No. 13-369

# In the Supreme Court of the United States

NAUTILUS, INC.,
*Petitioner*,

v.

BIOSIG INSTRUMENTS, INC.,
*Respondent*.

*ON WRIT OF CERTIORARI*
*TO THE UNITED STATES COURT OF APPEALS*
*FOR THE FEDERAL CIRCUIT*

## Brief of Amicus Curiae American Intellectual Property Law Association in Support of Neither Party


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## INTEREST OF AMICUS CURIAE

The American Intellectual Property Law Association is a national bar association of approximately 15,000 members engaged in private and corporate practice, in government service, and in the academic community. [1] The Association's members represent a wide and diverse spectrum of individuals, companies, and institutions involved directly and indirectly in the practice of patent law and other fields of law affecting intellectual property. The Association's mission includes providing courts with objective analysis to promote an intellectual-property system that stimulates and rewards invention while balancing the public's interest in healthy competition, reasonable costs, and basic fairness.

The Association has no stake in the parties to this litigation or in the result of this case, other than

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[1] Pursuant to Supreme Court Rule 37.6, the Association states that this brief was not authored in whole or in part by counsel to a party, and that no monetary contribution to the preparation or submission of this brief was made by any person or entity other than the Association and its counsel. After reasonable investigation, the Association believes that (i) no member of its Board of Directors or Amicus Committee who voted to file this brief, or any attorney in the law firm or corporation of such a member, represents a party to this case; (ii) no representative of any party to this case participated in the authorship of this brief; and (iii) no one other than the Association or its members who authored this brief, and their law firms or employers, made a monetary contribution to the preparation or submission of this brief.

its interest in the correct and consistent interpretation of law affecting intellectual property.[2]

## SUMMARY OF ARGUMENT

1. To particularly point out the matter regarded as the invention, as required by 35 U.S.C. § 112, a patent claim must be reasonably clear to a person of ordinary skill in the relevant technical field, reading the claim in light of the rest of the patent specification and the record of the patent application's prosecution. If that process of claim construction makes the claim's scope reasonably clear, the claim is not indefinite. Only if the claim is not understandable to one skilled in the art does indefiniteness exist.

It may take serious study for a layperson to fully grasp technological principles in a field and how those principles inform a practitioner's understanding of a patent claim. Because that process may be complex, litigating parties can have different views of a claim's scope. But competing constructions do not show ambiguity merely because they are advanced, and competing constructions should not be conflated with the indefiniteness of a patent claim.

While those definiteness principles are nothing new, shorthand phrases trying to convey what those principles mean can be dangerous. They can take on a life of their own and mislead by their brevity. The Federal Circuit's "not capable of construction" and "insolubly ambiguous" language has that tendency

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[2] Petitioner and respondent have filed letters granting blanket consent to the filing of amicus curiae briefs.

and should be disapproved for that reason. Although that language is correct in a sense, it can also suggest that a patent claim is definite so long as a court chooses to adopt any text as a construction. That is not correct.

While certain Federal Circuit language may suggest too little rigor in applying the definiteness requirement, the broadest form of petitioner's argument goes too far in the other direction. Clarity is not disproved by the mere fact of disagreement among attorneys or jurists about a conclusion. Indeed, this Court views claim construction as a first step in patent litigation, with the understanding that parties may not agree on a construction to be provided to the jury. Every disagreement among reasonable parties in litigation does not show fatal ambiguity. Were that the rule, there would be few remaining patents.

2. On its face, the "spaced relationship" claim term requires a physical spacing, and its meaning is clear from the patent. That structural claim term is simple, widely-used, and definite.

The other point of contention here is the claim's definiteness in light of its separate, functional terms. Functional limitations generally define things or acts by what they accomplish or properties they have, rather than by describing physical structure. Such functional limitations are long-accepted and widely used, especially in such fields as the chemical and biotechnology arts. The clarity of a functional limitation is like the clarity of a structural limitation; it comes from the patent claim and specification and the common knowledge of the patent's intended audience, those of ordinary skill in the relevant art.

There is no justification for a bright-line rule that testing must be defined or cited in the patent for every functional claim. That would ignore the perspective of the skilled artisan and violate the settled expectations of the inventing community.

## ARGUMENT

### I. Both The Federal Circuit And Petitioner Use Language That Goes Too Far In Stating The Indefiniteness Test.

The Federal Circuit correctly holds that a patent claim must be sufficiently particular to inform the public of what is claimed as the invention. Pet. App. 13a. As this Court has stated, a claim's limitations must be "reasonably clearcut." *United Carbon Co.* v. *Binney & Smith Co.*, 317 U.S. 228, 236 (1942).

Certain language used by the Federal Circuit, however, might be read to allow ambiguous patent claims, and that language should be disapproved. At the same time, this Court should reject the broadest form of petitioner's test. Litigation over the correct interpretation of a patent claim does not show fatal ambiguity.

#### A. A patent claim is definite if its meaning is reasonably clear to a person of skill in the art, in light of the patent specification and prosecution history.

A patent claim gives notice of the things or acts reserved from public use, so the claim's scope must be clear. 35 U.S.C. § 112, ¶ 2;[3] *United Carbon*, 317

[3] The version of § 112 applicable and cited here recites the definiteness requirement in its second paragraph. A statutory reorganization, applicable to newer patent

U.S. at 236 ("The statutory requirement of particularity and distinctness in claims is met only when they clearly distinguish what is claimed from what went before in the art and clearly circumscribe what is foreclosed from future enterprise.").

Clarity, however, is not judged by simply reading the patent claim and stopping. A patent claim is part of a larger specification of the invention, itself written for other practitioners in the relevant technical field—not for the uninitiated but rather for those of ordinary skill in the art. See 35 U.S.C. § 112, ¶ 1 (requiring that the patent's specification enable "any person skilled in the art" of relevance to practice the invention); *Carnegie Steel Co.* v. *Cambria Iron Co.*, 185 U.S. 403, 437 (1902) ("The specification of the patent is not addressed to lawyers, or even to the public generally, but to the manufacturers of steel; and any description which is sufficient to apprise them in the language of the art of the definite feature of the invention, and to serve as a warning to others of what the patent claims as a monopoly, is sufficiently definite to sustain the patent"); cf. 35 U.S.C. § 103 (providing that the obviousness of a claimed invention is viewed from the perspective of "a person having ordinary skill in the art to which the claimed invention pertains").

Understanding the scope of a patent claim thus requires a potential competitor—or a jurist asked to rule on invalidity—to read the claim language in light of the entire specification, viewed from the

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applications, labels that requirement as subsection (b) of § 112. See Pet. App. 12a n.8 (Federal Circuit opinion noting amendment).

perspective of a person of ordinary skill in the art. See *Markman* v. *Westview Instruments, Inc.*, 517 U.S. 370, 389 (1996) (noting "the necessarily sophisticated analysis of the whole document, required by the standard construction rule that a term can be defined only in a way that comports with the instrument as a whole"); *Schriber-Schroth Co.* v. *Cleveland Trust Co.*, 311 U.S. 211, 217 (1940) ("The claims of a patent are always to be read or interpreted in the light of its specifications . . . ."); *Carnegie Steel*, 185 U.S. at 437 (noting the relevance of ordinary knowledge in the art: "That which is common and well known is as if it were written out in the patent . . . .").

Proper construction of a patent claim also requires considering the record of the patent application's prosecution in the patent office. *Graham* v. *John Deere Co.*, 383 U.S. 1, 33 (1966) ("It is, of course, well settled than an invention is construed not only in light of the claims, but also with reference to the file wrapper or prosecution history in the Patent Office."). That history may also inform the meaning of claim language by showing how the inventor and patent office understood it. *Phillips* v. *AWH Corp.*, 415 F.3d 1303, 1317 (Fed. Cir. 2005) (en banc) (explaining that the inquiry often focuses on whether the inventor's disclaimer of a possible broad interpretation in order to secure the patent shows that claim language is used in a narrower sense).

If, after carrying out that process of claim construction, the scope of a patent claim is "reasonably clearcut," *United Carbon*, 317 U.S. at 236, the claim satisfies the definiteness requirement.

Only if that process of claim construction leaves a claim term's meaning ambiguous will the claim be invalid for failing to particularly point out what is regarded as the invention. *Id.*

### B. Federal Circuit language describing that test may confuse and should be rejected.

The Federal Circuit generally applies that test, but sometimes describes it by stating that a claim is indefinite only if it is "not amenable to construction" or "insolubly ambiguous." *E.g.*, Pet. App. 13a. Read in isolation, that language may mislead tribunals and litigants.

The phrase "not amenable to construction" may suggest that a patent claim is adequate so long as a court adopts any text as a definition of its scope. An inquiry of that nature would do little work, as courts can define claim terms with a bare synonym. The ability to "construe" a term, in that sense, says little about the term's particularity: A synonym for a clear term may be just as clear, and a vague term may be converted to an equally vague synonym.

Of course, the Federal Circuit has appreciated that fact. For example, in *Datamize, LLC* v. *Plumtree Software, Inc.*, 417 F.3d 1342 (2005), the Federal Circuit held indefinite a claim requiring something to be "aesthetically pleasing," even though that term might be defined as "beautiful" or "having beauty that gives pleasure or enjoyment." *Id.* at 1346, 1356. The court recognized that the clarity problem was the term's subjectivity, even if it could be "construed" in the sense of adopting some definition. *Id.* at 1350; see *Star Scientific, Inc.* v. *R.J. Reynolds Tobacco Co.*,

537 F.3d 1357, 1371 (Fed. Cir. 2008) ("In and of itself, a reduction of the meaning of a claim term into words is not dispositive of whether the term is definite . . . ."). The Federal Circuit does not find a patent claim definite by simply citing an available construction and stopping the inquiry there.

The problem is simply that the phrase "not amenable to construction," when read in isolation, may erroneously focus a court or litigant on the mere ability to adopt a definition, rather than the clarity of the patent claim itself. For that reason, this Court should disapprove further use of that "not amenable to construction" shorthand.

Likewise, tribunals and litigants may be misled by the Federal Circuit's statement that only "insolubly ambiguous" claims fail the definiteness requirement. To be sure, that phrasing is accurate if "ambiguity" means uncertainty that exists from reading the patent claim alone, and the "solution" is consulting the sources relevant to claim construction to discern the claim's clear meaning to a skilled practitioner. That is how the Federal Circuit first used the term. *Exxon Research & Eng'g Co.* v. *United States*, 265 F.3d 1371, 1375 (Fed. Cir. 2001) (stating that a patent claim's scope need not be clear "on [its] face," but that a claim is indefinite if claim construction yields no discernible meaning, such that the claim is "insolubly ambiguous"). In other words, the Federal Circuit spoke of tolerating "ambiguity" that exists only before a claim is read in context from the perspective of a person working in the field.

Nevertheless, the Federal Circuit's "insolubly ambiguous" phrasing can also be read to endorse

patent claims that are ambiguous even after claim construction, so long as a court picks among one of the equally reasonable alternatives. Ambiguity of that nature would indeed fail to fulfill the public-notice function of a patent claim, and it would wrongly focus on the definiteness of a court's chosen construction rather than the patent claim itself. So while the "insolubly ambiguous" shorthand is accurate in a sense, it too should be disapproved because of its potential to confuse.

### C. The broadest form of petitioner's argument should also be rejected because a mere litigation dispute does not show invalidity.

There appears to be little disagreement between petitioner and respondent on those core definiteness principles. Specifically, both parties agree that the test is whether a skilled artisan can discern the scope of the patent claim. Pet. Br. 25; Br. in Opp. 25. Both parties agree that this is judged based on the patent claim as read in light of the rest of the specification, the patent's examination history, and the knowledge of a person of ordinary skill in the art. See Pet. 24; Br. in Opp. 28–29.[4]

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[4] The parties appear to disagree about whether the record of a patent's *re*examination may be considered, at least where the patent's text did not change. Petitioner argues that a patent claim must be clear "on the date it is issued" (Pet. Br. 34), implying that reexamination history cannot be considered because it would subvert the public-notice function in the interim. Respondent argues (Br. in Opp. 28) that reexamination history may be considered and that it helps provide any needed detail here. This brief takes no position on that issue.

Petitioner's argument, however, may suggest that a patent claim is indefinite if its scope is one "'over which reasonable persons will disagree.'" Pet. Br. 37 (quoting and criticizing the Federal Circuit's statement in *Exxon Research*, 265 F.3d at 1375, that mere disagreement among reasonable persons does not show indefiniteness) (emphasis omitted). Two amici curiae supporting the certiorari petition also endorse that reasonable-person focus. Br. of Public Knowledge and Electronic Frontier Foundation 11 (Oct. 23, 2013).

That strongest form of petitioner's argument should be rejected. Fatal ambiguity is not shown simply by disagreement among reasonable parties or jurists. The test focuses on the reasonableness of claim constructions themselves, not the persons proposing them. Reasonable parties and jurists may well disagree about a conclusion that is sufficiently clear in the ultimate analysis.

That principle is recognized in numerous contexts, not just patent law. For example, in criminal law—where the stakes are personal liberty—this Court recognizes that judicial or party disagreement on a criminal prohibition's scope does not itself show ambiguity triggering the rule of lenity. *E.g.*, *Bates* v. *United States*, 522 U.S. 23, 29, 32–33 (1997) (refusing to apply the rule of lenity to interpret a statute in a criminal defendant's favor, even though the district court and a circuit court had read it that way, because that reading was not consistent with the statutory text, structure, and history); *United States* v. *Rodgers*, 466 U.S. 475, 484 (1984) (same posture and result).

The same principle applies in contract interpretation: the mere fact that sophisticated litigants can build disagreements about the meaning of terms does not create or confirm ambiguities. *E.g.*, *Pocahontas Mineral Ltd. Liab. Co.* v. *CNX Gas Co.*, 666 S.E.2d 527, 531 (Va. 2008) ("The mere fact that the parties disagree about the meaning of the contract's terms is not evidence that the contract language is ambiguous."); *Seagull Energy E&P, Inc.* v. *Eland Energy, Inc.*, 207 S.W.3d 342, 345 (Tex. 2006) ("a contract is not ambiguous merely because the parties disagree on meaning"); *E.I. du Pont de Nemours & Co.* v. *Allstate Ins. Co.*, 693 A.2d 1059, 1061 (Del. 1997) ("Contract [language] is not ambiguous simply because the parties disagree on its meaning.").

Indeed, in *Markman* v. *Westview Instruments, Inc.*, 517 U.S. 370 (1996), this Court recognized "two elements of a simple patent case," with the first being "construing the patent." *Id.* at 384. The Court thus understood that most patent litigation "necessitates a determination of what the words in the claim mean." *Id.* at 374 (internal quotation marks omitted).

Litigating parties often disagree about the meaning of claim terms, as in *Markman* itself. *Id.* at 374–375. It may take serious study for a lay attorney or jurist to understand the knowledge of a practitioner in a field of technology and how that knowledge, along with the patent's teachings, shapes a proper reading of a patent claim. Even if that analysis yields one ultimately correct view, it is not always perfectly performed. So reasonable parties and jurists may differ on a claim's construction. See,

*e.g.*, *Merrill* v. *Yeomans*, 94 U.S. 568, 574 (1876) (interpreting a claim to a manufacture of oils as a claim to a manufacturing process, notwithstanding the dissenting view of Justice Clifford reading the claim as covering the oil product itself).

It cannot be the case that every claim-construction dispute between "reasonable parties"—if that means something like litigants acting in good faith—shows that the patent claim is fatally ambiguous. Were a disagreement among reasonable persons enough to invalidate a patent claim as indefinite, there would be few patents remaining. The Federal Circuit "engage[s] in claim construction every day, and cases frequently present close questions of claim construction on which expert witnesses, trial courts, and even the judges of [that] court may disagree." *Exxon Research*, 265 F.3d at 1375. It would be odd indeed if construing a patent claim, which this Court in *Markman* understood as the first step in most patent litigation, in fact almost never occurred because the very fact of a dispute invalidated the claim.

In short, competing constructions of claim scope do not show ambiguity merely because they are advanced by "reasonable parties." To show that the claim does not have an established meaning, the constructions proposed by each party must be equally valid under the claim's phrasing and in conflict. The dispute cannot just be a wording issue proposed by the parties; to show indefiniteness, each proposal must be equally reasonable to a person of ordinary skill in the art in light of the entire patent specification and its prosecution history.

## II. The "Spaced Relationship" Claim Term Is Structural And Distinct From The Claim's Functional Terms.

The patent claim here has both structural language and functional language. The "spaced relationship" claim term is structural; it does not itself require the performance of any function. That widely-used term conveys clear meaning in the context of the claim and specification and is not indefinite on its face.

The claim also includes separate language reciting functions that the claimed device performs. The definiteness of such functional language is judged by the clarity to a skilled artisan of the testing required to determine whether a given device falls within the patent claim. In assessing that clarity, courts may be aided by expert testimony establishing the perspective of skilled practitioners in the art, and there is no basis for a bright-line rule excluding expert evidence for functional claims. Indeed, given that claims are to be construed in light of the views of a person of skill in that art, expert evidence for claim interpretation is often needed by our generalist courts and is a staple of *Markman* claim analysis, especially for functional claim limitations.

### A. Structural limitations like the "spaced relationship" term are different from functional terms.

The Federal Circuit panel majority treated the claim term "spaced relationship" as requiring the achievement of a certain function. Pet. App. 17a, 20a. Judge Schall disagreed, noting that the claim's

functional language is separate. Pet. App. 31a–33a. Judge Schall is correct.

1. The patent's first claim contains all the limitations relevant here. It is to a device for use as a heart-rate monitor like the sort mounted on exercise equipment; it works when a user's hands contact electrodes. U.S. Patent No. 5,337,753 ("Patent-in-Suit") col. 5 ll. 1–57. The electrodes detect electrical impulses that are conducted over the skin and correspond to the heart's beating or the use of other muscles. *Id.*

The claimed device requires a bar ("an elongate member") that has two halves ("said elongate member comprising a first half and a second half") and a pair of electrodes mounted, spaced apart, on each half:

> a first live electrode and a first common electrode mounted on said first half *in spaced relationship* with each other;
>
> a second live electrode and a second common electrode mounted on said second half *in spaced relationship* with each other; . . . .

*Id.* col. 5 ll. 17–33 (emphases added). The claim then requires the "common" electrodes of the two halves to be wired together, and the two "live" electrodes to be wired into what is basically a subtraction circuit ("a difference amplifier"). *Id.* col. 5 ll. 20–40.

The patent's specification teaches that, when a user holds the invention's grip over its electrodes, useful signals will be detected by each live electrode and fed into the subtraction circuit. *Id.* cols. 12–13. Each hand's signal will be an overlay of electrical impulses from the heart's beating and from the use

of skeletal muscles. *See* Dist. Ct. Dkt. #24, at 97, 120 (technical background).

Because of the heart's position in the body, the heartbeat impulses will be equal in strength but opposite in polarity, or phase, at the hands. *Id.* at 124. So, when those signals are subtracted from each other, the heartbeat pattern will be amplified (subtracting a negative is addition). Patent-in-Suit col. 3 ll. 38–50. In contrast, the patent says that the other muscle impulses detected in each hand will be equal in strength but also equal in phase, so that subtracting one from the other will cancel out that unwanted part of the signal. *Id.*

After reciting the structure discussed above, the claim then recites certain functions achieved by use of that structure, namely:

> wherein [a user holds each grip over its electrodes];
>
> whereby [the two detected signals have skeletal-muscle impulses equal in strength and phase];
>
> so that [signal subtraction cancels out those muscle impulses to "substantially zero"];
>
> and whereby [the detected signals have heartbeat impulses equal in strength but opposite in phase];
>
> so that [signal subtraction adds those heartbeat impulses, making a "non-zero" heartbeat output].

*Id.* col. 5 l. 42 – col. 6 l. 7. Those five clauses are the functional terms of relevance here.[5]

2. The first important point about this claim is that its functional language is separate from its "spaced relationship" limitation, which simply states a requirement that the two electrodes of a half must be mounted in a certain way on the bar. The term "spaced relationship" refers to physical distance, not the achievement of a result. The parties themselves once seemed to agree on that point. Exh. 4 to Dist. Ct. Dkt. #19, at 25 (transcript of June 27, 2010 hearing, recording parties' agreement that the term means "a relationship according to a measured distance between two points").

Indeed, terms like "spaced relationship" are often used to capture just the sort of arrangement envisioned here: one where two things are spaced apart. See, *e.g.*, *John Mezzalingua Assocs., Inc.* v. *Int'l Trade Comm'n*, 437 Fed. App'x 886, 887 (Fed. Cir. 2010) (patent requiring a part in "radially spaced relationship" with a post); *Sun Coast Merch. Corp.* v. *CCL Prods. Enters., Inc.*, 179 Fed. App'x 6, 9 (Fed. Cir. 2006) (patent requiring a pair of flanges

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[5] This brief assumes *arguendo* that the functional clauses at issue state a function of which the device must be capable and thus does not claim both an apparatus and the action of using it. Cf. *IPXL Holdings, L.L.C.* v. *Amazon.com, Inc.*, 430 F.3d 1377, 1384 (Fed. Cir. 2005). Similarly, this brief assumes *arguendo* that the claim's "whereby" and related clauses are restrictions on claim scope, not explanation of natural results of using the structurally-described device. Cf. *Tex. Instruments Inc.* v. *U.S. Int'l Trade Comm'n*, 988 F.2d 1165, 1172 (Fed. Cir. 1993).

"in parallel spaced relationship"); *Med. Device Techs., Inc.* v. *C.R. Bard, Inc.*, 7 Fed. App'x 945, 947 (Fed. Cir. 2001) (patent requiring handle of inner needle and outer needle in a predetermined "axially spaced relationship"); *Karsten Mfg. Corp.* v. *Cleveland Golf Co.*, 242 F.3d 1376, 1381 (Fed. Cir. 2001) (patent requiring a golf club's back surface in "rearwardly spaced relationship" with its front face); *Vehicular Techs. Corp.* v. *Titan Wheel Int'l, Inc.*, 212 F.3d 1377, 1379 (Fed. Cir. 2000) (patent requiring a driving means "in spaced relationship" to an output means); *Ferag AG* v. *Quipp, Inc.*, 45 F.3d 1562, 1564 n.* (Fed. Cir. 1995) (patent requiring several gripper clamps "in spaced relationship"); *Lemelson* v. *TRW, Inc.*, 760 F.2d 1254, 1269 (Fed. Cir. 1985) (patent requiring load-support means "in spaced relationship" to certain frame elements).

Separate claim terms, of course, may further limit the claimed invention by requiring that the electrode spacing and other aspects of the claimed invention (such as electrode width, thickness, orientation, and material) work together to achieve a certain function. That is how respondent views the claim's separate, functional terms. But treating the term "spaced relationship" as itself imposing a functional requirement would blend claim terms in a way that could call into question the definiteness of a host of issued patents, and the legitimate expectations of their owners. Keeping different terms different avoids that risk.

3. The "spaced relationship" term is not indefinite. When read in the context of the patent, it has a clear meaning. Specifically, so long as each grip's electrodes are spaced any distance apart,

staying within a hand's breadth, a device meets the "spaced relationship" limitation. *See* Patent-in-Suit col. 1 l. 67 – col. 2 l. 12 (requiring that a hand contact both electrodes of a grip, thus providing an outer limit, and requiring that a signal be detected "between" them, meaning that they must be electrically distinct and thus providing an inner limit); Pet. App. 16a (Federal Circuit explanation of that point). The meaning of the relationship intended to be captured is clear.

This limitation of the patent claim is not like a property deed recording a boundary line "in a spaced relationship" with a highway, as some amici have suggested. In light of the patent's teachings, a better analogy would be a deed placing an inner boundary a hair's breadth past a highway's edge, so the two are not touching, and an outer boundary a hand's width away from the highway's edge (with several ways to nullify that deed if it covers land to which the owner has no entitlement). The deed's scope would be clear. Cf. *Minerals Separation, Ltd.* v. *Hyde*, 242 U.S. 261, 270 (1916) (explaining that "the certainty which the law requires in patents is not greater than is reasonable, having regard to their subject matter").

Nor are terms like "spaced relationship" indefinite because they cover a range of spacings. A claim to a fishing pole, for example, would not be indefinite because it required the pole to be "at least three feet long." That claim would be broad, of course, and its breadth may make it invalid on other grounds, such as lacking patentable novelty or covering inoperable embodiments. See *Exxon Research*, 265 F.3d at 1382. But even if that claim's

scope would be broad, its limits would be clear, as are the limits of the "spaced relationship" term here.

### B. A bright-line test for judging the definiteness of functional terms is unsound and would upset settled expectations.

The definiteness of functional claim terms is judged by the same standard as for other claim terms: whether they define a reasonably clear scope, viewed from the perspective of a person of ordinary skill in the art. Petitioner has suggested a new, bright-line test for functional claim terms that would ignore the knowledge common in an art, if that knowledge is not recited in the patent specification itself. That test would upset settled expectations and should not be endorsed.

1. Functional limitations define claim scope by stating what something or someone must achieve, rather than naming things or acts in direct physical terms. As this Court has recognized, functional claiming can be an appropriate and useful way of describing an invention. *General Electric Co.* v. *Wabash Appliance Corp.*, 304 U.S. 364, 371 (1938) ("A limited use of terms of effect or result, which accurately define the essential qualities of a product to one skilled in the art, may in some instances be permissible and even desirable . . . .").

For example, when claiming a particular wheelchair design made to fit through a car door, functional language may capture the inventive concept while allowing for variation in the design necessary for cars of different sizes. *E.g.*, *Orthokinetics, Inc.* v. *Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1568, 1575–1576 (Fed. Cir. 1986) ("The

phrase ['so dimensioned as to be insertable through' a door-to-seat space] is as accurate as the subject matter permits, automobiles being of various sizes."). The key is that "those of ordinary skill in the art realized that the dimensions could be easily obtained." *Id.* at 1576.

Likewise, when claiming a new treatment of ores where the "composition of ores varies infinitely, each one presenting its special problem," it may be "impossible to specify in a patent the precise treatment which would be most successful and economical in each case." *Minerals Separation*, 242 U.S. at 270. In such a patent, a claim may be described in a way that requires some testing to determine the process claimed for a particular ore. *Id.* There is nothing inherently suspect about claim limitations defined in terms of a function achieved.

Function-based limitations are of practical necessity in certain contexts. They are common, for example, in the chemical arts. See, *e.g.*, *E.I. du Pont de Nemours & Co.* v. *Phillips Petrol. Co.*, 849 F.2d 1430, 1435 (Fed. Cir. 1988) ("particularly with polymers, structure alone may be inadequate to define the invention, making it appropriate to define the invention in part by property limitations"); *In re Swinehart*, 439 F.2d 210, 212 (C.C.P.A. 1971) (in a chemical-composition case, noting "the practical necessity for the use of functional language" in some contexts).

Likewise, functional limitations are frequently used in describing biotechnology inventions. Tom Brody, *Functional Elements Can Ensure Allowance of Genus Claims*, 90 J. Pat. & Trademark Off. Soc'y 621, 621 (2008) ("Functional elements are present in

most biotechnology genus claims, for example, claims to nucleic acid sequences, polypeptide sequences, antibodies, and to transgenic plants and animals."); Lorance L. Greenlee, *Biotechnology Patent Law*, 68 Denv. U. L. Rev. 127, 130 (1991) ("The crucial distinguishing features are functional: how the compounds behave in biological systems, or how the compounds affect the behavior of biological systems themselves.").

Hence, "A patent applicant is free to recite features of an apparatus either structurally or functionally." *In re Schreiber*, 128 F.3d 1473, 1478 (Fed. Cir. 1997); *In re Swinehart*, 439 F.2d at 213 ("We have also found no prior decision of this or any other court which may be said to hold that there is some other ground for objecting to a claim on the basis of any language, 'functional' or otherwise, beyond what is already sanctioned [in 35 U.S.C. § 112].").

Functional claims, as with other types of claims, can present a risk of ambiguity. Determining whether a given thing or process is within the scope of a functionally-defined claim may require determining whether certain test conditions are met or a property is inherent. That can require testing a given structure to assess its functionality, so the required testing and outcome must be clear. If not, the functional limitation would make the claim's scope malleable, to potential ill effect. It could allow a patent owner to assert a broader claim scope than actually invented. Or it could prompt other inventors to steer too far around the claim, as by deterring competition broadly while allowing later assertion of

a narrower meaning without changing claim text and thus creating certain defenses to infringement.[6]

But those vices can all be guarded against by application of the standard definiteness requirement. See *Exxon Research*, 265 F.3d at 1375, 1379 (ruling that the detail in the patent specification made the claim's scope clear to a skilled practitioner); *W.L. Gore & Assocs., Inc.* v. *Garlock, Inc.*, 721 F.2d 1540, 1557 (Fed. Cir. 1983) (holding a claim term definite because "the specification itself disclosed how to compute matrix tensile strength"). If a skilled artisan would clearly understand the testing protocol and result required to determine whether a structure falls within the claim's scope, there is no reason to reject a functional claim as indefinite.

2. Petitioner may suggest a new rule for judging the definiteness of functional claims: when testing is required to apply a functional limitation, the patent specification itself must discuss or cite that testing. Pet. Br. 14, 50; Pet. 15-16. Such a bright-line rule should be rejected. Because a patent is written for

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[6] See *Bloom Eng'g Co.* v. *N. Am. Mfg. Co.*, 129 F.3d 1247, 1249 (Fed. Cir. 1997) (explaining that 35 U.S.C. §§ 252 and 307 "shield those who deem an adversely held patent to be invalid; if the patentee later cures the infirmity by reissue or reexamination, the making of substantive changes in the claims is treated as an irrebuttable presumption that the original claims were materially flawed."); cf. *Marine Polymer Techs., Inc.* v. *HemCon, Inc.*, 672 F.3d 1350, 1362 (Fed. Cir. 2012) (en banc) (holding that an intervening-rights defense is not available where the patentee made arguments on reexamination alleged to narrow the claims and protect them from invalidity, if the claim text was not itself changed).

and is viewed from the perspective of persons of ordinary skill in the relevant technical field, expert testimony about custom, usage, and knowledge in that field is a long-accepted guide to understanding a claim's scope. See, *e.g.*, *Markman*, 517 U.S. at 387 (citing a patent treatise from 1895 noting that courts deciding matters of claim construction may be "aided by expert testimony").

There is no sound basis for accepting such expert testimony as to structural claim limitations but banning it as to functional limitations. One type is not inherently more complex than another. The testing required by a functional limitation may be as simple as determining whether a binary condition is true or false. Hence, even if a patent specification does not mention or cite a specific test, it may be readily apparent to persons of ordinary skill. Cf. *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988) (noting that different fields of art involve different levels of complexity and predictability).

Accordingly, a bright-line rule requiring a patent to name or cite specific testing for every functional limitation is not based on principle and would go way too far. Indeed, such a rule could potentially invalidate multitudes of patents, upsetting the settled expectations of inventors who described their inventions without notice of that proposed rule. Cf. *Festo Corp.* v. *Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 739 (2002) ("[C]ourts must be cautious before adopting changes that disrupt the settled expectations of the inventing community. . . . Fundamental alterations in these rules risks destroying the legitimate expectations of inventors in their property.").

Rather than categorically rejecting expert opinions explaining the knowledge of practitioners in a field, courts should continue policing those expert opinions for reliability based on such traditional factors as whether the expert's reasoning draws principled distinctions, whether the opinion is corroborated by published sources, and whether the expert's opinion speaks to the ultimate issue of a patent claim's clarity. *E.g.*, *Datamize*, 417 F.3d at 1354 (finding an expert declaration unpersuasive on claim definiteness, as it "fails to explain how the parameters should be evaluated or weighed to reach the conclusion" of interest); *Halliburton Energy Servs., Inc.* v. *M-I LLC*, 514 F.3d 1244, 1254 (Fed. Cir. 2008) ("The fact that an artisan would know how to perform these measurements and tests, however, says nothing about whether the artisan would also know which fluids were 'fragile gels' . . . ."); see also *Graver Tank & Mfg. Co.* v. *Linde Air Prods. Co.*, 339 U.S. 605, 611 (1950) (in the context of an infringement analysis, noting that evaluation of expert testimony is "the function of the trial court," which can be "enlightened by scientific demonstrations" and other methods of evaluation). That competence in assessing expert opinions should be used, rather than ignored by a bright-line rule oddly limited to functional claim terms.

This brief takes no position on the definiteness of the specific functional terms here, as it is not clear that either the district court or the court of appeals analyzed them other than through the lens of the

"spaced relationship" term. Pet. App. 19a–20a, 88a, 94a.[7]

## CONCLUSION

For the foregoing reasons, this Court should reject the Federal Circuit's shorthand of "insolubly ambiguous" for identifying claims that fail to particularly point out and distinctly claim what the inventor regards as his invention. The Federal Circuit phraseology discussed above can create confusion. But petitioner's broadest argument is problematic as well.

The judgment of the court of appeals should be vacated and the case remanded for reconsideration under the established rule that the definiteness of a patent claim is judged through the eyes of a person of skill in the art, taking into account the claim language, the specification, and the prosecution history.

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[7] This brief also takes no position on whether the expert-opinion disputes here have a factual nature, such that they should be decided by the district court in the first instance. See *Markman*, 517 U.S. at 387 (characterizing claim construction as an "issue of mixed fact and law," in part because a court may be "aided by expert testimony"); *Graham*, 383 U.S. at 7 (noting that determining the knowledge of a practitioner in a technical field involves factual questions). The issue is not squarely presented here, see Pet. i, and may be better considered in a case recently decided by the en banc court of appeals, in a 6-4 divided ruling. *Lighting Ballast Control LLC* v. *Philips Elecs. N. Am. Corp.*, No. 2012-1014, 2014 WL 667499 (Fed. Cir. Feb. 21, 2014) (holding that claim construction is decided purely as a matter of law).

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