No. 15-561

IN THE

Supreme Court of the United States

NAUTILUS, INC.,

Petitioner,

v.

BIOSIG INSTRUMENTS, INC.,

Respondent.

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

PETITION FOR A WRIT OF CERTIORARI

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QUESTIONS PRESENTED

The Patent Act's particular-and-distinct claiming mandate gives innovators the reasonable certainty they need to invent confidently near a patent claim's boundary, but not over it. *See* 35 U.S.C. § 112, ¶ 2 (2006 ed.). To perform this public-notice function, a patent claim must be clear the day it issues. This Court accordingly rejected the Federal Circuit's *post hoc* "amenable to construction" standard: "It cannot be sufficient that a court can ascribe *some* meaning to a patent's claims; the definiteness inquiry trains on the understanding of a skilled artisan at the time of the patent application, not that of a court viewing matters *post hoc*." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2130 (2014). But, the remand panel again did the opposite. It copied and pasted much of its opinion this Court had vacated. It did not even mention the original prosecution history. Instead, it again viewed the claim *post hoc* in view of statements made in Patent Office proceedings 15 years after the patent issued. And, it again relied upon a purely functional distinction over a structurally identical prior-art design as supposedly providing sufficient clarity. The questions presented are:

1. Is a patent claim invalid for indefiniteness if its scope is not reasonably certain the day the patent issues, even if statements in later Patent Office proceedings clarify it?

2. Is a patent claim invalid for indefiniteness if its scope is distinguished from prior art solely by a functional requirement, rather than by any structural difference?

RULE 29.6 STATEMENT

Nautilus, Inc. has no parent corporation, and no publicly held corporation owns 10% or more of its stock.

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PETITION FOR A WRIT OF CERTIORARI

Petitioner Nautilus, Inc. ("Nautilus") respectfully petitions this Court to review the judgment in this case by writ of certiorari to the United States Court of Appeals for the Federal Circuit.

OPINIONS BELOW

The summary order of the United States District Court for the Southern District of New York, granting summary judgment to Petitioner that the patent claims are invalid for indefiniteness, is unreported, but is reproduced in the appendix to this petition (Pet. App.) at 59a-60a. This order references "the reasons stated on the record" at the summary judgment hearing, the transcript of which is reproduced at Pet. App. 71a-127a. The order denying Respondent's motion for reconsideration is unreported and reproduced at 54a-56a. The original opinion of the Federal Circuit and Judge Schall's concurring opinion are reported at *Biosig Instruments, Inc. v. Nautilus, Inc. (Nautilus I)*, 715 F.3d 891 (Fed. Cir. 2013), and reproduced at Pet. App. 24a-53a. The opinion of the Federal Circuit on remand from this Court's decision, *Nautilus, Inc. v. Biosig Instruments, Inc. (Nautilus II)*, 134 S. Ct. 2120 (2014), is reported at *Biosig Instruments, Inc. v. Nautilus, Inc. (Nautilus III)*, 783 F.3d 1374 (Fed. Cir. 2015), and reproduced at Pet. App. 3a-23a. The Federal Circuit's order denying rehearing en banc is unreported and reproduced at 1a-2a.

JURISDICTION

The district court had jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a). The court of appeals had jurisdiction based on 28 U.S.C. § 1295(a)(1). The court of appeals entered its judgment April 27, 2015. Pet. App. 23a. A timely petition for rehearing en banc was denied on August 4, 2015. Pet. App. 2a. This Court has jurisdiction pursuant to 28 U.S.C. § 1254(1).

STATUTORY PROVISIONS INVOLVED

35 U.S.C. § 112. Specification[1]

* * * *

[¶ 2] The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

* * * *

[¶ 6] An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

---

1. Paragraphs 2 and 6 of 35 U.S.C. § 112 (2006 ed.) were replaced with newly designated §§ 112(b) and (f), respectively, when § 4(c) of the Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112-29, took effect on September 16, 2012. Here, the pre-AIA version of § 112 applies because the patent in dispute issued prior to that date.

INTRODUCTION

The Patent Act requires that a patent specification "conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as [the] invention." 35 U.S.C. § 112, ¶ 2. A lack of definiteness renders invalid "the patent or any claim in suit." § 282(b)(3).

A patent lacks definiteness if it describes a claimed point of novelty functionally, in terms of what the combination will do rather than its physical characteristics. *See Halliburton Oil Well Cementing Co. v. Walker*, 329 U.S. 1, 12-13 (1946); 35 U.S.C. § 112, ¶ 6 (requiring limiting structure, material, or acts in the specification, if not in the claim).

This case involves a patent on a heart rate monitor used in association with exercise equipment, in which the claims describe a purported point of novelty functionally, in terms of what the combination will do (detect electromyogram signals "of substantially equal magnitude and phase" between two electrode pairs "in spaced relationship with each other"), rather than any physical characteristics discovered to perform that function (such as certain electrode sizes, shapes, materials, or spacing). Nowhere does the patent describe such characteristics, any parameters for them (in relative or absolute terms), or any steps to determine them (such as testing methods).

The District Court held on summary judgment that the patent's claims are indefinite. Pet. App. 59a. The Federal Circuit reversed, holding that the claims were not "insolubly ambiguous." *Id.* at 25a, 34a, 49a.

This Court vacated the panel's original decision, holding that the Federal Circuit's "insolubly ambiguous" test was not "probative of the essential inquiry." *Nautilus II*, 134 S. Ct. at 2130. It clarified the proper inquiry in many respects, including two that bear on aspects of the panel's remand opinion at issue here.

First, this Court held that the definiteness inquiry trains on the understanding of a skilled artisan "at the time of the patent application, not that of a court viewing matters *post hoc*." *Id.* This Court emphasized that the public notice function of patents is essential to promoting "enterprise and experimentation" by others, and aimed to eliminate the temptation for "patent applicants . . . to inject ambiguity into their claims." *Id.* at 2129. To achieve those goals, patent claims must be clear on the day the patent issues.

Second, this Court held that "a patent is invalid for indefiniteness *if its claims*, read in light of the specification delineating the patent, and the prosecution history, *fail to inform, with reasonable certainty, those skilled in the art* about the scope of the invention." *Id.* at 2124 (emphases added). For purposes of determining whether a claim is definite, the artisan is a reader of the claim, not a writer, tester or tinkerer. The artisan contributes knowledge of "the language of the art." *Id.* at 2128-29 (quoting *Carnegie Steel Co. v. Cambria Iron Co.*, 185 U.S. 403, 437 (1902)). The artisan does not contribute knowledge of structure missing from the claims, such as structure that could correspond to an essential function. Accordingly, this Court prohibits functional claiming at a point of novelty.

> [T]he vice of a functional claim exists . . . when the inventor is painstaking when he recites what has already been seen, and then uses conveniently functional language at the exact point of novelty.
>
> A limited use of terms of effect or result, which accurately define the essential qualities of a product to one skilled in the art, may in some instances be permissible and even desirable, but *a characteristic essential to novelty may not be distinguished from the old art solely by its tendency to remedy the problems in the art met by the patent.*

Gen. Elec. Co. v. Wabash Appliance Corp., 304 U.S. 364, 371-72 (1938) (emphasis added) (internal footnote omitted). And this Court has held that an artisan's knowledge of how to make and use an invention does not cure a functional claim of indefiniteness. *Id.* at 368-69 (holding that even if a patent "sufficiently informed those skilled in the art how to make and use" the claimed invention, "Congress requires of the applicant a distinct and specific statement of what he claims to be . . . his invention." (internal footnote and quotation marks omitted)); *see also id.* at 369 ("The limits of a patent must be known for ... the encouragement of the inventive genius of others . . . .").

This Court remanded for the Federal Circuit to "reconsider, under the proper standard, whether the relevant claims . . . are sufficiently definite." *Nautilus II*, 134 S. Ct. at 2131.

On remand, however, the panel did little different. It copied and pasted much of its original opinion's analysis, including its *post hoc* construction of the claim based largely on statements made in reexamination proceedings 15 years after the patent issued. *See Nautilus III*, 783 F.3d at 1383-84 (Pet. App. 20a-23a).

Further, the panel's decision highlighted the Federal Circuit's continued tolerance of inventions claimed in functional terms, so long as a court can find clarity in the knowledge of a skilled artisan. This allows courts to fill in claim gaps *post hoc* based on statements made years after the patent issues, by attributing the gap-filling knowledge to skilled artisans. *Id.* at 1383-84 (Pet. App. 8a-9a) ("Moreover, when a claim limitation is defined in 'purely functional terms,' a determination of whether the limitation is sufficiently definite is 'highly dependent on context (*e.g.*, . . . the knowledge of a person of ordinary skill in the relevant art area.).'" (quoting *Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1255 (Fed. Cir. 2008))).

This case presents the important questions of whether patent claims must be clear and definite when issued, so the public may rely on them; and whether patent claims with functional limitations at a point of novelty are indefinite.

STATEMENT OF THE CASE

In 1992, Dr. Gregory Lekhtman applied for the patent in dispute, which issued on August 16, 1994, as U.S.

Patent No. 5,337,753 ("the '753 patent"), JA1-15,[2] assigned to Respondent Biosig Instruments, Inc. It concerns a heart-rate monitor for use in association with exercise equipment. It asserts that previous heart-rate monitors often were inaccurate in measuring the electrical signals accompanying each heartbeat (electrocardiograph or ECG signals) due to electrical signals generated by muscles (electromyogram or EMG signals). These EMG signals purportedly "mask" ECG signals and thereby impede their detection. *Nautilus II*, 134 S. Ct. at 2125; '753 patent at 1:13-25.

The patent claims to improve on the prior art by eliminating that impediment. The patent claims a device that will detect substantially equal EMG signals between electrode pairs held by each hand, and subtract these EMG signals from each other using a difference amplifier, thus filtering out the EMG interference. '753 patent at 3:26-50 and claim 1; *Nautilus II*, 134 S. Ct. at 2125.

Claim 1 of the '753 patent, which includes the limitations at issue, refers to a "heart rate monitor for use by a user in association with exercise apparatus and/or exercise procedures." Pet. App. 5a. It includes, among other elements, a cylindrical bar with live and common electrodes on each half "mounted . . . in spaced relationship with each other." '753 patent, claim 1. The live electrodes are connected to "a difference amplifier." The bar is "held by [a] user" so that the user's hands contact both electrodes on each side of the bar. *Id.*; *Nautilus II*, 134 S. Ct. at 2126.

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2. The JA cites refer to the Joint Appendix filed with the Federal Circuit in Appeal No. 2012-1289.

Claim 1 also includes a functional clause, sometimes referred to in the proceedings below as the "EMG whereby clause," which states that EMG signals "of substantially equal magnitude and phase . . . will be detected" between each pair of electrodes. '753 patent, claim 1; *Nautilus II*, 134 S. Ct. at 2126. Nothing in the patent expressly suggests that adjusting or customizing the electrode spacing is needed to accomplish this function. On the contrary, the patent states merely that equal signals "will be" detected. *See* '753 patent at 3:33-38, 3:39-43.

Figure 1 of the '753 Patent, reproduced below, shows a bar "held by" a "user," with each hand "contacting" an electrode pair (depicted by items 9, 11, 13, and 15).

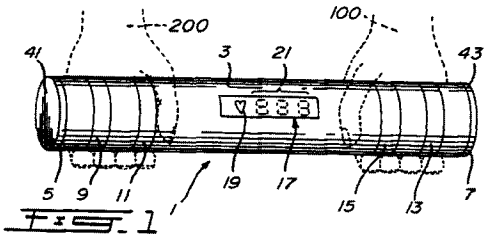
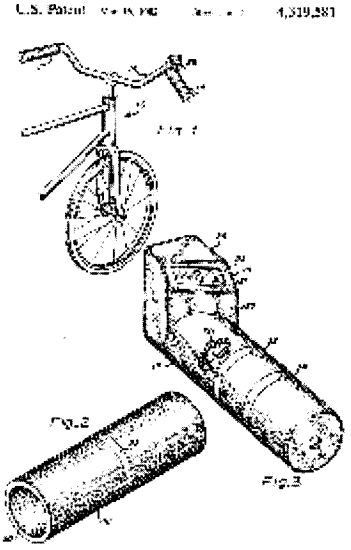


Fig. 1

Figure 2 of the '753 patent shows the live electrodes (9, 13) "connected to" a "difference amplifier" (23).

In June 1993, during prosecution of the application, the Patent Office rejected original claim 1 (which included the elements at issue here) as obvious in view of U.S. Patent No. 4,319,581 ("Cutter"), JA113-18, which describes a heart monitor with *one* common (32) electrode, and two live (22/30, 34) electrodes connected to an amplifier (40, not shown below but shown in figure 4 of Cutter):



The examiner's comments reflect the application's failure to identify electrode spacing as an important factor:

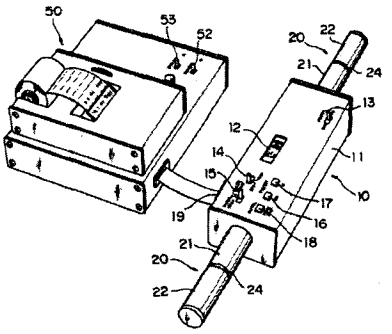
> It is deemed by the examiner that to place electrode 32, (figure 4 of Cutter) on the side closer to electrode 22, as well as make the elongate member 14 one continuous piece would have been obvious ... since the *placement of the electrodes in claim 1 appears not to be critical to the proper functioning of the device*, and as such is regarded as merely a desing [sic., design] choice.

JA75 (emphasis added). The examiner also stated that the EMG whereby clause and two other clauses are "regarded as merely functional, without the necessary structure to accomplish" their functions. *Id.*

In response, the applicant did not disagree with these characterizations regarding the electrode spacing and functional clauses. Rather, the applicant argued that Cutter's "amplifier 40 . . . does not constitute a differential amplifier," and that Cutter discloses different "electrode arrangements . . . on either half of the elongate member" (apparently referring to the number of electrodes per side). JA84-85.

The patent eventually issued in 1994. Fifteen years *after* the patent issued, the Patent Office reexamined it. On April 13, 2009, it issued an office action rejecting claim 1 (and others) as anticipated by U.S. Patent No. 4,444,200 ("Fujisaki"), JA977-83. Fujisaki discloses, among other elements, two pairs of spaced electrodes (21, 22) coupled to a difference amplifier (31, not shown below but shown in figure 3 of Fujisaki). *See* JA344; JA347-49; Fujisaki at 2:43-46, 3:3-10, Figs. 1-3:

FIG. 1



On June 12, 2009, to distinguish Fujisaki, Biosig submitted to the Patent Office a declaration from Dr. Lekhtman stating for the first time (among other things) that special spacing of the electrodes to achieve the recited function was the "inventive concept" of the patent. JA236; JA240-43. Dr. Lekhtman also stated that various electrode design variables—including spacing, shape, size, and material—cannot be standardized across all exercise machines, but a skilled artisan could undertake a "trial and error" process to equalize EMG signals by experimenting with different electrode configurations. JA238-40; *Nautilus II*, 134 S. Ct. at 2126. In 2010, the Patent Office confirmed the patentability of the '753 patent's claims.

Subsequently, in 2011, the district court conducted a *Markman* hearing to construe the claims, including the term "in spaced relationship with each other." Dr. Lekhtman's 2009 declaration was considered at length. Biosig argued against importing statements by Dr. Lekhtman regarding electrode spacing into the construction of "spaced relationship," because it was "not a clear statement" and "there isn't even a hook in the claim language for that." JA1382-83; JA1387. Ultimately, the District Court agreed, and after noting several inconsistencies stated: "What is the purpose of the declaration? This is gibberish." JA1389.

The District Court construed the term to mean "there is 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 live electrode and the common electrode on the other side of the cylindrical bar." Pet. App. 64a-65a.

Nautilus moved for summary judgment, arguing that the term "spaced relationship," as construed, was indefinite under § 112, ¶ 2, because a skilled artisan could not distinguish the "spaced relationship" in claim 1 from the spaced relationship shown in the prior-art Fujisaki patent. Biosig argued that not all spacings will accomplish the recited function in the EMG whereby clause, and further argued that one could perform various tests to identify spacings that would accomplish the recited function. Nautilus replied that Biosig's assertion regarding the link between spacings and the recited function has no basis in the claim construction, and that the parameters of these tests (such as grip strength, hand size, and electrode variations) are unclear.

At the summary judgment hearing, Biosig's counsel insisted that the "EMG whereby" clause limits the term's scope:

> The spaced relationship between the electrodes is one whereby you remove the EMG signals. That's exactly what it is. That's why the testing was done; that's why the patent was allowed.

Pet. App. 112a-113a.

The district court granted Nautilus's motion, concluding that the claim "did not tell [the court] or anyone what precisely the space should be" or even supply "any parameters" for determining the appropriate spacing. *Id.* at 93a. The court ruled that the EMG whereby clause "is all a description of the desired result and not a description of any invention that is calculated to produce that result and, therefore, violates the requirement of specificity in

Section 112." *Id.* at 115a. "There's nothing in this patent in its specifications or its claims or the file wrapper that fills this function, this requirement, of a specific description." *Id.* at 122a. "[T]he hypothetical skilled artisan has nothing in the specifications or the claim or the file history to teach that expert this proper spacing that should be used effectively to subtract the electromechanical [sic., EMG] signals . . . ." *Id.* at 124a.

On appeal, the Federal Circuit reversed and remanded. *Nautilus I*, 715 F.3d at 904-05 (Pet. App. 49a). "A claim is indefinite," the majority opinion stated, "only when it is 'not amenable to construction' or 'insolubly ambiguous.'" *Id.* at 898 (Pet. App. 34a). Under that standard, the '753 patent survived indefiniteness review. The panel majority concluded that the claim's functional EMG whereby clause, along with the record before the PTO on reexamination in 2009-2010, shed light on the meaning of "spaced relationship," as a skilled artisan would know that she could attain the recited function of equalizing EMG signals by adjusting design variables such as electrode spacing. *Id.* at 900 (Pet. App. 37a-40a).

In a concurring opinion, Judge Schall disagreed with the majority's "presum[ing] a functional linkage between the 'spaced relationship' limitation and the removal of EMG signals." *Id.* at 906 (Pet. App. 52a) (Schall, J., concurring).

This Court granted certiorari. It overruled the Federal Circuit's "amenable to construction" or "insolubly ambiguous" test, stating:

> Those formulations can breed lower court confusion, for they lack the precision § 112, ¶2 demands. It cannot be sufficient that a court can ascribe *some* meaning to a patent's claims; the definiteness inquiry trains on the understanding of a skilled artisan at the time of the patent application, not that of a court viewing matters *post hoc*. To tolerate imprecision just short of that rendering a claim "insolubly ambiguous" would diminish the definiteness requirement's public-notice function and foster the innovation-discouraging "zone of uncertainty," against which this Court has warned.

Nautilus II, 134 S. Ct. at 2130 (internal footnote omitted) (quoting *United Carbon Co. v. Binney & Smith Co.*, 317 U.S. 228, 236 (1942)).

On remand, however, the panel applied the same analysis that it had before, to reach the same result. The panel did not address the essential inquiry trained on the understanding of the skilled artisan at the time of the application (which was pending from 1992 to 1994), or even mention that skilled artisan. It did not address or weigh the materially different, alternative interpretations identified by Nautilus or the conflicting intrinsic evidence supporting those conflicting interpretations. Neither did the panel address whether a skilled artisan in 1992 to 1994, faced with those conflicting clues in the original intrinsic evidence, would know with reasonable certainty that only one of those markedly different interpretations was correct. Instead, the panel copied its *post hoc* construction of the claim, critically based on a reexamination 15 years

after the skilled artisan needed clear notice of the claim's scope, ignoring the entire original prosecution history and other intrinsic evidence that pointed the skilled artisan toward an alternative construction. Essentially, it applied its old test. As discussed below, this included multiple errors in conflict with this Court's prior ruling in this case and this Court's long-standing precedent prohibiting functional claiming.

REASONS FOR GRANTING THE PETITION

I. THE FEDERAL CIRCUIT IS UNLIKELY TO CORRECT THESE ERRORS, WHICH RAISE ISSUES OF GREAT PRACTICAL IMPORTANCE

A. WHEN CLAIMS MUST BE CLEAR IS AN ISSUE OF GREAT PRACTICAL IMPORTANCE

In 2011, Congress created new administrative trial proceedings for patents. Today, many litigated patents are subjected to such Patent Office trials. Patent owners know that statements in such Patent Office proceedings can alter a claim's scope years after the patent issues. They know they can profit for years from a zone of uncertainty, watch technology trends, and then shortly before the claims are construed in court, seek to clarify the claim's scope by argument in Patent Office proceedings. That is what happened here, under the predecessor post-issuance "reexamination" Patent Office proceeding. Therefore, the first question presented has great practical importance to today's patent system.

B. WHETHER A PATENT MAY CLAIM A FUNCTION IS AN ISSUE OF GREAT PRACTICAL IMPORTANCE

The issue of functional claiming is of great practical importance. Functional claims stifle innovation.

> Under these circumstances the broadness, ambiguity, and overhanging threat of the functional claim of Walker become apparent. . . . [W]hat he claims here is that his patent bars anyone from using . . . any device heretofore or hereafter invented which combined with the [prior art] machine performs the function [claimed]. . . . In this age of technological development there may be many other devices beyond our present information or indeed our imagination which will perform that function and yet fit these claims. And unless frightened from the course of experimentation by broad functional claims like these, inventive genius may evolve many more devices to accomplish the same purpose.

Halliburton, 329 U.S. at 12.

This harm has been widely recognized. For example, an August 2013 GAO report to Congress identifies "unclear and overly broad patents" generally, and patents with functional claims in particular, as one of three key factors cited by stakeholders as contributing to the recent increase in patent litigation. U.S. Gov't Accountability Office, *Intellectual Property: Assessing Factors That Affect Patent Infringement Litigation Could Help*

Improve Patent Quality, GAO-13-465, at 28-29 & n.53 (Aug. 2013) ("Some stakeholders . . . emphasized that claims in software patents sometimes define the scope of the invention by encompassing an entire function—like sending an e-mail—rather than the specific means of performing that function."). And in 2011, the Federal Trade Commission ("FTC") urged courts to "focus on indefiniteness to address functional claiming in general, in order to ensure disclosure of what is within and what is outside of the patent." Federal Trade Comm'n, *The Evolving IP Marketplace: Aligning Patent Notice and Remedies with Competition* 102 (2011).

Accordingly, the Administration in June 2013 called for training at the Patent Office regarding "scrutiny of functional claims." *See* White House, *FACT SHEET: White House Task Force on High-Tech Patent Issues* (June 4, 2013). A report issued by the White House on the same day criticized the prevalence of "functional claiming," whereby a feature is claimed for "what it does rather than what it is." Executive Office of the President, *Patent Assertion and U.S. Innovation* 8 & n.4 (June 4, 2013). It warned that "[f]unctional claims can be used to 'over-assert' a patent by attempting to cover products and processes that were never contemplated by the inventor or the examiner as being within the claim scope at the time of the invention." *Id.* at 8.

The problem is growing, as commentators have noted. *See, e.g.*, Mark A. Lemley, *Software Patents and the Return of Functional Claiming*, 2013 Wis. L. Rev. 905, 943 ("It is broad functional claiming that leads to assertions that every part of a complex technology product is patented, often by many different people at the same

time. It is broad functional claiming that puts stars in the eyes of patent plaintiffs, who can demand huge royalties on the theory that there simply is no other way to implement the technology they have patented.").

Therefore, the second question presented has great practical importance to today's patent system.

C. THE FEDERAL CIRCUIT IS UNLIKELY TO CORRECT THESE ERRORS

Granting certiorari twice in the same action is rare. But, no rarer than the reception this Court's decision received on remand. The panel literally copied and pasted much of its prior analysis that this Court rejected, including impermissible *post hoc* analysis. Biosig argued that this Court's ruling merely represented a change in wording, not substance, and the panel's characterization of this Court's ruling suggests that it agreed:

> The Court has accordingly modified the standard by which lower courts examine allegedly ambiguous claims; we may now steer by the bright star of "reasonable certainty," rather than the unreliable compass of "insoluble ambiguity."

Nautilus III, 783 F.3d at 1379 (Pet. App. 12a); *see* Ryan Davis, *Fed. Circ. Remand Shows Nautilus May Have Little Impact*, Law360 (Apr. 27, 2015), http://www.law360.com/articles/648187/fed-circ-remand-shows-nautilus-may-have-little-impact ("Attorneys following the case took that sentence . . . to be a derisive way for the court to say it was not going to change the way it evaluates allegations of indefiniteness.").

The Federal Circuit is unlikely to correct these errors. For example, the Federal Circuit recently had an opportunity to address en banc whether patent owners may clarify the scope of their claim in reexamination years after issuance, by argument rather than amendment, and declined to do so. *Marine Polymer Techs., Inc. v. HemCon, Inc.*, 672 F.3d 1350, 1366, 1376 (Fed. Cir. 2012) (en banc) (Dyk, J., dissenting in part) (noting an issue "likely to become even more important under the new Leahy–Smith America Invents Act ('AIA') because of the increased availability of reexamination," specifically, the failure to clarify "whether, when there is a change in claim scope without formal amendment, . . . the changed claim scope is retroactive to validate the patent as of its original issue date," which would "directly contradict[] the purpose of the statute").

Even more recently, the full Federal Circuit had an opportunity to address whether patents may claim a function outside the constraints of Section 112(f) (previously § 112, ¶ 6), and declined to do so. In that en banc ruling, only one of the eleven active judges opined that the court should revisit en banc this Court's prohibition against purely functional claiming. *See Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1356, 1358 (Fed. Cir. 2015) (en banc in part) (Reyna, J., concurring in part) (noting that the court "stop[ped] short of addressing other equally fundamental concerns about functional claiming," that "the *Halliburton* Court relied on precedent invalidating functional claims that did not recite the term 'means,'" and that "[t]he continued viability of this rationale . . . merits attention" (internal citations omitted)).

II. THE FEDERAL CIRCUIT CONTINUES TO MISINTERPRET THE PATENT STATUTE

The Federal Circuit continues to tolerate claims that are unclear when issued, so long as the applicant purportedly clarifies them during proceedings held many years later.

And the Federal Circuit continues to allow functional limitations that are not restricted to any corresponding structure in the specification, so long as a court determines that a skilled artisan would know how to make or test for an embodiment that performs the function.

These practices are at odds with the plain meaning of the statute and its public notice function.

A. THE FEDERAL CIRCUIT FAILS TO REQUIRE PATENTS TO BE CLEAR WHEN ISSUED

Last year, this Court held that the "indefiniteness" test "trains on the understanding of a skilled artisan at the time of the patent application, not that of a court viewing matters *post hoc*." *Nautilus II,* 134 S. Ct. at 2130. It noted Biosig's concession that "'[d]efiniteness is measured from the viewpoint of a person skilled in [the] art *at the time the patent was filed*.'" *Id.* at 2128 (emphasis added by Court).

Thus, the operative question is *not* whether a court considering Patent Office proceedings years after issuance is reasonably certain about its construction. Rather, the question is whether a skilled artisan at the time of the patent application, considering the patent and its original

prosecution history, would have been reasonably certain as to the scope of the claims. Stepping back to the time of the application is essential to protect the public notice function of the patent claim. The panel on remand again failed to do that.

Instead, the Federal Circuit relied heavily on reexamination statements made by the named inventor in 2009, treating them as "intrinsic evidence" that would inform a skilled artisan about "the inherent parameters of the invention." *Nautilus III*, 783 F.3d at 1384 (Pet. App. 22a). That information came 15 years too late. The Federal Circuit clearly erred in basing the definiteness of this 1994 patent on attempted clarifications made in 2009.

As this Court emphasized, a patent must be "precise enough to afford clear notice of what is claimed," or else enterprise and experimentation will be deterred. *Nautilus II*, 134 S. Ct. at 2129. Accordingly, clarity must be accomplished by the patent drafter at the time of the application. The Federal Circuit's approach fails to accomplish the primary goal of this Court's ruling.

The skilled artisan who wants to safely innovate around the patent the day it issues needs to understand with reasonable certainty the claim's boundary. To do that, she has only the original intrinsic evidence, viewed through the lens of her knowledge of the technical field. She does not have a crystal ball peering into future Patent Office or other proceedings. Clarifications or changes to claim scope years later, perhaps as here near the end of the patent's term, cannot help her decipher the claim's boundary the day it issues, nor help those considering investments in such would-be innovation efforts.

To suggest that such belated clarifications can retroactively cure an ambiguity that existed the day the patent issued would be a legal fiction destroying the public-notice function of patent claims. How can a reexamination years later undo the damage done to innovation by a zone of uncertainty the day the patent issued? It cannot. The skilled artisan has no crystal ball. A clarification in 2009 cannot persuade investors to invest in 1994 in a would-be innovator's new technology that may or may not overstep a patent's fuzzy boundary line. Therefore, a patent claim is invalid if it is ambiguous when issued, even if later Patent Office proceedings clarify the claim. This necessarily follows both from the public-notice function of patent claims and from this Court's emphatic rejection of the *post hoc* construction approach.

Despite Nautilus making this point repeatedly on remand, urging the panel to focus on the patent and the prosecution history up to the issuance of the patent, the panel did not do so. It did not mention the skilled artisan of the 1992-1994 timeframe or the evidence available at that time. It did not even acknowledge that Nautilus made this argument. Instead, the panel again relied heavily on events occurring more than a decade after the patent issued—as if this Court had never ruled.

The panel did not mention any of the intrinsic evidence cited by Nautilus—in the claim, specification, and prosecution history—that supported the broader, non-functional interpretation of the claim. Instead, it copied and pasted its original recitation of evidence that it said supported its narrower construction.

For example, it did not mention the prosecution examiner's statement that "the placement of the electrodes in claim 1 appears not to be critical to the proper functioning of the device, and as such is regarded as merely a [design] choice." JA75. That was a strong clue to the skilled artisan that "spaced relationship" meant any spacing of the electrodes, not some special spacing causing the claims' recited functional result. Any analysis trained on the understanding of a skilled artisan at the time of the application must consider this statement. But the panel did not mention it or Nautilus's citation to it.

The panel likewise ignored all other clues in the intrinsic evidence pointing away from the panel's functional construction, such as the absence of any assertion in the specification that the spacing of the electrodes affects the claimed results or that the electrode configuration required testing to achieve the desired function.

Instead, statements by the reexamination examiner were given far more weight than the specification or original prosecution history. *Nautilus III*, 783 F.3d at 1383 (Pet. App. 20a) (quoting *Nautilus I*, 715 F.3d at 900). The panel relied heavily on a declaration the named inventor submitted 15 years after the patent issued, with pages of assertions found nowhere in the specification or original prosecution history. *See id.* at at 1383-84 (Pet. App. 19a-22a).

The particular-and-distinct-claiming mandate and the public-notice function it serves are too important to pretend that what happens over a decade later can help the skilled artisan to decipher the issued patent claim, or erase the past damage caused by ambiguous patent claims. This

Court should further clarify the proper interpretation of Section 112 of the Patent Statute as prohibiting a *post hoc* construction analysis and requiring claims to be clear when issued, regardless of later attempts to clarify ambiguity.

B. THE FEDERAL CIRCUIT'S TOLERATION OF FUNCTIONAL CLAIMS IS INCOMPATIBLE WITH THIS COURT'S PRECEDENT

This Court consistently has held that "a patentee may not broaden his product claims by describing the product in terms of function." *Gen. Elec.*, 304 U.S. at 371; *see also id.* at 372-73 ("The difficulty of making adequate description . . . cannot justify a claim describing nothing new except perhaps in functional terms."); *Holland Furniture Co. v. Perkins Glue Co.*, 277 U.S. 245, 256-58 (1928) (functional claim invalid due to "indefinite description"); *United Carbon*, 317 U.S. at 236-37 (same); *Halliburton*, 329 U.S. at 12-13 (same). Congress subsequently created an avenue for some functional claim limitations when they are restricted to corresponding structure, material or acts in the specification. *See* 35 U.S.C. § 112, ¶ 6. But neither Congress nor this Court have created an exception tolerating a functional limitation merely because a skilled artisan may know ways of implementing or testing for it.

In contrast, the Federal Circuit has consistently tolerated functional claims when "context" can be provided by an artisan's "knowledge":

> [W]hen a claim limitation is defined in "purely functional terms," a determination of whether the limitation is sufficiently definite is "highly

> dependent on context (*e.g.*, the disclosure in the specification *and the knowledge of a person of ordinary skill in the relevant art area*)."

Nautilus III, 783 F.3d at 1378 (Pet. App. 8a) (emphasis added) (quoting *Halliburton*, 514 F.3d at 1255); *see also Microprocessor Enhancement Corp. v. Tex. Instruments Inc.*, 520 F.3d 1367, 1375 (Fed. Cir. 2008) (noting that "apparatus claims are not necessarily indefinite for using functional language," limiting asserted patent claim to "the recited structure . . . *capable* of performing the recited functions," and thus finding the claim "not indefinite"); *Moore U.S.A., Inc. v. Standard Register Co.*, 229 F.3d 1091, 1099, 1100-11 (Fed. Cir. 2000) (holding that "the examiner's acquiescence indicates his acceptance of the 'distance sufficient' limitation as functionally claimed and as properly definite under 35 U.S.C. § 112, ¶ 2," and noting "that there is nothing wrong with defining the dimensions of a device in terms of the environment in which it is to be used").

Accordingly, the Federal Circuit upheld the claims at issue here, despite finding them functional at a point of purported novelty. *See id.* at 1383 (Pet. App. 19a-21a) ("[T]he functionality of the claimed heart rate monitor as recited in claim 1, 'which provided the basis for overcoming the PTO's office action rejections during the reexamination,'" is provided in the "'whereby' clause [, which] describes the function of substantially removing EMG signals . . . ." "[T]he recitation of this function in claim 1 is highly relevant to ascertaining the boundaries of the 'spaced relationship' . . . .").

The Federal Circuit found "context" for the functional clause outside the patent, in the artisan's "knowledge" of ways to test for the function. *See id.* at 1378 (Pet. App. 9a). That approach is inconsistent with this Court's recent reaffirmation of the appropriate and limited role of a skilled artisan. *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015) ("'Experts may be examined to explain terms of art, and the state of the art, at any given time,' but they cannot be used to prove 'the proper or legal construction of any instrument of writing.'" (quoting *Winans v. N.Y. & Erie R.R. Co.*, 62 U.S. 88, 100-101 (1858)); *see also Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 388 (1996) ("'Where technical terms are used, or where the qualities of substances . . . or any similar data necessary to the comprehension of the language of the patent are unknown to the judge, the testimony of witnesses may be received upon these subjects, and any other means of information be employed. *But in the actual interpretation of the patent the court proceeds upon its own responsibility, as an arbiter of the law, giving to the patent its true and final character and force.*'" (emphasis added by Court) (quoting 2 W. Robinson, Law of Patents § 732, pp. 481-83 (1890))).

Inviting experts to fill in gaps in claims creates uncertainty. *See Winans*, 62 U.S. at 101 ("Experience has shown that opposite opinions of persons professing to be experts may be obtained to any amount; and it often occurs that not only many days, but even weeks, are consumed in cross-examinations, to test the skill or knowledge of such witnesses and the correctness of their opinions, wasting the time and wearying the patience of both court and jury, and perplexing, instead of elucidating, the questions involved in the issue."). In this case, the District

Court found just such uncertainty when reviewing Dr. Lekhtman's declaration, stating that it was inconsistent and unhelpful "gibberish." JA1389.

The Federal Circuit's approach is inconsistent with the plain language of the indefiniteness statute, which does not authorize gap-filling from outside the patent. *See* § 112, ¶ 2 ("The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the . . . invention."). The Patent Act's separate enablement requirement does imply an active role for the skilled artisan in making and using the invention, *see* 35 U.S.C. § 112, ¶ 1, but "[t]he statute has another command.... Congress requires of the applicant a distinct and specific statement of what he claims to be new, and to be his invention.... The limits of a patent must be known for... the encouragement of the inventive genius of others . . . ." *Gen. Elec.*, 304 U.S. at 368-69 (internal quotation marks and footnote omitted) (holding that even "assum[ing] that [the inventor] has sufficiently informed those skilled in the art how to make and use his filament," he nonetheless failed to comply with the definiteness requirement). Accordingly, the question of whether a skilled artisan could practice the claimed invention is not dispositive of definiteness. The Federal Circuit conflates the role of the skilled artisan under those provisions.

This Court's *General Electric* decision addressed similar issues to those presented here. In that case, the asserted claims related to filaments for electric incandescent lamps. *Id.* at 368. The patent applicant sought to remedy "sagging" and "offsetting" that plagued prior-art lamps, reducing their efficiency and shortening their lifespan. *See id.* at 366. Similarly, Mr. Lekhtman

purportedly sought to improve existing heart rate monitors by remedying problems of EMG interference.

The Court noted that the claimed filament structure existed in the prior art, *id.* at 369-70, as did the relevant circuitry of the '753 patent (in Fujisaki, for example). The Court also noted that "the specification of the [asserted] patent does not attempt in any way to describe the filament, except by mention of its coarse-grained quality." *Id.* at 373. Likewise, the '753 patent contains no meaningful description of the electrodes' spaced relationship or its connection—if any—to the claimed functional result.

This Court held that the functional claim language failed the definiteness requirement, *see id.* at 370 (referring to the functional clause, "to prevent substantial sagging and offsetting during a commercially useful life for the lamp"), because "[a]part from the statement with respect to their function, nothing said about their size distinguishes the earliest filaments, and nothing whatever is said which is descriptive of their contour." *Id.* This Court's express rejection of the "vice" of functional claiming, *see id.* at 371-72, stands in stark contrast to the Federal Circuit's tolerance for patent claims that define structural limitations in purely result-oriented terms.

This Court should review the Federal Circuit precedent permitting purely functional claim limitations, and overrule it as inconsistent with this Court's precedent.

III. THESE ERRORS DAMAGE OUR PATENT SYSTEM

The Federal Circuit's toleration of claims that are unclear when issued, or that include functional limitations at a point of novelty, damages our patent system in many ways. It results in patents that fail to apprise the public of what is open to them; fosters an innovation-discouraging zone of uncertainty; provides incentives to inject ambiguity into claims and to defer clarity; discourages the inventive genius of others; and fails to provide a reliable compass to courts and the patent bar. *See Nautilus II*, 134 S. Ct. at 2129-30 & n.6.

In addition, by rewarding patentees who defer clarity until reexamination (or other post-issuance proceedings) and then seek to add clarity through argument rather than amendment, the Federal Circuit undermines Congress's goal of protecting the public through the statutory intervening rights that are triggered by a formal amendment. *See, e.g.*, 35 U.S.C. §§ 252 and 307(b); *Marine Polymer*, 672 F.3d at 1378 (Dyk, J., dissenting in part) ("Allowing patent owners to . . . amend[] claims by argument is an abuse of the reexamination process and undermines the purpose of intervening rights.").

The Federal Circuit's embrace of functional claiming, despite this Court's consistent precedent to the contrary, causes a host of harms. Functional claims extend the patent monopoly "beyond the discovery, . . . discourag[ing] rather than promot[ing] invention." *Holland*, 277 U.S. at 257; *see also Halliburton*, 329 U.S. at 12 ("[U]nless frightened from the course of experimentation by broad functional claims like these, inventive genius may evolve

many more devices to accomplish the same purpose."). Such functional claims also fail to "clearly distinguish what is claimed from what went before in the art," frustrating the efforts of "courts to determine whether novelty and invention are genuine." *United Carbon,* 317 U.S. at 236. For these reasons, functional claims, "which join old and well-known devices with the declared object of achieving new results . . . easily lend themselves to abuse." *Halliburton,* 329 U.S. at 10.

IV. THIS ACTION IS PARTICULARLY WELL SUITED FOR ADDRESSING THESE ISSUES OF LAW

This case is well suited for addressing these issues. The technology is understandable—a heart monitor for use in association with exercise equipment. The dispute is focused on a single claim, a single structural limitation, and a single functional clause. This Court is familiar with the patent and its history. And the eyes of the innovators are already on this case, as a bellwether on the definiteness required of patent claims.

CONCLUSION

For the foregoing reasons, this petition for a writ of certiorari should be granted.

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Respectfully submitted,

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