Nos. 2020-1289, 2020-1290

United States Court of Appeals for the Federal Circuit

THE CHEMOURS COMPANY FC, LLC,
Appellant,

v.

DAIKIN INDUSTRIES, LTD., DAIKIN AMERICA, INC.,
Appellees,

ANDREW HIRSHFELD, PERFORMING THE FUNCTIONS AND DUTIES OF THE UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE,
Intervenor.

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Nos. IPR2018-00992 and IPR2018-00993

APPELLEES' COMBINED PETITION FOR PANEL REHEARING AND REHEARING EN BANC

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CERTIFICATE OF INTEREST

Case Nos. 2020-1289, -1290

The Chemours Company FC, LLC v. Daikin Industries, Ltd. and Daikin America, Inc.

Filing Party/Entity: Daikin Industries, Ltd. and Daikin America, Inc.

I certify the following information and any attached sheets are accurate and complete to the best of my knowledge.

Date: September 3, 2021 Signature: */s/ Gregory A. Castanias*

Name: Gregory A. Castanias

1. Represented Entities (Fed. Cir. R. 47.4(a)(1)) – Provide the full names of all entities represented by undersigned counsel in this case.

Daikin Industries, Ltd. and Daikin America, Inc.

2. Real Party in Interest (Fed. Cir. R. 47.4(a)(2)) – Provide the full names of all real parties in interest for the entities. Do not list the real parties if they are the same as the entities.

None

3. Parent Corporations and Stockholders (Fed. Cir. R. 47.4(a)(3)) – Provide the full names of all parent corporations for the entities and all publicly held companies that own 10% or more stock in the entities.

Daikin Industries, Ltd.: None

Daikin America, Inc.: Daikin Industries, Ltd.

4. Legal Representatives – List all law firms, partners and associates that (a) appeared for the entities in the originating court or agency or (b) are expected to appear in this Court for the entities. Do not include those who have already entered an appearance in this court. Fed. Cir. R. 47.4(a)(4).

Jones Day: Michael S. Weinstein; Christian C. Damon; Nathanael D. Andrews

5. Related Cases – Provide the case titles and numbers of any case known to be pending in this court or any other court or agency that will directly affect or be directly affected by this court's decision in the pending appeal. Do not include the originating case number(s) for this case. Fed. Cir. R. 47.4(a)(5). See also Fed. Cir. R. 47.5(b).

Chemours Company FC, LLC v. Daikin Industries, Ltd. and Daikin America, Inc., No. 1:17-cv-01612-MN (D. Del.)

6. Organizational Victims and Bankruptcy Crimes – Provide any information required under Fed. R. App. P. 26.1(b) (organizational victims in criminal cases) and 26.1(c) (bankruptcy case debtors and trustees). Fed. Cir. R. 47.4(a)(6).

Not Applicable

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STATEMENT OF COUNSEL

Based on my professional judgment, I believe the panel decision conflicts with Supreme Court and this Court's precedent on: (1) this Court's limited review of factual issues in agency decisions, *e.g.*, *Securities and Exchange Commission v. Chenery Corporation*, 318 U.S. 80 (1943), *In re NuVasive, Inc.*, 842 F.3d 1376 (Fed. Cir. 2016), *In re Gartside*, 203 F.3d 1305 (Fed. Cir. 2000); (2) the strict standard for finding a teaching away from claim limitations, *e.g.*, *Meiresonne v. Google, Inc.*, 849 F.3d 1379 (Fed. Cir. 2017), *Bayer Pharma AG v. Watson Laboratories, Inc.*, 874 F.3d 1316 (Fed. Cir. 2017), *In re Mouttet*, 686 F.3d 1322 (Fed. Cir. 2012); and (3) secondary considerations, *e.g.*, *Novartis AG v. Torrent Pharmaceuticals Limited*, 853 F.3d 1316 (Fed. Cir. 2017), *Ethicon Endo-Surgery, Inc. v. Covidien LP*, 812 F.3d 1023 (Fed. Cir. 2016).

Based on my professional judgment, I believe this appeal requires an answer to a precedent-setting question of exceptional importance: Whether this Court has authority to review and reverse an agency's determination on a factual ground, here, "teaching away," that was explicitly disclaimed by the party bearing the burden of proof, never ruled upon by the agency, and contradicted by record evidence.

/s/ Gregory A. Castanias, Counsel for Appellees

INTRODUCTION

In this *Inter Partes* Review case, the Board held that all challenged claims in two patents were obvious. A 2-1 panel decision from this Court reversed on the ground that the central prior-art reference, Kaulbach, "teaches away" from the challenged claims. *Chemours Co. FC, LLC v. Daikin Indus*., 4 F.4th 1370, 1376-77 (Fed. Cir. 2021). Judge Dyk dissented. *Id.* at 1379-81.

Yet the Board never considered or made any findings on this supposed "teaching away" in the first instance. This is because the Patent Owner (Chemours) steadfastly denied presenting such an argument to the agency: It told the Board that "whether Kaulbach ***teaches away*** from the claimed [melt-flow-rate] range [is not] relevant." Appx2836. No record evidence exists on this intensely factual issue, nor did the Board decide this issue, for which Chemours bore the burden of proof. *Meiresonne*, 849 F.3d at 1382-84. In fact, the record shows no teaching-away.

The majority's reclamation of an expressly unpresented teaching-away theory violates the rules of administrative procedure and this Court's precedents. It should be reviewed en banc, and the Board's judgment affirmed. *First*, the majority had no power to review and reverse an agency determination on a fact question disavowed by the party holding the burden of proof, and thus neither developed in the agency record nor ruled upon by the agency. Longstanding

Supreme Court law holds that a court cannot substitute its judgment for an agency's on factual matters. *Securities and Exchange Commission v. Chenery Corp.*, 318 U.S. 80, 88 (1943). The majority's departure from basic administrative procedure becomes all the more alarming when considering that Chemours *denied* that it was arguing teaching-away before the agency. *NuVasive,* 842 F.3d at 1380 (patent owner, by disclaiming reliance on public-accessibility-of-prior-art arguments before the agency, but then raising issue on appeal, "deprives the court of 'the benefit of the PTAB's informed judgment,'" making judicial review improper) (quoting *In re Watts*, 354 F.3d 1362, 1368 (Fed. Cir. 2004)).

Second, beyond procedural missteps, the majority's teaching-away finding arrogated factfinding authority to the appellate court, against this Court's decisions stressing the fact-intensive nature of the teaching-away inquiry.

Third, even the majority's appellate factfinding contravenes this Court's precedents. "Teaching away" requires a "clear discouragement," not just a preference against, implementing a feature. *In re Ethicon, Inc*., 844 F.3d 1344, 1351 (Fed. Cir. 2017). The majority relied on Kaulbach's discussion of molecular-weight-distribution—which is not a limitation of the challenged claims—and determined, based on its own, unsupported analysis, that Kaulbach taught away.

Fourth, the majority incorrectly accused the Board of combining prior art to find no nexus between the challenged claims and alleged commercial success. The

Board found that Kaulbach by itself, not in combination with another reference, disclosed all three challenged claim features, including a melt-flow-rate range that "encompasses the claimed range." Appx56.

The majority violated basic rules of administrative law and appellate review, and this Court's precedents. This Court, panel or en banc, should review and reverse this aberrant precedent before it creates further mischief. At minimum, any perceived problems with the Board's analysis of fact-intensive issues like teaching away and nexus should be remanded to the Board for agency consideration in the first instance.

BACKGROUND

Daikin's petitions. In April 2018, Daikin filed two IPR petitions challenging all claims of U.S. Patent Nos. 7,122,609 and 8,076,431 as anticipated or obvious. Appx136-212; Appx3318-3391. The challenged claims recite fluorinated ethylene-propylene copolymers (known as "FEP copolymers") having three features: [1] a melt-flow-rate in the range of about 30±3 g/10 min; [2] low alkali metals; and [3] few unstable endgroups. Appx218; Appx3397.

Kaulbach. Daikin relied on U.S. Patent No. 6,541,588 to Kaulbach et al. to argue that all challenged claims are obvious. Appx159-160; Appx3339-3340. Kaulbach discloses FEP copolymers having the three key features, including a melt-flow-rate range of greater than 15 g/10 min, *e.g.*, Kaulbach's preferred

embodiment, Sample A11 (24 g/10 min). Appx195-205; Appx3374-3383. Thus, "the claimed range of 30±3 g/10 min falls within Kaulbach's express range" of greater than 15 g/10 min. Appx198; Appx3378. Knowing that, an ordinary artisan would have found it obvious to increase Sample A11's melt-flow-rate slightly from 24 g/10 min to 27 g/10 min (the claimed range's low end), because "the higher the [melt-flow-rate] of the FEP-copolymer, the higher the speeds at which the copolymer can be processed." Appx199; Appx3378. Nothing about 30±3 g/10 min was inventive–record evidence supported "30 g/10 min or more," the center of the claimed range, for improved extrusion performance. Appx199; Appx3378-3379.

Chemours' response to Kaulbach. After disclaiming most of the '431 patent claims, Chemours disputed Kaulbach's disclosure of element [1], the claimed melt-flow-rate range. Appx1117-1130. Importantly, in disputing that range, Chemours said: "Nor is whether Kaulbach ***teaches away*** from the claimed range relevant." Appx2836. Despite Kaulbach's encompassing range and close preferred embodiment, and notwithstanding Chemours' burden to prove teaching away, Chemours never argued (and thus offered no evidence) that Kaulbach taught away from the claimed melt-flow-rate range of 30±3 g/10 min. *Id.*

Instead, Chemours emphasized that Kaulbach's *preference* for an *unclaimed* feature (narrow molecular-weight-distribution) might impact motivation to

increase the melt-flow-rate of Kaulbach's example from 24 to 27 g/10 min. Appx1125-1130. Chemours argued that *some* (but not all) known methods for increasing melt-flow-rate also broaden molecular-weight-distribution. Appx1118-1120; *id.* at Appx1119 ("these methods *often* resulted in broadening the molecular weight distribution") (emphasis added). But Chemours did not argue that this was anything more than a preference; it never claimed that Kaulbach "taught away" from increasing melt-flow-rate.

Nor could Chemours credibly have done so. Molecular-weight-distribution is independent of melt-flow-rate, which depends on *average* molecular weight, not *distribution*. Appx2157. The challenged claims are silent on molecular-weight-distribution; rather, they feature a melt-flow-rate range.

Besides, *nothing* suggests that increasing Sample A11's melt-flow-rate from 24 to 27 g/10 min would necessarily undermine Kaulbach's preference (again, not a requirement) for molecular-weight-distribution below 2. Chemours never argued or showed otherwise. For good reason: As Chemours' own expert testified, a POSA would have known how to increase melt-flow-rate while *narrowing* molecular-weight-distribution. Appx2276, 103:16-22; Appx2281, 108:4-8; *see also* Appx2280, 107:21-25.

What's more, the Board pressed Chemours' counsel at the hearing on this exact point, and she *admitted* that increasing melt-flow rate would not necessarily broaden molecular-weight-distribution:

> JUDGE KALAN: So are you going so far as to say that anything you would do to increase an MFR would also increase molecular weight distribution?
>
> MS. WHELAN: What I'm saying is that the standard methods of -- we say that a person of ordinary skill would know how to do it, the standard methods all involve increasing the molecular weight distribution. Would it be possible to raise Kaulbach's MFR using these techniques and maybe it wouldn't broaden it too much? *We just don't know.*

IPR2018-00992, -00993, Oral Hearing Tr. at 55:6-14 (Aug. 7, 2019) (emphasis added).

The Board's determinations. The Board found that Kaulbach disclosed all three claim elements. Appx43-45; Appx52; Appx56. The Board also found that it would have been obvious to increase Sample A11's melt-flow-rate from 24 to 27 g/10 min, based on Kaulbach and other record evidence. Appx43-46.

The Board rejected Chemours' molecular-weight-distribution theory as unpersuasive: "[E]ven though Kaulbach generically touts that 'high processing rates can be achieved' '[d]espite a narrow molecular weight distribution,' this purported discovery would not have prevented the skilled artisan . . . from considering other techniques—such as broadening the polymer's molecular weight

distribution—to achieve higher coating speeds." Appx51 (internal citation omitted). Kaulbach's loosely-defined preference for "narrow" distribution was not inconsistent with increasing melt-flow-rate from 24 to 27 g/10 min. Appx48-51. Sample A11, for example, was near the lower end of Kaulbach's preferred distribution range, and nothing suggests that a POSA could not increase its melt-flow-rate from 24 to 27 g/10 min while still accommodating Kaulbach's preferred molecular-weight-distribution range. Appx49.

The Board never reached "teaching away" because Chemours expressly disclaimed that factual issue. Daikin showed that Kaulbach does not teach away, Appx2115, and noted that "Chemours does not challenge the Board's analysis of Kaulbach" from its Institution Decision. Appx2116. Chemours responded by clearly disclaiming teaching-away: "Nor is whether Kaulbach ***teaches away*** from the claimed range relevant." Appx2836. In fact, the first time that Chemours *ever* raised the fact-intensive issue of "teaching away" was long after the agency's work was done, on page 27 of its appeal brief. CBr. 27.

The Board also found that no nexus linked the challenged claims to the alleged secondary considerations. Appx56. The allegedly patented products embodied three features fully disclosed in Kaulbach, including a melt-flow-rate range fully encompassing the claimed range. Appx56.

Appeal. The central issue on appeal was whether and how Kaulbach discloses, teaches, and suggests the claimed melt-flow-rate range. Chemours did an about-face on teaching away (notwithstanding its burden below), telling this Court that Kaulbach taught away because "all known methods" of increasing melt-flow-rate "would broaden Kaulbach's molecular weight distribution." CBr. 15; *id.* at 7-8, 10-12, 15, 20, 22 & n.5, 23-24 & n.6, 25, 27 (representing that "the known methods," "all known methods," or "the only methods" for increasing melt-flow-rate necessarily broaden molecular-weight-distribution); *see also* CRBr. at 8-9, 11, 12 (representing that "all known methods" of increasing melt-flow-rate necessarily broaden molecular-weight-distribution).

The majority embraced Chemours' new theory and reversed the Board's determination that Kaulbach rendered the challenged claims obvious by making a new, unsupported factual finding that "Kaulbach . . . teaches away from the claimed invention . . . ." *Chemours*, 4 F.4th at 1376. The majority faulted the Board for failing to "adequately grapple with why a skilled artisan would find it obvious to increase Kaulbach's melt flow rate [in Sample A11] to the claimed range while retaining its critical 'very narrow molecular weight distribution.'" *Id*.

The majority held that increasing Sample A11's melt-flow-rate "would necessarily involve altering the inventive concept of a narrow molecular weight distribution polymer." *Id.* The majority then endorsed Chemours' representation

that "all known methods" for increasing melt-flow-rate will also broaden distribution, *id*. at 1377—a far cry from counsel's "we just don't know" representation at the oral hearing.

The majority accepted the Board's finding "that Kaulbach's melt flow rate range fully encompassed the claimed range." *Id*. at 1375. The majority even acknowledged the motivation to increase Sample A11's melt flow rate, *i.e.*, "in order to achieve higher processing speeds, because the evidence of record teaches that achieving such speeds may be possible by increasing a polymer's melt flow rate." *Id*. at 1375. Yet, the majority identified no evidence that increasing Sample A11's melt-flow-rate from 24 to 27 g/10 min would broaden molecular-weight-distribution from 1.6 to beyond Kaulbach's preferred range (below 2). The majority also overlooked record evidence that known methods for increasing melt-flow-rate *did not* broaden distribution, but rather narrowed it. *Id*. at 1376-77.

The majority then turned to the Board's analysis of secondary considerations, noting the finding of no nexus "because Kaulbach disclosed all features except for the claimed melt flow rate." *Id*. at 1378. The majority criticized the Board for relying on "the separate disclosure of individual limitations" in different prior-art. *Id*.

The Board did no such thing. The majority did not grapple with the ensuing sentence in the Board's final written decisions, finding that Kaulbach's melt-flow-

rate range "*encompasses the claimed range*." Appx56 (emphasis added). Indeed, the majority even accepted the finding that "Kaulbach's melt flow rate range fully encompassed the claimed range . . . ." *Chemours*, 4 F.4th at 1375. The record confirms that Kaulbach disclosed all three claim elements, including the claimed melt-flow-rate range.

Based on its appellate factfinding that Kaulbach taught away and its erroneous belief that the Board combined disclosures in analyzing secondary considerations, the majority reversed. *Id*. at 1379. Judge Dyk dissented; he would have rejected Chemours' belated teaching-away argument on its merits. *Id.* at 1380.

ARGUMENT

I. Rehearing is warranted because the majority fundamentally departed from basic administrative law and appellate procedure, creating precedent that endorses free-ranging judicial reconsideration of agency factual determinations, in violation of the separation-of-powers doctrine. The agency here did not acknowledge or address the factual issue of teaching away because Chemours disclaimed that argument, and the agency accordingly issued no ruling on that factual issue. That, alone, runs afoul of fundamental principles of judicial review of agency adjudication.

II. Rehearing is also warranted because the majority's decision to reverse the agency's judgment on a factual issue neither presented to nor decided by the agency runs afoul of this Court's precedents that teaching away is a fact-intensive inquiry on which the patentee bears the burden of proof. The majority misapplied this Court's teaching-away precedents to boot: Merely identifying one feature as preferred, while acknowledging advantages of other, less-preferred features, falls far short of the "clear discouragement" required to find teaching away.

III. Rehearing is further warranted because the majority incorrectly accused the Board of combining prior art to find no nexus between the challenged claims and commercial success. The Board found that Kaulbach disclosed all three challenged claim elements, single-handedly destroying any nexus.

I. THE PANEL OPINION IMPROPERLY UPENDED THE RELATIONSHIP BETWEEN EXECUTIVE BRANCH FACTFINDER AND JUDICIAL BRANCH REVIEW ON QUESTIONS OF FACT

"[W]hether a reference teaches away from a claimed invention [is a] question[] of fact." *Meiresonne*, 849 F.3d at 1382. It "is not a question that [this Court] review[s] de novo." *Id.* at 1384. Under the APA, 5 U.S.C. § 706(2)(E), "the 'substantial evidence' standard asks whether a reasonable fact finder could have arrived at the agency's decision." *Gartside*, 203 F.3d at 1312 (citing *Consol. Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938)).

Despite these commands, despite Chemours' *disclaiming* such an argument before the agency (on which it would have borne the burden of establishing it), and despite the agency's understandable failure to receive evidence on or adjudicate this factual claim, the majority nonetheless reversed the Board's judgment on just this never-before-presented ground. This precedential ruling goes against the narrowly circumscribed judicial review allowed by Congress under the APA, and will create great mischief in future cases unless reviewed en banc.

1. As *Gartside* phrases the question, could "a reasonable fact finder . . . have arrived at the agency's decision"? *Id*. The answer to that question should have been a simple and straightforward "yes," because the agency's obviousness analysis was supported by copious record evidence, and the factual ground on which the majority reversed—"teaching away"—was not only never presented to or decided by the agency; it was affirmatively disclaimed by Chemours.

By ruling otherwise, the majority jumped the guardrails that the APA and basic administrative-law principles place on judicial review of executive action. The agency decided that the challenged claims should be cancelled based on the record made and the arguments submitted to it. Court review, under 5 U.S.C. § 706, should have been limited to determining the legal correctness of the agency decision on its terms, not, as the majority did, by reversing the judgment on a

factual issue that had been explicitly forfeited and surrendered by the party having the burden of establishing its presence.

In this respect, the majority's decision is irreconcilable with this Court's decision in *NuVasive*. There, the patent owner (NuVasive) told the Board it was not contesting the public accessibility of prior-art references (which, like teaching away, "is a question of fact," *In re NTP, Inc.*, 654 F.3d 1279, 1296 (Fed. Cir. 2011)). *NuVasive*, 842 F.3d at 1380-81. So, also like here, the agency never reached the abandoned factual issue. When NuVasive (like Chemours here) tried to press the issue on appeal, this Court held that it could not review the issue because waiver deprived the Court of "the benefit of the PTAB's informed judgment" on the public-accessibility issue, and there was therefore no agency action for this Court to review. *Id.* at 1381 (quoting *Watts*, 354 F.3d at 1368). *NuVasive* directly conflicts with the majority decision here.

2. Even aside from administrative-law principles, the majority decision conflicts with this Court's teaching-away decisions, including *Meiresonne*, by engaging in appellate factfinding, and giving no deference to the Board's factual finding that a POSA could have increased Sample A11's melt-flow-rate from 24 to 27 g/10 min while honoring Kaulbach's preference for a molecular-weight-distribution below 2. Appx48-49. As the dissent noted:

> There is no support whatever for the theory that increasing the melt flow rate from 24 g/10 min

> (Kaulbach) to 27 g/10 min (the '609 patent) (a 12.5% increase) would create more than a 0.4 increase (25%) in the molecular weight distribution and thus be contrary to Kaulbach's supposed teaching to stay within the "very narrow" molecular weight distribution.

Chemours, 4 F.4th at 1380. As the dissent observed, "[t]he majority's contrary conclusion constitutes nothing less than appellate factfinding, factfinding that has no record support." *Id*.

Moreover, the majority never addressed record facts contradicting its appellate factfinding. *See Donner Tech., LLC v. Pro Stage Gear, LLC*, 979 F.3d 1353, 1359-60 (Fed. Cir. 2020) (Board must consider "all relevant arguments and evidence"). Record evidence contradicts the majority's finding that "all known methods" of increasing melt-flow-rate also broaden molecular-weight-distribution. *Chemours*, 4 F.4th at 1377. As Chemours' own expert testified:

> Q. So depending on how you add the initiator into the reaction [to increase melt-flow-rate], you could broaden the molecular-weight distribution of the polymer or narrow the molecular-weight distribution of the polymer; right?
>
> A. That will be the result, yes, depending on how you add it.

Appx2276, 103:16-22; *see also* Appx2280, 107:21-25. Chemours concedes that "one could create a narrower molecular weight distribution" this way. CBr. 23. And Chemours' counsel said "[w]e just don't know" when the Board asked whether Chemours' position was that "all known methods" of increasing melt-flow

rate also broadened molecular-weight-distribution. IPR2018-00992, -00993, Oral Hearing Tr. at 55:6-14 (Aug. 7, 2019).

Substantial evidence supports the Board's finding that a POSA could have increased the melt-flow-rate of Sample A11 from 24 to 27 g/10 min while maintaining molecular-weight-distribution within Kaulbach's preferred range. Appx48-49. No evidence contradicts that finding. And no evidence supports the majority's appellate factfinding. These factors should have compelled affirmance under *Gartside*.

3. As the dissent noted, by making factual findings on court review of agency adjudication, the majority also distorted the teaching-away doctrine such that it encompasses a reference's mere preference for one alternative. *Chemours*, 4 F.4th at 1380. It is undisputed that *nothing* in Kaulbach teaches away from the claimed melt-flow-rate range of 30±3 g/10 min. Appx2835-36. The majority even accepted the Board's finding "that Kaulbach's melt flow rate range fully encompassed the claimed range." *Chemours*, 4 F.4th at 1375. The only question with Kaulbach, therefore, was whether a POSA would have been motivated to select a higher melt-flow-rate within Kaulbach's encompassing range.

The Board found, based on ample factual evidence below, that it would have been obvious to do that, and that it could be done while staying within Kaulbach's preferred molecular-weight-distribution range. Appx48-49. Even so, the Board

went further, and made the factual finding that Kaulbach's preferred range was just that—a preference, not a strict requirement. Appx49-51. Thus, the Board thoroughly considered Chemours' arguments about the unclaimed distribution range, and rejected them as factually unsupported. The majority erred by showing no deference to the Board's factual determinations. *Meiresonne*, 849 F.3d at 1382 ("What the prior art teaches . . . [is a] question[] of fact.").

The Board also found that Kaulbach itself identifies the advantages of less-preferred, broad molecular-weight-distributions. For example, broad distributions offer high strength. Appx49-50. Narrow distributions can create problems. Appx50-51. Therefore, the Board found a POSA would not have been discouraged from exceeding Kaulbach's preferred range. Appx51. Nothing in Kaulbach says how melt-flow-rate relates to molecular-weight-distribution. As the dissent noted, Kaulbach's preferred range does not teach away from the use of broad distributions. *Chemours*, 4 F.4th at 1380. The majority, however, reframed Sample A11's features as fixed requirements, not preferred potential parameters as Kaulbach characterizes them. *Id*. at 1376.

The majority was not free to substitute its own re-reading of Kaulbach for the Board's. *Meiresonne*, 849 F.3d at 1382 ("[W]hether a reference teaches away from the claimed invention [is a] question[] of fact."). This Court sets an exacting standard for teaching-away that Kaulbach plainly does not meet with respect to the

claimed melt-flow-rate range of 30±3 g/10 min. *Novartis*, 853 F.3d at 1327-28 (affirming Board's rejection of undeveloped, vague teaching-away arguments about negatives listed in prior art); *Gen. Elec. Co. v. Raytheon Techs. Corp.*, 983 F.3d 1334, 1345-46 (Fed. Cir. 2020) (reversing Board's determination that prior art "criticizes, discredits, or otherwise discourages" use of feature that was merely less-preferred); *see also Ethicon,* 844 F.3d at 1351 (teaching-away requires "clear discouragement" from implementing a technical feature).

As the PTAB held and the dissent noted, Kaulbach teaches that broad molecular-weight-distribution is still suitable, because nothing in Kaulbach requires "narrow" distribution. *Chemours*, 4 F.4th at 1380. Kaulbach expressly teaches that broad distributions have advantages like high processing rates and improved extrudability. Appx347 at 1:57-59, 3:60-65. Mere preferences do not teach away from other suitable alternatives. *Chemours*, 4 F.4th at 1380 (quoting *Bayer*, 874 F.3d at 1327); *Mouttet*, 686 F.3d at 1334; *In re Haase*, 542 F. App'x 962, 969 (Fed. Cir. 2013). This rule is particularly important for prior art, like Kaulbach, that expressly identifies the advantages of using suitable but less-preferred modes, like Kaulbach's teachings about high processing rates, improved extrudability, etc., achievable at broader distributions. *See, e.g.*, *Gen. Elec.*, 983 F.3d at 1351 (prior-art reference with "strong preference" for one-stage engine would not have discouraged POSA from implementing two-stage engine "because

of the known advantages provided by a two-stage design"); *PAR Pharm., Inc. v. TWi Pharm., Inc.*, 773 F.3d 1186, 1197-98 (Fed. Cir. 2014) ("Our precedent, however, does not require that the motivation be the *best* option, only that it be a *suitable* option from which the prior art did not teach away.").

II. THE PANEL OPINION CONFLICTS WITH PRECEDENT ON SECONDARY CONSIDERATIONS

The majority accused the Board of combining prior art to show that the three features supposedly driving commercial success were known. *Chemours*, 4 F.4th at 1377-78. That is untrue. The Board found that Kaulbach, alone, disclosed all three challenged claim features, including a fully-encompassing melt-flow-rate range: "Kaulbach discloses melt flow rates of greater than or equal to 15 g/10 min being used for high speed wire extrusion, which *encompasses the claimed range*." Appx56 (emphasis added). The majority even accepted this factual finding, *Chemours*, 4 F.4th at 1375, but paradoxically disregarded its impact on secondary considerations. *Id*. at 1377-78.

The majority cited no evidence that the claimed melt-flow-rate range of 30±3 g/10 min—fully encompassed within Kaulbach's range—drove commercial success. Absent such evidence, no nexus exists. *Novartis*, 853 F.3d at 1331 (affirming obviousness where evidence showed that three prior art references disclosed solid oral compositions for treating multiple sclerosis); *Ethicon*, 812 F.3d at 1034-35 (affirming obviousness where patentee failed to demonstrate that

alleged combination of known features was inventive aspect of challenged patent). The Board's factual finding of no nexus deserves substantial deference and it should be affirmed. *In re Affinity Labs of Tex., LLC*, 856 F.3d 883, 901 (Fed. Cir. 2017) (quoting *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1574 (Fed. Cir. 1996)). Alternatively, the case should be remanded for redetermination of obviousness in light of the secondary factors, as the dissent suggested. *Chemours*, 4 F.4th at 1380.

CONCLUSION

The Court should grant rehearing, or rehearing en banc, and affirm the agency's decision. Alternatively, the Court should remand to the Board for fact-finding on teaching away and secondary considerations.

Dated: September 3, 2021

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE

I hereby certify that this brief complies with the type-volume limitation of Fed. R. App. P. 32(a)(7)(B) and 32(g)(1) and Circuit Rule 32(b). Exclusive of the exempted portions of the brief, as provided in Fed. R. App. P. 32(f) and Circuit Rule 32(b), the brief contains 3,899 words, including all footnotes, as determined by Microsoft Word.

Dated: September 3, 2021

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ADDENDUM

United States Court of Appeals for the Federal Circuit

CHEMOURS COMPANY FC, LLC,
Appellant

v.

DAIKIN INDUSTRIES, LTD., DAIKIN AMERICA, INC.,
Appellees

ANDREW HIRSHFELD, PERFORMING THE FUNCTIONS AND DUTIES OF THE UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE,
Intervenor

2020-1289, 2020-1290

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Nos. IPR2018-00992, IPR2018-00993.

Decided: July 22, 2021

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MONICA BARNES LATEEF, Office of the Solicitor, United States Patent and Trademark Office, Alexandria, VA, for intervenor. Also represented by THOMAS W. KRAUSE, MAUREEN DONOVAN QUELER, FARHEENA YASMEEN RASHEED.

Before NEWMAN, DYK, and REYNA, *Circuit Judges*.

Opinion for the court filed by *Circuit Judge* REYNA.

Opinion concurring in part and dissenting in part filed by *Circuit Judge* DYK.

REYNA, *Circuit Judge*.

Chemours Company FC, LLC, appeals the final written decisions of the Patent Trial and Appeal Board from two inter partes reviews brought by Daikan Industries, Ltd., et al. Chemours argues on appeal that the Board erred in its obviousness factual findings and did not provide adequate support for its analysis of objective indicia of nonobviousness. Chemours also argues that the Board issued its decision in violation of the Appointments Clause because the Board's decision came after this court's decision in *Arthrex, Inc. v. Smith & Nephew, Inc.*, 941 F.3d 1320, 1335 (Fed. Cir. 2019), but before this court issued its mandate. Chemours argues that the Board's decision should be

vacated and remanded.[1] We decline to vacate and remand this case pursuant to *Arthrex*. We conclude that the Board's decision on obviousness is not supported by substantial evidence and that the Board erred in its analysis of objective indicia of nonobviousness. Accordingly, we reverse.

BACKGROUND

This consolidated appeal arises from two final written decisions in inter partes reviews, *Daikin Industries Ltd. v. Chemours Co. FC, LLC*, No. IPR2018-00992 (P.T.A.B. Nov. 12, 2019), and *Daikin Industries Ltd. v. Chemours Co. FC, LLC*, No. IPR2018-00993 (P.T.A.B. Nov. 12, 2019). J.A. 1–129. Daikin Industries Ltd. and Daikin America, Inc. (collectively, "Daikin") filed a petition at the Patent Trial and Appeal Board ("Board") requesting an inter partes review of claims 1–7 of U.S. Patent No. 7,122,609 (the "'609 patent"). IPR2018-00992, J.A. 1–67. Daikin also filed a petition requesting an inter partes review of claims 3 and 4 of U.S. Patent No. 8,076,431[2] (the "'431 patent"). IPR 2018-00993, J.A. 68–129.

The '609 patent relates to a unique polymer for insulating communication cables formed by pulling wires through melted polymer to coat and insulate the wires, a process known as "extrusion."[3] '609 patent col. 3 ll. 50–63.

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[1] Following the Supreme Court's decision in *United States v. Arthrex, Inc.*, 141 S. Ct. 1970 (2021), Chemours withdrew its request to vacate and remand to the Board. ECF No. 66.

[2] The asserted claims include claims 3 and 4 because claims 1, 2, and 5–7 of the '431 patent were disclaimed. J.A. 3716.

[3] The specifications for both patents are nearly identical as are the issues on appeal for both patents. *See*

Specifically, Chemours's patents relate to a polymer with unique properties such that it can be formed at high extrusion speeds while still producing a high-quality coating on the communication cables. *Id.* Most relevant to the issues in this appeal, the claims provide that the polymer has a specific melt flow rate range, i.e., "a high melt flow rate of about 30±3 g/10 min," which is the rate at which melted polymer flows under pressure. '609 patent col. 10 ll. 19–20. The melt flow rate of a polymer is an indicator of how fast the melted polymer can flow under pressure, i.e., during extrusion. Appellant's Br. 3. The higher the melt flow rate, the faster the polymer can be coated onto a wire. J.A. 1150–1151 at ¶ 32. Claim 1 of the '609 patent is representative of the issues on appeal:

> 1. A partially-crystalline copolymer comprising tetrafluoroethylene, hexafluoropropylene in an amount corresponding to a hexafluoropropylene index (HFPI) of from about 2.8 to 5.3, said copolymer being polymerized and isolated in the absence of added alkali metal salt, having a melt flow rate of within the range of about 30±3 g/10 min, and having no more than about 50 unstable endgroups/10^6 carbon atoms.

'609 patent col. 10 ll. 15–21.

The Board found all challenged claims of the '609 patent and the '431 patent to be unpatentable as obvious in view of U.S. Patent No. 6,541,588 ("Kaulbach"). J.A. 66, 345–51.

Chemours appeals. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

Appellant's Br. 2 n.1. When referencing both patents, this opinion will cite to the '609 patent and IPR2018-00992, J.A. 1-67.

STANDARD OF REVIEW

This court reviews the Board's legal determinations de novo and its factual determinations for substantial evidence. *See In re NuVasive, Inc.*, 842 F.3d 1376, 1379 (Fed. Cir. 2016). Substantial evidence requires more than a "mere scintilla" and must be enough such that a reasonable mind could accept the evidence as adequate to support the conclusion. *Consol. Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938).

Obviousness is a question of law based on underlying findings of fact. *See In re NuVasive, Inc.*, 842 F.3d at 1381. "What the prior art teaches, whether a person of ordinary skill in the art would have been motivated to combine references, and whether a reference teaches away from the claimed invention are questions of fact." *Meiresonne v. Google, Inc.*, 849 F.3d 1379, 1382 (Fed. Cir. 2017) (quoting *Apple Inc. v. Samsung Elecs. Co.*, 839 F.3d 1034, 1047–48 (Fed. Cir. 2016) (en banc)).

In making its factual findings, the Board must have both an adequate evidentiary basis for its findings and articulate a satisfactory explanation for those findings. *NuVasive*, 842 F.3d at 1382 (citing *In re Lee*, 277 F.3d 1338, 1344 (Fed. Cir. 2002) and S*ynopsys, Inc. v. Mentor Graphics Corp.*, 814 F.3d 1309, 1322 (Fed. Cir. 2016)). We review for substantial evidence the underlying factual findings leading to an obviousness conclusion. *Wasica Fin. GmbH v. Cont'l Auto. Sys., Inc.*, 853 F.3d 1272, 1278 (Fed. Cir. 2017).

DISCUSSION

We first address Chemours's argument concerning this court's decision in *Arthrex, Inc. v. Smith & Nephew, Inc.*, 941 F.3d 1320, 1335 (Fed. Cir. 2019).

I

Chemours argues that the Board's decision was issued in violation of the Appointments Clause because the Board issued its final written decisions in both inter partes reviews on November 12, 2019, which was after this court's decision in *Arthrex*, but before the mandate was issued. Specifically, Chemours contends remand is required in this instance because the *Arthrex* decision was not final until its mandate issued, so the court had not cured the constitutional defect by the time the final written decisions were issued. Appellant's Br. 42.

Because Chemours has withdrawn its request based on *Arthrex* to vacate and remand to the Board, we decline to vacate the Board's decision and remand to the Board.

II

Chemours argues that the Board's final written decision on obviousness is erroneous because its factual findings on motivation to combine are unsupported by substantial evidence. Appellant's Br. 19. Specifically, Chemours argues that Daikin did not meet its burden of proof because it failed to show that a person of ordinary skill in the art ("POSA") would modify Kaulbach's polymer to achieve the claimed invention. *Id.* at 25–31.

The Kaulbach reference teaches a polymer for wire and cable coatings that can be processed at higher speeds and at higher temperatures. Kaulbach col. 3 ll. 3–5. Kaulbach highlights that the polymer of the invention has a "very narrow molecular weight distribution." *Id.* at col. 3 ll. 34–35, 59–65. Kaulbach discovered that prior beliefs that polymers in high-speed extrusion application needed broad molecular weight distributions were incorrect because "a

narrow molecular weight distribution performs better."[4] *Id.* at col. 3 ll. 61–65; *see also* col. 1 ll. 57–59. In order to achieve a narrower range, Kaulbach reduced the concentration of heavy metals such as iron, nickel and chromium in the polymer. *Id.* at col. 3 ll. 24–33.

In the description of the invention, Kaulbach suggests that polymers used in "high speed wire extrusion" have melt flow rates of 15 g/10 min or greater. *Id.* at col. 3 ll. 43–44. In the Kaulbach example relied on by the Board, Sample A11, Kaulbach's melt flow rate is 24 g/10 min, while the claimed rate is 30±3 g/10 min. *Id.* at col.9 ll. 3–15.[5] Kaulbach further touts as a benefit that the melt flow rate does not change during processing. *Id.* at col. 3 ll. 49–50, col. 4 ll. 1–2, col. 4 ll. 7–11.

The Board found that Kaulbach's melt flow rate range fully encompassed the claimed range, and that a skilled artisan would have been motivated to increase the melt flow rate of Kaulbach's preferred embodiment to within the claimed range in order to coat wires faster. J.A. 45–46. In making its findings, the Board relied on the teachings of other evidence. J.A. 42–46. Specifically, the Board found the following:

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[4] Molecular weight distribution reflects the range of molecular weights (or chain lengths) in a given polymer. J.A. 1145 at ¶ 20. A polymer with a narrower molecular weight distribution has more polymer chains that are of similar lengths, while a broad molecular weight distribution fluorinated ethylene propylene ("FEP") has more variation in polymer chain lengths. *Id.*

[5] Kaulbach refers to a "melt flow index" or "MFI" value. Kaulbach col.1 ll. 40–41, col. 3 ll. 43–44. Chemours acknowledges that "melt flow index" and "melt flow rate" may be used interchangeably.

> In view of Kaulbach's disclosure that [melt flow rate] values of ≥15 g/10 min are suitable for high[-] speed wire extrusion, and record evidence establishing that higher coating speeds of 2800 or 3000 ft/min are possible, we are persuaded that the skilled artisan would have been motivated to improve upon the wire coating speeds observed with Kaulbach's Sample A11. We also are persuaded that the skilled artisan would have been motivated to increase the [melt flow rate] of Kaulbach's Sample A11 to be within the recited range in order to achieve higher processing speeds, because the evidence of record teaches that achieving such speeds may be possible by increasing a [polymer's] [melt flow rate].

J.A. 45–46.

While acknowledging that Kaulbach states that "'a narrow molecular weight distribution performs better' at achieving high processing rates than polymers with 'broad' molecular distributions," J.A. 50–51, the Board also found that "it is not clear on this fully developed record why the skilled artisan would have been motivated to maintain such a narrow molecular weight distribution when seeking to achieve even higher coating speeds with Kaulbach's Sample A11," J.A. 50. In addition, the Board found that the portions of Kaulbach's disclosure lacked specificity regarding what is deemed "narrow" and "broad," and that it would have been obvious to "broaden" the molecular weight distribution of the claimed polymer:

> [E]ven though Kaulbach generically touts that "high processing rates can be achieved" "[d]espite a narrow molecular weight distribution" ([Kaulbach], 3:59–60), this purported discovery would not have prevented the skilled artisan, at the time of the invention of the '609 patent, from considering other techniques—such as broadening the polymer's

> molecular weight distribution—to achieve higher coating speeds with Sample A11. Based on the evidence presented, we are persuaded that one such technique would have included increasing Sample A11's [melt flow rate] from 24 g/10 min to the recited range of "about 30±3 g/10 min," even if doing so would have required broadening the molecular weight distribution of the polymer beyond the "narrow molecular weight distribution" suggested, but not required or precisely defined, by Kaulbach.

J.A. 51.

The Board's obviousness findings are not supported by substantial evidence. Although the Board may rely on other prior art to inform itself of the state of the art at the time of the invention, the scope of the relevant prior art is that which is "'reasonably pertinent to the particular problem with which the inventor was involved.'" *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1535 (Fed. Cir. 1983) (quoting *In re Wood*, 599 F.2d 1032, 1036 (CCPA 1979)). In deciding whether a reference is from a relevant art, it is key to first determine whether the reference is within the inventor's field of endeavor, and if not, "whether the reference is reasonably pertinent to the particular problem confronting the inventor." *In re GPAC Inc.*, 57 F.3d 1573, 1578 (Fed. Cir. 1995) (citing *Wood*, 599 F.2d at 1036). Here, the Board appears to have ignored the express disclosure in Kaulbach that teaches away from the claimed invention and relied on teachings from other references that were not concerned with the particular problems Kaulbach sought to solve. In other words, the Board did not adequately grapple with why a skilled artisan would find it obvious to increase Kaulbach's melt flow rate to the claimed range while retaining its critical "very narrow molecular-weight distribution." Kaulbach col. 3 ll. 34–35, 59–65.

The reasons that the Board provided are not persuasive. The Board found that because "Kaulbach does not

specifically set forth numerical limits on [what constitutes] 'narrow' and 'broad' molecular weight distributions, it is plausible that the skilled artisan may have been able to slightly increase Sample A11's [melt flow rate] of 24 g/10 min to be within the claimed range, and still end up with a 'narrow' [molecular weight distribution] polymer as suggested by Kaulbach, even if that meant slightly 'broadening' Sample A11's [molecular weight distribution]." J.A. 49. This does not explain why a POSA would be motivated to increase Kaulbach's melt flow rate to the claimed range, when doing so would necessarily involve altering the inventive concept of a narrow molecular weight distribution polymer. *See Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1068 (Fed. Cir. 2016) (finding no motivation to modify the prior art where doing so "would destroy the basic objective" of the prior art).

This is particularly true in light of the fact that the Kaulbach reference appears to teach away from broadening molecular weight distribution and the known methods for increasing melt flow rate. Specifically, Kaulbach includes numerous examples of processing techniques that are typically used to increase melt flow rate, which Kaulbach cautions should *not* be used due to the risk of obtaining a broader molecular weight distribution. Kaulbach col. 4 ll. 47–50. For example, Kaulbach teaches against using chain transfer agents during polymerization, because they "intrinsically broaden the molecular weight distribution." *Id.*; *see also id.* at col. 5 ll. 23–27 (teaching against using high fluorination temperatures, because doing so "can result in a broadening of the molecular weight distribution and negatively effect [sic] performance"). These factors do not demonstrate that a POSA would have had a "reason to attempt" to get within the claimed range, as is required to make such an obviousness finding. *Procter & Gamble Co. v. Teva Pharm. USA, Inc.*, 566 F.3d 989, 995 (Fed. Cir. 2009) (quoting *PharmaStem Therapeutics, Inc. v. ViaCell, Inc.*, 491 F.3d 1342, 1360 (Fed. Cir. 2007)).

Daikin points out that Chemours based its case on an unclaimed feature—molecular weight distribution. However, Kaulbach is the sole prior art relied on by the Board, and Kaulbach identified a narrow molecular weight distribution as a key feature. Therefore, modifying Kaulbach as the Board suggested would not be obvious absent additional evidence supporting that finding. As Chemours persuasively argues, the Board needed competent proof showing a skilled artisan would have been motivated to, and reasonably expected to be able to, increase the melt flow rate of Kaulbach's polymer to the claimed range when all known methods for doing so would go against Kaulbach's invention by broadening molecular weight distribution. Appellant's Br. 12.

We hold that the Board relied on an inadequate evidentiary basis and failed to articulate a satisfactory explanation that is based on substantial evidence for why a POSA would have been motivated to increase Kaulbach's melt flow rate to the claimed range, when doing so would necessarily involve altering the inventive concept of a narrow molecular weight distribution polymer.

III

Before making a determination on the ultimate question of obviousness, the Board analyzed Chemours's objective indicia of nonobviousness. J.A. 52. Chemours argues that the Board legally erred in its analysis of objective indicia of nonobviousness finding an insufficient nexus between the claimed invention and FEP 9494, Chemours's commercial polymer, and its requirement of market share evidence to show commercial success. Appellant's Br. 38. Chemours also argues that the Board misapplied the law on finding that the patents at issue were blocking patents. *Id.* at 39.

In an obviousness inquiry, evidence of objective indicia of nonobviousness must be considered if present. *See Pentec, Inc. v. Graphic Controls Corp.*, 776 F.2d 309, 315 (Fed.

Cir. 1985). Such evidence includes, for example, the commercial success of the patented invention. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

A

Chemours argues that the Board improperly rejected an extensive showing of commercial success by finding no nexus on a limitation-by-limitation basis, rather than the invention as a whole. Appellant's Br. 36. Chemours contends that the novel combination of these properties drove the commercial success of FEP 9494. *Id.* Second, Chemours argues the Board improperly required Chemours to proffer market share data to show commercial success.

In general, evidence supporting objective indicia of nonobviousness must be shown to have a nexus to the claimed invention. *In re GPAC Inc.*, 57 F.3d at 1580. In the obviousness analysis, "the claimed invention is, admittedly, a combination of elements that were known individually in the prior art." *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1332 (Fed. Cir. 2016). Evidence of commercial success, therefore, can be linked to an "inventive combination of known elements" to show a sufficient nexus. *Id.*; *see also Rambus Inc. v. Rea*, 731 F.3d 1248, 1256–58 (Fed. Cir. 2013) (holding that the Board erred when it found objective evidence lacked a nexus where at least some of the evidence related to the "patented design as a whole").

The Board found no nexus between the claimed invention and the alleged commercial success because Kaulbach disclosed all features except for the claimed melt flow rate. J.A. 56. The Board then found that other prior art of record disclosed melt flow rates of 50 g/10 min. *Id.*

Contrary to the Board's decision, the separate disclosure of individual limitations, where the invention is a unique combination of three interdependent properties, does not negate a nexus. Concluding otherwise would

mean that nexus could never exist where the claimed invention is a unique combination of known elements from the prior art. *See WBIP*, 829 F.3d at 1332.

Chemours also contends that the Board erred in its demand that market share evidence is necessary to sustain a finding of commercial success. Appellant's Br. 38. Chemours argues that this court has held that evidence of market share is not required to prove commercial success. Appellant's Br. 38–39. Chemours contends that sales data alone should be enough for commercial success. *Id.* We agree.

"When a patentee can demonstrate commercial success, usually shown by significant sales in a relevant market, and that the successful product is the invention disclosed and claimed in the patent, it is presumed that the commercial success is due to the patented invention." *J.T. Eaton & Co. v. Atl. Paste & Glue Co.*, 106 F.3d 1563, 1571 (Fed. Cir. 1997); *WBIP*, 829 F.3d at 1329. However, market share data, though potentially useful, is not required to show commercial success. *See Tec Air, Inc. v. Denso Mfg. Mich. Inc.*, 192 F.3d 1353, 1360–61 (Fed. Cir. 1999) ("Although sales figures coupled with market data provide stronger evidence of commercial success, sales figures alone are also evidence of commercial success."); *Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F.3d 1573, 1579 (Fed. Cir. 1997) (relying on sales information to show commercial success); *J.T. Eaton*, 106 F.3d at 1566, 1572 (same).

The Board is certainly entitled to weigh evidence and find, if appropriate, that Chemours's gross sales data were insufficient to show commercial success without market share data. The Board, however, erred in its analysis that gross sales figures, absent market share data, "are inadequate to establish commercial success." J.A. 57.

B

Finally, Chemours contends that the Board erred when it found that the asserted patents were "blocking patents," that blocked others from entering the relevant market. Appellant's Br. 39–41.

A blocking patent is an earlier patent that prevents practice of a later invention—the invention of the patent-in-dispute. *See Acorda Therapeutics, Inc. v. Roxane Labs.*, Inc., 903 F.3d 1310, 1337 (Fed. Cir. 2018) ("A patent has been called a 'blocking patent' where practice of a later invention would infringe the earlier patent."); *Galderma Labs., L.P. v. Tolmar, Inc.*, 737 F.3d 731, 740 (Fed. Cir. 2013); *Prima Tek II, LLC v. A-Roo Co.*, 222 F.3d 1372, 1379 (Fed. Cir. 2000).

The Board determined that the existence of the '609 patent covering the FEP 9494 product would have precluded others from freely entering the market. J.A. 57–58 (citing *Galderma Labs.*, 737 F.3d at 740 (concluding that the inference of nonobviousness based on evidence of commercial success is weak where market entry by others is precluded due to blocking patents)). The Board concluded that the evidence proffered to establish commercial success was weak because the '609 patent covering it blocked others from entering the market. J.A. 58.

The Board erred by misapplying the "blocking patents" doctrine to the challenged patents themselves. A blocking patent is one that is in place before the claimed invention because "such a blocking patent may deter non-owners and non-licensees from investing the resources needed to make, develop, and market such a later, 'blocked' invention.'" *Accorda*, 903 F.3d at 1337. However, the challenged patent, which covers the claimed invention at issue, cannot act as a blocking patent. Accordingly, we reverse the Board as to these findings.

CONCLUSION

We decline to vacate and remand this case pursuant to *Arthrex*. We hold that the Board's obviousness determination is not supported by substantial evidence and that the Board erred in its analysis of certain objective indicia of nonobviousness. Accordingly, we reverse the Board's determination.

REVERSED

United States Court of Appeals for the Federal Circuit

CHEMOURS COMPANY FC, LLC,
Appellant

v.

DAIKIN INDUSTRIES, LTD., DAIKIN AMERICA, INC.,
Appellees

ANDREW HIRSHFELD, PERFORMING THE FUNCTIONS AND DUTIES OF THE UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE,
Intervenor

2020-1289, 2020-1290

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Nos. IPR2018-00992, IPR2018-00993.

DYK, *Circuit Judge*, concurring in part and dissenting in part.

I agree with Part I of the majority's opinion and with the majority's conclusion in Part III that the Patent Trial and Appeal Board ("Board") erred "in its analysis that

gross sales figures, absent market share data, 'are inadequate to establish commercial success,'" Maj. Op. 13 (quoting J.A. 57), and "by misapplying the 'blocking patents' doctrine to the challenged patents themselves," *id.* at 14.

I respectfully dissent as to Part II. I think that the majority's conclusion that U.S. Patent No. 6,541,588 ("Kaulbach") teaches away from the claimed invention is contrary to our precedent and that the Board properly rejected the teaching away theory.

I

Claim 1 of U.S. Patent No. 7,122,609 ("the '609 patent") covers

> A partially-crystalline copolymer comprising tetrafluoroethylene, hexafluoropropylene in an amount corresponding to a hexafluoropropylene index (HFPI) of from about 2.8 to 5.3, said copolymer being polymerized and isolated in the absence of added alkali metal salt, having a melt flow rate of within the range of about 30±3 g/10 min, and having no more than about 50 unstable endgroups/10^6 carbon atoms.

'609 patent col. 10 ll. 15–21.

Like claim 1 of the '609 patent, Kaulbach discloses a copolymer for high-speed extrusion coating of cables or wires. Kaulbach's copolymer is nearly identical to the polymer disclosed by claim 1 of the '609 patent: Both copolymers are tetrafluoroethylene and hexafluoropropylene copolymers with decreased metal contamination and a low number of unstable endgroups. The only material difference between claim 1 and Kaulbach is that Kaulbach discloses (in Sample A11) a melt flow rate of 24 g/10 min, slightly lower than 27 g/10 min, the lower bound of the 30 ± 3 g/10 min rate claimed in claim 1 of the '609 patent.

The majority nevertheless concludes that Kaulbach teaches away from the claimed invention because increasing "Kaulbach's melt flow rate to the claimed range . . . would necessarily involve altering [Kaulbach's] inventive concept of a narrow molecular weight distribution polymer." Maj. Op. 10. I disagree. Although it is true that Kaulbach's invention is a narrow molecular weight distribution polymer, Kaulbach also acknowledges that "the art t[aught] that a broad molecular weight distribution [wa]s needed to achieve such high processing rates," Kaulbach col. 3 ll. 60–62, and that prior art "mixtures ha[d] a very broad molecular weight distribution[,] which[,] according to conventional wisdom, results in an improved extrudability," *id.* col. 1 ll. 57–59. Thus, even though Kaulbach determined that "a narrow molecular weight distribution performs better," it expressly acknowledged the feasibility of using a broad molecular weight distribution to create polymers for high speed extrusion coating of wires. *Id.* col. 3 ll. 62–65. This is not a teaching away from the use of a higher molecular weight distribution polymer.

As our cases make clear, "that 'better alternatives exist in the prior art does not mean that an inferior combination is inapt for obviousness purposes.'" *Bayer Pharma AG v. Watson Lab'ys, Inc.*, 874 F.3d 1316, 1327 (Fed. Cir. 2017) (quoting *In re Mouttet*, 686 F.3d 1322, 1334 (Fed. Cir. 2012)); *see also In re Haase*, 542 F. App'x 962, 969 (Fed. Cir. 2013) (determining that a reference did not teach away from using an aluminum polymer with an ammonium polymer just because the reference "show[ed] better turbidity results when using an aluminum polymer by itself"). The majority's approach impermissibly expands the teaching away doctrine such that it encompasses a reference's mere preference for a particular alternative.

II

Contrary to the majority's assertion, modifying the molecular weight distribution of Kaulbach's disclosure of a

24 g/10 min melt flow rate to achieve the 27 g/10 min melt flow rate of claim 1 would hardly "destroy the basic objective" of Kaulbach as the majority claims. Maj. Op. 10 (quoting *Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1068 (Fed. Cir. 2016)).

As the Board determined, Kaulbach does not precisely define what constitutes a narrow molecular weight distribution, only defining a "very narrow molecular-weight distribution" of "less than about 2" and "as low as 1.5." Kaulbach col. 3 ll. 34–37. Sample A11 has a measured distribution of 1.6, toward the lower end of this "very narrow" distribution range. Thus, Sample A11's molecular weight distribution could be increased by 0.4 (25%) and still have a "very narrow" molecular weight distribution under Kaulbach. There is no support whatever for the theory that increasing the melt flow rate from 24 g/10 min (Kaulbach) to 27 g/10 min (the '609 patent) (a 12.5% increase) would create more than a 0.4 increase (25%) in the molecular weight distribution and thus be contrary to Kaulbach's supposed teaching to stay within the "very narrow" molecular weight distribution. The majority's contrary conclusion constitutes nothing less than appellate factfinding, factfinding that has no record support.

I would therefore affirm the Board's determination that Kaulbach does not teach away from the claimed invention and remand to the Board for redetermination of the conclusion of obviousness in light of the secondary factors. I respectfully dissent from the majority's contrary conclusion.