

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CORNING INCORPORATED
Petitioner

v.

DSM IP ASSETS B.V.
Patent Owner

Case IPR2013-00053
Patent 7,276,543 B2

Before FRED E. McKELVEY, GRACE KARAFFA OBERMANN,
JENNIFER S. BISK, SCOTT E. KAMHOLZ, and ZHENYU YANG,
Administrative Patent Judges.

YANG, *Administrative Patent Judge.*

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

A. *Background*

Pursuant to 35 U.S.C. §§ 311-319, Corning Incorporated (“Corning”) petitioned for an *inter partes* review of claims 35-57 of U.S. Patent No. 7,276,543 B2 (“the ’543 patent”). Paper 3 (“Pet.”). On May 2, 2013, the Board instituted trial for all the challenged claims on all the asserted grounds of unpatentability. Paper 13 (“Dec.”). Thereafter, Patent Owner DSM IP Assets B.V. (“DSM”) filed a Response (Paper 41 (“PO Resp.”)) and Corning filed a Reply (Paper 50 (“Reply”)).

Oral hearing was held on February 11, 2014. *See* Paper 65 (“Tr.”).

The Board has jurisdiction under 35 U.S.C. § 6(c) and issues this final written decision pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73.

Corning has proved by a preponderance of the evidence that claims 35, 39, 44, and 53-57 of the ’543 patent are unpatentable. It, however, has failed to meet its burden of proof regarding the unpatentability of claims 36-38, 40-43, and 45-52.

B. *Related Proceedings*

Corning and DSM simultaneously are involved in nine other *inter partes* reviews based on patents claiming similar subject matter: IPR2013-00043, IPR2013-00044, IPR2013-00045, IPR2013-00046, IPR2013-00047, IPR2013-00048, IPR2013-00049, IPR2013-00050, and IPR2013-00052.¹

C. *The ’543 Patent*

The ’543 patent relates to an optical fiber coating prepared from a radiation curable composition. Ex. 1001, Abstract; *see also id.* at 1:16-18.

¹ IPR2013-00052 addresses claims 11-34 of the ’543 patent.

The composition comprises an oligomer, a reactive diluent, and a plurality of free radical photoinitiators with certain absorption characteristics. *Id.* at 3:11-44. According to the Specification:

Surprisingly, the coated optical fiber of the present invention has good properties even if produced at extremely high line speeds whereas other coated optical fibers have inferior quality. In particular, the radiation curable composition according to the present invention overcomes all the drawbacks of the prior art composition by choosing combinations and amounts of photoinitiators in such a way that an improved cure speed can be obtained without substantially deteriorating mechanical properties and yellowing characteristics (including initial yellowing and yellowing upon aging).

Id. at 3:45-55.

D. Illustrative Claim

Claim 35, the sole independent claim under review in this case, reads:

35. A radiation-curable composition comprising:

(A) an oligomer;

(B) a reactive diluent, and;

(C) at least three free radical photoinitiators wherein

(i) at least one of the photoinitiators has an absorption spectrum in acetonitrile having a difference between two absorption maxima in the range between 240 and 360 nm of at least about 15 nm, and wherein

(ii) considering at least two of the photoinitiators (1 and 2), the difference between the absorption maximum of the absorption spectrum in acetonitrile of photoinitiator 1 and the absorption maximum of the absorption spectrum in acetonitrile of photoinitiator 2 in the range between 280 and 320 nm is at least about 5 nm.

E. Reviewed Grounds of Unpatentability

The Board instituted trial on multiple grounds of unpatentability, including anticipation and obviousness based on Zahora,² either alone or in combination with other references. Dec. 14-24. We also instituted trial to review whether Murphy³ anticipates claims 35, 39, 44, and 53-57, and whether Murphy, either alone or in combination with other references, renders claims 40-43, 45-49, and 55 obvious. *Id.* at 11-13, 16-24.

II. ANALYSIS

A. Claim Construction of “Absorption Maximum”

In the Decision to Institute, the Board agreed with DSM and rejected Corning’s proposed claim construction of “absorption maximum” as unreasonably broad in light of the Specification. Dec. 6. Based on the language in the Specification, the Board explained that

[A]n absorption maximum does not include a “wavelength with the highest absorbance on either side of [the identified valley within the range of 240 and 360 nm]” unless that wavelength is also “a point on the curve wherein the tangent to the curve is parallel with the horizontal axis.”

Id. After the institution of the trial, the parties did not further brief this issue. The Board hereby adopts its previous construction.

B. Unpatentability over Zahora

Corning asserted that Zahora anticipates claims 35-39, 44, and 50-57, and renders claims 40-43, 45-48, 55, and 56 obvious, either alone or together with other prior art. *See* Pet. 15-40. According to Corning, the

² Zahora et al., Int’l Pub. No. WO 98/50317 (Ex. 1004).

³ Murphy et al., Int’l Pub. No. WO 01/47823 A2 (Ex. 1005).

photoinitiator packages in Example VII and Carrier System AA in Zahora both contain Irgacure 819 and Irgacure 907. *Id.* at 16, 18. Irgacure 907 exhibits its absorption maxima at 240 nm and 302 nm, the difference of which (62 nm) meets the requirement for claim element (c)(i) of claim 35. *Id.* at 17.

DSM responded that based on the Board's construction of "absorption maximum," "neither Irgacure 819 nor Irgacure 907 exhibits an absorption maximum at 240 nm." PO Resp. 17.

Corning conceded that, based on the Board's construction of the term "absorption maximum," Zahora does not anticipate, and Zahora in combination with other references would not have rendered obvious, claims 35-48 and 50-57 of the '543 patent. *See* Reply 15 n.3; *see also* Tr. 2:28–3:15. Thus, Corning has failed to prove unpatentability of claims 35-48 and 50-57 of the '543 patent based on Zahora.

C. Unpatentability over Murphy

Murphy claims priority to a U.S. patent application filed on December 23, 1999. Ex. 1005. The effective filing date of the '543 patent is December 30, 1999. Ex. 1001, 1:7-8.

1. Anticipation under 35 U.S.C. § 102(e)

Corning alleged that Murphy qualifies as prior art against the '543 patent under 35 U.S.C. § 102(e). Pet. 9. According to Corning, examples 8-13 and a-d of Murphy meet all the limitations recited in claims 35, 39, 44, and 53-57, and thus, anticipate these claims. *Id.* at 40-46.

DSM did not dispute that Murphy meets all the limitations recited in the challenged claims. Nor did it dispute that the effective filing date of Murphy is December 23, 1999. PO Resp. 41. Instead, it contended that

Murphy could not qualify as § 102(e) prior art, because the inventors of the '543 patent made the claimed invention through an actual reduction to practice before December 23, 1999. *Id.* at 41-55. As evidence, DSM submitted a “Rule 37 C.F.R. § 1.131 Declaration of Timothy E. Bishop,” one of the co-inventors of the '543 patent. Ex. 2041. DSM also attached Exhibits A, B, and C to the Bishop Declaration as proof to antedate Murphy.⁴

In its Reply, Corning attacked the Bishop Declaration as facially defective because only one inventor signed it. Reply 3. It also argued that, for various reasons, the Bishop Declaration was “substantively insufficient to establish an actual reduction to practice.”⁵ *Id.* at 4-6. We address the pertinent issues arising from these arguments in turn.

As a prelude, we clarify two issues in antedating a reference in an *inter partes* review. First, though the patent owner bears the burden of production in antedating a reference, the burden of persuasion to prove

⁴ DSM should have submitted these exhibits with appropriate exhibit numbers. See 37 C.F.R. § 42.63(c).

⁵ Corning further argued that the Bishop Declaration “is substantively insufficient to establish a complete conception and continuous diligence to its later reduction to practice.” Reply 6. It is true that DSM could antedate Murphy by showing that the inventors of the '543 patent were the first to conceive of the invention and then exercised reasonable diligence in reducing that invention to practice. See *Mycogen Plant Sci. v. Monsanto Co.*, 243 F.3d 1316, 1332 (Fed. Cir. 2001). It is also true that DSM mentioned “the inventors at all times continuously and diligently worked to achieve actual reduction to practice of their inventive concept.” PO Resp. 41. But it did so in passing without attempting to antedate Murphy through the conception-and-diligence route. At oral argument, counsel for DSM confirmed that DSM would only rely on the prior-actual-reduction-to-practice theory to antedate Murphy. Tr. 31:3-11.

unpatentability of the challenged claims remains with the petitioner. *See* 35 U.S.C. § 316(e); *cf. Stamps.com Inc. v. Endicia, Inc.*, 437 F. App'x 897, 907-08 (Fed. Cir. 2011) (explaining that in a district court proceeding, a challenger of a patent bears the burden to prove invalidity even though the patentee bears the burden of production in antedating a reference).

Second, 37 C.F.R. § 1.131 and practice under this rule do not control an antedating effort in an *inter partes* review. Rule 131 applies “[w]hen any claim of an application or a patent under reexamination is rejected.” 37 C.F.R. § 1.131(a). This *inter partes* review is neither examination nor reexamination; and no claim has been “rejected.” Most significantly, in examination and reexamination (both *ex parte* and *inter partes*), no discovery is allowed. So requiring all inventors’ signatures on a Rule 131 declaration provides, to a certain degree, a safeguard against, for example, a single inventor’s inaccurate memory. In contrast, an *inter partes* review provides for discovery, albeit limited, as an integral part of the proceeding. *See* 35 U.S.C. § 316(a)(5); 37 C.F.R. § 42.51. With the opportunity to cross-examine declarants and affiants, a petitioner is better equipped to sift out facts from wishful thinking.

With that distinction, we reject Corning’s proposition that to successfully antedate a prior art reference in an *inter partes* review, a patent owner must gather the signatures of all inventors for a declaration. *Cf. Stamps.com*, 437 F. App'x at 907-08 (analyzing a declaration by one of the co-inventors as antedating evidence in an invalidity dispute before a district court). Instead, we review the record as a whole and determine the sufficiency of a patent owner’s antedating effort after evaluating all relevant admissible evidence and argument.

As mentioned earlier, because DSM attempts to disqualify Murphy as prior art, it bears the burden of production on this issue. DSM offered the Bishop Declaration and the exhibits attached thereto as evidence of actual reduction of practice.⁶ The evidence, however, does not demonstrate sufficiently the prior actual reduction to practice by the inventors of the '543 patent.

a. Exhibit A

Reduction to practice is a question of law predicated on subsidiary factual findings. *Brown v. Barbacid*, 276 F.3d 1327, 1332 (Fed. Cir. 2002). To establish an actual reduction to practice, the inventor must prove that: (1) an embodiment of the invention was constructed that meets all the limitations of the claim-at-issue; and (2) the inventor appreciated that the invention would work for its intended purpose. *Cooper v. Goldfarb*, 154 F.3d 1321, 1327 (Fed. Cir. 1998).

In his declaration, Mr. Bishop explained that “[t]he inventions disclosed in the '543 patent arose from a research and development project initiated by DSM Desotech to develop optical fiber coating compositions exhibiting faster cure speeds.” Ex. 2041 ¶ 6. Mr. Bishop was the technical team leader for this project. *Id.* Mr. Bishop testified that “on January 7, 1999, we⁷ developed a radiation-curable composition identified as 7D2-15. This composition comprised an oligomer (*e.g.*, H-T-PTGL1000-T-H),

⁶ Even though Corning challenged those exhibits as unauthenticated and uncorroborated (Reply 5), it did not move to exclude them. Thus, in our analysis, we consider all three exhibits, assigning proper weight to each.

⁷ Presumably, the word “we” here referred to the inventors of the subject matter of the challenged claims.

reactive diluents (*e.g.*, BPAEDA and SR-504), and at least three photoinitiators” *Id.* ¶ 9. He further testified that Exhibit A attached to his declaration included “the formulation for 7D2-15.” *Id.*

Exhibit A contains three unnumbered pages.⁸ Mr. Bishop testified that page two of the exhibit is a photocopy “from Max Khaksari’s notebook.” Ex. 1025, 61:12-19. Mr. Khaksari was a technician that reported to Mr. Bishop at DSM. *Id.* at 62:12-18. Mr. Khaksari signed the notebook page on January 7, 1999 (*id.* at 68:25–69:3), even though he recorded additional data afterwards (*id.* at 74:4-11).⁹ On April 7, 2000, two other people, presumably DSM employees, signed in the boxes labeled “Disclosed To and Understood By” and “Witness,” respectively. *Id.* at 71:2–72:7. Mr. Bishop explained that one of the three formulations on that page, labeled as 0185-142B, is 7D2-15. *Id.* at 56:23–57:16. The other two compositions on the page, 0185-142A and 0185-142C, are control samples and not other embodiments of the claimed invention. *Id.* at 57:17-24; Ex. 2041 ¶¶ 12-13.

Page one of Exhibit A is a photocopy of the same page from Mr. Khaksari’s notebook. Ex. 1025, 62:6-11. According to Mr. Bishop, in early 1999, he made a photocopy of the notebook page (page two of Exhibit A) before Mr. Khaksari added more information onto the page. *Id.*

⁸ We encourage parties to number or otherwise provide means to identify pages in exhibits submitted to the Board.

⁹ Mr. Bishop testified that DSM “didn’t have a requirement that you had to sign the page when all the work was done.” Ex. 1025, 70:22-25. Instead, he thought Mr. Khaksari signed the page “when he had started the work.” *Id.*

at 66:22–68:24; 72:8–74:3. Mr. Bishop then made notes on his photocopy of the notebook page (instead of the original notebook page). *Id.*

According to Mr. Bishop, “[t]he exact formulation of 7D2-15 is provided in Table 1, Example 1 of the ’543 patent.” Ex. 2041 ¶ 9. We, however, have not been able to confirm this statement. As shown in the following table, ingredients and amounts thereof of the composition in Table 1, Example 1 of the ’543 patent appear different from those of 7D2-15.

Ingredient		Amount (%)	
		Example 1	7D2-15
Oligomer 1		34.8	None
Diacrylate diluent		55.0	55.0 ¹⁰
Monoacrylate diluent		6.2	none
98-116 unfinished (98C06593)		None	41.0
Photoinitiators	Lucirin TPO	0.5	0.5
	Irgacure 819	0.5	0.5
	Irgacure 184	1.0	1.0
	Durocur 1173	1.0	1.0
	Irgacure 907	0.5	0.5
Irganox1035		0.5	0.5

Specifically, the composition in Table 1, Example 1 of the ’543 patent contains 6.2% monoacrylate diluent (Ex. 1001, 19:32), while the formulation for 7D2-15 on the first two pages of Exhibit A does not show such an ingredient. We note that Mr. Bishop testified that SR-504 is a monoacrylate diluent. Ex. 2041 ¶ 9; Ex. 1025, 43:4-8. We also observe that on the first page of Exhibit A, Mr. Bishop appears to have made notes about the amount

¹⁰ The formulation of 7D2-15 in Exhibit A lists 55% BPAEDA. Mr. Bishop testified that BPAEDA is a diacrylate diluent. Ex. 2041 ¶ 9; Ex. 1025, 41:17–42:24.

of SR-504 for 0185-142A and 0185-142C. He did not, however, make any such note for 0185-142B. Equally troubling is the absence of any indication of an oligomer in the formulation of 7D2-15. In fact, no component listed in the formulation of 7D2-15 amounts to 34.8% in weight, as shown in Table 1, Example 1 of the '543 patent. Instead, the formulation of 7D2-15 contains 41% of "98-116 unfinished," an ingredient DSM simply failed to explain. We also do not find any component in Table 1, Example 1 of the '543 patent that amounts to 41% of the composition weight.

Mr. Bishop testified that 7D2-15 contains an oligomer, H-T-PTGL1000-T-H. Ex. 2041 ¶ 9. When cross-examined on this point during his deposition, he stated that he knew the oligomer in 7D2-15 was the same as oligomer 1 in Table 1, Example 1 of the '543 patent "[b]ecause it's my example." Ex. 1025, 39:24–40:8.

It is well settled that an inventor's testimony alone is insufficient to establish an earlier actual reduction to practice. *Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1170 (Fed. Cir. 2006). Instead, the party seeking to prove an actual reduction to practice must proffer evidence corroborating that testimony. *Id.* "Sufficiency of corroboration is determined by using a 'rule of reason' analysis, under which all pertinent evidence is examined when determining the credibility of an inventor's testimony." *Id.* (citation omitted). We note that Mr. Bishop no longer works for DSM. Ex. 1025, 12:4-5. Thus, he does not appear to have any financial interest in this matter and we have no reason to doubt his credibility. Nevertheless, the law plainly requires that evidence of corroboration must not depend solely on the inventor himself. *Reese v. Hurst*, 661 F.2d 1222, 1225 (CCPA 1981). Rather, corroboration may be testimony of a witness, other than the inventor,

to the actual reduction to practice, or it may consist of evidence of surrounding facts and circumstances independent of information received from the inventor. *Id.* Here, the notebook page, a piece of otherwise qualifying contemporaneous documentary evidence, cannot provide the essential corroboration because Mr. Khaksari did not record the identity, amount, or even the existence of the monoacrylate diluent and oligomer. DSM may have been able to cure this defect by offering the testimony of a non-inventor, such as Mr. Khaksari. It did not do so.

At the hearing, when the panel inquired about the identity of the oligomer in 7D2-15, counsel for DSM pointed to BPAEDA. Tr. 16:18–21:8. This position directly contradicts Mr. Bishop’s testimony that BPAEDA is a diluent. *See* Ex. 2041 ¶ 9; Ex. 1025, 41:17–42:24. Even if we were to entertain this (plainly erroneous) argument that BPAEDA is the oligomer in 7D2-15, the formulation of 7D2-15 would still differ significantly from that of Table 1, Example 1 of the ’543 patent, because 7D2-15 contains 55% of BPAEDA while Table 1, Example 1 contains 34.8% of oligomer 1.

Each of claims 35-57 requires an oligomer as an essential component. Because Exhibit A does not corroborate Mr. Bishop’s testimony that the composition of 7D2-15 contains an oligomer, DSM has not proved that it constructed an embodiment that met all the limitations of the claims-at-issue.¹¹ In other words, DSM failed to establish an actual reduction to practice to antedate Murphy through Exhibit A.

¹¹ As a result, we do not need to evaluate the unnumbered page three of Exhibit A, despite DSM’s argument that it allegedly showed “7D2-15

b. Exhibit B

DSM also attached Exhibit B to the Bishop Declaration. Exhibit B includes the formulations of 7D2-15 and 7D2-19. Ex. 2041 ¶¶ 11-12. We are satisfied that the ingredients and amounts thereof listed under 7D2-15 in Exhibit B match those of Table 1, Example 1 of the '543 patent. We also observe that 7D2-19 “comprised an oligomer (*e.g.*, H-T-P410-T-H), reactive diluents (*e.g.*, CN120Z and SR-504), and at least three photoinitiators (*e.g.*, Irgacure 819, Irgacure 184, Irgacure 907, Lucirin TPO, and Darocur 1173).” *Id.* ¶ 12. Thus, each of 7D2-15 and 7D2-19 of Exhibit B appears to embody the claimed invention. Nevertheless, Exhibit B falls short of establishing prior reduction to practice.

First, Mr. Bishop testified that Exhibit B “is a true and correct copy of a table created in April 1999.” *Id.* ¶ 11. But he never explained who created this table, how it was created, or who prepared and tested the compositions listed in Exhibit B.

More importantly, DSM has failed to demonstrate that the inventors of the challenged claims determined that the invention would work for its intended purpose in or before April 1999, the date of Exhibit B. *See Cooper*, 154 F.3d at 1327. In certain cases, as in this one, determining that the invention works for its intended purpose requires testing. *See Mahurkar v. C.R. Bard, Inc.*, 79 F.3d 1572, 1578 (Fed. Cir. 1996). “[W]hen testing is necessary to establish utility, there must be recognition and appreciation that the tests were successful for reduction to practice to occur.” *Estee Lauder*

exhibited a faster cure speed than the comparator formulation.” Ex. 2041 ¶ 10.

Inc. v. L'Oreal, S.A., 129 F.3d 588, 594-95 (Fed. Cir. 1997). The Specification of the '543 patent explains that the object of the claimed invention is to provide a coating composition with “a fast cure speed without impairing mechanical properties and aging characteristics of the coating.” Ex. 1001, 2:44-48. Mr. Bishop testified that both 7D2-15 and 7D2-19 “exhibited an increased cure speed.” Ex. 2041 ¶¶ 9, 12. He, however, did not point to any data in Exhibit B to corroborate that statement.

Mr. Bishop confirmed that he “actually had a good idea that they would achieve high cure rates before the testing, but *you don't know until you test them.*” Ex. 1025, 29:20-22 (emphasis added). One way to quantify cure speed is “a chart of FTIR Cure Behavior.” *Id.* at 77:21-23. In fact, DSM provided such a chart on the third unnumbered page of Exhibit A to “demonstrate that [the alleged] formulation 7D2-15 exhibited a faster cure speed than the comparator formulation (*i.e.*, 0185-142A).” Ex. 2041 ¶ 10; *see also* Ex. 1025, 77:14–79:9. DSM, however, did not provide any similar data for the formulations in Exhibit B, and we cannot consider the chart in Exhibit A when evaluating Exhibit B. The chart was dated January 14, 1999, three months before Exhibit B was created. Ex. 2041 ¶¶ 10-11. In addition, the chart is “of FTIR Cure Behavior of the three coatings on Pages 1 and 2” of Exhibit A. Ex. 1025, 77:14-20. As explained earlier, the 7D2-15 formulation shown on those two pages lacks an oligomer. *See supra* Section II.C.1.a. As a result, that formulation differs from the one in Exhibit B.

In sum, DSM has failed to demonstrate that in April 1999, the inventors tested and determined that 7D2-15 or 7D2-19, as shown in Exhibit B, worked for the intended purpose of the claimed invention, *i.e.*,

exhibited an increased cure speed. *See Mycogen*, 243 F.3d at 1335 (emphasizing that “reduction to practice cannot be established nunc pro tunc. There must be contemporaneous recognition and appreciation *of the invention*” (citation omitted)). Thus, DSM failed to establish an actual reduction to practice to antedate Murphy through Exhibit B.

c. Exhibit C

Exhibit C relates to the formulation of 7D2-24, yet another alleged embodiment of the claimed invention. Ex. 2041 ¶ 13. We have been able to confirm that “[t]he exact formulation of 7D2-24 is provided in Table 1, Example 2 of the ’543 patent.” *Id.* Still, Exhibit C fails to establish prior reduction to practice for the same reasons we explained for Exhibit B.

Mr. Bishop testified that Exhibit C “is a true and correct copy of a document that was created for our November 11, 1999 Technical Exchange Meeting.” *Id.* We recognize Mr. Bishop’s name appears on this document. But Mr. Bishop did not state, and DSM identifies no credible evidence, that he created this document. Similarly, Mr. Bishop did not explain who prepared and tested the compositions listed in Exhibit C. Just like in Exhibit B, DSM offered no underlying notebook pages and no testimony from any non-inventor as corroborating evidence. In addition, assuming the Technical Exchange Meeting was actually held, DSM offered no attendee to testify about the matter either. And just like in Exhibit B, DSM has failed to demonstrate that in November 1999, the inventors tested and determined that 7D2-24 worked for the intended purpose of the claimed invention, i.e., exhibited an increased cure speed. Therefore, DSM failed to establish an actual reduction to practice to antedate Murphy through Exhibit C.

d. Conclusion

We have no reason to doubt that Mr. Bishop testified truthfully. Nevertheless, after considering his declaration, Exhibits A, B, and C attached thereto, and his deposition testimony, we conclude that DSM has not corroborated adequately this inventor's testimony of prior reduction to practice. In other words, DSM has failed to antedate Murphy as § 102(e) prior art. DSM did not dispute that Murphy meets all the limitations recited in the challenged claims. As a result, Murphy anticipates claims 35, 39, 44, and 53-57.

2. Obviousness under 35 U.S.C. § 103

In addition to anticipation, Corning alleged that Murphy, in combination with other references, renders claims 40-43 and 45-49 obvious.¹² Pet. 46-56. DSM did not dispute that these claims would have been obvious if the references are combined. Instead, it contended that, under § 103(c), Murphy does not qualify as prior art for an obviousness rejection because

[A]t the time of the invention, the subject matter of the challenged claims of the '543 Patent and Murphy were commonly owned as they were, at the time of the invention, either assigned to DSM N.V. or subject to an obligation of assignment to DSM Desotech, Inc., which was at the time of the invention, and still is, a wholly owned subsidiary of DSM N.V.

¹² Corning also alleged that Murphy alone renders claim 55 obvious. Pet. 56-57. Because we conclude Murphy anticipates claim 55, we do not address the obviousness issue.

PO Resp. 56-57.¹³ As support, DSM provided various exhibits, including patent assignment documents, employment agreements, and several declarations. *See* Exs. 2031-40, 2042-47, 2049, 2051, 2060.

Corning disputed the sufficiency of the DSM exhibits. Reply 7-15. According to Corning, DSM failed to prove common ownership of Murphy and the '543 patent through the assignment documents. *Id.* at 9-10. Corning also argued that the employment agreements and the declarations failed to establish that the inventors of both Murphy and the '543 patent were under an obligation to assign the inventions to DSM. *Id.* at 10-15. In support, Corning submitted numerous email communications between DSM in-house counsel and counsel for John Southwell, one of the co-inventors of the '543 patent. Exs. 1027-39.¹⁴

a. Motion to Exclude

Before discussing the substantive issue of Murphy's qualification as prior art under § 103(c), we address the preliminary matter of DSM's Motion to Exclude Corning's Evidence. *See* Paper 55 ("Mot. to Exc.").

DSM asked us to exclude Exhibits 1027-39 because they "contain inadmissible hearsay and inadmissible hearsay within hearsay." *Id.* at 1. In

¹³ Citing MPEP § 706.02(l)(2), DSM argued that "[o]wnership by a wholly owned subsidiary is sufficient to establish common ownership for the purposes of § 103(c)." PO Resp. 59. Corning did not dispute this issue. Reply 10. For the purpose of this decision, we adopt DSM's position on this issue.

¹⁴ Corning filed these exhibits under seal because DSM produced them as confidential under the protective order. *See* Paper 51. At the hearing, counsel for DSM stated that DSM had "no objection to lifting the seal." Tr. 30:7-16; *see also id.* at 24:21-25:2. We therefore *dismiss* Corning's Motion to Seal.

the exhibits-at-issue, counsel for Mr. Southwell (a named inventor of the '543 patent) represented to counsel for DSM that Mr. Southwell disputed his obligation to assign his rights to the claimed invention in the '543 patent to DSM at the time of the invention. Exs. 1027-39. According to DSM, these exhibits should be excluded as hearsay, because Corning offered them to prove the truth of the matters asserted. Mot. to Exc. 1-4. DSM also asked us to exclude Exhibit 1039, because Corning offered the exhibit to prove the truth of the matter asserted therein, i.e., “[t]here is also a serious concern about the authenticity of Exhibit 2041, Attachment A.” *Id.* at 4 (quoting Reply 15). Further, DSM pointed out that Corning questioned the authenticity of Exhibit 2041, Exhibit A, based on attorney argument, rather than proper expert analysis of handwriting samples. *Id.* at 5. As a result, DSM asked us to the exclude this argument on page 15 of the Reply.

Corning countered that it did “not offer[] the e-mails at issue as proof that Mr. Southwell did not have an obligation to assign the claimed invention when it was made.” Paper 59, 5. Instead, according to Corning, “[t]hese e-mails show that *DSM was on notice at the time of the e-mail exchanges that there were issues concerning Mr. Southwell’s supposed obligation, which issues DSM has not dealt with sufficiently to satisfy its burden of proof.*” *Id.* at 5-6. Corning also argued that “the statements by DSM’s counsel are admissions of a party opponent through the party’s agent, which are also not hearsay.” *Id.* at 6. In addition, Corning contended that the statements by counsel for Mr. Southwell to counsel for DSM “simply reflect[ed] Mr. Southwell’s statement of belief” and thus, should be admissible under Federal Rule of Evidence 803(3). *Id.* at 7. Regarding the argument on page 15 of the Reply that DSM challenged, Corning argued that

“there is nothing in the rules and DSM has cited no support for the proposition that Corning’s argument on the similarity of the handwriting at issue is subject to exclusion.” *Id.* at 7-8.

We find Corning’s arguments unconvincing. Nevertheless, we deny DSM’s Motion to Exclude. Similar to a district court in a bench trial, the Board, sitting as a non-jury tribunal with administrative expertise, is well-positioned to determine and assign appropriate weight to evidence presented. *See, e.g., Donnelly Garment Co. v. NLRB*, 123 F.2d 215, 224 (8th Cir. 1941) (“One who is capable of ruling accurately upon the admissibility of evidence is equally capable of sifting it accurately after it has been received . . .”). Thus, in this *inter partes* review, the better course is to have a complete record of the evidence to facilitate public access as well as appellate review. *See id.* (“If the record on review contains not only all evidence which was clearly admissible, but also all evidence of doubtful admissibility, the court which is called upon to review the case can usually make an end of it, whereas if evidence was excluded which that court regards as having been admissible, a new trial or rehearing cannot be avoided.”).

b. Disqualification of Murphy under § 103(c)

After receiving and according proper weight to all relevant evidence, we conclude that DSM has met its burden of production to come forward with evidence sufficient to disqualify Murphy as prior art under § 103(c). That section of the statute provides:

Subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the claimed invention was made, owned by the

same person or subject to an obligation of assignment to the same person.

35 U.S.C. § 103(c)(1).

As a preliminary matter, we find that the claimed invention was made on December 30, 1999, the effective filing date of the '543 patent. *See Hyatt v. Boone*, 146 F.3d 1348, 1352 (Fed. Cir. 1998) (“The filing of a patent application serves as conception and constructive reduction to practice of the subject matter described in the application.” (citations omitted)); *see also Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (explaining that “the ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question *at the time of the invention*, i.e., *as of the effective filing date of the patent application*” (emphases added)). At the hearing, counsel for Corning appeared to dispute this point, suggesting that the inventors of the '543 patent could have made the invention “before they were hired” by DSM. Tr. 13:16-21, 29:21–30:5. This position is mere speculation with no credible factual support. Given that in its briefing, Corning discussed DSM’s supporting evidence in reference to December 30, 1999 (*see* Reply 9-12), we similarly analyze the § 103(c) issue using that date.

We now turn to the issue of whether the claimed subject matters of both Murphy and the '543 patent were commonly assigned to DSM, or whether the inventors of both Murphy and the '543 patent were under an obligation to assign the inventions to DSM on December 30, 1999. The inventors of Murphy assigned their invention to DSM on January 20, 2000 (*see* Ex. 2047), while the inventors of the '543 patent did not assign theirs until early 2002 (*see* Ex. 2046). Therefore, we agree with Corning that

DSM has failed to establish that the inventions of Murphy and the '543 patent were commonly assigned to DSM on December 30, 1999.

We find, however, DSM has satisfied its burden of production to show that the inventors of both Murphy and the '543 patent were under an obligation to assign the inventions to DSM, on December 30, 1999. Among the four inventors of Murphy, only one (Evans) signed an “Employee Confidential Information and Invention Agreement,” assigning the rights to the invention to DSM, before December 30, 1999. *See* Ex. 2031 (showing execution date of 1997). The employment agreements from the other three inventors (Murphy, Zahora, and Moore) all bear an execution date in late 2000. *See* Exs. 2038-40. These inventors, however, provided declarations, stating that they each signed similar agreements prior to the ones bearing the 2000 date. *See* Ex. 2042 ¶ 5; Ex. 2043 ¶ 5; Ex. 2044 ¶ 5. They further attested that their obligation to assign inventions to DSM did not change materially during their employment with DSM, which all started before 1999. Ex. 2042 ¶ 5; Ex. 2043 ¶ 5; Ex. 2044 ¶ 5. More specifically, they stated that the subject matter described in Murphy (1) “directly related to business activities of DSM,” (2) “arose directly from the scope of [their] employment and daily duties at DSM,” and (3) “resulted from the use of DSM . . . resources.” Ex. 2042 ¶ 6; Ex. 2043 ¶ 6; Ex. 2044 ¶ 6. As a result, the subject matter described in Murphy falls squarely under the category of inventions that these inventors were obligated to assign to DSM. *See* Ex. 2038 ¶¶ 5-6; Ex. 2039 ¶¶ 5-6; Ex. 2040 ¶¶ 5-6. Corning did not dispute, and we see no reason to question, the credibility of the Murphy inventors. As a result, we are satisfied that on December 30, 1999, each of the Murphy

inventors was at least under an obligation to assign the Murphy invention to DSM.

Among the six inventors of the '543 patent, four executed an "Employee Confidential Information and Invention Agreement," prospectively assigning the rights to the invention to DSM, before December 30, 1999. *See* Exs. 2032-35 (showing the execution dates of 1997 (Norlin), 1990 (Schouten), 1994 (Snowwhite), and 1997 (Toussaint)). Corning contended that:

Rather than produce declaration testimony of Messrs. Snowwhite, Norlin, Toussaint, and Schouten, DSM submitted copies of the Employment Agreements. Even if the Employment Agreements are taken as evidence that these inventors were obligated to assign all inventions *made in the course of their employment at a DSM company*, it cannot be concluded that the contribution they made to the subject matter claimed in the '543 patent necessarily falls into that category.

Reply 11-12. We find this argument unpersuasive. First, none of these inventors currently is employed at DSM. *See* Ex. 1025, 26:20–28:12. As such, we decline to draw a negative inference from the absence of their declaration testimony. Second, according to the employment-agreements-at-issue, these inventors were obligated to assign their rights in the '543 patent, because we are convinced that, at a minimum, the claimed invention "relate[d] in any manner to the existing or contemplated business or research activities" of DSM. *See* Ex. 2032 § 1.1.1; Ex. 2033 § 1.1.1; Ex. 2034 § 1.1.1; Ex. 2035 § 1.1.1.

The employment agreement from one of the two remaining inventors, Mr. Bishop, bears a January 2001 date. *See* Ex. 2037. Mr. Bishop, however, provided a declaration, stating that he signed similar agreements

before 2001. *See* Ex. 2060 ¶ 5. He also testified that his obligation to assign inventions to DSM did not change materially during his employment with DSM, which started in 1990. *Id.* He further stated the subject matter described in the '543 patent (1) “directly related to business activities of DSM,” (2) “arose directly from the scope of [his] employment and daily duties at DSM,” and (3) “resulted from the use of DSM . . . resources.” *Id.* ¶ 6. As a result, the subject matter described in the '543 patent falls squarely under the category of inventions that Mr. Bishop was obligated to assign to DSM. *See* Ex. 2037 ¶¶ 5-6. Again, we see no reason to question Mr. Bishop's credibility, especially because he no longer works for DSM (*see* Ex. 1025, 12:4-5) and, thus, appears more akin to a disinterested party in this matter. As a result, we are satisfied that on December 30, 1999, four of the six inventors (Norlin, Schouten, Snowwhite, and Toussaint) had assigned, and Mr. Bishop was at least under an obligation to assign, the rights in the '543 patent to DSM.

That leaves Mr. Southwell, the only remaining inventor of the '543 patent. The employment agreement from Mr. Southwell shows a December 2000 date. *See* Ex. 2036. Mr. Southwell did not provide a declaration similar to those provided by the three Murphy inventors and Mr. Bishop. For all we know (and as Corning argued), based on Exhibits 1027-39, Mr. Southwell may have refused to sign such a declaration. Despite the lack of direct evidence, we conclude that on December 30, 1999, Mr. Southwell was at least under an obligation to assign his rights in the '543 patent to DSM.

We reach this conclusion after considering all circumstantial evidence, including the Second Declaration of Wendy S. Carlson and exhibits attached thereto. *See* Ex. 2051. Ms. Carlson is the Senior Human

Resources Manager at DSM. *Id.* ¶ 2. She testified that “Mr. Southwell joined DSM Desotech in March 1998 and worked at DSM Desotech well beyond October, 2001” *Id.* ¶ 3. In other words, Mr. Southwell was a DSM employee on December 30, 1999.

According to Ms. Carlson, Mr. Southwell received a confidentiality form¹⁵ at his new employee orientation in March 1998. *Id.* ¶¶ 6-7. Indeed, the Personnel Policy Administration Guide requires that “[a]ll items on the pages two through five of the checklist should be completed during [Mr. Southwell’s] first week on the job.” *Id.*, Ex. A, 1. On page three, under “Forms Distributed for Completion,” item 9 shows a “Confidentiality Form.” *Id.*, Ex. A, 3. DSM, however, failed to produce “the exact document that was provided to Mr. Southwell” because it “was not located after a diligen[t] search of the records.” *Id.* ¶ 8. Ms. Carlson testified that the confidentiality form provided to Mr. Southwell was the only version in use at DSM Desotech between 1995 and 2000. *Id.* This statement is consistent with the fact that the confidentiality forms signed by Norlin (a co-inventor of the ’543 patent), Toussaint (another co-inventor of the ’543 patent), Evans (one of the Murphy inventors), and another DSM employee, all executed in 1997, appear to have originated from the same version. *See* Exs. 2031; 2032; 2035; 2051, Ex. B.

According to the confidentiality form, a DSM employee was obligated to assign all inventions made by him during the term of his employment that generally (1) related to the business or research and development activities

¹⁵ The “confidentiality form” addressed in Ms. Carlson’s declaration is the same as the “employment agreement” discussed earlier in this decision (and in Corning’s Reply).

of DSM Desotech, (2) were suggested by or arose out of or in connection with his employment at DSM Desotech, or (3) resulted from the use of DSM Desotech's time, materials, or facilities. *See* Ex. 2031 § 1; Ex. 2032 § 1; Ex. 2035 § 1; Ex. 2051, Ex. B § 1. Ms. Carlson stated that, consistent with the company policy, Mr. Southwell was under the same obligation. Ex. 2051 ¶ 4.

We find DSM's circumstantial evidence showing Mr. Southwell was obligated to assign his rights in the '543 patent persuasive, and its explanation for the absence of direct evidence credible. Counsel for Mr. Southwell represented that his client "feels" he did not sign any employment agreement/confidentiality form before 2000 and "did not feel any obligation" to assign his inventions to DSM. *See, e.g.*, Ex. 1027. How Mr. Southwell felt or feels is not part of the inquiry into his obligation to assign. Moreover, DSM appears to have had, at the relevant time, a company policy requiring employees to assign inventions to DSM. It also appears to have had established procedures implementing such a policy. Corning did not point to, and we do not see, any reason why DSM would have made an exception for Mr. Southwell. Indeed, Mr. Bishop and three of the Murphy inventors (Murphy, Moore, and Zahora) all testified that their obligation to assign inventions to DSM did not change materially during their employment with DSM. *See* Ex. 2042 ¶ 5; Ex. 2043 ¶ 5; Ex. 2044 ¶ 5; Ex. 2060 ¶ 5. We see no reason to conclude that Mr. Southwell's obligation changed either.

DSM has satisfied its burden of production to show that the inventors of both Murphy and the '543 patent were under an obligation to assign the inventions to DSM on December 30, 1999. As a result, under § 103(c),

Murphy does not qualify as prior art and Corning has failed to prove, by a preponderance of the evidence, the unpatentability of claims 40-43 and 45-49.

III. CONCLUSION

Corning has shown, by a preponderance of the evidence, that claims 35, 39, 44, and 53-57 of the '543 patent are unpatentable. It, however, has failed to meet its burden of proof regarding the unpatentability of claims 36-38, 40-43, and 45-52.

IV. ORDER

For the reasons given, it is

ORDERED that claims 35, 39, 44, and 53-57 of the '543 patent are determined to be UNPATENTABLE;

FURTHER ORDERED that Corning's request for cancellation of claims 36-38, 40-43, and 45-52 is *denied*;

FURTHER ORDERED that DSM's Motion to Exclude is *denied*;

FURTHER ORDERED Corning's Motion to Seal (Paper 51) is *dismissed*;

FURTHER ORDERED that the redacted and confidential versions of Exhibits 1027-39 be expunged;

FURTHER ORDERED that Corning shall file substitute non-confidential version of Exhibits 1027-39 using the original exhibit numbers; and

FURTHER ORDERED that because this is a final written decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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Patent 7,276,543 B2

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