

**United States Court of Appeals
for the Federal Circuit**

TRANSWEB, LLC,
Plaintiff-Appellee

v.

**3M INNOVATIVE PROPERTIES COMPANY,
3M COMPANY,**
Defendants-Appellants

2014-1646

Appeal from the United States District Court for the District of New Jersey in No. 2:10-CV-04413, Judge Faith S. Hochberg.

Decided: February 10, 2016

MICHAEL ERNEST WILLIAMS, Quinn Emanuel Urquhart & Sullivan, LLP, Los Angeles, CA, argued for plaintiff-appellee. Also represented by VALERIE RODDY, HAROLD BARZA; SANFORD IAN WEISBURST, New York, NY; PHILIP CHARLES STERNHELL, Washington, DC.

SETH P. WAXMAN, Wilmer Cutler Pickering Hale and Dorr LLP, Washington, DC, argued for defendants-appellants. Also represented by THOMAS SAUNDERS, KENNETH HUGH MERBER; MARK CHRISTOPHER FLEMING, SARAH B. PETTY, Boston, MA.

Before WALLACH, BRYSON, and HUGHES, *Circuit Judges*.

HUGHES, *Circuit Judge*.

3M sued TransWeb for infringement of several patents. TransWeb sued for declaratory judgment of invalidity and non-infringement of the patents. A jury found the patents to be invalid based on TransWeb's prior public use of the patented method. In accordance with an advisory verdict from the jury, the district court found the patents unenforceable due to inequitable conduct. The jury also found 3M to be liable for a *Walker Process* antitrust violation and that attorney fees were an appropriate antitrust remedy. The district court awarded approximately \$26 million to TransWeb, including trebled attorney fees as antitrust damages. The primary issues are whether sufficient corroborating evidence exists to support the finding of prior public use by TransWeb, and whether the attorney fees are an appropriate basis for damages under the antitrust laws in this context. We hold in the affirmative on both issues. For the latter issue, we find that TransWeb's attorney fees appropriately flow from the unlawful aspect of 3M's antitrust violation and thus are an antitrust injury that can properly serve as the basis for antitrust damages. For these reasons, we affirm the district court's judgment.

I

TransWeb and 3M are both manufacturers of filters for respirators, such as might be worn by workers in a dirty or otherwise contaminated worksite. The filter media at issue in this case consist of "nonwoven fibrous webs," which rely on a "web" of fibers rather than traditional woven material. Both TransWeb and 3M use a process of melting pellets of a filter material, such as polypropylene, blowing the melted material into a thin

film, and then allowing the material to cool and solidify into the nonwoven fibrous web.

It had been known in the art for some time that a filter medium could be improved by imparting upon it an electrical charge. In this way, the filter medium can repel or capture particulates both by mechanical and electromagnetic means. A filter medium on which a semi-permanent electrical charge has been imparted is referred to as an “electret.”

TransWeb and 3M independently developed a technique for imparting this electret characteristic by using plasma fluorination. Fluorination involves introducing fluorine atoms into the chemical structure of the filter web. Previously known techniques involved mixing fluorine compounds into the melted filter material, but this proved disadvantageous. Instead, TransWeb and 3M both discovered that it would be advantageous to first form the fibrous web and then introduce the fluorine atoms into the chemical structure. This technique involves exposing a gaseous fluorine compound to the surface of the filter web in the presence of plasma. The intense heat and electromagnetic energy introduced by the plasma cause some of the chemical bonds on the surface of the filter web to break, and the fluorine atoms fill in those bonds to form fluorine compounds on the surface of the filter web.

Plasma-fluorinated filter media are particularly effective in oily environments, where other types of filter media might perform poorly or quickly degrade. The National Institute for Occupational Safety and Health (NIOSH) provides a rating and approval service for oily environment respirators, categorizing them as: not resistant to oil; resistant to oil; or oil proof. The Occupational Safety and Health Administration (OSHA) provides regulations governing what NIOSH rating of respirators

must be used in certain types of worksites within the United States.

The present appeal focuses largely on the events surrounding a filtration industry exposition that occurred in late April and early May of 1997. It is uncontested that TransWeb's founder, Kumar Ogale, attended the expo and handed out samples of filter material. The filter material included samples of TransWeb's "T-Melt" products, an identifier for the general class of melt-blown, i.e., nonwoven fibrous web, media. The primary dispute is whether Mr. Ogale handed out, more specifically, samples of the "T-Melt P" products, which is the specific class of plasma-fluorinated T-Melt products. Mr. Ogale testified at trial that he did in fact hand out T-Melt P samples at the expo, though no independent documents or testimony evidence this fact. The parties do not contest that if Mr. Ogale handed out T-Melt P samples at the expo, then they would serve as prior art to the plasma fluorination technique of the claimed methods. The expo occurred more than one year prior to the priority date of the patents asserted in this case, so any public disclosure of plasma fluorination at the expo would be a statutory bar to patentability, at least based on that feature.

In July of 1998, 3M filed U.S. Patent Application 09/109,497, to which both of U.S. Patents 6,397,458 and 6,808,551 claim earliest priority. 3M asserted both the '458 and '551 patents against TransWeb. In addition to the plasma fluorination of nonwoven fibrous webs described above, the patent family discloses use of "hydro-charging," which is a technique that uses water to impart the electrical charge on the filter medium.

3M initially filed suit in Minnesota against TransWeb for patent infringement. After 3M voluntarily dismissed that suit due to an apparent personal jurisdiction issue, TransWeb filed suit in New Jersey for declaratory judgment.

The district court in New Jersey ultimately presented the following issues to a jury: infringement of claims 31 and 57 of the '458 patent; invalidity for obviousness of claims 31 and 57; unenforceability of the '458 and '551 patents due to inequitable conduct; *Walker Process* antitrust violation based on fraudulent procurement and subsequent assertion of the '458 and '551 patents; sham litigation antitrust violation based on assertion of the '458 and '551 patents; entitlement to lost profits damages for antitrust violations; and entitlement to attorney fees as damages for antitrust violations. The jury delivered the following verdicts: claims 31 and 57 are not infringed; claims 31 and 57 are invalid; both patents are unenforceable; 3M committed a *Walker Process* violation but not a sham litigation violation; and TransWeb is entitled to lost profits and attorney fees as antitrust damages.

The district court entered judgment in accordance with the jury verdicts. 3M moved for judgment as a matter of law, which the district court denied. 3M appeals. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

II

This court reviews denial of a JMOL motion de novo, applying the law of the regional circuit. *Am. Calcar, Inc. v. Am. Honda Motor Co.*, 651 F.3d 1318, 1341 (Fed. Cir. 2011). In the Third Circuit, courts assess “whether there is evidence upon which a reasonable jury could properly have found its verdict.” *Gomez v. Allegheny Health Servs.*, 71 F.3d 1079, 1083 (3d Cir. 1995). JMOL “should be granted only if, viewing the evidence in the light most favorable to the nonmovant and giving it the advantage of every fair and reasonable inference, there is insufficient evidence from which a jury reasonably could find” for the nonmovant. *Lightning Lube, Inc. v. Witco Corp.*, 4 F.3d 1153, 1166 (3d Cir. 1993). Underlying questions of law are reviewed without deference. *ZF Meritor, LLC v. Eaton Corp.*, 696 F.3d 254, 268 (3d Cir. 2012).

On appeal, 3M challenges the district court's judgment on validity, inequitable conduct, and antitrust liability. We address each argument in turn.

III

The jury found both claims of the '458 patent invalid, and the district court denied 3M's motion for JMOL of non-invalidity. 3M contests this judgment based on a purported lack of corroboration of Mr. Ogale's public use testimony and based on alleged non-obviousness of the claims even if there were public use of the plasma-fluorinated material.

A

Oral testimony by an interested party on its own will generally not suffice as "clear and convincing" evidence of invalidity. *See Lazare Kaplan Int'l v. Photocscribe Techs.*, 628 F.3d 1359, 1374 (Fed. Cir. 2010); *Price v. Symsek*, 988 F.2d 1187, 1194 (Fed. Cir. 1993). Rather, such oral testimony must be corroborated by some other evidence. *See Woodland Tr. v. Flowertree Nursery, Inc.*, 148 F.3d 1368, 1371 (Fed. Cir. 1998). The corroborating evidence can include documents and testimonial evidence. *See Lazare Kaplan*, 628 F.3d at 1374–75, *Adenta GmbH v. OrthoArm, Inc.*, 501 F.3d 1364, 1371 (Fed. Cir. 2007), *Sandt Tech. v. Resco Metal & Plastics Corp.*, 264 F.3d 1344, 1350–51 (Fed. Cir. 2001). Circumstantial evidence can be sufficient. *See Sandt*, 264 F.3d at 1351; *Knorr v. Pearson*, 671 F.2d 1368, 1373 (C.C.P.A. 1982). This corroboration requirement for testimony by an interested party is based on the sometimes unreliable nature of oral testimony, due to the "forgetfulness of witnesses, their liability to mistakes, their proneness to recollect things as the party calling them would have them recollect, aside from the temptation to actual perjury." *Lazare Kaplan*, 628 F.3d at 1374 (quoting *Washburn & Moen Mfg. Co. v. Beat 'Em All Barbed-Wire Co.*, 143 U.S. 275, 284 (1892)).

A “rule of reason” analysis is used to determine the sufficiency of corroboration, under which “all pertinent evidence is examined in order to determine whether the inventor’s story is credible.” *Sandt*, 264 F.3d at 1350 (quoting *Price*, 988 F.2d at 1195) (internal quotation marks omitted). Importantly, this analysis “does not require that every detail of the testimony be independently and conclusively supported” by the corroborating evidence. *Ohio Willow Wood Co. v. Alps South*, 735 F.3d 1333, 1348 (Fed. Cir. 2013). Such a requirement would indeed be “the antithesis of the rule of reason.” *Cooper v. Goldfarb*, 154 F.3d 1321, 1331 (Fed. Cir. 1998). We have generally been most skeptical of oral testimony that is supported only by testimonial evidence of other interested persons. Compare *Allergan, Inc. v. Apotex Inc.*, 754 F.3d 952, 968 (Fed. Cir. 2014), and *Lacks Indus. v. McKechnie Vehicle Components USA*, 322 F.3d 1335, 1350 (Fed. Cir. 2003), with *Adenta*, 501 F.3d at 1371–73, and *Sandt*, 264 F.3d at 1351–52. We have repeatedly noted that contemporaneous documentary evidence provides greater corroborative value. See *Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1169–70 (Fed. Cir. 2006); *Sandt*, 264 F.3d at 1350–51; *Finnigan Corp. v. Int’l Trade Comm’n*, 180 F.3d 1354, 1366 (Fed. Cir. 1999); *Woodland Tr.*, 148 F.3d at 1373; *Price*, 988 F.2d at 1196. But there are no hard and fast rules as to what constitutes sufficient corroboration, and each case must be decided on its own facts. See *Sandt*, 264 F.3d at 1350.

We treat the ultimate determination of whether such oral testimony is sufficiently corroborated as a question of fact, which we review for clear error. See *Fleming v. Escort, Inc.*, 774 F.3d 1371, 1377 (Fed. Cir. 2014).

3M’s arguments against sufficiency of corroboration can be summed up as follows: as a legal matter, TransWeb must independently evidence all “material facts” of the purported invalidating public use; and as a factual matter, TransWeb provided *no* corroborating

evidence for one of the material facts, viz., that it was the plasma-fluorinated material that was distributed at the expo.

3M's legal argument attempts to lead us to a legal conclusion that this court has repeatedly rejected. 3M asks us to focus on one particular detail of the oral testimony and determine whether that detail is independently evidenced. But we have repeatedly rejected an element-wise attack on corroboration of oral testimony. See *Fleming*, 774 F.3d at 1377; *Ohio Willow Wood*, 735 F.3d at 1348 (characterizing as “misplaced” an argument that a particular claim feature in oral testimony was not separately evidenced, and finding the argument incompatible with the rule of reason); *Lazare Kaplan*, 628 F.3d at 1373–75; *Adenta*, 501 F.3d at 1371–73. We stated this in clear terms most recently in *Fleming*:

Fleming is correct that none of the corroborating evidence constitutes definitive proof of Orr's account or discloses each claim limitation as written. But the corroboration requirement has never been so demanding. It is a flexible, rule-of-reason demand for independent evidence that, as a whole, makes credible the testimony of the purported prior inventor with regard to conception and reduction to practice of the invention as claimed.

Fleming, 774 F.3d at 1377 (citations omitted). As applied to this case, our rule of reason analysis requires that independent evidence, taken as a whole, makes credible Mr. Ogale's testimony that he distributed the plasma-fluorinated material at the expo.

In any event, 3M's factual argument that TransWeb provided no corroborating evidence that it was the plasma-fluorinated material that Mr. Ogale distributed at the expo is incorrect. The correspondence with Fourth State demonstrates that TransWeb had produced the plasma-

fluorinated material at least three months prior to the expo. TransWeb's own patent application, filed at the same time as the expo, demonstrates that Mr. Ogale had invented and was seeking patent protection for the plasma-fluorinated material at least by the time of the expo. The correspondence with Filtration Group demonstrates that Mr. Ogale was sending out samples of the plasma-fluorinated T-Melt product shortly after the expo. The numerous correspondences contemporaneous with the Filtration Group correspondence, each accompanying samples of filter material not specifically identified as T-Melt, show that Mr. Ogale was sending out other samples of filter material that may have been plasma-fluorinated. The correspondence with Gerson demonstrates that TransWeb was offering for sale large quantities of the plasma-fluorinated product within two months of the expo. Considered in its totality, this body of evidence provides abundant support for the credibility of Mr. Ogale's claim that he distributed the plasma-fluorinated material at the expo. As such, we find no clear error in the district court's determination that Mr. Ogale's testimony was sufficiently corroborated.

B

3M argues that, even if TransWeb publicly used plasma-fluorinated material at the expo, the claims are still non-obvious. 3M's argument rests on two contentions: for claim 31, it was not obvious to use hydrocharging on a plasma-fluorinated material; and for both claims 31 and 57, objective indicia demonstrate the non-obviousness of the claims.

3M admits that hydrocharging was well-known in the art, at least based on U.S. Patent 5,496,507 to Angadjivand. But 3M notes that the Angadjivand patent counsels against "any unnecessary treatment which might increase [the filter material's] electrical connectivity" including "ultraviolet irradiation." Angadjivand patent

col. 3 ll. 26–30. Based on the testimony of both TransWeb’s and 3M’s expert witnesses, the filter material is exposed to some ultraviolet radiation during plasma fluorination. But TransWeb’s expert witness also testified that the amount of ultraviolet radiation emitted during plasma fluorination was minimal, refuting the notion that the above-quoted passage of the Angadjivand patent would have significantly discouraged a person having ordinary skill in the art from using hydrocharging on plasma-fluorinated material. The jury was free to credit this testimony and conclude based on the evidence presented that claim 31 was obvious. We see no error in this determination.

3M further contends that unexpected results and commercial success demonstrate the non-obviousness of the claims. For commercial success, 3M relies on a single, confused exchange between its attorney and TransWeb’s expert witness at trial, wherein the witness says that he does not know about the commercial success of 3M’s products, though maybe he said he did in the past. J.A. 2105–06. Similarly with unexpected results, 3M relies on a single, self-serving annotation in the ’458 patent inventor’s notebook and a corresponding statement at trial. The jury heard and rejected this evidence in concluding that the claims were obvious. None of these arguments as to objective indicia demonstrate that the jury was unreasonable in finding the claims obvious, so we will not disturb that verdict.

IV

The jury reached an advisory verdict that both the ’458 and ’551 patents were unenforceable for inequitable conduct. The district court reached the same conclusion. 3M contests this judgment on all of the required elements of inequitable conduct.

A judgment of inequitable conduct requires clear and convincing evidence of materiality, knowledge of material-

ity, and a deliberate decision to deceive. *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1290 (Fed. Cir. 2011) (en banc). Except in cases of egregious misconduct, the materiality must reach the level of but-for materiality, meaning that “the PTO would not have allowed a claim had it been aware of the undisclosed prior art.” *Id.* at 1291–92. Intent to deceive may be found only if specific intent to deceive is “the single most reasonable inference able to be drawn from the evidence.” *Id.* at 1290. If more than one reasonable inference is possible, “intent to deceive cannot be found.” *Id.* at 1290–91. A court “may infer intent from indirect and circumstantial evidence” because “direct evidence of deceptive intent is rare.” *Id.* at 1290.

This court reviews the district court’s ultimate determination of inequitable conduct for abuse of discretion and underlying factual determinations for clear error. *Star Scientific v. R.J. Reynolds Tobacco*, 537 F.3d 1357, 1365 (Fed. Cir. 2008).

A

The expo samples present a definitional case of but-for materiality. During prosecution of the ’497 application, the examiner initially allowed all claims. When 3M notified the examiner of one of the TransWeb samples that it had on hand, the examiner rejected all claims as obvious over that disclosure and the Angadjivand patent. Only when 3M clarified its dubious assertion that the TransWeb samples were only received after signing of a confidentiality agreement and thus were not prior art did the examiner allow the claims. Because the examiner would not have allowed the claims had the TransWeb samples been properly disclosed as prior art, the TransWeb samples are but-for material.

B

The district court concluded based on a detailed review of the record that Marvin Jones, an inventor for the asserted patents, and Karl Hanson, an in-house attorney at 3M, both acted with specific intent to deceive the patent office as to the TransWeb materials. The jury unanimously reached the same conclusion. While it is not necessary for us to recount the entire treatment of the factual record performed so thoroughly by the district court, *see TransWeb, LLC v. 3M Innovative Properties Co.*, 16 F. Supp. 3d 385, 398–407 (D.N.J. 2014), we note a few particular details that demonstrate that the district court did not clearly err in finding a specific intent to deceive on the part of Mr. Jones and Mr. Hanson.

The record makes abundantly clear that 3M generally and Mr. Jones particularly were very much aware of the samples TransWeb was distributing at the expo. A week prior to the expo, a group of six 3M employees was party to a lengthy email coordinating 3M's efforts to gather information from TransWeb at the expo. The email identified two employees as the "point people" in gathering information from TransWeb. J.A. 6860. The other parties to the email and their subordinates were to channel any questions through the point people. One of the point people had already met with TransWeb and received "quite a bit of information and non-production samples." *Id.* The email also included an article from *Nonwovens Industry* briefly mentioning TransWeb's T-Melt products. One of the parties to the email was Mr. Jones's supervisor, and she forwarded the email to Mr. Jones on the day that the expo began. Mr. Jones attended the expo. While he professed at trial to have no recollection of visiting the TransWeb booth, the district court found his testimony "simply not credible" and noted that "his demeanor was one of a witness trying to distance himself from any knowledge of TransWeb's presence and activities at the Expo." *TransWeb*, 16 F. Supp. 3d at 399.

Mr. Jones's supervisor again sent him an email within a month after the expo detailing the information and samples received from TransWeb by the point people. This email noted that TransWeb's production operations were up and running, that it was sending samples to potential clients, that 3M already had a small sample, and that 3M was expecting a larger sample soon thereafter.

Further evidence shows that Mr. Jones knew not only that TransWeb distributed material at the expo, but that it was plasma-fluorinated material. Within a year of the expo, Mr. Jones was told directly by an employee of Racal—an independent filtration company at the time of the expo that was acquired by 3M in the following year—that TransWeb had been producing plasma-fluorinated material and that TransWeb had provided samples of such to Racal. The district court noted that the 3M employees seemed to proceed with a newfound earnest in preparing their own patent application and supporting lab notebooks around this same time. The Racal employee eventually sent the samples received from TransWeb to Mr. Jones, identifying them as being plasma-fluorinated. Around the same time, another 3M employee forwarded the original expo planning email to Mr. Jones and Mr. Hanson, noting that it did not explicitly indicate plasma fluorination. The district court found that this email indicated a follow-up to some sort of oral conversation between Mr. Jones, Mr. Hanson, and the other 3M employee regarding what TransWeb was distributing at the time of the expo. Another 3M employee later requested samples of the plasma-fluorinated material from TransWeb on behalf of Mr. Jones and Mr. Hanson, noting that some of the products had been mentioned in the pre-expo *Nonwovens Industry* publication.

The district court found that Mr. Hanson undertook an intentional scheme to paper over the potentially prior art nature of the Racal-received samples. The Racal employees received the plasma-fluorinated samples from

TransWeb at latest one month after the expo. Therefore, these samples were highly relevant to what TransWeb distributed at the expo. The record casts great doubt on whether Racal had received the samples before or after execution of a confidentiality agreement, thereby potentially rendering them public disclosures and prior art to the '497 application. At around the same time that 3M was requesting further samples from TransWeb and learning of the potential prior art nature of the Racal samples, Mr. Hanson sent a confusing letter to Mr. Ogale purporting to clarify some issues as to the confidentiality agreements between TransWeb and 3M and between TransWeb and Racal. Mr. Hanson had never had any communication with TransWeb, and the district court concluded that the only possible purpose for the letter was to get an admission from Mr. Ogale that the Racal-received samples were covered by a confidentiality agreement, even though this point was itself dubious. Mr. Hanson subsequently did submit this letter to the patent office as definitive proof that the TransWeb samples were not prior art to the '497 application.

The district court noted other circumstantial evidence suggesting a specific intent by 3M employees to hide the prior art nature of the TransWeb products. The district court noted that only after Mr. Hanson met with the Racal employee did that employee type meeting notes from his original meeting with Mr. Ogale after the expo. Those typed notes contained additional information regarding patents that had not been in the original handwritten notes. The district court noted that Mr. Hanson waited several years between learning of the potential TransWeb prior art and informing the patent office. In fact, Mr. Hanson did not disclose the TransWeb material to the patent office until after negotiations for 3M to purchase TransWeb had broken down. Further, Mr. Hanson waited until the last possible moment, when a notice of allowance had already been mailed, to submit

the TransWeb material in a request for continued prosecution. The district court found Mr. Hanson's testimony at trial attempting to explain this delay wholly incredible.

Based on these factual findings, the district court concluded that the only reasonable inference that explains the actions of Mr. Hanson and Mr. Jones is that they strategically delayed in disclosing the TransWeb prior art and then intentionally made an inaccurate disclosure of that material. We can find no clear error in this conclusion, particularly as the district court's findings are based in large degree on its determinations that Mr. Jones and Mr. Hanson were not credible during relevant parts of their testimony. See *In re Rosuvastatin Calcium Patent Litig.*, 703 F.3d 511, 521 (Fed. Cir. 2012) ("This court may not reassess, and indeed is incapable of reassessing, witness credibility and motive issues on review." (quoting *LNP Eng'g Plastics, Inc. v. Miller Waste Mills, Inc.*, 274 F.3d 1347, 1361 (Fed. Cir. 2001))).

Finding no clear error in the district court's determinations on both materiality and specific intent, and finding no other improprieties in the district court's analysis, we see no abuse of discretion in the district court's ultimate conclusion of unenforceability for inequitable conduct.

V

The jury found that 3M committed a *Walker Process* antitrust violation, and awarded TransWeb damages of lost profits and attorney fees. The district court denied 3M's motion for JMOL. 3M contests this judgment based on several purported flaws in market definitions for the antitrust claim and based on the theory that TransWeb's attorney fees are not appropriate antitrust damages for the *Walker Process* violation.

In *Walker Process*, the Supreme Court held that a plaintiff could bring an action under § 2 of the Sherman

Act based on the alleged maintenance and enforcement of a fraudulently-obtained patent. See *Walker Process Equip. v. Food Mach. & Chem. Corp.*, 382 U.S. 172, 173–74 (1965). In order to prevail on a *Walker Process* claim, the antitrust-plaintiff must show two things: first, that the antitrust-defendant obtained the patent by knowing and willful fraud on the patent office and maintained and enforced the patent with knowledge of the fraudulent procurement; and second, all the other elements necessary to establish a Sherman Act monopolization claim. See *Ritz Camera & Image v. SanDisk Corp.*, 700 F.3d 503, 506 (Fed. Cir. 2012).

TransWeb’s monopolization claim arises under § 2 of the Sherman Act as an “attempt to monopolize.” 15 U.S.C. § 2 (2012). The “other elements” necessary to establish an attempted monopolization claim are: “(1) that the defendant has engaged in predatory or anticompetitive conduct with (2) a specific intent to monopolize and (3) a dangerous probability of achieving monopoly power.” *Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447, 456 (1993). In determining the dangerous probability of achieving monopoly power for element (3), the courts look at “the relevant market and the defendant’s ability to lessen or destroy competition in that market.” *Id.*

In this case, 3M does not contest that TransWeb’s inequitable conduct showing, if affirmed, along with 3M’s bringing of the infringement suit proves the first *Walker Process* requirement, as well as elements (1) and (2) of the second *Walker Process* requirement. We have previously explained that *Walker Process* liability requires a higher, more specific showing of “knowing and willful fraud” than the more inclusive inequitable conduct doctrine. *Nobelpharma AB v. Implant Innovations*, 141 F.3d 1059, 1069 (Fed. Cir. 1998); see also *Dippin’ Dots, Inc. v. Mosey*, 476 F.3d 1337, 1346–48 (Fed. Cir. 2007). After *The-rasense*, the showing required for proving inequitable

conduct and the showing required for proving the fraud component of *Walker Process* liability may be nearly identical. *See, e.g.*, Gideon Mark & T. Leigh Anenson, *Inequitable Conduct and Walker Process Claims After Therasense and the America Invents Act*, 16 U. PA. J. BUS. L. 361, 402 n.258 (2014). Regardless, because 3M does not challenge the sufficiency of the evidence supporting the jury's *Walker Process* fraud finding beyond challenging the inequitable conduct finding, we will accept as admitted that TransWeb sufficiently demonstrated the *Walker Process* fraud component.

Instead, 3M challenges whether the district court properly defined the relevant market for determining dangerous probability of monopoly power in element (3), and whether the award of TransWeb's attorney fees is appropriate even if the *Walker Process* case were proven.

A

The relevant market is defined by both a product market and a geographic market. *See Brown Shoe Co. v. United States*, 370 U.S. 294, 324 (1962). This court applies the law of the regional circuit as to market definition. *See Nobelpharma*, 141 F.3d at 1068. Under Third Circuit law, the definition of both the product and geographic boundaries of the relevant market is a question of fact. *See Gordon v. Lewistown Hosp.*, 423 F.3d 184, 212 (3d Cir. 2005); *Weiss v. York Hosp.*, 745 F.2d 786, 825 (3d Cir. 1984).

TransWeb defined two distinct markets: an "upstream" market for "fluorinated polymeric material" and a "downstream" market for NIOSH-certified respirators in the United States. 3M challenges the scope of the relevant products for the former and the geographic scope for the latter.

The relevant product market consists of all products that are “reasonably interchangeable by consumers for the same purposes.” *United States v. E. I. du Pont de Nemours & Co.*, 351 U.S. 377, 395 (1956); *see also Queen City Pizza v. Domino’s Pizza*, 124 F.3d 430, 436 (3d Cir. 1997). “Reasonable interchangeability” may be determined by looking at price, use, and qualities of the products. *See E.I. du Pont de Nemours*, 351 U.S. at 404; *Tunis Bros. Co. v. Ford Motor Co.*, 952 F.2d 715, 722 (3d Cir. 1991).

3M argues that the district court erred in limiting the upstream market to fluorinated products. In particular, 3M argues that non-fluorinated filter media, such as fiberglass and pleated material, are interchangeable with fluorinated media, and that TransWeb’s expert admitted as much.

While 3M points to evidence supporting a conclusion that fluorinated material does not form a distinct market, this does not undermine the sufficiency of the evidence supporting the jury’s conclusion to the contrary. Evidence demonstrated that: fluorinated material has a lower pressure drop while maintaining high filtration, as compared to other filter media; fluorinated material has a longer service life than other filter media; and customers would pay more for respirators with the fluorinated media. Taken together, this evidence provides a sufficient basis on which a reasonable jury could conclude that the price, use, and qualities of fluorinated material render it a distinct market from other filter media.

“The relevant geographic market is the area in which a potential buyer may rationally look for the goods or services he or she seeks.” *Tunis Bros.*, 952 F.2d at 726 (quoting *Pa. Dental Ass’n v. Med. Serv. Ass’n of Pa.*, 745

F.2d 248, 260 (3d Cir. 1984)). “Consequently, the geographic market is not comprised of the region in which the seller attempts to sell its product, but rather is comprised of the area where his customers would look to buy such a product.” *Id.* at 726.

3M argues that the district court erred in limiting the downstream market for NIOSH-certified respirators to the United States. In particular, 3M argues that buyers look to overseas companies to purchase NIOSH-certified respirators, and that TransWeb’s expert testimony on the relevant geographic market was without basis.

3M’s argument is based primarily on an artificial distinction. By repeatedly pointing to the potential for buyers to purchase NIOSH-certified respirators from foreign manufacturers, 3M implies that the “United States” market only includes respirators *manufactured* in the United States. But TransWeb’s expert clarified that sales of NIOSH-certified respirators in the United States by foreign manufacturers were already included in his calculations for the “United States” geographic market. *See* J.A. 2299. As such, the flaw proffered by 3M in the definition of the geographic market is not present.

Beyond this artificial distinction, there is also no lack of evidence to support the jury’s verdict. The district court noted that the NIOSH certifications are relevant to companies operating in the United States, as the United States OSHA promulgates regulations regarding the use of NIOSH-certified respirators by employees. As such, the jury could have reasonably concluded that NIOSH certification is most relevant to buyers in the United States, given that OSHA’s regulations are limited to the United States. Evidence also demonstrated that 3M itself reviewed sales in the United States market distinct from other markets. Finally, while 3M notes that TransWeb’s expert did not perform any “calculations” to determine that the United States is the relevant geographic market,

his testimony was still based on expert opinion on which the jury was entitled to rely. Therefore, there was a sufficient basis on which a reasonable jury could conclude that the United States was the relevant geographic market for the NIOSH-certified respirators.

B

3M's final challenge is to the district court's award of attorney fees as antitrust damages.

Section 4 of the Clayton Act provides that "any person who shall be injured in his business or property by reason of anything forbidden in the antitrust laws . . . shall recover threefold the damages by him sustained, and the cost of suit, including a reasonable attorney's fee." 15 U.S.C. § 15(a) (2012). The jury concluded that TransWeb was entitled to its lost profits and attorney fees in recompense for 3M's antitrust violation. The jury found 3M liable for approximately \$34,000 in lost profits, which the district court awarded to TransWeb as the trebled amount of approximately \$103,000. After review by a special master, the district court concluded that TransWeb incurred approximately \$3.2 million in attorney fees prosecuting the antitrust claim and approximately \$7.7 million defending the infringement suit. The district court awarded the \$3.2 million on a one-for-one basis as "cost of suit" fees. The district court awarded the \$7.7 million trebled to approximately \$23 million as damages. 3M does not appeal the lost profits or cost of suit fees.

3M argues that the district court erred in awarding the \$23 million of attorney-fees damages, because TransWeb failed to show any link between those attorney fees and an impact on competition. 3M argues that those attorney fees had no effect on competition because they did not force TransWeb out of the market or otherwise affect prices in the market. On this basis, 3M argues that those attorney fees are not an antitrust injury and thus cannot be a proper basis for antitrust damages.

Section 4 of the Clayton Act does not provide recompense for any injury causally linked to a violation of the antitrust laws, but rather only for *antitrust* injury. See *Atl. Richfield Co. v. USA Petroleum Co.*, 495 U.S. 328, 334 (1990); *Brunswick Corp. v. Pueblo Bowl-O-Mat, Inc.*, 429 U.S. 477, 489 (1977). TransWeb’s injury-in-fact of \$7.7 million must be “attributable to an anti-competitive aspect of the practice under scrutiny” in order to qualify as an antitrust injury. *Atl. Richfield*, 495 U.S. at 334. Stated another way, TransWeb’s injury-in-fact must “stem[] from a competition-*reducing* aspect or effect of the defendant’s behavior,” not from competition-increasing or competition-neutral aspects. *Id.* at 344.

3M’s argument focuses on the fact that the harmful effect on competition proven by TransWeb at trial never actually came about. TransWeb proved at trial that increased prices for fluorinated filter media and respirators would have resulted had 3M succeeded in its suit. However, because TransWeb prevailed, these effects never materialized.

We do not read the antitrust injury requirement from *Atlantic Richfield*, *Brunswick*, and similar cases to so narrowly define the scope of antitrust injury. Those cases dealt with situations where the antitrust-defendants’ actions, though unlawful, would not have actually reduced competition. See, e.g., *Atl. Richfield*, 495 U.S. at 337–38 (rejecting attempt to recover profits lost due to an increase in competition and reduction in prices caused by vertical, maximum-price-fixing arrangement); *Cargill, Inc. v. Monfort of Colo., Inc.*, 479 U.S. 104, 114–17 (1986) (rejecting attempt to block merger on the theory that the merged companies would increase competition and lower prices); *Brunswick*, 429 U.S. at 487–88 (rejecting attempt to recover lost marginal profits that were not achieved because an acquiring company purchased a failing company, thus maintaining competition with the antitrust-plaintiff).

In this case, however, 3M's unlawful act was in fact aimed at reducing competition and would have done so had the suit been successful. 3M's unlawful act was the bringing of suit based on a patent known to be fraudulently obtained. What made this act unlawful under the antitrust laws was its *attempt* to gain a monopoly based on this fraudulently-obtained patent. TransWeb's attorney fees flow directly from this unlawful aspect of 3M's act. That is, TransWeb's attorney fees "flow[] from that which makes [3M's] acts unlawful," *Brunswick*, 429 U.S. at 489, and are "attributable to [this] anti-competitive aspect of the practice under scrutiny," *Atl. Richfield*, 495 U.S. at 334. The "competition-reducing aspect," *id.* at 344, of 3M's behavior was its attempt at achieving a monopoly by bringing the subject lawsuit. 3M's failure to prevail in that lawsuit does not make the resultant attorney fees any less attributable to that behavior, and the attorney fees are precisely "the type of loss that the claimed violations would be likely to cause," *Brunswick*, 429 U.S. at 489 (quoting *Zenith Radio Corp. v. Hazeltine Research, Inc.*, 395 U.S. 100, 125 (1969)) (internal ellipses omitted). Therefore, TransWeb's attorney fees are both injury-in-fact and antitrust injury.

3M relies on *Comcast Corp. v. Behrend*, 133 S. Ct. 1426 (2013), as foreclosing TransWeb's recovery of attorney fees as antitrust damages. But 3M relies on *Comcast* primarily to refute TransWeb's notion that it can separate the antitrust injury in § 4 from the injury-in-fact used for the basis of damages in § 4. On this point we agree with 3M. Section 4 only contemplates a single injury, i.e., it does not allow one antitrust injury and a separate injury-in-fact that is used for the basis of damages. But this flaw in TransWeb's position does not undo the damages award. TransWeb's attorney fees are themselves both injury-in-fact and sufficiently stemming from the competition-reducing aspect of 3M's behavior to qualify as antitrust injury. The district court instructed the jury in accord-

ance with this proper interpretation of the law, and TransWeb presented sufficient evidence for the jury to conclude that these requirements of § 4 were met.

This conclusion is supported by the only persuasive authority that addresses the award of attorney fees as damages for a *Walker Process* violation: *Kearney & Trecker Corp. v. Cincinnati Milacron Inc.*, 562 F.2d 365, (6th Cir. 1977). In *Kearney*, the district court found the patentee liable under § 2 of the Sherman Act based on the *Walker Process* theory of liability. *See id.* at 372–73. The patentee had obtained a patent through inequitable conduct and later sued the defendant for infringement of that patent. *See id.* at 368–69, 371–72. The appeals court held that the defendant’s attorney fees could be awarded as § 4 damages even though “[the defendant] did not prove direct market place damages resulting from [the patentee’s] anticompetitive acts.” *Id.* at 374–75. The court relied on the reasoning from the district court that the patentee forced the defendant into a position of having to choose from three alternatives: cease competition, take a license, or defend the infringement action. *See id.* at 374. The appeals court held that “one who has established or is attempting to establish an illegal monopoly by fraud on the Patent Office or misuse of a patent should not be permitted to further this goal by means of an infringement suit. When the antitrust violations are causally connected to the infringement action it is permissible to include the expenses of defending that action in the award of damages.” *Id.*

While a causal connection is no longer a sufficient connection after *Brunswick*, 429 U.S. at 489, decided that same year, the core logic in *Kearney* is still valid: the patentee instigated an anticompetitive suit that forced the defendant to choose between ceasing competition, taking a disadvantageous position in competition (taking a license), or defending the suit. Because the injury suffered by the antitrust-plaintiff under each choice flows

from the anticompetitive aspect of the patent owner's behavior, each can be recovered as antitrust damages.

3M had indicated that it would not license its patents to TransWeb. Therefore, in response to 3M's anticompetitive infringement suit, TransWeb had only the options of ceasing competition altogether or defending the suit. Had TransWeb chosen the first option, evidence at trial demonstrated that TransWeb would have been forced out of the market and higher prices would have resulted. So, harmful effects on competition would have resulted and TransWeb would have undoubtedly suffered antitrust injury. TransWeb chose the second option. This prevented the harmful impacts to consumers of the relevant products but caused TransWeb to suffer a very real injury of its own, the cost of defending the suit. Both the lost profits suffered under option one and the attorney fees suffered under option two were attributable to what made 3M's behavior unlawful, i.e., bringing the lawsuit on a fraudulently-obtained patent in pursuit of a monopoly. Therefore, the injury suffered by TransWeb under either option qualifies as antitrust injury and thus can form the basis of damages under § 4.

We are further persuaded to our conclusion by the multitude of regional circuit precedents finding that attorney fees incurred defending an anticompetitive lawsuit can form the basis for antitrust damages. See *Premier Elec. Constr. Co. v. Nat'l Elec. Contractors Ass'n*, 814 F.2d 358, 371–76 (7th Cir. 1987) (permitting recovery of attorney fees for defending anticompetitive cartel suit even though sham litigation was not present); *Rickards v. Canine Eye Registration Found.*, 783 F.2d 1329, 1334–35 (9th Cir. 1986) (permitting recovery of attorney fees for defense of sham litigation); *CVD, Inc. v. Raytheon Co.*, 769 F.2d 842, 857–58 (1st Cir. 1985) (permitting recovery of attorney fees for defending bad faith assertion of trade secrets); *Handgards, Inc. v. Ethicon, Inc.*, 743 F.2d 1282, 1295–98 (9th Cir. 1984) (permitting recovery of attorney

fees for defending bad faith prosecution of patent infringement suit); *Handgards, Inc. v. Ethicon, Inc.*, 601 F.2d 986, 996–97 (9th Cir. 1979) (same); *American Infra-Red Radiant Co. v. Lambert Indus.*, 360 F.2d 977, 996–97 (8th Cir. 1966) (permitting recovery of attorney fees when a patent suit is in furtherance of an illegal monopolistic scheme, though the suit itself may not be sham litigation); *Dairy Foods Inc. v. Dairy Maid Prods. Coop.*, 297 F.2d 805, 808–10 (7th Cir. 1961) (same); *Clapper v. Original Tractor Cab Co.*, 270 F.2d 616, 623–24 (7th Cir. 1959) (same); *Kobe, Inc. v. Dempsey Pump Co.*, 198 F.2d 416, 424–25 (10th Cir. 1952) (same).

3M criticizes TransWeb’s reliance on cases such as *Handgards* that did not deal with *Walker Process* violations in particular. According to 3M, because some cases relied on by TransWeb dealt with sham litigation, the holdings are inapposite here. It is true that we have held that sham litigation and *Walker Process* are distinct avenues by which a party can lose *Noerr-Pennington* immunity. See *Nobelpharma*, 141 F.3d at 1071–72. In *Nobelpharma*, we noted that the Supreme Court had declined to explain how sham litigation and *Walker Process* liability relate to one another, so we declined to merge the two doctrines. See *id.* (discussing *Profl Real Estate Inv’rs, Inc. v. Columbia Pictures Indus., Inc.*, 508 U.S. 49, 61 n.6 (1993) (“*PRE*”). We reasoned that the objective baselessness and subjective bad faith requirements for sham litigation laid out in *PRE* are one way that a party can lose antitrust immunity, while the “very specific conduct that is clearly reprehensible” and defined in *Walker Process* is another way. *Id.* at 1071.

But that distinction does not make the regional circuit cases dealing with sham litigation or other antitrust violations uninformative to the present issue of damages. While there are distinctions between the various types of antitrust violations, the logic underlying the award of attorney fees as antitrust damages is sufficiently similar

to make those holdings relevant in the *Walker Process* context. In particular, it is the *abuse of the legal process* by the antitrust-defendant that makes the attorney fees incurred by the antitrust-plaintiff during that legal process a relevant antitrust injury. See *Premier Electric*, 814 F.2d at 375–76 (explaining that fraud in litigation seeks to obtain more than authorized by the political branches and that “litigation costs incurred to combat the consequences of acts exceeding the authorization granted by the political branches could be the basis of liability”); *Handgards*, 601 F.2d at 997 (“In a suit alleging antitrust injury based upon a bad faith prosecution theory it is obvious that the costs incurred in defense of the prior patent infringement suit are an injury which ‘flows’ from the antitrust wrong.”). Cf. *PRE*, 508 U.S. at 58 (“Indeed, we recognized that recourse to agencies and courts should not be condemned as sham until a reviewing court has discerned and drawn the difficult line separating objectively reasonable claims from a pattern of baseless, repetitive claims which leads the factfinder to conclude that the administrative and judicial processes have been abused.” (internal quotation marks and modifications omitted)).

No assertion of a patent known to be fraudulently-obtained can be a proper use of legal process. No successful outcome of that litigation, regardless of how much the patentee subjectively desires it, would save that suit from being improper due to its tainted origin. Therefore, we find the holdings of our sister circuits allowing attorney fees as antitrust damages in contexts such as sham litigation and lawsuits in furtherance of a broader anticompetitive scheme to be persuasive arguments in favor of allowing TransWeb to recover its attorney fees as § 4 damages in this case.

To conclude otherwise would be contrary to the purpose of the antitrust laws. The antitrust laws exist to protect competition. See *Brown Shoe*, 370 U.S. at 320

(1962). If we were to hold that TransWeb can seek anti-trust damages only under option one, forfeiture of competition, but not option two, defending the anticompetitive suit, then we would be incentivizing the former over the latter. This would amount to incentivizing TransWeb to forfeit competition rather than continue it. This is not in accord with the purpose of those very same antitrust laws.

Furthermore, it furthers the purpose of the antitrust laws to encourage TransWeb to bring its antitrust suit under option two instead of waiting to be excluded from the market under option one. If TransWeb proceeds only after being excluded from the market under option one, then the injury-in-fact will no longer be borne by TransWeb alone, but rather would be shared by all consumers in the relevant markets.

For these reasons, we find that TransWeb's attorney fees incurred defending the infringement suit are anti-trust injury and thus can form the basis for damages under § 4.

VI

Based on the foregoing, we affirm the district court's denial of JMOL on non-invalidity and on the antitrust counts, as well as the district court's judgment of unenforceability due to inequitable conduct.

AFFIRMED