IN THE

Supreme Court of the United States

IMPRESSION PRODUCTS, INC.,

Petitioner,

٧.

LEXMARK INTERNATIONAL, INC.,

Respondent.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

BRIEF OF 44 LAW, ECONOMICS AND BUSINESS PROFESSORS AS AMICI CURIAE IN SUPPORT OF RESPONDENT

JONATHAN M. BARNETT Professor of Law University of Southern California Gould School of Law 699 Exposition Blvd. Los Angeles, CA 90089 (213) 740-4792 jbarnett@law.usc.edu TED M. SICHELMAN

Counsel of Record

Professor of Law
University of San Diego
School of Law
5998 Alcala Park
Guadalupe Hall
San Diego, CA 92110
(619) 260-7512
tsichelman@sandiego.edu

February 23, 2017

TABLE OF CONTENTS

TABLE O	F AUTHORITIESiii
INTERES	T OF AMICI CURIAE1
SUMMAR	Y OF THE ARGUMENT1
ARGUME	NT6
I.	Presumptive Application of the Exhaustion Doctrine Supports the Efficient Dissemination of New Technologies
	A. Presumptive Application of the Exhaustion Doctrine Does Not Result in Double Recovery8
	B. Mandatory Application of the Exhaustion Doctrine Can Harm Consumers11
	C. Presumptive Application of the Exhaustion Doctrine Addresses Notice and Other Concerns
II.	Presumptive Application of the Exhaustion Doctrine Is Consistent with this Court's Precedents 19

III.	The Federal Circuit's Decision Reconciles Exhaustion Doctrine with this Court's
	Treatment of Similar Actions under Antitrust
	Law25
IV.	Contract Remedies Cannot Adequately Protect the Post-Sale Interests of Patent Owners 27
V.	The Federal Circuit Properly Concluded that International Exhaustion Should Not Apply to Foreign Sales of Patented Goods
CONCLUS	SION32
APPFNDI	X – LIST OF AMICI 1a

TABLE OF AUTHORITIES

CASES

Adams v. Burke, 84 U.S. (17 Wall.) 453 (1873)6
Bloomer v. McQuewan, 55 U.S. (14 How.) 539 (1852) 6, 14
Bloomer v. Millinger, 68 U.S. 340 (1863)20
<i>Brown v. Duchesne</i> , 60 U.S. 183 (1856)30
Continental T.V., Inc. v. GTE Sylvania, 433 U.S. 36 (1977)
Deepsouth Packing Co. v. Laitram Corp., 406 U.S. 518 (1972)
eBay Inc. v. MercExchange L.L.C., 547 U.S. 388 (2006)
28, 29
General Talking Pictures v. Western Electric Co., 304 U.S. 175, aff'd on reh'g, 305 U.S. 124 (1938)
Jefferson Parish Hosp. Dist. v. Hyde, 466 U.S. 2 (1984) 19
Keeler v. Standard Folding Bed Co., 157 U.S. 659 (1895)6
<i>Kirtsaeng v. John Wiley & Sons, Inc.</i> , 133 S. Ct. 1351 (2013)
Leegin Creative Leather Products, Inc. v. PSKS, Inc., 551 U.S. 877 (2007)16, 19, 25
Lexmark Int'l, Inc. v. Impression Products, Inc. et al., 816 F.3d 721 (Fed. Cir. 2016)7, passim
<i>Mallinckrodt, Inc. v. Medipart, Inc.,</i> 976 F.2d 700 (Fed. Cir. 1992)26
Mitchel v. Reynolds, 24 Eng. Rep. 347 (Q.B. 1711)17
Mitchell v. Hawley, 83 U.S. (16 Wall.) 544 (1872)6, passim
Motion Picture Patents Co. v. Universal Film Mfg. Co., 243 U.S. 502 (1917)7, passim

<i>Quanta Computer, Inc. v. LG Electronics, Inc.</i> , 553 U.S. 617 (2008)4, passim
United States v. Gen. Electric Co. et al., 272 U.S. 476 (1926)6
United States v. Univis Lens Co., 316 U.S. 241 (1941)
STATUTES
Copyright Act of 1976, 17 U.S.C. § 109(a) 5, 31
Federal Food, Drug and Cosmetic Act, 21 U.S.C. § 381(d)
Patent Act of 1952, 35 U.S.C. § 28428
Patent Act of 1952, 35 U.S.C. § 28528
OTHER AUTHORITIES
2 Coke, Institutes of the Laws of England § 360 (Day ed. 1812)16
John F. Duffy & Richard Hynes, <i>Statutory Domain and the Commercial Law of Intellectual Property</i> , 102 Virginia Law Review 1 (2016)14
Robert W. Gomulkiewicz, <i>The Federal Circuit's Licensing Law Jurisprudence: Its Nature and Influence</i> , 84 Washington Law Review 199 (2009)2, passim

Herbert Hovenkamp, <i>Post-Sale Restraints and Competitive Harm: The First Sale Doctrine in Perspective</i> , 66 N.Y.U. Annual Survey of American Law 487 (2011)11
Olena Ivus, Edwin LC. Lai & Ted Sichelman, <i>An Economic Model of Patent Exhaustion</i> (Working Paper 2017), http://ssrn.com/abstract=292144313
Adam Mossoff, A Simple Conveyance Rule for Complex Innovation, 44 Tulsa L. Rev. 707 (2009)
Sean M. O'Connor, Origins of Patent Exhaustion: Patent Farming, Jacksonian Politics, and the Basis of the Bargain (Working Paper 2017), http://ssrn.com/abstract=2920736
Sean M. O'Connor, <i>IP Transactions as Facilitators of the Globalized Innovation Economy</i> , in Rochelle Dreyfuss, Diane L. Zimmerman and Harry First, eds., Working Within the Boundaries of Intellectual Property (Oxford Univ. Press 2010)
Restatement (Third) of Property (Servitudes) § 3.4 (2000)
Wentong Zheng, Exhausting Patents, 63 UCLA Law Review 122 (2016)19

INTEREST OF AMICI CURIAE

Amici are law, economics, and business professors who teach, research and write in the areas of patent law, contract law, and innovation policy. The professors are committed to the development of patent law doctrine that best promotes innovation and competition. Amici have no personal interest in the outcome of this case. A full list of amici is appended to the signature page.

SUMMARY OF THE ARGUMENT

Patent transactions are a key component of modern technology markets, enabling patent owners and firms to work together in the commercialization of new technologies on the costly and risky path from "lab" to "market." Those transactions rely on the ability to enter into secure legal relationships that match innovators with a complex sequence of partners in the commercialization process, including manufacturers, distributors, retailers and other entities, each of which contributes specialized expertise at a different step in the supply chain. Those transactions, and underlying legal relationships, promote patent law's fundamental goals by (1) supporting innovators' ability to earn returns on their research and development activities and (2) benefiting consumers by

¹ Pursuant to Supreme Court Rule 37.6, *amici curiae* states that no counsel for any party authored this brief in whole or in part. The Center for the Protection of Intellectual Property, an academic center at the Antonin Scalia Law School at George Mason University, paid for the printing and filing of this brief. No other person or entity, or its counsel, made a monetary contribution to the preparation or submission of this brief. *Amici curiae* gave timely notice to Petitioners and Respondents of their intent to file this brief, who have consented to the filing of this brief; their written consents are on file with the Clerk.

enabling innovators and other parties to craft production and distribution structures that can deliver patented technologies to the market as efficiently as possible. *See* Sean O'Connor, *IP Transactions as Facilitators of the Globalized Innovation Economy*, in Rochelle Dreyfuss, Diane L. Zimmerman and Harry First, eds., Working Within the Boundaries of Intellectual Property 203-05, 216-17, 227-28 (Oxford Univ. Press 2010); Robert W. Gomulkiewicz, *The Federal Circuit's Licensing Law Jurisprudence: Its Nature and Influence*, 84 Washington Law Review 199, 204-08 (2009).

The exhaustion doctrine plays a critical and two-fold role in the patent transactions that support supply chains in technology markets. On the one hand, the exhaustion doctrine protects downstream users from unfair surprise to the extent those users are unaware of use restrictions agreed upon at the initial point of sale. In so doing, the exhaustion doctrine can reduce transaction costs, including information costs, in the supply chain. On the other hand, the ability to customize use restrictions, as well as associated pricing terms at various points on a supply chain, enables innovators, producers and distributors to craft the most efficient structure for creating and commercializing a patented technology. For example, efficient customization may take the form of customerspecific pricing that enables a manufacturer to more widely distribute a patented product.

Mandatory application of the exhaustion doctrine to all patent transactions, without any possibility of contractual waiver or modification, would serve the objective of preventing unfair surprise and reducing transaction costs, but not the objective of efficient contracting throughout the technology supply chain. A nuanced application of the exhaustion doctrine can promote both objectives.

This Court has never addressed directly whether the exhaustion doctrine precludes enforcement of any use limitation whatsoever in a patent sale transaction. While the Court's decisions on exhaustion are not perfectly uniform, the principles behind those decisions are consistent with the approach adopted by the Federal Circuit below. Following that approach, the exhaustion doctrine applies *presumptively* in patent sale transactions and, outside of a limited number of anticompetitive restraints, can therefore be contractually waived.

Only a presumptive approach can promote the multiple policy objectives behind the exhaustion doctrine. If parties are silent and no conditions are expressly agreed upon at the point of first sale, then the presumption survives and downstream users are free to use the patented article without restriction. In that circumstance, downstream users are protected from unfair surprise, thereby minimizing transaction costs. However, if the patent owner clearly communicates use restrictions at the point of sale, and downstream users are made aware of those restrictions, then the presumption is lifted and exhaustion does not apply, barring exceptional circumstances. In that case, the patent owner can craft customized usage terms for downstream partners in the commercialization process. This approach provides the market with legal certainty, mitigates the risk of unfair surprise, reduces transaction costs, and enables patent owners and other entities to negotiate over the terms of use, and associated pricing terms, to arrive at mutually agreeable bargains. Subject to the constraints required to address notice and reasonableness concerns, contractual latitude in patent transactions facilitates innovators' ability

to earn returns on their investments in research and development, attracts outside capital to fund innovators' activities, and promotes access to patented technologies by offering use and pricing terms tailored to a diverse population of manufacturers, distributors and consumers. *See* O'Connor, *supra*, at 203-05, 227-28; Gomulkiewicz, *supra*, at 204-08.

A presumptive understanding of the exhaustion doctrine is consistent with this Court's decision in Quanta Computer, Inc. v. LG Electronics, Inc., 533 U.S. 617 (2008). In that case, this Court barred the patent owner from enforcing certain use restrictions in connection with the sale of a patented product to a downstream purchaser. Critically, however, this Court's determination in *Quanta* was not based on a categorical bar on the enforcement of all manner of post-sale use limitations. Unlike the facts of this case, Quanta involved a circumstance in which the patent owner failed to expressly include the claimed restraints in the governing agreement with the initial licensee. Although a clause in an ancillary agreement provided that the licensee would provide notice of the restraint to downstream users, no such notice obligation was made a condition in the *license* agreement. Therefore, based on the contractual agreements that regulated the legal relationship between the patent owner and the licensee, the Court concluded that the authorization given to the licensee to sell the patentee's products was never specifically conditioned on the claimed restraints. Id. at Given that critical omission, the exhaustion doctrine can be understood to have presumptively applied, thereby precluding the patent owner from enforcing the claimed use restrictions in connection with the licensee's subsequent sale to a downstream purchaser. However, if the downstream restriction had been made an express condition of the licensee's authorization to sell the

patented component in the license agreement, then, based on this Court's prior holdings, the limitation would have been valid.

While we recognize that Quanta has given rise to a variety of reasonable interpretations among the lower courts, as well as lawyers and scholars, this is the only interpretation of *Quanta* that is consistent with this Court's holding in General Talking Pictures v. Western Electric Co., 304 U.S. 175, aff'd on reh'g, 305 U.S. 124 (1938). In General Talking Pictures, this Court upheld the enforcement against a downstream purchaser of use restrictions set forth in the agreement with the initial licensee, id., at 125-27. Because the use restrictions were expressly communicated to the licensee, and the subsequent purchaser was made aware of those restrictions, id. at 126, the presumption of exhaustion can be understood to have been lifted, and the patent owner could enforce the agreed-upon restrictions. If this Court were to adopt a mandatory, rather than presumptive, understanding of the exhaustion doctrine, it would run counter to the Court's determination in General Talking Pictures.

The Federal Circuit also held that the patent exhaustion doctrine does not apply to foreign sales authorized by the U.S. patentee. This holding is consistent with the territorial scope of the patent statute as well as this Court's opinion in *Kirtsaeng v. John Wiley & Sons, Inc.*, 133 S. Ct. 1351 (2013). While *Kirtsaeng* applied copyright law's first sale doctrine to foreign sales, that doctrine has been codified by Congress, 17 U.S.C. § 109(a), and explicitly limits the copyright owner's exclusive distribution rights. There is no such analogue in the patent statute. If this Court were nonetheless to extend the exhaustion doctrine to foreign patent sales, it should then apply exhaustion

doctrine following the same presumptive approach applicable in the domestic context.

The Federal Circuit's holdings are consistent with this Court's precedents, advance the fundamental objectives of the patent system, and should be affirmed.

ARGUMENT

I. Presumptive Application of the Exhaustion Doctrine Supports the Efficient Dissemination of New Technologies

Patent exhaustion doctrine provides that the initial authorized sale of a patented article terminates the patentee's rights against subsequent resales or uses of that article. See Bloomer v. McQuewan, 55 U.S. (14 How.) 549-50 (1852) (uses);² Adams v. Burke, 84 U.S. (17 Wall.) 453, 455-56 (1873) (uses); Keeler v. Standard Folding Bed Co., 157 U.S. 659, 661 (1895) (resales). This doctrine, however, has always had important limits. In Mitchell v. Hawley, 83 U.S. (16 Wall.) 544, 547 (1872), this Court held that the exhaustion doctrine applies to sales of patented articles "without any conditions", suggesting a distinction between conditional and unconditional sales. In U.S. v. Gen. Electric Co. et al., 272 U.S. 476, 489 (1926), this Court further held that exhaustion is not triggered by patent license transactions (as distinguished from sales). And in Gen. Talking Pictures, supra, at 181, this Court clarified that the

² We note that recent scholarship finds that *Bloomer* did not involve the sale of a physical good; rather, it involved a franchise-like system of assignment and license agreements to manufacture machines covered by the licensor's patented technology. *See* Sean M. O'Connor, *Origins of Patent Exhaustion: Patent Farming, Jacksonian Politics, and the Basis of the Bargain* (Working Paper 2017), http://ssrn.com/abstract=2920738.

exhaustion doctrine does not apply to a licensing agreement simply because it imposes conditions on subsequent use.

At the same time, we recognize that this Court has also declined to enforce certain use limitations in patent licenses against subsequent users of patented products. *E.g., Motion Picture Patents Co. v. Universal Film Mfg. Co.,* 243 U.S. 502, 516 (1917); *United States v. Univis Lens Co.,* 316 U.S. 241 (1941); *Quanta Computer, Inc. v. LG Electronics, Inc.,* 533 U.S. 617 (2008).

As we explain further below in Section I.C., the seeming tension between this Court's cases can be reconciled on two grounds. First, this Court has refused to enforce unlawful use limitations that otherwise would violate the antitrust laws or would constitute patent misuse. *E.g., Motion Picture Patents, supra; Univis Lens Co., supra.* Second, this Court has declined to enforce restrictions that were not specifically and expressly communicated in the license agreement at the initial point of sale. *E.g., Quanta, supra.* Importantly, the instant case therefore provides an opportunity for the Court to clarify the application of the exhaustion doctrine to the patent transactions that play such a critical function in modern technology markets.

Following the principles set forth in this Court's decisions relating to the exhaustion doctrine (which we discuss in further detail in Section II), the Federal Circuit held below, *Lexmark Int'l, Inc. v. Impression Products, Inc. et al.*, 816 F.3d 721, 726 (Fed. Cir. 2016), that the exhaustion doctrine generally does not apply to sales of patented articles made subject to conditions that are expressly communicated and otherwise lawful. Under the Federal Circuit's approach, the exhaustion doctrine effectively operates as a presumption in any sale transaction involving a patented article—meaning, the parties are free to modify

or waive that presumption by agreement. Only a presumptive, rather than mandatory, application of the exhaustion doctrine is consistent with its underlying policy rationale.

The exhaustion doctrine is not designed to categorically deny patent owners the ability to enter into customized relationships with downstream entities. Importantly, parties may agree upon different temporal or geographic restrictions, as well as appropriately calibrated pricing terms, in order to commercialize efficiently a patented technology. Downstream users can differ significantly in the value they place on the technology, the purposes for which they wish to purchase the technology, financial resources, and willingness to bear the risk of adopting the technology. See O'Connor, supra, at 206-07, 216-227. Some entities may prefer to purchase full use of the technology at a higher price; other entities may prefer to purchase limited use at a lower price. See Gomulkiewicz, supra, at 207-08. Any mandatory application of the exhaustion doctrine to all post-sale restraints would risk disrupting modern technology markets that rely on complex supply chains in which multiple entities, each having specialized expertise, make discrete contributions toward the design, production, assembly and distribution of a product on its path to the retail shelf.

A. Presumptive Application of the Exhaustion Doctrine Does Not Result in Double Recovery

It is sometimes argued that a patent owner may enjoy "double recovery" by using post-sale restraints to extract a royalty at two or more stages of a supply chain: for example, once when the patented article is first sold, and

again when it is resold. This line of reasoning rests on a legal misunderstanding as well as an economic fallacy.

First, the argument that the initial payment by a licensee or consumer is in fact the complete "reward" contemplated by the Patent Act makes little sense in today's economy of complex supply chains. When patent owners primarily manufactured and sold relatively simple mechanical products directly to consumers, the profit realized upon sale was essentially that needed to induce the initial invention. However, as patents covered components of products, and as patent owners worked through intermediaries to commercialize and sell inventions, this picture became more complicated—and along with it—the notion of the "reward" sufficient to induce invention and the commercialization efforts required to bring a new technology to market.

Specifically, as supply chains became more complex, manufacturers, wholesalers, retailers, and consumers may use patented goods—especially patented components—in numerous different ways and contexts, deriving different values from the same or similar underlying good. For instance, a semiconductor chip in a computer may provide much greater value than the same or similar chip in a video camera. In patent law, the optimal reward for invention will depend on the patent owner's ability to calibrate pricing in relation to the value delivered to different users of the same technology. When value varies widely along a supply chain, the initial payment will not generally lead to optimal rewards. Even if the patent owner attempts to implement differential pricing at the initial point of sale, such an approach will often unravel due to "arbitrage" behavior by higher-valuing users who masquerade as lower-valuing users, either for their own use or subsequent resales. Indeed, that is essentially the strategy employed by the purchasers in the instant case. In contrast, the ability to assess value through the entire supply chain helps to ensure that users pay for the value derived from their specific uses of the patented good.

Second, precluding the patent owner from assessing royalties at multiple points on the supply chain will typically result in the patent owner raising the initial price or license fee for the patented good to compensate for the loss of downstream profits. Specifically, any patent owner will seek to extract the profit-maximizing-which is not necessarily the highest—aggregate royalty from sales of its patented technology as that technology travels through the supply chain leading to the target consumer market. Whether that aggregate royalty is paid in a single amount, or divided into multiple payments, the profit-maximizing amount generally remains the same.3 Even assuming that a patent owner has market power, it would be selfdefeating to use that power to impose a "stack" of multiple royalties resulting in a total price for the consumer that would unduly depress demand and fail to maximize profits. Hence, preventing the patent owner from imposing patent

³ When transaction costs of patent sales or licensing are large, then the profit-maximizing amount may vary, but for patented technology delivered through supply chains, those transaction costs will generally be substantially less than the royalty and other amounts being negotiated in any particular sale or license. This is because negotiations relating to downstream use restrictions typically occur between a patent owner and sophisticated intermediaries responsible for selling patented products or services to numerous end-users. It is an infrequent situation in which a patent owner would—in addition to dealing with downstream manufacturers, wholesalers and retailers—seek to garner further royalties by transacting directly with an individual end-user.

royalties at multiple points on a supply chain will simply induce it to extract all available profits through a single payment at the point of first sale. *See* Herbert Hovenkamp, *Post-Sale Restraints and Competitive Harm: The First Sale Doctrine in Perspective*, 66 N.Y.U. Annual Survey of American Law 487, 514-515 (2011).

B. Mandatory Application of the Exhaustion Doctrine Can Harm Consumers

Arguments that exhaustion doctrine protects consumers by limiting a patentee's ability to impose multiple royalties are misguided in the sense that mandatory exhaustion typically results in fewer consumers purchasing patented technology. We agree that this smaller number of consumers who can actually afford to purchase the patented product would often prefer mandatory exhaustion to presumptive exhaustion. Specifically, because mandatory exhaustion mandates a single price, high-valuation (who will often be higherincome) consumers would typically pay less than they would be willing to pay, allowing them to retain more "consumer surplus" than under a presumptive regime. However, the additional surplus for these high-valuation consumers will frequently come at a substantial price foreclosing lower-valuation (who will often be lowerincome) consumers from purchasing the patented technology.

In the remainder of this section, we explain in more detail how consumers, and innovation markets more generally, would be *harmed* by compelling patent owners to extract all monopoly profits at the point of first sale. This can occur in four ways.

First, arbitrarily inflating the royalty paid by the initial purchaser—frequently, in modern technology markets, an intermediate user such as a component manufacturer would tend to inhibit entry by smaller and less established production and distribution intermediaries with reduced ability to bear the cost and risk associated with a significant royalty obligation. While an intermediate user may be able to pass on its royalty burden to entities located further downstream, there is no assurance that market conditions will enable it to do so. By contrast, allowing patent owners agree upon customized use restrictions with downstream users would enable patentees to reduce the royalty burden (and associated financial risk) for the initial intermediate user. This is especially so, given that the patent owner would then expect to assess royalties at other points on the supply chain (up to the aggregate royalty burden that maximizes the patent owner's profits). Artificially inflating the royalty at the point of first sale could harm consumers insofar as discouraging entry at intermediate points on a technology supply chain inhibits the competitive pursuit of the lowest-cost production and distribution processes for delivering a new technology to market.

Second, compelling patent owners to extract all available monopoly profits through a single transaction with the intermediate user that happens to be situated at the top of the supply chain will tend to result in excessively high prices for consumers as a whole. Because charging a single price at the point of first sale precludes the patent owner from customizing prices for downstream users, mandatory exhaustion will generally result in *fewer* consumers being able to purchase the patented product. In other words, in a regime of mandatory exhaustion, initial prices will tend to be set high in order for the patent owner

to maximize its profits. These high prices will persist regardless of downstream competition—which, by definition, must be profitable to occur. By contrast, in a regime of presumptive exhaustion, patent owners will tend to set prices lower, because the patent owner can recoup additional profits by charging downstream license fees to the highest-valuation users. These initially low prices increase access by *expanding* the market of available consumers. *See* Olena Ivus, Edwin L.-C. Lai & Ted Sichelman, *An Economic Model of Patent Exhaustion* (Working Paper 2017), http://ssrn.com/abstract=2921443.

Third, and related to the previous point, precluding patent owners from enforcing customized terms of use at downstream points on the supply chain, and from appropriately adjusting prices to reflect those terms of use, can operate to the particular disadvantage of lowerintensity and lower-income consumers. This outcome is illustrated by the facts of this case. As the Federal Circuit correctly observed below, see Lexmark Int'l, 816 F.3d, at 727, use of the post-sale restriction by the patent owner (Lexmark) offers consumers a choice between a lowerprice option, which involves the single-use/no-resale restriction, and a higher-price option, which does not include any such restriction. If Lexmark cannot enforce the single-use/no-resale restriction, then consumers would lose that choice since Lexmark could only offer consumers the restriction-free, but higher-priced, option. Lexmark's profit-maximizing uniform price may then be lower than its current price on the restriction-free option, that price would certainly be higher than the current price on the restricted-use option. Precluding Lexmark from enforcing post-sale use restrictions is analogous to a rule that would require airlines to offer passengers only one

class of seating ("coach" or "first class", but not both), in which case some coach passengers would most likely be priced out of the market. Similarly, in the context of patented technology markets, mandatory application of the exhaustion doctrine without the possibility of contractual waiver would almost certainly *raise* prices for some users, some of whom may then decline to purchase altogether.

Fourth, mandatory application of the exhaustion doctrine can harm consumers by inducing patent owners to avoid the doctrine through less efficient production and distribution structures. Patent owners could do so in multiple ways. Given that licenses uncoupled with sales do not trigger exhaustion, see Bloomer, 55 U.S., at 549-50, patent owners may favor production and distribution structures consisting of pure licensing—in effect, inducing patent owners to enter into a complex series of lease rather than sale transactions with downstream entities. While this mechanism could be effective in certain circumstances. this can be cumbersome and failure-prone since it compels the patent owner to effectively rely upon a sequence of licensees and sub-licensees to abide by its preferred terms of use throughout the supply chain. See John F. Duffy & Richard Hynes, Statutory Domain and the Commercial Law of Intellectual Property, 102 VA. L. REV. 1, 58-59 (2016); O'Connor, supra, at 225-27. Alternatively, patent owners can enter into deferred payment transactions that are nominally structured as leases but effectively operate as Finally, patent owners may avoid mandatory exhaustion by adopting vertically integrated structures that eliminate interaction with third-party entities in the commercialization process. That is not only a practically infeasible solution in many modern technology markets

(especially for smaller competitors) but would result in less, not more dissemination, of new technologies.

As illustrated by these examples, the arbitrary treatment of economically equivalent transactions that would result from mandatory application of the exhaustion doctrine is likely to significantly distort business planning. As a consequence, patented technologies may reach the commercial market through production and distribution structures that are unnecessarily costly, thereby increasing the price ultimately paid by consumers. It is for this type of reason that, four decades ago, this Court cautioned against "formalistic line drawing" in Continental T.V., Inc. v. GTE Sylvania, 433 U.S. 36, 59 (1977), when it rejected the differential treatment of sale and non-sale (for example, license/lease) transactions for purposes of assessing liability under the Sherman Act. While Sylvania is an antitrust decision, formalistic distinctions that lack any underlying policy rationale similarly provide an unsound foundation for this Court's application of the patent exhaustion doctrine.

C. Presumptive Application of the Exhaustion Doctrine Addresses Notice and Other Concerns

Notwithstanding the efficiencies attributable in general to post-sale restraints (a point widely recognized in this Court's decisions on vertical restraints under antitrust law, starting with *Sylvania*, 433 U.S., at 54-56), it is sometimes argued that only a blanket application of the exhaustion doctrine would conform to the common-law "rule" against restraints on alienation. This argument favors wooden formalism over a functionalist understanding of the nuanced rationale behind the exhaustion doctrine. We recognize that the common law's historical aversion to

restraints on alienation reflects a legitimate concern that post-sale restraints on patented goods may result in unfair surprise and related transaction costs for uninformed downstream users. However, in this context, it is important not to lose sight of two major qualifications to this concern.

First, as this Court observed in Sylvania, 433 U.S., at 53 n.21, and again in Leegin Creative Leather Products, Inc. v. PSKS, Inc., 551 U.S. 877, 888-89 (2007), the common-law approach is "usually associated with land" and we "should be cautious about putting dispositive weight on doctrines from antiquity but of slight relevance." *Id.*, at 888. Although there is an ongoing debate as to whether patents ought to be treated as a species of real property, even if they are, the doctrine against restraints on alienation does not prevent parties from imposing reasonable downstream use and sale limitations. See, e.g., Restatement (Third) of Property (Servitudes) § 3.5 (2000) ("(1) An otherwise valid servitude is valid even if it indirectly restrains alienation by limiting the use that can be made of property . . .(2) A servitude that lacks a rational justification is invalid."); id. § 3.4 (2000) ("A servitude that imposes a direct restraint on alienation of the burdened estate is invalid if the restraint is unreasonable. Reasonableness is determined by weighing the utility of the restraint against the injurious consequences of enforcing the restraint."). Indeed, the original rule precluded only severe restrictions, such as a blanket obligation against resale. 2 Coke, Institutes of the Laws of England § 360 (Day ed. 1812). In contrast, reasonable restrictions justified by a legitimate business

⁴ E.g., Adam Mossoff, A Simple Conveyance Rule for Complex Innovation, 44 Tulsa L. Rev. 707 (2009).

purpose were not subject to the doctrine. *Mitchel v. Reynolds*, 24 Eng. Rep. 347 (Q.B. 1711).

Second, the reasonable notice concerns reflected by the common law's distaste for restraints on alienation do not justify a mandatory application of the exhaustion doctrine. Rather, these concerns explain why the exhaustion doctrine applies presumptively in patent sale transactions. Exhaustion effectively operates as a penalty that puts the burden on the patent owner to clearly specify all use restrictions at the point of initial sale and take steps so that subsequent purchasers have adequate notice of those restrictions. If that burden is met, however, then notice concerns are mitigated or eliminated and the patent owner can enforce clearly specified, reasonable limitations against downstream users.

Notice concerns account for this Court's decisions in Quanta and General Talking Pictures, which involve similar fact patterns but reach different exhaustion outcomes. In Quanta, the patent owner failed to expressly condition the licensee's (Intel's) resale authority in the governing license agreement. Quanta, 533 U.S., at 636-37. While the patent owner did require Intel to give notice of the claimed restraints to Intel's customers, the relevant provision did not appear in the license agreement and breach of that provision did not constitute a breach of the license agreement. Id. Given the lack of any express conditionality in the specific authorizing language in the governing license agreement, the exhaustion presumption can therefore be understood to have been preserved and Intel's first sale transaction to downstream users terminated the patent owner's rights in the patented articles. By contrast (and as this Court noted in Quanta, 533 U.S., at 636), in General Talking Pictures, the license agreement specified the conditions on downstream use and users were given notice of those conditions. As a result, the exhaustion presumption was lifted and the patent owner could enforce its use restrictions against the downstream user.

The Federal Circuit followed this same presumptive approach to the facts of this case, in which the patent owner conspicuously communicated the use restrictions to the purchaser at the point of sale. Contrary to the facts in Quanta (in which this Court declined to enforce a use restriction) and like the facts in General Talking Pictures (in which this Court upheld such a restriction), the patent owner (Lexmark) clearly provided for a reasonable use limitation (the single-use/no-resale condition) at the time of sale and, as the parties stipulated, the purchasers were given notice of that limitation at the time of sale. See Lexmark Int'l, Inc., 816 F.3d, at 728 ("[I]t is undisputed that all end users receive adequate notice of the restriction supporting the discounted price ..."). Applying exhaustion to this sale would not only give the purchasers a windfall who elected the lower-priced, restricted-use version of the patent owner's product—but, more fundamentally, would impede patent owners' ability to engineer the most efficient transactional and pricing structures for delivering new technologies to consumers.

It is sometimes argued that exhaustion doctrine can be used to deter practices that are, or are closely related to, antitrust violations. For instance, in *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502 (1917), this Court applied the exhaustion doctrine to preclude the enforcement of a tying clause in a patent license against a subsequent purchaser. Similarly, in *United States v. Univis Lens Co.*, 316 U.S. 241 (1941), the Court applied the exhaustion doctrine to bar suit when a patent license provided for minimum price terms that violated antitrust

law (as then understood in governing case law⁵). Although we agree that antitrust violations or other illegal action should preclude suit, it is unnecessary to resort to exhaustion doctrine to achieve this purpose. Rather, courts can already make use of the patent misuse doctrine to police conduct that raises competitive concerns but would not necessarily be captured by the antitrust laws. See Wentong Zheng, Exhausting Patents, 63 UCLA L. Rev. 122 (2016) (proposing a rule of presumptive exhaustion coupled with a patent misuse test to screen out unreasonable restrictions). In any event, this Court should not extrapolate from its limited application of the exhaustion doctrine to bar suits grounded upon illegal anticompetitive behavior to a general per se ban on all manner of downstream restrictions, particularly when they do not present anticompetitive or similar concerns, as in the instant case.

II. Presumptive Application of the Exhaustion Doctrine Is Consistent with this Court's Precedents

This case provides an important opportunity for this Court to clarify the application of the exhaustion doctrine to conditional sales of patented articles. While this Court's

⁵ Specifically, the Court applied a rule of per se illegality against resale price maintenance clauses. This is no longer the appropriate legal standard, pursuant to this Court's decision in *Leegin Creative Leather Products, Inc. v. PSKS, Inc.,* 551 U.S. 877 (2007). Similarly, we note that, in *Univis,* this Court applied an unqualified rule of per se illegality against a tying clause. This too is no longer the appropriate legal standard, pursuant to this Court's decision in *Jefferson Parish Hosp. Dist. v. Hyde,* 466 U.S. 2 (1984).

precedents with respect to exhaustion do not provide a perfectly uniform body of case law, a presumptive understanding of the exhaustion doctrine best reflects the principles that underlie those precedents. Moreover, as explained above, the presumptive approach is the only approach that is consistent with the nuanced rationale behind the exhaustion doctrine and the practical operation of modern technology markets.

An uninformed reading of some of the language in this Court's opinions, particularly when taken out of context, might lead one to believe that exhaustion is mandatory. For instance, in Bloomer v. Millinger, 68 U.S. 340, 350 (1863), this Court remarked that "[patentees] are entitled to but one royalty for a patented machine." Yet this Court has long recognized the importance of the distinction between conditional and unconditional sales in applying the exhaustion doctrine. In Mitchell, 83 U.S., at 548, decided in 1872, this Court confined the exhaustion doctrine to unconditional sales. Referring to "patented implements or machines", this Court held that "[s]ales of the kind may be made by the patentee with or without conditions . . . but where the sale is absolute, and without any conditions, the rule is well settled that the purchaser may continue to use the implement or machine purchased until it is worn out, or he may repair or improve upon it as he pleases, in same manner as if dealing with property of any kind" (emphasis Id. Similarly, in Motion Picture Patents Co. v. *Universal Film Mfg. Co.*, 243 U.S. 502, 516 (1917), this Court held: "[T]he right to vend is exhausted by a single, unconditional sale, the article being sold thereby carried outside the monopoly of the patent law . . . " (emphasis added).

In *General Talking Pictures*, decided in 1938, this Court addressed application of the exhaustion doctrine to a fact

pattern that is similar in material part to that of the present case. Transformer Company had a license to manufacture and sell patented amplifiers solely for certain home uses. General Talking Pictures, 305 U.S., at 125-26. Transformer Company subsequently manufactured the amplifiers for commercial use in theatres. Pictures Corporation purchased the amplifiers from Transformer Company for that commercial use, knowing that the sale violated the license. Id. The Court found that the licensee (Transformer Company) had infringed the patent by violating the license, id. at 126, and that, "as Pictures Corporation ordered, purchased, and leased [the amplifiers] knowing the facts, it also was an infringer." Id. This key precedent in this Court's jurisprudence on the exhaustion doctrine stands for the proposition that a restraint set forth in a license between the patentee and an initial upstream licensee binds subsequent downstream purchasers, so long as those purchasers are made aware of the restraint (and the restraint is otherwise lawful).6

⁶ As we noted above, in *United States v. Univis Lens Co.*, 316 U.S. 241 (1941), the Court held that the exhaustion doctrine precluded enforcement of downstream limitations by the patentee against retailers and wholesalers. While that decision stands in some tension with *General Talking Pictures*, even if the Court had held that the exhaustion doctrine did not preclude enforcement of the use limitations at issue in *Univis*, any such determination would have been moot given that the Court had found those terms to be illegal under antitrust law. As such, we believe that *Univis*—as well as the Court's decision in *Motion Picture Patents*, which, also as noted above, similarly involved a clause deemed under then-governing law to be an antitrust violation—should simply be read as barring suit when the patent owner seeks to enforce terms that are otherwise

In General Talking Pictures, this Court explicitly elected not to address the related circumstance in which the patentee directly sold its product to the end-user but subject to the same use restriction. General Talking Pictures, 305 U.S., at 127. The Federal Circuit's decision below applies the reasoning behind General Talking *Pictures* to precisely this circumstance. Consistent with the distinction between conditional and unconditional sales that this Court has recognized since Mitchell, 83 U.S., at 548, the Federal Circuit held that the exhaustion doctrine does not preclude enforcement of the conditions set forth in a patent sale transaction, so long as the conditions specified at the point of sale are clearly communicated (and otherwise lawful) and adequate notice is provided to subsequent purchasers. Lexmark Int'l, Inc., 816 F.3d, at 726.

That standard, which addresses the notice concerns discussed above, is satisfied in this case. The patent owner (Lexmark) conditioned use of its patented product on the buyer's agreement to certain use restrictions, which were in turn reflected in a lower price as compared to the same product offered without those restrictions. Under *General Talking Pictures*, this outcome would necessarily result if Lexmark had structured its relationship with purchasers as

unlawful, which therefore justifies an equitable preclusion of suit. That understanding is consistent with a presumptive application of the exhaustion doctrine, which, as noted above, can only be lifted with respect to terms that are specifically communicated and otherwise lawful.

a license/lease. For the reasons described earlier, there is no plausible policy rationale that would justify treating, for exhaustion purposes, a sale transaction differently from an economically equivalent lease transaction.⁷

The Federal Circuit's presumptive application of the exhaustion doctrine in its decision below is consistent not only with General Talking Pictures but with this Court's more recent decision in *Quanta*. In Quanta, the patent owner (LGE) licensed Intel to make, use and sell components substantially embodying its patents. license agreement disclaimed any license to Intel's customers to combine those patented components with non-Intel parts. Quanta, 553 U.S. at 623. This Court nonetheless rejected the patent owner's infringement claims against Intel's downstream customers because, in the language of the license agreement, LGE had unconditionally authorized Intel's sales. Id. at 636-37. While an ancillary agreement obligated Intel to provide notice of the use restriction to downstream purchasers, the

⁷ Moreover, while we noted the potential of problematic transaction costs when a patent owner deals directly with end-consumers, *supra* note 3, there is no such concern in this case. Here, Lexmark offered end-consumers two choices: a higher-priced product with no restrictions and a lower-priced product with restrictions. These options removed any need for buyers to incur transaction costs by negotiating with Lexmark. Additionally, there is no allegation of market power in this case that would make Lexmark's effective tying of its cartridges to its ink problematic from an antitrust perspective. To the extent consumers can purchase cartridges without restrictions from other vendors, this also mitigates any concerns with transaction costs. Finally, digital transactions between patent owners and end-users have vastly decreased the transaction costs in customized contracting.

license agreement had not expressly conditioned Intel's authority to sell products embodying LGE's patents on that notice obligation. *Id.* As noted specifically by this Court, this omission distinguished the position of the patentee in Quanta from the position of the patentee in General Talking *Pictures. Quanta, supra,* at 636-37. By contrast, in this case, the patent owner (Lexmark) clearly communicated its reasonable conditions at the point of sale and those conditions were known to the subsequent purchasers. Any notice concerns are therefore moot, presumptive application of the exhaustion doctrine can be understood to be lifted, and, given the absence of any antitrust or patent misuse concerns, the patent owner can enforce the post-sale restraint. Any other result would provide a windfall to a purchaser who was fully informed as to, and paid a reduced price that reflected, that restraint.

In sum, starting with this Court's decision in *Mitchell*, *supra*, in 1872, running though *General Talking Pictures*, *supra*, in 1938, and concluding with *Quanta*, *supra*, in 2008, this Court has maintained a distinction between unconditional sales, to which exhaustion certainly applies, and conditional sales, to which exhaustion does not apply so long as the conditions are specifically communicated and are not otherwise unlawful. Critically, a presumptive application of the exhaustion doctrine addresses notice and reasonableness concerns while still providing patent owners and their supply chain partners with the flexibility to engineer production and distribution structures that can most efficiently deliver new technologies to consumers.

III. The Federal Circuit's Decision Reconciles Exhaustion Doctrine with this Court's Treatment of Similar Actions under Antitrust

This case also provides an opportunity for this Court to reconcile the treatment of post-sale restraints under patent exhaustion doctrine with the treatment of those same restraints under the antitrust laws. In Sylvania, 433 U.S., at 59, a decision issued 40 years ago and the foundation of this Court's treatment of vertical restraints under antitrust law, this Court held that non-price vertical restraints are to be treated under the same standard for purposes of determining liability under the Sherman Act, irrespective of whether any such restraint is implemented through a sale or a non-sale transaction, such as a lease. In Leegin, 551 U.S., at 877, this Court extended that reasoning to the antitrust treatment of price-based vertical restraints. These holdings rest on the self-evidently sensible view that the antitrust harm potentially caused by economically equivalent transactions should be examined under the same standard, even if those transactions are executed under different formal structures.

The same reasoning holds true in the context of the exhaustion doctrine. If this Court were to apply exhaustion doctrine in a wholesale fashion that renders unenforceable any post-sale restriction, no matter how clearly any such restriction is communicated to downstream purchasers, patent owners could still effectively implement those restraints. Specifically, the patent owner could enter into a license with an intermediary seller, whose authorization to sell the patented product is made expressly conditional upon the intermediary's advance execution of an identical

license with any subsequent purchaser, and so forth.⁸ The result would be economically equivalent, although it would increase transaction costs, contrary to the rationale behind the exhaustion doctrine.

In applying the exhaustion doctrine, the analytical touchstone should be whether the post-sale restraints were sufficiently communicated to the initial purchaser and subsequent purchasers of the patented article. Whether or not those restraints are implemented through a sale agreement, a sequence of licensing and sub-licensing agreements, a sale agreement disguised as a deferred payment license, or any number of other permutations, is immaterial from an economic perspective and should therefore be a matter of indifference from a legal perspective.

It is sometimes argued that eliminating the distinction between sale and non-sale (including lease) transactions for purposes of the exhaustion doctrine would render exhaustion doctrine superfluous. The reason given is that any post-sale restraint relating to a patented article would then always be enforceable, unless it were deemed unlawful under the antitrust laws or some other body of law. Indeed, in its decision below, the Federal Circuit states that, even if exhaustion concerns are absent, post-sale restraints must be "otherwise lawful" to be enforceable, suggesting that any such restraint must conform to applicable antitrust and other laws, *Lexmark*, 816 F.3d, at 735, citing *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700,

⁸ To ensure injunctive relief, the patent owner can contract with a third-party manufacturer, such that title to the underlying goods only transfers from the manufacturer to the intermediary seller upon execution of a restrictive license with a downstream purchaser.

703 (Fed. Cir. 1992). However, this does not mean that a presumptive approach renders the exhaustion doctrine superfluous. For example, a court could find that a post-sale restraint conforms with the antitrust laws but is unenforceable as a matter of patent law because the restraint was not clearly communicated to the initial purchaser or inadequate notice was given to subsequent purchasers. This nuanced application of the exhaustion doctrine protects users against unfair surprise while avoiding arbitrary outcomes in which patent owners' ability to enforce use limitations would depend on formalistic distinctions between sale and non-sale transactions.

IV. Contract Remedies Cannot Adequately Protect the Post-Sale Interests of Patent Owners

It is sometimes argued that, even under a mandatory application of the exhaustion doctrine, patent owners could still enforce post-sale restraints through state contract law and would therefore be adequately protected. This argument is unpersuasive. While contract law does provide patent owners with monetary remedies to enforce post-sale restraints, those remedies are not reasonably comparable to the full menu of remedies available under patent law.

There are three fundamental differences.

First, a breach of contact cause of action can only be brought against parties with whom the patent owner stands in privity. As a result, contract law provides the patent holder with no avenue by which to directly enforce post-sale restraints against subsequent purchasers after the initial authorized sale, even if those purchasers were given adequate notice of the use restrictions pertaining to the patented article. Although the patent holder can indirectly enforce post-sale restraints against subsequent purchasers through its contractual agreements with a licensee, that is a potentially cumbersome and unreliable mechanism insofar as it relies on the licensee to diligently pursue enforcement action on behalf of the patent owner.

Second, even setting aside these enforcement challenges, the patent owner's monetary award under contract law would typically be limited to expectation damages that replicate the hypothetical economic state of affairs that would have existed but for the alleged infringer's breach of the use limitations. While contract law allows parties to agree upon alternative damages measures, any such negotiating latitude is limited by the fact that contract law does not permit "penalty" damages. Moreover, absent agreement to the contrary, contract law imposes a duty on non-breaching parties (in this case, the patentee) to mitigate damages.

Expectation damages, or alternative damages measures specified by contractual agreement, could in some circumstances approximate the lost profits or reasonable royalty damages to which a patent owner is entitled under the patent statute (35 U.S.C. § 284). However, patent law provides two powerful additional remedies that do not exist in contract law. Most importantly, patent law provides a patentee with the opportunity to secure injunctive relief, subject to the fourfactor test as set forth by this Court in eBay Inc. v. MercExchange L.L.C., 547 U.S. 388 (2006). Additionally, in the case of willful infringement and other exceptional cases, a patentee has the opportunity to petition for treble damages and attorneys' fees (35 U.S.C. §§ 284, 285). Those additional remedies—in particular, the injunctive remedy—are especially critical when the patent owner is an individual or smaller firm that has significantly fewer resources to fund litigation as compared to the alleged infringer.

Third, patent actions arise under federal law and in federal courts, which promote uniformity and certainty in technology transactions. Leaving what are inherently national and international transactions that revolve around patent licenses to the differing laws of the states risks undermining the stability of markets for technology transactions and the substantial investments in research and development, as well as commercialization, that stable markets promote.

V. The Federal Circuit Properly Concluded that International Exhaustion Should Not Apply to Foreign Sales of Patented Goods

The Federal Circuit's holding in *Lexmark* restricting exhaustion to sales that occur within the physical territory of the United States is consistent with this Court's precedents. While this Court in *Kirtsaeng* extended the first-sale doctrine in copyright law to sales in foreign markets, *Kirtsaeng*, 133 S. Ct. at 1363, it did not hold, or even suggest, that its holding extended to patent law. That contrasts with *eBay Inc.*, 547 U.S., at 388, in which this Court observed commonalities between copyright and patent law with respect to the use of equitable principles in awarding injunctive relief.

In the patent context, it would be inappropriate to adopt a comparable rule that the exhaustion doctrine applies to transactions taking place outside the United States. This Court has long emphasized that, at least absent specific statutory authority, patent law has no extraterritorial scope. Specifically, the Court has stated that patent law "do[es] not, and w[as] not intended to, operate beyond the limits of the United States", *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 531 (1972) (quoting Brown v. Duchesne, 60 U.S. 183, 195 (1856)).

Although one could reasonably debate whether international exhaustion is "extraterritorial" in a purely doctrinal sense, adopting such an approach would certainly affect overseas sales activity, likely substantially. For instance, if patented pharmaceuticals sold in developing countries could be exported to the United States irrespective of any resale constraints agreed upon at the point of sale, pharmaceutical companies would have a strong incentive to raise prices in these countries in order to take into account the effect of applying the exhaustion doctrine to foreign sales. While it is possible that contractual obligations could mitigate this outcome against the immediate foreign licensee, breach of contract actions have no legal effect on subsequent buyers and, even against licensees, are far from a reliable enforcement tool if those parties have no U.S. presence or operate in jurisdictions in which contract enforcement is challenging. For developing countries in particular, this would almost certainly result in higher prices since pharmaceutical companies would anticipate that any products sold in those countries would be resold into the United States market by resellers seeking to capture the difference between lower foreign and higher U.S. prices for the same product.9

⁹ Although 21 U.S.C. § 381(d) nominally prevents the importation of patented pharmaceuticals, enforcement of this statute lies entirely with the federal government, which—as Lexmark noted below—has never brought an action against an

Additionally, this Court's decision in *Kirtsaeng* relied on a close reading of 17 U.S.C. § 109(a) (including its legislative history), which codifies copyright's first sale doctrine, which in turn expressly limits the copyright holder's exclusive distribution right. There is no such analogue in patent law. Congress has never elected to codify patent exhaustion doctrine and therefore there is no comparable statutory instruction, and accompanying legislative history, that would signal legislative intent to support any judicial extension of the doctrine to foreign sales.

If this Court were nonetheless to adopt the view that the exhaustion doctrine does extend to foreign sales, we would urge the Court to then apply a presumptive approach with respect to any such foreign sales, similar to the one we described above in the domestic context. Following this approach, a foreign sale of an article patented in the United States would be subject to the exhaustion doctrine, unless the patent holder expressly reserved its U.S. patent rights. As in the domestic context, a presumptive approach would best implement the complex rationale behind the exhaustion doctrine. protect downstream users from unfair surprise, this presumptive approach would place the burden on the patent owner to reserve its U.S. patent rights at the point of To enable patent owners to enter into first sale. customized relationships with other firms in the process of commercializing a new technology, and thereby reduce the costs ultimately borne by consumers, this presumptive approach would enable innovators and users to waive exhaustion by contract.

importer that has lawfully purchased a drug abroad to sell within the United States. In this sense, like contract law, it is not an adequate substitute for the rights afforded by patent law.

CONCLUSION

For the foregoing reasons, the decision of the Court of Appeals for the Federal Circuit should be affirmed.

Respectfully submitted,

JONATHAN M. BARNETT 699 Exposition Blvd. Los Angeles, CA 90089 (213) 740-4792 jbarnett@law.usc.edu TED M. SICHELMAN

Counsel of Record
5998 Alcala Park
Guadalupe Hall
San Diego, CA 92110
(619) 260-7512
tsichelman@sandiego.edu

February 23, 2017

APPENDIX

Amici curiae law professors are listed below. Affiliation is provided for identification purposes only, and the brief does not reflect the views of the listed institutions.

Martin J. Adelman

Theodore and James Pedas Family Professor of Intellectual Property and Technology Law Co-Director of the Intellectual Property Law Program Co-Director of the Dean Dinwoodey Center for Intellectual Property Studies George Washington University Law School

Jonathan M. Barnett

Professor of Law Director, Media, Entertainment and Technology Law Program University of Southern California, Gould School of Law

Henry N. Butler

Dean and Professor Antonin Scalia Law School George Mason University

Daniel R. Cahoy

Professor of Business Law Smeal College of Business Pennsylvania State University

James Ming Chen

Professor of Law and Justin Smith Morrill Chair in Law Michigan State University

Vincent Chiappetta

Professor of Law Director of the Law and Business Program Willamette University College of Law

Thomas F. Cotter

Briggs and Morgan Professor of Law University of Minnesota Law School

Gregory Dolin

Associate Professor of Law Co-Director, Center for Medicine and Law University of Baltimore School of Law

Richard A. Epstein

Laurence A. Tisch Professor of Law, New York University School of Law Kirstin Bedford Senior Fellow, Hoover Institution James Parker Hall Distinguished Service Professor of Law Emeritus, University of Chicago Law School

Christopher Frerking

Professor of Law Director, Patent Practice and Procedure Program University of New Hampshire School of Law

Robert W. Gomulkiewicz

UW Foundation Professor of Law Director, Intellectual Property Law & Policy Graduate Program University of Washington School of Law

Hugh Hansen

Professor of Law Director, Fordham Intellectual Property Law Institute Fordham University School of Law

Timothy R. Holbrook

Professor of Law Emory University School of Law

Christopher Holman

Professor of Law UMKC School of Law

Justin Hughes

Honorable William Matthew Byrne Professor of Law Loyola Law School Loyola Marymount University

Keith N. Hylton

William Fairfield Warren Distinguished Professor Professor of Law Boston University School of Law

Olena Ivus

Associate Professor and Distinguished Faculty Fellow of Business Economics Smith School of Business, Queen's University

Jay P. Kesan

Professor of Law H. Ross & Helen Workman Research Scholar Director, Program in Intellectual Property and Technology Law University of Illinois College of Law

Edwin L.-C. Lai

Professor of Economics Hong Kong University of Science and Technology

Anne Layne-Farrar

Vice President, CRA Adjunct Professor Northwestern University School of Law

Irina D. Manta

Professor of Law Director of the Center for Intellectual Property Law Maurice A. Deane School of Law at Hofstra University

Walter F. Matystik

Associate Provost and Professor of Law Manhattan College

Shawn P. Miller

Teaching Fellow in Law, Science & Technology Stanford Law School

Adam Mossoff

Professor of Law Antonin Scalia Law School George Mason University

Craig Allen Nard

Galen J. Roush Professor of Business Law & Regulation Director, Spangenberg Center for Law, Technology & the Arts Case Western Reserve University School of Law

Christopher M. Newman

Associate Professor of Law Antonin Scalia Law School George Mason University

Xuan-Thao Nguyen

Professor of Law Gerald L. Bepko Chair Director, Center for Intellectual Property Law and Innovation Indiana University McKinney School of Law

Sean O'Connor

Boeing International Professor of Law Director, Center for Advanced Studies and Research on Innovation Policy University of Washington School of Law

David S. Olson

Associate Professor Boston College Law School

Seth C. Oranburg

Assistant Professor Duquesne University School of Law

David Orozco

Associate Professor of Legal Studies Dean's Emerging Scholar College of Business Florida State University

Kristen Osenga

Professor of Law University of Richmond School of Law

Jillian Popadak

Assistant Professor Duke University, Fuqua School of Business

Michael Risch

Professor of Law Villanova University Charles Widger School of Law

Guy A. Rub

Associate Professor of Law Michael E. Moritz College of Law The Ohio State University

Karen E. Sandrik

Assistant Professor of Law Willamette University College of Law

Mark F. Schultz

Associate Professor of Law Southern Illinois University School of Law

Ted M. Sichelman

Professor of Law Co-Director, Center for Intellectual Property Law & Markets Director, Center for Computation, Mathematics, and the Law University of San Diego, School of Law

Toshiko Takenaka

WRF/W. Hunter Simpson Professor of Technology Law University of Washington School of Law

David O. Taylor

Associate Professor of Law Co-Director, Tsai Center for Law, Science and Innovation SMU Dedman School of Law

Liza S. Vertinsky

Associate Professor of Law Emory University School of Law

Saurabh Vishnubhakat

Associate Professor Texas A & M University School of Law Texas A & M College of Engineering

R. Polk Wagner

Professor of Law University of Pennsylvania Law School

Elizabeth Winston

Associate Professor of Law Co-Director of the Law and Technology Institute The Catholic University of America Columbus School of Law