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UNITED STATES COURT OF APPEALS

FOR THE SIXTH CIRCUIT

BETHIE PRIDE,
Plaintiff-Appellant,

v.

BIC CORPORATION; SOCIETE BIC, S.A.,
Defendants-Appellees.

No. 98-6422

Appeal from the United States District Court
for the Eastern District of Tennessee at Knoxville.
No. 96-00445—James H. Jarvis, District Judge.

Argued: April 25, 2000

Decided and Filed: July 7, 2000

Before: RYAN and BOGGS, Circuit Judges; and DUGGAN, District Judge.*

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* The Honorable Patrick J. Duggan, United States District Judge for the Eastern District of Michigan, sitting by designation.

COUNSEL

ARGUED: John Troy Andrews, ANDREWS LAW GROUP, Tampa, Florida, for Appellant. Joseph R. Wheeler, CORNELIUS & COLLINS, Nashville, Tennessee, for Appellees. **ON BRIEF:** John Troy Andrews, John W. Andrews, ANDREWS LAW GROUP, Tampa, Florida, R. Christopher Gilreath, Sidney W. Gilreath, GILREATH & ASSOCIATES, Knoxville, Tennessee, for Appellant. Joseph R. Wheeler, Thomas I. Carlton, Jr., CORNELIUS & COLLINS, Nashville, Tennessee, for Appellees. Chilton Davis Varner, Robert K. Woo, Jr., KING & SPALDING, Atlanta, Georgia, Hugh F. Young, Jr., PRODUCT LIABILITY ADVISORY COUNCIL, INC., Reston, Virginia, for Amicus Curiae.

OPINION

BOGGS, Circuit Judge. Plaintiff-Appellant Bethie Pride sued the defendants, BIC Corporation and Societe BIC, S.A. (BIC), the marketers of the BIC J-6 fixed flame model cigarette lighter,[1] for the death of her late husband, Carl L. Pride. Mr. Pride sustained fatal third-degree burns after one of the J-6 model lighters allegedly first failed to extinguish, causing his clothing to ignite, and then exploded, peppering him with isobutane fluid that fueled the conflagration that killed him. Although the case was originally scheduled for jury trial on April 14, 1998, the district court continued the trial date pending an evidentiary hearing on BIC's motion to exclude the testimony of Pride's expert witnesses. Pursuant to 28 U.S.C. § 636(b), the court referred all pretrial motions to a United States magistrate judge who conducted an

[1] A French company, Briquette Jetable 75, manufactured, assembled, tested and shipped the J-6 model lighter for BIC prior to July 6, 1994.

testimony of Pride's expert witnesses, denying Pride's motion to reopen the *Daubert* inquiry, and granting summary judgment for BIC.

would not have prevented the accident. Because Pride failed to introduce admissible evidence that the lighter caused the fire that killed Mr. Pride either by failing to extinguish, by exploding in the course of its intended use, or even by erupting as a result of forseeable misuse, the district court properly determined that BIC was entitled to summary judgment on both the manufacturing and design defect claims raised in Pride's complaint.

Summary Judgment

The district court properly concluded that, without admissible expert testimony on causation and product defect, no reasonable jury could find for Pride because, under Tennessee law, expert testimony is required to establish liability in cases alleging manufacturing and design defects. *See, e.g.*, *Fulton v. Pfizer Hosp. Prod. Group, Inc.*, 872 S.W.2d 908, 912 (Tenn. Ct. App. 1993) (holding that in order to recover, a plaintiff in a product liability case must "trace the injury to some specific error in [the] construction or design of the product"); *Browder v. Pettigrew*, 541 S.W.2d 402, 404 (Tenn. 1976) (similar).

Again, as the Supreme Court noted in *Weisgram*, it is simply not reasonable after *Daubert* for a party initially to present "less than [her] best expert evidence in the expectation of a second chance" to "shore[] up" her case after her expert testimony is ruled inadmissible. *Weisgram*, 120 S. Ct. at 1021. In this case, because the district court correctly determined that the expert testimony Pride presented at the *Daubert* hearing did not meet the standards for admissibility set forth in the Federal Rules of Evidence and in relevant precedent, we must, consistent with Tennessee product liability law, affirm the order granting BIC's motion for summary judgment.

III

Because Pride failed to present admissible expert evidence that would permit a jury to find in her favor under Tennessee law, we **AFFIRM** the district court's order excluding the

evidentiary hearing on the admissibility of Pride's expert witness testimony and, on May 12, 1998, entered an order disposing of all of the parties' non-dispositive pretrial motions. The magistrate judge also submitted a report recommending that the district court exclude the testimony of Pride's expert witnesses and also grant BIC's motion for summary judgment. Pride now appeals the district court's order adopting the magistrate judge's report and recommendation and denying five motions filed by Pride after the magistrate judge submitted his report. For the reasons that follow, we affirm the district court's order granting summary judgment for BIC and the court's other challenged rulings.

I

Basic Facts

On the afternoon of April 3, 1995, 60-year-old Carl Pride (Mr. Pride) went behind his house to check on a drain pipe. A neighbor, Billy Gunter, testified by deposition that he saw Mr. Pride examining the drain and that he saw no fires or flames burning in the area where Mr. Pride was working. Gunter went to lie down and, a few minutes later (approximately 15 to 25 minutes after Mr. Pride went outside), Gunter heard Bethie Pride (Mr. Pride's wife and the plaintiff herein) screaming as she discovered Mr. Pride's body. Another neighbor, Robert Connor, heard Pride's scream and went to the Pride residence. When he arrived, he saw flames on Mr. Pride's back and shoulder and noticed that the drain pipe against which Mr. Pride was lying was also burning. Although officers of the Oliver Springs Police department and EMS personnel arrived at the residence shortly after Pride reported her husband's condition, Mr. Pride had sustained severe burns over 95% of his body and could not be saved. The EMS report indicates that, shortly after the fire was extinguished, emergency personnel detected some type of chemical odor around the body.

After the fire was extinguished, Randy Scarborough, a criminal investigator, and William Cliett of the State Fire Marshal's Office investigated the scene of the accident.

Scarborough was placed in charge of the investigation and pictures were taken of both Mr. Pride's body and the surrounding area. In an effort to determine the cause of the fire, Scarborough had a representative from the local gas company check the area behind the Prides' residence for the presence of gas or gas fumes. Following this investigation, Scarborough ruled out "foul play," an electrical accident, or natural gas as the cause of the fire. In the course of surveying the area surrounding Mr. Pride's body, Scarborough discovered various parts of a BIC cigarette lighter. Mr. Pride was a smoker who habitually used disposable lighters, generally keeping them with his cigarettes in his shirt pocket. Mr. Pride had purchased a new BIC disposable lighter on the morning of the fire. Based on their investigation of the area behind the Pride residence, neither Scarborough nor Cliett were able to attribute the fire to anything other than Mr. Pride's lighter. Both Scarborough and Cliett surmised that the lighter malfunctioned and caused the fire, which started on Mr. Pride's torso and spread by consuming his clothing.

In addition to examining Mr. Pride's body and the area immediately behind the house, Scarborough collected Mr. Pride's remaining clothes, took soil samples from the surrounding area, and gathered other evidence that he then submitted to the Tennessee Bureau of Investigation (TBI) in Nashville for analysis. Although the TBI's initial investigation indicated that there might have been some motor oil residue on Mr. Pride's leather clothing articles, the TBI's final conclusion was that there were no petroleum distillates (accelerants) in any of the samples taken from the area behind the Pride residence.

Procedural History

Based on the results of the fire investigation, Pride sued BIC on April 2, 1996, claiming that the BIC J-6 disposable lighter that her husband was carrying exploded and caused him to sustain fatal burns. Both defendants answered, denying liability and raising all applicable defenses under the Tennessee Product Liability Act. The district court then

product allegedly suffering from the defect caused the harm in question – the district court did not err in granting summary judgment to BIC on all of Pride's claims despite its failure specifically to rule on her allegations regarding the lighter's allegedly faulty design. It is, of course, true that a redundant safety device such as a snuffer cap would help prevent injuries due not only to manufacturing defects in disposable lighters, but to foreseeable misuse by consumers. In this case, however, Pride's experts did not offer reliable evidence that the lighter was in fact the cause of the fire that killed Mr. Pride, and thus did not raise a material issue of fact as to whether a redundant safety device could have prevented the accident.

The Tennessee Products Liability Act provides that a manufacturer or seller may be liable for injuries caused by a product that is shown to have been in a "defective condition or unreasonably dangerous at the time it left the control of the seller." Tenn. Code Ann. § 29-28-105(a); *see Holman v. BIC Corp.*, 925 S.W.2d 527, 529 (Tenn. 1996). In order to recover under the Act, the plaintiff has the burden of showing that the alleged "defect in the product [was the] cause in fact of the injury." *Wyatt v. Winnebago Indus., Inc.*, 566 S.W.2d 276, 281 (Tenn. Ct. App. 1977); *see also Tennessee Trailways, Inc. v. Ervin*, 438 S.W.2d 733, 735 (Tenn. 1969) (explaining that, "[i]n Tennessee, proximate cause has been described as that act or omission which immediately causes or fails to prevent the injury"). In this case, Pride's experts failed timely to present admissible evidence either that the lighter was the proximate cause of Mr. Pride's injuries, or that the presence of a snuffer cap or other redundant safety device could have prevented the accident. Indeed, the most plausible theory of the accident was posited by defense expert Broutman who, based on replicable laboratory tests that reproduced the explosion and residual damage that occurred in the Pride lighter, opined that an external heat source, rather than a failure to extinguish incident or other defect, caused the fire that killed Mr. Pride. Under Broutman's theory, with respect to which Pride's experts failed to raise a genuine issue of material fact, the presence of a safety cap on the lighter

"unconvincing" the plaintiff's "fears that allowing courts of appeals to direct the entry of judgment for defendants will punish plaintiffs who could have shored up their cases by other means had they known their expert testimony would be found inadmissible.").

Because Pride has presented no evidence that the district court abused its discretion in holding that reopening the proceedings would be "contrary to all rules of fairness and proper procedure," we affirm the district court's denial of Pride's motions to reopen the *Daubert* inquiry. *See In re TMI Litigation Cases Consolidated II*, 922 F. Supp. 997, 1005 (M.D. Pa. 1996) (excluding the plaintiff's untimely filings on the basis that admitting them would allow the plaintiff's experts to become "moving targets" whose opinions were constantly changing and being supplemented in order to overcome proper pretrial procedures).

Failure to Consider Pride's Allegations of Design Defect

In addition to disputing the district court's conclusion that her experts were not qualified to testify as to manufacturing defects in the J-6 lighter, Pride argues that the district court erred in granting summary judgment to BIC on all of her claims without specifically addressing her theory of design defect. Pride is correct that, under certain circumstances, design defect constitutes a separate theory of recovery under Tennessee product liability law. She is also correct that neither the magistrate judge nor the district court made any specific findings regarding her experts' qualifications on the subject of design defect. BIC contends, however, that the order granting summary judgment based on Pride's inability to produce expert evidence of a manufacturing defect properly encompassed her claim of design defect because BIC's failure to equip its lighters with a redundant safety device could not give rise to liability for Mr. Pride's death in the absence of evidence that Mr. Pride's lighter was defective and caused the fire that claimed his life.

Because Pride failed to offer admissible expert testimony on the logical prerequisite to a design defect claim – that the

dismissed Societe BIC, S.A. for lack of personal jurisdiction, a determination that Pride does not appeal. A discovery schedule was set, and the parties proceeded to develop the case.

Although the district court set a discovery schedule and entered a protective order covering the evidence obtained from the scene of the accident, Pride's attorney, John Andrews, repeatedly violated scheduling order deadlines and failed to provide mandatory Rule 26 disclosures and reports. Specifically, neither Andrews nor his experts videotaped or otherwise documented their disassembly of the remains of the Pride lighter before turning the altered evidence over to the defense, did not timely disclose that they had the lighter remains examined by an independent consulting laboratory in Chicago, and did not timely provide the defense with a copy of the laboratory's report. Despite multiple warnings from the magistrate judge regarding Pride's obligations with respect to expert witness testimony, Andrews (whose discovery misconduct led to the exclusion of expert testimony in a previous suit against BIC [2]), continued to disregard Rule 26 deadlines and discovery requirements. In response to Andrews's discovery abuses, BIC filed six separate motions requesting dismissal of the case and imposition of fees and costs. The magistrate judge concluded that Andrews had violated the provisions of Rule 26(a)(2) and the protective order entered by the court, but declined to dismiss the case, holding instead that staying discovery and excluding Pride's late-disclosed expert-witness testimony were sufficient sanctions.

On March 2, 1998, BIC filed a motion to exclude as unreliable the testimony of Pride's three timely-disclosed expert witnesses, Leighton Sissom, Patrick McGinley, and Robert Davis, and moved for summary judgment. Pursuant to the parties' agreement to submit all pretrial motions to the

[2] *See Roland v. BIC Corp.*, No. 3:93-0736, M.D. Tenn., May 18, 1996 (Echols, D. J.).

magistrate judge for resolution, an evidentiary hearing was conducted on April 14 and 15, 1998, to determine the admissibility of Pride's expert witness testimony pursuant to Federal Rules of Evidence 104 and 702 and the Supreme Court's decision in *Daubert v. Merrell Dow Pharmaceuticals*, 509 U.S. 579 (1993). In evaluating the admissibility of the testimony, the magistrate judge and the district court considered evidence presented by both parties during the *Daubert* hearing.

Testimony at the Daubert Hearing

Pride's first expert, Dr. Leighton Sissom, examined the remains of the Pride lighter after he obtained from Investigator Scarborough the pieces of the lighter that were found at the scene. Sissom has a Ph.D. in mechanical engineering and is the Dean Emeritus of Engineering at Tennessee Technological University in Cookeville, Tennessee. Based on both his engineering qualifications and his experience as an expert witness in product liability litigation, including previous suits against BIC,[3] Pride proffered Sissom as an expert witness on the manufacturing and design defects of the BIC lighter, as well as on the cause and origin of the fire that killed Mr. Pride.

Although Sissom remains affiliated with Tennessee Tech, he established a consulting firm in 1978 called Sissom & Associates, Inc., and spends considerable time serving as an expert witness. As the magistrate judge noted in his report and recommendation, since 1978 Sissom has "testified in hundreds of product liability lawsuits involving everything from car seat belts to manure spreaders." With respect to Sissom's service as an expert witness in prior "failure to extinguish" cases against BIC, the report noted that on "some occasions . . . trial courts have admitted his testimony as that of a qualified expert . . . . [however,] [o]n at least one

[3] *See, e.g.*, *Harbinson v. BIC*, No. 92-0815, M.D. Tenn., Sept. 15, 1994 (Echols, D. J.).

(1) Motion for leave to modify the scheduling order and to accept additional testimony by Dr. Leighton Sissom;

(2) Motion to order BIC to disclose the identity of experts that have qualified to testify for plaintiffs regarding the type of manufacturing and design defects alleged in this case;

(3) Motion for leave to modify the scheduling order to add David Kessinger as an expert or in the alternative, as a rebuttal expert, and to allow Pride to proffer additional testing reports and testimony by experts Sissom and McGinley;

(4) Motion for leave to allow Dr. Leighton Sissom to visit the BIC lighter plant;

(5) Motion for leave to modify the scheduling order to add David Kessinger as an expert witness and/or as a rebuttal expert and reopen the *Daubert* inquiry to consider additional evidence, or in the alternative, to stay the court's ruling.

After reviewing each of the five motions, the district court denied them all on the basis that they were a "transparent attempt to reopen the *Daubert* hearing now that the weaknesses in [Pride's] expert testimony have been pointed out." The district court correctly observed that Pride had "ample opportunity to locate experts for this case, and her experts had ample opportunity to develop their theories on how the accident occurred, to explain their underlying methodology, and test their theories prior to the *Daubert* hearing." *See also Weisgram v. Marley Co.*, 120 S.Ct. 1011, 1021 (2000) ("Since *Daubert*, . . . parties relying on expert evidence have had notice of the exacting standards of reliability such evidence must meet."). Indeed, as the Supreme Court observed in *Weisgram*, "[i]t is implausible to suggest, post-*Daubert*, that parties will initially present less than their best expert evidence in the expectation of a second chance should their first try fail." *Ibid.* (finding

failure to extinguish incident, caused the fire that killed Mr. Pride.

Daubert and its progeny make clear that "[p]roposed [expert] testimony must be supported by appropriate validation." *Daubert*, 509 U.S. at 591. The failure of Pride's experts to test their hypotheses in a timely and reliable manner or to validate their hypotheses by reference to generally accepted scientific principles as applied to the facts of this case renders their testimony on the cause and origin of the fire unreliable and therefore inadmissible under *Daubert* and Federal Rules of Evidence 702 and 104. Because de novo review of the record supports the district court's finding on this issue, and because the district court has broad discretion as a "gatekeeper" to determine the admissibility of scientific testimony, we affirm its decision to exclude the testimony of Pride's proffered experts. *See Daubert*, 509 U.S. at 593 (emphasizing the district court's role as a "gatekeeper" and stating that valid scientific methodology usually involves "generating hypotheses and testing them to see if they can be falsified"); *Smelser v. Norfolk Southern Ry. Co.*, 105 F.3d 299, 304 (6th Cir. 1997) (applying *Daubert* to exclude the testimony of a biomechanical engineer who failed to conduct pertinent testing).

Refusal to Reopen the Daubert Inquiry

District courts have broad discretion to exclude untimely disclosed expert-witness testimony. *See, e.g.*, *Trilogy Communications v. Times Fiber Communications*, 109 F.3d 739 (3d Cir. 1997) (upholding the exclusion of untimely expert-witness reports and affidavits that violated the court's scheduling order); *Konstantopoulos v. Westvaco Corp.*, 112 F.3d 710 (3d Cir. 1997) (upholding the exclusion of an expert's testimony as a sanction for the non-moving party's decision to violate pretrial discovery orders in an attempt to "gain a tactical advantage by delaying notification"). In this case, the district court denied the following five motions submitted by Pride after the magistrate judge had issued his report and recommendation:

occasion, another trial court refused to permit him to testify regarding a manufacturing defect in a Bic lighter."

In his Rule 26(a)(2)(B) report to the district court, Sissom defined his areas of expertise as "statics and dynamics of electro-mechanical systems, cause and origin of fires, fluid mechanics, machine design, safety, ergonomics, and human factors." Although he conceded that he had never been employed in the area of lighter manufacturing or design, had never been to the factory where the Pride lighter was made or to any other lighter manufacturing facility, and was unfamiliar with the process by which BIC lighters are manufactured, he offered the following account of how the Pride accident "probably" occurred:

> After using the lighter, [Mr. Pride] placed it in his shirt pocket and continued working. Unknown to him, the lighter had failed to extinguish, continuing to burn in his pocket. A few moments later, it erupted in a flash/explosion and engulfed him in flames about the head and shoulders. The conflagration caused him to stumble/fall striking his face/head on the form board(s). The blow addled him, causing confusion and reflex action. He attempted to stand and move away from the board(s) that he struck. He then collapsed and fell backwards striking his head on the concrete block which had been placed over the inlet to the drain line.

In support of his theory, Sissom stated that he had performed a "failure analysis" of the lighter by (1) conducting a stereo microscope visual examination of the lighter; (2) taking photographs; and (3) conducting a scanning electron microscope visual examination of the lighter parts. He also photographed the lighter's jet and its globe seal, the parts that regulate the flow of isobutane fuel to the flint wheel of the lighter when the fuel is ignited,[4] in his laboratory at

[4]The jet is made out of zinc, which has a melting point of 775 degrees Fahrenheit. The globe seal is made of an unidentified rubber-type material that has a much lower melting point. The two parts fit together

Tennessee Tech. Based on his finding that the globe seal as he observed it was "cockeyed," Sissom concluded that the lighter failed to extinguish due to a gas leak that he attributed to a manufacturing defect in the seal.

With respect to the alleged manufacturing defect, Sissom opined that:

> The Lighter was defective and unreasonably dangerous.
>
> The installation of the Globe Seal was defective – cocked and irregularly crimped . . . [and was] the most direct cause of the mishap.
>
> It is probable that the globe seal did not function properly because of its cocked installation, permitting the fuel to continue to escape after the Rocker was released.
>
> The total contents of the lighter would produce a ball of flame up to 23 inches in diameter.
>
> The lighter had no redundant safety feature – such as an effective safety cap – which would shut off the flow of fuel or the flame's access to oxygen in the event of a malfunction of its basic mechanism (unintended fuel flow).

Sissom based the foregoing conclusions on his examination of the damaged lighter parts recovered from the Pride residence. Specifically, Sissom drew his conclusions regarding the defective nature of the Globe Seal from his observations that:

> The [zinc] Valve Body [of the Pride lighter] was bent and partially molten (pock-marked), [indicating exposure to zinc's melting temperature of 775 degrees Fahrenheit]. The Globe Seal is cocked with respect to the jet barrel,

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to form the mechanism used to discontinue the flow of isobutane fuel from the lighter when the thumb lever is released.

Finally, in addition to requiring that a proposed expert's testimony be "reliable," Rule 702 requires that the expert's testimony assist the trier of fact. This requirement has been interpreted to mean that scientific testimony must "fit" the facts of the case, that is, there must be a connection between the scientific research or test result being offered and the disputed factual issues in the case in which the expert will testify. *See Daubert*, 509 U.S. at 592. In short, under *Daubert* and its progeny, a party proffering expert testimony must show by a "preponderance of proof" that the expert whose testimony is being offered is qualified and will testify to scientific knowledge that will assist the trier of fact in understanding and disposing of issues relevant to the case. *See id.* at 592 n.10.

After carefully evaluating the testimony of all the experts in light of the standards set forth in *Daubert* and the Federal Rules of Evidence, both the magistrate judge and the district court concluded that the methodologies employed by Pride's expert witnesses were too unreliable to serve as the basis for admissible expert testimony. Pride's experts failed timely to conduct replicable laboratory experiments demonstrating that the explosion and residual damage that occurred in the Pride lighter was consistent with a failure to extinguish incident caused by a manufacturing defect. Specifically, Sissom's account of the accident – that the globe seal was "cockeyed" when the lighter left the manufacturer, that the misaligned seal permitted a fuel leak that caused the lighter to fail to extinguish, and that the failure to extinguish caused the conflagration that killed Mr. Pride – is not only unsupported by reliable testing, but is contradicted by the testimony of one of Pride's other experts and by laboratory tests conducted by defense expert Broutman as well as by the remains of the lighter itself. The presence of the "witness line" on the lighter's valve orifice indicates that the globe seal was properly aligned when the lighter was manufactured, and Broutman's tests, which reliably reproduced both the type of explosion and the residual damage that occurred in the Pride lighter, suggest that an external heat source, rather than a

> The adjective "scientific" implies a grounding in the methods and procedures of science. Similarly, the word "knowledge" connotes more than subjective belief or unsupported speculation. The term applies to any body of known facts or to any body of ideas inferred from such facts or accepted as truths on good grounds. Of course, it would be unreasonable to conclude that the subject of scientific testimony must be "known" to a certainty; arguably, there are no certainties in science. Indeed scientists do not assert that they know what is immutably "true" – they are committed to searching for new, temporary theories to explain, as best they can, phenomena. Science [thus] . . . represents a *process* for proposing and refining theoretical explanations about the world that are subject to further testing and refinement. But in order to qualify as "scientific knowledge" an inference or assertion must be derived by the scientific method. Proposed testimony must be supported by appropriate validation – *i.e.*, "good grounds," based on what is known.

Id. at 590 (internal quotation marks and citations omitted). By defining evidentiary reliability in terms of scientific validity, the *Daubert* Court instructed district courts that their primary function as "gatekeepers" is "to determine whether the principles and methodology underlying the testimony itself are valid" – not to second guess the validity of conclusions generated by otherwise valid methods, principles, and reasoning. *United States v. Bond*, 12 F.3d 540, 556 (6th Cir. 1993). Although there is no single criterion for determining whether a specific scientific methodology is reliable, the *Daubert* Court identified several factors that a district court should consider when evaluating the scientific validity of expert testimony, notably: the testability of the expert's hypotheses (whether they can be or have been tested), whether the expert's methodology has been subjected to peer review, the rate of error associated with the methodology, and whether the methodology is generally accepted within the scientific community. *See Daubert*, 509 U.S. at 593-94.

> and it was irregularly crimped. There was no imprint on the Globe Seal from seating with the Valve Body. It was obviously lightly seated before striking; otherwise, the isobutane would have leaked out.

Although Sissom believed that the physical condition of the Pride lighter evidenced a failure to extinguish based on a manufacturing defect, he conceded that he did not perform any tests to determine if he could duplicate a failure to extinguish scenario that would result in the explosion that both parties agree occurred in Mr. Pride's lighter. Pride did, however, submit two videotapes in response to BIC's motion for summary judgment that purportedly demonstrated what could happen in a failure to extinguish scenario. The tapes depicted experiments in which BIC J-6 lighters were fixed at a 45-degree angle, lit, and stuck in an open fuel position. After several minutes of burning in this position, the top portions of the lighters (and probably the globe seals) melted and caused a quick release of fuel from the tops of the lighters, producing a blow-torch effect. In neither test did the lighters explode and scatter as the Pride lighter did. However, the tests were not conclusive as to whether a failure to extinguish could ever produce such an explosion because, as even BIC's experts concede, a failure to extinguish incident that resulted in a clothing or other fire near the lighter could create an external heat source near the lighter body sufficient to induce an explosion.

With respect to the lighter's design, Sissom simply opined that all BIC disposable lighters suffer from a common design defect – the lack of a redundant safety feature, such as a safety cap, that would prevent oxygen flow to the lighter in the event that there were an unintended fuel leak that caused the lighter to fail to extinguish completely after the thumb lever was released. Examples of lighters that have such safety features include the Zippo lighter, which has been produced with a safety cap for forty years, and the Howard lighter, which also uses a snuffer cap. Based on these examples, it is plausible to conclude that Sissom was correct in asserting that installing such safety features on cigarette lighters was both

economically and technically feasible at the time Carl Pride's lighter was manufactured in the early 1990s. Sissom thus opined that, had Mr. Pride's lighter been equipped with a safety cap, his untimely death could have been prevented.

In the discovery phase prior to the *Daubert* hearing, Pride identified two other experts – Patrick McGinley and Robert Davis – whose testimony she sought to admit to support Sissom's theories of product defect and causation. Patrick McGinley is an expert in the cause and origin of fires. He began his career as a firefighter and ultimately became deputy chief of the Philadelphia Fire Department and Fire Marshal of the City of Philadelphia, in which capacity he has investigated thousands of fires. McGinley has an associate's degree in Fire Science from a junior college, has testified in other alleged failure to extinguish cases against BIC, and has done some testing on BIC disposable lighters. However, he did not do any testing in preparation for his testimony in this case; he simply opined that, based on the reports, depositions, pictures and other records he reviewed, the fire started in the upper left-hand pocket of Mr. Pride's tee shirt and, because other potential sources had been ruled out, was probably caused by the lighter. In the course of his testimony McGinley conceded that he is not an engineer, is not an expert in lighters, and did not perform any testing in connection with the Pride case.

Pride's third expert witness, Robert Davis, did not testify at the *Daubert* hearing even though the court explicitly instructed Pride to have all her proferred experts available for examination during the proceeding. In lieu of his appearance at the hearing, Pride offered to submit Davis's deposition testimony, which the court considered with BIC's consent. In his deposition, Davis testified that, although he is not a fire investigation expert, he considers himself to be one of the nation's best analytical chemists. Based on the fact that the polyacetyl (plastic) bottom of the Pride lighter was melted and contained fabric residue, Davis concluded that the bottom of the lighter had reached at least 260 degrees Fahrenheit and had literally exploded from the inside, as evidenced by the "curved angle of the shrapnel pieces . . . and the fish scale

Exclusion of Pride's Expert Witnesses

Rule 702 of the Federal Rules of Evidence regarding expert testimony provides:

Testimony by Experts.

> If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise.

Fed. R. Evid. 702. In *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), the Supreme Court established guidelines for district courts to use in determining the admissibility of expert testimony pursuant to Rules 702 and 104 of the Federal Rules of Evidence (FRE). Although it recognized that the evaluation of expert testimony is generally left to juries, the Court emphasized the trial judge's "gatekeeping" role with respect to expert proof on scientific issues. *Id.* at 597-98 (citing FRE 104(a)).

To qualify as an expert under Rule 702, a witness must first establish his expertise by reference to "knowledge, skill, experience, training, or education." FRE 702. Although this requirement has always been treated liberally, *see, e.g.*, *In re Paoli RR Yard PCB Litigation*, 916 F.2d 829, 855 (3d Cir. 1994), the magistrate judge correctly observed that liberal interpretation of this requirement "does not mean that a witness is an expert simply because he claims to be." (citing *id.* at 855).

Second, Rule 702 requires a proferred expert to testify to "scientific, technical or other specialized knowledge." FRE 702. As the *Daubert* Court noted, this requirement serves to establish a standard of "evidentiary reliability" or "trustworthiness." *Daubert*, 509 U.S. at 591. As the Court explained:

The district court affirmed the magistrate judge's partial denial of the first motion because, although the magistrate judge found that Pride's discovery violations did not merit the imposition of costs or dismissal of the suit, the magistrate judge correctly concluded that staying discovery and excluding late-discovered witnesses were appropriate sanctions for the violations. Although the district court's finding that Pride was not prejudiced by the magistrate judge's decision to preclude her from deposing the defendant's experts prior to the *Daubert* hearing is questionable – she arguably was prejudiced by her inability to ascertain the nature of BIC's expert defenses prior to the hearing – we nevertheless affirm the district court's disposition of this motion because the district court did not abuse its discretion in upholding the magistrate judge's decision to stay discovery as a sanction for Anderson's procedural abuses. *See Harmon v. CSX Transp.*, 110 F.3d 364, 366 (6th Cir. 1997); *Regional Refuse Sys., Inc. v. Inland Reclamation Co.*, 842 F.2d 150, 154 (6th Cir.1988).

With respect to motions 2, 3, 4, 5, and 8, we affirm the district court's decision that Pride had no grounds for appealing the magistrate judge's decisions because the magistrate judge decided each of these motions in Pride's favor. Finally, we affirm the district court's decision that the magistrate judge properly denied motions 6 and 7 because, with respect to motion 6, the magistrate judge did not clearly err in holding that Pride failed to show that the other incidents involving allegedly defective BIC lighters that she sought to introduce were substantially similar to Mr. Pride's accident, and because, with respect to motion 7, the magistrate judge granted the motion on an alternative ground suggested by Pride. In sum, because the district court correctly concluded that the magistrate judge's disposition of these motions was neither "clearly erroneous" nor "contrary to law," we affirm the district court's order adopting the magistrate judge's rulings.

type appearance [of the] plastic material." Davis's conclusions with respect to the Pride lighter were based only on information he had received from other sources, because he did not personally examine the lighter or visit the scene of the accident.

Although he agreed with Sissom that the Pride lighter exploded, Davis opined that the explosion resulted from a cause other than an external heat source (such as the pocket fire Sissom identified as the aggravating factor in the accident). Specifically, Davis concluded that, based on pictures of the lighter:

> [T]he valve body [mal]functioned allowing an overheat at the top portion of the lighter. This caused a release similar to the experiment that I did in our own laboratory, allowing the valve body to literally come out of the base of the lighter and releasing a very rich, as far as flammability goes, a very rich stream or presence of or a melt of, the butane contained and, to be specific, isobutane according to what I have read from the body of the lighter. At the point where this reached the proper mixture inside the lighter relative to air-fuel, the lighter exploded.

Davis further testified that the fan-shaped burn mark that the TBI investigators found on Mr. Pride's chest was consistent with his theory of a release of the fuel valve because, if the explosion resulted from an external heat source, it should have produced a "halo" burn pattern. Although Davis began a laboratory experiment to test this hypothesis, rigging a lighter so it would not extinguish and watching the valve body come out of the lighter, he "chickened out and shut the experiment down" before determining whether an explosion similar to that which killed Mr. Pride could result under such conditions.

Although the purpose of the *Daubert* hearing was to determine the admissibility of the testimony offered by Pride's expert witnesses, two defense experts testified at the hearing in order to assist the court in evaluating the

methodologies utilized by Pride's experts in reaching their conclusions on causation and product defect. The first defense expert who testified at the hearing was Paul Labrum. Labrum has a bachelor's degree in Aeronautical Engineering, was in charge of quality control for lighters at BIC from 1978 to 1983, and currently serves as Quality Assurance Manager for BIC. Labrum testified that he was familiar with both the process by which the Pride lighter was manufactured and the process by which it was tested for quality. Specifically, Labrum discussed how the jet and globe seal (jet/globe) assembly worked to control isobutane escape from the lighter and how the jet/globe assembly is manufactured. In addition, he stated that the Pride lighter, which was imported into the United States from France in 1994, would have gone through approximately 60 inspections, 29 of which were designed to detect and correct fuel leakage.

After examining the remains of the Pride lighter, Labrum testified that significant melting had occurred at the base of the lighter as evidenced by deformities and fabric imprints in the plastic, that no fabric was found attached to any other parts of the lighter, and that the melting was almost certainly caused by an external heat source because there was no thermal damage to the inside of the lighter base. By contrast, the outside of the lighter body showed soot damage, indicating exposure to fire for a considerable period of time. This heat exposure eventually caused the lighter to explode from the inside, as evidenced by a blow-hole in the base and the pristine nature of the inside surface of the lighter body. Based on this evidence, Labrum opined that the lighter exploded as a result of being exposed to an external heat source that was moving up the lighter at a time during which the base was exposed to fabric.

With respect to the alleged defect in the globe seal, Labrum found that the lighter valve's "witness line" – the impression formed in the rubber surface of the lighter's valve orifice when the globe seal is pressed against it – was proof that the globe seal was properly seated within the lighter before the explosion. Based on this evidence, Labrum criticized

(1) BIC's motion to stay discovery and exclude late-discovered expert witness information, for sanctions, and to dismiss;

(2) [Pride's] motion for leave to file attached documents in opposition to BIC's motion for summary judgment;

(3) [Pride's motion] for acceptance of [her] response (dated April 7, 1998) to BIC's motion to exclude testimony of [her] expert witnesses;

(4) [Pride's motion] to strike [a] statement [in] Paul Labrum's affidavit;

(5) [Pride's motion] for leave to file with the court [an] engineer's video-taped test of failure to extinguish BIC lighter exemplars in opposition to BIC's motion for summary judgment;

(6) [Pride's motion] to file documents of other similar incidents in opposition to BIC's motion for summary judgment;

(7) [Pride's motion] to continue the *Daubert* hearing as to Robert Davis until his appearance at trial, or alternatively, to allow [her] to proffer his deposition, Rule 26(b) report, and CV on April 14, at the presently scheduled hearing; and

(8) [Pride's motion] for leave to file an additional set of facts and arguments to BIC's motion to stay discovery, to exclude late-disclosed witnesses, and for sanctions and motion to dismiss dated March 16, 1998.[5]

[5] BIC filed this motion in response to Pride's violation (through counsel) of the court's protective order and directives concerning the disclosure of expert witness information.

a judgment as a matter of law." Fed. R. Civ. P. 56(c); *see Copeland v. Machulis*, 57 F.3d 476, 478 (6th Cir. 1995).

Although the movant bears the initial burden of establishing an absence of evidence to support the nonmoving party's case, *see Celotex Corporation v. Catrett*, 477 U.S. 317, 324 (1986), the nonmoving party cannot defeat the motion simply by resting on the allegations set forth in the complaint; he must convince the court that there is "sufficient evidence . . . for a jury to return a verdict [in his favor]." *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 249 (1986). To this end, the nonmovant "must set forth specific facts showing that there is a genuine issue for trial." *Id.* at 250. "The mere existence of a scintilla of evidence in support of the [nonmovant's] position will be insufficient." *Id.* at 252. In determining whether a genuine issue of material fact exists, the court must view the evidence in the light most favorable to the non-moving party. *Adickes v. S.H. Kress & Co.*, 398 U.S. 144, 157 (1970); *White v. Turfway Park Racing Ass'n, Inc.*, 909 F.2d 941, 943-44 (6th Cir. 1990). In determining whether an issue of fact is genuine and material, the court must decide whether the evidence is such that "reasonable jurors could find by a preponderance of the evidence that the [non-moving party] is entitled to a verdict," or whether the evidence is "so one-sided that the [moving party] must prevail as a matter of law." *Anderson*, 477 U.S. at 252.

This court reviews the district court's decision to exclude the testimony of Pride's expert witnesses, and its denial of Pride's motion to re-open the *Daubert* inquiry, for abuse of discretion. *See Kumho Tire Co., Ltd. v. Carmichael*, 119 S. Ct. 1167 (1999); *General Electric Co. v. Joiner*, 522 U.S. 136 (1997); *Morales v. American Honda Motor Co.*, 151 F.3d 500, 515 (6th Cir. 1998).

Disposition of the Parties' Pending Pretrial Motions

In its decision granting BIC's motion for summary judgment, the district court adopted the magistrate judge's memorandum and order disposing of the following eight non-dispositive pretrial motions:

Sissom's conclusion that the globe seal was defective when it left the manufacturer, noting that Sissom's failure to conduct additional tests rendered him unable to prove that a manufacturing defect, as opposed to intense fire damage, caused the globe seal to change position within the lighter. As Labrum went on to explain, the condition of the lighter jet, which is made from zinc and has a melting point of 775 degrees, indicated that Mr. Pride's lighter had been exposed to heat in excess of that temperature, causing the jet to melt and the globe seal to *become* improperly seated. Finally, Labrum testified to the results of BIC's experiments with lighters that fail to extinguish, noting that in routine failure-to-extinguish cases, the lighter body does not explode; the components at the top of the lighter heat up and begin to melt the plastic ears on the lighter body, at which point the spark and flint wheels at the top of the lighter are ejected, in most cases extinguishing the flame. Although BIC's failure-to-extinguish tests were not conclusive in that they did not account for an external heat source causing the lighter body to explode *before* the metal components at the top were ejected, (in the Pride lighter, the spark and flint wheels were found together, a result contrary to that usually observed in traditional failure-to-extinguish cases), the tests did cast doubt on Sissom's conclusions and methodology.

The second expert to testify at the *Daubert* hearing was Dr. Lawrence Broutman, a research professor in the Department of Mechanical and Materials Engineering at the Illinois Institute of Technology. Broutman holds a doctorate degree in Materials Engineering and Science from the Massachusetts Institute of Technology and is president of E.J. Broutman & Associates, a research and consulting firm in Chicago. Broutman has consulted with BIC concerning lighter failures for over 17 years and stated that he has tested thousands of lighters. At the evidentiary hearing, Broutman testified that, although BIC had asked him to examine the remains of the Pride lighter and to attempt to reconstruct the accident, the lighter parts he received had already been disassembled by Sissom, who, according to Broutman, had altered the original state of many of the lighter components and caused some

mechanical damage to the jet and valve body. Based on his examination of the lighter remains, Broutman concluded, like Labrum, that the lighter body had been exposed to an intense external heat source prior to the explosion, that the globe seal was properly aligned and crimped prior to the accident (as evidenced by the witness line on the inner bottom surface of the valve orifice), and that the seal had only become misaligned due to intense heat exposure.

In addition to examining the remains of the Pride lighter, Broutman conducted several tests to determine whether any of the theories of causation advanced by Pride's experts would produce a laboratory result similar to that which killed Mr. Pride. To this end, Broutman subjected several J-6 model lighters to an external heat source using both a heating element and actual flames originating from burning cotton shirt material, which was ignited and allowed to burn upward, consuming the lighter from below. Like the Pride lighter, the test lighters ruptured at the base and remnants of cotton fabric adhered to the bottoms of the lighter bodies. To determine whether the external heat source necessary to produce an explosion could, as Sissom opined, have been caused by a fire resulting from the lighter's failure to extinguish in Pride's shirt pocket, Broutman conducted two tests. First, he placed an unextinguished lighter in the shirt pocket of a mannequin wearing clothes similar to Mr. Pride's. Noting that it was extremely difficult to keep the flame burning in the shirt pocket, Broutman observed the fire melt the plastic ears of the lighter, but because the fire did not catch on the pocket material, the lighter's failure to extinguish did not cause an explosion. Although this test did not preclude the possibility that, under the right circumstances, the pocket fabric would have ignited and caused an explosion, Broutman's second test, in which he ignited the bottom of an overshirt a mannequin was wearing and allowed the flame to burn up towards the pocket holding the lighter, reliably reproduced the explosion that killed Mr. Pride.

Evidentiary Rulings Following the Daubert Hearing

Having evaluated the experts' testimony in light of the factors set forth in *Daubert*, the magistrate judge issued a report on May 12, 1998, recommending that BIC's motions be granted and all claims dismissed. On August 14, 1998, Pride filed various post-hearing motions seeking to admit additional expert testimony (both from her previous experts and from one David Kessinger) and to re-open the *Daubert* inquiry. BIC responded on August 19, 1998, by filing objections to Pride's post-hearing motions and by filing a motion to strike Pride's untimely expert witness submissions. On September 18, 1998, the district court issued a memorandum opinion and order denying Pride's post-hearing motions, accepting all of the magistrate judge's report recommending that Pride's expert witnesses be excluded, and granting BIC's motion for summary judgment. Emphasizing that it had repeatedly warned Pride that she was obligated to present all her expert witnesses and all her expert theories at the *Daubert* hearing, the district court denied Pride's motions to reopen the hearing and to admit new evidence that, according to Pride, would substantiate her experts' theories and cure the methodological deficiencies noted by the defense. The district court then explained its decision to grant BIC's motion for summary judgment, emphasizing that under Tennessee product liability law, no reasonable jury could find in Pride's favor without the aid of admissible expert testimony regarding product defect and causation. This appeal followed.

II

We review *de novo* the district court's grant of summary judgment for the defendant. *See Smith v. Ameritech*, 129 F.3d 857, 863 (6th Cir. 1997); *Hartsel v. Keys*, 87 F.3d 795, 799 (6th Cir. 1996), *cert. denied*, 117 S. Ct. 683 (1997). Summary judgment is appropriate "if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, show that there is no genuine issue of material fact and that the moving party is entitled to