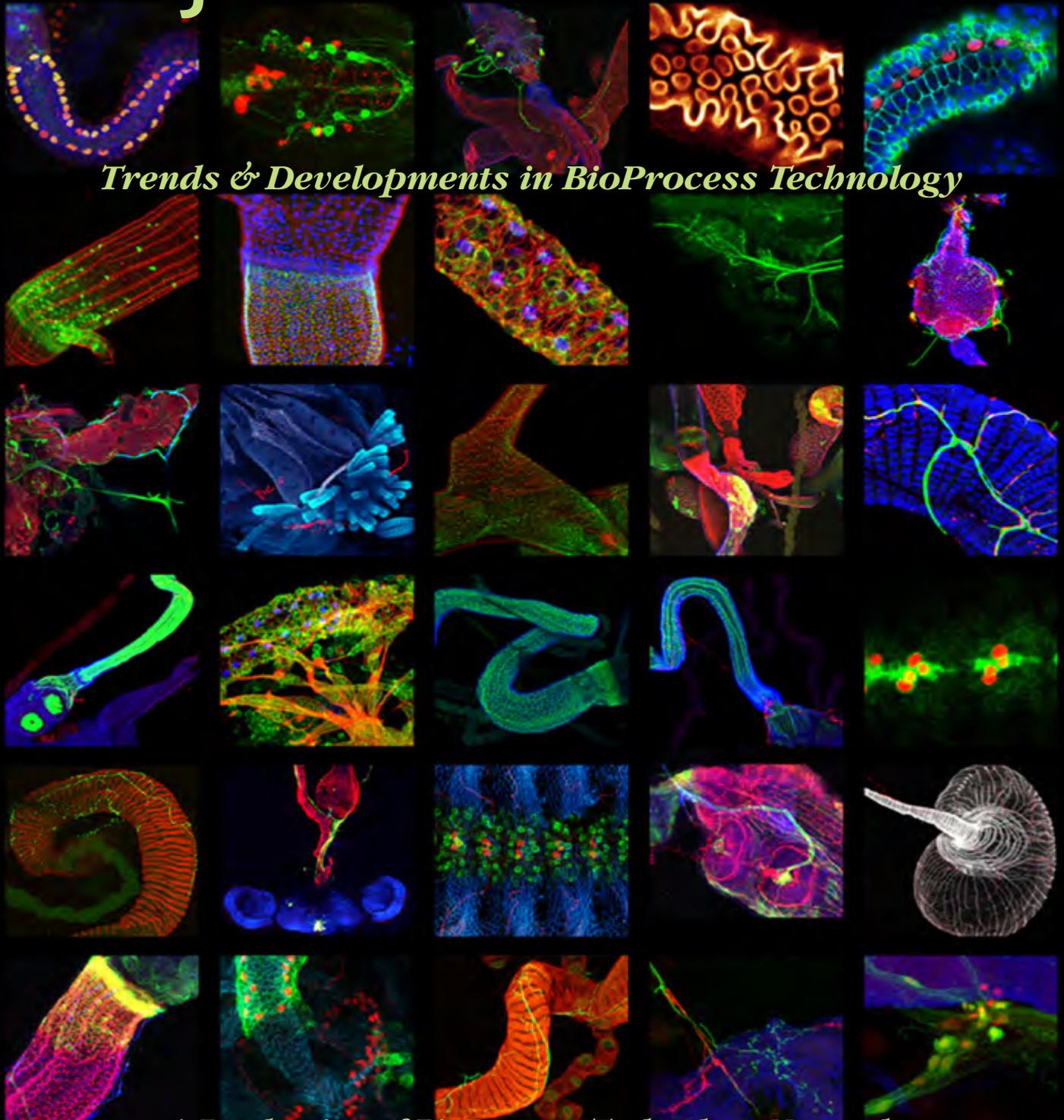


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Patent Exhaustion: A Tireless Limit on Patent Rights

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Introduction

Technology-dependent industries such as biotechnology, nanotechnology, and digital signal processing rely heavily on patent law to secure protection for innovation and ensure returns adequate to sustain costly research and development programs. It can be a daunting task to stay current with patent law in the United States, and then throughout the world, the challenges increase exponentially.

A case in point is the US, where significant patent law changes brought by the America Invents Act in 2011 are now being implemented. Beyond the revised US patent statute, seemingly lurking in the weeds, is the common law, also known as case or precedent law. One common law doctrine that can exert powerful influence over patent rights and economic behavior is the doctrine of patent exhaustion.

In February 2013, the Supreme Court heard arguments in an especially relevant patent exhaustion case, *Bowman v. Monsanto*^[1], involving genetically modified plant seed via viral vector. The article will touch on this case and then move backward in time to review several historic court judgments that have played an integral part in shaping current interpretation of the law. Lastly, *Bowman* will be revisited.



herbicide that kills many weeds—and sensitive crop plants. Oral arguments were heard before the US Supreme Court on February 19, 2013.

Pioneering the Development of the Patent Exhaustion Doctrine

The seemingly straightforward principle underlying the patent exhaustion doctrine, that patent rights are exhausted upon an authorized sale, at least if that sale is unconditional, was announced more than 150 years ago in *Bloomer v. McQuewan*^[2] by Chief Justice Taney, five years before he penned the opinion in *Dred Scott v. Sandford*.^[3] As noted above, the doctrine continues to influence judicial decisions despite the vast changes in American society since that time. In that 1852 case, Chief Justice Taney reasoned that an unconditional sale of a patented planing machine during the original patent term forever exhausted all control over that machine by the patentee, notwithstanding a subsequent extension of patent term. Thus, during the original 14-year patent term, McQuewan purchased the right to make and use four planing machines without any limit on the time he could make or use the machines. The Court concluded that Bloomer lacked the patent right to exclude McQuewan from continuing to use the four planing machines during the patent extension period. Beyond the extension period, of course, McQuewan would be free to continue using the planing machine (and to make more) because the patent would have expired. *McQuewan* was straightforward in that the planing machines were sold by the patentee without any restrictions.

Conditional Sales

The 1873 case of *Adams v. Burke*^[4] raised the issue of conditional sales. Adams held a patent on coffin lids and he licensed others to make and sell the lids in defined areas of the US. One such licensee had territory within a ten-mile radius outside of Boston. Burke, a funeral director, bought some of these lids within the ten-mile radius and promptly

Self-Replicating Technologies

The latest high-profile case involving interpretation of the patent exhaustion doctrine is *Bowman v. Monsanto*^[1], a case that requires application of the doctrine to patented Roundup Ready[®] soybean crop plants. The Roundup Ready plants are resistant to Roundup[®], a broad-spectrum

shipped them for use in his Boston funeral home. *Adams* suit for infringement failed because the licensee abided by the license agreement and Burke purchased the lids without limiting his use of the lids to that territory. The *Adams* licensee was restricted to sales within a particular area. That restriction was not violated, however, and once Burke purchased the lids, he was free to use the lids anywhere.

Improper Restrictions

Improper restrictions typically involve patent misuse and antitrust improprieties such as price-fixing or tie-ins. For example, placing a threshold on resale pricing was held to be illegal in several cases.^[5-7] Similarly, in 1917, *Motion Picture Patents Co. v. Universal Film Mfg. Co.*^[8], the licensing of a patented movie projector on the condition that only the patentee's movies be shown was found to involve an illegal tie-in. Under these circumstances, the courts held the patent claims to be exhausted for failure to permissibly limit the sale of patented goods.^[9] The Motion Pictures Patents Court further explained that tying the patented projector to patentee's films extended patentee's monopoly beyond the scope of its patent claims. These cases are consistent with the principle that patent rights will not be exhausted by sales of patented products that are conditioned in ways that do not violate any law and do not extend the scope of exclusion beyond the scope of the patent claims.

Single-Use Restrictions

In cases decided after *McQuewan* and *Adams*, the courts have addressed the exhaustion of product claims, arriving at the principle that sales conditioned by restrictive licenses are legal if the restriction itself is not violative of the law.^[10]

For example, a license to make and sell radio amplifiers for use in home radios, does not exhaust the patentee's right to exclude others from using the amplifiers in devices other than home radios. In like manner, with *Mallinckrodt, Inc. v. Medipart, Inc.*^[11] (1992), the Court of Appeals for the Federal Circuit held that a single-use restriction on properly marked medical devices did not exhaust patent rights in the device because the restriction to single-use was reasonable on health and public welfare grounds, and the restriction did not extend the patentee's dominion beyond the scope of the patent claims.

Incomplete Technologies

The courts have also considered the effects of the patent exhaustion doctrine on incomplete products. The term "incomplete product" is not an inoperable product but rather, a product that is not quite a patented item (*i.e.*, a product that requires some final modification, which may be fairly trivial, in order to fall within the scope of a patent claim). The real question is whether sale of an incomplete

product can exhaust a patentee's rights to the product itself. Where the incomplete product can be converted to the complete product using conventional, well-known processes, and where the incomplete product exhibits essential feature(s) of the complete product (as claimed in the patent), sale of the incomplete product can exhaust patent rights in the complete patented article.

In *Univis*^[12] (1942), the authorized sale of eyeglass lens blanks exhausted patent rights in multi-focal eyeglass lenses because only conventional grinding was required to convert the blanks to finished lenses. *Univis* is also noteworthy in applying the patent exhaustion doctrine to method claims.

Refining the Boundaries Further

The doctrine of patent exhaustion provides that an authorized sale of a product defined by a valid patent claim exhausts or ends the patentee's control over that product, at least if the sale is unconditional. Although the doctrine makes sense and seems simple, it has been shaped by a steady stream of appellate court cases over the years.

Quanta Computer, Inc. v. LG Electronics, Inc.^[13] (2008) involved patent claims defining inventions that were data processing systems and methods, comprised of apparatuses, control units, and methods for synchronizing or otherwise coordinating signal transmissions in data processing devices such as computers. The patentee, LG Electronics, Inc. (LGE), licensed Intel Corporation to make, use, sell, offer to sell, import, or otherwise dispose of microprocessors and chipsets (*e.g.*, auxiliary chips controlling peripherals) embodying the patented LGE technology. The agreement between LGE and Intel expressly stated that no license was granted to a third party to combine the Intel® chips with other non-Intel technology and devices such as memory modules and chips, wiring buses, and peripherals for use in the manufacture of data processing devices such as personal computers. Quanta bought the chipsets from Intel and made computers incorporating Intel and non-Intel chips and other materials leading LGE to sue Quanta for patent infringement.

The district court issued summary judgment in favor of Quanta.^[14] The court first reasoned that the Intel chips sold to Quanta had no reasonable non-infringing use and, therefore, the sale of those chips was a sale of patented items for purposes of applying the patent exhaustion doctrine. Moreover, in view of the unrestricted nature of the license LGE granted to Intel, the manufacture and sale of chips by Intel exhausted LGE's patent rights in those products. Subsequently, the court limited its ruling by holding that exhaustion applied to claims defining patented product, apparatus, or system inventions (*e.g.*, a computer system) but not to claims defining method inventions that LGE was asserting.^[15]

On appeal, the Court of Appeals for the Federal Circuit agreed with the district court that patent exhaustion did not apply to method claims. With respect to LGE's system claims, the appellate court explained that LGE's patent rights arising from these claims were not exhausted because LGE had not licensed Intel to sell the patented chips embodying the systems to Quanta for use with non-patented chips. At Quanta's request, the US Supreme Court granted certiorari^[16], a writ seeking judicial review.

The Supreme Court's decisions continues to refine the boundaries of the patent exhaustion (or first sale) doctrine. *Quanta* clarified that patent exhaustion was applicable to method claims as well as to product claims.^[17] In addition, the Supreme Court case confirmed that the sale and transfer of ownership of a product that does not literally fall within the scope of any asserted patent claim can still trigger patent exhaustion as to the product sold. The products may be manufacturing intermediates or complete products, but they lack at least one feature required of a patented invention, as defined by a patent claim. These "incomplete products" can exhaust patent rights relating to that product upon an authorized sale if they are determined to contain essential features of a patented invention and to have no reasonable non-infringing purpose.

The Supreme Court found that Intel's integrated circuit chips had only one reasonable and intended use (as described earlier) and the Intel chips incorporated an essential feature of the invention. As a consequence, the Intel chips embodied the patented data processing system. Further, the Court reasoned that the licensed Intel chips also embodied the patented methods. Thus, sale of the Intel chips involved the sale of a patented item (data processing systems and methods) for purposes of the exhaustion doctrine. In other words, sale of an Intel chip embodying the patented data processing system was deemed a sale of the patented system itself for purposes of assessing patent exhaustion. The unrestricted nature of the license granted by LGE to Intel to make and sell those chips exhausted the patentee's rights in its patented data processing systems. In reaching this conclusion, the Court relied on the LGE-Intel license agreement which did not restrict Intel's ability to sell chips, although it provided that third-party purchasers of those chips were not free to combine the Intel chips with unlicensed materials. Thus, LGE did not authorize Quanta's use of the Intel chips, but that point was moot in view of the prior exhaustion of LGE's patent rights upon first sale of the chips from Intel to Quanta. Intel was a licensee free to sell the chips in an unrestricted manner and, once chips were purchased from Intel, Quanta could do what it wished with the chips without concern for LGE's patents.

Quanta significantly advanced understanding of the patent exhaustion doctrine in clarifying that the doctrine

applied to method claims. *Quanta* also highlighted the importance of license agreements and their capacity to frustrate the goals of a licensing patentee.

Quanta serves as a case-in-point illustrating that the patent exhaustion doctrine can create a minefield to be crossed in structuring business transactions that involve patented technologies. The seemingly simple proposition of the doctrine, that patent rights no longer attach to a patented item that is the subject of an authorized sale, at least if that sale is unrestricted, has led many to a false sense of its proper application, including the district and lower appellate courts considering the issue in *Quanta*. And *Quanta* is far from the first case to reveal the subtle complexities of the doctrine. Given the clear relevance of the patent exhaustion doctrine to patented methods as well as patented products, and given the importance of patents to technology-based industries such as biotechnology, it would be prudent to obtain a full understanding of the doctrine and its potential effects on business relationships.

Self-Replicating Technologies

Bowman v. Monsanto^[1] has attracted wide interest with 22 amicus briefs filed by non-party individuals, companies, groups, and the government with the Court. The essential facts of the case are that Monsanto provided Roundup Ready seed to farmers subject to a Technology Agreement allowing the seeds to be planted for one crop, but allowing unrestricted sale of progeny seed to grain elevators. Mr. Bowman, a farmer, bought and sowed grain elevator mixed seed that contained some Roundup Ready seed. Monsanto then sued for infringement of its Roundup Ready patents, which defined chimeric genes (a nucleic acid encoding a resistant protein joined to a strong viral promoter to maximize protein expression) and plant cells containing those chimeric genes.

In his brief before the Court, Bowman argued that "[t]his Court's long-standing patent-exhaustion doctrine delimits a patentee's statutory rights following an authorized sale of the invention."^[18] In support, Bowman asserted that "*Monsanto makes no attempt to control sales made by farmers of their Roundup Ready progeny seeds to grain elevators . . . [and] Monsanto also authorizes grain elevators to sell Roundup Ready progeny seeds as part of the undifferentiated mixture of grain available for purchase.*"^[19] In response, Monsanto asserted that "*[t]he soybeans petitioner grew were never the subject of any sale, let alone an exhausting one.*"^[20] Monsanto further argued that its "*rights in the soybeans petitioner grew were not exhausted: Those soybeans had never been sold and patent exhaustion does not authorize making new articles. As the United States agreed (Br. at 32), the Court therefore need not reach any of petitioner's contentions that Monsanto's rights in prior generations of soybeans were exhausted, either*

because Monsanto authorized farmers to sell harvested soybeans to grain elevators as commodities, or because farmers purchased soybean seeds from seed dealers in authorized sales.”^[21] Concerning the issue of making new patented articles, Bowman stated that “it was the planted soybean, not Bowman, that ‘physically connected’ [or made] all elements of the claimed invention into an ‘operable whole.’”^[22] The Federal Circuit characterized the claimed inventions at issue as “the use of viral nucleic acid from the cauliflower mosaic virus (“CaMV”), a virus capable of infecting plant cells, as a vector for incorporating new genetic material into plant cells” (US Pat. No. 5,352,605) and “[t]he invention of the ‘247E Patent involves the transformation of plant cells—using, for example, the CaMV promoters disclosed in the ‘605 Patent—to transform plant cells with novel protein-encoding gene sequences that encode for EPSPS, a glyphosate-tolerant [or Roundup®-tolerant] enzyme.” (US Reexamination Certificate No. RE65,247.)^[23]

Beyond the sale of progeny seed and whether anyone made additional patented articles, the parties also disagreed on the nature of the transaction involving the first-generation seeds provided by Monsanto to Mr. Bowman. Bowman asserted that “[a]n authorized sale by the patentee or by a person having rights under the patent results in a lawful title transfer of the product sold and, in the case of self-replicating items, the byproducts of their use.”^[24] Emphasizing the point, Bowman stated that “[t]hese principles apply with equal force to all progeny seeds grown from lawfully purchased seed . . .”^[25] Monsanto countered, maintaining that “the Monsanto Technology Agreement [between Monsanto and each farmer receiving Roundup Ready® seed] expressly states

that it does not authorize farmers to ‘save any crop produced from the seed for replanting, or supply any seed to anyone for replanting’—the very rights at issue in this case.”^[26] And with respect to these first-generation seeds and Bowman’s contention that an authorized sale, restricted or not, exhausted patent rights, Monsanto noted that “[t]his Court has never adopted petitioner’s per se rule against the enforcement of any license restriction after a sale. Instead, the Court has only applied the patent exhaustion doctrine to void restrictions that resulted in improper tying or price fixing.”^[27] Bowman countered that “the Federal Circuit adopted an improperly narrow reading of this Court’s exhaustion decisions, concluding that post-sale restrictions only trigger exhaustion in cases raising antitrust or patent-misuse concerns.”^[28] Extending his comments directed at the appellate court that held in favor of Monsanto on summary judgment, Mr. Bowman argues that “[t]he Federal Circuit created an impermissible exception to the exhaustion doctrine for self-replicating technologies, holding that ‘[a]pplying the first sale doctrine to subsequent generations of self-replicating technologies would eviscerate the rights of the patent holder.’”^[29]

The parties’ thorough treatment of the issues raised in applying the patent exhaustion doctrine to self-replicating technologies, and the persistence shown by the parties in contesting these issues all the way to the Supreme Court, signal the importance of the case to each party. Beyond the parties, moreover, the filing of 22 amicus briefs indicates widespread interest in the upcoming decision in *Bowman v. Monsanto*, an interest shared by the bioprocessing industry and other industries associated with self-replicating technologies.

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[2] 55 US 539 (1852).
[3] 60 US 393 (1857).
[4] *Adams v. Burke*, 84 US 453 (1873).
[5] *Bauer & Cie. v. O’Donnell*, 229 US 1 (1913).
[6] *Straus v. Victor Talking Machine Co.*, 243 US 490 (1917).
[7] *Boston Store of Chicago v. American Graphophone Co.*, 246 US 8 (1918).
[8] 243 US 502, 37 S.Ct. 416, 61 L.Ed. 871 (1917).

[9] Interestingly, none of the courts considering *Quanta* maintained that limiting third-party use of the Intel® chips to association with specified additional components amounted to an illegal tie-in arrangement.
[10] *General Pictures Co. v. Electric Co.*, 305 US 124 (1938).
[11] *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700 (Fed. Cir. 1992).
[12] *US v. Univis Lens Co.*, 316 US 241 (1942).
[13] 128 S.Ct. 2109 (2008).

[14] *LG Electronics, Inc. v. Asustek Computer, Inc.*, 65 USPQ.2d 1589 (N.D. Cal. 2002).
[15] *LG Electronics, Inc. v. Asustek Computer, Inc.*, 248 F.Supp.2d 912 (N.D. Cal. 2003).
[16] *LG Electronics, Inc. v. Asustek Computer, Inc.*, 128 S.Ct. 28 (2007).
[17] *Id.*, at 2117-2118.
[18] Pet. Br. at 17-18.
[19] Pet. Br. at 32.
[20] Resp. Br. at 18 (emphasis

in original).
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[22] Pet. Br. at 42.
[23] *Monsanto Co. v. Bowman*, 657 F.3d 1341, 1343 (Fed. Cir. 2011).
[24] Pet. Br. at 43.
[25] Pet. Br. at 44.
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