

No. 25-225

IN THE
Supreme Court of the United States

MSN PHARMACEUTICALS, INC., *ET AL.*,
Petitioners,

v.

NOVARTIS PHARMACEUTICALS CORPORATION,
Respondent.

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

**BRIEF OF INTELLECTUAL PROPERTY LAW
PROFESSORS AS *AMICI CURIAE* IN SUPPORT OF
PETITIONERS**

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INTEREST OF *AMICI CURIAE*¹

Amici are law professors who teach and write about intellectual property law.² *Amici* have no personal interest in the outcome of this case. *Amici* seek to explain the historical and policy context of existing patent law doctrines and to contribute to patent law and policy.

SUMMARY OF ARGUMENT

This case offers the Court a critical opportunity to resolve fundamental inconsistencies in doctrines governing patent claim scope, particularly concerning after-arising technologies. The Federal Circuit's jurisprudence has created doctrinal confusion by inconsistently applying the principle that claim scope must be consistent for both validity and infringement analyses and by only sometimes allowing claims to cover after-arising technologies for infringement and validity.

This brief traces the historical and statutory development of patent claiming, emphasizing Section 112(b)'s role in defining patent boundaries. It examines the interplay among the doctrines of distinct claiming, the doctrine of equivalents, Section 271(a) infringement, and Sections 112(b) and 112(f) regarding definiteness and functional claiming.

¹ Counsel of record for all parties received notice at least 10 days prior to the due date of *amici*'s intent to file this brief. *Amici* certify that no party, person, or entity other than *amici* or their counsel authored this brief in whole or in part or made a monetary contribution to its preparation or submission.

² The Appendix includes a list of the *amici*.

These unharmonized doctrines cause persistent uncertainty over the scope and validity of patents.

This uncertainty undermines the patent system's core purposes: incentivizing innovation, ensuring public notice, and balancing the patent *quid pro quo*. It generates costly litigation and stifles innovation and competition. The Court's intervention is necessary to clarify whether, and to what extent, patent claims should cover after-arising technologies for both validity and infringement. Only clear, consistent rules will restore predictability and fairness, guiding future innovation.

ARGUMENT

I. THE NEED FOR SUPREME COURT GUIDANCE TO RESOLVE DOCTRINAL INCONSISTENCIES IN PATENT CLAIM SCOPE

Infringement was stipulated below based on the shared understanding—by the parties and the court—that the District Court’s claim construction for infringement under Section 271(a) also applies to the after-arising technology at issue: a complexed combination of two active pharmaceutical ingredients that was not invented until after the patent’s filing.³ If the claims are similarly construed to apply to after-arising technology for validity (contrary to the holdings below), the claims would be: (a) invalid for lack of written description under Section 112(a), as the applicant did not “possess” an invention including

³ Pet. at i. *See id.* at 10-11. Whether a challenge to claim construction *for infringement* was preserved on appeal is irrelevant here, since infringement was stipulated based on the trial court’s construction. *Cf. In re Entresto*, 125 F.4th 1090, 1099 n.5 (Fed. Cir. 2025), Pet.App.16a (describing as “error” a construction that would apply to after-arising technology for infringement). Given the Federal Circuit’s inconsistent approach to after-arising technologies and literal infringement, any such “error” is understandable. *See, e.g., Innogenetics, N.V. v. Abbott Labs.*, 512 F.3d 1363, 1371-72 (Fed. Cir. 2008) (“Our case law allows for after-arising technology to be captured within the literal scope of valid claims that are drafted broadly enough”) (citing *SuperGuide Corp. v. DirecTV Enters., Inc.*, 358 F.3d 870, 878-80 (Fed. Cir. 2004)). More importantly, any alleged waiver does not affect the current challenge to claim construction *for validity*, regardless of whether this Court affirms or rejects Petitioner’s arguments that “claim scope for infringement and validity is symmetrical” and that the claims here cover after-arising technology for validity purposes. Pet. at 27.

such a complexed combination;⁴ and (b) likely invalid for lack of enablement under Section 112(a), as the applicant could not have enabled skilled practitioners to make and use the complexed combination without “unreasonable” experimentation.⁵

Petitioner argues that the after-arising technology at issue falls within the scope of the claims for validity assessment. The judgment below and this appeal thus present a direct challenge to the construction below based on the long-standing, “axiomatic” maxim of patent law that the claimed invention’s scope remains constant for purposes of

⁴ *Ariad Pharms. Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc) (discussing the requirement for an applicant’s mental “possession” of the full scope of the claimed invention). This written description requirement under Section 112(a) essentially determines consistency between the applicant’s subjective understanding of the invention as objectively revealed in the specification and the scope of the claiming language employed, similar to the “regards as the invention” requirement of Section 112(b), 35 U.S.C. § 112(b). Since 2000, the Federal Circuit has foreclosed further inquiry during litigation into the applicant’s subjective understanding of the invention and any consequent lack of correspondence to the claim’s scope under Section 112(b). *See Solomon v. Kimberly-Clark Corp.*, 216 F.3d 1372, 1377-80 (Fed. Cir. 2000).

⁵ *See Amgen Inc. v. Sanofi*, 598 U.S. 594, 612-15 (2023) (adopting a “reasonable” experimentation standard for enablement and distinguishing a “roadmap” for inventing species within a genus claim requiring “random trial-and-error discovery,” without referencing the Federal Circuit’s “undue experimentation” standard); *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988) (adopting the “undue experimentation” standard and articulating eight relevant considerations).

infringement and validity.⁶ This case does not involve complicated facts or difficult line-drawing. Rather, it presents an opportunity for the Court to resolve a fundamental issue affecting every patent claim: may, and if so to what extent and in what doctrinal contexts may, the meaning of a claimed invention apply to unforeseen, future technological applications?

As one *amicus* has previously explained,⁷ as reflected in the holdings below⁸ and as Petitioners demonstrate,⁹ the Federal Circuit's case law over nearly three decades has inconsistently addressed this question, sometimes applying and sometimes contradicting the maxim that claim scope must remain constant for both validity and infringement. The Federal Circuit has achieved this inconsistency

⁶ *Amgen, Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1330 (Fed. Cir. 2003) (citing *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 842 F.2d 1275, 1279 (Fed. Cir. 1988)). See, e.g., *SmithKline Diagnostics, Inc. v. Helena Labs. Corp.*, 859 F.2d 878, 889 n.7 (Fed. Cir. 1988) (citing *W.L. Gore & Assocs.*, 842 F.2d at 1279, *Kimberly-Clark Corp. v. Johnson & Johnson*, 745 F.2d 1437, 1449 (Fed. Cir. 1984), and *Autogiro Co. of Am. v. United States*, 384 F.2d 391, 399 (Ct. Cl. 1967)). See also *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1351 (Fed. Cir. 2001); *Abbott Labs. v. Sandoz, Inc.*, 566 F.3d 1282, 1317-18 (Fed. Cir. 2009) (Newman, J., dissenting).

⁷ See Joshua D. Sarnoff, *Correcting Misunderstandings of Literal Infringement Scope Regarding After-Arising Technologies Protected by the Doctrine of Equivalents*, 53 AKRON L. REV. 767, 782-94 (2019).

⁸ See, e.g., *In re Entresto*, 125 F.4th at 1096-100, Pet.App.9a-21a; *In re Entresto*, 2023 WL 4405464, at *20-22 (D. Del. July 7, 2023), Pet.App.72a-81a.

⁹ See Pet. 13-25.

by ignoring its own rule that an earlier panel precedent controls unless reversed en banc.¹⁰ Accordingly, this case presents an opportunity to resolve the equivalent of a long-standing and unresolved “circuit split” that warrants this Court’s attention.

This Court also has not resolved the underlying doctrinal tensions between protecting pioneering inventions broadly and providing certainty regarding patent scope. These tensions, which predate and underlie the inconsistencies at issue—so-called “disclosure puzzles”¹¹ and “temporal paradox[es]”¹²—have led to substantial confusion among practitioners, judges, academics, and the public. The resulting uncertainty has generated costly and avoidable litigation, has burdened the judicial system, and has affected patent value, innovation incentives, the public’s ability to “design

¹⁰ See, e.g., *Robert Bosch, LLC v. Pylon Mfg. Corp.*, 719 F.3d 1305, 1316 (Fed. Cir. 2013) (en banc). See also *Tex. Instruments, Inc. v. U.S. Int’l Trade Comm’n*, 846 F.2d 1369, 1372-73 (Fed. Cir. 1988) (Nies, J., dissenting); *Capital Elec., Inc. v. United States*, 729 F.2d 743, 746 (Fed. Cir. 1984).

¹¹ Jonathan S. Masur & Lisa Larrimore Ouellette, *Disclosure Puzzles in Patent Law*, 92 U. Chi. L. Rev. 1609, 1636 (2025) (discussing “a class of problems that have long been viewed as unsolved doctrinal puzzles”).

¹² Robert P. Merges & John F. Duffy, *Patent Law and Policy: Cases and Materials* 284 (6th ed. 2013). See also Douglas L. Rogers, *Double Patenting: Follow-on Pharmaceutical Patents That Suppress Competition*, 14 NW. J. TECH. & INTELL. PROP. 317, 347 (2017).

around” patents,¹³ and the fairness of the patent system’s “*quid pro quo*.”¹⁴

Although the *amici* may propose different resolutions at the merits stage, we all agree the Court should intervene now to provide clarity to patent law. A clear rule—even if imperfect—is preferable to continued uncertainty. The stakes of continued doctrinal confusion are substantial, and the Federal Circuit has failed to resolve the inconsistencies for nearly thirty years. Only this Court’s intervention can adequately settle these issues or prompt Congress to address them.

II. INTERPLAY OF CLAIMING REQUIREMENTS AND DOCTRINAL STANDARDS: HISTORICAL AND CONTEMPORARY CHALLENGES

The issues presented by this case cannot be fully understood without considering the complex and interrelated statutory and doctrinal frameworks governing patent claiming. Over more than two centuries, Congress and the courts have developed requirements and interpretive doctrines to define, clarify, and limit patent rights. However, these have not always been in harmony, producing persistent uncertainty regarding patent scope boundaries.

¹³ See, e.g., *TiVo Inc. v. EchoStar Corp.*, 646 F.3d 869, 883 (Fed. Cir. 2011) (discussing the patent system policy to encourage “legitimate design-around efforts . . . to spur further innovation”) (citing *State Indus. Inc. v. A.O. Smith Corp.*, 751 F.2d 1226, 1236 (Fed. Cir. 1985)).

¹⁴ *Amgen*, 598 U.S. at 604 (discussing the quid-pro-quo); *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 484 (1974) (same); *Ariad*, 598 F.3d at 1345 (same).

The following two subsections address the most significant unresolved and interconnected issues. First, we examine Section 112(b)’s distinct claiming requirement, tracing its historical development and central role in ensuring certainty regarding the scope of patent rights by requiring patent holders to identify their inventions using peripheral claiming language. Next, we explore the relationship between the doctrine of equivalents, Section 271(a) infringement standards, and Section 112(b) definiteness and Section 112(f) functional claiming language construction. Those doctrines and approaches have expanded and restricted patent claim scope. Collectively, these discussions illuminate the doctrinal tensions and policy challenges arising when courts determine patent claim reach, particularly for after-arising unforeseeable technologies.

By addressing these foundational issues, this section provides the Court with the necessary context to understand why the questions presented in this case implicate the broader structure and coherence of the patent system.

A. The Distinct Claiming Requirement of Section 112(b)

Since at least the 1836 Act, Congress has required patent applicants to objectively “specify and point out” what they “claim” (now “particularly pointing out distinctly claiming” what they subjectively “regard”) as the scope of their

invention.¹⁵ This requirement arose because, under the 1790 and 1793 Patent Acts, patent rights were based on the creative, unembodied physical “principle” of an invention¹⁶—a standard judges found too difficult to determine from a specification that merely described the general nature of the invention and its technological advance and provided one or more working examples embodying that advance. As Justice Story explained in 1817 in *Lowell v. Lewis*,

the patentee is bound to describe, in full and exact terms, in what his invention consists; and, if it be an improvement . . . he should distinguish, what is new and what is old in his specification, so that it may clearly appear, for what the patent is granted *[U]nless it be distinctly stated, in what that invention specifically consists, it is impossible to say, whether it ought to be patented or not; and it is equally difficult to know whether the public infringe upon or violate the exclusive right* If, therefore, the description in the patent mixes up the old and the new, and does not distinctly ascertain for which, in particular, the patent is claimed, it must be void; since if it covers the whole, it

¹⁵ See Act of July 4, 1836, ch. 357, § 6, 5 Stat. 117, 119 (“1836 Act”); 35 U.S.C. § 112(b).

¹⁶ See Joshua D. Sarnoff, *The Historic and Modern Doctrines of Equivalents and Claiming the Future, Part I (1790-1870)*, 87 J. PAT. & TRADEMARK OFF. SOC’Y 371, 382-83 (2005).

covers too much, and if not intended to cover the whole, *it is impossible for the court to say, what, in particular, is covered* as a new invention.¹⁷

The Supreme Court ratified this linguistic approach to determining patent scope by reference to specific “claiming” language in *Evans v. Eaton* (1822),¹⁸ emphasizing the need to protect the public from patents claiming what was already known or used, and to prevent unknowing infringement due to uncertainty about the patented principle’s scope. Congress codified these judicial interpretations from *Lowell* and *Evans* in the 1836 Patent Act, which also created a Patent Office to examine applications.

After the Supreme Court’s 1853 decision in *Brooks v. Fiske*,¹⁹ which (in dicta) limited the scope of patent rights to the scope of application of the construed claiming language,²⁰ Congress further strengthened the requirement for precision in claiming language in the 1870 Patent Act’s “particularly point out and distinctly claim”

¹⁷ 15 F. Cas. 1018, 1020 (C.C.D. Mass. 1817) (No. 8,568) (emphases added).

¹⁸ 20 U.S. (7 Wheat.) 356, 433-34 (1822).

¹⁹ 56 U.S. (15 How.) 212 (1853).

²⁰ *See id.* at 215 (the “claim, or summing up, however, is not to be taken alone, but in connection with the specifications and drawings; the whole instrument is to be construed together. But we are to look [sic] at the others *only for the purpose of enabling us correctly to interpret the claim*”) (emphasis added).

language.²¹ This created an implied-in-law disclaimer for any unclaimed scope of disclosed principles and led the Patent Office to require “peripheral” rather than “central” claiming.²²

B. The Doctrine of Equivalents, Section 271(a) Infringement, and Section 112(b) Definiteness and Section 112(f) Functional Claiming

Despite these basic principles, in 1950 this Court held that patent protection (for infringement purposes only, under the predecessor to Section 271(a)) extends, under the “doctrine of equivalents,” beyond the applications of the construed meaning of claim language.²³ More recent Supreme Court cases have held that Congress did not overturn this doctrine of equivalents in Section 112, paragraph 3 of the 1952 Act (later Section 112, paragraph 6, now Section 112(f)), even as it limited the scope of

²¹ Patent Act of 1870, Ch. 230, § 26, 16 Stat. 198, 201 (July 8, 1870).

²² See, e.g., *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 379 (1996); *Hilton Davis Chem. Co. v. Warner-Jenkinson Co.*, 62 F.3d 1512, 1566 (Fed. Cir. 1995) (*en banc*) (Nies, J., dissenting); Harold C. Wegner, *Equitable Equivalents: Weighing the Equities to Determine Patent Infringement in Biotechnology and Other Emerging Technologies*, 18 RUTGERS COMP. & TECH. L.J. 1, 16-18, 19 & n.56 (1992) (discussing central and peripheral claiming); Sarnoff, *supra* note 16, at 391-407 (discussing implied disclaimer under *Brooks* and in the 1870 Act). See generally William R. Woodward, *Definiteness and Particularity in Patent Claims*, 46 MICH. L. REV. 755 (1948); Robert Lutz, *Evolution of Claims of U.S. Patents (Part I)*, 20 J. PAT. OFF. SOC. 134 (1938).

²³ See *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 607-08 (1950).

meaning and application of functional claiming language.²⁴ One *amicus* has argued that this Court erred in holding that the 1870 Patent Act did not preclude, and that the 1952 Patent Act impliedly ratified, patent protection beyond construed claim language to protect factually “equivalent” technologies.²⁵ The key point here, however, is that the doctrine of equivalents primarily exists to permit infringement rights (not patent claims) to extend to after-arising technologies that employ the patent’s disclosed principle, but which the patent holder could not have foreseen nor claimed with sufficient specificity.²⁶

²⁴ See *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 24-30 (1997) (dismissing arguments that §112, para. 6, of the 1952 Patent Act (currently 35 U.S.C. § 112(f)), precluded extra-construed-claim-scope protection under a doctrine of factual equivalency); *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 738 (2002) (rejecting absolute bar to limiting patent claims to literal meaning of claim after prosecution narrowing, allowing flexible approach to whether equivalents are available for infringement).

²⁵ See Joshua D. Sarnoff, *The Historic and Modern Doctrines of Equivalents and Claiming the Future, Part II (1870-1952)*, 87 J. PAT. & TRADEMARK OFF. SOC’Y 441, 481-90 (2005).

²⁶ See *Warner-Jenkinson Co.*, 520 U.S. at 37 (holding that equivalency under the doctrine of equivalents is evaluated at the time of infringement, not at patent issuance, and that knowledge of interchangeability is relevant only to show similarity or difference between elements). See also *Festo Corp.*, 535 U.S. at 740-41 (prosecution history estoppel may be overcome if the accused technology was unforeseeable, the amendment was tangential, or another reason prevented claiming the invention). The Court in *Festo* did not address that claims amended to cover after-arising technology would often be invalid for lack of written description or enablement. Thus, the

When creating the doctrine of equivalents, the Court has never clearly addressed whether the “principle” of the invention—if it includes unforeseeable after-arising technology—must also be assessed for validity.²⁷ Recall that patent protection was (per *Lowell* and *Evans*) only for what the applicant “regards as the invention” and validly claims. Further, as the Court stated in *Merrill v. Yeomans* (1876):²⁸

The public should not be deprived of rights supposed to belong to it, without being clearly told what it is that limits these rights. . . . It seems to us that nothing can be more just and fair, both to the patentee and to the public, than that *the former should understand, and correctly describe, just what he has invented, and for what he claims a patent.*²⁹

If claims themselves do not define the scope of protection, the public must go beyond them and judge the scope of the disclosed principle(s) of the invention

Festo holding implicitly assumes that claims do not *validly* cover after-arising technology, and that the doctrine of equivalents is needed to protect against such infringement.

²⁷ Cf. *Wilson Sporting Goods Co. v. David Geoffrey & Assocs.*, 904 F.2d 677, 683-84 (Fed. Cir. 1990) (doctrine of equivalents cannot extend claim scope to cover prior art; infringement cannot be found if equivalency would encompass what is already in the public domain).

²⁸ 94 U.S. (4 Otto) 568 (1876).

²⁹ *Id.* at 573-74 (emphasis added).

from the specification’s disclosure—a task Justice Story and the Court in *Lowell* and *Evans* found even judges were not equipped to perform.

This criticism of such unworkable judgments—determining the patented principles and embodiments thereof—moreover, led Congress to codify peripheral claiming requirements in what is now Section 112(b). This, in turn, resulted in judges interpreting claim terms³⁰ before juries sometimes applied them to facts for validity or infringement.³¹ Although judges must consider the specification when construing claims,³² their interpretations of claim language are not required to be coextensive with the principles of invention disclosed in the

³⁰ See *Markman*, 517 U.S. at 388-89.

³¹ For validity, only written description adequacy is currently treated as a question of fact; other doctrines are treated as questions of law based on underlying factual findings. See, e.g., *Sakraida v. AgPro, Inc.*, 425 U.S. 273, 280 (1976) (“patentability”; obviousness); *Ariad*, 598 F.3d at 1355 (written description); *U.S. Synthetic Corp. v. Int’l Trade Comm’n*, 128 F.4th 1272 (Fed. Cir. 2025) (enablement).

³² See *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312, 1315-17 (Fed. Cir. 2005) (en banc).

specification.³³ Any broader “principles” disclosed but not claimed are “disclaimed”³⁴ for public use.³⁵

It is important to note that problems in determining whether patent claims apply to after-arising technologies did not exist under the 1790 and 1793 Patent Acts for “principles” of invention. Until *Lowell*, *Evans*, and the 1836 Act, patent protection included the full scope of application of the patented principles of invention, however difficult they were to determine. Patents for things (but not, at the time, for methods) were construed to apply the patented principle to all new physical embodiments, however unforeseeable and nonobvious.³⁶ The 1793 Patent

³³ If they were required to be coextensive, there would be no need for the written description doctrine of *Ariad*.

³⁴ See, e.g., *Milcor Steel Co. v. George A. Fuller Co.*, 316 U.S. 143, 146 (1942); *Johnson & Johnson Assoc., Inc. v. R.E. Serv. Co.*, 285 F.3d 1046, 1052-55 (Fed. Cir. 2002) (en banc).

³⁵ See *id.* at 1054-55 (“[W]hen a patent drafter discloses but declines to claim subject matter, . . . this action dedicates that unclaimed subject matter to the public.”).

³⁶ At the time, patent protection for after-arising technology likely covered only new *physical* embodiments of a principle, not new uses of existing patented things. It was unclear if new, nonobvious *uses* could be patented inventions. Cf. *Ames v. Howard*, 1 F. Cas. 755, 757 (C.C.D. Mass. 1813) (Story, J.) (applying an old thing to a new use, *without invention*, is not patentable). The original patent’s principle, if embodied in a thing, likely applied to *all* uses of that thing (“absolute” rather than “use-based” protection). Congress expressly authorized eligibility for patenting of some new uses of patented methods and things in 1952. See 35 U.S.C. §§ 100(b), 101; *Application of Ducci*, 225 F.2d 683, 688 (C.C.P.A. 1955). See generally Joshua D. Sarnoff, *Patent Eligible Inventions After Bilski: History and Theory*, 63 HASTINGS L.J. 53, 69-84 (2011) (discussing increasing eligibility over time of method claims).

Act explicitly permitted “blocking” patents,³⁷ where a novel, creative improvement could itself be patented, requiring for production of products the cross-licensing of both the underlying and the improvement patents.³⁸

However, blocking patents created a potential logical inconsistency: patents were to be granted only for new *principles* of invention, so improvement patents had to be based on new, creatively *different* principles.³⁹ Absent different levels of generality of these principles, a patented improvement could not infringe. Thus, the broad applicability of earlier principles to after-arising technologies (particularly

³⁷ See Act of Feb. 21, 1793, ch. 11, § 2, 1 Stat. 317, 318; *Evans v. Eaton*, 20 U.S. (7 Wheat.) 356, 366 (1822) (improvements as patentable inventions). The 1836 Act removed express authority for blocking but retained eligibility for improvements. See 1836 Act, ch. 357, § 6, 5 Stat. 117, 119; Woodward, *supra* note 22, at 767-68; CHISUM ON PATENTS § 16.02[1][a].

³⁸ See generally Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 COLUM. L. REV. 839, 861 & n.96, 909-11 (discussing the validity of dominant blocking patents even though they fail to disclose nonobvious subservient patent embodiments); T. Whitley Chandler, *Prosecution History Estoppel, The Doctrine of Equivalents, and the Scope of Patents*, 13 HARV. J. L. & TECH. 465, 496 (2001) (discussing different time frames for assessing obviousness of equivalents during prosecution and infringement); Robert P. Merges & John F. Duffy, *Patent Law and Policy: Cases and Materials* 229-300 (3d ed. 2002) (discussing enablement and the temporal paradox).

³⁹ Cf. *Ansonia Brass & Copper Co. v. Elec. Supply Co.*, 144 U.S. 11, 18 (1892) (only non-analogous new things and new uses are patentable).

for “pioneering” inventions⁴⁰ whose scope was not limited by prior art) could even include unforeseen uses. In contrast, protection of patents on novel methods remained limited to the contemplated uses of the original patented process. This raised serious concerns about the scope of patentable principles, whether by claiming generic structures or by claiming methods divorced from known structural implementations. Broad claiming would shift the burden of identifying additional patented structures or uses to the public, while granting rights to the first person to develop one functional structure or use.⁴¹

Patent applicants therefore increasingly used broad structural and functional claiming language to ensure that claim language would apply to after-arising technologies.⁴² However, the Court became particularly concerned that broad functional claiming language was either too broad compared to the actual invention or too indeterminate to identify what structures it would cover.

⁴⁰ See, e.g., *Dolbear v. Am. Bell Tel. Co.* (the “Telephone Cases”), 126 U.S. 1, 534-35 (1888).

⁴¹ See, e.g., *Consol. Elec. Light Co. v. McKeesport Light Co.* (the “Incandescent Lamp Patent”), 159 U.S. 465, 472 (1895) (rejecting a patent for attempting to monopolize all fibrous and textile materials for electric lighting). Cf. *Amgen*, 598 U.S. at 604 (noting such broad claims might be valid if a common quality – a structural-functional relationship – identifying materials suitable for lighting were disclosed) (citing *Incandescent Lamp Patent*, 159 U.S. at 472).

⁴² The ordinary meaning of functional claiming language includes structures that perform the required function, regardless of whether those structures previously existed or were previously known.

For claiming language generally, the indeterminacy concern was (partially) addressed after the 1952 Act through Section 112(b)'s distinct claiming language, construed to impose a "definiteness" requirement. Under this Court's most recent articulation, claim language must "inform those skilled in the art about the scope of the invention with *reasonable certainty*."⁴³

For functional claiming language specifically, before 1952 the Court prohibited its use for pioneering invention patents in *Holland Furniture Co. v. Perkins Glue Co.*⁴⁴ *General Electric Co. v. Wabash Appliance Corp.* extended this to improvement patents.⁴⁵ *Halliburton Oil Well Cementing Co. v. Walker* further limited functional claiming to *known* structural substitutes, precluding "literal" application to after-arising technologies.⁴⁶ The Court held such "conveniently functional" claiming language invalid, but arguably only at "the exact point of novelty."⁴⁷ This holding largely precluded functional claims from applying to after-arising technologies, unless the later technologies

⁴³ *Nautilus, Inc. v. Biosig Instr., Inc.*, 572 U.S. 898, 910 (2014) (emphasis added).

⁴⁴ 277 U.S. 245, 256-57 (1928).

⁴⁵ 304 U.S. 364, 368 & n.1, 375 (1938).

⁴⁶ 329 U.S. 1, 8-9 (1946). The Court first addressed distinct claiming, then found the claims failed "adequately to describe the alleged invention." *Id.* at 13.

⁴⁷ *Id.* at 8.

were not “relevant” (i.e., were “tangential”) to the inventive principle’s novelty.

Congress responded in the 1952 Act by permitting functional claiming language in what is now Section 112(f) but limited its scope to corresponding *disclosed* structures and equivalents. The Federal Circuit in *Chiuminata Concrete Concepts, Inc. v. Cardinal Industries, Inc.*⁴⁸ limited the literal scope of functional claiming language to earlier-known equivalents of disclosed embodiments, thereby precluding application of “means-plus-function” claiming language to after-arising technology. Thus, after-arising technology could infringe functional claiming limitations *only* under the doctrine of equivalents:

The question of known interchangeability is not whether both structures serve the same function, but *whether it was known* that one structure was an equivalent of another. Moreover, a finding of known interchangeability, while an important factor in determining equivalence, is certainly not dispositive.

...

There is an important difference, however, between the doctrine of equivalents and § 112, ¶ 6. *The doctrine of equivalents is necessary because one cannot predict the future.* Due to

⁴⁸ 145 F.3d 1303 (1998).

technological advances, a variant of an invention may be developed after the patent is granted, and that variant may constitute so insubstantial a change from what is claimed in the patent that it should be held to be an infringement. *Such a variant, based on after-developed technology, could not have been disclosed in the patent. Even if such an element is found not to be a § 112, ¶ 6, equivalent because it is not equivalent to the structure disclosed in the patent, this analysis should not foreclose it from being an equivalent under the doctrine of equivalents.*⁴⁹

Subsequent Federal Circuit cases have repeatedly held that Section 112(f) precludes functional claiming language from being construed *literally* to cover technology arising after patent issuance;⁵⁰ instead, the doctrine of equivalents provides infringement protection for such after-arising technology.⁵¹ As stated in *Al-Site Corp. v. VSI*

⁴⁹ *Id.* at 1309-11 (emphases added).

⁵⁰ Of course, the applicant cannot know when filing of technology that will *unforeseeably* arise in the future to embody the functional claiming language, particularly with delayed issuance.

⁵¹ See, e.g., *Ring & Pinion Serv. Inc. v. ARB Corp.*, 743 F.3d 831, 835 (Fed. Cir. 2014) (equivalence under § 112(f) is assessed at issuance, while the doctrine of equivalents is assessed at infringement, allowing after-arising technology to be equivalent only under the latter). This language is infelicitous, as the Federal Circuit should have said after the effective filing date,

International, Inc.,⁵² an equivalent structure under § 112 para. 6 “must have been available at the time of the issuance of the claim,” whereas the doctrine of equivalents can capture after-arising “technology developed after the issuance of the patent.”⁵³

The Federal Circuit en banc has more recently applied its interpretation of the language to which Section 112(f) applies to *all functional* claiming language for both validity and infringement, not just to “means plus” or “step plus” terminology.⁵⁴ Yet, the Federal Circuit *sometimes* continues to permit *structural* claiming language to include meanings that apply to after-arising technologies for literal infringement (and validity),⁵⁵ and *sometimes* permits the *unclaimed* scope of any disclosed inventive principles to apply to after-arising technologies under the doctrine of equivalents.

because the applicant could not have known of technology arising after that date.

⁵² 174 F.3d 1308 (Fed. Cir. 1999).

⁵³ *Id.* at 1320.

⁵⁴ See *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348-49 (Fed. Cir. 2015) (en banc in relevant part) (rejecting the strong presumption for “means” language, which led to excessive functional claiming that did not trigger interpretation under § 112, para. 6).

⁵⁵ Such temporally expansive structural meanings may actually indicate functional meanings of otherwise structurally understood terminology, e.g., a “screw” screws.

CONCLUSION

Any resolution of whether patent claims apply for validity purposes to after-arising technology should also consider and address all of these related doctrines. Specifically, the Court should focus on: (1) whether to permit construed claim language to apply to after-arising technology *for validity*, recognizing that such claims would likely then be invalid unless those doctrines are further modified; (2) whether to permit claims to apply to after-arising technology *for infringement* (and whether to require consistency of construction for validity and infringement), which would then require uninformed juries to determine the scope of the inventive principle disclosed but not claimed (a task *Lowell v. Lewis* and *Evans v. Eaton* stated was beyond even judges' capabilities and which conflicts with implied disclaimer doctrines); (3) whether functional claiming language should be differentiated from structural claiming language for validity or infringement purposes, when including or excluding after-arising technology; (4) whether any doctrine of equivalents should protect an applicant's disclosed but unclaimed principles of invention (that are not captured by claim construction and application); and (5) whether to permit claim language to be construed *non-literally* to apply to after-arising technologies, eliminating any need for the doctrine of equivalents.

Amici may differ on how to answer these questions, as will likely become apparent if *certiorari* is granted (as it should be, given the fundamental nature of these issues and their impact on all inventors, patents, innovators, competitors, and the public). *Amici* also recommend that the Court give

careful attention to the Question Presented if *certiorari* is granted, ensuring it is broad enough to obtain extensive briefing on the related issues presented above.

Amici note that if, on the merits, the Court were to adopt an approach allowing claim construction and application for both validity and infringement to include after-arising technologies, it will effectively return the patent system to the late 18th and early 19th Century central claiming system, which avoided the need for any extra-claim-scope doctrine of equivalents but posed other problems.⁵⁶ Conversely, if the Court follows the later 19th Century and modern peripheral claiming system—where claim language is construed and its limits are applied for both validity and infringement—then it must consider whether providing a doctrine of equivalents that incorporates after-arising technology only for infringement is consistent with statutory requirements and whether it permissibly shifts the determination of patent scope to juries.⁵⁷

There are also policy reasons, as noted above and as articulated in *Merrill*, to limit patent scope for both validity and infringement to technologies that the inventor actually contemplated when adopting

⁵⁶ See, e.g., Dan L. Burk & Mark A. Lemley, *Fence Posts or Sign Posts? Rethinking Patent Claim Construction*, 157 U. PA. L. REV. 1743, 1746 (2009) (suggesting that uncertainty in choosing and construing patent-claim terms may warrant reconsidering peripheral claiming, and noting that before 1870, U.S. patents used central claiming).

⁵⁷ The Court should restrict its focus to U.S. law, notwithstanding any international treaty implications.

claim language, which excludes unknown future technological embodiments. At the same time, countervailing policy reasons exist for permitting broader structural or functional claims, particularly for pioneering inventions.

Similarly, *if* the applicant could have foreseen and claimed after-arising technology using broader or narrower language (including providing “prophetic” examples⁵⁸), such claims might not be enabled until those developments occur. Conversely, limiting patent scope to known-to-be equivalent embodiments of which the applicant was aware and knew how to claim would leave the principle of the patentee’s invention free for others to use with new but earlier-unenabled or unforeseeable equivalent technologies that eventually embody the claim’s language, literally or non-literally.

In short, this Court must decide: (a) whether these issues of the limits of patent scope and application should be decided by judges or juries; (b) how to balance fairness and certainty for both the patent holder and the public;⁵⁹ (c) whether to adopt

⁵⁸ Prophetic examples are allowed because an “invention” can be claimed once conceived, even if not yet reduced to practice, as long as it is enabled for skilled practitioners under Section 112(a). *See, e.g.*, 35 U.S.C. § 102(g) (2010); *Pfaff v. Wells Elecs. Inc.*, 525 U.S. 55, 60-61 (1998); Eisenberg & Merges, *Opinion Letter As To the Patentability of Certain Inventions Associated With the Identification of Partial cDNA Sequences*, 23 AIPLA Q.J. 1, 38 (1995) (enablement requires disclosure sufficient for a skilled person to practice the invention without undue experimentation).

⁵⁹ *See generally* Donald S. Chisum, *The Scope of Protection for Patents After the Supreme Court’s Warner-Jenkinson Decision*:

similar or different approaches to patent claim meaning, scope, and application for validity and infringement and for structural and functional claiming language; and (d) whether to use similar or different approaches to determine linguistic meaning and application for patents than for other legal instruments, such as constitutional provisions and statutes.⁶⁰

Whatever decisions the Court makes, it should be aware of the far-reaching implications of this case and the urgent need to provide a ruling that clarifies existing law and that carefully considers all affected patent law doctrines. Only by doing so can the Court avoid the ongoing confusion throughout the patent law system that persists under current precedents, or that might otherwise result.

The Fair Protection-Certainty Conundrum, 14 SANTA CLARA COMP. & HIGH TECH. L.J. 1 (1998).

⁶⁰ Courts may interpret constitutional provisions various highly contested methods and must determine the generality of principles to apply to unforeseen circumstances. *See, e.g.*, Congressional Research Service, *Modes of Constitutional Interpretation*, R45129 (2018). Courts also must decide if later circumstances fit within a provision's meaning by logical deduction or by analogical judgment. *See, e.g.*, Lawrence B. Solum, *Themes from Fallon on Constitutional Theory*, 18 GEO. J.L. & PUB. POL'Y 287, 295 (2020). Should certiorari be granted, some *Amici* plan to offer further suggestions on the relevant linguistic theory to select and its application for patent law claim construction and doctrinal determinations.

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APPENDIX

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APPENDIX A¹

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