

No. 13-369

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

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NAUTILUS, INC.,

*Petitioner,*

*v.*

BIOSIG INSTRUMENTS, INC.,

*Respondent.*

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

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**BRIEF FOR RESPONDENT**

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## **QUESTIONS PRESENTED**

1. Whether a patent claim is invalid for indefiniteness where the traditional tools of claim construction establish its meaning, simply because lawyers may devise other interpretations, years after issuance, that are not “outlandish” or “implausible”?

2. Whether an accused infringer challenging a patent claim as indefinite may overcome the statutory presumption of validity, 35 U.S.C. § 282(a), without introducing any evidence that a person skilled in the art would have been unable to understand the claim’s meaning?

**PARTIES TO THE PROCEEDING AND RULE 29.6  
STATEMENT**

The corporate disclosure statement contained in Biosig Instruments, Inc.'s brief in opposition to the petition for a writ of certiorari remains accurate.

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## BRIEF FOR RESPONDENT

Respondent Biosig Instruments, Inc. respectfully submits that the judgment of the court of appeals should be affirmed.

### INTRODUCTION

The Federal Circuit held below that a patent claim satisfies the definiteness requirement of 35 U.S.C. § 112, ¶ 2 so long as a person skilled in the art would be able to discern its meaning from the intrinsic evidence in the patent—the claim language, the specification, and the prosecution history. That decision followed directly from a long line of cases in this Court and the Federal Circuit holding that claims must be sufficiently clear to provide *reasonable* notice to the public about the boundaries of the patented invention. A claim provides reasonable notice if a skilled artisan employing the established canons of claim construction can ascertain its meaning.

Applied to the invention here—a heart-rate monitor activated by the hands during exercise—that rule leads to a straightforward and intuitive result. The disputed claim uses the term “spaced relationship” to describe the configuration of two electrodes mounted on the monitor. The court below held that the term meant simply that the electrodes were physically separate from each other. Drawing on the specification, the diagrams, and other material, the court determined that the space had to be a hand’s breadth or less. Based on those clear indicia, the court correctly concluded that the term, and the claim, were definite.

Nautilus argues, however, that the patent’s principal claim should be invalidated because “spaced relationship” is purportedly open to different interpretations. Nautilus tendered no evidence that it had any actual doubt about the patent’s scope. Nor did it present any evidence that a person skilled in the art would have been confused. But in Nautilus’s view, a term is definite only if its meaning is so clear that *no reasonable person* could feasibly dispute it. Under Nautilus’s test, the bare fact that two parties take opposing positions about the meaning of a claim or term—a ubiquitous situation in patent litigation—would serve to invalidate it.

To call Nautilus’s position radical is an understatement. It flies in the face of more than 100 years of precedent in which this Court has *construed*—not *invalidated*—claims that are arguably susceptible to more than one reading. It ignores the recognized interest in preserving the inventor’s interest in his creation. And it ignores the Court’s teachings that words cannot perfectly capture an invention, and therefore that the patent laws demand only a level of precision and clarity that is reasonable.

This case, moreover, belies any contention that a no-reasonable-person standard is needed to discourage misuse of the patent system. The heart-rate monitor here passes every test of socially valuable innovation. It solved a longstanding engineering problem, thereby representing a significant advance in the art. It was approved multiple times by the Patent and Trademark Office. It has enjoyed considerable commercial success. And it was created by an individual inventor whose company, Biosig, not only licenses the technology, but also practices the invention, manufacturing and selling devices that incorporate it.

Nautilus's test would create many more problems than it would cure. Patents both weak and strong would be invalidated *en masse* because few can satisfy the level of crystalline clarity that Nautilus demands. Incentives for innovation and disclosure would be dampened in light of the greater risk and ease of invalidation. Patent litigation, conversely, would spike; rather than pay for a license, parties would be incentivized to infringe and then, if sued, devise creative interpretations of claim terms to demonstrate the existence of a fatal ambiguity. And infringement suits themselves would become far more labored.

Nautilus's arguments are not supported by the text of the Patent Act, by precedent, or by policy. They should be rejected and the Federal Circuit's decision affirmed.

### STATEMENT OF THE CASE

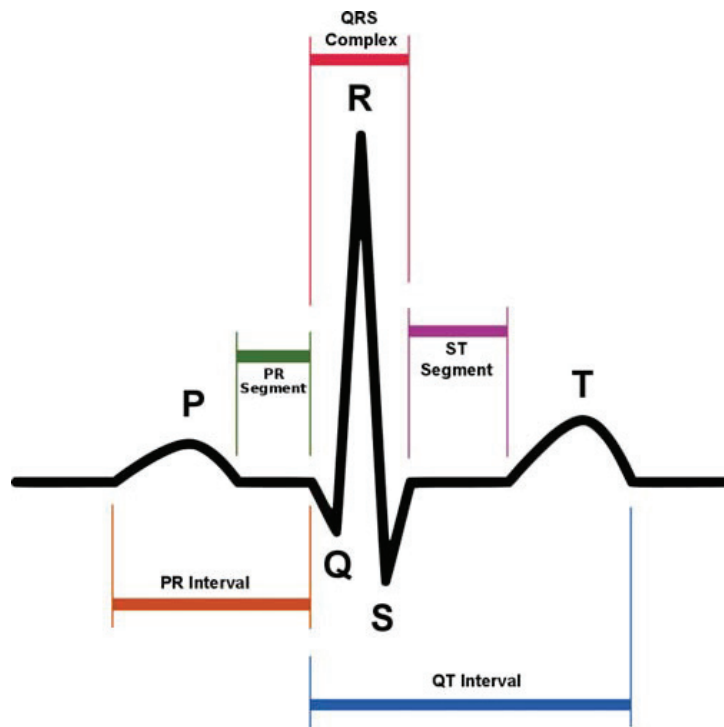
1. Dr. Gregory Lekhtman, the inventor of the patent at issue (U.S. Patent No. 5,337,753, or "the '753 patent"), was born and educated in the former Soviet Union. (J.A. 142.) He received an undergraduate degree in electrical engineering from Moscow University and a doctorate in neurophysiology and neurocybernetics from the Brain Research Institute of the Academy of Medical Sciences. (*Id.*) In 1974, believing that economic opportunities were better in the West, he and his family immigrated to Canada, where he began to work in the field of medical electronics—specifically, on the development of biometric devices. (*Id.*) Among his first projects was the development of a nerve-controlled hand prosthesis for amputees. (*Id.*) Over the next 40 years, Dr. Lekhtman received nine United States patents for biometric devices, including the heart-rate monitor at issue here, as well as numerous foreign patents. (*Id.*)

In 1983, Dr. Lekhtman founded Biosig Instruments, Inc., a company in the business of medical and fitness electronics. (*Id.*) Besides holding the patent rights to Dr. Lekhtman's inventions, Biosig manufactures devices based on the underlying technology and licenses that technology throughout North America. (*Id.* at 143.) Biosig currently sells to consumers heart-rate monitors that practice the '753 patent under the brand name "Insta-Pulse." (*Id.* at 162-63.) It also has supplied over 100,000 monitors incorporating the '753 patent to leading manufacturers of exercise equipment, such as Cybex and Star Trac. (*Id.* at 143, 156-57.)

2. The '753 patent teaches an invention for measuring heart rate during exercise. As of the early 1990s, if a person wanted to measure his heart rate while exercising, the options were to strap electrodes to his chest—a cumbersome and impractical method—or to use a relatively inaccurate handheld device. (*Id.* at 152-53.) Dr. Lekhtman's invention is an apparatus for accurately measuring heart rate through electrodes that the user can grasp with his hands during exercise. (*Id.* at 153-54.) To achieve that technological breakthrough, Dr. Lekhtman overcame a number of engineering obstacles that derive from the way the heart and other muscles emit electrical signals. (*Id.* at 152-57.)

a. Every time the heart beats, it emits an electrical pulse in a wave pattern known as an electrocardiograph ("ECG"). (*Id.* at 214.) Figure 1 below depicts a single ECG waveform, with the  $x$ -axis representing time and the  $y$ -axis representing the amplitude of the signal. (*Id.* at 215.)

FIGURE 1



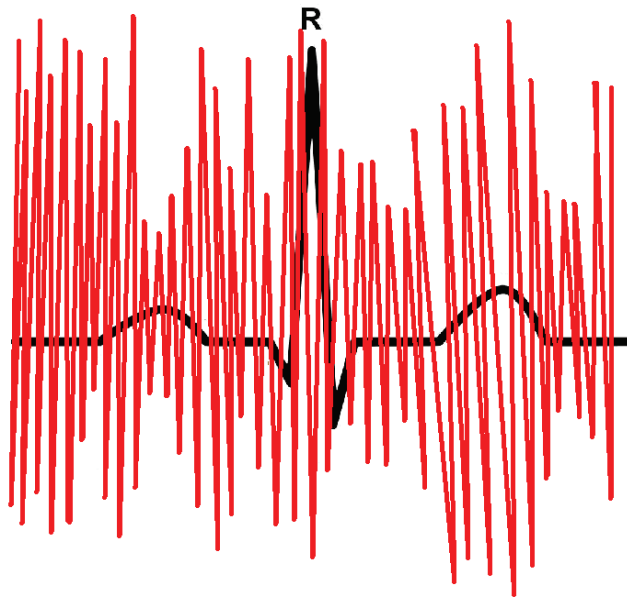
(*Id.*)

The ECG waveform has three key phases: the *P*, *QRS*, and *T* phases, each generated by a different area of the heart. The *R* peak has the highest amplitude of the various waveform components. (*Id.* at 214-15.) Because each *R* peak corresponds to a single beat of the heart, heart rate may be calculated by measuring the time between *R* peaks. (*Id.* at 215.)

Heart-rate monitors detect ECG waveforms through electrodes that are in contact with the skin. Before Dr.

Lekhtman's invention, accurate measurement of heart rate through electrodes in contact with the hands was difficult for a number of reasons. (*Id.* at 152-53.) All skeletal muscles, including hand muscles, emit an electrical signal known as an electromyogram ("EMG"). (*Id.* at 147.) The total electrical signal detected from the hands is thus a composite of the ECG waveform, EMG signals, and other noise. (*Id.*) Because EMG signals occur in the same amplitude range as ECG signals, the former can mask the *R* peak, making heart-rate detection difficult, as shown in Figure 2 below. (*Id.* at 147-49, 215.)

FIGURE 2



(*Id.*) The masking problem is particularly acute during exercise, when the EMG, but not the ECG, signals increase in amplitude and therefore create more noise in the heart-rate monitor. (*Id.* at 148-49.)

The difficulty of obtaining accurate ECG readings through the hands was well known in the exercise industry but remained unsolved until Dr. Lekhtman's invention. (*Id.* at 153.) Some prior art devices had attempted to deal with EMG noise through "downstream" electronic filtering (i.e., filtering out the EMG signal after it was detected by the electrodes, using additional circuitry). (*Id.* at 147-48, 152-53, 158-59, 161.) That process was not effective, however, because downstream filtering also degrades the ECG readings and the overall signal-to-noise ratio. (*Id.* at 147-48, 150.) Other prior art devices tried to work around the EMG problem by using chest-belt telemetry units, which are unwieldy. (*Id.* at 153.)

b. After years of work, Dr. Lekhtman solved the problem by devising a way to substantially remove EMG signals from ECG signals *before* electronic processing, so that the latter would yield a more accurate heart-rate reading. (*Id.* at 153-54.) The solution took advantage of a basic difference between the waveforms of the two types of signals. Because the heart is not aligned perfectly vertically, but tilts leftward from apex to bottom, ECG signals that are measured on opposite sides of the body (defined by a line running from the left shoulder through the right side of the waist) have opposite polarities—e.g., on one hand, the wave appears *below* the  $x$ -axis, while on the other hand, the wave appears *above* the  $x$ -axis. (*Id.* at 146, 213.) By contrast, EMG signals from the left and right hands always have the same polarity. (*Id.* at 149.)

That difference inspired an elegant solution to the EMG noise problem. Dr. Lekhtman's idea involved setting up his monitor so that the amplitudes of the EMG signals detected from each hand were equal. (*Id.* at 41, 153.) The combined EMG and ECG signals detected from each hand would then be fed into a circuit known as a difference (or "differential") amplifier, which subtracts waves with similar amplitudes. (*Id.* at 41, 155.) Since the EMG signals detected by Dr. Lekhtman's monitor from each hand have the same amplitude and the same polarity, the difference amplifier cancels them out. (*Id.* at 41, 53, 57.) ECG signals have opposite polarity, however, and are therefore effectively doubled in the difference amplifier (akin to when a negative number is subtracted from a positive one). (*Id.* at 41, 58.)

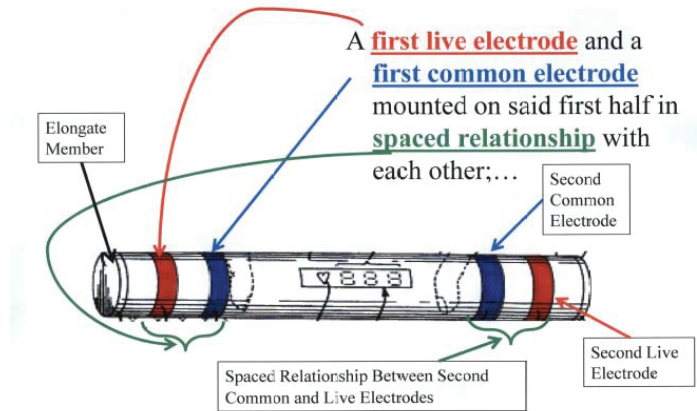
Although EMG signals always have the same polarity, it is a fact of human physiology that they do not inherently share the same amplitude when measured on different parts of the body. (*Id.* at 149-50.) Accordingly, in Dr. Lekhtman's monitor, the EMG signals detected from each hand must be equalized before they can be cancelled out. (*Id.* at 153, 155.) Biosig offered uncontested expert testimony that the detected EMG amplitude depends on a number of factors associated with the geometric configuration of the detecting electrodes: their shape, size, and material, and the separation distance between the two electrodes in contact with each hand. (*Id.* at 155-56.) It was undisputed that a person skilled in the art in 1992 would have known how to configure a set of electrodes to equalize the EMG detected at each hand using a basic oscilloscope. (*Id.* at 155, 160-61.)

c. Claim 1 of the '753 patent discloses Dr. Lekhtman's invention. The claim begins by describing the structural aspects of the invention.<sup>1</sup> That structure consists of an "elongate member" (i.e., a cylindrical bar), on each half (left and right) of which is mounted a pair of electrodes: one "live electrode" and one "common electrode" in a "spaced relationship" with each other. (J.A. 61.) The first live electrode is connected to one terminal of the difference amplifier, while the second live electrode is connected to the other terminal of the difference amplifier. (*Id.* at 62.) The claim adds: "*wherein*" the elongate member is held by the user, with one hand "contacting said first live electrode and said first common electrode," and the other hand "contacting said second live electrode and said second common electrode." (*Id.*) That "wherein" clause makes clear that the upper bound for the "spaced relationship" between the electrodes in each pair is the width of a hand. And the lower bound must be the minimal amount necessary so that the two electrodes do not merge into one.

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1. The parties' Joint Appendix at the Federal Circuit contains the official published version of the '753 patent, which is formatted in numbered columns and rows. (*See* Fed. Cir. J.A. 1-15.) That is the version cited by the Federal Circuit in the decision below.

The following figure is an annotated version of Figure 1 of the '753 patent:



(See *id.* at 42, Fig. 1.)

Claim 1 also sets forth the functional limitation related to the removal of EMG signals:

*whereby*, a first [EMG] signal will be detected between said first live electrode and said first common electrode, and a second [EMG] signal, of substantially equal magnitude and phase to said first [EMG] signal will be detected between said second live electrode and said second common electrode;

*so that* when said first [EMG] signal is applied to said first terminal and said second [EMG] signal is applied to said second terminal, the first and second [EMG] signals will be subtracted from each other to produce a substantially zero [EMG] signal at the output of said difference amplifier.

(*Id.* at 62 (emphasis added).) A similar functional limitation states that the ECG signals from each hand will be run through the difference amplifier, which has the effect of adding the two ECG signals together due to their opposite polarities. (*Id.* at 63.)

d. The application that matured into the '753 patent was filed on June 6, 1992. (*Id.* at 69.) The U.S. Patent and Trademark Office (PTO) twice rejected the claims for indefiniteness on issues unrelated to this case.<sup>2</sup> After amendments, the '753 patent issued on August 16, 1994. (*Id.* at 40.)

3. Following issuance of the patent, Biosig disclosed the invention to Nautilus's predecessor, Stairmaster Sports Medical Products, Inc., for which Dr. Lekhtman had been a consultant. (*Id.* at 26, 163.) Unlike its competitors, however, Stairmaster declined to license the technology and simply took Dr. Lekhtman's invention without paying for it. (*Id.* at 26.) After it acquired Stairmaster, Nautilus (another client for whom Dr. Lekhtman had consulted) also refused to reach an agreement with Biosig and continued to sell infringing products. (*Id.* at 26, 30, 165.) Nautilus has never denied that its accused exercise apparatus and heart-rate monitors incorporate spaced sets of electrodes

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2. The first rejection occurred because the original version of Claim 1 did not recite a structure for monitoring heart rate. (Fed. Cir. J.A. 74.) The second occurred because the claim did not recite a structure for converting the output of the difference amplifier into a heart rate or a connection between the display device and other circuitry. (*Id.* at 88.) Biosig overcame these objections by adding limitations to its claim. (*Id.* at 82-83, 92-94.) Tellingly, at no time did the PTO raise any objection on indefiniteness grounds to the term "spaced relationship."

and a difference amplifier to employ Dr. Lekhtman's novel solution. Rather, Nautilus has moved from defense to defense in an attempt to justify its misappropriation of Dr. Lekhtman's ideas, first raising the purported indefiniteness of the "spaced relationship" six years into their litigation.

In August 2004, Biosig sued Nautilus for infringement of the '753 patent. (*Id.* at 23.) Shortly after discovery began, Nautilus filed a request for reexamination with the PTO. (*Id.* at 23, 27.) Pending the outcome of that process, Biosig voluntarily dismissed its suit without prejudice, subject to a tolling agreement. (*Id.* at 28.) All told, Nautilus filed *three separate* requests for reexamination, each ultimately unsuccessful.

In its first request, Nautilus argued that Claim 1 was anticipated by prior art, principally the Fujisaki patent (U.S. Patent No. 4,444,200), which disclosed a heart-rate monitor utilizing four electrodes and a difference amplifier. (*Id.* at 180.) Biosig responded with expert testimony that the Fujisaki patent was silent about the effects of EMG signals, and the Fujisaki monitor could not have removed their effects. (J.A. 106-07.) In support of its arguments, Biosig submitted a declaration by Dr. Lekhtman, in which he demonstrated that Fujisaki indeed did not equalize and remove EMG signals. (*Id.* at 150.) By contrast, Dr. Lekhtman explained, a person skilled in the art would know how to adjust the design variables (space, size, shape and materials of the electrodes) of his invention so that the EMG signals could be equalized and cancelled out. Further supporting that point, Biosig submitted an expert report from Dr. Henrietta Galiana, Chair of the Department of Biomedical Engineering at

McGill University, who recounted that a technician in her laboratory, following the specification in the '753 patent, was able in two hours to build the claimed heart-rate monitor that successfully removed EMG signals. (*Id.* at 201, 226-28.)

Before the examiner ruled on the first request for reexamination, Nautilus submitted a *second* reexamination petition, rearguing obviousness based on Fujisaki and an additional prior art reference. The PTO issued a ruling on both requests for reexamination, confirming all claims in the '753 patent over the prior art. (*Id.* at 78-81.) The patent examiner agreed that none of the prior art taught a method involving electrodes that had been configured to equalize EMG signals detected from the hands so that they could be cancelled out. (*Id.* at 79-80.)

Nautilus later urged the PTO to reexamine the patent yet a *third* time, based on a proffer of still more prior art. (*Id.* at 285.) The PTO denied that request, holding that the evidence was cumulative. (*Id.* at 285-87.) During all three reexamination proceedings, Nautilus had no difficulty mapping prior art against each limitation of the '753 patent and professed no inability to understand the meaning and scope of those limitations. Nautilus raised the purported indefiniteness of Dr. Lekhtman's claimed invention only after it had failed to invalidate the claim by reexamination.

4. With all claims of the '753 patent confirmed as patentable, Biosig filed a new complaint against Nautilus in October 2010. (*Id.* at 7, 23-32.) Before discovery was complete, the district court *sua sponte* ordered the parties to a *Markman* hearing. Regarding the phrase

“spaced relationship” in Claim 1, the parties agreed that it had the common-sense meaning of a distance between the electrodes in the first pair and the second pair. (*Id.* at 37-38.) Subsequently, despite its earlier agreement (and implied understanding) about the construction of “spaced relationship,” Nautilus contended that during reexamination Biosig had disavowed configurations where the spacing between the electrodes was less than the width of a single electrode. (*Id.* at 245, 249.) The court rejected that new contention. It construed “spaced relationship” as a “defined relationship between the live electrode and the common electrode on one side of the cylindrical bar, and the same or a different defined relationship between” the electrodes on the other side of the bar. (Pet. App. 43a-44a.)

Following the *Markman* hearing, the district court directed each side to file summary judgment motions. Only then did Nautilus argue, for the very first time, that the patent was invalid for indefiniteness. Specifically, Nautilus argued that the term “spaced relationship” did not distinguish the ’753 patent from Fujisaki. Biosig responded that Fujisaki was distinguished based on its failure to practice the functional limitation of EMG removal. Biosig offered declarations of persons skilled in the art in support: the previously mentioned declarations of Dr. Lekhtman (J.A. 141-77) and Dr. Galiana (*id.* at 201-234), and another from Dr. George Yanulis, an expert in biomedical engineering and a consultant in the field of medical devices (*id.* at 270-79). Neither then, nor at any time since, did Nautilus offer any evidence concerning what a person skilled in the art did or did not understand a “spaced relationship” to mean.

The district court announced its decision from the bench without issuing a written opinion. (Pet. App. 50a-106a.) It held that the term “spaced relationship” was indefinite because, in the court’s view, a person skilled in the art could not determine how far apart the electrodes should be.

The district court alternated between two different characterizations of the purported indefiniteness problem. In some places, it suggested that the term “spaced relationship” was too broad. (*See* Pet. App. 90a (“A spaced relationship means it has to be a certain relationship, but doesn’t tell you what the certain relationship is. One inch, an inch-and-a-quarter, two inches? One doesn’t know.”).) In other places, it complained that there was “nothing in the specifications or the claim or the file history” to teach an expert how to use the electrode spacing to cancel out EMG signals. (*id.* at 103a.) In so ruling, the court conflated definiteness with enablement. It also ignored Dr. Lekhtman’s and Dr. Yanulis’s unrebutted testimony about the knowledge of a person skilled in the art. The district court ultimately considered the claims “indefinite because a person skilled in the art could not translate the definition . . . into meaningfully precise claim scope.” (*Id.* at 103a.)

5. Biosig appealed. Before the Federal Circuit, Nautilus shifted its indefiniteness argument and focused solely on the tests used by Dr. Galiana and Dr. Lekhtman to determine whether the functional recitations of the “whereby” clause of the claim were met by a particular device. The Federal Circuit held unanimously that the claims at issue were not indefinite and therefore reversed the district court’s decision, remanding for further proceedings. The panel issued two separate opinions.

a. The majority recognized that the sole question before it was whether the asserted claims were invalid for indefiniteness because the term “spaced relationship” did not sufficiently define the spacing between the common and live electrodes. (*Id.* at 12a.) The proper way to answer that question, according to the court, was through “[g]eneral principles of claim construction.” (*Id.* at 14a.) That is, the court should consider “the intrinsic evidence consisting of the claim language, the specification, and the prosecution history” as well as any relevant extrinsic evidence. (*Id.*) At the end of that process, “if reasonable efforts at claim construction result in a definition that does not provide sufficient particularity and clarity to inform skilled artisans of the bounds of the claim, the claim is insolubly ambiguous and invalid for indefiniteness.” (*Id.* at 13a) (citation omitted).

Here, claim construction dictated that “spaced relationship” had well-defined boundaries. The court found that a person skilled in the art reading the patent would know that the distance between the live and common electrodes could not be greater than the width of a user’s hand because the claims require that each electrode be in contact with two distinct points of the hand. (*Id.* at 16a.) That person would also know that the distance between the electrodes could not be so infinitesimally small that they merged into a single electrode with one detection point. (*Id.*) Thus, the ’753 patent disclosed certain “inherent parameters” that were sufficient for a skilled artisan to understand the claim. (*Id.*) The court rejected the district court’s view that specific numerical limitations were required. (*Id.* at 25a.)

The majority also noted that the functional element of Claim 1 “shed[] further light” on the meaning of “spaced relationship.” (*Id.* at 16a.) The court accepted Dr. Lekhtman’s declaration submitted during reexamination, stating that a skilled artisan would be able to adjust the design variables on the monitor so that the EMG signals were equalized and substantially cancelled, and Dr. Galiana’s declaration that it had actually been tested and done. (*Id.* at 19a.) As for the district court’s concern that the specification failed to spell out the precise methodology, the panel majority noted that question was not properly analyzed in connection with indefiniteness under § 112, ¶ 2 but rather should be analyzed in the context of enablement under § 112, ¶ 1. (*Id.* at 24a.)

b. In a separate concurrence, Judge Schall agreed that the district court erred in holding the patent invalid for indefiniteness. He agreed that the district court had given the phrase a straightforward construction, namely a fixed spatial relationship between the live electrode and the common one on each side of the elongate member. He also agreed that intrinsic evidence disclosed the “inherent parameters” of that spacing (*id.* at 31a): it had to be wider than zero and narrower than a hand’s breadth. He echoed the majority’s statement that while that construction could be seen as broad, “breadth is not indefiniteness.” (*Id.* at 23a (citations omitted).)

In Judge Schall’s view, the invalidity analysis should have stopped there. Nautilus had not challenged the district court’s construction by conditional cross-appeal or otherwise. As a result, the question of whether the functional limitation of EMG removal confirmed that the term “spaced relationship” was definite “is not currently

before us.” (*Id.* at 32a.) There was no indication that Judge Schall questioned whether the functional limitation stated part of the metes and bounds of the overall claim, and there is no basis to think that his reading of that limitation or of the claim as a whole would have been different from the majority’s had he reached that issue. But the concurrence saw no need to address a functional limitation that neither party had argued was a limitation under review.

### SUMMARY OF ARGUMENT

**I.** The Federal Circuit correctly held that the patent claim at issue is definite because a person skilled in the art with access to all the traditional tools of claim construction—the written specification, the claims as a whole, and the prosecution history—could determine its meaning. Claims are not indefinite merely because, superficially, they appear to be open to more than one interpretation. As this Court has long held, the notice that a patent claim provides need only be reasonable, not perfect. The Court has recognized several reasons why claims are typically less than perfectly precise, stemming from the limitations of language and the difficulty of reducing an abstract invention to a definitive verbal description. Claims are definite even if they are arguably susceptible to more than one reading so long as their true meaning can be ascertained by employing the ordinary tools of claim construction.

**II.** *Nautilus* advocates a new and radical standard, according to which a claim should be invalidated as indefinite unless it is so precise that no reasonable person could disagree about its meaning. That test demands a

degree of certainty in claiming far beyond anything the patent statute or this Court has ever required.

In fact, this Court has expressly rejected such a position in a long line of cases holding that if a patent claim is susceptible to two interpretations, then the reading that will preserve the patent should be adopted. Those cases foreclose any argument that a claim must be immune from reasonable dispute. To the contrary, the Court's cases on claim construction, such as *Markman v. Westview Instruments, Inc.*, take for granted the existence of reasonable disputes over the meaning of a claim. If Nautilus is correct, then ambiguous claims would never be construed; they would be immediately invalidated for indefiniteness.

Beyond these doctrinal shortcomings, Nautilus's proposed test would disrupt the fundamental expectations of the patent system. If Nautilus's view carries the day, unscrupulous infringers would need only raise some "reasonable" alternative construction to escape the consequences of what has heretofore always been recognized to be a misappropriation of an inventor's ideas. The incentives to innovate and disclose would be weakened, which could have a profoundly negative effect on the patent system as a whole. Imposing such a drastic change to the patent system is the proper province of Congress, not the Court.

**III.** In all events, the patent at issue is definite under any standard. Nautilus purports not to know what a "spaced relationship" is. But there is nothing indefinite about that term; as the district court held, it simply means that the electrodes are separated by a space. The

specification and other limitations provide parameters that allow a person skilled in the art to determine the proper distance of the “spaced relationship” for any given set of electrodes and type of exercise equipment on which they will be mounted.

Although Nautilus tries to manufacture ambiguity by pointing to purported differences between the Federal Circuit majority and concurrence, the panel did not disagree on the meaning of the claim being asserted *as a whole*, which is all that matters for definiteness. And beyond pointing to this non-existent difference of opinion between the majority and concurrence, Nautilus has presented no evidence that a person skilled in the art would be unable to ascertain the meaning of the claim at issue. Nautilus has thus failed to overcome with clear and convincing evidence the statutory presumption that Biosig’s patent is valid. Indeed, under any standard of proof and any view of definiteness, the claim is definite and should be upheld.

## ARGUMENT

### **I. A CLAIM SATISFIES THE DEFINITENESS REQUIREMENT WHEN ITS MEANING IS REASONABLY CLEAR TO A PERSON SKILLED IN THE ART.**

For well over a century, this Court has explained that a patent is definite if it reasonably informs a skilled artisan of the invention being claimed. The Court has never demanded perfect clarity in claiming; to the

contrary, it has explicitly recognized that precise claiming is impossible. Indeed, an unmistakable theme running through the Court’s patent precedent is that claims will often be at least arguably amenable to more than one interpretation, but the tools of claim construction can be employed to ascertain a disputed claim’s true meaning.

Claim construction is precisely what the Federal Circuit did below. It utilized the proper canons of construction to determine that Biosig’s claim had a simple meaning that any skilled artisan could understand. That is all that is mandated by § 112’s definiteness requirement.

**A. The Certainty Required In Claiming Is That Which Is Reasonable.**

1. The purpose of the patent laws is to “promote the Progress of Science and useful Arts.” U.S. Const. art. 1, § 8, cl. 8. From their inception, the patent laws have accomplished that end by carefully balancing the goal of incentivizing an inventor’s research and development with the goal of encouraging the public to innovate outside the scope of the inventor’s rights. *See Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 146, 150-51 (1989); *see also Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2116 (2013). Thus, patentees are required to disclose their inventions and, in exchange, those inventions receive legal protection from infringers for a term of years.

The definiteness requirement obligates patentees to “particularly point[] out and distinctly claim[]” their

inventions. 35 U.S.C. § 112, ¶ 2.<sup>3</sup> As Nautilus repeatedly emphasizes, the main purposes behind the requirement are to give the public notice of where innovation is legally permitted and to facilitate review by the PTO and the courts. (See Pet’r Br. 27-28, 32-33.) But those interests of the *definiteness* requirement are balanced by another purpose of the *patent laws* in general, namely, “secur[ing] to the inventor the reward he deserves.” *Eibel Process Co. v. Minn. & Ontario Paper Co.*, 261 U.S. 45, 63 (1923). To focus on the former to the virtually complete exclusion of the latter, as Nautilus does, is a serious error.

2. Both this Court and the Federal Circuit have long followed the correct standard for definiteness under § 112, ¶ 2. A claim is definite if its meaning is *reasonably* clear to a person skilled in the art. See *United Carbon Co. v. Binney & Smith Co.*, 317 U.S. 228, 236 (1942) (requiring that claims be “reasonably clearcut”); *Minerals Separation, Ltd. v. Hyde*, 242 U.S. 261, 270 (1916) (“[T]he certainty which the law requires in patents is not greater than is reasonable, having regard to their subject matter.”); *Brown v. Guild*, 90 U.S. 181, 224 (1874) (requiring that claims be “fairly understood”); *Young v. Lumenis, Inc.*,

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3. Paragraph 2 of 35 U.S.C. § 112 was replaced with a newly designated § 112(b) when the Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, took effect on September 16, 2012. The text of the two versions is virtually identical, with the only substantive change being the replacement of the former’s reference to “applicant” with “inventor or joint inventor.” The AIA also made non-substantive changes to other provisions of the Patent Act relevant here, including § 282. Because the ’753 patent issued prior to the effective date of the AIA, the previous versions of these statutory provisions apply and are cited herein, unless otherwise noted. (See Pet. App. 12a n.3.)

492 F.3d 1336, 1346 (Fed. Cir. 2007); *Miles Labs., Inc. v. Shandon Inc.*, 997 F.2d 870, 875 (Fed. Cir. 1993). The notice need not—indeed, usually cannot—be perfect and devoid of all uncertainty. *See Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 731 (2002); *Eibel Process*, 261 U.S. at 65. It need only be sufficient to convey to the skilled artisan a reasonable understanding of the metes and bounds of the claim.

As the Court has recognized, this reasonableness standard is dictated by the infeasibility of perfectly capturing an innovation with words. Because claiming is an inexact art, disputes will inevitably arise regarding the precise scope of a claim. In such instances, the Court has provided a detailed set of canons for construing the claim. Reasonable notice is that which permits a person skilled in the art to determine the claim’s meaning by employing those established canons.

a. The Court has identified several reasons why inventions need not be claimed with perfect exactitude.

*First*, language is inherently imprecise. Unlike real property markers, claims mark patent boundaries with words, not objects. Due to the limitations of language, “patent claims may not capture every nuance of the invention or describe with complete precision the range of its novelty.” *Festo*, 535 U.S. at 731. As the Federal Circuit’s predecessor court observed: “Often the invention is novel and words do not exist to describe it. The dictionary does not always keep abreast of the inventor. It cannot. Things are not made for the sake of words, but words for things.” *Autogiro Co. of Am. v. United States*, 384 F.2d 391, 397 (Ct. Cl. 1967) (quoted with approval in *Festo*, 535

U.S. at 731); *see also* U.S. Gov't Accountability Office, GAO-13-465, *Intellectual Property: Assessing Factors That Affect Patent Infringement Litigation Could Help Improve Patent Quality* 28 (2013) (“Language describing emerging technologies, such as software, may be inherently imprecise because these technologies are constantly evolving.”).<sup>4</sup> Indeed, as the Court has noted, “[t]he specification and claims of a patent, particularly if the invention be at all complicated, constitute one of the most difficult legal instruments to draw with accuracy . . . .” *Topliff v. Topliff*, 145 U.S. 156, 171 (1892).

*Second*, in many situations, the nature of an invention may make it impossible to give exact specifications in advance. Notwithstanding that fact, the Court has long approved patents that are described in terms as clearly as feasible under the circumstances.

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4. More generally, Justice Frankfurter once observed:

Anything that is written may present a problem of meaning . . . . The problem derives from the very nature of words. They are symbols of meaning. But unlike mathematical symbols, the phrasing of a document, especially a complicated enactment, seldom attains more than approximate precision. If individual words are inexact symbols, with shifting variables, their configuration can hardly achieve invariant meaning or assured definiteness.

Hon. Felix Frankfurter, *Some Reflections on the Reading of Statutes*, Address Before the Association of the Bar of the City of New York (Mar. 18, 1947), in *Record of the Association of the Bar of the City of New York*, Vol. 2 (1947).

In *Minerals Separation*, 242 U.S. 261 (1916), for example, the Court upheld a process claim for separating metallic ore from worthless surrounding gangue. The claimed process entailed immersing the ore-gangue into a mixture of oil and water and agitating the mixture, but it did not specify the amount of oil or the degree of agitation required for each type of ore. *Id.* at 265, 270. The Court firmly rejected an indefiniteness challenge. Since “[t]he composition of ores varies infinitely, each one presenting its special problem,” then “it is obviously impossible to specify in a patent the precise treatment which would be most successful and economical in each case.” *Id.* at 271. An exhaustive description of the process for each type of ore was therefore not required. So long as the process overall was relatively clear, then even if some aspects were undefined and left to the “skill of the persons applying the invention,” the patent was “clearly sufficiently definite to guide those skilled in the art to its successful application.” *Id.*

To the same effect is *Eibel Process*, 261 U.S. 45 (1923). There, the claim described an improvement to a paper-making machine in which the feeding wire was set at an unspecified “high” elevation. *Id.* at 65. Again, the Court rejected an indefiniteness challenge to the claim, recognizing that “it was difficult for [the inventor] to be more precise,” because the appropriate height depended on the varying conditions of speed and stock of any particular machine. *Id.* This did not disqualify the claims, because there was evidence showing that a person skilled in the art would have “no difficulty” determining the proper wire height. *Id.* at 65-66.

Based on the principles in *Minerals Separation* and *Eibel Process*, the Federal Circuit holds that terms of degree such as “high” or “substantial” are not void for indefiniteness so long as a person skilled in the art will be able to give them meaning. *See, e.g., Andrew Corp. v. Gabriel Elecs., Inc.*, 847 F.2d 819, 821-22 (Fed. Cir. 1988); *see also Deere & Co. v. Bush Hog, LLC*, 703 F.3d 1349, 1359 (Fed. Cir. 2012). The certainty required in patents “is not greater than is reasonable, having regard to their subject matter.” *Minerals Separation*, 242 U.S. at 270; *see also Mowry v. Whitney*, 81 U.S. 620, 644 (1871) (“[T]he definiteness of a specification must vary with the nature of its subject. Addressed as it is to those skilled in the art, it may leave something to their skill in applying the invention . . .”).<sup>5</sup>

*Third*, it is not always possible to anticipate and codify every possible way in which an invention may be enabled. Rather than allow an infringer to make “[u]nimportant and insubstantial substitutes for certain elements,” thereby “defeat[ing] the patent” and destroying its value, *Festo*, 535 U.S. at 731-32, the Court more than 150 years ago introduced the “doctrine of equivalents.” *See Winans v. Denmead*, 56 U.S. 330 (1853). The doctrine allows infringement to be found even where the alleged infringing product does not trespass upon the *literal* terms of a claim, so long as the infringing element is “equivalent” in some manner.

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5. *Mowry* spoke of the “specification,” by which it included the claims as well, because the patent under review had issued in 1847, before the Patent Act of 1870 separated the claims from the specification.

The Court has time and again reaffirmed the doctrine of equivalents over objections that it undermines the patent law's definiteness requirement by making it difficult for the relevant public to determine precisely where a patent's legal coverage ends. *See, e.g., Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 25-26 (1997); *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 608-10 (1950). In *Graver Tank*, for instance, Justice Black argued vociferously in dissent that the doctrine of equivalents is "unjust to the public" because it blurs the boundaries of a patent, thereby leaving competitors uncertain about whether they can employ knowledge outside the scope of the claims. *Id.* at 613-15 (Black, J., dissenting). The Court has acknowledged the merits of the point. Nevertheless, "[e]ach time the Court has considered the doctrine," it has understood uncertainty to be "the price of ensuring the appropriate incentives for innovation, and it has affirmed the doctrine over dissents that urged a more certain rule." *Festo*, 535 U.S. at 723.

The doctrine of equivalents teaches that while an inventor must endeavor to define the peripheries of his innovation as well as language permits, some degree of imprecision is excused in order to "prevent an infringer from stealing the benefit of the invention." *Graver Tank*, 339 U.S. at 608. And by demanding that inventors provide reasonable notice regarding the boundaries of their inventions, the law encourages the public "to pursue innovations, creations, and new ideas beyond the inventor's exclusive rights." *Festo*, 535 U.S. at 731. The "delicate balance" between the interests of patent holders and the public is thereby achieved. *See Festo*, 535 U.S. at 731; *Bonito Boats*, 489 U.S. at 150-51.

b. Because claims need not possess perfect precision, it is inevitable that parties will sometimes disagree regarding the exact meaning of a claim. To address these disputes, the Court has set out a series of rules for determining the proper construction of a contested claim. The Court’s longstanding experience resolving claim disputes demonstrates that a claim is not indefinite merely because it appears to be susceptible to more than one reading. Rather, a claim provides reasonable notice so long as its meaning can be ascertained by employing the established tools of claim construction.

*Markman*, 517 U.S. 370 (1996), the seminal modern case on claim construction, proves the point. *Markman* takes as its starting point the fact that there will often be reasonable, good-faith disagreements over the meaning of a claim term—there, the term “inventory,” which could mean either cash receipts or a catalog of clothing. *Id.* at 375. Such ambiguity is the beginning of interpretation, however, not the end.

*Markman* teaches that ascertaining the precise meaning of a complex patent oftentimes requires a “sophisticated analysis.” *Id.* at 389. The Court has provided various canons of construction to guide that analysis. The patent must be viewed from the perspective of a skilled artisan, who has a presumed familiarity with the prior art in the relevant field. *See Carnegie Steel Co. v. Cambria Iron Co.*, 185 U.S. 403, 437 (1902). The claim language at issue must be construed in light of the specification as a whole, as well as the other claims. *See Markman*, 517 U.S. at 389-90; *United States v. Adams*, 383 U.S. 39, 48-49 (1966); *Smith v. Snow*, 294 U.S. 1, 14 (1935). Statements made during prosecution may elucidate the meaning of

a claim term, *see Graham v. John Deere Co.*, 383 U.S. 1, 33 (1966), and expert testimony can provide insight into the understanding of a skilled artisan, *see Markman*, 517 U.S. at 389-90.

The ultimate goal of claim construction is to determine which party's proposed interpretation most "fully comports with the specification and claims and so will preserve the patent's internal coherence." *Id.* at 390. Because of the difficulty and subtlety of that process, *Markman* concluded that claim construction was a task better suited to a judge than a jury. *Id.* at 388-90. Indeed, *Markman* specifically reasoned that making judges the ultimate arbiters of ambiguous language would promote the interest in public notice. *Id.* Far from proscribing claims whose meaning is uncertain, the Court laid out a process for ascertaining meaning.<sup>6</sup> *Markman's*

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6. *Markman* explained that claim construction is often dispositive, noting that "[v]ictory in an infringement suit requires a finding that the patent claim covers the alleged infringer's product or process, which, in turn necessitates a determination of what the words in the claim mean." 517 U.S. at 374 (quotation marks omitted). This directly refutes Nautilus's suggestion that claim construction typically does not entail a determination of a claim's scope but rather merely how the claim can be explained to a lay jury. (*See* Pet'r Br. 46.) Quite to the contrary, "[t]he determination of the patent boundaries . . . is often the most important part of patent infringement litigation and is often case-dispositive." Thomas L. Creel, *Patent Claim Construction and Markman Hearings* § 1-1 (2013); *see also Markman v. Westview Instrument, Inc.*, 52 F.3d 967, 989 (Fed. Cir. 1995) (en banc) (Mayer, J., concurring) ("To decide what the claims mean is nearly always to decide the case."), *aff'd*, 517 U.S. 370 (1996); Rick McDermott, *Lessons Learned from Fifteen Years in the Trenches of Patent Litigation*, 14 Marq. Intell. Prop. L. Rev. 471, 473 (2010) ("A court's decision regarding the

assignment of claim construction to judges would have been an exercise in futility if, as Nautilus argues, a claim that is susceptible to more than one fair reading is invalid *ab initio*.

Indeed, since the genesis of distinct patent claims—over 100 years ago—the Court has recognized that ambiguity typically does not render a claim indefinite. The Court has frequently encountered claims amenable to more than one reasonable reading, and never once has it suggested that the presence of ambiguity raises invalidity concerns—a fact that is fatal to Nautilus’s argument, as further detailed in Part II *infra*. See, e.g., *Smith*, 294 U.S. at 14 (“[I]f the claim [is] fairly susceptible of two constructions, that should be adopted which will secure to the patentee his actual invention . . . .”); *McClain v. Ortmyer*, 141 U.S. 419, 425 (1891) (construing claim that was “fairly susceptible of two constructions”). Rather, when confronted with a claim whose meaning is subject to debate, the Court has endeavored to ascertain the meaning that maintains the internal coherence of the patent as a whole. See, e.g., *Adams*, 383 U.S. at 48-49 (construing limitations of patented battery); *Ball & Socket Fastener Co. v. Kraetzer*, 150 U.S. 111, 117-18 (1893) (construing the claim term “hollow socket”).

True ambiguity that claim construction cannot resolve is likely a rare situation. Cf. *Bank of Am. Nat’l Trust & Sav. Ass’n v. 203 N. LaSalle St. P’ship*, 526 U.S. 434, 461 (1999) (Thomas, J., concurring) (“A mere disagreement among litigants over the meaning of a statute does not

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meaning of the claim terms often will be determinative of many, if not all, of the disputed issues in the case.”).

[itself] prove ambiguity; it usually means that one of the litigants is simply wrong.”). In the leading cases where this Court confronted claims with two apparent meanings, it has nearly always been able to resolve the true sense through study of the patent as a whole and the prosecution history. *See, e.g., Markman*, 517 U.S. 370. These cases recognize that a claim need not provide perfect notice of its meaning so long as the meaning can be ascertained through claim construction.

**B. The Substance Of The Federal Circuit’s Test Was Correct.**

The court of appeals applied the definiteness requirement in accordance with § 112. The court correctly stated that “[b]ecause claims delineate the patentee’s right to exclude, the patent statute requires that the scope of the claims be sufficiently definite to inform the public of the bounds of the protected invention.” (Pet. App. 13a.) It also recognized that a claim is invalid if “reasonable efforts at claim construction result in a definition that does not provide sufficient particularity and clarity to inform skilled artisans of the bounds of the claim.” (*Id.*) The court then considered each of the interpretive guides that have been approved by this Court for claim construction. It reached a reasoned conclusion as to the meaning of the claim as a whole and rejected Nautilus’s challenge that a skilled artisan would not understand the bounds of the invention. (*Id.* at 20a-21a.) Section 112 demands nothing further.

Contrary to Nautilus’s characterization, the Federal Circuit’s reasonableness test is far from toothless. That court often invalidates patents as indefinite because

they fail to provide reasonable notice of their boundaries to the public. Indeed, the Federal Circuit has found indefiniteness in a variety of circumstances. *See, e.g., Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244 (Fed. Cir. 2008) (invalidating as indefinite claim involving “fragile gel” where specification provided no means of determining the claimed degree of fragility or distinguishing invention from prior art); *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342 (Fed. Cir. 2005) (holding indefinite a claim for display software with an “aesthetically pleasing look and feel,” where there was no objective standard for that limitation); *Novo Indus., L.P. v. Micro Molds Corp.*, 350 F.3d 1348 (Fed. Cir. 2003) (invalidating claim with typographical error that could be rectified in several different, equally defensible ways); *Honeywell Int’l, Inc. v. Int’l Trade Comm’n*, 341 F.3d 1332 (Fed. Cir. 2003) (invalidating claim that failed to explain which of several possible measurement methods should be employed to arrive at numerical claim limitation).

Rather than address what the Federal Circuit actually *did*, Nautilus hinges its attack on a handful of phrases that the Federal Circuit *said*. Its main target is the lower court’s use of the term “insolubly ambiguous” to describe a claim that fails the indefiniteness test. (Pet’r Br. 37-39.) But “insolubly ambiguous” is not a yardstick by which the Federal Circuit *measures* indefiniteness; it is the conclusory label that the court affixes to claims that it has *already* determined do not provide reasonable notice of an invention’s bounds. The court has consistently equated “insolubly ambiguous” with the longer and more complete formula that the claim lacks reasonable clarity delineating its boundaries to one skilled in the art. *See* Pet. App. 13a; *see also Halliburton*, 514 F.3d at 1249 (“[C]laims

[are] held indefinite only where a person of ordinary skill in the art could not determine the bounds of the claims, *i.e.*, *the claims were insolubly ambiguous.*”) (emphasis added); *Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*, 537 F.3d 1357, 1371 (Fed. Cir. 2008). The “insolubly ambiguous” label should therefore be no more offensive than the word “indefinite,” another convenient shorthand term that does not actually appear in the text of § 112.<sup>7</sup>

Nautilus also complains that the Federal Circuit will uphold the definiteness of a claim even when “reasonable persons” may disagree regarding its meaning, thereby supposedly indicating a willingness to preserve claims that have no objective meaning. (Pet’r Br. 37.) Again, Nautilus distorts the standard. The full statement from the Federal Circuit is: “*If the meaning of the claim is discernible*, even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree,” then the claim is definite. (Pet. App. 22a (emphasis added).) In other words, where the *true meaning* may be determined, then the fact that other interpretations are viable (but less persuasive) does not defeat validity. *Markman* itself proves that point by prescribing the process for resolving disputes in which reasonable but opposing interpretations are offered.

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7. Similarly, Nautilus takes issue with the Federal Circuit’s statement that a claim is indefinite if it is “not amenable to construction.” (Pet’r Br. 37-38.) Nautilus complains that it is always possible to ascribe *some* meaning to a disputed term. (*Id.*) But the Federal Circuit is not talking about throwing darts; being “amenable to construction” means that the process of claim construction set out in *Markman* yields a single, best answer. Claims that contain subjective terms or lack guides to their application, by contrast, are not amenable to construction.

To be sure, the Federal Circuit has not always characterized its own tests in the clearest language, employing jargon that risks misinterpretation. But even though terms like “insolubly ambiguous” may not be felicitous, the substantive standard that the court actually applied here was correct and true to the meaning of § 112, ¶ 2. There is thus no need to “micromanag[e] the Federal Circuit’s particular word choice” when its analysis is apt. *Warner-Jenkinson*, 520 U.S. at 40.

## II. NAUTILUS’S PROPOSED TEST IS CONTRADICTED BY THIS COURT’S DECISIONS AND NOT SUPPORTED BY THE PATENT ACT.

Nautilus posits that when there is reasonable disagreement as to the scope of a patent claim, the claim should automatically be invalid for indefiniteness. The extreme and radical nature of that position cannot be understated. In Nautilus’s world, if two judges have different readings of a claim term, then the patentee’s property right is forfeited, however clear the actual disclosure of the invention and however clear the infringer’s misappropriation. (Pet’r Br. 38, 47-50.) If an appeals court reverses a district court’s construction of a term, then the claim is likewise invalid. (*Id.* at 49.) Even if two *litigants* take different stances on a question of interpretation—unless one reading is “outlandish” or “implausible” (*id.* at 46)—the claim is indefinite.

That cannot possibly be the correct standard. There is nothing in the text of the Patent Act that supports such a test, and no case from this Court or any other has ever embraced it. To the contrary, this Court’s precedents

directly refute Nautilus’s contention that a claim is *per se* invalid if it is subject to two possible “reasonable” interpretations.

**A. Nautilus’s Test Finds No Support In The Text Of § 112.**

Nautilus relies heavily on a supposed plain-text reading of § 112, devoting the first five pages of its argument to proving its case with period dictionaries. According to Nautilus, “particularly point out” and “distinctly claim” mean that a patent claim’s meaning must be “clear” and “plain,” not “ambiguous” or “confused.” (Pet’r Br. 25.) Therefore, Nautilus asserts, if there is more than one reasonable interpretation of a claim, it is invalid.

But one can accept Nautilus’s proffered dictionary definitions without believing that they conveniently resolve the question posed in this case. The requirement that a patentee “particular[ly]” specify an invention dates back to the original 1790 Patent Act. *See* Act of Apr. 10, 1790, § 2. The Framers of that Act (and those of its successors) were undoubtedly familiar with the most famous particularity requirement in American law: the Fourth Amendment’s directive that a search warrant must “particularly describ[e]” the target location, person, or objects. U.S. Const. amend. IV. In the Fourth Amendment context, this Court has made clear that the particularity requirement is satisfied by a “reasonably detailed warrant.” *Maryland v. Garrison*, 480 U.S. 79, 89 n.14 (1987). For instance, a requesting officer need not describe items to be seized under the warrant with unflinching accuracy. *See Berger v. New York*, 388 U.S. 41, 99 (1967) (Harlan, J., dissenting).

Rather, it is “enough if the description is such that the officer can, with reasonable effort, ascertain and identify” the warrant’s target. *Steele v. United States*, 267 U.S. 498, 503 (1925). That is to say, the touchstone of “particularity” is reasonable specificity. *Cf. Brigham City, Utah v. Stuart*, 547 U.S. 398, 403 (2006).<sup>8</sup>

“Distinctly claiming” has an even simpler meaning: the claims must be in a “distinct” section of the patent, i.e., separate from the written description and diagrams. *See Markman*, 517 U.S. at 373 (noting that there are “two distinct elements of a patent document”: the specification and the claims). Prior to the Patent Act of 1870, patents were not required to have claims—just a written description of the invention. *See, e.g.*, Act of July 4, 1836, § 5. That description typically contained a detailed discussion of the prior art in order to contextualize the new invention. *Merrill v. Yeomans*, 94 U.S. 568, 570

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8. As one of the amici notes (*see* Amicus Br. of Yahoo! 30-31), a modern-day example of this use of “particularly” appears in Fed. R. Civ. P. 9(b), which requires a party to allege fraud or mistake “with particularity.” The purpose of the particularity requirement is to provide a defendant with “fair notice” of a fraud claim. *U.S. ex rel. Lemmon v. Envirocare of Utah, Inc.*, 614 F.3d 1163, 1172 (10th Cir. 2010). Significantly, courts have not read Rule 9(b) to require painstaking contentions that describe every aspect of the fraud with perfect clarity, but rather only to be “as short, plain, simple, direct, and concise as is reasonable under the circumstances.” *Corwin v. Marney, Orton Inv.*, 788 F.2d 1063, 1068 (5th Cir. 1986) (quoting 5 C. Wright & A. Miller, *Federal Practice and Procedure* § 1291 at 389 (1969)). Indeed, this Court has recognized that Rule 9(b) merely requires “greater” particularity in pleading, not perfect particularity. *Leatherman v. Tarrant Cnty. Narcotics Intelligence and Coordination Unit*, 507 U.S. 163, 168 (1993).

(1876). Thus, it was difficult to ascertain from the written description exactly what was novel in a given invention. *See id.* The 1870 Act for the first time required the applicant to append “a *distinct* and specific statement” of what he claimed to be new—the claims—and that “*distinct* and formal” section became of primary importance in defining the scope of the patent. *Id.* (emphases added).

Nautilus may therefore be correct that “distinctly” generally means “having the difference marked,” “so separated as not to be confounded with any other thing,” and “without a blending or merging of one thing with another.” (*See* Pet’r Br. 24-25.) But in the context of § 112, that merely means that the claims must follow the specification.

Nautilus’s resort to 35 U.S.C. § 162 also fails. (*See* Pet’r Br. 26.) That provision loosens § 112’s written description requirement for plant patents. *See* 35 U.S.C. § 162 (“No plant patent shall be declared invalid for noncompliance with section 112 if the *description* is as complete as is reasonably possible.” (emphasis added)). As this Court has explained, one of the primary rationales behind § 162 is that plants are not amenable to the requirement that the inventor describe how to produce the invention. *J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred Int’l, Inc.*, 534 U.S. 124, 134 (2001). Therefore, inventors are required only to deposit seeds of their new plant variety to show their innovation. However, an applicant still bears the burden of “clearly and precisely describing those characteristics which define the new variety.” *In re Greer*, 484 F.2d 488, 491 (C.C.P.A. 1973); *see also* S. Rep. No. 71-135, at 4-5 (1930). Since § 162 is silent on the definiteness requirement, it has no bearing on this case.

## B. This Court’s Precedents Refute Nautilus’s Test.

1. Nautilus contends that a rule against patent claims allegedly open to more than one reading is supported by this Court’s decisions. But there is an entire body of case law, stretching back over 100 years, that directly refutes Nautilus’s argument. Those cases are *stare decisis* and they control the result here.

The Court has held that “if the claim [is] fairly susceptible of two constructions, that should be adopted which will secure to the patentee his actual invention, *rather than to adopt a construction fatal to the grant.*” *Smith*, 294 U.S. at 14 (emphasis added); *accord Coupe v. Royer*, 155 U.S. 565, 577 (1895); *Keystone Mfg. Co. v. Adams*, 151 U.S. 139, 144-45 (1894); *McClain*, 141 U.S. at 425 (“[I]n a case of doubt, where the claim is fairly susceptible of two constructions, that one will be adopted which will preserve to the patentee his actual invention.”).<sup>9</sup> Although *Smith* did not directly address indefiniteness, the rule it states necessarily precludes Nautilus’s proposed test. It would be nonsensical to save a claim from invalidity by adopting the narrower of two readings, only to have the very act of acknowledging the two readings cause the claim to founder immediately on indefiniteness.

In *Keystone Manufacturing*, 151 U.S. 139 (1894), which involved a new type of cornsheller that the accused infringer alleged was anticipated by two earlier patents,

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9. Although these cases were decided under the former 35 U.S.C. § 33, the precursor to § 112, ¶ 2, “the 1952 Patent Act is not materially different from the 1870 Act with regard to claiming, reissue, and the role of the PTO.” *Warner-Jenkinson*, 520 U.S. at 26.

the Court conceded that both of the earlier patents “describe mechanical contrivances closely resembling the invention in question,” and that it was not “easy to point out what it is that distinguishes [the] new and successful machine from [the] old and ineffectual one.” *Id.* at 144. Despite that difficulty, the Court rejected a construction that would be “fatal to the grant” because it would be anticipated by the prior art. *Id.* at 145. Obviously, the claim in *Keystone Manufacturing* was open to more than one construction; yet the Court upheld the patent.

These decisions grow out of the venerable doctrine that the law abhors forfeitures, which “are often the means of great oppression and injustice.” *Knickerbocker Life Ins. Co. v. Norton*, 96 U.S. 234, 242 (1877). In the interpretation of contracts, leases, sales of property, and many other areas of law, rules that cause one party to lose all of its legal rights or financial interests are highly disfavored. *See generally* 8 Corbin on Contracts § 39.10 (2006). Patent law is no different. In one of the earliest American cases invoking this principle, involving a new means for producing friction-based matches that was alleged to be “vague and indefinite,” Justice Story stated it to be a “clear rule of our law in favor of inventors” “to give a liberal construction to the language of all patents and specifications . . . so as to protect, and not to destroy the rights of real inventors.” *Ryan v. Goodwin*, 21 F. Cas. 110, 111-12 (C.C.D. Mass. 1839) (No. 12,186). Two centuries later, the doctrine is still followed in the Federal Circuit. *See, e.g., Liebel-Flarsheim v. Medrad, Inc.*, 358 F.3d 898, 911 (Fed. Cir. 2004); *accord Halliburton*, 514 F.3d at 1253–54.

This Court’s cases expressly refute Nautilus’s contention that if two reasonable persons disagree over the meaning of a patent claim, then the patent must be invalid. In *Merrill*, a case Nautilus cites in support (Pet’r Br. 32, 35), the Court considered whether the term “manufacture” in a patent for a new type of hydrocarbon oil referred to the process for producing the oil or to the product itself. 94 U.S. at 569. The Court acknowledged that the word is “used with equal propriety” to express either one. *Id.* at 570-71. Based on other language in the specification, the majority concluded that only the process was claimed. *Id.* at 573. The dissent disagreed, contending that the proper construction of the claim encompassed the product. *Id.* at 574 (Clifford, J., dissenting). But no one ventured that the patent was invalid just because there was a reasonable disagreement among the parties and among the *Members of this Court* regarding the proper construction of the term. To the contrary, the majority expressly invoked the savings principle, stating that “rather than defeat a patent where it appears that a valuable invention has really been made,” the Court “will uphold that which was really invented, and which comes within *any fair interpretation* of the patentee’s assertion of claim.” *Id.* at 572-73 (emphasis added).

Contrary to Nautilus’s assertion, it is entirely routine for the Court to construe patents even when there are reasonable disputes as to their meaning. *See, e.g., Adams*, 383 U.S. at 48-49 (patent for a water-based battery, where the claims never referred to water); *Universal Oil Prods. Co. v. Globe Oil & Refining Co.*, 322 U.S. 471, 480-85 (1944) (construing contested claim term “without substantial vaporization”); *Ball & Socket Fastener Co.*, 150 U.S. 111 (construing contested claim term “hollow socket”);

*White v. Dunbar*, 119 U.S. 47 (1886) (upholding patent despite fact that patentee had proffered an alternative but incorrect construction that it could not credibly argue was unreasonable); *Keystone Bridge Co. v. Phoenix Iron Co.*, 95 U.S. 274, 275-79 (1877) (construing contested claim term “wide and thin bars”). Indeed, Nautilus’s extreme theory is also inconsistent with *Markman*. There, the Court explained that claims with competing interpretations are to be construed by judges, not invalidated *ab initio*. See 517 U.S. at 374-91.

2. Tellingly, while Nautilus cites a number of cases concerning indefiniteness, *not one* involves a situation where a claim is held indefinite merely because two reasonable constructions are possible. Indeed, the two cases that Nautilus relies on most heavily involve the very different and far more egregious situation in which the patent claims a novel function but does not incorporate an adequate description of the structure that will produce that function. That type of claim is indefinite because it fails to provide any guidance to a person skilled in the art as to the metes and bounds of the invention—not because it is amenable to two “reasonable” interpretations.

In *General Electric Co. v. Wabash Appliance Corp.*, 304 U.S. 364 (1938), the Court held indefinite claims to certain tungsten light bulb filaments. In the prior art, tungsten filaments had suffered from problems known as “offsetting” and “sagging” that reduced the efficiency and life of the bulb. *Id.* at 366. The patent-in-suit claimed a filament composed of “comparatively large [tungsten] grains of such size and contour as to prevent substantial sagging and offsetting,” *id.* at 368, but it gave no indication *which* size or contour would produce those results. The

Court held the claim invalid because the grains were meant to be the heart of the invention, but the patent disclosed no meaningful information about them. The Court contrasted that situation with an acceptable use of functional limitations where—as with the '753 patent—the claims “accurately define the essential qualities of a product to one skilled in the art.” *Id.* at 371.<sup>10</sup>

Similarly, in *United Carbon Co.*, the patent concerned a form of carbon black (an ingredient in automobile tires and carbon paper) described as “substantially pure” with “comparatively small, rounded, smooth aggregates” and a “spongy or porous interior.” 317 U.S. at 231. Not only were those adjectives undefined in the patent, but evidence submitted by the patentee indicated that the claims were “but inaccurate suggestions of the functions of the product.” *Id.* at 233. For example, the patentee testified that the claim term “commercially uniform” meant only “the degree of uniformity demanded by buyers.” *Id.* The Court noted that claims need only be “*reasonably* clearcut” to satisfy the statute, *id.* at 236 (emphasis added), but it found even that standard unsatisfied, *id.* at

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10. The claims of the '753 patent are readily distinguishable from those found indefinite in *General Electric*. There, the claims and specification provided no structural description of the grains that purportedly carried out the novel function. Here, by contrast, the patent explains that electrodes equalizing the EMG signals from both hands and a difference amplifier can be employed to achieve the desired result of cancelling EMG noise. While the specification does not limit the precise electrode configuration that will equalize the EMG signals, there was uncontested evidence that a person skilled in the art could determine that configuration with minimal effort, and proof that it had been done. (See J.A. 160-61.)

237. As in *General Electric*, the problem was that a person skilled in the art would have no basis to determine what type of material was covered by the claims.

Nautilus recognizes that these cases stand for the principle that a claim is indefinite if it describes the invention “based only on the outcome it accomplishes, without delineating a particular structure by which his invention achieves that outcome.” (Pet’r Br. 36.) But Nautilus fails to draw out the implications of that understanding—namely, that neither *General Electric* nor *United Carbon* “closely resemble” this case at all. (Pet’r Br. 50-51.) Those cases did not involve claims allegedly susceptible to more than one reading. They were concerned with the much more serious, and dissimilar, problem where the patent utterly fails to disclose what the invention *is*.

### **C. Nautilus’s Test Misapprehends The Role Of The PTO.**

Nautilus argues that the PTO’s approach to reviewing patent applications supports its proposed test for definiteness. (*See* Pet’r Br. 45.) According to its own internal guidelines, the PTO will reject a claim containing language “such that a person of ordinary skill in the relevant art would read it with more than one reasonable interpretation.” U.S. Patent & Trademark Office, *Manual of Patent Examining Procedure* § 2173.02(I) (rev. ed. 2012) (“MPEP”). According to Nautilus, that is the standard that courts should apply as well. But Nautilus overlooks the fundamental differences between the roles of the PTO and the courts. The PTO’s test is not mandated by § 112, and it would be inappropriate for a court to implement.

The PTO has no formal rulemaking authority, and is empowered only to develop procedural rules for its own internal processes. *See* 35 U.S.C. § 2(b)(2). The PTO’s test for definiteness is therefore not a formal interpretation of the Patent Act’s requirements. Instead, it serves the PTO’s mission of encouraging that patents be of the highest quality attainable. *See* MPEP § 2173 (“[I]ssuing patents with clear and definite claim language is a key component to enhancing the quality of patents and raising confidence in the patent process.”); *Supplementary Examination Guidelines for Determining Compliance With 35 U.S.C. 112 and for Treatment of Related Issues in Patent Applications*, 76 Fed. Reg. 7162, 7163 (2011) (*PTO Definiteness Guidelines*); *see also In re Buszard*, 504 F.3d 1364, 1366-67 (Fed. Cir. 2007).

Toward that end, the PTO follows a distinctive approach to reviewing patent applications. First, the PTO gives every claim the broadest reasonable reading possible, not necessarily the reading that most fully comports with the patent as a whole. MPEP § 2173.01(I). Second, if, on that broadest reading, there could be any disagreement as to the bounds of the claim, the examiner will issue a rejection, inviting the applicant to amend the claims or explain their meaning. *Id.* § 2173.02(I). The goal of the two-step process is to ferret out any possible lack of clarity, even if that hint of confusion would be resolved after a more concerted effort at claim construction.

The PTO’s lower threshold for definiteness is appropriate and fair to the applicant because during prosecution, the patent record is in development and not fixed. *PTO Definiteness Guidelines*, 76 Fed. Reg. at 7164. Thus, “[an] applicant has the ability to provide explanation

and/or amend the claims to ensure that the meaning of the language is clear and definite prior to issuance.” MPEP § 2173.02(I). “[T]he patent examiner and the applicant, in the give and take of rejection and response, work toward defining the metes and bounds of the invention to be patented.” *Buszard*, 504 F.3d at 1366-67.

Courts have a completely different function in the patent system. They are tasked with interpreting claims presented at infringement trials, long after the window for ameliorating the patent has closed. *See Markman*, 517 U.S. at 388-91. At that stage, all that a court can do is uphold the patent or invalidate it for indefiniteness. Accordingly, rather than set the bar at some aspirational level of clarity, the court must ask whether the patent as written meets the actual statutory standard for definiteness. If it does, then the definiteness inquiry is complete, regardless of whether the claim could arguably express its limits more precisely.<sup>11</sup>

#### **D. Nautilus’s Policy Arguments Are Off-Base And Irrelevant.**

Having little precedent to anchor its proposed test for indefiniteness, Nautilus instead relies on policy

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11. In any event, even the PTO does not apply the definiteness test to the extreme degree that Nautilus proposes. In the very same section that sets out the PTO’s methodology, the Manual states: “When the examiner is satisfied that patentable subject matter is disclosed . . . he or she should allow claims which define the patentable subject matter with a *reasonable* degree of particularity and distinctness.” MPEP § 2173.02(II) (emphasis in original). It is exceedingly difficult to reconcile that statement with Nautilus’s proposal.

suppositions about the deficiencies of the patent system and how they could be cured by a judicial strengthening of the definiteness requirement. Putting to one side that recourse to policy considerations is improper when the meaning of a statute is clear, *United States v. Tohono O’Odham Nation*, 131 S. Ct. 1723, 1731 (2011), policy rationales do not support the adoption of Nautilus’s test even on their own merits.

1. Nautilus and its amici profess great concern that without their extreme form of the no-ambiguity standard, patent holders will be incentivized to draft claims in a deliberately ambiguous fashion. (Pet’r Br. 31-32.) That fear is highly speculative and exaggerated. Competent attorneys do not deliberately draft ambiguous claims. *See, e.g.*, Robert C. Faber, *Faber on Mechanics of Patent Claim Drafting* § 10:8:1, at 10-46 (6th ed. 2013) (“[I]t is important to recognize that claim language must be extremely precise.”); Stephen A. Becker, *Patent Applications Handbook* § 2:9 (2013) (“Language in the claim should not enable more than one interpretation of the claim to be reasonably made.”); Joseph E. Root, *Rules of Patent Drafting* 292-93 (2011) (“Avoid contextual ambiguity by concretely defining the bounds of the claim.”). For one thing, the goal of patent drafting is to claim as *broad* an invention as possible, and an ambiguous claim risks being construed *narrowly*, which would make the whole effort self-defeating. Whatever the conventional wisdom, there is little evidence that patent drafters are actually pursuing a strategy of deliberately injecting ambiguity into claim language, or that the strategy would succeed even if they did. *See* Tun-Jen Chiang & Lawrence B. Solum, *The Interpretation-Construction Distinction in Patent Law*, 123 Yale L.J. 530, 591-92 (2013).

Closely related is Nautilus’s argument that the inventor should bear any risk of ambiguity, as he knows his invention best and is in the best position to draft claims clearly. (Pet’r Br. 44.) Some amici argue that such a rule would lead to more economically efficient outcomes, as the drafter is the so-called “cheapest cost avoider.” (Amicus Br. of Microsoft Corp. 6-11.) In so arguing, those amici simply discount acknowledged problems about the imprecision of language or the difficulty of reducing inventions to precise claim elements. More important, their analysis begs the main question. The issue is not whether such a rule would motivate clearer drafting; it is whether imposing a penalty of patent *invalidation* is the most socially efficient result. A rule that if a term is unclear, the inventor loses all of his intellectual property rights, “does not serve any policy of patent law.” *Smithkline Beecham Corp. v. Apotex Corp.*, 247 F. Supp. 2d 1011 (N.D. Ill. 2003) (Posner, J., sitting by designation).

2. Whatever effect it would have on claim drafting, Nautilus’s test for definiteness would destroy the “delicate balance” that Congress has fashioned between rewarding inventors and encouraging the public to develop new innovations. *See Festo*, 535 U.S. at 731; *Bonito Boats*, 489 U.S. at 150-51; *see also* Federal Trade Commission, *The Evolving IP Marketplace: Aligning Patent Notice and Remedies with Competition* 93 (2011) (“[R]equiring great precision when evaluating claim definiteness . . . might give third parties better notice but may not fully protect all that applicants have invented.”). As noted by several neutral amici, few patents possess the crystalline clarity that Nautilus demands, and thus the practical result of Nautilus’s test would likely be mass invalidation. (*See, e.g.*, Amicus Br. of Am. Bar Ass’n (“ABA”) 18; Amicus

Br. of Am. Intellectual Prop. Law Ass'n 12.) “Lawyers may create a ‘dispute’ about any word,” *Senmed, Inc. v. Richard-Allan Med. Indus., Inc.*, 888 F.2d 815, 819 n.8 (Fed. Cir. 1989) (Markey, C.J.), and on Nautilus’s formulation, the mere existence of a dispute over diction somewhere within a patent claim is sufficient to invalidate that claim.

Moreover, far from curbing patent litigation, Nautilus’s test would multiply it. It is not a difficult task to devise an interpretation just short of “outlandish.” (Pet’r Br. 46.) A party that is sued for infringement would have the incentive to challenge the precision of *every* term and limitation in the claim at issue, including those within limitations that the infringer indisputably practices. (See ABA Br. 20 n.9.) In turn, the court would be required to construe every such disputed term and determine whether the disagreement over the construction was “reasonable.” Patent litigation would become both more prevalent and more labored.

Finally, there can be no question that such a test would disrupt the “settled expectations of the inventing community.” *Festo*, 535 U.S. at 739. Patents that were issued years earlier, after being screened for indefiniteness by the PTO, would be perpetually at risk of invalidation by challengers motivated to find (or at least assert) arguments about uncertainty, even if they are only arguments dreamed up by lawyers.

3. Regardless of the merits of the policy considerations raised by Nautilus and its amici, “[t]he responsibility for changing [settled patent law] rests with Congress.” *Id.* at 739; see also *Microsoft Corp. v. i4i Ltd. P’ship*, 131 S.

Ct. 2238, 2252 (2011); *Warner-Jenkinson*, 520 U.S. at 28 (stating that policy arguments for overturning doctrine of equivalents are “best addressed to Congress, not this Court”). Both this Court and the Federal Circuit have used a reasonable-notice standard to measure definiteness for decades, and Congress has never intervened. In particular, the recent America Invents Act (“AIA”), which was passed in part to improve patent quality, did not tinker with § 112’s notice requirements. *See* Pub. L. No. 112-29 (Sept. 16, 2011). In passing the AIA, Congress also rejected a proposal to publicize patent applications at the time of filing, thus signaling that “fair notice is, in its view, a subordinate goal to other purposes of the patent statute.” Robert C. Kahrl, *Patent Claim Construction* § 10.01, at 10-5 (2013).

Congress did choose other means to improve patent quality, however, such as adding avenues for reexamination at the PTO. The AIA both implemented a post-grant review process, Pub. L. No. 112-29, § 6(d), and vastly expanded the scope of *inter partes* review, *id.* § 6(a). During a post-grant review, a party can challenge the definiteness of a patent. *See* 35 U.S.C. §§ 282(b)(3), 321(b). To succeed, the challenger need only show indefiniteness to a preponderance of the evidence. *See id.* § 326(e). These new reexamination procedures have allowed challengers to weed out improvidently granted patents. *See, e.g.,* Tony Dutra, *PTAB’s Latest Decisions on Merits Include One Set of Claims Upheld, No Amendments*, 87 PTCJ 1010 (Mar. 3, 2014). Evidently, Congress preferred to create additional processes to address concerns about patent quality rather than alter the standard embedded in § 112, ¶ 2. The Court should follow Congress’s lead. *See Festo*, 535 U.S. at 739; *see also i4i*, 131 S. Ct. at 2252; *J.E.M.*

*Ag Supply*, 534 U.S. at 145-46 (declining to narrow longstanding interpretation of 35 U.S.C. § 101 “where Congress has given us no indication that it intends this result”).

### III. THE '753 PATENT IS DEFINITE.

Regardless of which standard for assessing definiteness is correct, there is nothing indefinite about the term “spaced relationship” or Claim 1 as a whole. There is no indication that anyone was confused about the bounds of the claim—certainly not Nautilus or its predecessor. And there was no disagreement between the majority and concurrence below about any substantive question of claim construction. However the Court decides the standard, the Federal Circuit’s decision rejecting Nautilus’s indefiniteness challenge should be upheld.

#### A. The Meaning Of Claim 1 Is Unambiguous When Viewed In Light Of The Customary Tools Of Claim Construction.

The district court mistakenly thought that the term “spaced relationship” was indefinite because it did not set forth the exact distance within each pair of electrodes. That was plainly wrong. The range of possible spacing between the electrodes is clear. The language of the claim itself, the diagrams, and the specification all demonstrate that the electrodes on each side must be distinct—i.e., have a greater-than-zero distance separating them—but cannot be more than a hand’s width apart (so as to permit a hand to “contact[]” both simultaneously, *see* J.A. 62). No greater precision is needed, and no greater precision is possible. As undisputed expert testimony explained, the

correct spacing would depend on the physical attributes of the electrodes themselves as well as of the apparatus on which those electrodes were mounted. As in *Eibel Process, Minerals Separation*, and *Carnegie Steel*, a claim is not indefinite merely because some aspects of the invention are left to the “skill of the persons applying the invention.” *Minerals Separation*, 242 U.S. at 271.

To be sure, “spaced relationship” may be somewhat broad in that it encompasses a (circumscribed) range of distances. But “[b]readth of a claim is not to be equated with indefiniteness.” MPEP § 2173.04. There is nothing unclear about what a “spaced relationship” encompasses.<sup>12</sup> And just as Claim 1 need not specify the precise length of the elongate member, nor its color or composition, it need not limit itself to one size spacing between electrodes.

**B. There Is No Meaningful Difference In Interpretation Between The Majority Opinion And The Concurrence Below.**

Nautilus argues that “the Federal Circuit majority and concurrence adopted very different readings of key claim language” and therefore had “different understandings of the claims’ scope.” (Pet’r Br. 48.) Those purportedly divergent constructions, in Nautilus’s view, demonstrate

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12. Nor is there anything unusual about the term “spaced relationship.” It has appeared in the claims of thousands of patents issued since 1976. (See *Results of Search in U.S. Patent Collection for “spaced relationship” in Claims of Issued Patents from 1976-present*, Query ACLM/“spaced relationship” at <http://patft.uspto.gov/netahtml/PTO/search-adv.htm>, USPTO PATENT FULL-TEXT AND IMAGE DATABASE; see also Amicus Br. Of Intellectual Prop. Law Ass’n of Chicago at 18.)

that the '753 patent is indefinite. But any asserted difference is a manufactured fiction. There is nothing in the language or the logic of the opinions indicating that they disagreed in any material way about the boundaries of the property right claimed.

First, it is not apparent that the concurrence was expressing *any* view about the meaning of “spaced relationship”—much less a view that conflicted with the majority’s. In the concurrence’s assessment, the procedural posture of the appeal limited the issues at stake. (Pet. App. 31a-32a.) The district court had decided that the correct construction of “spaced relationship” was purely a spatial relationship, and Nautilus did not appeal that construction. (*Id.*) Hence, in the concurrence’s view, the only question before the Federal Circuit was whether *that unchallenged construction* was definite. (*Id.* at 30a-31a.) Given the “inherent parameters” that the distance between the electrodes had to be greater than zero but less than a hand’s breadth, definiteness was clearly satisfied. (*Id.*) To the concurrence, any other issue “is not currently before us.” (*Id.* at 32a.)

Second, even if the concurrence could be read as offering (or implicitly approving) a construction of “spaced relationship,” there is no indication that the majority and the concurrence disagreed over the meaning of Claim 1 *as a whole*. *Both* agreed that the distance within each pair of electrodes had to be somewhere between zero and a hand’s breadth. (Pet. App. 16a, 31a.) And both presumably would have agreed—if the concurrence had proceeded to construe the remainder of Claim 1—that the overall effect of the electrode configuration was to allow the EMG signals to be cancelled out and the ECG signals to

be amplified. The only difference one can glean is that the majority thought the term “spaced relationship” referred to *both* the spatial distance *and* the functional limitation, while the concurrence thought “spaced relationship” referred *only* to the spatial distance because a different element of Claim 1 referred to the functional limitation.

That is a quintessential distinction without a difference. The test for definiteness is whether a claim *as a whole*, not its individual elements, provides reasonable notice to the public of its bounds. *See* 35 U.S.C. § 112, ¶ 2 (stating that the “*claims*” must particularly point out and distinctly claim the invention (emphasis added)); *S3 Inc. v. NVIDIA Corp.*, 259 F.3d 1364, 1367 (Fed. Cir. 2001) (“If the claims when read in light of the specification reasonably apprise those skilled in the art of the scope of the invention, § 112 demands no more.”) (citation omitted). Hence, it is irrelevant whether one set of words or another within the same claim express a particular limitation. The overall metes and bounds are exactly the same.

Nautilus contends, however, that there is one difference. According to Nautilus, if the EMG-cancelling function depends on the electrode configuration, then inventors would be free to develop monitors that cancel EMGs by means of something other than the electrode configuration—e.g., by additional circuitry. On the other hand, if the EMG-cancelling function is not linked to the electrode configuration, then an inventor would be precluded from developing any monitor that cancels EMGs so long as it has spaced electrodes.

The hypothetical distinction proposed by Nautilus is of no moment in the context of the claim taken as a

whole. By its plain terms, Claim 1 encompasses only heart monitors that cancel EMG signals by “detect[ing]” equal EMGs at two sets of electrodes and then neutralizing those congruent signals in a difference amplifier. (J.A. 62.) Employing additional circuitry or other means to cancel EMGs is plainly beyond the claim’s scope, as both the Federal Circuit majority and concurrence would agree.

**C. In Light Of The Presumption Of Validity, Nautilus’s Failure To Make An Evidentiary Showing That The Claim Is Unclear Further Dooms Its Indefiniteness Challenge.**

The Patent Act provides that “[a] patent” and “[e]ach claim of a patent . . . shall be presumed valid,” and that the “burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity.” 35 U.S.C. § 282. This “presumption of validity” not only places the burden of persuasion on the party lodging an invalidity challenge but also prescribes the heft of that burden. *See i4i*, 131 S. Ct. at 2247-48. Among other things, the accused infringer must prove invalidity clearly and convincingly, and all reasonable inferences will be resolved in favor of validity. *Id.*; *Radio Corp. of Am. v. Radio Eng’g Labs., Inc.*, 293 U.S. 1, 2 (1934).

In bringing its indefiniteness challenge, Nautilus has plainly not met this burden. Nautilus has not only failed to prove indefiniteness clearly and convincingly, it has failed to present *any evidence whatsoever* in support of its position. Nor has it proffered any evidence to rebut Biosig’s expert testimony, which points inexorably to the conclusion that the claim at issue is definite. Given that all reasonable inferences must be made in favor of validity,

*Radio Corp.*, 293 U.S. at 2, Nautilus’s evidentiary failure alone should have been fatal to its summary judgment motion for indefiniteness.

Nautilus seeks to circumvent the presumption by arguing that it has no application to a validity challenge based on indefiniteness, which is a purely legal question as to which § 282 is “irrelevant.” (Pet’r Br. 41.) But that position is wrong. Definiteness is measured from the viewpoint of a person skilled in art at the time the patent was filed. *See, e.g., Eibel Process*, 261 U.S. at 65; *Carnegie Steel*, 185 U.S. at 437. Adjudging definiteness thus requires determining factors such as the relevant art and the level of technical expertise and knowledge common at the time. *See* MPEP § 2173.02(II). All of those predicate determinations are fact-laden. *See Graham*, 383 U.S. at 17.

Indefiniteness is therefore no different from obviousness, priority of invention, the on-sale bar, and other questions of law that have factual underpinnings. *See Hamilton Beach Brands, Inc. v. Sunbeam Prods., Inc.*, 726 F.3d 1370, 1375 (Fed. Cir. 2013) (describing on-sale bar as question of law with underlying factual issues); *Singh v. Brake*, 317 F.3d 1334, 1340 (Fed. Cir. 2003) (same for priority of invention). Critically, “[w]hile the ultimate question of patent validity is one of law, . . . the 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.*, 131 S. Ct. at 2242-43 (internal quotes and citations omitted). Accordingly, just as the presumption of validity demands deference to the PTO when a patent is challenged on grounds of obviousness, *see KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 426 (2007),

priority of invention, *see Radio Corp.*, 293 U.S. at 13-14, or the on-sale bar, *see i4i*, 131 S. Ct. at 2242, so too should a court accord respect to the PTO's finding of definiteness.

Applying the presumption of validity in the definiteness context recognizes the PTO's special expertise in patent issues. *See KSR*, 550 U.S. at 426. Determining how a person skilled in the art would read a patent—and specifically whether a claim is sufficiently clear to such a person—typically requires a facility with technical aspects of patents. The PTO also has the institutional advantage that it conducts its inquiry into the knowledge of a skilled artisan at the actual time of filing, which is the legally pertinent time. A court looking back years later, conversely, must endeavor to reconstruct a prior level of expertise—no small task. A court is also likely to be unduly biased by ambiguities that arose after filing due to developments in language and technology. The PTO is thus better positioned than a court to make a correct finding on definiteness, and its findings should be afforded respect by a court.

For all of these reasons, courts should presume that the PTO properly has “done its job” when it finds a patent definite. *i4i*, 131 S. Ct. at 2243. While *Nautilus* has failed to establish indefiniteness even in the absence of the presumption of validity, the presumption further undermines *Nautilus*'s position. *Nautilus* has failed to prove indefiniteness, and it is beyond cavil that it has not tendered clear and convincing evidence.

**CONCLUSION**

For the foregoing reasons, the decision of the Federal Circuit should be affirmed.

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