

No. 11-

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IN THE  
**Supreme Court of the United States**

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SAINT-GOBAIN CERAMICS & PLASTICS, INC.,  
*Petitioner,*

v.

SIEMENS MEDICAL SOLUTIONS USA, INC.,  
*Respondent.*

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

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**PETITION FOR A WRIT OF CERTIORARI**

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## QUESTIONS PRESENTED

The Patent and Trademark Office (“PTO”) determines whether the standards governing patentability are met, including whether a claimed invention is non-obvious over prior art. 35 U.S.C. § 103. Where the PTO finds that these standards are satisfied, the resulting patent (and the patentability determinations underlying it) are presumed valid, *id.* § 282, and that presumption can be overcome only by clear and convincing evidence. *Microsoft Corp. v. i4i, Ltd. P’ship*, 131 S. Ct. 2238 (2011). In light of this scheme, the questions presented are:

1. Whether the PTO’s presumptively valid finding that an invention is not obvious and is thus patentable over a prior art patent is impermissibly nullified or undermined when a jury is allowed to find, by a mere preponderance of the evidence, that the patented invention is “insubstantially different” from the very same prior art patent, and thus infringes that prior art patent under the “doctrine of equivalents.”

2. Whether, as the dissent below warned, the Federal Circuit’s failure to impose a heightened evidentiary standard to ensure that juries do not use the doctrine of equivalents to override the PTO’s presumptively valid non-obvious determinations undermines the reasonable reliance of competitors and investors on such PTO determinations, thereby intolerably increasing uncertainty over claim scope, fostering litigation, “deter[ring] innovation and hamper[ing] legitimate competition.” App. 89a (Dyk, J., dissenting from the denial of rehearing en banc).

**PARTIES TO THE PROCEEDING**

The caption contains the names of all parties to the proceeding below.

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## **PETITION FOR CERTIORARI**

Petitioner Saint-Gobain Ceramics & Plastics, Inc. (“Saint-Gobain”) petitions for a writ of certiorari to review the judgment of the Federal Circuit in this case.

## **OPINIONS BELOW**

The Federal Circuit’s opinion (App. 1a-40a) is reported at 637 F.3d 1269 (Fed Cir. 2011). The order denying Saint-Gobain’s petition for rehearing en banc (App. 71a-89a) with its accompanying opinions is reported at 2011 WL 2184386 (Fed. Cir. June 7, 2011). The district court’s decision granting in part and denying in part Saint-Gobain’s motion for judgment as a matter of law or, in the alternative, for judgment notwithstanding the verdict and a remittitur (App. 41a-70a) is reported at 615 F. Supp. 2d 304 (D. Del. 2009).

## **JURISDICTION**

The court of appeals entered its opinion and judgment on February 24, 2011. App. 1a. Saint-Gobain filed a timely petition for rehearing en banc on March 22, 2011, which was denied on June 7, 2011, over the dissent of three judges. *Id.* at 71a. This Court has jurisdiction pursuant to 28 U.S.C. § 1254(1).

## **CONSTITUTIONAL AND STATUTORY PROVISIONS INVOLVED**

35 U.S.C. § 282 states that

A patent shall be presumed valid. Each claim of a patent (whether in independent, dependent, or multiple dependent form) shall be presumed



valid independently of the validity of other claims; dependent or multiple dependent claims shall be presumed valid even though dependent upon an invalid claim. . . . The burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity.

## INTRODUCTION

In this case, a splintered Federal Circuit incorrectly decided an important question of patent law in a manner that will heighten uncertainty, increase litigation, and discourage innovation. The Patent and Trademark Office (“PTO”) may grant a patent only if it determines that an invention is non-obvious over the prior art, see 35 U.S.C. § 103(a); once granted, a patent is entitled to a presumption of validity, and that presumption can be overcome only by clear and convincing evidence. See *Microsoft Corp. v. i4i, Ltd. P’ship*, 131 S. Ct. 2238 (2011). In this case, however, a majority of the Federal Circuit held that, even though the PTO found that a later invention was non-obvious and thus patentable over a patent in the prior art, a jury can nevertheless find, under a mere preponderance of the evidence standard, that this later invention is “insubstantially different” from that very same prior art patent, and thus infringes the prior art patent under the doctrine of equivalents.

This cannot be the law. As this Court recently confirmed, those claiming that a patented invention is obvious and that the patent covering it is invalid must satisfy a higher standard of proof. App. 16a (the Patent Act requires an invalidity defense to be “proved by clear and convincing evidence”). Here, as the en banc dissenters explained below, the jury’s finding that a patented invention was “insubstant-

ially different” from a prior art patent is necessarily a finding that the patent covering that later invention is obvious and thus invalid in light of the prior art. Yet, in making this *de facto* invalidity determination, the jury was not instructed to apply any heightened evidentiary standard. Indeed, it was not even instructed that the patent covering the accused product was entitled to a presumption of validity. In these circumstances, the jury was improperly allowed to nullify the statutory presumption of validity.

Such nullification is particularly troubling—and particularly worthy of this Court’s review—because it arises from application of the doctrine of equivalents. This Court has recognized that the doctrine of equivalents expands patent rights beyond the literal terms of patent claims, and that an overbroad interpretation of the doctrine creates uncertainty about a patent’s scope, increases litigation, and suppresses innovation. See *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 28-29 (1997). As the en banc dissenters noted, the decision in this case magnifies all of these concerns.

The risk of uncertainty that inheres in any non-literal interpretation of a patent increases intolerably when the doctrine of equivalents is used to capture a new invention that the PTO deemed non-obvious and separately patentable over that very same patent. Indeed, the patents and other prior art that the PTO considered in deciding whether a new invention is patentable are listed on the face of the later-granted patent. In deciding whether they can market products covered by a later-granted patent without undue fear of infringing any prior art patents, patentees and their licensees can and do rely on the scope of the prior art that was before the PTO when it

granted the subsequent patent. The decision below, however, vitiates that reasonable reliance, by allowing juries to decide, under a mere preponderance standard, that a separately patentable product is insubstantially different from a prior art patent.

Such rulings, in turn, create greater incentives for litigation. The owners of prior art patents will be encouraged to assert equivalents claims against competing products that are covered by later-granted patents, knowing that juries can make equivalents findings without regard to the PTO's determination that the later-granted patent is valid. And this, in turn, will dampen incentives for innovation, as those who invest in such innovation and obtain patent protections for them will have less assurance that the PTO's findings of non-obviousness provide reasonable protection from equivalents-based infringement claims by the owners of prior art patents.

For these reasons, such use of the doctrine of equivalents to override the statutory presumption of validity "presents an important question" of patent law. App. 84a (Dyk, J., dissenting). And that question is worthy of this Court's review. The issue has sharply divided the judges of the Federal Circuit, which is the exclusive arbiter of national patent law unless this Court grants review. That court and this Court have both recognized that "[t]here is perhaps no question more important to the health of patents than the scope and application of the judicially-created doctrine of equivalents." See *Litton Sys., Inc. v. Honeywell, Inc.*, 145 F.3d 1472, 1472 (Fed. Cir. 1998) (Plager, J., dissenting from denial of rehearing en banc); *Warner-Jenkinson*, 520 U.S. at 28-29 (citing substantial consequences of existence and interpretation of doctrine). The dissent from the panel decision, the dissent from the denial of rehearing en

banc, and the three concurring opinions responding to that dissent confirm the substantial legal issue presented by this case and the importance of its proper resolution.

### STATEMENT OF THE CASE

1. The patents relevant to this case involve “scintillator crystals” used in positron emission tomography (“PET”) scanners, a medical imaging technique. App 2a. Scintillator crystals detect gamma rays that exit a patient’s body after the administration of a radioactive isotope. The crystals convert the emitted rays into visible light, which is then detected to produce a three-dimensional image of the radioactivity in the patient’s body. *Id.* This image provides information about the chemical structure and function of a patient’s organ systems.

Respondent Siemens Medical Solutions USA, Inc. (“Siemens”) owns U.S. Patent 4,958,080 (the “’080 patent”), which claims a radiation detector incorporating a scintillator composed of cerium-doped lutetium oxyorthosilicate (“LSO”). Saint-Gobain manufactures scintillator crystals under a license to U.S. Patent 6,624,420 (“the Chai ’420 patent”). The Chai ’420 patent claims a radiation detector incorporating cerium-doped lutetium-yttrium oxyorthosilicate (“LYSO”) crystals. The ’080 patent was cited by the PTO as prior art relevant to the patentability of the invention claimed in the Chai ’420 patent—a fact reflected on the front page of the latter patent. In granting the Chai ’420 patent, the PTO necessarily concluded that the substitution of LYSO crystals for LSO crystals was not obvious.

In 2007, Siemens sued Saint-Gobain, claiming that Saint-Gobain’s patented crystals infringed the ’080 patent. In light of the differences in their chemical

compositions, Siemens could not and did not allege literal infringement of the '080 patent. Instead, it claimed infringement under the doctrine of equivalents, *i.e.*, that Saint-Gobain's LYSO crystals are insubstantially different from the LSO crystals claimed in the '080 patent. App. 5a.

The case was tried to a jury. Throughout the lower court proceedings, Saint-Gobain argued that Siemens should face a higher hurdle in proving its claim that LYSO crystals are insubstantially different from LSO crystals. Relying on the fact that the PTO was fully aware of the LSO crystals claimed in the '080 patent when it issued the Chai '420 patent claiming use of LYSO crystals, Saint-Gobain asserted that LYSO crystals could not be both non-obvious and thus patentable over the LSO crystals and, at the same time, insubstantially different from LSO crystals. Instead, in these circumstances, a finding that the crystals claimed in Chai '420 patent are equivalent to those claimed in the '080 patent would be a *de facto* finding that the Chai '420 patent was invalid.<sup>1</sup> Because the presumption that a patent is valid can be overcome only by clear and convincing evidence, Saint-Gobain asked the trial court to instruct the jury that Siemens was required to prove equivalence by clear and convincing evidence. App. 45a.

The district court denied this request. App. 45a. It instructed the jury that Siemens was required to prove its claim that a patented invention infringed by

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<sup>1</sup> Indeed, Siemens itself tacitly acknowledged this, by directly attacking the validity of the '420 patent. Thus, it introduced such testimony as: "Dr. Chai did not provide any data to the Patent Office for a ten-percent yttrium crystal" (JA 1357:9-16); "there are people at the Patent Office that make mistakes" (JA 1358:3-5); and "45 percent of patents that are challenged are found to be invalid" (JA 1358:14-22).

the doctrine of equivalents only by a preponderance of the evidence. *Id.* at 46a. The district court also denied Saint-Gobain’s related request that the jury be instructed that the Chai ’420 patent was entitled to a presumption of validity, particularly in light of Siemens’ repeated insinuations that the Chai ’420 patent was invalid. *Id.* at 45a-46a. And the district court excluded evidence Saint-Gobain proffered to show that the PTO had concluded *twice* that LYSO crystals are non-obvious over the LSO crystals claimed in the ’080 patent—the second time with respect to a patent, (U.S. Patent 6,323,489 (“the McClellan ’489 patent”)), which claimed LYSO crystals and disclosed an embodiment with precisely the same chemical composition as those marketed by Saint-Gobain.<sup>2</sup> *Id.* at 51a-52a.

The jury concluded that Saint-Gobain had infringed Siemens’ patent under the doctrine of equivalents and awarded \$52.3 million in damages for lost profits. Saint-Gobain timely moved for judgment as a matter of law under Fed. R. Civ. P. 50 or, in the alternative, for a new trial and remittitur under Fed. R. Civ. P. 59. App. 42a. It argued that the trial court erred when it instructed the jury to apply the “preponderance of the evidence” standard because a higher standard was required to prove that the separately patented, and presumptively non-obvious crystals of

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<sup>2</sup> The Chai ’420 patent claims LYSO crystals ranging from .01% to 99.99% yttrium, whereas Saint-Gobain’s marketed crystals contained 10% yttrium (*i.e.*, 10% Y LYSO crystals). That composition was specifically disclosed as an embodiment in the McClellan ’489 patent, which was later surrendered after the PTO found that the Chai ’420 patent had priority. The court of appeals later held that exclusion of the McClellan ’489 patent was not an abuse of discretion and was harmless error. App. 21a-23a.

the Chai '420 patent infringe by the doctrine of equivalents. Saint-Gobain also argued that the court erred when it refused to instruct the jury that the Chai '420 patent is presumed valid.

The district court rejected both arguments. It declined to apply a heightened standard of proof when a party alleges that a later, separately patented invention infringes a prior art patent by equivalents. And the court found no error in its refusal to instruct the jury that the invention of the Chai '420 patent is entitled to a presumption of validity. App. 49a-51a.<sup>3</sup>

2. On appeal, a divided panel of the Federal Circuit rejected Saint-Gobain's argument that, in light of the presumption of validity afforded to patents under the Patent Act, Siemens had to prove the alleged equivalence of Saint-Gobain's patented crystals by clear and convincing evidence. The panel noted that "Saint-Gobain makes an interesting argument, not illogical, (and ably articulated by the dissent), regarding a correspondence between the nonobviousness of an accused product, as shown by its separate patentability, and its infringement of another patent under the doctrine of equivalents." App. 11a. Nonetheless, the court found "that the district court did not legally err by instructing the jury that infringement in this case may be proved by a preponderance of the evidence." *Id.*

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<sup>3</sup> The district court did accept Saint-Gobain's argument that Siemens had presented insufficient evidence to recover lost profits only on 18 of its 79 scanners, and it reduced the lost profits award accordingly. App. 66a-67a. On appeal, the Federal Circuit agreed, but found that Siemens was entitled to reasonable royalties on the 18 scanners for which lost profits were not awarded. *Id.* at 34a.

Relying, *inter alia*, on this Court’s decision in *Sanitary Refrigerator Co. v. Winters*, 280 U.S. 30 (1929), the court of appeals held that “separate patentability warrants [nothing] more than consideration of this fact together with all others weighing for and against equivalency,” App. 14a, and “does not merit a heightened evidentiary burden,” *id.* at 15a. The court specifically rejected Saint-Gobain’s argument that a finding of equivalence is “tantamount to a finding of obviousness,” stating that infringement by the doctrine of equivalents and patentability involve different analytical frameworks. *Id.* at 16a.<sup>4</sup>

The panel also found no error in the district court’s refusal to instruct the jury that the patent covering Saint-Gobain’s LYSO crystals was entitled to a presumption of validity. The court found that this omission “did not ‘clearly mislead the jury’” because “[p]atent validity was not an issue before the jury” and because the jury had notice of the presumption based on “a video providing an overview of the patent system” and Saint-Gobain’s statements in argument before the jury. App. 19a-20a.

Judge Prost dissented. She highlighted the “tension between the equivalence and nonobviousness inquiries presented”—a “tension [that] comes to light when a patentee asserts the doctrine of equivalents against some feature that the [PTO] declared to be a point of novelty in a separate patent.” App. 35a. She

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<sup>4</sup> The panel majority also asserted the jury’s determination of equivalence would not constructively invalidate the Chai ’420 patent in its entirety. App. 20a. According to the panel, a finding that 10% Y LYSO crystals are equivalent to LSO crystals claimed in the ’080 patent would not necessarily invalidate the full range of LYSO crystals claimed by the Chai ’420 patent. *See supra*, note 2.



further explained that “[w]here equivalence is used against a feature that is separately patented, the patentee’s attempts to show that the feature is insubstantially different from the asserted patent crash into the well-settled presumption that patents are nonobvious over the prior art.” *Id.* at 36a.

Given the substantial overlap between the legal standards for obviousness and equivalence, App. 37a-38a, Judge Prost concluded that it was “not . . . acceptable to leave the fact-finder—here, a jury—without instruction on how it might navigate the equivalence inquiry without undermining the presumption of nonobviousness that we must accord issued patents.” *Id.* at 38a (citing *Roton Barrier, Inc. v. Stanley Works*, 79 F.3d 1112, 1128 (Fed. Cir. 1996) (Nies, J., additional views) (“a substitution in a patented invention cannot be both nonobvious and insubstantial”)). The jury instructions here were legally deficient because they failed to recognize that “a separately-patented (and presumptively nonobvious) substitution cannot be ‘insubstantial’ unless some fact distinguishes the equivalence finding from the PTO’s earlier nonobviousness determination.” *Id.* at 39a.

Saint-Gobain timely petitioned for rehearing en banc. On June 7, 2011, the Court divided 8-3 in denying rehearing. The case produced three concurring opinions and a dissent by Judge Dyk, who was joined by two other judges. App. 71a-89a.

The three concurring opinions all defended a broad application of the doctrine of equivalents, including in cases involving separately patented products. Judge Lourie argued that this case is not “about whether a patent’s claim scope can encompass under the doctrine of equivalents a new and separately patented invention,” but is instead about whether the

burden of proving infringement should be increased when the accused subject matter is separately patented. App. 74a. Judge Rader discussed the Patent Act's protection of original inventions and of non-obvious improvements to those inventions. *Id.* at 77a-79a. He noted that without the doctrine of equivalents, "improving technology could deprive basic inventors of their rights under the patent system." *Id.* at 78a. And, Judge Newman characterized the dissent as asserting that a separately patented product can never infringe by the doctrine of equivalents, and argued that eliminating the doctrine's application to such products would discourage innovation. *Id.* at 80a-83a.

Judge Dyk and two other judges vigorously dissented from the denial of rehearing en banc. They argued that the doctrine of equivalents cannot be used to capture products embodying subsequently patented inventions, because "a product cannot be insubstantially different" from a prior art patent "if it is nonobvious and separately patentable" over that same patent. App. 86a. Accordingly, "where the purported equivalent is embodied in a subsequent patent, the finder of fact should afford a presumption of validity to the subsequent patent." *Id.* at 87a. This presumption does not immunize a subsequently-patented product from infringing a prior art patent under the doctrine of equivalents. Instead, it requires the plaintiff to overcome the presumptive validity of the later-granted patent by satisfying a heightened evidentiary standard, which is essentially what this Court's decision in *Sanitary Refrigerator* required. *Id.* at 87a-88a. Absent such a showing, however, "a purported equivalent cannot be both insubstantially different and nonobvious, and in no event should the doctrine of equivalents permit a

patent to capture another's subsequent invention that is novel and nonobvious." *Id.* at 88a. "The majority's contrary approach," Judge Dyk warned, "will deter innovation and hamper legitimate competition." *Id.* at 88a-89a.<sup>5</sup>

### REASONS FOR GRANTING THE PETITION

As Judge Dyk observed below, "this case presents an important question" of patent law. App. 84a. The question whether a patent claim's scope can be expanded under the doctrine of equivalents to encompass subsequent and separately patented inventions has surfaced repeatedly over the years. See, e.g., *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 493 F.3d 1368, 1379-80 (Fed. Cir. 2007) ("there is a strong argument that an equivalent cannot be both non-obvious and insubstantial"); *Roton Barrier, Inc. v. Stanley Works*, 79 F.3d 1112, 1128 (Fed. Cir. 1996) (Nies, J., additional views) ("[a] substitution in a patented invention cannot be both nonobvious and insubstantial"); *Lewmar Marine, Inc. v. Barient, Inc.*, 827 F.2d 744, 748 (Fed. Cir. 1987) (as literal infringement is the post-grant manifestation of anticipation, infringement by equivalents "is somewhat akin to obviousness"). And its resolution in this case engendered significant division in the Federal Circuit, including a lengthy dissent at the panel stage, and four separate opinions among nine judges at the en banc stage. This division within the Federal Circuit is alone sufficient to justify review of the decision below. *Warner-Jenkinson*, 520 U.S. at

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<sup>5</sup> Judge Dyk also pointed out that the doctrine of equivalents is not a tool to misappropriate another's invention—the patentee should not be able to "secure the rights to a new invention that the inventor did not create" or to "capture another's subsequent invention." App. 86a, 88a.

23-24 (differences of opinion among judges of the Federal Circuit on patent law matters are sufficient to warrant certiorari); *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 727-28 (2002) (same).

But the proliferation of opinions also reflects the importance of the underlying legal issue, which has generated considerable commentary in law reviews as well. At its core, the issue raised by this case concerns the proper scope and application of the doctrine of equivalents, one of the most controversial and important issues in patent law. See *Warner-Jenkinson*, 520 U.S. at 28-29 (citing substantial consequences of existence and interpretation of doctrine); *Litton Sys., Inc.*, 145 F.3d at 1472 (Plager, J., dissenting from denial of rehearing en banc) (“[t]here is perhaps no question more important to the health of patents than the scope and application of the judicially-created doctrine of equivalents”); Alan L. Durham, *Patent Symmetry*, 87 B.U. L. Rev. 969, 971 (2007) (“the doctrine of equivalents has been, for more than 150 years, one of the most controversial aspects of patent doctrine”).

This case illustrates in the starkest manner possible the fundamental tension that can arise between overbroad use of the doctrine and the statutory presumption of validity that attaches to later-granted patents. Indeed, in this case, the doctrine was allowed to nullify that presumption. This nullification of a statutorily-prescribed presumption is alone sufficient to justify review by this Court. Moreover, by allowing the doctrine of equivalents to capture later, separately patented inventions, the decision below undermines the public notice function that patents serve, fosters legal uncertainty, and

discourages innovation. For all of these reasons, therefore, the Court should grant the petition.

**I. THE FEDERAL CIRCUIT INCORRECTLY  
RESOLVED AN IMPORTANT ISSUE OF  
PATENT LAW.**

In the decision below, the panel majority resolved an important question of patent law in a manner that cannot be reconciled with the Patent Statute. By allowing a plaintiff to use the doctrine of equivalents to expand the scope of a prior art patent to encompass a subsequent and separately patented invention without satisfying any heightened evidentiary standard, the majority below effectively nullified the statutory presumption of validity that attaches to later-granted patents. The majority's efforts to show otherwise are unavailing.

1. As this Court recently affirmed, because patents are presumed by statute to be valid, 35 U.S.C. § 282, any claim of patent invalidity must be proved by clear and convincing evidence. *Microsoft Corp. v. i4i, Ltd. P'ship*, 131 S. Ct. 2238 (2011). This presumption, and the corresponding standard of proof, reflect the fact that Congress has charged the PTO with determining whether a patent application satisfies the requirements for patentability. *Id.* at 2242. Section 282 codified a longstanding common-law presumption that was “based on ‘the basic proposition that a government agency such as the [PTO] was presumed to do its job.’” *Id.* at 2243 (alteration in original) (quoting *Am. Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1359 (Fed. Cir. 1984)).

One aspect of the PTO's job is to determine that a claimed invention is not obvious. 35 U.S.C. § 103. This requires the PTO to determine “the state of the prior art in the field and the nature of the

advancement embodied in the invention.” *Microsoft*, 131 S. Ct. at 2242. “[T]he same factual questions underlying the PTO’s original examination of a patent application will also bear on an invalidity defense in an infringement action.” *Id.* at 2243 (citing factual inquiries “for evaluating obviousness”). In granting a patent, the PTO cites the best (though not necessarily all) examples of the prior art that it considered in determining that the claimed invention is non-obvious. *Id.* at 2250 n.10. And this Court recently endorsed the commonsense principle that a party attacking the validity of a patent may more readily meet the clear and convincing evidence standard by relying on prior art that was not before the PTO when it granted the patent. *Id.* at 2251. The necessary corollary to that principle, of course, is that such a party should have a more difficult time satisfying its heightened evidentiary burden when it relies on evidence that was before the PTO.

As the dissenters below recognized, there is an inescapable overlap between the factors and inquiries that govern the PTO’s determination that an invention is non-obvious over a prior art patent, and the factors and inquiries that govern a determination that a later invention infringes a prior art patent under the doctrine of equivalents. The equivalence inquiry focuses on whether a feature of the new invention “is insubstantially different from the limitations of [the] asserted claim.” App. 35a (Prost, J., dissenting). “An important factor [in the equivalence analysis] is whether persons reasonably skilled in the art would have known of the interchangeability of an ingredient not contained in the patent with one that was.” *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 609 (1950).

This is essentially the same inquiry the PTO conducts when it determines non-obviousness. In that context, the PTO considers “(1) the scope and content of the prior art, (2) the differences between the prior art and the claims, (3) the level of ordinary skill in the art, and (4) secondary considerations, such as commercial success, unexpected results, and long-felt need.” App. 36a (Prost, J., dissenting). The first three factors determine whether the claimed invention is “insubstantially different” from the prior art and whether persons skilled in the art would have thought to substitute the ingredient or element that assertedly renders the claimed invention new. The fourth factor is used to confirm or disprove whether a person skilled in the art would have thought of the substitution—*e.g.*, commercial success demonstrates that such a substitution was not obvious (otherwise, skilled artisans would have made it sooner).

Accordingly, as the dissenters below recognized, “a purported equivalent” in a new, patented invention, “cannot be both insubstantially different” from a prior art patent “and nonobvious” over that same patent. App. 88a (Dyk, J., dissenting). “[A] separately-patented (and presumptively nonobvious) substitution cannot be ‘insubstantial’ unless some fact distinguishes the equivalence finding from the PTO’s earlier nonobviousness determination.” *Id.* at 39a (Prost, J., dissenting). See also Durham, *supra*, at 1004, 1009 (the presumption of validity, which includes a presumption of non-obviousness, should “carry great weight in the equivalence inquiry, particularly if [the later-granted patent was] issued by an examiner cognizant of plaintiff’s patent as prior art”; accordingly, there is an inherent “contradict[ion]” in “find[ing] a difference equivalent when

the Patent Office has found the same difference patentable.”).

Indeed, the facts of this case illustrate the correctness of these observations. In two separate applications, the PTO considered whether LYSO crystals are non-obvious in light of the LSO crystals disclosed in Siemens’ ’080 patent. Both times, with two separate examiners, it determined LYSO crystals were non-obvious. Indeed, the McClellan ’489 patent disclosed the exact type of LYSO crystal that Saint-Gobain marketed (LYSO crystals containing 10% yttrium). Under § 282 of the Patent Act, as this Court has construed it, the PTO’s finding that the Chai ’420 and McClellan ’489 patents were not obvious could be refuted only by clear and convincing evidence, and a challenger should have a particularly difficult time satisfying this standard when relying on art that was before the PTO. Yet the jury was allowed to find, based on a preponderance of the evidence, that crystals claimed by both of these patents were insubstantially different from those claimed in the ’080 patent, notwithstanding the PTO’s contrary resolution of this very issue, and “the universal understanding that a preponderance standard [is] too ‘dubious’ a basis to deem a patent invalid.” *Microsoft*, 131 S. Ct. at 2246 (quoting *Radio Corp. of Am. v. Radio Eng’g Labs., Inc.*, 293 U.S. 1, 8 (1934)).

2. The majority’s efforts to explain away this clear inconsistency do not withstand scrutiny. The panel relied on *Sanitary Refrigerator Co. v. Winters*, 280 U.S. 30 (1929), for the proposition that “equivalence [may be found] in the face of separate patentability without imposing a heightened evidentiary burden.” App. 14a. That is incorrect, as Judge Dyk demonstrated in his dissenting opinion. *Id.* at 86a-89a. In



*Sanitary Refrigerator*, this Court recited at length the overwhelming evidence of equivalence between the two patented devices, then concluded that, in light of “the controlling weight of the undisputed facts,” the “presumptive validity that may attach to the [defendant’s] patent by reason of its issuance after the [plaintiff’s] patent” was insufficient to avoid infringement. 280 U.S. at 43. Thus, the Court held that the accused device’s patented status *did* entitle it to a presumption of validity—*i.e.*, “that the ‘controlling weight of the undisputed facts’ overcame the subsequent patents’ presumption of validity, *not* that the presumption of validity was irrelevant.” App. 88a (emphasis added).

The panel also cited a number of Federal Circuit decisions stating that the grant of a patent does not preclude infringement of a prior art patent by the doctrine of equivalents. App. 14a-16a. But Saint-Gobain did not, and does not, claim immunity from an infringement finding. Instead, it argued that a heightened standard of proof was necessary, because a finding that Saint-Gobain’s LYSO crystals are insubstantially different from the crystals claimed in the ’080 patent is inescapably a finding that the PTO erred in deeming the LYSO crystals non-obvious over the ’080 patent. Thus, the instructions Saint-Gobain sought simply reflected the facts that, (1) in finding equivalence here, the jury was making a *de facto* finding of invalidity based on obviousness, and (2) such a finding must, by statute, be made by clear and convincing evidence.

The panel also made the entirely circular argument that the Chai ’420 patent was not invalidated because invalidation requires proof by clear and convincing evidence, whereas here the jury found infringement only under a preponderance standard. App. 16a. But

the issue presented on appeal was not that the Chai '420 patent had been formally declared invalid; rather, the absence of proper jury instructions permitted the jury to make an equivalence finding at odds and inconsistent with the presumption of validity—in particular, with the PTO's necessary finding that the claimed LYSO crystals were non-obvious over the LSO crystals claimed in the '080 patent.<sup>6</sup>

The efforts of the judges who concurred in the denial of rehearing en banc fare no better. Judge Lourie claimed that the jury finding was “that Siemens’ patent, in effect [was] a dominant patent.” App. 76a. That is plainly incorrect. As Judge Dyk explained, a dominant patent is one claiming an invention that entitles the patentee to include an open-ended term such as “comprising” in order to prevent the practice of subsequent improvements that embody all of the dominant patent’s elements, plus additional new elements. *Id.* at 89a n.3. Here, the '420 patent is not an improvement to a dominant patent; its “point of novelty over the '080 patent is not that it claims an *additional* element, but rather that it claims a *substitute* element (LYSO) that is different in kind from an element claimed in the '080 patent (LSO).” *Id.* Thus, LYSO is not simply L+S+O+Y, capable of easy restoration to L+S+O; instead, it is a wholly different integrated crystal structure, which

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<sup>6</sup> Nor is it an answer to argue that the finding of infringement by the doctrine of equivalents did not invalidate the '420 patent in its entirety, because the '420 patent claims more than just 10% Y LYSO. App. 17a-18a. Each product that comes within the claimed scope of the '420 patent is presumed to be non-obvious. 35 U.S.C. § 103(a).

the PTO concluded is a non-obvious invention with substantial difference from LSO.<sup>7</sup>

Similarly, it is irrelevant that “[a] major, if not the primary, purpose of the doctrine of equivalents is to protect inventions from infringement by after-arising technology.” App 77a (Rader, C.J., concurring). This observation, like the panel majority’s observation that obviousness and equivalence are determined at different points in time, *id.* at 17a, does not justify the decision below. A finding of equivalence based on the substitution of an after-arising element may be appropriate where the novelty of the invention lies not in the nature of the element itself, but in the manner in which that element is used in combination with other elements. Thus, as Judge Dyk explained, if a patent claim used “the narrow term ‘clip’ to describe an incidental aspect of the invention, the claim might be extended under the doctrine of equivalents to include all fasteners, including those subsequently developed,” if they are used to perform the same function, in substantially the same way, to achieve substantially the same result as the “clip” in the patent. *Id.* at 87a n.1. “But this is a far cry from

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<sup>7</sup> Judge Lourie also reasoned that the finding of equivalence did not invalidate the ’420 patent, because the right it conferred to exclude others from practicing a detection system using LYSO crystals remains intact. App. 75a. This observation, however, does not change the fact that the jury was permitted to make a finding that overrode the PTO’s determination of non-obviousness without meeting the statutorily-specified evidentiary standard. Moreover, this observation—like the panel’s “no declaration of invalidity” reasoning—elevates form over substance. The economic value of a right to exclude others from practicing a new, non-obvious invention is plainly reduced by a finding that the invention is in fact obvious in light of the same prior art that was before the PTO when it granted the later patent.

saying that a claim directed to a particular type of clip—i.e., where the invention in whole or in part is the clip itself—should cover after-arising and separately patentable fastening means.” *Id.* So too here, the claims of the ’080 patent are directed to the chemical composition of the crystals themselves—not to mere use of generic crystals for a particular purpose—and thus cannot be expanded to cover after-arising and separately patentable crystals having a different chemical composition that the PTO deemed non-obvious over the composition of the ’080 crystals.

In short, none of the judges in the majority below was able to reconcile the statutory presumption of validity with a ruling that allows juries to find, based on a “dubious preponderance of the evidence,” that a later and separately patented invention is insubstantially different from a prior art patent. Proper resolution of this clash between the doctrine of equivalents and the statutory presumption of validity is exceptionally important to the administration of the patent system. Indeed, each of the rationales offered to justify the decision below—that it is consistent with this Court’s precedent, that it is necessary to protect dominant patents, that it reflects the proper treatment of after-arising technology, that it is consistent with the legal rights secured by later-granted patents—confirms that the application of the doctrine of equivalents in this case implicates fundamentally important questions of patent law. For all of these reasons, therefore, the decision below should be reviewed.

## II. USE OF THE DOCTRINE OF EQUIVALENTS TO ENCOMPASS LATER, SEPARATELY PATENTED INVENTIONS UNDERMINES CRITICAL PRECEPTS OF THE PATENT SYSTEM.

This Court should also grant review because the Federal Circuit has sanctioned use of the doctrine of equivalents in a manner that creates an intolerable degree of tension with the public notice function that patents are intended to serve.

Properly applied, the doctrine strikes a balance between two important but competing sets of interests. On the one hand, the doctrine deters and punishes what amounts to fraud on a patent, whereby unscrupulous copyists appropriate the essence of an invention while avoiding infringement through “unimportant,” “insubstantial,” or “trivial” alterations that “were not captured in drafting the original patent.” *Festo*, 535 U.S. at 732-33. On the other hand, overbroad use of the doctrine imposes significant costs on society. The public is entitled to clear notice of what it can and cannot do with respect to any patent—a right embodied in the Patent Act’s definiteness requirement. *See* 35 U.S.C. § 112 (patent claims must “particularly point[] out and distinctly claim[] the subject matter which the applicant regards as his invention”); *All Dental Prodx, LLC v. Advantage Dental Prods., Inc.*, 309 F.3d 774, 779-80 (Fed. Cir. 2002) (“The primary purpose of the definiteness requirement is to ensure that the claims are written in such a way that they give notice to the public . . . so that interested [persons] can determine whether or not they infringe.”). As this Court recognized in *Warner-Jenkinson*, “[t]here can be no denying that the doctrine of equivalents, when applied broadly,

conflicts with the definitional and public-notice functions of the statutory claiming requirement.” 520 U.S. at 29. By generating significant uncertainty about the scope of existing patents, broad application of the doctrine fosters litigation and discourages innovation, particularly given the unpredictable application of the doctrine in litigation. See, e.g., Hon. Paul Michel, *The Challenge Ahead: Increasing Predictability in Federal Circuit Jurisprudence for the New Century*, 43 Am. U. L. Rev. 1231, 1238 (1994) (“jury findings are unpredictable concerning possible infringement under the doctrine of equivalents, and certainty in applying the doctrine is not appreciably higher in bench trials”).<sup>8</sup>

As this case vividly illustrates, allowing the doctrine of equivalents to expand claims to encompass subsequent and separately patented inventions plainly upsets the balance of relevant interests, by undermining the notice function of patent claims, increasing uncertainty and litigation costs, and stifling innovation. As this Court has recognized, one way competitors can “reduce the uncertainty” associated with the doctrine of equivalents is by “rely[ing] on the prosecution history, the public record of the patent proceedings” before the PTO. *Festo*, 535 U.S. at 727. In *Festo*, that reliance took the form of interpreting a patent in light of the applicant’s narrowing

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<sup>8</sup> See generally John Mills, *Three “Non-Obvious” Modifications To Simplify And Rein In The Doctrine Of Equivalents*, 14 Fed. Cir. B.J. 649, 654 (2005) (“While it is clear that an unscrupulous copyist should be liable for infringement under the doctrine of equivalents, some level of designing around is necessary to foster competition, which ultimately benefits the consumer. . . . If, however, the balance is tipped in favor of the initial innovators, the exclusionary right granted by the patent may stifle competition and opportunities to improve already existing inventions.”) (footnote omitted).

of a claim term. Where, for example, a patentee “narrowed the claim in response to a rejection, he may not argue that the surrendered territory comprised unforeseen subject matter that should be deemed equivalent to the literal claims of the issued patent.” *Id.* at 733-34.

The decision below vitiates competitors’ reasonable reliance on a different aspect of proceedings before the PTO. As discussed above, the PTO explicitly considered whether the LYSO crystals claimed in the Chai ’420 and McClellan ’489 patents were non-obvious in light of the LSO crystals claimed in the ’080 patent, and both times it concluded that they were. Although this history does not give rise to an “estoppel” against the owner of the ’080 patent, it was entirely reasonable for competitors to rely on it in determining the scope of that patent. Given the overlap between the obviousness and equivalence inquiries, competitors could reasonably conclude from this history that LYSO crystals are not “insubstantially different” from the LSO crystals of the ’080 patent, and are instead non-obvious—and thus non-infringing—alternatives to LSO crystals.

Under the decision below, this type of reasonable reliance, which helps significantly reduce the uncertainty associated with the doctrine of equivalents, is no longer possible. By permitting juries to override the obviousness determinations of the PTO, the decision below denies competitors and investors of the comfort they could otherwise reasonably take from the presumption that such determinations are correct. Such reliance interests would be protected if the ability of juries to make *de facto* invalidity findings were limited by a clear and convincing evidence standard. But, in the absence of this safeguard, juries are left “without instruction on

how [they] might navigate the equivalence inquiry without undermining the presumption of nonobviousness.” App. 38a. As a result, competitors can no longer rely on the PTO’s patentability determination as reasonable assurance that a subsequent and separately patented invention will not expose them to infringement damages under the doctrine of equivalents.

The resulting uncertainty undermines incentives for innovation that the patent system is intended to promote. “[U]ncertainty is the enemy of investment . . . . [E]liminating the presumption of validity is [thus] a potentially dangerous change in terms of . . . innovation.” Adam B. Jaffe & Josh Lerner, *Innovation and Its Discontents*, 1 Capitalism & Soc’y, iss. 3, art. 3, at 22 (2006), <http://www.bepress.com/cas/voll/iss3/art3>. Conversely, because the decision below “does not adequately prevent the doctrine of equivalents from being used to improperly . . . capture subsequent inventions that are novel and nonobvious,” App. 88a n.2 (Dyk, J., dissenting), patent owners will be emboldened to assert claims against subsequently patented products, knowing that juries are free to reject PTO non-obviousness determinations based on nothing “more than a dubious preponderance” of the evidence. *Microsoft*, 131 S. Ct. at 2245 (quoting *Radio Corp. of Am.*, 293 U.S. at 8).

These untoward consequences provide further justification for review of the decision below. As the dissenting judges explained below, all of these consequences could and should have been avoided by requiring the jury to use a clear and convincing evidence standard in deciding whether the separately patented products were insubstantially different from the prior art patent. The majority’s failure to adopt



this (or any other) sensible safeguard—and thereby protect the types of reasonable reliance on PTO proceedings that this Court recognized in *Festo*, 535 U.S. at 727—will inevitably “deter innovation and hamper legitimate competition.” App. 89a. Because the application of the doctrine of equivalents that the lower court blessed in this case will frustrate, rather than promote, the central purposes of the patent system, this Court should grant the petition for a writ of certiorari to review, and ultimately set aside, the erroneous decision below.

### CONCLUSION

The petition for certiorari should be granted.

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