
In The
Supreme Court of the United States

—◆—
VERNON HUGH BOWMAN,

Petitioner,

v.

MONSANTO COMPANY, ET AL.,

Respondents.

—◆—
**On Writ Of Certiorari To The
United States Court Of Appeals
For The Federal Circuit**

—◆—
**BRIEF OF *AMICI CURIAE* THE AMERICAN
ANTITRUST INSTITUTE, NATIONAL FARMERS
UNION, FOOD & WATER WATCH, ORGANIZATION
FOR COMPETITIVE MARKETS, AND
NATIONAL FAMILY FARM COALITION
IN SUPPORT OF PETITIONER**

—◆—
SHUBHA GHOSH
Professor of Law
UNIVERSITY OF WISCONSIN
LAW SCHOOL
975 Bascom Mall
Madison, WI 53706
(608) 262-1679
ghosh7@wisc.edu

PETER CARSTENSEN
Professor of Law
UNIVERSITY OF WISCONSIN
LAW SCHOOL
975 Bascom Mall
Madison, WI 53706
(608) 263-7416
pccarste@wisc.edu

December 10, 2012

ALBERT A. FOER
Counsel of Record
President
RANDY M. STUTZ
Senior Counsel
AMERICAN ANTITRUST
INSTITUTE
2919 Ellicott Street, N.W.
Washington, D.C. 20008
(202) 276-6002
bfoer@antitrustinstitute.org

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INTEREST OF *AMICI CURIAE*

The American Antitrust Institute (AAI) is an independent and nonprofit education, research, and advocacy organization devoted to advancing the role of competition in the economy, protecting consumers, and sustaining the vitality of the antitrust laws.¹ See www.antitrustinstitute.org. The goals of U.S. competition policy could be seriously undermined if the Federal Circuit's decision is not overturned because the court's holding expands patent rights for self-replicating technologies despite the contrary mandate of this Court's first sale doctrine and the availability of contract law to govern post-sale use restraints. The first sale doctrine allows contract law to govern post-sale restrictions on the use of products embodying patented components because contract law best reconciles the contrasting methods by which the patent and competition laws serve the complementary policy goals of fostering innovation and creating free and open markets.

¹ The written consents of all parties to the filing of this brief have been lodged with the clerk. No counsel for a party has authored this brief in whole or in part, and no such counsel or party made a monetary contribution intended to fund the preparation or submission of this brief. No person or entity other than *amici curiae* has made a monetary contribution to its preparation or submission. The AAI is managed by its Board of Directors, with the guidance of an Advisory Board that consists of over 130 prominent antitrust lawyers, law professors, economists, and business leaders. The AAI's Board of Directors alone has approved this filing for the AAI. The individual views of members of the Advisory Board may differ from the AAI's positions.

Food & Water Watch is a national, nonprofit consumer organization that works to ensure the food, water and fish we consume is safe, accessible and sustainably produced. Food & Water Watch advocates for practices and policies that will result in sustainable and secure food systems that provide healthy food for consumers and an economically viable living for family farmers and rural communities.

The National Family Farm Coalition (NFFC) represents family farm, fishing, and rural groups in 30 states. NFFC strives to empower family farmers by promoting a socially just farm and food policy. NFFC members have worked to promote food security, access to USDA programs, environmental protection, economic security, and long-term stability for family farmers and their communities.

The National Farmers Union (NFU), officially called the Farmers Educational and Cooperative Union of America, was founded in 1902. NFU is a general farm organization with a membership of nearly 300,000 farm and ranch families throughout the United States. NFU is a federation, with the presidents of the 23 state and one regional (covering three states) Farmers Union organizations serving as its board of directors. For nearly 100 years, NFU's primary goal has been to sustain and strengthen family farm and ranch agriculture. NFU believes that a vibrant agricultural sector is the foundation for strong farm and ranch families and thriving rural communities. These vibrant rural communities, in

turn, are vital to the health and economic well-being of the entire U.S. economy.

The Organization for Competitive Markets (OCM) is a national nonprofit, public policy research organization headquartered in Lincoln, Nebraska which advocates for open and competitive agriculture and retail markets. Its members are farmers and ranchers, some of whom produce natural or organic food for the natural foods industry. OCM has testified before Congress and filed *amicus* briefs on numerous competition issues.



SUMMARY OF ARGUMENT

Patent law and antitrust law pose an inherent tension. One facilitates monopoly and limits competition while the other facilitates competition and limits monopoly. Nonetheless, the two legal regimes share similar end goals. The goal of patent law is to incent innovation and the goal of antitrust law is to facilitate innovation and competition in the marketplace. Mindful of the need to balance these contrasting means to complementary ends, courts have always endeavored to construe patent law and competition law consistently. This Court provided one of the primary tools for seeking that balance and consistency over a century ago when it announced the first sale doctrine, which holds that “when the patentee . . . sells a machine or instrument whose sole value is in its use, he receives the consideration for its use and

he parts with the right to restrict that use. The article passes . . . without the limit of the monopoly.” *Adams v. Burke*, 84 U.S. 453, 456 (1873).

Patent law grants inventors only limited rights to control the distribution of products embodying their inventions. The first sale doctrine creates a bright-line rule that ensures purchasers of these works can further transfer these items without interference from the original creator. In this way, the first sale doctrine promotes an active and vibrant marketplace for works created through the benefit of the patent system and is therefore integral to reconciling our national patent and competition policy values. Absent the first sale doctrine, actual or potential interferences from the original creator would only serve to raise transaction costs and create impediments to free and open markets.

When patentees have sought to expand the scope of the patent monopoly, this Court has always refused to carve out exceptions to the first sale doctrine, including most recently in *Quanta Computer, Inc. v. LG Elecs., Inc.*, 553 U.S. 617 (2008). In *Quanta* this Court overturned the Federal Circuit’s judicially crafted exception to the first sale doctrine for method patents, holding instead that “[t]he authorized sale of an article that substantially embodies a patent exhausts the patent holder’s rights and prevents the patent holder from invoking patent law to control postsale use of the article.” *Id.* at 638.

In the case now before the Court, the Federal Circuit has repeated its error by creating an exception to the first sale doctrine for self-replicating technologies. Because the Federal Circuit has allowed a patentee to invoke patent law to control the post-sale use of self-replicating technologies, it has broken with this Court's precedent and thwarted long-standing congressional patent policy. The Federal Circuit's opinion should be overturned and post-sale use restraints on products embodying patent components should be governed by contract law, which best manages to protect the parties' interests and the public's interest in meaningful judicial review of trade restraints. The competitive dynamics of the soybean seed industry illustrate the importance of allowing contract law to play its proper role.



ARGUMENT

I. A PATENT EXHAUSTION EXCEPTION FOR SELF-REPLICATING TECHNOLOGIES IS INCONSISTENT WITH THIS COURT'S PRECEDENT AND THE COMPETITION POLICIES REFLECTED IN THE FIRST SALE DOCTRINE.

Quanta affirmed the long-recognized patent exhaustion doctrine, also known as the first sale doctrine. Citing its precedents at the intersection of antitrust and patent laws, the Court stated the first sale doctrine broadly, holding that “[t]he authorized sale of an article that substantially embodies a patent

exhausts the patent holder's rights and prevents the patent holder from invoking patent law to control postsale use of the article." *Id.* Such a broad holding does not countenance exceptions, and for reasons discussed below, the holding is particularly adverse to exceptions based on *sui generis* and statutorily non-cognizable categories of technology. By carving out such an exception for self-replicating technologies, the Federal Circuit has contravened this Court's clear and unqualified precedent.

A. The Federal Circuit Improperly Created an Exception to the First Sale Doctrine for Self-Replicating Technologies.

Although the Federal Circuit states that the first sale doctrine is "inapplicable" to this case, *Monsanto Co. v. Bowman*, 657 F.3d 1341, 1347 (Fed. Cir. 2011) (citing *Monsanto Co. v. Scruggs*, 459 F.3d 1328 (Fed. Cir. 2006) and *Monsanto Co. v. McFarling*, 302 F.3d 1291 (Fed. Cir. 2002)), the court's holding invariably creates, *sub silentio*, an exception to the first sale doctrine for self-replicating technologies. To be sure, this Court has held that *licensing* an article that substantially embodies a patent does not prevent the patent holder from invoking patent law to control the use of the article beyond the scope of the license.²

² *Amici* agree with the petitioner that any suggestion that Monsanto's disposition of seed is a license and not a sale lacks merit. A "license" or "opportunity" to "*purchase*" is a sale. *See* Brief
(Continued on following page)

See, e.g., Aro Mfg. Co. v. Convertible Top Replacement Co., 377 U.S. 476 (1964) (remaking convertible tops exceeded scope of licensed use). Likewise, any conveyance of the right to use an article that substantially embodies a patent – whether by license or sale – does not limit the patent holder’s right to invoke patent law to control the subsequent *reconstruction* of the article or the patented component. *See Jazz Photo Corp. v. ITC*, 264 F.3d 1094 (Fed. Cir. 2001). However, this Court has always held unequivocally that “[t]he authorized *sale* of an article that substantially embodies a patent . . . prevents the patent holder from invoking *patent law* to control postsale *use* of the article.” *Quanta*, 553 U.S. at 638 (emphases added). In construing the first sale doctrine, this Court has never held otherwise.

Notwithstanding this Court’s clear precedent, the Federal Circuit’s holding in *Bowman* inevitably permits Monsanto to invoke patent law to restrict the post-sale use of seeds that substantially embody

for Petitioner Vernon Hugh Bowman at 31, *Bowman v. Monsanto Co.*, No. 11-796 (Dec. 3, 2012). To conclude otherwise would be to “distort contract law beyond recognition. . . . [T]he approach allows a patentee to use labels . . . to take what a buyer would reasonably think was an unrestricted sale and convert it, after the sale, to a restrictive license.” Mark R. Patterson, *Must Licenses Be Contracts? Consent and Notice in Intellectual Property Law*, 40 Fla. St. U. L. Rev. ____ (forthcoming Feb. 2013), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2009934.

Monsanto's '605 and '247E patents after an unconditional sale of those seeds to farmers.³ The '605 and '247E patents read on a type of gene and a type of synthase, respectively.⁴ *Bowman*, 657 F.3d at 1343-44. A gene is a molecular unit of heredity, and a synthase is an enzyme that catalyzes the synthesis of a substance. It is uncontested that Roundup Ready® (RR or RR1) seeds substantially embody the patented gene and the patented synthase (hereinafter “genetic material” or “gene strain”), see Brief of Respondents Monsanto Co., et al. at 1-7, *Bowman v. Monsanto Co.*, No. 11-796 (Feb. 27, 2012) (referring repeatedly to “seed containing Monsanto’s technology” (emphasis added)), as well as a multitude of other genes, enzymes and matter intrinsic to soybean seeds generally. Likewise, it is uncontested that Monsanto transfers its seed and the underlying patented technology to growers without restrictions on their rights to subsequently re-sell

³ The Federal Circuit found, and the parties do not dispute, that purchasers of Monsanto’s Roundup Ready seed acquire authorization (without restriction) to subsequently re-sell progeny seed to grain elevators as a commodity. *Bowman*, 657 F.3d at 1345 (quoting Monsanto appellate brief describing explicit authorization “to sell . . . as a commodity”) (emphasis in original).

⁴ In describing “representative claims” of the 247E patent, the court emphasized claims on “a plant” and “a seed of the plant” to illustrate “breadth of coverage,” *Bowman*, 657 F.3d at 1344, but the court did not observe that these claims are dependent claims, see *id.*, and therefore *limit* the scope of the claims to which they refer. See Manual of Patent Examining Procedure, 37 CFR § 1.75(c) (“One or more claims may be presented in dependent form, referring back to and further limiting another claim or claims in the same application.”).

the progeny seed to grain elevators as a commodity. *See supra* note 2; *Bowman*, 657 F.3d at 1345 (quoting concessions at oral argument by Monsanto’s counsel and concluding that this is the “only permissible reading of the Technology Agreement”).

Insofar as the Federal Circuit has held that self-replicating RR seeds purchased from grain elevators cannot be used for planting without also infringing on the patented gene and synthase,⁵ *a fortiori* it has held that the authorized sale of self-replicating RR seeds that substantially embody Monsanto’s ’605 and ’247E patents *does not* prevent Monsanto from invoking *patent law* to control the *post-sale use* of self-replicating RR seeds. Although the parties may dispute whether planting seed is also tantamount to “making” new seed – *amici* believe it is not – there is no dispute that planting constitutes “use.” *See* Brief of Respondents at 11, (“To be sure, when a farmer plants soybean seed to create a new crop of soybeans, he *uses* the seeds. . . .”) (emphasis added). Accordingly, the Federal Circuit’s holding directly conflicts with the first sale doctrine that this Court has repeatedly affirmed, including most recently in *Quanta*. The Federal Circuit has not avoided the first sale doctrine but rather has created an exception to the doctrine for self-replicating soybean seeds. By its terms the

⁵ *See Bowman*, 657 F.3d at 1347 (“[O]nce a grower, like Bowman, *plants* the commodity seeds containing Monsanto’s [RR] technology *and the next generation of seed develops*, the grower has created a newly infringing article.”) (emphases added).

holding extends to any self-replicating technology. *See also Scruggs*, 459 F.3d at 1336. As discussed below, the Federal Circuit has repeated the same error it made in its *Quanta* decision, reversed by this Court.

B. This Court in *Quanta* Correctly Rejected Limitations on the First Sale Doctrine for Products Embodying Transitive Patented Technology.

The Federal Circuit's holding in *Bowman* closely parallels its holding in *Quanta*, which this Court reversed. Although *Quanta* concerned patented computer technology and *Bowman* patented gene technology, in both cases the Federal Circuit created an exception to the first sale doctrine owing to the transitive nature of the patented technology embodied in the product sold. In *Quanta*, the Federal Circuit was concerned with the effect on the patentee of downstream re-use of repeatable patented methods after an authorized sale, *see LG Elecs., Inc. v. Bizcom Elecs., Inc.*, 453 F.3d 1364, 1370 (Fed. Cir. 2006), and here the court was concerned with the effect on the patentee of downstream re-use of replicable patented genetic matter after an authorized sale, *see Bowman*, 657 F.3d at 1347-48. In deciding *Bowman*, the court repeated the reasoning that “[a]pplying the first sale doctrine to subsequent generations of self-replicating technology would eviscerate the rights of the patent holder.” *Id.* at 1347 (citing *Scruggs*, 459 F.3d at 1336).

This Court’s *Quanta* decision expressly overruled the Federal Circuit’s *Quanta* decision and flatly rejected an exception to the first sale doctrine for repeatable process or method claims because “the primary purpose of our patent laws is not the creation of private fortunes for the owners of patents but is to promote the progress of science and useful arts.” *Quanta*, 553 U.S. at 626 (internal quotation omitted). An exception for process or method claims “would violate the longstanding principle that, when a patented item is ‘once lawfully made and sold, there is no restriction on [its] use to be implied for the benefit of the patentee.’” *Id.* at 624 (citing *Adams v. Burke*, 17 Wall. 453, 457 (1873)); see also *Ethyl Gasoline Corp. v. United States*, 309 U.S. 436 (1940) (finding exhaustion of process patent). This Court based its reversal of the Federal Circuit in *Quanta* on the principle that the first sale doctrine is broad enough to encompass all types of technologies covered by patents, whether process or product, replicable or non-replicable.

C. The Federal Circuit Ignored Precedent and Used Faulty Logic to Distinguish *Quanta*.

In creating an exception to the first sale doctrine for the *sui generis* category of self-replicating technologies, the Federal Circuit ignored precedent and relied on faulty logic in attempting to distinguish *Quanta*. First, the court held that planting was not the only reasonable and intended use of the seed, and therefore commodity seed does not substantially

embody second and later generations of seed. The court suggested other uses of commodity seed, including as animal feed. Second, the court characterized the reproduction from the seed of a new plant as a “making” of a new article, infringing the patent owner’s right to exclude others from making the patented invention. Consequently, the court rejected the exhaustion argument because the patented technology reproduces when the seed reproduces. The application of the patent exhaustion doctrine to such a technology, the Federal Circuit concluded, would eviscerate patent rights over such technology.

The Federal Circuit first erred by relying on alternative uses for ‘commodity RR’ seed, including as feed, to conclude that planting is not the “only reasonable and intended use” of such seed. *Bowman*, 657 F.3d at 1348. The existence of alternative non-infringing uses for ‘commodity RR’ seed beyond planting is irrelevant because “*Univis* teaches that the question is whether the product is capable of use only in *practicing the patent*, not whether those uses are infringing.” *Quanta*, 553 U.S. at 631, n.6 (emphasis added) (internal quotation omitted); see *U.S. v. Univis Lens Co.*, 316 U.S. 241, 249 (1940) (holding that the only reasonable and intended use of patented lens blanks was for inclusion in fitted lenses notwithstanding that lens blanks can be put to non-infringing uses as replacement parts, for sale overseas, or for recycling).

A seed does not have to grow into a plant and resist actual glyphosate applications to practice the

patent on a genetic trait for glyphosate resistance any more than a Timex wristwatch must actually use a Timex patent on a system for displaying LCD “hands” in order to practice that patent. *See* U.S. Patent No. RE31,872 (filed April 23, 1985). For example, suppose that a wristwatch embodying that patent had two display modes, one that displayed analog “hands” using the patented system and another that displayed the time digitally, without using the patented system. A sale of a wristwatch embodying the patent would exhaust the patentee’s rights even if a user could choose to operate it only in the digital mode. Patents that are completely embodied by products are fully capable of being practiced *within* those products. A *genetic trait* is practiced within a seed when the seed simply *exhibits* the trait.

The court here hardly needed to scour the record, *see Bowman*, 657 F.3d at 1348, to conclude that a product containing patented genetic material will completely embody the patent and inevitably practice the patent. Whether it is being planted or fed to livestock, the use of Monsanto seed practices the Monsanto patents asserted in this case. The court erred by looking to the *non-infringing* uses of the seed rather than to the possibility of making any use of the seed without *practicing the patents* on the *genetic trait*. *Quanta*, 553 U.S. at 631, n.6. There is no such possibility. In any reasonable and intended use of seeds containing Monsanto’s patented gene strain, the seeds will exhibit the genetic trait for glyphosate resistance.

If the court's confusion was not clarified by *Univis*, it should have been clarified by *Quanta*. The gene strain is like the LGE patents in *Quanta*, and the seed is like the microprocessor. "Whether outside the country or functioning as replacement parts, the Intel Products [in *Quanta*] would still be *practicing* the patent, even if not infringing it. And since the features partially practicing the patent are what must have an alternative use, suggesting that they be disabled is no solution. The disabled features would have no real *use*." *Quanta*, 553 U.S. at 631, n.6 (emphases in original). Any reasonable and intended use of 'commodity RR' seed will involve exhibiting the genetic trait for glyphosate resistance. Even if the patented gene strain could be disabled from the seed and the seed put to other, non-infringing uses, the disabled features of the seed that *practice the patent*, like the disabled features in *Univis* and *Quanta*, "would have no real use." *Id.*

The Federal Circuit also erred in cursorily and summarily resolving an extremely difficult and complex philosophical question central to its infringement determination. The court simply declared that "[w]hile farmers, like Bowman, may have the right to use commodity seeds as feed, or for any other conceivable use, they cannot 'replicate' Monsanto's patented technology by planting it in the ground to create newly infringing genetic material, seeds, and plants." *Bowman*, 657 F.3d at 1348. This conclusion is problematic for several reasons. First, the court contradicts itself by its own terms. Throughout the opinion

it refers to Monsanto's technology as "self-replicating," but here it holds that "*farmers . . . 'replicate' Monsanto's patented technology by planting it in the ground.*" *Id.* (emphasis added). The court is unclear as to whether seeds "self-replicate" on their own or farmers cause seeds to replicate. The distinction, or at least the answer to the question whether such a distinction exists, seems relevant to whether the *farmer* has violated the patent holder's right to "make" the patented invention.

Likewise, the Federal Circuit failed to consider factual analogues in other industries, including the computer software industry, that portend dangerous unintended consequences flowing from its infringement determination. When a disk containing a patented software program is purchased and uploaded to a computer, the computer must replicate the software in order to run it. Under the Federal Circuit's holding, disks containing software seemingly would be incapable of use without also violating the patent holder's right to "make" the patented software, and millions of computer software users seemingly could be liable for patent infringement. The court does not explain or justify its conclusions on the relationship between infringement and human agency; it merely rests upon observing that a process resulting in replication was set in motion. As discussed below, the complexity of these problems helps illustrate why Congress is better suited to create exceptions to the Patent Act.

II. THE FEDERAL CIRCUIT'S HOLDING UNJUSTIFIABLY DEPARTS FROM LONG-STANDING CONGRESSIONAL PATENT POLICY.

The Federal Circuit's exception to the first sale doctrine for self-replicating technologies is inconsistent with Congress' commitment to broad technology- and industry-neutral patent laws dating back at least to the enactment of the 1952 Patent Act.⁶ Just two years ago, this Court affirmed the broad applicability of patent law across technologies in *Bilski v. Kappos*, 130 S. Ct. 3218 (2010), rejecting a categorical exclusion for business method patents and declining "to impose limitations on the Patent Act that are inconsistent with the Act's text." *Id.* at 3231.

Lower courts "must hesitate before departing from established general legal rules lest a new protective rule that seems to suit the needs of one field produce unforeseen results in another." *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct.

⁶ The United States is also committed to a technology-neutral view of patent law by the multilateral TRIPS Agreement, which the United States signed in 1994. *See* Agreement on Trade-Related Aspects of Intellectual Property Rights, art. 27(1), Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, The Legal Texts: The Results of the Uruguay Round of Multilateral Trade Negotiations 320 (1999), 1869 U.N.T.S. 299, 33 I.L.M. 1197 (1994) [hereinafter TRIPS]. Among other things, TRIPS obliges sovereign signatories to ensure that "patents shall be available and patent rights be enjoyable without discrimination as to . . . the field of technology." *See id.*

1289, 1305 (2012). “And [courts] must recognize the role of Congress in crafting more finely tailored rules where necessary.” *Id.* When Congress creates technology-based exceptions to the Patent Act that are analogous to the exception for self-replicating technologies created by the Federal Circuit, it does so only after careful deliberation. For example, through Section 273, Congress enacted the defense of prior user rights for business method patents. *See* 35 U.S.C. § 273 (2010). This defense has been expanded without field limitations in the America Invents Act. *See* Leahy-Smith America Invents Act, Pub. L. No. 112-29, § 5, 125 Stat. 284, 292 (2011). Similarly, with respect to surgical methods, Congress has enacted Section 287(c), which prevents infringement suits against medical practitioners based on surgical method patents. *See* 35 U.S.C. § 287(c) (2004).

Two important considerations flow from this Court’s jurisprudence and the legislative development of the Patent Act. First, it is manifest that the enactment of limitations to patent law based on field of technology is an extraordinary step that has been the domain of Congress, not the judiciary. Second, when Congress creates such limitations, they have been narrow and exceptional. Congress has never created an exception for “self-replicating technologies,” and the term does not even appear in the Patent Act. The Federal Circuit’s ruling on self-replicating technologies and the patent exhaustion doctrine is therefore unprecedented and “would . . . engraft a limitation

upon the right of use not contemplated by the statute.” *Adams*, 84 U.S. at 456 (1873).

III. THE FEDERAL CIRCUIT’S DISCRIMINATORY STANDARD FOR SELF-REPLICATING TECHNOLOGIES IGNORES THIS COURT’S PRECEDENT ON THE PATENT MISUSE DOCTRINE BY EXPANDING THE SCOPE OF MONSANTO’S PATENT.

By imposing a discriminatory patent standard for self-replicating technologies, the Federal Circuit also ignores this Court’s precedent on the patent misuse doctrine by extending Monsanto’s statutory patent rights. In recognition that uniform rules concerning the scope of patent grants are essential to non-discrimination, this Court has relied on the patent misuse doctrine to set reasonable boundaries for the exercise of patent rights. In *Motion Picture Patents*, the Court explained that “the scope of the grant which may be made to an inventor in a patent, pursuant to the [patent] statute, must be limited to the invention described in the claims of his patent. . . .” *Motion Picture Patents Co. v. Universal Film Co.*, 243 U.S. 502, 511 (1917). The patent misuse doctrine prevents a patentee from “control[ling] conduct . . . not embraced by the patent monopoly.” *Ethyl*, 309 U.S. at 456; see also *Illinois Tool Works Inc. v. Independent Ink, Inc.*, 547 U.S. 28, 31 (2006) (discussing background of patent misuse doctrine).

The Federal Circuit’s exception to the first sale doctrine for self-replicating technologies expands the

scope of Monsanto's patent rights. Monsanto's patents cover a chimeric gene sequence that exhibits resistance to glyphosate, a principal ingredient in herbicide to control weed growth. This recombinant gene sequence is only one component introduced into the seeds that Monsanto sold to Bowman. The Federal Circuit's holding allows the owner of a patent in a single component of a self-reproducing seed to prevent use of all the other components.⁷ In other words, the court's ruling allows Monsanto to expand its patent over one element to cover the entire seed. Moreover, because self-replicating technologies are exempt from the first sale doctrine under the court's holding, the patent holder is able to prevent the use of the *reproductive capacity* of a seed even though the patented invention does not include the seed's naturally occurring reproductive mechanisms. Allowing Monsanto to control seed reproduction sets the perplexing precedent of allowing a patentee to control a defining characteristic of life. See Bruce Alberts et al., *Molecular Biology of the Cell* 1 (Fifth ed. 2008).

⁷ By one estimation there are over 46,000 other genes in a soybean, none of which are patented by Monsanto. See Jeremy Schmutz et al., *Genome Sequence of the Palaeopolyploid Soybean*, 463 *Nature* 178, 178 (Jan. 14, 2010), available at <http://www.nature.com/nature/journal/v463/n7278/pdf/nature08670.pdf> (sequencing soybean genome and predicting "46,430 protein-coding genes").

IV. CONTRACT LAW PROVIDES A BALANCED MEANS OF PROTECTING THE PARTIES' INTERESTS AND THE PUBLIC INTEREST.

As described *infra* Section IV.C., the Federal Circuit's invocation of patent law to control the post-sale use of self-replicating technologies is very likely to harm market competition. In contrast, contract law governs post-sale use restrictions, consistent with the first sale doctrine, while fully protecting the legitimate interests of the parties and encouraging efficient markets. The goal of patent law is to incent innovation and the goal of competition law is to facilitate innovation and competition in the marketplace, but the laws require a careful balancing because they use contrasting means to achieve these complementary ends. The patent exhaustion and patent misuse doctrines reflect the recognition that courts must endeavor to construe patent law and competition law consistently.⁸ Allowing contract rather than patent law to govern post-sale use restrictions on self-replicating technologies furthers this goal by discouraging anticompetitive exploitation of the patent grant and permitting meaningful judicial review of unduly anticompetitive exploitations. The facts of this case

⁸ See Shubha Ghosh, *Carte Blanche, Quanta, and Competition Policy*, 34 J. of Corp. L. 1209, 1210 (2009) (“[I]ntellectual property doctrine is informed by norms of competition. . . . [I]ntellectual property law operates as competition policy. . . . [T]he goal is to construct a coherent body of competition policy that includes both intellectual property and antitrust laws.”).

illustrate that this meaningful review is essential. Contract law best serves the public interest and fully protects the legitimate interests of the parties.

A. Courts Construe Patent Law Consistent with U.S. Competition Policy.

Courts have a long history of crediting competition policy concerns when confronted with overreaching by private actors who wield public grants of the right to exploit markets. *See, e.g., Quanta*, 553 U.S. at 630 (illustrating “the danger of allowing an end-run around [patent] exhaustion”); *Ethyl*, 309 U.S. at 459 (rejecting patent-based assertions of freedom from antitrust oversight and striking down unreasonable restraints “not used as a means of stimulating the commercial development . . . of the patented invention . . . but [rather] for . . . the exploitation of . . . monopoly not embraced in the [patent]”); *Univis Lens Co.*, 316 U.S. at 241 (rejecting the use of patent claims to shield a vertical cartel from antitrust review and focusing instead on the competitive effects of contracts at issue). Courts balance the justifications for the rights created by public grants with the broader public interest embedded in the Commerce Clause in a free and open national market, and they avoid adding to those rights when the legislature has not expressly done so. *See Chicago Prof’l Sports Ltd. P’ship v. Nat’l Basketball Ass’n*, 961 F.2d 667, 672 (7th Cir. 1992) (Easterbrook, J) (“[C]ourts [should] read exceptions to the antitrust law narrowly, with beady eyes and green eyeshades.”).

This treatment has long since extended to legislative grants of property rights because of the enduring recognition that such grants pose manifest risks to the efficient workings of the market and vital dynamics of innovation. See *The Proprietors of the Charles River Bridge v. The Proprietors of the Warren Bridge*, 36 U.S. 420, 551-52 (1837) (specifically acknowledging that legislative grants of property rights are not to be unduly protected from market forces). *Charles River Bridge* recognized the “rule of construction” that “any ambiguity in the terms of [a statute] . . . must operate . . . in favor of the public, and the plaintiffs can claim nothing that is not clearly given them by the act.” *Id.* at 544 (quoting *Proprietors of the Stourbridge Canal v. Wheeley & Others*, 2 B. & Ad. 793).

The Federal Circuit gave short shrift to these fundamental considerations when it grafted new patent rights onto the Patent Act allowing for perpetual control of patented self-replicating technologies. The court failed to adequately consider, for example, the new rule’s impact on the market behavior of subsequent processors of commodity soybeans. It also failed to consider what rights subsequent processors possess and under what circumstances the patent holder can demand further royalties or obtain an injunction against the buyer retaining or using the commodity.

The omission of these considerations from the Federal Circuit’s analysis illustrates the shortcomings of

statutory amendment by judicial fiat as compared to congressional action. *See supra* Section II. In Congress, new laws emerge after an extensive deliberative process and can be crafted to employ complex statutory schemes that sufficiently balance myriad stakeholder interests. The Federal Circuit did not credit or even observe the manifold dangers of coercion and opportunistic conduct, or even the risk of unintended consequences for competition, associated with such a broad, unreviewable new patent right. Such concerns should have counseled strongly against the right's creation, or at least in favor of significant constraints on the application and use of the new powers conferred. *See Charles River Bridge*, 36 U.S. at 544. For these reasons, Congress would be better suited to determine the proper scope of patent rights in self-replicating technologies. The role of the courts should be to ensure that possessors of patent rights continue to enjoy the exclusive right to make, use, and sell (or not sell) their property, but “nothing more that is not clearly given them” by the Patent Act. *Id.*

B. The Public Interest is Best Served by Allowing Contract Rather than Patent Law to Govern Post-Sale Use Restrictions on Products Embodying Patented Components Because Contract Law Enables Meaningful Judicial Review of Patent-Based Restraints.

The public interest is best served by allowing contract rather than patent law to govern factual

circumstances like those in *Bowman* because contract law affords parties flexibility to draft agreements that maximize their mutual economic objectives while preserving a critically important role for judicial review of patent-based restraints of trade. *Amici* submit that patent holders and their customers should be able to craft context-specific agreements concerning post-sale restrictions on the use of products substantially embodying a patented component, but subject to time honored rules. Contract law expressly limits, for example, the scope of the parties' rights to enter into restraints on each other's competitive freedom, *see* Restatement (Second) of Contracts § 187 (1981) (a contract that only restrains trade is unreasonable), but it also affords due respect to an intellectual property owner's interest in protecting its intellectual property, and to the public interest, *see id.* § 188 (ancillary restraints are unreasonable only if in excess of the "promisee's legitimate interest" or when the restraint imposes an undue hardship on the promisor and injury to the public).

Contracts that impose unreasonable restraints on competition also are directly subject to Section 1 of the Sherman Act, 15 U.S.C. § 1 (2004). Antitrust law exists for the explicit purpose of implementing the Commerce Clause's commitment to the market. It affords a way to balance the rights of commercial actors to engage in legitimate contracting with the need to retain a workably competitive market. It is the "Magna Carta of free enterprise." *United States v. Topco Assocs., Inc.*, 405 U.S. 596, 610 (1972).

Antitrust review of restrictive contracts builds on a well-developed methodology and a substantial history of application in a wide variety of contexts. This allows lower courts to comfortably apply antitrust standards with confidence and consistency. In the patent context, reviewing courts can be guided by the patent holder's right to impose downstream restraints that reasonably protect its legitimate interest in exploiting its patent rights. Given such a definition of the legitimate interest of the patent holder, it is possible to define in a consistent way when the restraint is "unnecessarily restrictive." See *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 605 (1985); *United States v. Addyston Pipe & Steel Co.*, 85 F. 271, 282 (6th Cir. 1898), *aff'd as modified*, 175 U.S. 211 (1899) ("The main purpose of the contract suggests the measure of protection needed, and furnishes a sufficiently uniform standard by which the validity of such restraints may be judicially determined.").

As antitrust law has moved away from broad, mechanical, per se rules and toward a more flexible rule of reason, see, e.g., *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 551 U.S. 877 (2007) (rejecting the per se rule of resale price maintenance); *Broadcast Music, Inc. v. Columbia Broadcasting Sys., Inc.*, 441 U.S. 1 (1979) (not every horizontal price fix is per se illegal), it has become even more able to provide nuanced review of specific restrictive agreements. See, e.g., *United States v. Visa U.S.A., Inc.*, 344 F.3d 229, 238 (2d Cir. 2003) (conducting focused inquiry

into joint venture and assessing whether challenged restraint is reasonably necessary to achieve defendants' procompetitive justifications or whether they may be achieved through less restrictive means); see also *Aspen Skiing Co.*, 472 U.S. at 605 (restraints are unlawful when they have "impaired competition in an unnecessarily restrictive way"). The use of contract law and its attendant antitrust standards to govern post-sale use restrictions on products embodying patented components therefore allows for a flexible, predictable, and well-established framework of judicial review.

Conversely, if patent law is expanded to govern post-sale use restrictions on products embodying patented components, virtually any restraint of trade is an inherent right of the patent holder and unreviewable for undue anticompetitive effect. The Federal Circuit has made it clear that when a patent or copyright holder acts within the scope of the rights conferred by the patent or copyright law, such conduct is exempt from any antitrust review. See *CSU, L.L.C. v. Xerox Corp.*, 203 F.3d 1322 (Fed. Cir. 2000); *Intergraph Corp. v. Intel Corp.*, 195 F.3d 1346 (Fed. Cir. 1999). The implication of this doctrine is that once any exclusionary or anticompetitive act is within the scope of a patent's inherent rights, it is per se legal as a matter of antitrust law.

Indeed, in *McFarling*, *Scruggs*, and now *Bowman*, the Federal Circuit's creation of an expanded right in the patented component of self-replicating soybean seeds has foreclosed the ability of the courts to look

critically at the reasonableness of Monsanto's restraints on replanting. The plaintiffs in *McFarling* and *Scruggs* directly challenged the reasonableness of those restraints and argued that there were less anti-competitive ways for Monsanto to protect any legitimate interest in earning a royalty on soybeans that farmers saved and replanted. The Federal Circuit had no need to consider these arguments because it chose instead to grant Monsanto an absolute right to control the future use of self-replicating soybeans that contain its chimeric gene strain. The Federal Circuit's approach forecloses an important means of overseeing the merits of specific uses of the exclusionary rights of patent holders. *Quanta*, *Ethyl* and *Univis* forcefully illustrate the wisdom of requiring instead that post-sale restraints be contractual in character so that their competitive merits can be evaluated.

C. The Value of Critical Review Is Evident Here, Where Post-Sale Use Restrictions May Lead to Substantial Anti-competitive Effects Without Offsetting Pro-Competitive Effects That Could Not Be Achieved Through Less Restrictive Means.

Bowman underscores the inferiority of the Federal Circuit's approach as compared to a contract law approach because the court's holding would foreclose

any antitrust review of restrictive conduct by a likely monopolist.⁹ Because the court characterized Monsanto's right to control post-sale use of self-replicating soybean seeds after an authorized sale as an inherent, patent-based right, it would be prevented from considering the consequences of the economic outcome rendered by its decision. As discussed below, such consequences include potential anticompetitive effects in both the seed and genetic traits markets that may prove very difficult to justify using standard antitrust efficiencies defenses.

As recently as 1997, saved seed constituted approximately 20% of planting in soybeans, constraining the pricing freedom of new seed producers accordingly. See Michael Mascarenhas & Lawrence Bush, *Seeds of Change: Intellectual Property Rights, Genetically Modified Soybeans, and Seed Saving in the United States*, 46 *Sociologia Ruralis* 122, 129 (2006) (Figure 1 is a chart depicting data compiled by U.S. Department of Agriculture and Doane Agricultural

⁹ In 2008, Monsanto reportedly enjoyed a 97% share of the market in genetic traits for herbicide-tolerant soybeans. See Diana L. Moss, *Transgenic Seed Platforms: Competition Between a Rock and a Hard Place?*, American Antitrust Institute, 5 (Oct. 23, 2009), available at http://www.antitrustinstitute.org/~antitrust/sites/default/files/Addendum%20to%20AAI%20White%20Paper_Transgenic%20Seed.4.5_040520101107.pdf (citing data provided at Monsanto investor presentation). In the same year, Monsanto reportedly enjoyed about a 65% share in the market for traited soybeans. *Id.* at 8. Dominance of this sort raises questions as to whether farmers have access to a workably competitive market in soybean seeds.

Services); *see also* Jorge Fernandez-Cornejo, *The Seed Industry in U.S. Agriculture*, U.S. Dep't of Agric., Econ. Research Serv., Agric. Info. Bulletin No. 786, Jan. 2004. If allowed to stand, the Federal Circuit's exception to the first sale doctrine likely will chill or altogether eliminate competition from commodity seed. Notwithstanding that a given bag of commodity seed actually may contain only a little RR seed or none at all, a purchaser intending to plant, save, and reuse commodity seed¹⁰ will no longer be able to do so unless the purchaser is willing to incur the risk of infringement liability or undertake costly mitigating measures. Whether a commodity seed purchaser's added costs flow from infringement liability itself, the expense associated with seed sorting (whether incurred directly by farmers or passed on to farmers by grain elevators), or self-imposed seed-saving restrictions on commodity seed, the net effect is to increase the price of the product to the farmer or to devalue the product sold by the grain elevator. This loss of competitive discipline from commodity seed is

¹⁰ Although it is true that commodity seed has other uses, such as for animal feed, farmers use commodity seed to plant second crops. Farmers usually want to use less expensive seed for second crops because of the greater risk that the crop will not be successful. Before the Federal Circuit's decision, buying run of the mill soybeans from an elevator was a good solution because the commodity price is much lower than the price of certified seed and would be lower even if the buyer had paid a royalty equivalent to Monsanto's royalty on certified seed.

magnified by the fact that Monsanto has a substantial market share in the certified seed market.¹¹

The troubling potential anticompetitive effects of the Federal Circuit's decision also may extend upstream to the market for genetic traits. Monsanto's seed-saving restrictions can create incentives for rival genetic traits developers and seed companies to "standardize" on the Monsanto RR soybean system because Monsanto's policing of its system ensures recurring annual sales. This incentive, coupled with the ubiquity of the Monsanto RR trait, may dampen the ability and incentive for rivals to compete hard to create rival soybean systems. Because the use of commodity seed containing RR traits to grow soybean plants that beget second generation seeds containing RR traits infringes the patentee's right to "make" the seed under the Federal Circuit's holding, *Bowman's* effect on commodity seed will be very similar to the effect of a seed-saving restriction on commodity seed. The overall impact likely would be to chill innovation and competition in the market for genetic traits in addition to the market for seed.

The foregoing scenarios also may cause further collateral damage to competition by enhancing Monsanto's market power. If Monsanto's share of the market for herbicide tolerant soybean traits allows it to dictate the terms of rivals' access to Monsanto traits for the purpose of developing plant varieties

¹¹ See *supra* note 10 and accompanying text.

that combine or “stack” various genetic traits, Monsanto’s technology licensing practices are likely to have increasingly greater influence in shaping or controlling the evolution of competition in the market. To the extent that rival herbicide-tolerant genetic trait modifications are able to come to market, the number of patent holders with a near veto power over the business of the grain elevators would only multiply. Under the Federal Circuit’s holding in *Bowman*, each patent holder can effectively raise costs on any sale that might affect its continuing patent right.

Although Monsanto’s current patent on the genetic technology used in RR seeds expires in 2014, expiration seems unlikely to ameliorate the potential anticompetitive effects of the Federal Circuit’s holding because Monsanto has patented a second version of the RR genetic technology known as “Roundup Ready 2” (RR2). *See, e.g.*, U.S. Patent No. RE39,247 (filed Jul. 18, 2003). If Monsanto’s existing contractual seed-saving restrictions, coupled with the Federal Circuit’s new exception to the first sale doctrine for self-replicating technologies, simply migrate to RR2, there is little evidence to suggest a meaningfully different competitive outcome. Because Monsanto would maintain its current ability to control access to the technology, agricultural biotechnology innovators may continue to experience difficulty in developing “generic RR1” to generate competition.

The foregoing merely describes some of the potential anticompetitive uses of judicially expanded patent rights in the seed industry. The Federal

Circuit's holding could have still greater effects in other industries because of its extension to any self-replicating technology.¹² A contract approach would not foreclose meaningful review of anticompetitive practices that are more intrusive in the market than necessary to protect the patent holder's legitimate interests.

D. The Parties Are Fully Capable of Protecting Their Interests Using Contract Provisions, Without A Court's Resorting to Discriminatory Application of Patent Law.

Patent holders of self-replicating patented technologies might have a better claim to special protections if application of the first sale doctrine truly "would eviscerate the rights of the patent holder," *Bowman*, 657 F.3d at 1347 (quoting *Scruggs*, 459 F.3d at 1336). However, the court's conclusion is erroneous because it ignores ordinary business responses and protections available outside the patent law. If the patent holder is concerned with the price competition created by the second generation of the replicating technology, for example, one business response is to charge a higher price for the first generation

¹² See Brief for the United States as Amicus Curiae at 19-20, *Bowman v. Monsanto Co.*, No. 11-796 (August 24, 2012) (identifying other industries that rely on technologies with self-replicating features, including man-made cell lines, DNA molecules, nanotechnologies, and organic computers).

upfront.¹³ Another response would be to contract with the purchaser to require payment when the self-replicating technology is saved and reused.

If the patent holder is concerned with the proliferation of a readily replicable invention, a lesson is available from the software industry, which engages in effective product differentiation and efficient third degree price discrimination. The threat of replicability is arguably greater for software than soybean seeds because an entire suite of users can be satisfied with one disk containing the program. Whereas an individual soybean plant can produce only a limited number of replica seeds in the course of a harvest, software is replicable without limit almost instantaneously. Nonetheless, the first sale doctrine has been recognized for the sale of software. *See, e.g., Vernor v. Autodesk*, 621 F.3d 1102 (9th Cir. 2010).

Monsanto has always maintained an ability to protect its interests without a judicial expansion of its patent rights. From the beginning, it could have abstained from using its technology to create the glyphosate tolerant soybean seed or other inbred seed lines and instead confined its applications to hybrid seeds that do not produce true copies of themselves. It also could have developed its “terminator” gene,

¹³ This practice would parallel that of book publishers who sell expensive first editions of books knowing that there will be competition from used versions of the book in the future. *See Bobbs-Merrill v. Straus*, 210 U.S. 339 (1908) (establishing first sale doctrine in copyright for book publishing).

which would have rendered progeny seeds sterile. See Robert B. Shapiro, *Open Letter From Monsanto CEO Robert B. Shapiro To Rockefeller Foundation President Gordon Conway and Others* (Oct. 4, 1999), available at <http://www.monsanto.com/newsviews/Pages/monsanto-ceo-to-rockefeller-foundation-president-gordon-conway-terminator-technology.aspx> (voluntarily committing not to commercialize sterile seed technologies in response to public concerns but noting that “Monsanto holds patents on technological approaches to gene protection that do not render seeds sterile . . .”).

Monsanto likely chose to license its technology to other seed companies and to sell it to farmers with limitations on what uses the farmers can make of progeny seeds (1) because this approach allowed the company to profit greatly from its invention and (2) because it is fully capable of protecting its rights using contract law. Indeed, Monsanto’s Associate General Counsel effectively conceded as much in a recent article describing the company’s plans to transition to a contract-based regime when its patents expire. See J. Thomas Carrato & Brandon W. Neuschafer, *From Proprietary to Generic: A Private Contractual Mechanism for Biotech Seed Products*, Wash. Legal Found’n Legal Backgrounder (Nov. 2, 2012), available at http://www.wlf.org/upload/legalstudies/legalbackgrounder/11-2-12Carrato_LegalBackgrounder.pdf (describing “a private, contract-based mechanism to address the transition from a patent-protected to a generic marketplace” and maintaining that the mechanism can successfully fill the voids created by the transition).

E. Contract Remedies Protect Competition and Innovation Incentives Better than Patent Remedies.

Finally, a contract law approach is also superior to the Federal Circuit approach because it provides a fully sufficient set of remedies that balance the interests in competition, innovation, and the legitimate property interests of both parties. Contract damages generally are governed by rules that look to the actual loss of the other party resulting from a breach of the contract. Increasingly in patent litigation, damages may be tied to less reliable claims of lost gains. *See, e.g., Monsanto Co. v. Ralph*, 382 F.3d 1374, 1379 (Fed. Cir. 2004) (affirming speculative amount far in excess of Monsanto’s standard per-bag license fee as the appropriate measure of economic loss); Daralyn J. Durie & Mark A. Lemley, *A Structured Approach to Calculating Reasonable Royalties*, 14 Lewis & Clark L. Rev. 627, 631 (2010) (“[A] non-exclusive fifteen-factor test that requires balancing and consideration of the interactions between the factors is likely to give little or no practical guidance to a jury.”).

While punitive damages and injunctive relief are available in both patent law and contract law, in contract law their applications are more focused. Unlike in patent law, where sweeping injunctions are a primary form of relief consistent with the property-like nature of the right invaded, *see eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006), under

contract law post-sale injunctions may be tailored to the specific legitimate needs of the party suffering the breach to protect only those interests requiring protection. *See* Restatement (Second) of Contracts § 188. Indeed, unreasonable terms of contracts can be excised while preserving the primary legitimate interests and expectations of the parties. *See Visa U.S.A.*, 344 F.3d at 229.

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CONCLUSION

For the foregoing reasons, and those set forth in the Petitioner's brief, the judgment of the court of appeals should be reversed.

Respectfully submitted,

AMERICAN ANTITRUST INSTITUTE
 NATIONAL FARMERS UNION
 FOOD & WATER WATCH
 ORGANIZATION FOR COMPETITIVE MARKETS
 NATIONAL FAMILY FARM COALITION

SHUBHA GHOSH
 Professor of Law
 UNIVERSITY OF WISCONSIN
 LAW SCHOOL
 975 Bascom Mall
 Madison, WI 53706
 (608) 262-1679
 ghosh7@wisc.edu

ALBERT A. FOER
Counsel of Record
 President
 RANDY M. STUTZ
 Senior Counsel
 AMERICAN ANTITRUST
 INSTITUTE
 2919 Ellicott Street, N.W.
 Washington, D.C. 20008
 (202) 276-6002
 bfoer@antitrustinstitute.org

PETER CARSTENSEN
Professor of Law
UNIVERSITY OF WISCONSIN
LAW SCHOOL
975 Bascom Mall
Madison, WI 53706
(608) 263-7416
pccarste@wisc.edu

DAVID A. BALTO
*Attorney for Amici Food &
Water Watch; National
Family Farm Coalition;
National Farmers Union;
Organization for
Competitive Markets*
LAW OFFICES OF DAVID BALTO
1350 I Street, N.W., Suite 850
Washington, D.C. 20005
(202) 789-5424
david.balto@dcantitrustlaw.com

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