In the
United States Court of Appeals
For the Seventh Circuit

No. 01-2656

DAVID MASTERS,

Plaintiff-Appellant,

v.

HESSTON CORPORATION,

Defendant-Appellee.

Appeal from the United States District Court
for the Northern District of Illinois, Western Division.
No. 99 C 50279--Philip G. Reinhard, Judge.

Argued FEBRUARY 28, 2002--Decided May 31, 2002

Before RIPPLE, MANION, and EVANS, Circuit Judges.

EVANS, Circuit Judge. David Masters lost part of his right arm and severely injured his left hand in a hay baler accident. He sued the manufacturer, asserting products liability and negligence. The district judge held the products liability claim barred by Illinois' statute of repose and granted summary judgment to the manufacturer on the negligence claim after excluding the testimony of Masters' proffered expert. Masters appeals from both decisions.

In 1996 David Masters was a sales representative and part-time farmer living in McHenry County, Illinois. Masters wanted to buy a hay baler to help him with his farm chores, and he was interested in what seems to be known as a "Large Round Hay Baler," one that makes cylindrically shaped bales nearly 6 feet tall and weighing upwards of 1,500 pounds. These bales have a more dense exterior than smaller, rectangular bales. Because of that density, a farmer can store them outside without fear of spoilage in bad weather. This saves the hassle of loading and unloading rectangular bales in covered areas.

The hay baler market is not one most people--especially city slickers--are familiar with, so we'll take a moment to describe some of the products the

industry has produced. The Vermeer Manufacturing Company introduced large round hay balers to the American market in 1971. Vermeer could not produce enough balers to meet consumer demand, so it licensed its patent to a number of manufacturers, including the defendant here, Hesston, which produced balers using the design./1 Hesston called its model the 5600.

The 5600 used a "feed roll" system. Here's how it works. The baler is attached to a tractor, which the farmer steers over "windrows" (big lines) of hay that have been raked. As the tractor moves forward straddling the windrows, tines at the lower front of the baler direct the hay upwards to the feed intake area, which has two rollers. Separated by about a quarter of an inch and rotating in opposite directions, the rollers compress the hay and yank it back and upwards to an inside chamber. There, the hay runs into a rubber belt that reverses the hay's course, generating a rotating motion that forms a circular bale. Tension on the belt increases as the bale expands; more belt is released until a full-sized bale forms. At that point, the operator pulls a rope. The rope is connected to a twine tube, which swings to the intake area. In theory, the twine should enter the feed rolls and then the baling chamber, wrap around the bale and be automatically cut. A control on the tractor allows the bale to be "puked out" (apparently this is a hay-baler term, and a graphic one at that, as it was used by Mr. Masters at several points during his deposition) the baler's rear. Hesston introduced its 5600 model in May 1974 and sold it until May 1975. It sold another model with feed rolls, the 5800, until around 1980.

In the fall of 1974, Sperry-New Holland offered another type of baler, its Model 850. The 850 did not feed the hay into the baling chamber with feed rolls. Instead, it guided the hay onto "a moving steel platform conveyor with saw-tooth like protrusions" that fed the crop into the baling chamber. Moreover, instead of using rubber belts, the 850 used "a continuous system of horizontal steel slats, secured on either end by sprocket-driven chains, to form the bale." New Holland patented this design and sold the 850 until 1987.

One last baler. In the spring of 1977, Hesston introduced an above-ground baler without feed rolls. The model, named the 5500, was known as an "open throat" design. We have been unable to find any schematics of this model in the record, but for present purposes it suffices to emphasize that the open throat design did not use feed rolls to get hay into the baling chamber. Hesston switched completely to the open throat design by 1980 and has licensed it to competitors. New Holland adopted the open throat design in 1987.

Now back (actually forward) to Masters. As we mentioned, in 1996 he began shopping for a large round hay baler. Masters knew the general differences between feed roll and open throat designs. The open throat design was out of his price range, the high end of which was $2,500. New machines, which ran in the range of $15,000, were also not an option. Masters ultimately bought a Hesston 5600 at an auction for $950; Hesston had built and sold the machine some 22 years earlier in the first half of 1975.

Masters bought the machine in August of 1997 and noticed two problems when he tried to use it. First, the twine would not feed properly through the feed rolls. Masters did not know what was causing this problem, but it was later determined that the twine tube had been wrenched off and then rewelded to the baler after its initial sale but before Masters bought it. As a result, the tube was misaligned and did not swing properly to the intake area.

The second problem occurred when Masters shut off the power if there was a full bale in the chamber. When this happened, the bale would not rotate when power was resumed. This problem apparently occurred because the bale was too heavy, causing the belt to slip on the rollers. Thus, the bale could not be wrapped and "puked" from the machine. Masters handled the twine problem by dismounting his tractor, tying the twine to some hay, and then tossing the hay into the feed rolls. But because of the power problem, Masters had to leave the baler running when attempting this maneuver.

On September 27, 1997, Masters was using the baler for the third time. In the early afternoon, after forming a full bale, he encountered the twine-feed problem. He stopped the tractor's forward movement and approached the baler (with the power still on). He then pulled twine from the twine tube and tied the end to some hay, which he attempted to toss into the feed rolls. The twine got caught, and the momentum of the toss carried Masters' right hand towards the feed rolls. The result was a disaster: his right arm, up to the mid-forearm, was quickly pulled into the machine. Masters tried to brace his body against the machine. He also attempted to put his shoes in the rollers to clog them but was unsuccessful and injured his left hand in the process. Realizing that he could extricate himself only by breaking his right arm off, Masters did just that by seesawing his arm back and forth.

Masters filed suit against Hesston in Illinois state court (later removed), alleging, as we said earlier, strict products liability (count I) and negligence (count II). The district court, with Judge Philip G. Reinhard at the controls, granted summary judgment to Hesston on count I, holding that the claim was barred by Illinois' statute of repose. With regard to the negligence claim, the judge excluded the testimony of Masters' expert and granted summary judgment to Hesston.

First, Masters' repose argument. The interpretation of a statute is a question of law, which we review de novo. Kopec v. City of Elmhurst, 193 F.3d 894, 900 (7th Cir. 1999). Illinois law provides that a strict products liability action must be brought within 12 years "from the date of first sale" of the relevant product. 735 Ill. Comp. Stat. 5/13-213(b). Masters' baler was originally made and sold in 1975, 24 years before Master filed suit, so unless Masters can fit under an exception, the claim is barred.

Masters invokes the statute's "alteration" exception. The alteration provision allows a strict products liability suit for an injury resulting from "an alteration, modification or change of the product unit" after its first sale if:

(1) the action is brought against a seller making, authorizing, or furnishing materials for the accomplishment of such alteration, modification or change (or against a seller furnishing specifications or instructions for the accomplishment of such alteration, modification or change when the injury is claimed to have resulted from failure to provide adequate specifications or instructions), and

(2) the action commenced . . . within 10 years from the date such alteration, modification or change was made . . . , and

(3) when the injury or damage is claimed to have resulted from an alteration, modification or change of a product unit, there is proof that such alteration, modification or change had the effect of introducing into the use of the product unit, by reason of defective materials or workmanship, a hazard not existing prior to such alteration, modification or change.

735 Ill. Comp. Stat. 5/13-213(c)(1)-(3).

Under Illinois law a plaintiff has the burden of showing that an exception to a statute of repose applies. Blair v. Blondis, 513 N.E.2d 157, 159 (Ill. 1987) (placing on plaintiff the burden of showing an exception to a statute of limitations); Ocasek v. City of Chicago, 656 N.E.2d 44, 47 (Ill. App. Ct. 1995) (noting that after a defendant provides sufficient evidence to warrant judgment as a matter of law on a statute of repose defense, "the plaintiff has the burden of proving that any exception to that law applies"); see also Knox v. Cook County Sheriff's Police Dept., 866 F.2d 905, 907 (7th Cir. 1988) ("While the statute of limitations is an affirmative defense, the burden of establishing an exception thereto is on plaintiff.").

We can discern two possible alteration theories in this case. The first would identify the alteration as the rewelding of the twine tube to the 5600. The rewelding misaligned the tube, requiring Masters to hand-feed the twine into the rollers, leading to his injury. This theory has two problems. First, with regard to subsection 213(c)(1), there is no evidence that Hesston rewelded the

tube, authorized the rewelding, or furnished materials for its accomplishment. Nor did Hesston provide "specifications or instructions" for the repair. The only argument, therefore, is that Hesston's failure to provide such instructions meant that it failed "to provide adequate specifications or instructions." But the statute would appear to apply only "against a seller furnishing specifications or instructions for the accomplishment of" the alteration. And, to repeat, there is no evidence that Hesston provided such instructions to the rewelder. Second, Masters did not track down the "do-it-yourselfer," so we don't know when the rewelding occurred. Because subsection 213(c)(2) requires a plaintiff to file suit within 10 years of the alteration, Masters cannot meet his burden.

Realizing these problems, Masters focuses on a second theory. He contends that the alteration was not the rewelding of the twine tube but rather the failure by previous users to fix the improperly rewelded twine tube, which he classifies as a "failure properly to maintain" the product. This operates to extend the repose period against Hesston, Masters argues, because its instruction manual (or at least the one Masters bought) did not warn users to be on the lookout for improperly rewelded twine tubes.

Masters' first premise--that a failure to properly maintain a product is itself an alteration--is wrong under the statute. The statute defines "alteration, modification or change" (redundantly) as "an alteration, modification or change that was made in the original makeup, characteristics, function or design of a product or in the original recommendations, instructions and warnings given with respect to a product including the failure properly to maintain and care for a product." 735 Ill. Comp. Stat. 5/13-213(a)(1). The definition is disjunctive: an alteration means either changes to the product or changes to the recommendations, instructions, and warnings pertaining to the product. Because the phrase "including the failure properly to maintain and care for a product" modifies the latter prong, any content found in recommendations, instructions, and warnings regarding the failure to

maintain a product is a possible object of alteration that can toll the repose statute (assuming the injury results from the alteration). But the definition still requires "an alteration, modification or change that was made . . . in the original recommendations, instructions and warnings" (all italics added). Even assuming that Masters' manual, which is in the record, mirrors the original one, there is no evidence of a change to the original recommendations, instructions, or warnings regarding the failure to care for the 5600.

Although Masters has spilled a lot of ink arguing that Hesston's engineers could foresee that the twine tube might break off and be rewelded, his argument misses the point of the statute of repose. The statute sets a fixed period, starting from the first sale or alteration of a product, during which a plaintiff can bring a strict products liability suit against a manufacturer. Masters' theory--that the alteration date is extended each day a user fails to fix a problem because he did not have warning from the company--would extend the start of the repose period indefinitely. Even assuming that Hesston should have warned users about the twine tube, the point for present purposes is that Hesston did not make that mistake by altering its instructions or warnings in the 10 years preceding Masters' suit. Illinois' repose statute makes that fatal to his products liability claim.

And that leaves the negligence claim. Illinois imposes a duty on a manufacturer to make a product that is reasonably safe. Baltus v. Weaver Div. of Kidde & Co., 557 N.E.2d 580, 585 (Ill. App. Ct. 1990). To show a breach of that duty, a plaintiff must show that a manufacturer failed to use the then-existing standard of care in designing or manufacturing a product. Id. at 585-86. On appeal, Masters has two theories of negligence: (1) that Hesston was negligent in designing a baler with feed rolls; and/or (2) that Hesston was negligent in designing a baler with unguarded feed rolls. Masters offers the expert testimony of Paul Walker to show the relevant standard of care governing the design of large round hay balers in 1974-75 and to show that Hesston breached that standard of care in designing the 5600

machine.

Masters does not argue on appeal that summary judgment was inappropriate even if Walker's testimony was properly excluded. So the key issue is whether Judge Reinhard erred by excluding Walker's testimony. In Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993), the Supreme Court held that district judges play a "gatekeeping" role in maintaining scientific expert testimony within proper bounds. Daubert required judges to determine that scientific testimony offered under Federal Rule of Evidence 702 is both relevant and reliable, 509 U.S. at 589, an inquiry required also for technical and other specialized expert testimony, Kumho Tire Co. v. Carmichael, 526 U.S. 137, 149 (1999). Testimony is relevant if it assists the trier of fact in understanding the evidence or in determining a fact at issue. To gauge reliability, the district judge must determine whether the expert is qualified in the relevant field and whether the methodology underlying the expert's conclusions is reliable. Smith v. Ford Motor Co., 215 F.3d 713, 718 (7th Cir. 2000). A district judge's application of Daubert to exclude expert testimony as unreliable is reviewed for an abuse of discretion. General Elec. Co. v. Joiner, 522 U.S. 136, 146 (1997). And as the majority and dissenting opinions in Dura Automotive Systems of Indiana, Inc. v. CTS Corp., 285 F.3d 609 (7th Cir. 2002), recently reveal, the proper methodology to be employed in cases raising "Daubert" issues is subject to some dispute, although it's not really in dispute in this case.

Everyone seems agreed that Walker's testimony is relevant--indeed, that explains why it is worth fighting over--and it is clear to us that Walker is no hayseed. He is a registered professional engineer and a professor of agricultural engineering at Penn State University. Thus, the only disputed issue is whether Walker's opinions in this case have been reached through a reliable methodology.

Walker finds the relevant standards of care in guidelines promulgated by the American Society of Agricultural Engineers (ASAE) and in basic principles of engineering. Cf. Anderson v. Hyster

Co., 385 N.E.2d 690, 692 (Ill. 1979) (noting that one way of proving that a product is not reasonably safe is to show that its design did not meet existing industry standards). Walker noted that principles of engineering design dictate clear rules for dealing with safety hazards. The two relevant principles, as stated in Walker's report, provide: "Where possible the design should eliminate or reduce the hazard. If the hazard cannot be eliminated without unduly restricting the function of the machine, then the hazard should be guarded." Referring to ASAE Standard R275, Walker claims that rotating components such as feed rolls, which can form dangerous "pinch points," were recognized as hazards as early as 1964. In the case of a hay baler, it was known that feed rolls could aggressively pull a victim into the baling chamber and cause severe injury.

So far, so good. We find little problem with Walker's testimony as to the relevant standard of care. Where Walker runs into trouble, however, is in applying these standards to the design of the 5600 and concluding that it breached them. See Fed. R. Evid. 702 advisory committee's notes on 2000 amendments (noting that the court "must scrutinize not only the principles . . . used by the expert, but also whether those principles . . . have been properly applied to the facts of the case"); Cummins v. Lyle Indus., 93 F.3d 362, 367 n.2 (7th Cir. 1996) (applying Daubert's general reliability requirement in the context of "as applied" scientific problems). Walker opined that Hesston breached the first principle of engineering by not eliminating feed rolls on the 5600. But the engineering principle did not ban feed rolls. Rather, feed rolls should be eliminated "[w]here possible" and "without unduly restricting the function of the machine." Walker provides no basis for concluding that eliminating the 5600's feed rolls would not have unduly restricted its function. His report did not say how the 5600 could have functioned without feed rolls. Indeed, in response to questioning, Walker hypothesized only that the feed rolls could be moved under the machine. Even then, Walker expressed no opinion, likely because he had done no testing or research on which to base one, that this

redesign would not unduly restrict the 5600’s baling ability.

Walker instead pointed to the New Holland 850, which was introduced in 1974, to show that hay could be baled without feed rolls. But Walker did not test the New Holland 850 (he reviewed only the operator’s manual) or offer independent industry studies on its functioning, so there is a gaping hole between his premise (that the 850 existed) and his conclusion (that the 850 baled hay as well as the 5600). Walker filled this gap merely by assuming that because New Holland had been a "very successful manufacturer," its baler must have been a "reasonably high quality product."/2

Walker also stated that the technology for "open throat" designs, which do not use feed rolls, was available in 1975. Again, Walker did not test the open throat design, so we are left with little inkling as to its comparative functionality. Even if the open throat design improved function, which apparently it did, Walker’s premise as to timing is suspect. Hesston pioneered the open throat design, and it is undisputed that it did not hit the market until 1977, 2 years after Hesston made Masters’ or the relevant 5600 machine./3 Rex Weigand, who oversaw Hesston’s development of the product in 1975 and 1976, produced his records, including a diary of that process. Walker only "skimmed" these records and could not opine that Hesston could have produced this innovation any faster. In fact, Walker thought that a few years seemed a "reasonable amount of time to develop a new product." So we are at a loss to determine how Walker concluded that Hesston could have produced its open throat baler in 1975.

Walker’s other conclusion, that Hesston breached the second engineering principle by not guarding the feed rolls, is similarly unreliable. Again, the principle and the governing ASAE standard did not mandate guarding. Rather, to quote the then-existing standard (ASAE S318.4, section 8.9): "Functional components such as . . . feed rolls . . . , which must be exposed for proper function shall be shielded to the maximum extent permitted by the intended function

of the component(s)" (italics added). In Walker's words, guards must be provided "but only to the extent that the guards do not unduly interfere with the operation of the feed roll." So we come back to the same problem: Walker did not analyze the impact of any proposed guards on the 5600's function. He did no design work, no testing, and no measurements of a proposed guard. He merely sketched a guard in response to questioning at his deposition and estimated that the guard should be from 3 to 24 inches off the ground. Walker also pointed to John Deere's Model 410, which had a guard. But that model was not on the market until 1977. In fact, Walker was not sure the John Deere model even had feed rolls. Even assuming that model had feed rolls, Walker did not test the guard to see how it affected their functioning. He had not seen the model in person but had only reviewed a parts listing and a videotape. Without analyzing the guard, Walker could not reliably opine that the guard would not impede hay baling.

In sum, Walker's opinions that the 5600 breached the relevant standards of care in 1974-75 were not reliably reached. The district judge did not abuse his discretion by excluding them.
AFFIRMED.

FOOTNOTES

/1 Hesston merged with AGCO Corporation in 1992. Since the parties have referred to Hesston in their briefs, we will too.

/2 Masters argues on appeal that Walker referred to the 850 only to show, in applying industry standards, that other ways of baling hay were "possible." He denies advancing an "alternative design" theory of negligence. Good thing, since Walker has no basis for concluding that the 850 was safer than the 5600. Walker did not test the 850's safety or reference independent studies that had. In fact, Walker admitted in his deposition that he could not opine that any of the designs on the market in 1974-75 were reasonably safe. Judge Reinhard put it nicely when he wrote: "Walker cannot simply point to the New Holland hay baler and state that it lacks a pinch point, ergo it is safer."

/3 We realize that the factual underpinnings of an expert's analysis are matters best left to the trier of fact. Smith, 215 F.3d at 718. There is no dispute as to this date, however