No. 17-751

In the Supreme Court of the United States

NIDEC MOTOR CORPORATION, PETITIONER

v.

ZHONGSHAN BROAD OCEAN MOTOR CO., LTD., ET AL.

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

BRIEF FOR THE FEDERAL RESPONDENT

NOEL J. FRANCISCO
Solicitor General
Counsel of Record
CHAD A. READLER
Acting Assistant Attorney General
MARK R. FREEMAN
ANDREW ROHRBACH
Attorneys

Department of Justice
Washington, D.C. 20530-0001
SupremeCtBriefs@usdoj.gov
(202) 514-2217

QUESTIONS PRESENTED

1. Whether the Federal Circuit correctly affirmed the determination of the Patent Trial and Appeal Board (Board) that petitioner's patent claims are invalid as obvious under 35 U.S.C. 103.

2. Whether statutory provisions that authorize the Board to conduct inter partes review of previously issued patents violate Article III or the Seventh Amendment.

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OPINIONS BELOW

The opinion of the court of appeals (Pet. App 1a-17a) is reported at 868 F.3d 1013. The decision of the Patent Trial and Appeal Board (Pet. App. 18a-49a) is not published in the United States Patent Quarterly.

JURISDICTION

The judgment of the court of appeals was entered on August 22, 2017. The petition for a writ of certiorari was filed on November 20, 2017. The jurisdiction of this Court is invoked under 28 U.S.C. 1254(1).

STATEMENT

1. Under the Patent Act of 1952, 35 U.S.C. 1 *et seq.*, the patentability of an invention generally "is dependent upon three explicit conditions: novelty and utility as articulated and defined in § 101 and § 102, and nonobviousness * * * as set out in § 103." *Graham* v. *John Deere Co.*, 383 U.S. 1, 8 (1966). Section 103 provides

that a patent cannot be obtained "if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains." 35 U.S.C. 103. Section 103 codifies the longstanding principle that a new and useful invention is not patentable unless it embodies a "degree of skill and ingenuity" beyond that of "an ordinary mechanic acquainted with the business." *Hotchkiss* v. *Greenwood*, 52 U.S. (11 How.) 248, 267 (1851); see *Graham*, 383 U.S. at 11-18.

To decide whether a claimed invention would have been obvious to a person having ordinary skill in the art, courts conduct an objective inquiry, assessing "the scope and content of the prior art," "differences between the prior art and the claims at issue," "the level of ordinary skill in the pertinent art," and any relevant "secondary considerations [such] as commercial success." *Graham*, 383 U.S. at 17. Sometimes the prior art may contain an express statement that "would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." *KSR Int'l Co.* v. *Teleflex Inc.*, 550 U.S. 398, 418 (2007). Even in the absence of such an express statement, however, a combination may be obvious because a person of ordinary skill would undertake "inferences and creative steps," "fit[ting] the teachings of multiple patents together like pieces of a puzzle" even if the existing patented inventions were not "designed to solve the same problem." *Id.* at 418, 420.

The concept of "teaching away" is sometimes relevant to the obviousness inquiry. Prior art teaches away from a claimed invention when "known disadvantages in

old devices * * * would naturally discourage the search for new inventions." *United States* v. *Adams*, 383 U.S. 39, 52 (1966). "[W]hen the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious." *KSR*, 550 U.S. at 416.

2. In 2011, Congress enacted the Leahy-Smith America Invents Act (AIA or Act), Pub. L. No. 112-29, 125 Stat. 284, to "establish a more efficient and streamlined patent system that will improve patent quality and limit unnecessary and counterproductive litigation costs." H.R. Rep. No. 98, 112th Cong., 1st Sess. 39-40 (2011). Among other measures directed at that goal, the AIA established inter partes review, an administrative process through which the U.S. Patent and Trademark Office (USPTO) can reconsider the patentability of the claims in issued patents.

Inter partes review may be used to challenge an issued patent based on lack of novelty or obviousness. 35 U.S.C. 311(b). In general, any person other than the patent's owner may petition for inter partes review. 35 U.S.C. 311. The Director of the USPTO may institute an inter partes review if he determines that "there is a reasonable likelihood that the petitioner would prevail" with respect to at least one of the challenged claims, 35 U.S.C. 314(a), and if no other provision of the Act bars institution under the circumstances. The Director has delegated the responsibility for instituting inter partes reviews to the USPTO's Patent Trial and Appeal Board (Board). 37 C.F.R 42.4(a). The Board's final decision may be appealed to the Federal Circuit. 35 U.S.C. 141, 319.

3. a. Petitioner owns U.S. Patent No. 7,626,349 (filed Feb. 1, 2007) (the '349 patent), which pertains to

the operation of a motor controller for certain heating, ventilating, and air conditioning (HVAC) systems. Pet. App. 2a.

Some HVAC systems use permanent magnet motors, which contain a permanent magnet and windings. See Pet. App. 2a-3a, 22a. When an electrical current passes through the windings, the windings function as electromagnets that attract or repel the permanent magnet, causing rotation and creating torque that turns the HVAC system's fan. See *id.* at 21a-22a. A motor controller performs "commutation," which "refers generally to the repeated sequencing of electrical currents applied" to the windings. *Id.* at 2a. Some motor controllers perform square-wave commutation, which abruptly switches the voltage applied to a winding among three states: positive, zero, and negative. *Id.* at 3a. The invention disclosed in the '349 patent, by contrast, performs sinewave commutation, moving from positive to negative voltage and back through "gradual and continuous oscillations." *Ibid.* This "results in less vibration and noise generated from the electric motor." *Ibid.*

The '349 patent's representative claim is the following:

> 1. A heating, ventilating and/or air conditioning (HVAC) system comprising a system controller, a motor controller, an air-moving component, and a permanent magnet motor having a stationary assembly, a rotatable assembly in magnetic coupling relation to the stationary assembly, and a shaft coupled to the air-moving component, wherein the motor controller is configured for performing sinewave commutation * * * in response to one or more control

> signals received from the system controller to produce continuous phase currents in the permanent magnet motor for driving the air-moving component.

Pet. App. 7a (citation omitted).

b. The private respondents filed an inter partes review petition challenging eight claims of the '349 patent. They contended that the claims are obvious in light of a prior patent (Bessler) and a published doctoral thesis (Kocybik). They later filed a second petition alleging that the challenged claims were also anticipated by a Japanese patent publication, and they moved to join the two proceedings. A panel of the Board granted the petitions and the request for joinder. Pet. App. 3a-5a.

After a hearing, the Board determined that the challenged claims were unpatentable both as obvious and as anticipated. Pet. App. 18a-49a. As relevant to obviousness, the Board concluded that Bessler teaches an HVAC system with an "electronically commutated motor." *Id.* at 32a. The only missing element in Bessler's patent was the use of sinewave commutation, but that element was disclosed by Kocybik, which "includes a survey of electric motor control schemes for permanent magnet motors." *Id.* at 34a. In the Board's view, a person of ordinary skill would combine Bessler and Kocybik, as that combination would provide "predictable results to address known problems associated with other types of motors," including excess noise and vibrations. *Id.* at 34a-35a. The Board rejected petitioner's argument that Bessler teaches away from the claimed combination, concluding that Bessler does not teach away from the controller use described in the '349 patent. *Id.* at 35a. The Board also concluded that the challenged claims were invalid on the independent ground that

they were anticipated by the Japanese patent publication. *Id.* at 39a-44a.

c. i. The court of appeals affirmed.[1] Pet. App. 1a-17a. The court noted that petitioner did "not appear to dispute that the claimed elements are described in the prior art"—namely, that Bessler teaches an HVAC system and Kocybik describes sinewave commutation. *Id.* at 8a. Instead, petitioner argued that the challenged claims were nonobvious because Bessler teaches away from the claimed invention, since "the purpose of Bessler is to reduce the complexity of HVAC systems by eliminating the need for a conventional system controller," while "incorporating sinewave commutation into an HVAC system only increases complexity." *Id.* at 9a.

The court of appeals rejected that argument. Pet. App. 9a-13a. The court explained that nothing in Bessler "'criticize[s], discredit[s], or otherwise discourage[s]' the use of sinewave commutation in HVAC systems." *Id.* at 9a (quoting *Meiresonne* v. *Google, Inc.*, 849 F.3d 1379, 1382 (Fed. Cir. 2017)) (brackets in original). The court observed that Bessler makes no mention of sinewave commutation at all. *Id.* at 10a. Petitioner argued that Bessler nevertheless teaches away from the patented configuration because Bessler teaches an HVAC "system which does not require a system controller," while petitioner's invention required a system controller. *Id.* at 10a (citation omitted). The court rejected that argument, explaining that the aspect of Bessler that petitioner had highlighted was irrelevant because sinewave commutation is performed by the *motor* controller, not by a system controller, and

[1] The Acting Director of the USPTO intervened in the court of appeals to defend the Board's joinder determination. Pet. App. 5a.

Bessler teaches use of a motor controller. *Ibid.* The court further observed that, because Bessler and the '349 patent use the term "system controller" differently, Bessler actually does teach use of a system controller as defined by the '349 patent. Specifically, Bessler prescribes use of a thermostat, which satisfies the '349 patent's definition of a "system controller." *Id.* at 10a-12a.

Petitioner also argued that Bessler teaches away from using advanced hardware, while the claimed method of sinewave commutation requires an advanced microprocessor such as a "digital signal processor." Pet. App. 10a n.1. The court of appeals concluded, however, that nothing in Bessler suggests limiting the types of microprocessors that might be used, and that Kocybik specifically teaches the use of a digital signal processor with a permanent magnetic motor. *Ibid.* It noted that Kocybik also explains that digital signal processors are readily available because mass production had led to price drops. *Ibid.*

Because the court of appeals affirmed the Board's determination that the challenged claims were obvious, the court declined to address the Board's determination that the challenged claims were also anticipated by a Japanese patent publication. Pet. App. 6a, 13a. The court noted in that regard that its affirmance on obviousness grounds made it unnecessary to "address [petitioner's] argument that various procedural aspects of the Board's joinder decision require reversal of its holding concerning anticipation." *Id.* at 6a.

ii. Judges Dyk and Wallach joined the court's decision in full, but filed a separate concurrence as well. See Pet. App. 14a. They "wr[o]te separately to express [their] concerns as to the [USPTO's] position on joinder

and expanded panels since those issues are likely to recur." *Ibid.* They recognized, however, that the court's affirmance on obviousness grounds made it unnecessary to decide those issues in this case. See *id.* at 16a-17a.

ARGUMENT

Petitioner contends (Pet. 20-26) that the court of appeals affirmed the Board's obviousness determination based on a "rigid teaching-away inquiry" (Pet. 21), under which prior art will be found to teach away from a particular invention only if it expressly disparages it. That challenge does not warrant this Court's review. The court of appeals did not adopt any such rigid framework, but instead affirmed the Board's decision based on an analysis that is consistent with the decisions of this Court and other courts of appeals.

Petitioner also contends (Pet. 35-36) that inter partes review violates Article III and the Seventh Amendment. Because that issue is pending before this Court in *Oil States Energy Services, LLC* v. *Greene's Energy Group, LLC*, No. 16-712 (argued Nov. 27, 2017), it is appropriate to hold the petition in this case pending the decision in *Oil States*.

1. a. The court of appeals correctly affirmed the Board's determination that the challenged claims in the '349 patent were obvious, rejecting petitioner's teaching-away arguments. The court explained that Bessler taught all elements of the '349 patent's HVAC system except sinewave commutation, and that Kocybik taught sinewave commutation. Pet. App. 8a. Consistent with the governing standard of review, the court declined to "reweigh" the evidence presented to the Board on whether a person of ordinary skill in the art would have been motivated to combine Bessler and Kocybik to achieve its predictable result. *Ibid.*

Next, the court of appeals correctly concluded that, contrary to petitioner's arguments, Bessler does not teach away from the claims at issue. Pet. App. 9a. The court observed that "'[t]here is nothing in Bessler that criticize[s], discredit[s], or otherwise discourage[s]' the use of sinewave communications in HVAC systems." *Ibid.* (brackets in original; citation omitted). It then properly concluded that none of petitioner's arguments established that Bessler teaches away from the patented configuration. It explained that, if anything, Bessler teaches toward the controller configuration in the '349 patent. *Id.* at 10a-12a. The court of appeals further explained that Bessler's general objective of simplifying HVAC systems does not teach away from using the microprocessors required for sinewave commutation, because those microprocessors have become relatively inexpensive and readily available, and Kocybik teaches their use with permanent magnet motors. *Id.* at 8a, 10a n.1.[2]

Petitioner asserts (Pet. 9-10) that, in evaluating its arguments, the court of appeals adopted a "rigid, onerous test" under which the "principal prior art" must "expressly mention[]" the missing element before the court will consider whether the prior art teaches away from the use of that element. That characterization of the decision below is unfounded, and the Federal Circuit

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[2] Petitioner suggests that the Federal Circuit ignored one reference, Chen or the '449 patent, which "confirmed the teaching of the art to simplify hardware and software complexity and avoid vector-control sinewave commutation." Pet. 35; see Pet. 17. Before the court of appeals, however, petitioner argued only that Chen did so due to the microprocessor required for sinewave commutation. See Pet. C.A. Br. 30. The Federal Circuit's discussion of microprocessors and Kocybik fully responded to that argument.

has recognized that "prior art need not explicitly 'teach away' to be relevant to the obviousness determination." *Arctic Cat Inc.* v. *Bombardier Recreational Prods. Inc.*, 876 F.3d 1350, 1360 (2017). Instead, the court has emphasized that the teaching-away analysis is a flexible one, under which "some references may discourage more than others," and the court must make an "entirely factual determination[]" about "whether there exist reasons a skilled artisan would combine or reasons a skilled artisan would not combine." *Id.* at 1360-1361.

Petitioner suggests that the decision below effectively requires express disparagement because, in petitioner's view, the court of appeals "ignored" petitioner's teaching-away arguments and pretermitted its analysis on the ground that "the principal reference 'does not even mention sinewave commutation.'" Pet. 34-35 (quoting Pet. App. 9a-10a); see Pet. 19-20 (similar). That suggestion ignores other aspects of the court of appeals' analysis. After observing that Bessler did not discuss sinewave commutation, the court went on to consider each of petitioner's arguments that Bessler nevertheless teaches away from the patented invention, before rejecting those arguments on the grounds that they failed to account for important features of Bessler and Kocybik. See Pet. App. 10a-11a & n.1. The court thus conducted a flexible, fact-intensive evaluation of whether prior art "discouraged" the inventor from developing the claimed invention.

b. The Federal Circuit's approach is consistent with the obviousness precedents of this Court and other courts of appeals.

Petitioner suggests that the decision below is inconsistent with this Court's precedents because nothing in this Court's decisions "advocated for a rigid teaching-

away inquiry * * * that requires the prior-art reference to *expressly* discuss and disparage a claimed feature." Pet. 21; see Pet. 21-26. But neither the decision below nor any Federal Circuit decision that petitioner identifies actually adopts that express-statement requirement. Petitioner also asserts that the court of appeals has departed from this Court's precedents by placing an "'overemphasis on the importance of published articles and the explicit content of issued patents'" rather than "known disadvantages in the prior art." Pet. 25 (quoting *KSR Int'l Co.* v. *Teleflex Inc.*, 550 U.S. 398, 419 (2007)). Yet the Federal Circuit routinely considers known disadvantages in the prior art as part of its teaching-away analysis. See, *e.g.*, *In re Urbanski*, 809 F.3d 1237, 1243-1244 (2016) (analyzing the known advantages and disadvantages in the prior art); *Dome Patent L.P.* v. *Lee*, 799 F.3d 1372, 1381 (2015) (explaining that, while a reference "discloses potential disadvantages associated with using Tris-type monomers * * * other prior art references disclose roadmaps on how to offset the disadvantages").

Petitioner's assertion of a circuit conflict (Pet. 26-31) is similarly meritless. Petitioner relies on three decisions issued by other courts of appeals before the Federal Circuit's creation. See *Santa Fe-Pomeroy, Inc.* v. *P&Z Co.*, 569 F.2d 1084 (9th Cir. 1978); *CMI Corp.* v. *Metropolitan Enters., Inc.*, 534 F.2d 874 (10th Cir. 1976); *Shaw* v. *E.B. & A.C. Whiting Co.*, 417 F.2d 1097 (2d Cir. 1969), cert. denied, 397 U.S. 1076 (1970). The only conflict that petitioner claims, however, is with the rule that petitioner mistakenly attributes to the Federal Circuit—namely, that the prior art must expressly identify and disparage the missing element of the invention in order to teach away from it. See Pet. 30 ("In

sum, the other Courts of Appeals did not require some express disparagement of the purported combination before they considered a teaching-away argument."). As discussed, the Federal Circuit has not adopted such a requirement either.

2. Petitioner contends in the alternative (Pet. 35-36) that inter partes review violates Article III and the Seventh Amendment, and that the petition should be held pending the resolution of *Oil States Energy Services, LLC* v. *Greene's Energy Group, LLC*, No. 16-712 (argued Nov. 27, 2017), in which the Court granted certiorari to address those constitutional issues. Although petitioner did not preserve any constitutional challenge before the court of appeals, that court can address the application of forfeiture principles in the first instance if this case is ultimately remanded for further proceedings in light of *Oil States*. Accordingly, the government agrees that it is appropriate to hold this petition pending the Court's decision in *Oil States*.

CONCLUSION

The petition for a writ of certiorari should be held pending this Court's decision in *Oil States Energy Services, LLC* v. *Greene's Energy Group, LLC*, No. 16-712, and then disposed of as appropriate in light of that decision.

Respectfully submitted.

NOEL J. FRANCISCO
Solicitor General
CHAD A. READLER
Acting Assistant Attorney General
MARK R. FREEMAN
ANDREW ROHRBACH
Attorneys

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