the *Research Handbook on Intellectual Property Licensing* (2013) and (co-edited with Prof. Irene Calboli) *The Law and Practice of Trademark Transactions* (2016). He organizes the joint WIPO – University of Geneva Summer School on IP and the Geneva Internet law summer school. He is the scientific editor of an IP books series containing the proceedings of the annual IP conferences that he organizes at the University of Geneva.

Foreword

Patent systems are designed to provide incentives to innovate by temporarily protecting the intellectual property to which those innovations give rise. While not always perfectly calibrated, most patent systems historically have accomplished that goal. But as the nature of innovation has changed over the years, patent systems have struggled to adapt to those changes. Legal principles that were once quite good at striking a balance between too much patent protection and too little when applied to simple patented technology are less pertinent in our modern world of increasingly complex technology. We no longer live in a world of simple inventions where the patented technology provides most, if not all, of the value of an end product. We no longer live in a world where reasonable royalties for past infringement are readily calculable or where an injunction against ongoing infringement almost always makes sense.

We now live in a world of complex technology – computers operating with sophisticated software, smartphones and similar multifunction devices, interactive televisions, autonomous vehicles, virtual reality, and the “Internet of Things.” Such complex technology creates complexities of a different sort for patent systems. A single end product (or even a single component of an end product) may contain multiple patented technologies, sometimes exponentially more than traditional machines or products. The law of patent remedies was crafted for simpler inventions; it does not neatly address the realities of current innovation.

Determining how our concepts of injunctions, reasonable royalties, lost profits, and enhanced damages should be applied in this new era is challenging. This is particularly true when it comes to properly valuing individual contributing pieces of patented technology. Assessing the value added by a patented invention to complex technology is necessary, but far from easy. And these challenges are magnified by the interaction of those remedies derived from patent law with those stemming from competition and contract law, particularly those contracts that patent holders enter into in return for designation of their patent as a standard-essential patent.

Compounding these challenges is the fact that, while patent laws and their attendant remedial principles are national, technology sales and, thus, a desire to encourage innovation, are global. Individual systems for patent remedies tailored to complex technologies on a national basis thus seem inadequate and short-sighted. Imposing one country's attempted solution on jurisdictions with different legal and economic traditions cannot be done, however. That is not the solution. Cross-fertilization of ideas presents an opportunity to search out best practices, which can then both be adopted and adapted as appropriate. Finding consensus on what those best practices are is no small task. Such an undertaking would require an international coalition of patent law and economic experts focused on harmonizing disparate patent systems while maintaining respect for each nation's values and policy goals.

The International Patent Remedies for Complex Products (INPRECOMP) project – involving an impressive group of twenty scholars from distinguished academic institutions in eleven countries – is taking aim at rethinking patent enforcement systems on a global scale. This book is an ambitious attempt to wrestle with the intricacies of intellectual property protection around the world and to seek international consensus on issues affecting patent remedies in the context of complex products.

The INPRECOMP participants have approached their challenging task in a thoughtful manner that is both academically rigorous and practical. I have had the pleasure of watching the INPRECOMP project in action. In March 2017, the INPRECOMP group presented its ideas and proposals for possible international harmonization to a panel of judges and patent law practitioners. I had the privilege to be among those before whom the group tested its concepts and from whom the group sought feedback. The work of the INPRECOMP participants, now reflecting that very feedback, is set forth in this work. This book represents substantial thought and effort directed to an important but very challenging goal. Careful consideration of the group's ideas will be edifying for judges, legislators, and practitioners alike, as patent disputes relating to complex technology become increasingly more international in scope.

Hon. Kathleen M. O'Malley
U.S. Court of Appeals for the Federal Circuit

Preface and Acknowledgments

This project on International Patent Remedies for Complex Products (INPRECOMP) has an ambitious objective – to engage intellectual property scholars worldwide on the topic of patent remedies for complex products, in order to identify areas of consensus along with topics needing further research and discussion. This project was made possible by a gift from Intel Corporation to the Center for Law, Science & Innovation (CLSI) at the Sandra Day O'Connor College of Law at Arizona State University. Intel provided the funding for a project (with the details to be determined by the CLSI) to advance and broaden scholarly research and dialogue on patent remedies for complex products. Intel encouraged us to involve scholars from as many different perspectives and countries as feasible. Other than that general direction, Intel played no role in the design, participant selection, topic choice, or work product of this project. We appreciate Intel's support of independent research, and we thank it for making this project possible.

A number of individuals played a central and indispensable role in this project, and each deserves accolades for the commitment, patience, and expertise he or she brought to the project. First and foremost, Brad Biddle, a Faculty Fellow of the ASU Center for Law, Science & Innovation, was key to both launching and administering the project. Brad first broached the subject of this project and made the initial contact with Intel. He operated as our *de facto* project coordinator, convening meetings and conference calls of our steering committee, which he chaired, pushing gently but firmly to ensure we stayed on schedule, and stepping in to help resolve any disagreements or problems along the way. Brad's enthusiasm and leadership for this project were, respectively, infectious and effective.

One of the most important things that Brad did at the outset was to recruit two subject matter experts to be the thought leaders of this project. These are law professors Jorge Contreras of the S.J. Quinney College of Law at the University of Utah and Norman Siebrasse of the University of New Brunswick, Faculty of Law. Jorge and Norman are not only tremendously knowledgeable experts on patents and patent remedies, but they are also committed to balance, objectivity, and scholarly

excellence. Jorge's and Norman's impressive expertise, extensive contacts in the field, enthusiasm for the subject matter, and good-natured commitment to the project were critical for the project's success.

In addition to serving on the INPRECOMP steering committee over the two-plus years of the project's duration, Jorge and Norman were central in selecting the other faculty members of this project, whose biographies can be found above. They assembled an outstanding team of twenty leading intellectual property scholars from eleven countries in North America, Europe, and Asia. These scholars attended two 2-day meetings, one in London and one in Phoenix. After the London meeting, the group split into six working groups with overlapping membership, each dedicated to an individual chapter. The teams participated in numerous conference calls and email exchanges to develop and reach consensus on the material in this book, which was then circulated for comment to the entire group. Their time, expertise, and perspective gave this project its intellectual richness, breadth, and depth, for which we are enormously grateful.

Some of these academic participants did even more. We particularly appreciate the additional work of the following working group chairs: Tom Cotter (Chapter 1), Chris Seaman (Chapter 2), Colleen Chien (Chapter 3), Norman Siebrasse (Chapter 4), Jorge Contreras (Chapter 5), and Alison Jones and Renato Nazzini (Chapter 6). We also thank Alison Jones and Renato Nazzini for hosting and helping to organize the London meeting.

As the working groups began drafting the chapters that ended up being this book, we quickly realized that we needed a lead editor, someone who was knowledgeable about the subject matter and able to work with the author teams to coordinate consensus where it was possible and to identify and manage differences. We found the perfect person for this important role in Brian Love, Associate Professor of Law and Co-director of the High Tech Law Institute at the Santa Clara University School of Law, who was already a member of the INPRECOMP team. Brian did yeoman's work in collaborating with the teams of authors for each chapter, bringing the discussions to completion, and putting into writing for each chapter the text and recommendations upon which each chapter's authors could agree. This process involved a tremendous commitment of time and skill, which Brian provided with enthusiasm and excellence.

The other key player in bringing this book to fruition was Jay Jenkins, the Intellectual Property Director of the CLSI at ASU. Jay served as line editor, working closely with Brian to go through each chapter line-by-line to edit the text for clarity, consistency, and impact. Jay also worked in completing all the references, a daunting task given the different nations and languages of the primary materials used in the production of this work. Without Jay's tireless efforts, this book never would have seen the light of day, and we are very grateful for his dedication and effort.

Another important component of this project was the opportunity to “stress test” our initial ideas with a panel of eminent judges and a panel of leading practitioners. We provided the initial drafts of our chapters and then invited these legal experts to critique, question, and challenge our initial work at the Phoenix meeting. Our judicial panel consisted of the Hon. Marsha Berzon of the U.S. Court of Appeals for the Ninth Circuit, the Hon. Klaus Grabinski of the German Federal Court of Justice (Bundesgerichtshof), the Hon. Kathleen O’Malley of the U.S. Court of Appeals for the Federal Circuit, and the Hon. James Robart of the U.S. District Court for the Western District of Washington. The practitioner panel consisted of Tina Chappell from Intel, Luke McLeroy from Avanci, Mark Selwyn from WilmerHale, and Richard Stark from Cravath, Swaine & Moore. The feedback received from these experts in private practice and the judiciary were extremely insightful and helpful, and greatly assisted the project team in understanding the practical and legal issues presented by patent damages for complex products. We additionally thank Judge O’Malley for writing the preface to this book.

Finally, I would like to thank the staff of the Center for Law, Science & Innovation for their administrative support of this project. Center Director Lauren Burkhart negotiated the agreement with Intel, was in charge of the budgeting for the project, participated on the project steering committee, and organized the meetings, conference calls, and other activities involved with the project. She was ably assisted by Center Coordinator Debb Relph, who among other things coordinated travel arrangements, reimbursement, and logistics. Their excellent assistance was essential for the smooth and successful implementation of this project.

Typically, at the end of a long list of acknowledgments like this, there would be a statement that all errors and misunderstandings are the sole responsibility of the author. That is not possible here because there is no single “author” of this book. Rather, it represents a group process involving a disparate set of knowledgeable experts that produced its chapters as consensus documents, not an easy or simple achievement. In fact, it is probably safe to say that no single member of the team is perfectly satisfied, or even fully agrees with, everything said and how it is said in this book. Rather, this book is part of what we hope will be an ongoing and worldwide consensus-building process. This work does not aspire to represent the final word on these important issues. Rather, by advancing areas of consensus and identifying areas needing further research, we hope we have produced something that can be studied, referenced, quoted, critiqued, agreed or disagreed with, and ultimately further advanced, all with the goal of improving patent remedies for complex products around the world.

Gary Marchant
*Regent’s Professor of Law and Faculty Director of the
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Executive Summary

In each of the first five chapters of this volume, we summarize the current state of the law of patent remedies among leading jurisdictions, articulate the principal arguments for and against different remedies-related practices adopted in various countries, and provide consensus-based recommendations for improving (and generally harmonizing) the award of remedies for patent infringement. In addition, we identify areas where further research is needed. Below, we briefly summarize the principal recommendations made in each chapter.

CHAPTER 1: REASONABLE ROYALTIES

Chapter 1 addresses “reasonable royalty” damages.

BASIC PRINCIPLES FOR CALCULATING A REASONABLE ROYALTY:

Chapter 1 principally recommends that courts replace the so-called *Georgia-Pacific* factors used in the United States (and analogous factors used outside the United States) with the following three steps for calculating reasonable royalty damages:

- (1) ***Calculate the incremental value of the invention and divide it appropriately between the parties.*** A license for the use of a patented technology typically requires the licensee to share with the licensor some portion of the incremental value the licensee derives or expects to derive from the use of that technology. To ensure that a reasonable royalty for the unauthorized use of a patented technology accurately reflects this incremental value, ideally a court would (1) estimate the difference between the value the infringer derived from the use of the patented invention (as distinct from the value contributed by other features of the infringing end product), and the value the infringer would have derived by using the next-best available noninfringing alternative instead; (2) divide that differential value between the patent owner and the infringer; and (3) as an aid in carrying out this division, consider any relevant evidence, including possibly

the use of a rebuttable presumption that the parties would have agreed, *ex ante*, to an even (50/50) split.

- (2) **Assess market evidence.** In negotiating licenses for the use of patented technologies, parties often consider the rates and other terms disclosed in relevant comparable licenses (or, where applicable, the rates charged by relevant patent pools or disclosed in publications of industry standard rates). Courts also should consider such evidence for purposes of calculating reasonable royalties for the unauthorized use of patented technologies, albeit subject to appropriate adjustments and with due appreciation for the potential limitations of such evidence.
- (3) **Comparison.** When it is feasible and cost justified, courts should carry out both steps described above – each one acting as a “check” on the accuracy of the other – and then attempt to reconcile or adjust the results, as the evidence warrants. That said, one can expect only that courts do the best they can with the evidence available to them. Thus, when the evidence necessary to carry out step 2 is available but the evidence necessary to carry out step 1 is not – as will likely often be the case in litigation involving complex products – courts may need to rely exclusively on market evidence. (The converse will be true when the available evidence relates only to step 1, not 2.)

PATENTED ALTERNATIVES:

A conceptual difficulty with step 1 of the above framework arises if the next-best noninfringing alternative is, itself, also patented. It is not at all uncommon that the best substitutes for a patented technology are also patented, as several inventors devise different solutions to the same problem. One possibility is that in such a case the value of the patented invention is zero, on the view that the infringing user in the hypothetical negotiation should be imagined to play one patentee off against another until the patentee is haggled down to its minimum willingness to accept. By the same token, if the infringed technology was not quite as good as the patented alternative, the value of the infringed technology would be zero. Chapter 1 recommends that courts reject this approach, on the ground that although it makes sense from a static welfare perspective, it provides a facially inadequate incentive to invent (zero compensation) and therefore appears inconsistent with the conventionally understood purpose of the patent system.

DIVIDING INCREMENTAL VALUE:

Chapter 1 additionally recommends that, to the extent possible, a split of the incremental profit should reflect the value of any ancillary services (such as marketing) or risks that either the patent owner or the infringer, in fact, undertook. While courts should permit the parties to introduce any competent evidence on this issue,

a fact finder may also wish to consider empirical findings that people in Western societies generally view a 50/50 split of benefits as fair, and that economists often use the Nash Bargaining Solution in modeling bargaining behavior.

Moreover, when courts use a hypothetical bargaining construct to split incremental value, Chapter 1 recommends that courts adopt a “contingent *ex ante* approach” under which the hypothetical negotiation is generally assumed to take place before any sunk costs are incurred, but with the benefit of *ex post* information. The rationale for this approach is that the bargain must be assumed to take place *ex ante*, so that the patentee is not entitled to extract any holdup value; but at the same time, using *ex post* information more accurately reflects the true incremental value of the invention, and so provides a more accurate reward to the patentee.

In addition, courts should consider comparables and other market evidence with caution. Such evidence often may be the best that is available, and even when there is other evidence of the value of the technology over alternatives, it may still be useful to consider market evidence by way of comparison. But courts should be cognizant that there are significant practical and conceptual problems involved with using comparable licenses – even “established” ones – as evidence of a reasonable royalty.

EVIDENTIARY GATEKEEPING AND THE ENTIRE MARKET VALUE RULE:

Chapter 1 also recommends that in jurisdictions employing juries to decide patent cases, courts should require patentees to present royalty evidence using the smallest saleable patent-practicing unit, rather than the entire market value of a larger complex end product, as the royalty base. Framing damages by reference to the value of the entire accused product may have an undue influence on jurors (sometimes known as “anchoring”) in cases where the asserted patent covers just one of many components or features that comprise the entire product, and in such cases may lead to damages awards that are overcompensatory.

Finally, Chapter 1 recommends that courts consider whether individual pieces of expert evidence satisfy a basic threshold of quality in addition to separately examining the overall sufficiency of all relevant evidence. In the absence of a jury or other fact finder distinct from the trial-level adjudicator of questions of law, there is probably less significance to the distinction between (1) the ultimate assessment of the overall sufficiency of evidence to support a damages award and (2) gatekeeping for the relevance and reliability of expert testimony. But although the particular standard for expert testimony gatekeeping has been controversial within the United States, something like *Daubert*-style review might generally be useful even in jurisdictions that do not try patent cases to juries.

CHAPTER 2: LOST PROFITS AND DISGORGEMENT

Chapter 2 addresses remedies that either (1) award as damages the profits that the patent owner would have earned absent infringement (lost profits), or (2) award to the patent owner the profits earned by the infringing party (disgorgement).

AVAILABILITY OF LOST PROFITS:

Chapter 2 recommends that a patentee's lost profits (including from lost sales and price erosion) should be the preferred measure of damages when a patentee can establish harm in a product market due to the infringement.

CAUSATION AND NONINFRINGEMENT ALTERNATIVES:

Chapter 2 additionally recommends that lost profits should generally be available whenever a practicing patentee can demonstrate "but for" causation by a preponderance of the evidence, rather than only when the patentee can satisfy more detailed standards or requirements, such as the *Panduit* factors presently used in the United States. This chapter further recommends that courts should consider the availability and substitutability of noninfringing alternatives when analyzing "but for" causation, and overrule decisions (such as *United Horse-Shoe* in the UK) that hold to the contrary. If the infringer could have competed with the patentee by offering a noninfringing alternative to the patented invention, the patentee would have lost fewer sales (and thus profits) absent the infringement. Even an imperfect substitute that provides some, but not all, of the functionality of the patented invention can affect both the price of the patented product and consumer choice.

LOST PROFITS FOR UNPATENTED PRODUCTS:

In addition to profits on lost sales of patented products, Chapter 2 recommends that patentees should be permitted to recover losses associated with (1) sales of products that incorporate both infringing and noninfringing components, (2) additional contemporaneous sales of distinct but related items, and (3) anticipated future sales of replacement or repair parts, provided that the patentee can demonstrate that such sales were reasonably foreseeable by an infringing competitor in the relevant market.

AVAILABILITY OF DISGORGEMENT:

In jurisdictions where disgorgement is an available remedy, Chapter 2 recommends that the grant of accounting be within the discretion of the court, rather than automatic, given the potential burden on the infringer in taking an accounting.

Courts also should require patentees to elect between an accounting and damages; they should not be permitted to pursue both simultaneously.

DIFFERENTIAL PROFIT METHOD:

Chapter 2 additionally recommends that jurisdictions permitting disgorgement adopt a differential profit approach to calculating the infringer's profits. Rather than requiring the infringer to disgorge the entire profit made on an infringing product, courts should limit disgorgement recoveries to the difference between the infringer's actual profits and the profits it would have made had it used the best noninfringing alternative. A contrary rule – such as the accounting profit approach or the U.S. approach in design patent cases – can result in disgorgement of profits that are not causally attributable to the infringement, and thus will put the patentee in a better position than it would have been but for the infringement.

CHAPTER 3: ENHANCED DAMAGES, LITIGATION COST RECOVERY, AND INTEREST

Chapter 3 addresses remedies beyond reasonable royalties and profits.

ENHANCED DAMAGES:

Chapter 3 recommends that when enhanced (or “punitive”) damages are awarded, they should be calculated consistent with the objectives of the patent system – for example, by weighing the ability of such awards to deter opportunistic infringement against their countervailing tendency to discourage the dissemination of technological information via patent disclosures – rather than on the basis of subjective notions of retributive punishment.

LITIGATION COST RECOVERY:

Chapter 3 additionally recommends that when litigation costs are awarded to prevailing parties, such awards should aim to compensate for the reasonable and proportionate costs actually incurred by the prevailing party in a meaningful manner unless equity prescribes otherwise, rather than only partially (as is often the case in practice). Moreover, in countries in which fee shifting is not presently the norm, legislatures and courts should consider experimenting with more generous fee shifting rules, as well as discovery reforms designed to reduce the risk that the stronger party will make unnecessary and excessive expenditures with the expectation of reimbursement.

INTEREST:

Chapter 3 recommends that courts be required to award pre- and post-judgment compound interest, nominally at rates that reflect the infringer's cost of borrowing. To the extent such reforms would be difficult to implement in the short run, legislatures should (as a second-best solution) periodically reconsider statutory interest rates to ensure that they do not differ substantially from market rates.

CHAPTER 4: INJUNCTIVE RELIEF

Chapter 4 addresses the law and policy of injunctive relief, focusing primarily on permanent injunctions.

BASIC PRINCIPLES FOR INJUNCTIVE RELIEF:

Chapter 4 principally recommends that courts should not automatically issue injunctive relief in all cases in which a patentee prevails in a suit for infringement. Instead, courts should have and, in appropriate circumstances, exercise discretion to deny injunctive relief when issuance of an injunction would otherwise generate costs or burdens for others that are disproportionate to the nature of the adjudged infringement and to the noncompensable harms the patentee would suffer in the absence of an injunction. Further, courts should be afforded the flexibility and discretion to tailor injunctive relief in appropriate circumstances to avoid imposing unnecessary hardship on infringers or the general public.

PROPORTIONALITY:

In assessing whether the negative effects of the injunction on enjoined parties would be disproportionate to the nature of the infringement and any noncompensable harm that the patentee will experience without injunctive relief, Chapter 4 additionally recommends that: (1) courts consider only those relevant negative effects on enjoined parties or the general public that have some reasonable likelihood of actually occurring if adjudged infringers and third parties take reasonable mitigating measures in relation to an injunction; and (2) courts consider only the relative, as opposed to absolute, sizes of the patentee's harm and an injunction's negative effects.

TAILORING INJUNCTIVE RELIEF:

Chapter 4 additionally recommends that courts consider whether tailoring injunctive relief – for example, by staying an injunction for a period of time to allow redesign of an infringing component of a complex product – may avoid or mitigate

the negative effects an injunction otherwise might impose. Moreover, courts should consider tailoring injunctions in the normal course, even when a proportionality-based test is otherwise satisfied.

ONGOING ROYALTY IN LIEU OF INJUNCTIVE RELIEF:

Chapter 4 recommends that when injunctive relief is not granted (and damages have not separately compensated for future infringement) courts should award as a substitute additional monetary damages in the form of an “ongoing reasonable royalty.” This ongoing royalty should be calculated in accordance with the principle for determining a “reasonable royalty” for past infringement, without any special enhancement due to the ongoing reasonable royalty’s association with activity that occurs after the judgment of infringement.

CHAPTER 5: THE EFFECT OF FRAND COMMITMENTS ON PATENT REMEDIES

Chapter 5 addresses a special category of cases in which an asserted patent is, or has been declared to be, essential to the implementation of a collaboratively developed voluntary consensus standard, and the holder of that patent has agreed to license it to implementers of the standard on terms that are fair, reasonable, and nondiscriminatory (FRAND). Both as a matter of patent law, contract law, and competition law, the existence of such a FRAND commitment may affect a patent holder’s entitlement to monetary damages and injunctive relief.

MONETARY DAMAGES:

Chapter 5 recommends that courts assessing FRAND royalty rates should reject strict application of the *Georgia-Pacific* framework, and instead select whatever methodology for calculating FRAND rates is best supported by the available evidence. Depending on the evidence available, courts may choose to rely on sufficiently comparable license agreements covering the same patents, general consensus on aggregate royalty rates for an overall standard or technology, and one or both of the “bottom-up” and “top-down” royalty calculation methodologies.

INJUNCTIONS:

Chapter 5 additionally recommends that courts place reasonable conditions on the issuance of injunctions against the infringement of standards-essential patents – such as those discussed in Chapter 4 – even absent a violation of competition law. When balancing equities between the parties, this chapter additionally recommends

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that courts incorporate the procedures laid out in *Huawei v. ZTE* or under the law of Japan or Korea. While these procedural analyses were developed with potential violations of competition law or contract law in mind, they nonetheless model a well-functioning bilateral relationship within the standard-setting context and, thus, are relevant to a full and fair assessment of the appropriateness of equitable relief.

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