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RECENT TRENDS IN MANUFACTURERS' NEGLIGENCE AS TO DESIGN, INSTRUCTIONS OR WARNINGS*

by
Dix W. Noel**

I. INTRODUCTION

IT IS a pleasure to see so many lawyers ready to consider developments in the law of products liability. It would be difficult to find an area of torts where changes have been more extensive during the past few years or where the increase in the number of cases has been greater. Today any law office is apt to have a products case, and the proper handling of these cases involves principles going far beyond those developed in *MacPherson v. Buick Motor Co.*¹ Today that landmark case is placed at the beginning, rather than toward the end, of our law school materials about liability for defective chattels. Thus, in the latest torts case book, published last summer by Mr. Seavey and by two of the speakers at this Institute, Messrs. Page and Robert Keeton,² the *MacPherson* case is followed by equally important decisions³ rendered within the last year or so by the courts in California and New York. These decisions go far beyond *MacPherson*, which abolished the privity requirement in negligence actions against the manufacturer, and impose an entirely different liability, without fault, to remote users of a product.

Although the strict liability development is the more spectacular one, the expansion of negligence liability is no less significant and is an equally important factor in the rapidly increasing number of suits. The great bulk of the thousands of cases dealt with in two recent treatises⁴ on products liability still are based on some kind of negligence.

In many products cases, it is alleged simply that the particular chattel involved was manufactured negligently and defectively. In

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¹ 217 N.Y. 382, 111 N.E. 1050 (1916).

² Seavey, Keeton & Keeton, *Cases and Materials on Torts* (2d ed. 1964).

³ See *Greenman v. Yuba Power Prods., Inc.*, 59 Cal. 2d 57, 377 P.2d 897 (1963), and *Goldberg v. Kollsman Instrument Corp.*, 12 N.Y.2d 432, 191 N.E.2d 81 (1963), discussed in Noel, *Strict Liability of Manufacturers*, 50 A.B.A.J. 446 (1964).

⁴ *Frumer & Friedman, Products Liability* (1964) (2 vols.); Hursh, *American Law of Products Liability* (1961) (4 vols.). These treatises are reviewed by the writer in 71 *Yale L.J.* 1379 (1962).

an increasing number of suits, however, the particular lawn mower, automobile or other product involved in the accident is made as intended and is still smoothly operating after the accident. In this situation plaintiffs have undertaken, with an increasing degree of success, to show that the basic design is unsafe, at least if not accompanied by more adequate directions for use or warnings.⁵ For that reason the 1964 revision of the treatise by Messrs. Frumer and Friedman devotes well over 200 pages to the matter of negligence with respect to design, instructions or warnings.⁶

If a plaintiff successfully bases his case on a duty to provide a safer design or better instructions or warnings, he has overcome what often is a major hurdle in a products case. It is necessary, ordinarily, for the plaintiff to establish that the chattel was defective when it left the defendant's hands. Because most products have been subject to considerable use or misuse before the accident, quite often a verdict may be directed against the plaintiff on the ground that the defect may have arisen after the product was delivered. This is so even if the case is based on a strict liability theory, for even under that view it is necessary to show that the product was defective and unreasonably dangerous when it left the manufacturer's control.⁷ If, however, the plaintiff can establish negligence as to design, directions or warnings, he not only has established fault but also that the defect existed when the product left the manufacturer's plant. On the other hand, if it is asserted simply that an individual item was defective (*e.g.*, that a particular car had inadequate brakes or a sticking accelerator), the case is often lost for lack of proof that the alleged defect did not arise later on, after undue wear or mishandling.

II. UNREASONABLE DANGER NECESSARY

Perhaps the issues involved in this area can be illustrated best by a case which involved a minor sort of product, but which received the attention of nine federal judges in the court of appeals which arrived at a five-to-four decision.⁸ The product, an exerciser known as a "Lithe-Line," was a simple rubber rope about as thick as a pencil with loops on the ends. The manufacturer, as usual, was enthusiastic about his product. He went so far as to describe it as "easily the best

⁵ See Noel, *Manufacturer's Negligence of Design or Directions for Use of a Product*, 71 Yale L.J. 816 (1962).

⁶ Those who have a case of this nature and who wish to remain current with all these recent decisions will find it helpful to consult the two recent treatises cited in note 4 *supra*, both of which are kept up to date by annual supplements.

⁷ See Restatement (Second), Torts § 402A (Tent. Draft No. 10, 1964).

⁸ *Jamieson v. Woodward & Lothrop*, 247 F.2d 23 (D.C. Cir.), *cert. denied*, 355 U.S. 855 (1957).

turn done to the body beautiful since the curve was invented.”⁹ Along with the exerciser, the plaintiff received a leaflet of instructions for some exercises by which, it was stated, “any body” could reduce.¹⁰ While the plaintiff was lying on the floor doing an exercise known as the “Tummy Flattener,” the rope slipped off her feet and struck her across the eyes. Somewhat surprisingly, the blow rendered her unconscious and detached a retina, causing permanent impairment of vision. Suit was brought against the manufacturer on the ground that there was a negligent failure to “warn or otherwise protect” the user of this product.

The basic issue was whether this article was unreasonably dangerous. Although most courts no longer give the manufacturer special protection by requiring that the product be “intrinsicly” or “inherently” dangerous, it still is necessary to show the foreseeability of more than trivial harm.¹¹ It also is clear that the manufacturer does not have to make a product which is completely “accident-proof” or “fool-proof,” and he is not required to protect against dangers which are quite apparent to all users.

Some of the judges in *Litke-Line* thought that the plaintiff should get to the jury. They remarked that it “would be a rare woman indeed who would willingly use an exerciser which, without fault on her part, could give her a black eye or a cut lip or any facial injury.”¹² They concluded that without a warning, an improved design with use of corrugated or flattened rubber for the footstrap, or better directions for use (such as exercising with socks on or while in a position to shift the path of the recoil), a case of negligence could be made out. The prevailing opinion, however, was for the defendant. Emphasis was placed on the fact that everyone knows that rubber contracts violently when released. It was pointed out that a hammer “is not of defective design because it may hurt the user if it slips,”¹³ and that a manufacturer has no more duty to warn the user of this self-evident fact than that a sharp knife will cut or that an iron dumbbell may cause harm if it falls on one’s foot. The majority further asserted that the “reasonably foreseeable injury from a mishap with this rope was not great—a cut lip, bloody nose or black eye at the most”¹⁴—and

⁹ 247 F.2d at 37.

¹⁰ *Ibid.* (Emphasis in original.)

¹¹ See, e.g., *Sheward v. Virtue*, 20 Cal. 2d 410, 126 P.2d 345 (1942), indicating that the article must be “reasonably certain, if negligently manufactured or constructed, to place life and limb in peril.” 126 P.2d at 345-46.

¹² 247 F.2d at 35.

¹³ *Id.* at 26.

¹⁴ *Id.* at 29.

that a manufacturer is required to guard only against the risk of substantial harm.

A. *Obvious Defects*

It may be that there has been too much preoccupation with whether an alleged defect is latent or obvious. In a federal case in which recovery was denied because the absence of a safety device was apparent,¹⁵ Judge Clark dissented¹⁶ because the evidence showed a general industry practice of installing a safety device which would have prevented the accident involved. He urged that the basic inquiry should be whether there was reasonable foreseeability of danger and that this inquiry should not be directed instead to what he called "a sterile definitional quibble over whether the injury was caused by a 'latent' or a 'patent' defect."¹⁷

There is no doubt, however, that the obviousness of the danger continues to be a considerable factor in the decisions. This may be illustrated by one of the more recent power-lawnmower cases.¹⁸ The riding mower there involved had a fender in front, but there was no screen or bar lower than eight and three-quarter inches from the ground. A brochure delivered with the mower included in a list of cautions the statement: "Don't let children or pets play around the mower while operating."¹⁹ The owner permitted his twelve-year old daughter to operate the mower, after telling her to be careful of the other children playing in the yard and to shut off the power if anything went wrong. In trying to get out of the path of the mower, a girl of seven slipped and fell. Her leg came in contact with the rotary blade, which caused injuries resulting in amputation. A directed verdict for the defendant was affirmed, chiefly on the ground that there was no "latent" defect in the design. The court stated, "No one could have been, nor is there anything in the record to show that anyone was, deceived or misled by the appearance of this mower."²⁰ There was no discussion of whether or not other power mowers had guards or shields which would have prevented the occurrence of this sort of harm; also omitted from discussion was the frequency of this type of accident and the cost and feasibility of placing a lower screen or bar in front of the mower. A statement in the course of the opinion that "this mower would have caused no harm to plaintiff unless she, by her own acts, or by the acts of some third person, caused her to

¹⁵ *Messina v. Clark Equip. Co.*, 263 F.2d 291 (2d Cir. 1959) (applying New York law).

¹⁶ *Id.* at 293.

¹⁷ *Ibid.*

¹⁸ *Murphy v. Cory Pump & Supply Co.*, 47 Ill. App. 2d 382, 197 N.E.2d 849 (1964).

¹⁹ 197 N.E.2d at 851.

²⁰ *Id.* at 852.

come in contact with it"²¹ does not shed much light on the basic issue of whether or not the mower was unreasonably dangerous when put to a more or less normal use.

This case is representative, however, of the power-mower decisions. In two of the cases it was held that a verdict was properly directed although later models marketed by the defendant had safety devices which would have prevented the accident.²² It is understandable how a court, if the only evidence of unreasonable danger is the safer design of later models, is reluctant to find that evidence of such improvements is by itself enough to prevent a directed verdict. The basic inquiry, however, should be whether the earlier model is unreasonably dangerous, and the presence of a safety device on a later model may have some bearing on that issue, at least if there is expert testimony that the earlier model involves a risk which could have been easily removed.

Be this as it may, there seems to be only one power-mower case which was allowed to go to the jury on the design-negligence point, and the jury there found for the defendant.²³ The rotary mower there involved was thrown backward by the force produced when the blade of the mower struck a steel pipe extending above ground level because the bars at the front of the mower were made of easily bent metal; the operator's foot was cut because the rear portion of the machine was not fully guarded. Since the verdict was for the defendant, the appellate court did not pass on the defense that any defects were obvious even to the thirteen-year old child who was operating the mower.

B. *Extensive Safe Or Unsafe Use Of Same Design*

It seems clear that the extensive safe or unsafe use of the same design is relevant to the issue of unreasonable danger. If a manufacturing company can show long-continued use of the same design without prior accidents, this safety record clearly "is a fact of significance bearing on its exercise or [sic] due care."²⁴ Should we go

²¹ *Id.* at 858.

²² *Pontifex v. Sears, Roebuck & Co.*, 226 F.2d 909 (4th Cir. 1955) (applying Virginia law); *Kientz v. Carlton*, 245 N.C. 236, 96 S.E.2d 14 (1957). Additional cases in which the verdict was directed for the defendant are *Purkey v. Sears, Roebuck & Co.*, 220 F.2d 700 (5th Cir. 1955) (applying Georgia law); *McKeekin v. Gimbel Bros., Inc.*, 223 F. Supp. 896 (W.D. Penn. 1963) (object thrown from mower); *Carter v. Hector Supply Co.*, 128 So. 2d 390 (Fla. 1961); *Marko v. Sears, Roebuck & Co.*, 24 N.J. Super. 295, 94 A.2d 348 (1953).

²³ *Siemer v. Midwest Mower Corp.*, 286 F.2d 381 (8th Cir. 1961) (applying New York law). Another recent case involved a posthole digger with an exposed universal joint which caused the plaintiff to lose his arm; he failed to recover because he was "charged with the knowledge that an exposed whirling piece of machinery is dangerous and is to be avoided." *Bradshaw v. Blystone Equip. Co.*, 79 Nev. 441, 386 P.2d 396 (1963).

²⁴ *Day v. Barber-Colman Co.*, 10 Ill. App. 2d 494, 135 N.E.2d 231, 237 (1956). See

further, however, and say that long-continued use without any mis-
haps conclusively negates the presence of any unreasonable danger?
That was an issue in a leading case arising out of a serious bus acci-
dent.²⁵ The brakes had failed on a steep hill because the petcock used
to clean out the air chambers was positioned so close to the ground,
in a loaded bus, that it was apt to be broken off by a stone or other
object in the highway. General Motors urged that despite the millions
of miles which its vehicles had traveled on the highways, no bus acci-
dent of this kind had been reported. There was also testimony, how-
ever, that the petcocks could be guarded with a shield, and this testi-
mony was strngthened by the admission of a coach-chassis engineer for
General Motors that a guarded petcock was practical and would in-
crease safety. Under these circumstances, the court held that exten-
sive safe use "was not conclusive any more than evidence of general
practice in an industry is conclusive on whether operations are con-
ducted with due care."²⁶

Sometimes, of course, it is possible to obtain evidence of prior un-
safe use of the same design, and to show that the manufacturer was
aware of the earlier accidents. This evidence clearly is a factor to be
considered by the jury in determining whether adequate precautions
were taken.²⁷

C. Need For Directions And Warnings; Representations Of Safety

In a number of cases the complaint has been not that the design
of the product is necessarily unsafe, but that it is dangerous because
the directions for use or warnings are inadequate.²⁸ Since insufficient
directions or warnings are a matter which can be corrected, the courts
are more inclined to allow a negligence finding on this ground than

also *Hardman v. Helene Curtis Indus., Inc.*, 48 Ill. App. 2d 42, 198 N.E.2d 681, 685-86
(1964), citing with approval *McCormick, Evidence* § 167, at 354 (1954), and stating that
such evidence is admissible to show lack of unreasonable danger or defectiveness as well as
lack of knowledge of the danger.

²⁵ *Carpini v. Pittsburgh & Weirton Bus Co.*, 216 F.2d 404 (3d Cir. 1954) (applying
Pennsylvania law).

²⁶ *Id.* at 407.

²⁷ *Muller v. A. B. Kirschbaum Co.*, 298 Pa. 560, 148 Atl. 851 (1930).

²⁸ Some recent cases on this point are *Roberts v. United States*, 316 F.2d 489 (3d Cir.
1963) (applying New Jersey law) (no warning against inhalation of ethylene glycol mist);
Ein v. Goodyear Tire & Rubber Co., 173 F. Supp. 497 (N.D. Ind. 1959) (no duty to
warn that tubeless tire more susceptible to blowouts following a bruise than is more fa-
miliar tire with tube); *Williams v. Caterpillar Tractor Co.*, 149 So. 2d 898 (Fla. App.
1963); *Biller v. Allis Chalmers Mfg. Co.*, 34 Ill. App. 2d 47, 180 N.E.2d 46 (1962)
(hazards of using propane fuel in tractor); *Twombly v. Fuller Brush Co.*, 221 Md. 476,
158 A.2d 110 (1960) (fluid containing carbon tetrachloride dangerous when used as spray);
Johnson v. West Fargo Mfg. Co., 255 Minn. 19, 95 N.W.2d 497 (1957); *Lovejoy v.*
Minneapolis-Moline Power Implement Co., 248 Minn. 319, 79 N.W.2d 688 (1956) (failure
to warn of danger if tractor operated at higher than recommended speed). It is, of course,
necessary to check various state statutes and the Federal Hazardous Substances Labeling Act
of 1960, 74 Stat. 372, 15 U.S.C. § 1261 (Supp. V, 1964).

on the ground that the design itself presents an unreasonable danger. If the jury is permitted to find that the basic design is unsafe, the result may be extensive remodeling or even removal from the market of some frequently used and widely advertised product, with quite serious consequences to the manufacturer and his employees. On the other hand, if it is found simply that the directions or warnings are unclear or insufficient, that matter normally can be remedied without any great difficulty.

The claim that warnings are inadequate or that directions are not sufficiently clear often is strengthened if the manufacturer has made representations of safety. For example, if a maker places in large letters on all sides of a can of cleaning fluid the words "Safety-Kleen," it may not be enough to have only in small letters a warning not to inhale the fumes and a direction to use the product only in well-ventilated places.²⁹

A somewhat recent New York case turned on the adequacy of the warning.³⁰ The suit was against the distributor-packager of magnesium heat blocks designed to supply emergency heat to victims of an accident or sudden illness. These blocks could be activated to produce heat by use of a lever and a cartridge. The blocks were covered by red insulating material. They attained a heat of around 200 degrees Fahrenheit within two minutes after being triggered. On one face of the cardboard container in large black letters were some descriptive words which included the statement, "Always ready for use."³¹ In small print on the opposite face of the container, there were instructions for use which concluded with the direction: "Wrap in insulating medium, such as pouch, towel, blanket or folded cloth."³²

A fireman furnished some of these blocks to help revive a six-year old girl who had nearly drowned. The blocks were applied directly to the child's body underneath a blanket, and she suffered third-degree burns. There was evidence that the fireman, who had handed the box to a nurse, had actual knowledge from his presence at a demonstration class that the blocks needed further insulation. Regarding the defendant's negligence, however, the court said:

²⁹ *Maize v. Atlantic Ref. Co.*, 352 Pa. 51, 41 A.2d 850 (1945). See also *La Plant v. E. I. Du Pont de Nemours & Co.*, 346 S.W.2d 231 (Mo. 1961) (chemicals used to kill foliage labelled not hazardous to livestock, but contained harmful nitrates); *Alfieri v. Cabot Corp.*, 17 App. Div. 2d 455, 235 N.Y.S.2d 753 (1962) (briquets "ideal for cooking" in or out of doors; no warning of danger of use indoors).

³⁰ *McLaughlin v. Mine Safety Appliances Co.*, 11 N.Y. 2d 62, 181 N.E.2d 430 (1962).

³¹ 181 N.E.2d at 432, 434.

³² *Id.* at 432.

[T]he jury was justified in finding that the final sentence of the instructions, found in small print on the back side of the containers, advising use of a further insulating medium, was totally inadequate as a warning commensurate with the risk; indeed, they were entitled to find that the *instructions*, not particularly stressed, did not amount to a *warning of the risk at all*, and that it was foreseeable that the small print instruction might never be read, and might be disregarded even if read. . . .³³ (Emphasis in original.)

The opinion further indicates that negligence might be found from the failure to place a warning on the blocks themselves, as distinguished from the package, because the old blocks were rechargeable and might be used long after the cardboard container had been thrown away.

The actual holding in the case was that a verdict for the plaintiff should be set aside and the case sent back to the jury on the intervening-cause issue. The court thought that if the fireman had actual knowledge of the need for further insulation, and had prevented the nurse from reading the instructions by removing the block from the container, then "his negligence was so gross as to supersede the negligence of the defendant and to insulate it from liability."³⁴ Four judges, however, considered that the negligence of the fireman was foreseeable. They said, "In our minds the circumstance that the fireman who knew of the danger failed to warn the nurse, even if negligent, did not affect the fact, as the jury found it, that this was a risk which the manufacturer of the heat block ought to have anticipated in the exercise of reasonable care, nor intercept the chain of causation."³⁵ It may well be that in an emergency a fireman who had learned of the need for further insulation might forget this fact if he were not reminded by a conspicuous warning.

The New York case involving the heat blocks may be contrasted with one involving a Buick with power brakes.³⁶ The original design of the master-brake cylinder was inadequate, and a new unit was being supplied by the manufacturer without cost to the owners. There was no sufficient warning by the manufacturer to these owners of the need to make the replacement, but in this particular case the owner discovered that his brakes had given way completely. When he called the dealer's garage, a repairman said he knew what was wrong and told the owner to bring the car in for repairs. A few minutes after receiving the car at the garage, the repairman, for-

³³ *Id.* at 434.

³⁴ *Id.* at 435.

³⁵ *Id.* at 436.

³⁶ *Comstock v. General Motors Corp.*, 358 Mich. 163, 99 N.W.2d 627 (1959).

getting that it had no brakes, drove it toward a repair stall with the result that the leg of another employee working at the rear of another vehicle was crushed.

The chief issue in a suit against the manufacturer was whether the repairman's negligence insulated the defendant from liability. The Michigan court held that it did not, pointing out that the repairman did not deliberately decide to drive a car with no brakes, but simply forgot not to do so. Remarking that "no more human error . . . [could] be conceived of,"³⁷ the court found that the manufacturer's negligent creation of a defective brake condition on a great number of cars, followed by a continuing failure to warn the owners to have this matter corrected before the brake gave way, was one of the significant causes of the accident. Probably the Michigan court likewise would have felt that the failure of the fireman in the New York case to remember that the heat blocks required further insulation, at a time when everyone was hurrying to revive a nearly drowned child, likewise could be found to have been foreseeable in the absence of a more adequate warning at the time the blocks were put to use. Both these cases may be distinguished from the situation in which an owner of a car deliberately rejects a corrective safety device offered by the manufacturer, since the conscious choice to assume what may be a serious risk may be considerably less foreseeable.³⁸

III. MANUFACTURER'S DUTY AS AN EXPERT

It is established that anyone who enters a special field of manufacturing will be held to the knowledge and skill of an expert and must keep abreast of techniques used by practical men in the industry.³⁹ In that connection, a defendant's use of a design customarily employed by others in the industry is a considerable indication that the required expert knowledge and skill have been employed. This point is illustrated by a case in which a customer was injured when a door in a drug store broke into sharp pieces as he was opening it.⁴⁰ The plaintiff contended that the plate glass which the door manufacturer used was unsuitable, and that the manufacturer should have

³⁷ 99 N.W.2d at 635-36.

³⁸ See *Ford Motor Co. v. Wagoner*, 183 Tenn. 392, 192 S.W.2d 840 (1946). This case involved a Ford with a defectively designed hood latch. The court held that the manufacturer could not have anticipated the conduct of the owner of the car in rejecting a safety catch supplied to remedy this defect.

³⁹ *Wright v. Carter Prods., Inc.*, 244 F.2d 53 (2d Cir. 1957) (applying New York law); *Noel v. United Aircraft Corp.*, 219 F. Supp. 556 (D. Del. 1963) (duty to develop promptly propeller feathering control); *Holland v. St. Paul Mercury Ins. Co.*, 135 So. 2d 145 (La. App. 1961) (pest control company bound to know ingredients of rat poison consumed by child); *Martin v. Bengue, Inc.*, 25 N.J. 359, 371, 136 A.2d 626, 632 (1957).

⁴⁰ *Watts v. Bacon & Van Buskirk Glass Co.*, 18 Ill. 2d 226, 163 N.E.2d 425 (1959).

decided to use more expensive tempered glass specified by an architect. The appellate court held, however, that a verdict should have been directed for the defendant because "plate glass installation was customary and usual while the use of tempered glass was exceptional."⁴¹ It should be remembered, however, that occasionally an entire industry has been found lacking in ordinary care by failing to utilize some available safety devices that are not too expensive.⁴²

If a defendant's product has fewer safety characteristics than are commonly employed, this, of course, tends to show a failure to use the care and skill of an expert.⁴³ The departure from custom, however, does not in itself establish negligence, for a product without the usual safety devices still may not be unreasonably dangerous.⁴⁴

Some courts have been reluctant to admit evidence of a safer design unless it already is in common use.⁴⁵ Such a ruling seems questionable. Although the testimony is less significant if only a few use the improved design, nevertheless, occasional use of the better design would seem to have some relevance on the issue of whether or not expert care and skill were used. It might be added that although evidence that the defendant himself has adopted a safer design on later models usually is excluded,⁴⁶ there is an exception to this rule if the evidence is used only to show that the safer design is practical.⁴⁷

One decision goes so far as to suggest that there is a duty to install a newly developed safety device, even on a product that already has been sold.⁴⁸ This requirement seems too rigorous unless it can be shown that the product already sold is unreasonably dangerous. If the original product is dangerous, then there should be a duty to utilize all available opportunities to install a new safety device.⁴⁹

Occasionally an effort is made to introduce evidence of a safe design not actually in use by anyone, but known to be feasible. It would seem that this evidence also should be admissible, with a caution to the jury that there is no obligation on a manufacturer, as one court

⁴¹ 163 N.E.2d at 428.

⁴² See, e.g., *Northwest Air Lines, Inc. v. Glen L. Martin Co.*, 224 F.2d 120 (6th Cir. 1955), *cert. denied*, 350 U.S. 937 (1956) (applying Ohio law); *Annot.*, 50 A.L.R.2d 882 (1955).

⁴³ *Darling v. Caterpillar Tractor Co.*, 171 Cal. App. 2d 713, 341 P.2d 23 (Dist. Ct. App. 1959).

⁴⁴ *Muller v. A. B. Kirschbaum Co.*, 298 Pa. 560, 564, 148 Atl. 851, 853 (1930).

⁴⁵ *Day v. Barber-Colman Co.*, 10 Ill. App. 2d 494, 135 N.E.2d 231 (1956).

⁴⁶ *Tyson v. Long Mfg. Co.*, 249 N.C. 557, 107 S.E.2d 170 (1959).

⁴⁷ *Boeing Airplane Co. v. Brown*, 291 F.2d 310 (9th Cir. 1961) (applying Washington law).

⁴⁸ *Ellis v. H. S. Finke, Inc.*, 278 F.2d 54 (6th Cir. 1960) (applying Tennessee law).

⁴⁹ See *Ford Motor Co. v. Wagoner*, 183 Tenn. 392, 192 S.W.2d 40 (1946); *cf. Shapiro v. Remington Arms Co.*, 259 F.2d 760 (7th Cir. 1958) (applying Illinois law and apparently holding there is no such duty).

puts it, "to adopt every possible new device which might possibly have been conceived or invented. . . ."⁵⁰

Before leaving the matter of the manufacturer's duty as an expert, it should be noted that this duty includes an obligation to test new products. As Mr. Justice Jackson stated in the *Texas City* case, the "product must not be tried out on the public," and there is no rule that "one free disaster" is permitted by each new product before the sanction of civil liability is invoked on the side of safety.⁵¹ Accordingly, there may be a duty to test material used to support the wings of an airplane for its susceptibility to metal fatigue,⁵² or to make sure that malleable as distinguished from forged iron is sufficiently strong for a hook used to support a man working in a tree.⁵³ This requirement of testing is particularly likely to arise in cases in which new chemicals or drugs are involved.⁵⁴

IV. FORESEEABILITY OF UNINTENDED USES

A manufacturer is not liable for harm done by his product if it becomes dangerous only because of some entirely improper use—*e.g.*, a roller skate placed at the top of a dark flight of steps. Or suppose a child of seven on a bicycle runs into the rear of a parked Dodge automobile and his temple strikes one of the sharp projecting fins. In that case a federal court, applying Texas law, held that the manufacturer had no duty to guard against this harm, which it regarded as not resulting from any "ordinary use of the vehicle."⁵⁵ It would seem, however, that the parking of a car near bicycle riders is to be expected, and that the foreseeability of harm from needlessly sharp fins should be an issue for the jury. Furthermore, there are an increasing number of cases in which juries have been allowed to find that some unintended misuses of a product are to be anticipated. Thus, in a case in which a painter let a dripping brush come in con-

⁵⁰ *Day v. Barber-Colman Co.*, 10 Ill. App. 2d 494, 135 N.E.2d 231, 238 (1956).

⁵¹ *Dalehite v. United States*, 346 U.S. 15, 52, 56 (1953) (dissenting opinion).

⁵² *Northwest Airlines, Inc. v. Glen L. Martin Co.*, 224 F.2d 120 (6th Cir. 1955), *cert. denied*, 350 U.S. 937 (1956) (applying Ohio law); *Annot.*, 50 A.L.R.2d 882 (1955).

⁵³ *O'Donnell v. Asplundh Tree Expert Co.*, 13 N.J. 319, 99 A.2d 577 (1953).

⁵⁴ See *Pan American World Airways, Inc. v. United Aircraft Corp.*, 192 A.2d 913 (Del. Super. Ct. 1963), *aff'd*, 199 A.2d 758 (Del. Sup. Ct. 1964) (failure to test propeller governors to determine whether gear shaft would crack from metal fatigue under different vibratory stresses in new plane); *Twombly v. Fuller Brush Co.*, 221 Md. 476, 158 A.2d 110, 118 (1960), referring to a duty "to make adequate tests before putting it on sale to the public."

⁵⁵ *Kahn v. Chrysler Corp.*, 221 F. Supp. 677, 679 (S.D. Tex. 1963). There may be a stronger case for recovery if the harm is from a projecting hood ornament prohibited by statute, although in this situation also a verdict was directed for the defendant on the questionable theory that the collision of a running child with the ornament was not within the risk. *Hatch v. Ford Motor Co.*, 163 Cal. App. 2d 393, 329 P.2d 605 (Dist. Ct. App. 1958).

tact with the eye of his helper, the jury was permitted to find that if the paint includes chemicals strong enough to cause blindness, there should be a clear warning of this danger.⁵⁶ The court disagreed with an earlier cleaning-fluid case in which a verdict was directed for the manufacturer because this preparation "was not intended for use in the eye. . . ."⁵⁷ While all would agree that neither paint nor cleaning fluid is intended for use in the eye, it may well be foreseeable that such materials may be splashed into someone's eye in one way or another.

In a decision twenty years ago, it was held that if a child of five poured some fingernail polish not indicated to be inflammable over his clothes and set fire to himself, the defendant was entitled to a directed verdict on the ground that this use was unforeseeable.⁵⁸ This year, however, a similar case was presented to an appellate court in Illinois which reached a different result.⁵⁹ There a child of six sprayed "Lanolin Discovery," a hair spray, not only over her hair (as had been done by her mother) but also on the upper part of her dress, using it as a perfume. Later she was carrying a small burning candle, from which the upper part of her dress caught fire and burned so suddenly and strongly that it could not be removed until serious burns were received. Because the spray contained only five per cent inflammable alcohol, the manufacturer had not tested it for flammability. Apparently there was evidence, however, from which a jury could find that the product was flammable. The trial judge let the case go to the jury on a negligence count, and the jury found for the defendant, apparently influenced, as they well might be, by the fact that over eleven million cans of Lanolin Discovery had been sold without any complaint. The trial judge, however, refused to allow the case to go to the jury on the warranty count, even though under Iowa law, by which the case was governed, strict liability is imposed without privity of contract;⁶⁰ apparently the trial judge thought that the hair spray, even though somewhat inflammable, was not defective without a warning, so far as any expectable use was concerned.

The appellate court reversed on this point, holding that the case

⁵⁶ *Haberley v. Reardon Co.*, 319 S.W.2d 859 (Mo. 1958); *Boyl v. California Chem. Co.*, 221 F. Supp. 669 (D. Ore. 1963) (rinse water from weed killer container poured in back yard by user who was injured later when sunbathing in yard; held duty to warn not only as to intended uses but also as to "all other necessarily incidental and attendant uses (such as storage or disposal). . . ." *Id.* at 674.).

⁵⁷ *Sawyer v. Pine Oil Sales Co.*, 155 F.2d 855, 856 (5th Cir. 1946) (applying Louisiana law).

⁵⁸ *Lawson v. Benjamin Ansehl Co.*, 180 S.W.2d 751 (Mo. App. 1944).

⁵⁹ *Hardman v. Helene Curtis Indus., Inc.*, 48 Ill. App. 2d 42, 198 N.E.2d 681 (1964).

⁶⁰ See *State Farm Mut. Auto Ins. Co. v. Anderson-Weber, Inc.*, 252 Iowa 1289, 110 N.W.2d 449, 456 (1961).

should have been sent to the jury on the warranty count also; it concluded that "the question of what is an ordinary use is as much a question of fact as is the question of what is a foreseeable use."⁶¹ Concurring with a law review comment⁶² on the earlier fingernail-polish case,⁶³ the court held that the abnormal-use issue should have been submitted to the jury. Perhaps this case on remand should turn on just how easily ignitable the hair spray was; if it were quite inflammable, then perhaps there should be a warning which would lead parents to keep it, as they would matches, beyond the reach of small children.

Looking at another sort of accident, suppose a child under two-years old drinks shoe cleaner or furniture polish containing poisonous ingredients and dies as a result. This certainly is an unintended use, but it may be foreseeable enough so that the manufacturer should warn a purchaser to keep the product beyond the reach of infants. In the shoe-cleaner case a verdict was directed for the defendant;⁶⁴ but in the furniture-polish case, decided twenty years later in 1962, the court said: "We think reasonable men might conclude the defendants might reasonably have foreseen that the average adult user, in the absence of proper warning of the death-dealing capacity of this product, might not use the high standard of caution in keeping it out of range of children which could be expected of one fully conversant with the danger."⁶⁵ In view of the tendency of infants to drink almost anything, this decision seems more sound on the foreseeability issue than the earlier one involving the shoe cleaner.

A word should be added about allergic reactions from normal use of a product by a user who might be classified as abnormal. The courts no longer take the view that a manufacturer need not consider hypersensitive users. Perhaps the most significant recent decision involves a deodorant.⁶⁶ About 383 complaints of allergic reactions

⁶¹ 198 N.E.2d at 691.

⁶² The opinion in *Hardman* quotes the following statement from Noel, *Manufacturer's Negligence of Design or Directions for Use of a Product*, 71 Yale L.J. 816, 858 (1962): "A stronger case for unusual use can be made out where a youngster of five splashes inflammable fingernail polish over his clothes and then sets fire to himself, or where a child of nineteen months drinks poisonous shoe cleaner with fatal results, but *it would seem that even in these cases it should not have been ruled as a matter of law that the abnormal use was unforeseeable.*" 198 N.E.2d at 691. (Emphasis by the court.)

⁶³ *Lawson v. Benjamin Ansehl Co.*, 180 S.W.2d 751 (Mo. App. 1944), discussed in text accompanying note 40 *supra*.

⁶⁴ *Boyd v. Frenchee Chem. Corp.*, 37 F. Supp. 306 (E.D.N.Y. 1941).

⁶⁵ *Spruill v. Boyle-Midway, Inc.*, 308 F.2d 79, 88 (4th Cir. 1962) (applying Virginia law) (warning neither conspicuous nor urgent).

⁶⁶ *Wright v. Carter Prods., Inc.*, 244 F.2d 53 (2d Cir. 1957) (applying New York law). See also Noel, *The Duty to Warn Allergic Users of Products*, 12 Vand. L. Rev. 331 (1959).

from use of the deodorant had been received by the manufacturer over a three-year period, during which eighty-two million jars of the product had been sold. The appellate court found that a duty to warn might arise and that a statistical analysis showing a miniscule percentage of allergic reactions, "so heavily relied on by the trial court," was only one relevant factor on the issue of foreseeability.⁶⁷ If, however, no previous cases of the reaction complained about have arisen, it is difficult to see how liability can be imposed on negligence grounds, as was done in a case involving the first serious systemic reaction to a hair dye after more than fifty million packages of the product had been distributed without any harm of that kind.⁶⁸

V. TYPES OF DESIGN NEGLIGENCE—CONCEALED DEFECTS, ABSENCE OF SAFETY DEVICES, DEFECTIVE COMPOSITION

Because of the number and variety of products now manufactured, it is not possible even to list all of the kinds of design negligence which may arise. Most of the complaints, however, seem to come within one of three areas: concealed danger, a failure to provide safety features or devices, or defective composition.

The problem of concealed dangers is illustrated by a case involving an aluminum lounge chair.⁶⁹ The plaintiff sat down in the chair and placed his hand on the arm with a finger extended under the arm rest. The chair proved far from relaxing to the plaintiff when some moving parts amputated his finger. The appellate court held, naturally enough, that this concealed danger might well involve a negligent design.

A much closer case was a recent one involving a self-unloading wagon.⁷⁰ Along the bottom of the wagon were some rotating bars used to move its contents from the rear to an unloading chute at the front. After reaching the front of the wagon, the bars returned to the rear underneath the vehicle and then were moved upward to re-enter the wagon by chains and spocket wheels. This machinery at the rear was partially covered by the end piece of the wagon, but there was an uncovered space about five inches wide which could be seen by a person standing about three to five feet away.

A farm workman, using the wagon for the first time, started the machinery and then walked around to the back to check its operation. He tripped over something, fell, and his arm became caught in

⁶⁷ 244 F.2d at 53.

⁶⁸ *Braun v. Roux Distrib. Co.*, 312 S.W.2d 758 (Mo. 1958).

⁶⁹ *Matthews v. Lawnlite Co.*, 88 So. 2d 299 (Fla. 1956).

⁷⁰ *Calkins v. Sandven*, 129 N.W.2d 1 (Iowa 1964).

the moving parts. It was held that the case should have been sent to the jury on the negligence issue. The court said that the danger was not apparent to the plaintiff because "the uncovered moving parts in the rear were not observable except upon close inspection" and because the "mechanism was much less obvious, than if the end piece had been omitted from the design."⁷¹ There was expert testimony that it was "feasible to shield the open space at the rear end" of the wagon.⁷² It might be thought that since the workman tripped and fell, the fall rather than a latent danger was the significant cause of this accident. On that point the court was divided, but it concluded that reasonable minds could find "that although plaintiff's tripping caused him to fall, the absence of an effective shield at the rear of the machine was a substantial factor causing his injury and hence was a proximate cause thereof."⁷³

Turning to situations in which the emphasis is on a failure to provide safety devices, a typical case of this kind was one involving a vaporizer which became overheated after the water boiled away. The overheating caused a fire which severely burned a child in a nearby crib. It was claimed that the manufacturer negligently failed to provide a cutout device which would automatically shut off the current before the vaporizer became so hot as to be likely to set fire to surrounding objects. It appeared that some manufacturers used cutouts while others did not, and a judgment against the manufacturer was sustained.⁷⁴

Suppose the difficulty is simply that the vaporizer has a loose lid. In one such case in Ohio,⁷⁵ a mother placed her child on a davenport and a vaporizer on the arm of the davenport; over both a sheet was placed to keep in the steam. The vaporizer, naturally enough, upset with resulting burns to the child. In that case a verdict for the plaintiff was set aside, partly on the ground that the vaporizer was of standard and conventional design and that no available safety device had been pointed out by the plaintiff.

A somewhat similar case was tried last year in Minnesota. There the vaporizer was placed on a stool near the crib of a three-year old girl. She got up in the night and bumped into the vaporizer. The

⁷¹ *Id.* at 6.

⁷² *Id.* at 7.

⁷³ *Id.* at 8. Other recent cases involving more or less concealed-design defects are *Varas v. Barco Mfg. Co.*, 205 Cal. App. 2d 246, 22 Cal. Repr. 737 (Dist. Ct. App. 1962) (earth-tamping machine apt to spray gasoline on operator from inadequate tank cap); *Rosin v. International Harvester Co.*, 262 Minn. 445, 115 N.W.2d 50 (1962) (seal to keep differential lubricant away from brake lining of insufficient size, strength and flexibility).

⁷⁴ *Lindroth v. Walgreen Co.*, 338 Ill. App. 364, 87 N.E.2d 307 (1949), *aff'd*, 407 Ill. 121, 94 N.E.2d 847 (1950).

⁷⁵ *Blissenbach v. Yanko*, 90 Ohio App. 557, 107 N.E.2d 409 (1951).

loose lid fell off, and the contents of a one-gallon jar containing very hot water fell out on her. The manufacturer had represented that the vaporizer was superior to others in design, safe and practically fool-proof. Expert testimony was presented that there were several methods by which the top could be securely fastened down with adequate safety features to prevent any build-up of steam pressure. There was further evidence that the company had notice of a number of prior injuries of a similar kind. The case is now on appeal,⁷⁶ but a \$150,000 verdict for the plaintiff probably is at least providing food for thought for the designers and manufacturers of vaporizers.

A recent Texas case, *Muncy v. General Motors Corp.*,⁷⁷ might be regarded as involving either a concealed danger or a failure to provide a safety device. Plaintiff claimed that the ignition switch on a 1960 Bel Air Chevrolet was negligently designed because the key could be withdrawn while the motor was still running and the car was in gear. The driver had parked the car diagonally and then had withdrawn the key from the ignition switch, leaving the motor running and the car apparently in gear. A passenger, while attempting to slide out on the driver's side of the car, kicked or pressed the accelerator; as a result, the vehicle jumped over the curb and struck a pedestrian, who was seriously injured by being forced against a heavy plate-glass window.

The plaintiff's expert testified that this design was unsafe. It was established that General Motors' engineers considered the risk involved in the case when the automatic transmission was introduced, since the driver would be more likely to leave the car in gear, without its stalling, with that type of transmission. The possibility of installing a lighter-buzzer to indicate that the motor was running when the key was withdrawn was discussed, but it was decided that the risk was not substantial enough to make this feature desirable. The defendant's knowledge of the risk was further established by the fact that General Motors had secured a patent for a system which would prevent the inadvertent starting of the car under these circumstances. On behalf of the defendant, however, it was shown that this type of ignition switch had been in use since 1948 on some thirty million cars, and that no other accident from its use had been reported.

Under these circumstances, was any unreasonable danger created? The plaintiff's attorney emphasized the importance of the human factor in design and the desirability of providing safety devices

⁷⁶ *McCormack v. Hanscraft Co.*, No. 39627, Minn. Sup. Ct. (docket date not available).

⁷⁷ Civil No. 906, E.D. Tex., April 10, 1964, appeal docketed, No. 21967, 5th Cir., Dec. 15, 1964 (applying Texas law).

to meet all possible contingencies. Plaintiff secured a verdict for \$225,000. General Motors, of course, has appealed, and it will be interesting to see whether the appellate court finds any substantial evidence of negligent design. It appears that the same case was tried first in the state courts, and an appellate court there said, in a decision that the venue was improper, that General Motors was not negligent because there was "no showing in this case that the car in question was dangerous if used properly and . . . for the purpose for which it was intended."⁷⁸

Some cases about which General Motors may be more concerned involve an allegation that the Corvair, in the 1959 through 1963 models, involves an unsafe design. In these cases it is alleged that the automobile becomes unstable at times because its engine is placed so far to the back of the car that sixty-three per cent of the automobile's weight is concentrated over the rear end. It is claimed that in a considerable number of accidents the car tended to oversteer, with the result that the rear started to swing sideways, causing the driver to lose control and crash. It is further asserted that due to the four-wheel independent suspension system, the wheels were not steady enough. It appears that in the 1964 models General Motors added an anti-sway bar between the front wheels and a single-leaf transverse spring across the rear end, thereby reducing the tendency to oversteer.

It also is alleged that because weight was concentrated at the rear of the car, it was necessary for the company to state in the owner's manual that the pressure in the front tires should be only fifteen pounds, while the rear tires should carry twenty-six pounds, in order to avoid oversteer problems. The manual neither indicates what these problems are nor says that the different tire pressures are essential to the safe operation of the vehicle. A recent article on car design and public safety⁷⁹ indicates that many of the Corvair dealers contacted

⁷⁸ *Muncy v. General Motors Corp.*, 357 S.W.2d 430, 436 (Tex. Civ. App. 1962). The state court opinion holds that some individual defendants had a right to have the case removed to another county under a plea of privilege, but it doubtless will be asserted by General Motors, on appeal of the federal court judgment, that the state court decision represents the law of the case on the negligence point as well, since the court discusses at some length the testimony on that issue and finds it insufficient. Some recent cases in which the issue of inadequate safety features or devices was allowed to go to the jury are: *Smith v. Hobart Mfg. Co.*, 302 F.2d 570 (3d Cir. 1962) (applying Pennsylvania law) (meat grinder without adequate guard to protect hand of operator); *Noel v. United Aircraft Corp.*, 219 F. Supp. 556 (D. Del. 1963) (failure of propeller manufacturer to develop promptly a system to feather overspeeding propeller); *International Harvester Co. v. Land*, 234 Ark. 682, 354 S.W.2d 13 (1962) (inadequate device to keep cab of truck from falling when elevated); *Williams v. Caterpillar Tractor Co.*, 149 So. 2d 898 (Fla. 1963) (failure to have gauge to check pressure on grease fitting to prevent explosion; *Texas Bitulithic Co. v. Caterpillar Tractor Co.*, 357 S.W.2d 406 (Tex. Civ. App. 1962) *error ref. n.r.e.* (failure to have device to prevent blade of earth-leveling machine from blocking clutch; plaintiff barred by assumption of risk).

⁷⁹ Ridgeway, *Car Design and Safety*, New Republic, Sept. 19, 1964, p. 9.

in regard to this matter seemed unaware of the need for the different tire pressures.

One of these cases, brought last year by a Los Angeles firm, involved a plaintiff who lost an arm when her car overturned; it recently was settled after a week of trial for \$70,000. General Motors denies that the design involved any unreasonable danger and asserts that the accidents were due to improper driving. Apparently there has not yet been an appellate-court decision or a jury verdict in any of these cases. The firm that made the substantial settlement now has approximately thirty-five of these cases, and reports that the manufacturer has been informed of a considerable number of other accidents in which it is claimed that the Corvair unexpectedly went out of control.

Turning to another type of design negligence, defective composition, it occasionally happens that the manufacturer has used materials of inadequate strength or durability for the purpose the product is intended to serve. Some years ago, for example, Ford Motor Company designed a tractor with a steering wheel made of rubber, rather than of the wood or metal used by other manufacturers. The wheel occasionally was relied on to support the operator, since the seat lacked sides. One of the steering wheels gave way, causing the operator to fall and to be run over by the machine. Tests showed that the wheel would break under a strain less severe than that which might be received from the effort of a heavy man to save himself from falling. Under these circumstances it was held that the design involved an unreasonable danger.⁸⁰

Sometimes it is not the product itself but the container that is of inadequate strength. For example, it may constitute negligence to supply fingernail polish to a beauty parlor in a large and fragile glass container, if the polish is apt to ignite or explode if the heavy bottle should happen to be dropped by a lady employee.⁸¹

⁸⁰ *Goullon v. Ford Motor Co.*, 44 F.2d 310 (6th Cir. 1930) (applying Kentucky law).

⁸¹ *Steele v. Rapp*, 183 Kan. 371, 327 P.2d 1053 (1958). Other recent cases involving materials of insufficient strength are *Heise v. J. R. Clark Co.*, 245 Minn. 179, 71 N.W.2d 818 (1955) (spreader or locking device for stepladder made of pine wood instead of metal); *Swaney v. Peden Steel Co.*, 259 N.C. 531, 131 S.E.2d 601 (1963) (steel truss not strong enough to sustain proposed load and also workmen who would be upon it during erection); *Cornett v. Wm. Lang & Sons*, 14 Ohio Op. 2d 206, 175 N.E.2d 105 (Ct. App. 1960) (thin iron tiller rope of insufficient size and strength).