No. 16-712

IN THE

Supreme Court of the United States

OIL STATES ENERGY SERVICES LLC,

Petitioner,

v.

GREENE'S ENERGY GROUP, LLC ET AL,

Respondents.

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

BRIEF OF LIQUIDPOWER SPECIALTY PRODUCTS INC. AS *AMICUS CURIAE* IN SUPPORT OF PETITIONER

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INTEREST OF *AMICUS CURIAE*[1]

Amicus curiae LiquidPower Specialty Products Inc. (LSPI) is the global market leader in the drag reduction technology field. Since 1973,[2] the company's drag reduction innovation has pioneered major advances in pipeline operations. LSPI employs about 250 people worldwide, including numerous distinguished Ph.D. scientists, and operates the world's foremost research and development (R&D) center for drag reduction.

As a specialty chemical business with an outsized commitment to R&D, LSPI critically depends on the patent system and its ability to protect the patent rights granted to its inventions. LSPI operates as a targeted company, providing customers with full-service comprehensive drag reduction solutions that are based on LSPI's patents and embodying products. LSPI has a strong interest in ensuring that it can adequately protect its patent rights and the substantial resources it has invested in R&D.

In 2015, LSPI filed suit against its competitors for infringement. After many months, Baker Hughes, Inc. (Baker) instituted two serial sets of *inter partes* review (IPR) proceedings to challenge the validity of LSPI's asserted patents. The district court hearing

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[1] No counsel for a party has authored this brief in whole or in part, and no person or entity other than *amicus* or its counsel made any monetary contribution intended to fund the preparation or submission of this brief. Blanket consent letters on behalf of all the parties are on file with this Court.

[2] LSPI was then a part of Conoco, Inc. and later emerged as a subsidiary company. Since its acquisition in 2014, the company has been a wholly owned subsidiary of Berkshire Hathaway.

the infringement suit subsequently stayed the litigation pending the outcome of IPR. As a respondent in ongoing IPR proceedings that have displaced the Article III court and jury constitutionally guaranteed to LSPI, and effectively eliminated LSPI's statutory presumption of patent validity and the stringent burdens of proof in district court litigation stemming from such presumption, LSPI has a particularly acute interest in the precise issue before the Court. It has substantial first-hand experience with the destabilizing effect of IPR on smaller, innovation-driven businesses seeking to enforce the previously-earned substantive property rights that the patent system was designed to protect.

SUMMARY OF ARGUMENT

As a proceeding that lacks the constitutional promises of a court and a jury, IPR seriously prejudices practicing companies like LSPI whose operations depend on its property rights in patents. The effect of the constitutionally flawed IPR process is especially acute for smaller, specialty businesses that operate within targeted industries.

The experience of *amicus curiae* LSPI illustrates the myriad ways that IPR burdens and harms such specialty companies and their ability to protect their investments in innovation. Since LSPI's inception, R&D has formed the backbone of the company. Its enduring commitment to R&D led to its earliest major invention, the world's first drag reducing agent (DRA) for crude oils. In introducing this advance, LSPI created the market for crude oil DRA, to the tremendous benefit of the industry. Ever since, LSPI has remained the global leader in the field.

LSPI is particularly vulnerable to the harms posed by IPR because its patents are vitally important to its core operations, including both its ongoing R&D and its daily business. LSPI serves the industry not only through scientific contribution and R&D but also through its comprehensive customer offerings, which are solely based on its R&D and targeted DRA solutions. That means that patents are the only way that LSPI can protect its substantial investments in R&D and the company.

Because IPR makes patent enforcement unduly expensive and risky, and eliminates many of the protections that patent owner have in litigation in Article III courts, it hinders LSPI from protecting

against infringement and undermines the patent property rights on which it depends. For one, IPR neither provides LSPI with the courts and jury nor the procedural safeguards commensurate with substantive property rights. Instead, IPR confers enormous advantages to challengers, lowering the requisite burden of proof required for invalidity to mere preponderance of the evidence and removing the statutory presumption of validity otherwise applicable in federal court.

Moreover, the availability of this adjunct process indiscriminately harms patent owners regardless of the substantive merits of the underlying patents, because the nature of the proceedings incentivizes competitors to use IPR any time they face an infringement suit. IPR proceedings are relatively low-risk and low-cost, providing much to gain and little to lose for competitors charged with infringement in federal court. With multiple petitions and litigation stays, competitors can impose additional costs and delay to patent owners—particularly smaller, research-driven companies like LSPI—with little downside. As LSPI's experience shows, patent infringement defendants can end-run the Article III district court system and engage in gamesmanship by using lenient IPR rules to file serial petitions and adjust their litigation and subsequent IPR positions based on patent owners' responses. IPR thus provides competitors with a quick, relatively cheap, and low-risk end-run around the long-established protections for patent owners in protecting their rights.

For companies like LSPI that are inextricably founded on their R&D and resulting patented innovations, IPR's effective displacement of the right

to an Article III forum and jury trial poses immediate threats to the business. But the additional upshot of this duplicative system is that inventors and companies must now consider additional risks, costs, and uncertainty when deciding whether the benefits of investment in new patented advances will be justified against the expense and effort of protecting that investment. Any resulting chilling effect is undoubtedly harmful to public knowledge and the pace of innovation.

ARGUMENT

I. *Amicus* LiquidPower Specialty Products Is An Innovation-Driven Company That Is Adversely Affected By The Unconstitutional Flaws Of *Inter Partes* Review.

The experience of *amicus curiae* LiquidPower Specialty Products Inc. (LSPI) illustrates the adverse effect that the constitutionally flawed IPR process has on smaller businesses that depend on the patents they earn from their investments in innovation, research, and development (R&D).

A. LSPI Has Pioneered Innovation In The Drag Reduction Technology Industry For Decades.

1. LSPI Is The Global Leader In Drag Reduction Technology.

LSPI is a pioneer and global market leader in the drag reduction technology field. Drag reducers are additives that are injected into fluids in pipelines to "reduce[] frictional pressure loss" by reducing turbulence, which enables more efficient transport of the fluid through the pipeline. *See About DRA and How It Works,* LSPI, https://liquidpower.com/what-is-dra/about-dra-and-how-it-works/. Drag reducing agents, or DRAs, can be used to enhance the transportation of crude oil, gasoline, and diesel fuel.

Through its patent-protected innovations, supported by its self-funded R&D, LSPI provides full-service solutions to industry customers. In addition to its technology, LSPI's comprehensive offering includes technical consulting, pipeline modeling, quality manufacturing, injection equipment, and field service.

See Full Service Solutions, LSPI, https://liquidpower.com/capabilities/full-service-solutions/. With customers in over thirty countries, LSPI's products are used to treat more than ten million barrels of hydrocarbon liquids per day. *See LiquidPower Specialty Products, Inc.,* LSPI, https://liquidpower.com/about-lspi/company/.

From its inception, LSPI's drag reduction innovation has substantially improved pipeline operations. R&D is the backbone of LSPI's business. The company's R&D commitment has allowed it to introduce revolutionary advances, which belie LSPI's small size. Though LSPI employs only about 250 people worldwide, LSPI "operates the world's foremost research and development center dedicated to drag reduction" where it continues to build on its innovations. *See Industry Leading Technology*, LSPI, https://liquidpower.com/capabilities/leading-technology/. The R&D team consists of highly skilled scientists and engineers, including numerous distinguished Ph.D.s.

2. LSPI Created The Market For Drag Reducing Agents For Crude Oil and Refined Products.

LSPI has been the leading innovator at every major stage of development of DRA technology for the oil industry. When LSPI (as part of its predecessor Conoco, Inc.) invented the first DRA for crude oils in 1973, it did more than create a new technology – it created the industry for crude oil DRA. As the first of its kind, this DRA fundamentally changed the oil transportation industry. It generated exceptional success and contributed to rapid growth in demand for

LSPI technology. LSPI subsequently emerged as a subsidiary company devoted to research and production of DRAs. In 1979, LSPI produced the first commercial gel DRA for crude oil. In 1994, LSPI's significant R&D for light and medium crude oil culminated in another major invention: the first commercial suspension-based DRA for crude oil. Three years later, LSPI introduced the first commercial suspension DRA specifically for gasoline and diesel fuel. Each of these new technologies significantly improved the performance and safety of petroleum product transportation.

In the 2000s, LSPI again broke new ground when it created a drag reduction technology for heavy, asphaltenic crude oil. Such crude oils have unique properties that make them difficult to transport. At the time, commercial DRAs generally included polyalphaolefin polymers that were ineffective for heavy, asphaltenic crude oil.

Solving a long-felt need, LSPI developed and commercialized methods for creating and deploying a new generation of drag reducing polymers compatible with heavy, asphaltenic crude oils. LSPI expended tens of millions of dollars on R&D to find a technological solution to enable drag reduction of heavy, asphaltenic crude oils based on LSPI's discovery of the importance of asphaltene content in designing DRA polymers for heavy crudes. This finding was not known prior to LSPI's invention and constituted a major scientific contribution by LSPI to the benefit of the entire industry.

LSPI sought and obtained patents directed to its novel and inventive methods and in 2008 released its highly successful, groundbreaking embodying

product, ExtremePower®. This invention proved transformative. Never before had there existed a DRA designed for heavy, asphaltenic crude applications. Moreover, the invention upset the prevailing conventional wisdom that effective drag reduction was not feasible for heavy crude.

B. LSPI's Patents Are Vital To Its Business.

LSPI's patents are critical to its business and operations. Through its R&D, LSPI was the first to develop a successful DRA for heavy, asphaltenic crude. LSPI's success over its competitors was not for lack of competitors' trying or lack of customer demand. There had been a long-felt need for the invention for many years, but the industry had been unable to find a workable solution. To the surprise of the industry, LSPI developed the first such successful DRA and the industry welcomed LSPI's patented ExtremePower® products, which enjoyed immediate and sustained commercial success since their release in 2008.

If LSPI is not afforded an adequate forum to properly protect its patent rights on this technology, it risks being denied the benefit from a market that it foresaw and created. And protecting patent rights is especially vital for smaller, R&D-driven companies like LSPI. Compared to its market share, LSPI remains small. Unlike its major competitors, its offerings to customers are solely based on and intertwined with its R&D and its targeted DRA solutions.

As a specialty chemical business in a targeted industry, LSPI depends on the success of its pioneering inventions. Until infringements by two of LSPI's competitors in 2015, LSPI's products were the

only commercial DRAs that could effectively reduce drag during pipeline transport of heavy, asphaltenic crude. It is unfair to deny LSPI the ability to protect its patented inventions against competitors by subjecting the company to serial attacks on patent validity when plain experience confirms that LSPI solved an industry-recognized problem when its competitors had tried and failed. Yet, this is what the IPR process has enabled here.

C. The IPR Process Has Impeded LSPI From Effectively Protecting Its Patents From Infringement.

1. LSPI Sought To Protect Its Patent Rights In District Court.

In the spring of 2015, LSPI learned that two of its competitors, Baker Hughes Incorporated ("Baker") and Flowchem, were infringing or preparing to imminently infringe four related LSPI patents. Those patents concern injecting a drag reducing polymer into a heavy, asphaltenic liquid hydrocarbon in order to reduce pressure drop and thereby improve flow in a pipeline. Accordingly, in October 2015, LSPI sued Baker and Flowchem in the United States District Court for the Southern District of Texas for infringement of LSPI's U.S. Patent Nos. 8,022,118 (118 patent); 8,426,498; 8,450,249; and 8,450,250.

Flowchem later settled, expressly acknowledging that LSPI's asserted patents are valid, enforceable, and infringed, and agreeing to be permanently enjoined from further infringing the patents. Pursuant to that settlement, the district court dismissed the case against Flowchem on July 19, 2016.

Meanwhile, litigation proceeded against Baker in the district court.

2. Baker Filed Its First IPR Petition Challenging LSPI's 118 Patent.

Nearly six months after litigation commenced, on April 1, 2016, Baker filed its first IPR petition challenging the validity of LSPI's 118 patent (First 118 IPR). Baker did not file IPR petitions on the other three asserted patents. The Patent Trial and Appeal Board (PTAB) instituted IPR proceedings on the 118 patent on October 4, 2016.

Just two days after the Board's institution decision for the First 118 IPR, and nearly a year after LSPI had commenced litigation in the district court, Baker filed four additional IPR petitions challenging the remaining three asserted patents and filing a second IPR petition on the 118 patent.

At the time Baker filed the second 118 IPR petition, it had received LSPI's preliminary response on the First 118 IPR petition, as well as the PTAB's IPR institution decision. Baker used LSPI's responses to Baker's first IPR petition to craft its second IPR petition. The PTAB expressly recognized Baker's gamesmanship in denying institution on Baker's second 118 IPR petition, finding that the "delay [between Baker's first and second IPR petitions on LSPI's 118 patent] accorded [Baker] sufficient opportunity to adjust its position in this proceeding in response to the information it received [from LSPI] in connection with the [first IPR petition filed by Baker]." In its decision, the PTAB expressed concern that Baker had unfairly "availed itself of that opportunity by, for example, modifying [expert] testimony in [the

duplicative] proceeding in response to [LSPI's] arguments" in connection with Baker's First 118 IPR. *See, e.g.,* Decision Denying Institution of *Inter Partes* Review at 10, *Baker Hughes, Inc. v. Liquid Power Specialty Products Inc.*, IPR2016-01896 (PTAB March 31, 2017). The Board did, however, institute IPR proceedings on the other three Baker IPR petitions, despite LSPI's continuing concerns that Baker's same gamesmanship was in play with Baker's later further IPR petitions on the related patents.

In the meantime, the district court litigation and the PTAB each continued in parallel proceedings.

3. Baker Used The IPR Proceedings To Stay The District Court Litigation.

On May 23, 2017, the district court stayed the litigation, over LSPI's objections, pending resolution of Baker's IPR proceedings. The litigation had reached an advanced stage and trial would have commenced November 2017.

The decision on the First 118 IPR is expected October 2017. Decisions on the second set of IPRs are expected April 2018.

II. LSPI's Experience Underscores The Fairness And Gamesmanship Concerns That Arise From IPR.

A. Although The Court Has Long Found Patents Like LSPI's To Be Important Property Rights, IPR Denies The Protections Commensurate With Such Rights.

This Court has long recognized that "[a] patent is property." *United States v. Dubilier Condenser Corp.*,

289 U.S. 178, 187 (1933); *see also Hartford Empire Co. v. U.S.*, 323 U.S. 386, 387 (1945) ("That a patent is property, protected against appropriation both by individuals and by government, has long been settled.") The "rule of law is well settled" that patent holders are "as much entitled to protection as any other property, during the term for which the franchise or the exclusive right of privilege is granted." *Cammeyer v. Newton,* 94 U.S. 225, 226 (1876). *See also Horne v. Department of Agriculture*, 135 S. Ct. 2419, 2427 (2015) (pointing to a patent case to support that "[n]othing . . . suggests that personal property was any less protected . . . than real property" in a takings case). It is "on the expiration of a patent" that "the right to make the thing formerly covered by the patent becomes public property." *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 152 (1989). Prior to that point, it follows, the patent is the property of the inventor—that deserves no less protection than any other type. And members of the Court have relatedly noted limits on Congress's plenary power: it can legislate on patents but it can "not take away the rights of property in existing patents." *See Eldred v. Ashcroft*, 537 U.S. 186, 239 (2003) (Stevens, J., dissenting) (citing *McClurg v. Kingsland*, 42 U.S. 202, 206 (1843)).

LSPI's patents are just as, if not more, important to the success of LSPI's past, present, and future, as any tangible property rights in equipment or real estate. LSPI has expended enormous investment in R&D, patent prosecution, product development, and customer services, all inextricably tied to and in service of its inventions. But despite all of LSPI's efforts to duly protect its rights, the continuing

availability of IPR not only to litigation defendants but to many parties who would not have standing in Article III courts deprives LSPI of the valuable property rights it has earned.

Threats to innovative, industry-leading patents such as LSPI's give rise to exactly the type of situation that courts, and the patent system, were designed to prevent. Through its R&D, LSPI had been offering technical solutions to the industry's benefit for years in reliance on its settled patent rights. But in the face of infringement by its competitors, and the availability of IPR, LSPI is now forced to protect its rights on multiple fronts, including in serial IPR proceedings in which the statutory presumption of validity in Section 282 of the Patent Act does not apply and patent challengers are not subject to the clear and convincing burden of proving invalidity that applies in district court proceedings.

LSPI's case provides context for how the nature of IPR proceedings, including the more forgiving burden of proof available to challengers, affects the parties in practice. For example, LSPI has substantial evidence showing objective indicia of non-obviousness of its patent inventions, including long felt industry need, failure by others, unexpected results, commercial success, and copying by LSPI's competitors. In district court litigation, in which LSPI's infringement claims are heard by a jury, such evidence is essential to understanding LSPI's inventions and their nonobviousness. The power of such evidence is largely diluted in IPR proceedings, where there is little to no opportunity to meaningfully advance such evidence, including through live testimony. Moreover, although such evidence is supposed to be considered at the later

stages of IPR proceedings, it does not play a meaningful role in IPR institution decisions by the PTAB.[3] And once there is IPR institution, as reflected in LSPI's case, the parallel district court litigation is stayed in favor of the IPR proceedings that are stacked against the patent owner. This leaves the patent holder deprived – at least for some time, and possibly permanently – of the rights and protections for patent holders that are required in district court litigation.

This system is undesirable because, among other things, it competes with the judiciary in doing its job to provide clarity and protection to patent rights. *Cf. Bilski v. Kappos*, 561 U.S. 593, 636 (2010) (Stevens, J., concurring) (quoting Thomas Jefferson writing that the decision of patentability "was turned over to the judiciary, to be matured into a system, under which every one might know when his actions were safe and lawful."); *see also Festo Corp. v. Shoketsu Kinzoku Kogyu Kabushiki Co.*, 535 U.S. 722, 730-31 (2002) (The clarity of a patent's boundaries "is essential to promote progress, because it enables efficient investment in innovation."). Allowing patent validity to be adjudicated in two different forums—with one using a

[3] The differences between IPR and district court outcomes are also stark and worth noting. In IPRs, invalidation is nearly 75%. In district court by contrast the rate is about 46%, and that includes claims invalidated for reasons not considered in IPRs. Gregory Dolin, M.D., *Dubious Patent Reform*, 56 B.C. L. REV. 881, 926-27 (2015). Looking at only invalidity grounds available in IPRs (anticipation and obviousness), analyses suggest that only 28% of patents are invalidated in court proceedings. *Id.* Whether attributable to differing claim construction standards, burden of proof, or the lack of a presumption of validity in IPRs, it is clear that patent owners are disadvantaged in IPR proceedings before the PTAB.

standard that this Court deemed "too 'dubious' a basis to deem a patent invalid"—is not conducive to certainty, let alone fairness. *See Microsoft Corp. v. i4i Ltd. P'Ship*, 564 U.S. 91, 102 (2011).

Moreover, the comparatively rushed timeline and limited discovery and opportunity to introduce evidence in an IPR proceeding further detriments patent owners, who are often left playing catch-up to challengers who can engage in gamesmanship through parallel and serial IPR proceedings. And as LSPI's experience shows, defendants in infringement litigation can also use IPR to delay federal court proceedings, forcing additional costs onto patent owners and leaving their hands tied against continued infringement.

B. IPR Is Asymmetrically Disadvantageous For Patent Owners.

LSPI's competitors are incentivized to initiate these low-risk and relatively low-cost IPR proceedings—they have little to lose and much to gain. Thus the merit and statutorily-presumed validity of its patents provide no safeguard to a company from being subject to IPR's harms, which are realized not only at the time of a PTAB decision, but also throughout the entire process. Patent owners are forced to spend even more of its resources to defend itself in the PTAB just to adjudicate patentability of its inventions, which had already been resolved during the initial patent prosecution process.

In practice, litigation defendants can leverage the timing of serial IPRs to gain unfair advantages in co-pending district court litigation and within the IPR proceedings, by strategically adjusting their positions

after having the opportunity to see the Patent Owner's arguments and testimony in connection with the initial IPR proceedings. In LSPI's case, the PTAB expressly found that Baker used its second IPR petition on the same 118 patent "to adjust its position" by "modifying [expert] testimony in [the duplicative] proceeding in response to [LSPI's] arguments" in the first IPR. *See, e.g.,* Decision Denying Institution of *Inter Partes* Review at 10, *Baker Hughes, Inc. v. Liquid Power Specialty Products Inc.*, IPR2016-01896 (PTAB March 31, 2017). *See also Great West Casualty Co. et al v. Intellectual Ventures LLC.*, IPR No. 2016-01534, Paper No. 13 at 23 (PTAB Feb. 15, 2017) ("The potential inequity based on a petitioner's filing of serial and similar attacks against the same claims of the same patent, while having the opportunity to adjust litigation positions along the way based on either patent owner's contentions responding to prior challenges or the Board's decision on prior challenges, is real and cannot be ignored.")

A system that allows such gamesmanship frustrates Congress's stated purpose of providing a quick, cost effective alternative to patent litigation. Giving parties like Baker multiple bites at the apple undermines both accuracy and fairness to research-driven companies like LSPI.

C. IPR Risks Deterring Innovation And R&D.

Because it is more lenient to challengers on burden of proving invalidity, and does not take account of the statutory presumption of patent validity, IPR is often initiated after or in the face of infringement litigation, no matter how clearly

inventive the patent or egregious the infringement. Thus, in effect, an inventor must now consider and be prepared to incur the costs of both litigation and parallel IPR proceedings if it seeks to prevent or recover for infringement of its rights. The availability of a duplicative proceeding means that there are greater risks and fewer benefits to inventors who wish to protect the fruits of their labor through the patent system. True reliance on stated patent rights is rendered impossible. Patents subject to serial attack in a forum that favors challengers provide only illusory property rights. On a broader scale, IPR's burdens chill incentives to take on the necessary risks and investments that further scientific and technological advances. A visionary business that, anchored by issued patents, would be enterprising and transformative, can instead look like an expensive gamble when afforded only the fragile rights that exist under IPR. LSPI's business has emerged as a leader because of its committed investment to R&D and resulting inventions and patent protection. It deserves the chance to protect its patent rights in its pioneering technology in federal court with the statutory presumption of validity and the clear and convincing burdens imposed on a competitor seeking to challenge the validity of such rights.

CONCLUSION

For the foregoing reasons, the judgment of the court of appeals should be reversed.

Respectfully submitted,

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