

Litigation and Engineering

By

Knud E. Hermansen

P.L.S., P.E., Ph.D., Esq.

As an engineer and attorney I find that social and political changes (i.e., the "cultural war") are having a direct and very real impact on engineering - in terms of products liability and our duty of care. This was brought home to me personally when I bought a new lawnmower last summer. To start it and keep it running, I have to simultaneously hold a spring cut-off lever clamped to the handle. It is difficult to pull the lawnmower backwards because of a rubber mat trailing the rear of the lawnmower. A downward grass deflector becomes clogged easily in the morning dew and must be manually cleaned often. I cursed and struggled around my yard, restarting the damn thing every time I stopped to remove an errant toy or limb from in front of the lawn mower. I wondered what infernal mechanical engineer had invented these intolerable safety features. Now let me pause and apologize to all the mechanical engineers for this thought because I realized shortly after the moment of errant thought that it was really a lawyer who had caused the installation of these devices. Lawyers with B.A.s in Art History, Political Science, social work, and many other non-engineering fields. Lawyers now play a dominant role in engineering design. Why? Because we as a society let them, if not encouraged them. We are no longer willing to hold accountable a person because of their own follies and actions. Instead, we make a pretense of accountability using the needs and suffering of the injured party, on the one hand, and the depth of another person's wallet, on the other hand.

How did this happen? Forty years ago it was caveat emptor - let the buyer beware. It was up to the buyer to investigate and determine if the product they wished to purchase was the product they wanted and a product that would work. The law shifted slightly so that manufacturers and builders needed to warn of hidden dangers that they may know about. I believe as engineers we readily accepted this responsibility. For civil engineers this meant putting a red sign in front of the trench excavation saying "Beware of hole." But the law wasn't satisfied with just warning of dangers. Juries found that some people couldn't draw conclusions from facts. So the signs had to say "DANGER, Beware of hole." The downward evolution of liability shifting continued with engineers caught in the evolution. Next, juries found that engineers had a duty to protect stupid people from their own stupidity. Barriers had to be placed around the trench so that people who couldn't or wouldn't read the warning signs didn't walk into the ditch. The next evolution required engineers to design products to protect stupid people with no common sense. (For example, people who put order hot coffee and then put the coffee between their legs as they're driving.) So now the civil engineer must specify fences with barbed wire on top be erected completely around the ditch so people will not only be diverted, they can't crawl under or walk around the barricades and must work hard to crawl over. (Want to bet that Amtrack eventually pays damages because Amtrack didn't design and install a better system than a simple bar that lowers across the lane in the road - that truck drivers can intentionally drive around?)

It followed that engineers were required to design products so that a consumer using the product negligently couldn't hurt others with the product. Now, we are seeing where engineers must design products so that criminals can't use the product illegally to hurt strangers. The handgun litigation is a good example of this. Forty years ago, safety devices were added to products according to the ethical concerns of the engineer and at times the will of the majority through the

legislature. Now, the engineer has to predict the intent of the criminal mind; the persuasiveness of an attorney, and the will of 12 people in a jury. Society has come to accept the fact that a lawyer in a room with 12 citizens can make law a lot easier than a capital building full of elected representatives. Engineers must brainstorm and re-design products to protect the victim of the criminal using the product illegally. It is no longer acceptable to simply comply with the law and common sense in developing and marketing products. Instead of spending money and brainstorming on developing new products, money is spent on defending lawsuits.

Look where we've been and come to:

1950 - Products designed for the average consumer

1960 - Products designed to protect the stupid consumer

1970 - Products designed to protect the stupid consumer with no common sense.

1980 - Products designed to protect an unknown person who is harmed by the consumer using the product negligently (rather than hold the consumer liable).

1990 - Products designed to protect the innocent person from a product stolen from a consumer and used by the criminal in an illegal manner.

Or

1950 - Engineer held liable if product failed to work as designed and advertised

1960 - Engineer held liable if product failed to warn against improper use

1970 - Engineer held liable if product failed to incorporate safety features that could have prevented product, if used improperly or negligently, from harming consumer.

1980 - Engineer held liable if product failed to incorporate safety features that could have prevented product, when used improperly, from harming stranger.

1990 - Engineer held liable by stranger if a product is used illegally by a criminal who knowingly and intentionally uses the product in an improper manner.

For many people, the handgun litigation seems a worthy effort to protect society. However, once innovations in the common law are accepted, the new law may be used for all products. As my law professor would say: "Hard cases make bad law." More importantly than any single litigation is the evasive effect widespread litigation is having on engineers in developing innovative products. In our effort to protect society from any and all risk we are squandering and repressing the innovative mind. We are loading down the product with costly devices to protect the least knowledgeable and most errant consumer. It is a hidden tax paid by all consumers to be given to lawyers who reward the least intelligent and most gullible in our society. In some cases we are taking good products and making them less useful and more difficult to use. Many are being burdened by the mistakes of the few.

Now, as I look at my new lawn mower with all these safety features that detract from the ease and use of the product, I fume. I read the warnings in Spanish, French, and English and roll my eyes for the stupidity the warnings suggest.

"Don't fill with gas when engine is hot - danger of explosion."

"Don't put hands and feet under lawnmower, amputation could result."

"Must be 16 years or older to operate safely."

"Warning - flying objects being thrown from this point, puncture to person and damage to property may result."

"Eye and ear protection must be worn to avoid eye and hearing loss."

What has happened to us and common sense?

As engineers, we are caught in social and political forces that want to create a risk free environment for consumer - now risk free environment for society. I have no doubt that there are great products that will not enter the marketplace because they are not stupid-people proof or not criminal proof. We do a disservice to our profession by presuming that politics and social norms can be de-coupled from technology.

Some embrace the evolving responsibility society puts on engineers, some are repelled by it, and some want to ignore it. Each view point says something about our profession, it's potential, and where it may end up. Heston's article states there is a culture war. I question the part engineering and technology will play in this war — are we to be victims or perpetrators, where are we going, and where will we be?