PRODUCTS LIABILITY

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Abstract

The goal of this Product Liability IQP is to learn the basic principles of product liability law to educate future engineers. Nine videos were watched and two books were read to gain an exemplary foundation on product liability law. After attaining this basis, three cases were reviewed and analyzed for causation. This project enhanced our knowledge on product safety and engineering principles.

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Chapter 1: "The Art of Advocacy: Skills in Action" Videos

The purpose of this chapter is to report on the nine videos we watched on the trial system. These videos covered topics such as opening statements, depositions, cross-examinations, and closing statements. The examples in the videos were real cases tried in the past. These videos help the student, with an engineer frame of mind, to better understand the logic behind lawyers' actions in court.

1.1 - Opening Statement

From a case study done in Chicago, it was shown that jurors often believed more from the opening statement of a case than they did from the rest of the evidence presented. Therefore, over the years, lawyers and legal council have put more emphasis on having a sound and solid opening statement to be effective to the jurors. This video explains some of the tactics lawyers use to make their opening statement more efficient in painting a vivid picture in the minds of the jurors that will stay there throughout the entire case.

When developing an opening statement, the lawyer must make a connection between the victim and the jury. To make that connection, lawyers tell a narrative story to paint images in the minds of the jurors. However, one does not want to be too melodramatic or over sympathetic. Instead, the lawyer will ask questions that they know the jury is wondering, such as "Why is the defendant at fault for this accident?" Another important tactic is to talk slowly; not being in haste shows the jury that the subject being discussed is important. Also, repetition is a commonly used tactic to keep important ideas or information fresh in a juror's mind.

A good opening statement will also provide evidence to the jury. When providing this evidence, the lawyer should express it thoroughly, stressing its importance to the case. Visual aids are extremely useful when presenting evidence because it gives the jury some image that will stay in their minds while the lawyer is presenting other aspects of the case. While providing this evidence, it is also a good tactic to mention some of the defense's side of the case. A lawyer will do this to show the jury that he understands the other side of the case, but he must be careful to mention parts of the defenses case that he is capable of shooting down.

Then once the attorney establishes his theme for the case, he should briefly discuss liability. He should discuss who is responsible for the damages and how the plaintiff should be compensated. When closing the opening statement, the attorney should tell the jury what it is they have to do, and then return to the original theme of his argument to keep the jury's mind on the same track.

1.2 - Direct Examination

Direct examination, on most accounts, is said to be the hardest part of any case. It is also said that the jury will remember best what it heard first, and remember longest what it heard last. Therefore, when setting up the direct examination, the attorney must ask himself a few questions first, such as "What do I want from this witness?" and "How do we get it?"

Traditionally, when examining a witness, the lawyer will first establish the credentials of the witness. Credibility is important, because it would do no good for the lawyer to examine a teenager, who wasn't at the scene of the accident, to explain his

account. To do this, the attorney will typically ask questions about the person's background, profession, and relevancy to the case.

Once the attorney begins discussing the case, there are a few tactics to remember when examining a witness. First, one must maintain a voice level high enough so that jurors can properly hear questions being asked. Furthermore, when using visual aids, be sure not to stand between the jury and the visual aids (or the witness) to be sure they can see and hear adequately. Next, when examining a witness that performed some work outside of the courtroom for the case, such as an accountant using special formulas to decide dollar amounts for punitive damages to the plaintiff, it is important to show the jury the formulas used so that they can understand fully why and how this figure was reached. Third, when using the plaintiff as the witness, the attorney must be sure not to be too interrogative. Presenting the evidence in an orderly manner while letting the plaintiff carry the pace of the case will make things run much more smoothly for the jury. While letting the plaintiff carry the case, the lawyer can use subtle body language and voice inflection to emphasize certain parts of the case he feels are important.

Although the attorney wants to let the plaintiff carry the case, he does not want the victim to loose control emotionally, as this will detract from the strength of the case. On the other hand, the lawyer does want the jury understand exactly what damage the victim has received. Since, as discussed above, the jury remembers longest what they hear last, the last thing the jury sees should be the injuries sustained. This will leave a grim picture in their mind as to the sufferance felt by the plaintiff.

1.3 - Opening Statements II

This video emphasized some of the tactics discussed in 1.1. The opening statement should be a "real grabber," and should state implicitly the theme that the defense will follow: "Al Duke was just an *ordinary guy* who sustained an *extraordinary injury*." This is how the lawyer in the video starts his opening statement, and then supplements that with statements that induce curiosity in the jury.

Good opening statement technique involves development of the plot of the case, as well as descriptive characterization. The lawyer wants to develop credibility, not only between the victim and the jury, but between himself and the jury. When evaluating damages, it may be a good idea to leave out dollar figures, but emphasize 100% justice.

Another very important part of opening statements is style. It is not good technique if the jury looses concentration on what the attorney is saying. The lawyer should change the tone of his voice, insert visual aids or even add humor to keep the jury's attention.

It is also good to end the opening statement with assuredness. Being tentative will lead the jury to believe the attorney is not sure about himself. The attorney must make the jury willing to accept the facts presented as truth.

1.4 - Cross Examinations

When cross-examining a witness, the lawyer must first introduce the witness to the jury, and then choose from two basic styles of examination: passive, or aggressive. The passive style can be used to make the witness like a sounding board, using him to reiterate or confirm certain aspects of the case. Or, the lawyer can adopt an aggressive

style, where they essentially attack the witness and barrage them with questions, attempting to make them contradict themselves, therefore increasing the credibility of the prosecution. It is essential to establish the credibility of the lawyer. During the rigorous testimony, the lawyer should also point out the flaws or mistruths in the statements made by the witness. The lawyer has to establish dominance over the witness. When doing this, the attorney should attempt to include the jury in on the cross-examination, by asking questions in the form "Tell the jury and me what happened..." This inherently puts the jury on the attorney's side.

Other ways to further establish the credibility of the lawyer and destroy the credibility of the witness is to make direct claims to there work as a witness, exploiting whether they studied the case well enough or how much they are being paid to examine the case. All of these tactics should build a theme that will result in a formidable conclusion to stagger the defense.

1.5 - Cross-Examination of Non-Medical Experts

This video delves deeper into the frame work of the art of the cross-examination and looks at some of the tactics used when examining expert witnesses. It is dreadfully important for the lawyer to win over the witness or it could be devastating to their case. Well prepared, organized, and disciplined cross-examinations can help to support the attorney's own theories, amplify, modify, and then destroy the testimonies of the witness.

The attorney must first establish psychological control over the witness. He can do this by establishing clear eye contact with the witness, set the pace of the discussion, or stand directly in front of the witness and show a definite presence. Also, the leading question is important in establishing control and setting the pace of the cross-

examination, since "control is the essence of success." The leading question can also be used to establish the credentials of documents presented by the witness (deposition, analysis of case). When these documents are presented, the lawyer should attempt to attack credibility by addressing his personal conduct as a witness. Often, witnesses are misinformed about cases, so this can be used to lead the jury to believing that the witness is incompetent and, therefore, destroy his testimony.

However, the witness will often evade questions, and the lawyer must then resort to asking simple questions that force the witness to answer with simple answers. This will help to keep the witness under tight reigns. Also, asking open ended questions that the lawyer doesn't know the answer to is a bad idea because it could affect the credibility of the prosecution. Instead, asking opened questions immediately followed by a leading statement can help to reinforce the lawyers theme. But, when dealing with an expert witness, by often conceding to his expert statements, he will concede to the lawyer's statements.

1.6 - Preparing for a Deposition in a Business Case

The purpose of a deposition is to find out what the witness knows, make them commit to a position, and then find any weaknesses in the case. The setting of depositions is usually in a conference room of the courthouse with lawyers of both sides present, as well as the witness and his lawyer. It is set up like a business meeting to help the deposer relax. Depositions are under oath, and are recorded by the court recorder. Depositions have important outcomes in cases, and the witness is the only one not prepared for one. This video showed some rules to follow when giving a deposition so as not to give any pertinent information away that may discredit you later.

The first common mistake is volunteering too much information when a lawyer asks a question. For example, when asked some simple questions, the witness in the video identified major players in the case, mentioned people involved by name twice, discloses an important document the prosecution did not know about, highlights the importance of those documents, and discloses privileged information. To keep from exploiting the case, the witness should only answer questions asked directly to him from the deposing lawyers. A good approach would be to always pause before answering a question, to make sure you understood the question correctly and to think about your answer. Also, if you do not understand the question, say you do not understand. It is very important not to answer vague questions because your answer could discredit you in court.

Whenever in doubt, ask questions. The witness should never be embarrassed to ask for a clearer question or to consult his lawyer about an answer. The witness and lawyer should also discuss, prior to the deposition, troubling topics about the case and what to do if you want to speak to your lawyer during the deposition. The best thing to do is always be honest, and if you do not know the answer to a question, simply reply "I don't know."

1.7 - Conclusion

The conclusion is the last chance for the lawyer to get any points across to the jury before deliberation. The conclusion should be 5 to 6 statements at the end of the closing arguments. It is important for the lawyer to maintain the control of his body language and the visuals he illustrates for the jury. The lawyer makes one final attempt

to paint a vivid picture of the injuries sustained by the plaintiff so it will be fresh in their minds when the deliberate.

One way of doing this is by alienation; that is when the lawyer takes a familiar situation and presents it in a new context. This is useful because the lawyer does not know what the jury has been through and he does not want to offend them. The attorney must decide how the story will be delivered. There are very few procedures that are successful in the closing argument process. Therefore, the lawyer almost always has to adopt the closing arguments of another lawyer, but they must be sure to incorporate their own style and methods.

1.8 - Summation

The challenge of a summation is that the jury has already been trying the case for months, so the lawyer must make an effort to make things sound interesting and fresh. He must try to deliver an element of suspense or excitement for everyone. Principles of the argument should include factual disputes, the laws of product liability, and perhaps some visual aids to support the statements.

During the closing arguments, the attorney should consider using a podium. During the previous parts of the trial, the attorney wanted to establish a connection with the jury and show his credibility. Now, he should establish a distinct authoritative position, and a podium will give him that "power distance." Now the lawyer is in a position to tackle the awkward task of persuading the jury to convert damages sustained to dollar figures.

The presentation of persuasion is important, and the lawyer wants the jury to know that they need to "do the right thing." The jurors want to feel as though they are

achieving something important. With the need for the jury to understand the struggle the plaintiff has gone through, changing past situations to present tense will make it seem more personal to the jurors. The lawyer should also stress the importance of the jury's responsibility as a "conscience of community" to decide whether products are manufactured safely. Overall, the attorney wants the jury to understand that the plaintiff was a just and responsible person who can no longer enjoy the fruits of life, and compensation is necessary.

1.9 - 60 Minutes™ Exclusive: A Classic Cover Up?

This video was a recording of a 60 Minutes exclusive by Dan Rather on the 1964-1970 Ford Mustang Classic Model. This particular model of the Mustang was very dangerous, resulting in many accidents caused from the position of the gas tank in the trunk of the vehicle, which caused it to either explode upon impact or discharge the contents of the gas tank into the cab of the vehicle.

The problem with the location of the gas tank was not involved in one case. In fact, Ford has been sued dozens of times for the "faulty" manufacturing of this model, but they always settled out of court. This aids in the assertion that Ford has been able to cover up this major problem with out having to recall all of the models. Ford asserted that the Classic model met all safety standards; but Ford engineers, upon leaving the company, confessed that they knew that the drop-in fuel tank was a very unsafe method. Lee Iacocca, the president of Ford, however insists that they did not think the drop-in fuel tank method was an unsafe one. But upon inspection of the company's test tapes, Test 301 explicitly videoed a crash test directly above the trunk to see the result of a rear impact on the Ford Classics.

It was known by Ford that the Classics were dangerous, but they did nothing to relieve the problem. Instead, Ford executives were recorded saying that safety was killing the auto industry. Iacocca was also caught on Nixon's secret tapes saying safety was killing his business. He did not want to recall the Classic for economic and pride reasons.

Chapter 2: An Engineer in the Courtroom

2.1 – Introduction

An Engineer in the Courtroom, written by William J. Lux, gives a detailed description of the role an engineer has in a courtroom. The guidelines that are thoroughly described guide the engineer through all the decision-making aspects in the discovery, deposition, and the trial of the litigation process. The book shows many example cases in which an engineer may run into in the courtroom. The examples point out the important aspects an engineer may encounter and how to go about avoid problems inside and outside the courtroom. The book also shows how the litigation process works to help those injured by a faulty product and the importance of the engineer to determine right from wrong.

2.2 – The Nature of Accidents

There are all sorts of accidents that occur each and everyday. Many of these accidents require the expertise of an engineer with a strong understanding of the litigation process. The responsibility of the engineer is to determine the cause of the accident and give an opinion of who is at fault and what could have been done to prevent the occurrence of the accident. There are all sorts of accidents that can occur, which are outlined below:

1.0 Collision – Two bodies trying to occupy the same space at the same time

a. Two moving machines or vehicles

b. A vehicle or machine hitting a fixed object

- A vehicle or machine hitting a parked or stopped machine
- Airplane crashes

c. A vehicle hitting a person

- A person running into a moving machine

d. A person running into another person

2.0 Slip and Fall Accidents

a. Loss of traction between the foot and the surface

b. Tripping

c. Physical malfunction of the person

d. Unexpected change in surface level

e. Loss of step support

f. Loss of balance and/or support of the body

g. A fall from a ladder or step

3.0 Loss of Control

a. Inadvertent motion

4.0 Hit By a Falling Object

a. Being hit by a rolling object

5.0 Suffocation

a. Drowning

6.0 Electrocution

7.0 Poisoning

8.0 Shock and Vibration

9.0 Entanglement

10.0 Cuts and Abrasions

11.0 Fire

a. Chemical burns

b. Explosions

c. Radiation

d. Burn from contact with hot surface

12.0 Mechanical Failure

13.0 Struck By a Moving Projectile

a. Firearms or other such devices

b. War

14.0 Nature or Environmental Factors

a. Heat

b. Cold

c. Lack of water

d. Animal attack

e. Wind

f. Lightening

15.0 Homicide

a. Suicide

b. Legal intervention

16.0 Other Accidents

a. Accidents that do not fit in any of the above categories

2.3 – Why Go To Court?

The purpose of the courtroom is to help determine right from wrong. There are many reasons why people feel that they must settle their disputes in the courtroom. The courtroom is the organized way for the citizens of the Untied States to seek justice if the person feels that he or she has been wronged in some sort of way. Every citizen of the United States is entitled to compensation for damages or injuries they have received do to an accident. For the litigation process to take place a person must first file a suit against someone who they feel is at fault. In a product liability cases, the damage or injury would be categorized in one of the accidents that is listed above. A person would file a suit if he or she feels that they have been wronged or the accident had occurred due to persons' neglect. Once the parties are identified they try to come to a compromise. If a compromise can not be agreed upon, the case is brought before a judge and a jury. The outcome of these trails will help set guidelines for future manufacturers to help prevent products from failing and causing harm to others.

2.4 – Avoiding Litigation

The best way for an engineer to avoid the litigation process is to think of every possible way that someone may be hurt by their product and factor this into the design. All safety factors must be taken into account when an engineer designs his or

her product. One step to safety is for the designer to look at the product and protect an operator from any sort of injury that can occur by the use of guards or shields. These will protect the operator or others near the machine from potential hazards that may be present in the product. With the use of warning labels the operator can be warned of these potential hazards that may occur in the product. Warnings can also be placed within a user guide for the product that the owner and operators should thoroughly read before operating the product. The warnings would also make operators aware of hazards that could potentially occur if the product was improperly used. Along with the use of labels to warn then operator, lights and sound can be used to grasp the attention of the operator. For example, the harassing beep a vehicle makes when the seatbelt is not used when the vehicle is placed in gear, or the beeping sound a commercial truck makes when backing up to warn others behind the truck are ways to highlight potential hazards. It is very important on the engineers' part to warn the user of these possible defects or hazards. With the proper warnings the operator could possible correct an action of the product that may lead to injury without anyone being hurt. Finally, it is necessary for the designer of a product to protect the user and others affected by an accident, should it occur. This is done with the addition of safety equipment, such as hard hats or leather gloves that protect workers against potential accidents.

When designing a product, an engineer should always include a consideration of all undesirable affects which may result from the product, especially considering safety should something unwanted happen. The engineer of the product should keep in mind all possible uses, misuses, and environments through which their product will

be subjected to. Even though it is not possible to design a product that is perfectly safe from any and all accidents, it is up to the engineer to make the most reasonable and professional judgments. The engineer must document their decisions and the reasons behind them. Good instructions must be provided with a product in order to describe its correct usage and maintenance. Finally, it is the engineer's responsibility to warn users of potential hazards which can not be eliminated. Keeping this in mind while designing a product is a sensible way for engineers to avoid litigation.

2.5 – The Litigation Process

The litigation process is called upon when a person sues somebody else. In the United States a person can sue another person if the individual feels that they suffered a loss or damage due to someone else's neglect. The litigation process can be divided into several steps. These steps represent the basic and elemental parts of the legal process of litigation.

2.5.1 The Claim – The start of the lawsuit is the filing of the claims in a "Complaint" along with the plaintiff's request to the court for trial. The claim has to be clear enough and logical enough to justify the court to continue the process. Included in the claim are reasons for the defendant's responsibility. For the trial to begin, the claim must be clear and precise to both sides, or the judge may throw the case out.

2.5.2 The Response and Defenses – An answer must be returned once the defendant has received the claim. A reasonable amount of time is give to the defendant to study the claims, allegations, and return with an answer. The whole

process can be fairly quick is the defendant agrees with the claims and a settlement can be reached without any disputes. On the other hand, if the defendant were to return with an answer of "no", which is a denial of the claim, then the process can be dragged out over a large amount of time until an agreement is found by the judge and jury. Included in the defendant's response of "no", a list of reasons as to why they are not responsible is commonly included. In relation of the claim of a defective product, it is highly recommended that a licensed professional engineer is used to help determine who is truly at fault.

2.5.3 The Discovery Process – During this part of the procedure both the defendant and the plaintiff make investigations of the lawsuit. In the plaintiff's case, they usually will take note on how the product works and why it may be defective. At the same time the defendant will investigate the accident and the events that lead up to the accident. As part of the discovery process there are five parts to reveal all the information necessary to begin a trial, which are:

2.5.3.1 Interrogatories – These are basically simple questions that each side will serve to each other in a formal way. Each side is given a limited amount of time to answer these questions and have them returned, under the power of the court.

2.5.3.2 Request for Production (RFPs) – To allow both sides to fairly develop arguments, duplicates of all written evidence are made and given to the other side. This includes allowing both sides to view any physical evidence. The plaintiff may request prints of the machine and its parts, service records, etc. In return, the defendant

may request any and all photographs, accident reports, medical records, etc.

2.5.3.3 Request for Admission (RFAs) – Following all rules of the court and law, the attorney must present his or her case in a certain form, following certain steps. To properly present his or her case, they must show and prove certain things in this form, following these steps. Admissions are responded to by saying, "admit" or "deny." If denied, the persons must state reasons for denial.

2.5.3.4 Inspections – In the cases of a product failing or presenting a hazard that had caused injury/damage, inspection of the product or parts may take place. Also inspection of the accident site, the injured person, and any other relevant evidence may be necessary in the discovery process. When technical inspections take place by a consultant or expert, it is very common for the opposing side to be present during the inspections. This is not the case for every inspection.

2.5.3.5 Depositions – A deposition involves the questioning of a witness or potential witness. This may also include anyone who is believed to have certain knowledge related to the case. When a deposition takes place the person being questioned is sworn under oath and is questioned before the court reporter, just as they would be in a trial. The deposition is held in more of an informal atmosphere, unlike a trial.

2.5.4 The Trial – The trial consists of choosing a jury, presenting opening statements, the presentation of evidence, the presentation of the case, examination of witnesses, final arguments, the jury charge, the jury deliberation, and finally the verdict.

2.5.5 Post-trial Activities – There may be handshakes all around and agreement that the court has led the participants to a reasonable and proper decision. Other times there is strong disagreement and resentment towards the decision of the court. In some cases there are motions for retrial, judgment notwithstanding the verdict, reductions in judgment, and a variety of other legal steps that are entirely the province of the attorneys.

2.5.6 Settlement – A resolution or settlement usually comes after the trial and appeals.

2.6 – Engineers and Engineering Information

Engineers and the engineering information are very critical to a product liability case. Engineering information is the data and discussion of the design of a product. The way the information is presented is also very important in a case. The engineering information helps the jury and judge, who can be unfamiliar with the product, understand how the product operates properly and what may have gone wrong to cause an injury or damage in a product liability case. Engineering information is all the pertinent information applying to the product development. To expand on the term engineering information, included are blueprints, computer programs, operating manuals, letters, policy statements, memos, and any other important information that may pertain to a successful design of a product.

Engineers typically testify as either fact or expert witnesses in such situations. As a fact witness, he or she will testify to what is known to be a fact. On the other hand, to test as an expert witness he or she will give an opinion that will assist the judge, and possibly the jury, in understanding the technical information or other details that may not be common knowledge. In some cases, these engineers may be the ones who designed and manufactured the product, or a competitor who produces a similar product and has a strong understanding of the product. Engineers and engineering information play a very important roll in product liability cases. With proper interpretation of engineering information, jurors can make a decision based on how the product was designed and what caused it to fail.

2.7 – How the Engineer Can Help the Attorney

In order for an engineer and an attorney to be successful in the court, they must work together. The engineer is experienced with the technical aspect of a product, while the attorney is experienced with the legal aspect of the courtroom. With this type of relationship, a close bond can be formed leading to the success of the case. An attorney tends to need broad information and knowledge in doing his or her work. The importance of the engineer is to help the attorney understand the product, since the attorney needs to spend time concentrating on law and has little time to become sufficiently expert in one area. The engineer helps the attorney understand the technical and scientific relevance to a certain product and the case in which it is involved. Engineers can help explain things such as:

2.7.1 The design and development of the product being examined.

2.7.2 The products, systems, parts, and operation of the product.

2.7.3 The development and methods of engineering involved with the product.

2.7.4 The testing and evaluations performed on the product.

2.7.5 How successful the product was at performing the intended task that it had be developed for.

2.7.6 The possible uses or misuses of the product and all other applications.

2.7.7 The relationship between the product and the operator.

2.7.8 The work that was done to reconstruct an accident to help determine the cause of a failure or personal injury.

2.7.9 The engineering information that is pertinent to the case in which the product is involved to the attorney, judge, and jury.

The engineer must keep in mind to whom this information is being presented. Also, the engineer must present the information in a way for the common man to understand. A good, experienced engineer will translate all of the technical information into a common language to assist the attorney and the court. The overall responsibility of an engineer is to help the attorney make the people of the court understand the technical aspects of a case in which a product had failed, showing who may or may not be at fault.

2.8 – The Discovery Process

The discovery process is one of the most important parts involved in the litigation process. The process involves the attorney interrogating the witnesses and finds out what they really know about the case. This process presents important

information and key witnesses for the case. The opponent in the lawsuit is allowed to discover information that is permitted by law to be found and possibly used in the matter being litigated. Any information about the product, the philosophy, the design, testing of the product, analysis, or background checks on the operator can be discovered. Basically, any information about the product is useful during the discovery process of a product liability case. The methods involved in the discovery process are interrogatories, Request for Production, Request for Admission, and the deposition. The engineer needs to help answer questions called interrogatories about the product, with the guidance of an attorney. If the two parties do not agree that the question has been properly asked or answered, a judge settles the matter by a ruling, ordering one side or the other to ask or respond properly. A Request for Production is way for an attorney to acquire any physical evidence, such as documents. By doing this the attorney may discover information pertinent for his or her argument. When a defendant files a Request for Admission, they have agreed that the statement propounded by the opposition is completely true. During the questioning process the attorney may use certain techniques go get the witness to follow the path of questioning. This is done by asking questions to which the answer is already known. This will show the jury what the attorney believes happened during the accident. When the attorney requests certain evidence it is very important to make sure the jury understands the significance of the evidence being discussed. When the attorney has the witness admit to certain undeniable facts, this is known as the "smoking gun" technique. In general the discovery process consists of the general discovery of pertinent information needed to develop an argument for the case.

2.9 – The Deposition

In addition to the discovery process, the deposition plays a major role in any court case. This is a very important tool for the attorney. A deposition gives the attorney the opportunity to question witnesses before the actual trial. The deposition also helps to establish the facts on a certain case, and determine the origin and basis for these facts. The attorney will seek information and bases to impeach the witness, if such an opportunity exists. The questioning for the deposition is conducted before the court reporter, while the witness is under oath, but outside of the courtroom. Although the questioning is less formal than in the courtroom trial, this part of the litigation process is extremely important. One function of the deposition is to seek out information that will discredit the opposing witness. Depositions are also used to determine the opinions that an expert witness may offer at the trial, and to explore the basis for these opinions. Also, the deposition will let opposing sides learn each others plan and strategies.

The deposition usually takes place when a case is about to go to trial. This is the first chance the witness has to deal directly with the opposing attorney. When answering the questions presented it is very important for the witness to answer these questions honestly, just as they would in the courtroom in front of a judge. An engineer can be a fact or an expert witness for both the plaintiff and defendant. There are a few rules that have been listed that one should follow when giving a deposition. By following these rules the deposition process can move quickly and they help to give a strong and most constructive deposition. One rule is for the witness to listen

carefully to the questions being asked and to fully understand what is being asked. If the witness was to misunderstand that the question being asked and answered the question wrong then this could lead to a totally different outcome of the case. The attorney will repeat the question if necessary. The witness should also think about what he or she will say in response to the question. By taking a moment to think about the question the witness can collect some thoughts allowing for an honest and detailed answer. The witness should never answer more then they are asked. At no point in the deposition is a witness obligated to give more information than is asked. As mentioned before the answer should be truthful and complete, since the witness is under oath. This allows the deposition process to more quickly. It is common for a period of silence between the last word to the witness and the next question. The witness should never voluntarily fill this silence with more information. All arguing should be left to the attorneys to deal with. The witness should never argue or advocate. Following these basic rules will result in the most helpful deposition.

2.10 – The Trial

The trial is the last and most important part of the litigation process. This is the high point of the litigation process. The trial occurs when the parties involved in the case have reached a situation where they cannot reach an agreement. Both parties have decided to submit their claims, contentions, arguments, and beliefs to a court. All the preliminaries, such as interrogatories, various requests, depositions, inspections have been completed before the trial takes place. Now both sides are ready to present their case before a jury and a judge. The trial process can be followed in a simple outline. The following is a well outlined course of action:

- Picking a Jury – 6 or 12 people
- Opening Statements
- Plaintiff presents their case
- Defendant presents their case
- Final arguments are addressed
- The charge to the jury
- The jury deliberates
- The verdict is given

The way in which one presents himself is also an important aspect of the trial. It is important to dress in a suit, dress shirt, and tie to look more proper and businesslike. It is important, too, for one to conduct himself in a respectable manner in the courtroom. When addressing the judge, he or she is to be referred to as "your honor" and answer with "Yes, sir" or "No, sir." The people present in the courtroom will be the judge, the clerk, the reporter, the marshal, the jury, and both parties involved in the case.

2.11 – Questions

One of the most important job of a lawyer is to present a question in such a way to obtain the answer he or she is looking for. Also, the ability of a lawyer to ask questions is directly related to how the jury is swayed in a case. There different types of questions used by an attorney to take an integral role in the persuasion of the jury. The different types of questions are as followed:

- Specific or general questions

- Open and closed questions
- Leading and non-leading questions
- Formal and casual questions
- Simple and complex questions
- Probing and outlined questions

An attorney will use all of these questions to build the case he or she is trying to prove. Along with the types of questions the attorney asks, the way the questions are presented is significant. Inflection and voice pitches can imply certain meanings to questions. Another technique used by an attorney is to present the question rapidly to get the witness to fall into a pattern of answers. Careful phrasing and timing of questions is vital to the attorney's case. One of the most important things to remember about the questions asked during the litigation process is to answer the questions truthfully.

2.12 – Accident Reconstruction

Accident reconstruction is a critical part of the litigation process in which the engineer usually plays an important role. As a part of accident reconstruction, many pictures are taken of the product and the environment where the accident took place. Good visuals can help the jury and the judge understand exactly what took place. It is difficult to describe a part on a product that has failed without actually seeing the product first hand. With the help of an expert, such as an engineer familiar with the product, the accident can be reconstructed and an explanation or an opinion can be given for why the accident occurred. The expert who reconstructs the scene will physically study the product, and then with available information and the use of

science a likely scenario of the accident can be determined. The expert will also take into consideration all testimonies, evidence, and personal recollections when reconstructing an accident. In order to provide a valid and realistic accident reconstruction one must abide by six important rules. They are as followed:

1. A good reconstruction must agree with the laws of physics and rules of engineering.
2. The reconstruction should agree with the majority of information and evidence available.
3. The reconstruction should be explainable in common everyday terms.
4. The reconstruction should be as free as possible from bias and preconceived notions and ideas.
5. The reconstruction should not result in any big surprises.
6. The reconstruction must be able to withstand attacks and scrutiny.

By following these rules an engineer can provide very powerful evidence to the jury and the judge, possibly winning the case.

2.13 – Definitions and Techniques Employed by Attorneys

Attorneys use many special terms, which may not be used in everyday language. This chapter consisted of theses special terms and there definitions. They are as followed:

Adverse Witness: A witness that has been called on by the opposing attorney.

Answer: Formal term for a response.

Appearance: A figure appears in the litigation process

Arbitration/Mediation: An alternative to actually going into litigation, usually due to time constraints.

Balance of the Evidence: The information/facts placed in front of the jury by both sides involved in litigation.

Bar: 1. Location of legal activity.

2. A grouping of attorneys in a certain area of jurisdiction.

3. To keep out

Bench: It is where the judge sits. However, it is also considered the focal point of litigation.

Best Evidence: Deals with the acceptability of evidence.

Breach: Failure to perform or a break in a chain of action.

Burden of Proof: The responsibilities of the parties in a lawsuit to prove/disprove the claims at question.

Care: The responsibility or charge to perform or conduct according to accepted levels of performance.

Charge: Specific instructions as to how it must proceed in deliberating a case.

Civil Law: Law dealing with relationships between people, and other entities.

Complaint: Formal name for the list of claims and the request for court intervention.

Due Process: Proper legal steps in a procedure.

Duty: What a person is supposed to do in litigation.

Evidence: Information that proves or disproves matters of disputed fact.

Exhibit: Evidence offered and admitted at trial

Expert Witness: One, who by training, education, experience, or special knowledge, has the ability to assist the court and the jury in understanding technical aspects of a matter.

Facts: Things that have happened or matters that truly exist.

Forensic: Belonging to the law

Foresee ability: Implies the ability of a matter, situation, condition, or action to be expected sometime in the future.

Good Faith: Type of effort made by one who has a duty.

Hearsay: The admissibility or inadmissibility of testimony from a witness.

Hidden Defects: A defect hidden from view; or not easily detectable even by reasonable and common inspection of a product or component.

Hostile witness: A witness who by either his actions or demeanor demonstrates a hostile attitude toward the questioner

Hypothetical Question: A form of question permitted at certain times and with certain requirements during a direct or cross-examination.

Impeach: To show the testimony of the witness to be untrue or unbelievable.

Inadmissible: Evidence that is not allowed into trial

Irrelevant: A subject that is not a necessary piece of evidence in regards to the trial.

Judicial Discretion: A form of judgment dealing with a particular topic

Jury Trial: Trial using a jury of people to decide the facts of the matter.

Lay Witness: Usually an eyewitness, they testify for the facts of the trial.

Liability: Legal responsibility to pay or provide such remedies as the court decides.

Litigation: The total process of filing a lawsuit, pursuing the discovery and other pre-trial actions.

Mistrial: When a judge determines that a fair and proper resolution can no longer be reached.

Oath: A promise to tell the truth

Privileged Communication: A transfer of information not generally discoverable by the opposing side in a matter of litigation.

Proximate Cause: An accident, injury, or related loss is that cause without which the incident would not have happened.

Prudent Person: A person who conforms to the rest of the group.

Puffery: When a person stretches the truth in order to sell their side of the story.

Punitive Damages: Damages over and above the damages intended to make the plaintiff whole.

Question of Fact: Questions or unresolved disputed dealing with facts or information.

Question of Law: A matter of dispute concerning the applicable statutes or precedents, or a dispute concerning the process and rules of litigation procedure.

Reasonable Care: The care that a reasonably prudent person, properly trained and assigned to the work, would use in performing the work.

Red Herring: A diversion or interruption used by attorneys, judges, and jury's.

Side Bar: Side of the judge's bench where parties can privately discuss objections with the judge.

Summons: A legal document notifying the defendant that an action has been filed against him/her.

Testimony: The questions you answer while on the witness stand from both parties.

Tort: legal wrong committed or perceived to be committed against a person of other legal entity.

Warnings: A complaint or claim center around the question of adequate warning.

Weight of the Evidence: The importance of evidence forces the scales of justice to tip toward one party or another.

Along with these special term that maybe used by an attorney, there are also many techniques that are used.

- Never ask too many similar questions
- Do not fight or argue with the witness
- Keep the cross examination as short as possible
- Know the answer before you ask the question
- Tell a story to paint a valid and interesting picture for the court to understand
- Stop when you have made your point
- Never assume anything
- Listen carefully to the answers to the questions that have been asked

2.14 - War Stories

There are often stories told by attorneys that show examples and give tips to aid the litigation process. These are true stories that are sometimes slightly exaggerated to make their story sound better then the last story told. Each of these stories teaches a valuable lesson. Often people are afraid to answer "I don't know" in a deposition, but if this answer is the best answer then they are telling the truth. This

goes to show how frustrating it can to be an attorney. Attorneys need to stand strong at all times. Showing an expression on one's face, whether it is the attorney or the witness, is a sign of weakness. When encountered with an unforeseen surprise, never show any expression that it may have caught you off guard. Not only is this a sign of weakness, but it could show guilt. A surprise response is often effective to the opposing side of the case. When involved in a lawsuit, the attorney representing you is your best friend. Everything you know, your attorney should know. All of these stories teach a lesson that should be taken seriously by a witness.

2.15 – Tips for the Engineer Involved in Litigation

- Do not try to run the game
- Always be truthful
- Don't be frightened by the legal process
- A good attorney will prepare you, listen to his or her direction
- Follow instructions precisely and accurately
- View the legal process as it is
- Do your best work and use your best judgment
- Offer your attorney the best technical advise you can
- Use your special skills to help the process run smoothly
- Be yourself
- Beware of traps and trick questions
- If you make an error, correct it. Don't try and cover it up
- Listen to advice

Chapter 3: Product Liability in a Nut Shell

3.1 - Definition and Scope

A product can be described as a tangible personal property or good. However, product liability has gone beyond tangible property to include intangible products or services. Basically, product liability is the fact whether or not the defendant is in the best position to spread the loss and prevent injuries, and to other policy concerns such as freedom of speech and difficulties of proof. Product liability is not limited to cases involving a product. It can be applied in very specific situations.

3.1.1 - Defects

A defect is described as the cause for imposing liability against a product supplier for injuries resulting from a supplied product in a defective condition. Even though this definition is broad it can be broken down. For instance, a product can be considered defective through negligence of the defendant, misrepresentation, or abnormally dangerous conduct. There are three types of product defects: manufacturing or production flaws, design defects, and defective warnings or instructions. When reviewing a case it is important to know the differences between a design defect and a production defect. This is because of the fact that strict liability applies only to production defects, and because misrepresentation of a warning or instruction can sometimes not be distinguished. Manufacturing flaws are random flaws that take place and only affect few of the products. While design defects usually makes defective

products throughout the whole production line. Misrepresentation is the belief that a product has characteristics that it does not actually have.

A term used to describe a defective product is "unreasonable danger." This term is used when an article sold is dangerous to an extent beyond that which would be contemplated by the ordinary consumer. A product can be considered defective if it displays a danger that would not be expected for that particular product by ordinary customers. In the case of a design flaw, evidence is needed to determine defectiveness. Testimonies of an expert witness are sometimes used in cases of consumer expectation, whether the case is based on strict liability or negligence. Strict liability does not apply in the case of unavoidably unsafe products. In the case of a defect and unreasonable danger, proof is needed to confirm negligence, and this lies with the plaintiff.

Involved in selling and producing quality products are high standards and morals. When producing and selling products a seller needs to know the particular defect of a product that can exhibit "unreasonable danger." It is up to the seller to make sure their product does not reach the market where it can potentially inflict injury or damage. Unfortunately, most products do have flaws and this is when risk-benefit balancing is used. Presumed seller knowledge is a strict liability. A risk-benefit balancing analysis is used by courtrooms and companies to determine the design defect. The standard use of a risk-benefit analysis consists of seven steps:

1. The usefulness and desirability of a product.
2. The likelihood and probable seriousness of injury from the product.

3. The availability of a substitute product that would meet the same requirements and not be as unsafe.
4. The manufacture's ability to exclude the danger without compromising the usefulness of the product.
5. The users' ability to avoid danger.
6. The users' anticipated awareness of the danger.
7. The possibility of the manufacturer risking loss by pricing or insurance.

In some cases products are unavoidably unsafe no matter how it was designed, such as a power saw. Products that are unavoidably unsafe can have known and unknown dangers. Another known product that is unavoidably unsafe is medications. Medications can affect all types of people differently. A product that falls into this category usually has benefits that outweigh the risks, thus the reason for its use.

3.2 – The Causes of Action and Damages

Negligence is a common cause of action and damage. It has to do with a number of inadequacies in the area of inspection, processing, packing, proper warning, design, marketing, and any manner in which the defendant fails to uphold a reasonable standard of care. In cases were a product has failed, it is the plaintiff's responsibility to show that the accident would not have happened in the absence of negligence. The defendant must show why the accident might have happened due to negligence of the operator or fix the problem where the product was faulty. Other causes of action and damages can come in the form of reckless misconduct, concealment and deceit.

3.2.1 – Strict Liability

Another of the implied obligations that go along with purchase of a product is the warranty of merchantability. Unless excluded or modified, a warranty is a contract implying that a product being sold is good and that it will meet the needs of the buyer. Another obligation is that merchantability is dependent on several features. The product has to pass without question under the contract description. Within the description the exchangeable goods must be of average quality. The product must function within the variations allowed by the agreement. Goods to be merchantable must be adequately contained, packaged, and labeled as the agreement may require. Also, the product must be up to expectations and promises made on the container or label, if any exist.

Another implied obligation of a warranty is that the merchant must not violate the Tort Law. The Tort Law states that one who sells a defective or "unreasonably dangerous" product to a consumer is liable for the physical harm sustained by the consumer or his property if the seller is engaged in the business of selling such a product. Abnormal danger protects the consumer from sellers who perform activities that are abnormally dangerous. The Tort Law also states that the seller cannot have inadequate representation of express warranties. An express warranty can be defined as a statement or promise by the seller which relates the goods and establishes a warranty which the seller must uphold. The seller creates an express warranty even if the word "warranty" or "guarantee" is not used as long as a confirmation of the value of the goods are given. If a merchant sells a product to perform a particular task and the product does not perform or causes loss or injury, then they are subject to litigation under the above warranty.

3.2.2 – Damages

In order for the plaintiff to collect for damages in a product liability case, the damages must be foreseeable. The plaintiff is entitled to this compensation under the Tort Law or warranties. Some states entitle compensation for suffering emotional distress, pain and suffering, and punitive or exemplary damages. Physical damages must exist in order to collect compensation for these other damages.

3.3 – The Parties

3.3.1 – Plaintiff

The plaintiff of the case is the person who sues the defendant of the case for the purpose of compensation for the injuries that were received from a faulty product distributed by the defendant. The plaintiff can be the buyer, operator, consumer, or any person or bystander in the presence who might have been harmed by the subject product in a liability case. A major example of a bystander being harmed is second hand smoke being inhaled causing harm to the person's health.

3.3.2 – Defendant Sellers of New Product

In the world of product liability when a product causes injury to a person a number of parties can be sued. A lot of times these parties are all under the manufacturer. The final assembler as well as any manufacturer of any component part may be sued if the part is defective. There is much responsibility held by manufacturers. As long as the name of the manufacturer is on the product, they are held responsible for

any problems that may involve the product. This even applies if they do not actually produce or assemble the components of the product themselves.

Unless the defect could have been found under a routine inspection, the retailers are not held liable for any defects. If the retailer has made any changes to the original product, then they may be liable. If the retailer has made any changes to the original product, then the new/modified product is retailer's responsibility. A middleman may also be found guilty on some level, if they receive a commission from the sale of a defective product.

3.3.3 – Defendant Used – Products Sellers

A seller of a used product cannot be held liable for a product after is has left the domain of distribution, assuming that it is not a case of misrepresentation or a design defect. The only time this does not hold true is in the case of a regular used product seller. They are still considered part of the distribution domain, and can be held liable for the defective product.

3.3.4 – Defendant Successor Corporation of Products Sellers

When one company buys out another company, the buyer is now responsible for the designs created by the previous owner. This also applies when two businesses merge into one business.

3.3.5 – Defendant Lessors, Bailors, and Licensers of Products

Lessors' are liable for any injury, which occurs to the customer when using the lessors' defective product. This holds true as long as the defect occurs during the rental

period. A long-term lease is considered the same as the purchase of a product. In general, the lessor is held liable if he either "marketed or placed the product in the stream of commerce."

3.3.6 – Defendant Employer-Suppliers of Products

An employee has the right to sue his/her employer if he/she is hurt on the job. The employer must notify the employees if he/she knows of a danger that could potentially cause harm to an employee.

3.3.7 - Defendant Providers of Services

There is often question of whether the product is predominately a service or a sale of a good. A service can be performed without care but a product can be defective although all care is taken throughout their preparation.

Representational Conduct

It is apparent that advertisers of a product can be held liable in negligence or strict liability for misrepresentations made concerning the products of another.

Professional Services

In the cases of professionals who conduct professional services, such as a doctor, they cannot be held responsible for injuries, while parities that conduct ordinary services can be held liable for injuries. A professional provides a service that can not be performed by an ordinary person.

Pure Service Transactions

In the majority of cases where the defendant provides no product, but only services, and the product is already defective the defendant cannot be held liable for injuries occurred as a result of the product.

3.3.8 – Defendant Real Estate Suppliers

Builders – Vendors

In many cases the court will see no difference between the sales of mass produced cars and the sales of mass produced houses. The buyer is relying on the expertise of the builder to produce a sound product. Some courts refuse to apply implied warranty saying that the matter is too complex.

Lessors

If a house fails to pass the required codes, the lessor can be held liable. This will hold true as long as the current residents pay rent and do not cause harm to the complex giving it a reason to fail code.

Occupiers of Premises

Business and hotel owners have been found to owe a duty of care to the users of their premise.

3.3.9 – Contribution and Indemnity

If a party is not intentionally at fault then they are entitled to contribution. Multiple companies will take the responsibility for the defect in order to pay the parties. Indemnity provides protection to sellers of products that they do not produce.

Where Grounds of Liability Differ

In cases that one tortfeasor is held strictly liable and another tortfeasor is held liable in negligence, courts differ as to whether contribution between them is available. In most cases contribution is allowed between them, but the basis for doing so is not clear.

The Effect of Settlements

One rule is that once the victim of a case has settled with one of the tortfeasors, settlement amount other tortfeasors is restricted. The victim has settled with all of the tortfeasors. Usually the case is that the non-settling tortfeasor receives a credit to his liability to the victim for any settlement made by a co-tortfeasor.

3.4 - Factors Affecting Choice of Remedies, Jurisdiction, and Procedure

3.4.1 – Reliance

Proof of reliance is used expressively as a condition to recover for conscious, negligent, and innocent misrepresentations resulting in personal injury. The express warranty states that "an affirmation merely of the value of the goods or a statement purporting to be merely the seller's opinion or commendation of the goods does not create a warranty." The plaintiff must prove that they had used the product in the correct manner, but the product had failed to fulfill its duties and injured the plaintiff. If there happens to be an inadequate warning, and that is the basis for a case, there must be proof that the warning was relied on.

3.4.2 – Disclaimers and Limitations of Remedies

A disclaimer is provided when no solution can be provided. It will be invalidated if it is unclear or inconspicuous. A limitation of remedies exists when a plaintiff is given some remedy, which may be different from that provided by law. If a contract is found to be unconscionable then it can be null and voided by a court. The only time when contractual restrictions are valid against liability is when product liability is not applicable. Lack of conspicuousness and clarity will invalidate a disclaimer. A disclaimer must be delivered before a sale takes place or a contract is signed. A complete disclaimer of liability is found to be invalid assuming personal injury is involved.

3.4.3 – Recovery of Solely Economic Loss

Solely economic loss is defined as a loss in value, loss of use, cost of replacement, lost profits, and damage to a business' reputation. It is difficult for a plaintiff to recover damages from a seller or manufacturer solely for economic loss. Economic loss does not involve a physical accident. Sometimes courts will overlook solely economic loss because of certain situations.

3.4.4 – Notice of Breach

The purpose of a Notice of Breach is to protect the seller if the buyer fails to notify them of a breach. When the buyer notices a breach of warranty, they must notify the seller within a reasonable amount of time of the breach or he shall be bared from "any remedy" for the breach. The purpose for this notice requirement is to allow the defendant to have early knowledge of a potential claim so that the defendant will be able to investigate and attempt to settle.

3.4.5 – Wrongful Death

A wrongful death action is a creature of statute, rather than a common law cause of action. It is for a death resulting from a crime, negligence, carelessness, or wrongful act. Most courts will allow wrongful death action to be brought in warranty. The breach of warranty is considered to be a wrongful act.

3.4.6 – Procedural Considerations

Jurisdiction

A statute may provide the basis for a cause of action either expressly or by implication. According to the due process clause of the United States Constitution, a defendant must have minimum contacts with a forum before he can be subjected to the jurisdiction of the forum. Many states are using class actions as a means of handling situations where the same product has caused multiple injuries. Class actions are thought to be an inappropriate manner for such mass tort claims. There are four types of class actions.

1. Where there is a risk of inconsistent or varying adjudications
2. Where adjudication of some claims will as a practical matter be dispositive of the claims of others not a party to the litigation
3. Where the defendant has acted or refused to act on grounds generally applicable to a class, making final injunctive or declaratory relief appropriate
4. Where questions of fact or law common to the members of the class predominate over questions affecting only individual members

Inconsistent Verdicts and Erroneous Instructions

There are multiple cases that are similar, but the court has differed in ruling in the same situations. Some courts may say that a defective product does not necessarily breach warranty. Others disagree and think that a verdict for entire damages should be issued.

Res Judicata

"Estoppel by judgment preludes re-litigation of the same cause of action that has been previously litigated to a final judgment between the same parties or their privies. Issue preclusion of an issue that has been finally determined in prior litigation between the same parties or their privies- or re-litigation of an issue by one party where that issue has been finally determined against that party in previous litigation, when mutuality of parties is not required."

Choice of Law

If a federal law decides that its own rule is procedural, then federal law is applied over the state's law. In the case, that the venue is changed the transferor court sets the conflict rules for the transferee court, but in order for a state to imply it own law, it must have a significant number of contacts involved on the case.

3.4.7 – Statutory Compliance

It is evidence that the defendant exercised due care if he is in compliance with applicable state of federal statutes or regulations. This compliance to statutes is not normally considered conclusive because government standards only provide minimum requirements.

3.4.8 – Contract Specifications Defense

Non-government specifications

In general if a product is manufactured within specifications of a non-government purchaser the manufacturer is not liable for a defect in the design unless the danger is obvious.

Government Specifications

In general contractors cannot be held liable for injuries caused by a defect in the design of a product supplied to the government in accordance with the government contract specifications. Even though the contractor may not have to warn the government of potential dangers associated with the product, in some cases the contractor was held responsible for not properly warning the third party of the dangers.

3.4.9 – Statutes of Limitations

During a case there can be two or more statutes applied. Either a warranty statute or a personal injury statute, or both could be applied. A statute of repose is a limitation whose period runs between two fixed dates, regardless of the situation. An accrual date is the date at which the statute of limitations takes effect. Common types of these dates would be:

1. Date of the jury;
2. Date when the plaintiff had reason to know about the claim;
3. Date when the plaintiff, in the exercise of reasonable care, should have known of the claim.

In the event of a happening that prevents the beginning or continuing of a statute to run, a tolling exception can come into effect.

3.4.10– Statutory Retrenchments

The main purpose for the statutory retrenchments is to try to lower insurance rates. The retrenchments vary greatly and cover many different subjects, including: "limitations on the amount of chargeable contingent fees; provision for periodic payment of judgments; elimination of strict liability and the adoption of a product state-of-the-art defense; elimination or restriction of recovery for punitive damages; adoption of statutes of repose; and placing a limit on the recoverable amount of damages for pain and suffering, mental distress, and the like."

3.5 – Production and Design Defects

3.5.1 – Production Defects

In product liability cases the plaintiff must prove that a product is defective by proving that it does not meet the specifications of the manufacturer. The plaintiff also has to make sure that the manufacturer did not already determine that a certain percent of failure was to be expected, and then any product falling in this average range would not be considered defective.

3.5.2 – Design Defect

Many people have different points of view to what constitutes a liability. A common method used in deciding cases involving a defective design is some kind of risk-utility analysis. Risk-utility analysis is where the liability of the manufacturer depends on certain standards of care. Some courts insist that the risk-utility analyses are not

negligence tests because the analysis is based on the product rather than the conduct of the manufacture. Design defectiveness in strict liability is whether the product did not perform under normal conditions as expected. If the plaintiff proves somehow that the design caused his of her injury, and the defendant fails to show that the benefits of the design outweighs the risk of danger, than the design would be defective. On the other hand, if there was only one way to design a critical product then is should be viewed differently.

Polycentricity describes the situation where a design has many centered problems. A design decision is where each point of a decision is related to all of the other ones. When one part of a product fails this could lead to a chain reaction, causing other parts to fail. This can result in trade-offs, which will have an effect on safety, utility, and cost. It is up to the manufacture to make an acceptable decision for a trade-off. In some peoples mind they believe the manufacturer put market considerations before product safety. When this occurs, the design is thought of being liable and unreasonably dangerous.

Manufacturers are strongly recommended to provide warnings with their products. The failure to warn the public of an obvious danger in a product is a case of liability. It is also bad to warn against obvious dangers that could have been prevented in the design of the product. A warning is not considered an effective method of elimination all potential injuries. Many times the operator will forget about a warning and still get injured. For situations like this, safety devices are designed to protect against carelessness.

Whether the manufacturer is liable for a product that has obvious dangers, and is misused by the consumer to the point of personal injury depends on the product itself, if

the product had adequate safety guards and if the dangers were unreasonable. A problem arises with this because the obvious danger defense conflicts with the assumptions of the risk defense. To prove assumption of risk the plaintiff must show that he or she discovered the defect, understood the dangers and disregarded them to expose them to the danger anyways.

3.6 – Inadequate Warnings and Instructions, and Misrepresentations

3.6.1 – Warnings and Instructions

In a product liability case, a plaintiff is allowed to pursue a strict liability theory of either design defect of failure to warn of potential dangers. A warning and an instruction are different. Instructions are used to secure the efficient use of a product. A warning is used to insure safe use of a product. For a warning to be considered adequate, it must describe the exact nature and extent of the danger that is involved. A manufacturer may be required to warn of the absence of an antidote in the case of a dangerous poison. Expert witnesses are sometimes used to evaluate a situation where a product has failed. These witnesses will perform evaluations on the product and instruction guide.

There are divisions as to whether a negligence of strict liability standards were used in cases that involved failure to warn. The manufacturer has more knowledge of the product, while the consumer knows very little of the risks involved. The consumer must rely on the manufacturer to provide necessary warnings against potential dangers. The consumer can create an incentive for the manufacturer to invest more time and money into safety and research by imposing on the manufacturer the cost of failure to discover hazards. It is the manufacturers' responsibility to warn the operators of a product that

contains a defect that could potentially lead to an injury. If the defect is known at the time of production then the manufacturer is liable and negligent in producing the dangerous product. The effort, time, and money applied to safety research are also analyzed to make sure that the manufacturer put up a decent effort in discovering flaws and defects in their product.

Experts do not need to be warned of dangers that are associated with the products for which they have expert knowledge. Warnings are mandatory if specific dangers are present to which an expert is unaware to. The manufacturer still holds the duty to warn the employer's employees of the danger.

Misrepresentation is a common cause of consumers being injured. This occurs when the warning is downplayed or misleading. Warnings need to be simple. Counteractive words that describe the products safety can make the warning more inadequate than it already was. Warnings may be neutralized by pictures or appearances of safety. Pictures can also be misleading by showing how safe a product is when in reality it is not safe at all. Misrepresentation can be based on deceit, negligence, strict tort, or strict warranty.

In some cases, a warning is necessary post-sale if a dangerous defect is discovered after the product has been sold. An example is a recall notice. A manufacturer will warn consumers and notify them to have the defect fixed. A negligent failure to warn can also exist at the time of a sale of a product. This can be a greater liability than one of just warning, as in cases where the product needed to be recalled or repaired.

3.7 – Problems of Proof

3.7.1 – Cause-In-Fact

Before a case is submitted to the jury the plaintiff must show that the product was defective when it had left the defendant's possession. The plaintiff must show how the defect lead to the injuries sustained. He or she must eliminate any possible causes that can not be traced back to the defendant. The plaintiff should show that the material fact to be proved may be logically and reasonably inferred from the circumstantial evidence.

Several Possible Causes

Commonly there is more than one cause to an injury sustained from a defective product. There are often problems associated with a product liability case if the cause of injury involves different defendants. It is the defendant's responsibility to prove that a specific factor was not the cause of an injury.

3.7.2 – Proximate Cause and Foreseeability

Foreseeability describes an occurrence that can be reasonably anticipated. Unforeseeablity describes injuries resulting from an obvious danger or from a product that is considered dangerous. Proximate cause is used to describe the result of another event. If injuries were sustained from a chain reaction of events the cause is described as proximate.

Misuse

In some courts misuse can be used as an argument for the defense. Others place the burden on the plaintiff to prove that there was no misuse, which could have caused the sustained injuries. Misuse is usually not treated as a bar to recovery unless it is

considered unforeseeable. Misuse, when attributable to the plaintiff rather than a third person, is closely related to contributory negligence and assumption of the risk.

Alteration

"A substantial alteration that causes the accident may be unforeseeable barring recovery, unless the alteration should have been anticipated because of characteristics of the product that invite or encourage the change."

Damages

The fact that the manufacturer neither foresaw, nor should have foreseen the extent of the harm or manner in which it occurred, does not prevent him from being liable. The manufacturer's conduct may be held not to be a legal cause of harm to another where after the event and looking back from the harm to the manufacturer's negligent conduct, it appears to the court highly extraordinary that it should have brought about the harm.

3.7.3 – Plaintiff Misconduct, and Comparative Fault

The Types of Misconduct

There are three different types of plaintiff misconduct that can bar or limit the plaintiff's right of recovery. The three misconducts are contributory negligence, assumption of the risk, and misuse including alteration of the product. Contributory negligence is failure of the plaintiff to take responsibility for his or her own actions. Assumption of the risk is when the plaintiff knows and voluntarily confronts the danger. Misuse, which includes alteration of a product, happens in the use of a product in a foreseeable or unforeseeable manner.

The Effect of Plaintiff Misconduct in Strict Liability

When using contributory negligence and assumption of risk as a defense it will be up to the defendant to provide the proof. Some courts hold that contributory negligence is no defense in a strict products liability action. Contributory negligence is proven with knowledge of what the plaintiff actually knew. The plaintiff may have been aware of one risk, but may not have noticed the other risks involved. If the plaintiff is aware of the defect, but still proceeds to use the product and is injured, he is barred from recovery.

Comparative Fault

Comparative fault has been widely accepted either by statute or judicial decision. Comparative fault is preferred by commentators and is the method usually chosen from judicial acceptance. Modified or partial comparative fault is when the plaintiff is barred entirely from recovery if his or her fault equals or exceeds the defendant's. The method commonly chosen, pure comparative fault, is when the plaintiff can recover if the defendant is at fault. Some courts compare relative fault, others relative causation, and still others a combination of these factors in determining comparative fault or comparative responsibility. In some courts contributory negligence should not be compared in a strict liability case.

3.7.4 – Subsequent Remedial Measures

Subsequent measures are not admissible to prove negligence or responsibility of conduct in connection with the event. When proving ownership, control, or feasibility of precautionary measures if impeached evidence of subsequent measures is needed. This rule helps to exclude evidence of corrective measures only if taken by the defendant after

the plaintiff's injury. The rule does not exclude corrective measures taken by anyone other than the defendant or by a defendant after the plaintiff's accident.

3.7.5 – Miscellaneous Problems of Proof

History of Unsafe and Safe Use

Evidence of unsafe use and of prior accidents with similar products can be admitted for a variety of purposes such as, proof towards the notice of the alleged defect by the defendant, the magnitude of the danger, the foreseeability of user conduct, the defendant's ability to correct the defect, and also due cause.

Spoliation

Spoliation is when a person willfully or negligently disposes of product evidence. The person who disposes such evidence may be held liable for damages that he likely could have recovered had he not disposed of the evidence.

Expert Testimony

An expert testimony may be helpful during a product liability case when trying to establish defectiveness, causation, damages, and other issues in the case. The expert has specialized knowledge of the product in question.

State of the Art and Industry Custom

Often it is hard to distinguish between state of the art and industry custom. State of the art can be defined as the scientific or technological knowledge available or existing when a product is marketed.

Codes, Reports, and Technical Literature

"Safety codes drawn up by industry sponsors associations are admissible on the issue of defectiveness, due care, and other disputed issues in a case."

Discovery

Some courts may adopt rules restricting the use of discovery. A counterpart problem is that of stonewalling, where a litigant refuses to cooperate fairly in the discovery process.

Chapter 4: Stephen and Betty Kahn vs. Makita U.S.A., Inc.

On August 5, 1997, employees of Magic Brush Painting Company where in the process of striping the paint off a house located in Newton, CT and owned by plaintiffs Stephen and Betty Kahn. While using a Makita Heat Gun, Model HG1100, to strip the paint, the house caught fire near the area of work, causing significant property damage.

Stephen and Betty Kahn are suing Makita U.S.A., Inc. for property damages to their house from the fire. The property damage from the fire was severe enough to force the home owners to live at a temporary location until their house was renovated. Mr. and Mrs. Kahn are now suing Makita U.S.A., Inc. for negligence in manufacture and distribution of Thermocouple Heat Gun Model HG1100. They are asking for compensation to cover the damages received to the home and cost of living while the house was being renovated in the amount of approximately $ 500,000.

Prior to August 5, 1997, Stephen and Betty Kahn contracted Magic Brush Painting Company, owned by Ronald O. Weiser, to strip the existing exterior paint and to repaint their house. At approximately 1:00 pm on the day of the incident, employees of Magic Brush Painting Company were working on two ladders placed under the eave of a house located at 3 Irwin Lane in Newton, CT. While standing on the said ladders, the employees used two Makita Thermocouple Heat Guns, Model HG1100, serial numbers 76218 and 76219 to heat the exterior paint, a technique used to ease paint stripping. Also on the scene was a Black and Decker Heat Gun Model 9756, type 2, which was not in use in the area where the two ladders were located. The Makita heat gun described above was allegedly the cause of the fire that ignited in the area where the two ladders were

located. Plaintiffs Stephen and Betty Kahn were at work at the time the fire started.

According to the deposition of George Lockwood, the fire marshal on the scene, he was told by Mr. Morales, an employee of Magic Brush Painting Co., that he and another employee and himself were on the ladders, seen in Figure 4.1 below, heating the paint on the clap boards to ease the stripping of the old paint before applying new paint.

Figure 4.1: "Work Area"

While heating the paint, they notice smoke rising from the roof above the work area. Mr. Morales then descended down the ladder and attempted to extinguish the fire with a nearby hose, but to no avail. After attempting to extinguish the fire, they called the fire department at approximately 1:20p.m. The fire department arrived by 1:25p.m., and by the time the fire was finally extinguished, extensive damage was done to the property, as seen in Figure 4.2(a) & (b). Mr. Lockwood was very confident that the fire started directly above the ladders. In his deposition, he stated that "when you investigate a fire, you look for a 'V' [pattern]. There is always a 'V' in a fire, and that determines that that is where the fire started." He stated that the 'V' at the fire at the Kahn residence

indicated the fire started directly above the ladders. Mr. Lockwood, having arrived early on the scene, began to photo the area in which the smoke and flames propagated. It can be seen in Figure 4.1 indicated by the yellow arrow that the fire started behind the clap board where the men were working and not on the clap board itself. Mr. Lockwood admits it is difficult to tell whether the fire started on the interior or exterior, but it definitely had to have been from the heat emanating from the heat guns because there were no faulty wiring or any other possible cause of fire.

Figure 4.2(a): "Interior Damage"

Figure 4.2(b): "Exterior Damage"

Mr. Barracato, a private fire investigator, visited the Kahn residence on August 8, 1997 to examine the fire and perform a cause and origin investigation. Mr. Barracato owns Barracato Associates in South Windsor, CT, a company that specializes in fire fraud cases. In Mr. Barracato's deposition, he confirms Mr. Lockwood's statements that the fire started directly above the ladders near the fascia of the eave. But upon further investigation, there were many nests found in the damage, nests from insects in the wasp and hornet family. Also stated was that there were two holes in the wood near where the men were working, visible from the flames emanating in Figure 4.1. Those flames, as told by Mr. Barracato "are propagating not out of the holes, but behind the holes...it is inside burning." Mr. Barracato also conducted a burn test on the nests to see if they supported combustion, and he found that the nests were extremely volatile, "it just flashed." From this deposition, it can be concluded that the fire started from the ignition of a nest on the interior of the eave where the men were working, and heat responsible for igniting the nest propagated through the holes in the fascia from the Makita Thermocouple Heat Guns.

Because of its involvement with this accident, the Makita Heat Gun Model HG1100 was given to Michael Shanok, P.E. and Dr. Frank E. Watkinson of Spectrum Engineering Group to be tested for any defective qualities, physical or instructional (meaning warning labels and owner's manuals). Mr. Shanok concluded that first, the nest was capable of igniting at temperatures as low as 753 °F and the heat guns in question were capable of reaching temperatures between 500 °F and 1020 °F, more than enough to have ignited the nest. Furthermore, his tests on the thermocouple heat guns provided no evidence that the gun's temperature exceeded the range other than intended. Dr.

Watkinson's inspection of the heat guns also confirms the fact that the heat guns used complied with standards for heat guns of that type, as described in the UL 499 Safety Standards for Electrical Heating Appliances. The UL compliance seal can be seen in Figure 4.3 circled in red. Dr. Watkinson expresses further regard to the guns, stating that the literature provided for the guns were not of standard convention, highlighting the significant risks and hazards involved with the machine, but "nonetheless the literature does identify risks and hazards involved, even though in a different format." It was his conclusion that the Makita Heat Gun Model HG1100 did not have any significant defects.

Figure 4.3: "UL Seal"

Although there were proper instructions and warnings provided with the Makita heat gun, the employees of the Magic Brush Painting Co. stated they never read the owner's manual, and Mr. Weiser, the owner of the company stated in his deposition that he never required the workers to read the manual; he simply demonstrated how to use the heat guns and watched them demonstrate it for him to be sure the employees knew how to work them properly. He stated in his deposition that he himself never read the instructions or owner's manual because he had "used ones like them before." Mr. Weiser

also admits that he was not on the scene supervising when the accident happened. Also, the employees on the scene neglected to call the fire department right away. Instead they attempted to extinguish the fire themselves using a hose seen in Figure 4.4, ultimately resulting in more property damage than there might have been.

Figure 4.4: "Garden Hose"

Mr. Weiser further admits that he and his insurance company, Peerless Insurance, made a settlement with the owner's of the house due to the property damage sustained and the obvious negligence of his employees. Also, easily seen in Figure 4.1 indicated by a red arrow, the men working left the Makita heat guns dangling off the ladders they were working on, clearly in violation of the owner's manual. Had the workers read the owner's manual, they may have taken precautions explicitly stated in the manual to prevent accidents, such as the one in this case, from happening.

Note the following warnings provided in the Makita Thermocouple Heat Gun Model HG1100: 1) Keep fully charged fire extinguisher nearby, 2) Do not leave tool unattended while running or cooling down, 3) Hidden areas such as behind walls,

ceilings, floors, soffit boards, and other panels may contain flammable materials that could be ignited by the heat gun, 4) When working in these locations, as described in 3, keep the heat gun moving in a back-and-forth motion to prevent ignition of these materials. As stated before, had the workers been privy to the information the owner's manual contained, the accident may have been prevented. Furthermore, the workers disobeyed all of the warnings mentioned above, as noted from the fire marshal's report that the guns were left hanging on the ladders when he arrived on the scene and no extinguisher was present.

After correlating the depositions, there appeared to be some discrepancies. Mr. Weiser stated in his deposition that the three men on the job site of the Kahn's residence were Edinaldo Da Silva, Werlei Bastistia, and Carlos Roborido. He claimed that Werlei, or Willy, was the one of the three of them that could speak fluent English. Yet, in George Lockwood's deposition, as stated above, the English speaking employee he had talked to was named Mr. Werley Morales. Someone isn't telling the full truth, whether Werley gave the fire inspector a false name to protect himself, or Mr. Lockwood misunderstood the employee. Mr. Weiser also claimed he left fire extinguishers on the premises and told the workers where it was located, but the workers had no knowledge of fire extinguishers when the fire department arrived.

It is in our opinion that the plaintiffs Stephen and Betty Kahn should receive no compensation for property damage from Makita U.S.A., Inc. Based on the approval of design, operation, instructions, and warnings of the Makita Thermocouple Heat Gun Model HG1100 and the admitted negligence of the employees of Magic Brush Painting

Co, it is determined that this was an accident caused by the heat radiating from the mentioned heat gun, but not from defects in the design of the gun.

Chapter 5: John and Dorothy Quattrocchi vs. P.J.D.R., Inc., and Sears, Roebuck and Co., and Rexon Industrial Corp.

On March 17, 1999 John Quattrocchi, the plaintiff, was operating a Craftsman 2.5 HP table saw equipped with a ten inch blade and model number 137.221960. The table saw used can be seen below in Figure 5.1. While operating this piece of machinery, Mr. Quattrocchi was injured. While attempting to cut a piece of wood, Mr. Quattrocchi caught the fingers of his left hand on the blade of the table saw when the saw suddenly tilted. The table saw tilted due to the leg, supporting one of the corners, falling through a rotted floorboard of the shed where the saw was located. The saw blade cut off his fingers in the area of his knuckle leaving them attached by the skin and the tip of his thumb. Mr. Quattrocchi ran out of the shed and was rushed to a nearby hospital.

Figure 5.1: "Craftsman 2.5 HP Table Saw"

The accident in question occurred when Mr. Quattrocchi was operating the table saw in a reasonable manner in an unacceptable environment that the defendant, P.J.D.R.,

Inc., owned. Also, Mr. & Mrs. Quattrocchi are suing the Sears, Roebuck and Co. ("Sears") for distributing a defectively designed and manufactured Craftsmen 2.5HP table saw. The Rexon Industrial Corp. is being sued for designing and manufacturing a saw that was unreasonably dangerous. As a result of the negligence of all defendants the plaintiff sustained severe and permanent injury.

John Quattrocchi had been working for MHD Corporation, when the accident occurred. Mr. Quattrocchi worked for MHD Corporation, which has leased campgrounds since 1994. He worked under the table part-time during the summer months for MHD Corporation at a campground located in Bayshore, OH, on his vacations, and eventually working occasional weekends. In the fall of 1998, Mr. & Mrs. Quattrocchi were asked to travel to a new campground in which MHD Corporation had recently leased. The campsite was located in Clewiston, FL, called the Best Holiday Travel Park. The land the campground is located is owned by P.J.D.R., Inc. and managed by MHD Corporation, who issued Mr. Quattrocchi his paychecks.

According to Mr. Quattrocchi's deposition, on the day of March, 17, 1999 sometime between 10:00am and 12:00pm he had entered the shed where the Craftsmen table saw was located to make some cuts for a craft he was making for a friend. He was not actually working for MHD Corp. at the time of the accident, but had the day off from work. Prior to entering the shed Mr. Quattrocchi was granted permission from Rodney Williams, the maintenance supervisor of Best Holiday Travel Park, to use the table saw. Upon entering the shed he claims that there was significant lighting and available space to work without moving the saw to another location. Mr. Quattrocchi also claims that prior to making any cuts he made sure that the table saw was stable. He began using the

saw and on the last cut the rear left leg fellow through the floor of the shed causing the rotating blade to move closer to his left hand. It was stated that he had been using a "push stick", with is right hand, to make the final cuts that would have endanger his hands of being injured. His left hand supported the wood up against the adjustable plate that the wood slid against. Also, the blade guard had not been in place at the time of the accident. Mr. Quattrocchi's left hand can be seen in Figure 5.2 after the accident.

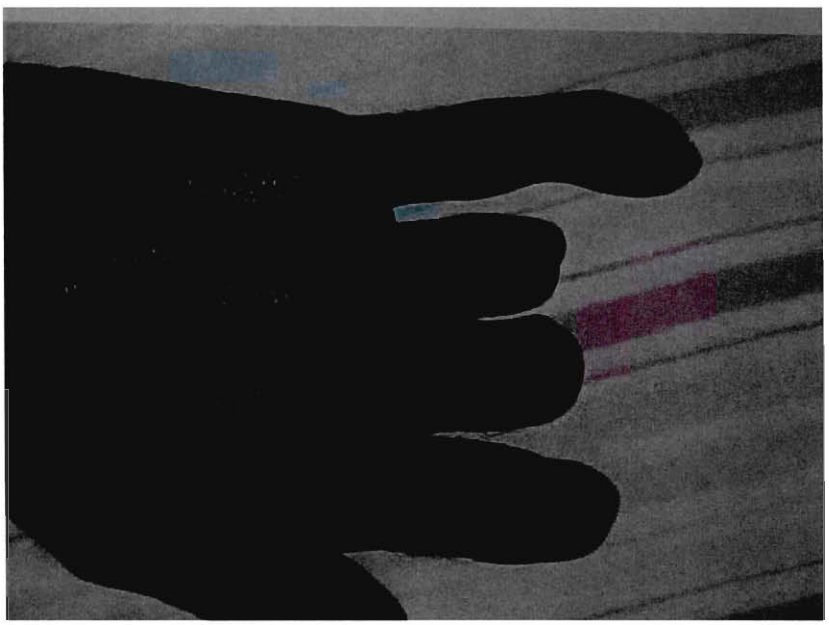

Figure 5.2: "Mr. Quattrocchi's Left Hand"

The MHD Corporation had purchased the 2.5 HP Craftsmen table saw a few weeks prior to Mr. Quattrocchi's accident. Mr. Quattrocchi stated in his deposition that he had used the table saw multiple times before the accident to make repairs on the campground. From the first day he had seen the new table saw he said that the blade guard was never attached to the machine. He stated the only time he had seen the blade guard mounted on the table saw was after the accident when it was located in a new shed. Also, Mr. Quattrocchi never asked to read the owner's manual of the table saw, nor was he made to read it being an employee of MHD Corporation, which provided instructions

and most importantly warnings of the table saw. Even when asked if he would had read it if he had the opportunity he said he would not have read the owners manual. Mr. Quattrocchi said that he has had experience his entire adult life using table saws; he even owned a table saw at one point in his life. Mr. Quattrocchi also admitted that even if the blade guard was in view he still would not have attached it to the table saw prior to him using the table saw.

From reading Mr. Quattrocchi's deposition it is evident that he neglected to knowledge himself of this particular table saw by reading the provided owners manual. Figure 5.3 provides a view of the warning label on the Craftsman table saw, which is located just below the "CRAFTSMAN" title.

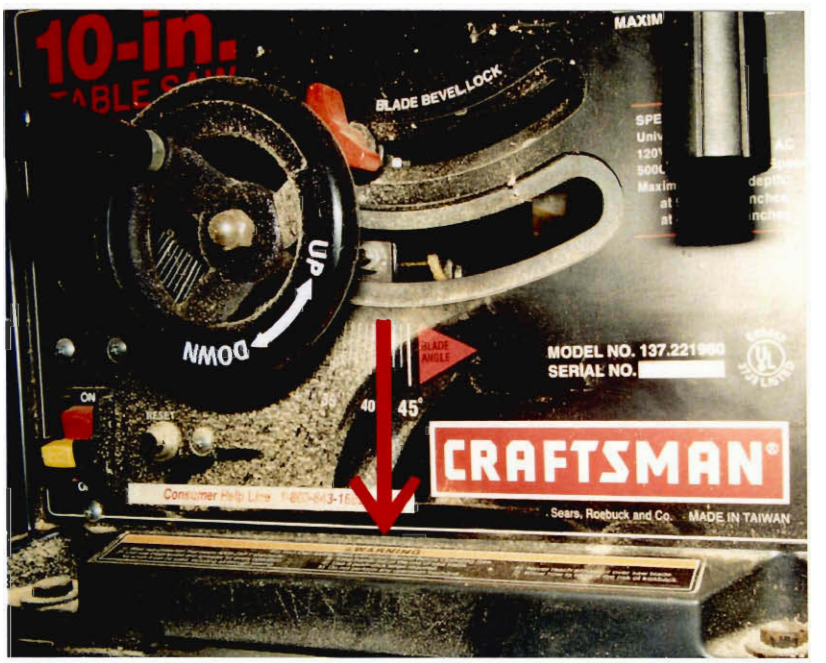

Figure 5.3: "Warning Label on Table Saw"

The warning label states the following recommendations for operating the table saw:

"FOR YOUR OWN SAFETY READ INSTRUCTION MANUAL BEFORE OPERATING SAW"

1. Wear eye protection that meets ANSI Z87.1 standards
2. Use saw-blade guard and spreader for every operation for which it can be used, including all through sawing
3. Keep hands out of the line of saw blade
4. Use a push-stick when required
5. Do not perform any operation freehand
6. Never reach around or over saw blade
7. Know how to reduce the risk of kickback

Also, it is evident that he neglected to use the manufacturer provided blade guard with this particular table saw. Mr. Quattrocchi admitted that he would not have used the blade guard due to its restriction on specific cuts. It is evident that blade guards restrict operator from making specific cuts needed. Once the guard is removed the operator is taking his or her own safety into their own hands.

In the Expert Witness Report, provided by L.D. Ryan, Ph.D., P.E., he provides evidence that the blade guard on this 2.5HP Craftsmen table saw does restrict the operator from making specific cuts, such as a dado cut, rabbit cut, or a narrow cut. In statistics taken on table saw safety it is common for a guard to be removed for these cuts and not to be put on, due to the inconvenience. Even with a blade guard permanently attached to the table saw that can be easily removed and restored the operator is still putting him/herself at risk of being injured. The guard also protects against any kickback. Another type of guard that is discussed in the expert report is the "Brett-Guard." In the case of Mr. Quattrocchi, this particular guard may have prevented his hand from entering the rotating blade.

It is in our opinion that the blade guard provided with the table saw meets all OSHA and ANSI regulations. According to ANSI 01.0-1975, 6.1.2.5, it states that in some cases the hood guard must come off sometimes to make specific cuts. ANSI 6.1.2.2, "When the blade is in use, the hood-type guard shall enclose that portion of the blade above the material." The blade guard provided with the 2.5HP Craftsmen table saw involved in Mr. Quattrocchi's accident did in fact cover the exposed blade, but the fact of the matter is that the guard had been removed potentially injuring an operator.

Another issue of the accident concerns the condition of the shed where the table saw was located the day of the Mr. Quattrocchi's accident. Prior to the accident, Mr. Quattrocchi does not recall seeing any holes in the floor of the shed. He stated that the floor had felt "spongy" is some areas of the shed, but not where the table saw had been located. In Rodney Williams's deposition, he stated that in the area of the shed flooding had occurred. Also, the floor of the shed had sometime been submerged from the water levels getting too high. Mr. Quattrocchi stated he was never aware of this problem, nor did he ever see water on the floor of the shed.

It had also been stated by Mr. Quattrocchi that the subject shed was used as a workshop/maintenance area for the grounds crew of the campgrounds. At the time of the accident the shed had been set up with operable conditions, such as an electrical outlet to run the saw. The shed was used for storage, the sharpening of blades, and a source for electrical outlets as stated in Mr. Williams deposition. Ben Roark, a neighbor of Mr. & Mrs. Quattrocchi, had stated that he was aware of a hole in the floor in the area of where the table saw leg had fallen through, but assumed that the cause was some sort of rodent. Also the hole had been much smaller prior to the accident. The floor of the shed was not

constructed from treated lumber. Figure 5.4 shows the hole in the floor where the rear right leg had fallen through the floor and the surrounding condition of the shed floor.

Figure 5.4: "Shed Floor"

In an expert report by Breen & Associates, a research division of Engineering Systems Inc., provides an analysis of the shed where the table saw was located at the time of the accident. Due to the shed being demolished prior to the investigation, the analysis was limited to the evaluation of photos provided by Ben Roark. From the testimonies and pictures provided to Breen & Associates, it is in their opinion that the floor and the shed as a structure was not safe, due to the floor rotting and the number of occasions it was flooded. In the report it states, "The floor materials were not adequately protected against moisture, the floor was inadequately inspected and maintained." The report goes on to discuss the management's responsibilities to establish and/or enforce any safety rules with respect to operating any equipment on the premises. The final opinion of the

expert was that management had failed to eliminate hazards, guard hazards, and warn against hazards.

Found in the Southern Standards Existing Building Code, provided in Breen & Associates, is states that "existing buildings may continue their existing use, provided such buildings are maintained in a safe and sanitary condition..." MHD Corporation, who at the time was managing the campground through P.J.D.R., Inc., neglected to keep the subject shed in a condition that could be called safe. The code goes on to define an unsafe building as a building that has been damaged by fire, floods, earthquakes, wind or other causes that have resulted in decay or deterioration. The Standard Building Code Section 2304 addresses requirements of wood construction, such that the wood is required to be naturally durable or pressure treated if it is closer then 8 inches to exposed ground. According to the National Safety Council and with respect to OSHA regulations each employee is supposed to be free of any hazard causing conditions that may inflict death of any serious injuries. Also, all machines should be level with exception to portable machinery. The floors should be keep clean and level at all times; this includes keeping the floors dry from any type of liquid.

It is in our belief from the evidence that has been presented to us from this case involving Mr. Quattrocchi cutting his hand on a 2.5HP Craftsmen table saw that MHD Corporation neglected to keep the subject shed in proper conditions. There is suspicion that the reason for the rear left leg on the table saw fell through the rotted floor was due to the improper conditions the subject shed had been in at the time of the accident. In respect we believe it is the responsibility of the MHD Corporation to keep all building on the premises of the campground in safe condition for the employees and public. We also

believe that Sears, Roebuck and Co. ("Sears") holds no responsibility of this accident since they only sold the table saw to MHD Corporation, which P.J.D.R., Inc. had no knowledge of the purchase. The Rexon Industrial Corporation had designed the table saw properly and it had met all codes at the time of purchase. Rexon had also provided an owner's manual which contained proper warnings that neither the owner nor operators had read prior to operating the table saw.

In conclusion we believe Mr. Quattrocchi should not be awarded money by any of the defendants to cover medical bills and any other inconveniences that Mr. & Mrs. Quattrocchi may have encountered. MHD Corporation held full responsibility for maintaining the campground and protecting their employees from hazards. Due to the fact that John and Dorothy Quattrocchi did not file a suit against MHD Corporation, they shall not pay the Mr. & Mrs. Quattrocchi any money. P.J.D.R., Inc. only owned the land of the campground and held no responsibility for the Mr. Quattrocchi's accident. Even though we believe that the blade guard provided with the table saw may not have saved Mr. Quattrocchi's fingers the guard was not attached to the saw to begin with, leaving the blade fully exposed. This leads us to believe that the Rexon Industrial Corp. and "Sears" are not at fault since the guard was not in place and the floor of the shed, where the table saw had been located, was rotten making operating conditions hazardous. Thus, concluding MHD Corporation was at fault for improper maintenance and supervision of the campground and its employees.

Chapter 6: Jose Miguel Carballo-Rodriguez and Hector Manuel Lopez-Irizarry vs. Clark Equipment Co., Inc., Ingersoll-Rand Company; Dial Corporation; Volvo Construction Equipment North America, Inc.

On December 8, 1990 the plaintiffs, Jose Miguel Carballo-Rodriguez and Hector Manuel Lopez-Irizarry, sustained serious injuries when a 4-ton concrete form fell upon them while working for Redondo Construction Corporation in San Juan, Puerto Rico. A Lima Crane Model 700-TC, with serial number 3689-5 in Figure 6.1, was holding the concrete form when the hoist brake released the load and it fell upon the plaintiffs. The Lima Crane was manufactured by Clark Equipment Company, Inc. The accident had occurred while working on a project at Section # 45 of Pier # 4 in San Juan.

Figure 6.1: "Lima Crane Model 700-TC"

The accident in question occurred when the operator of the Lima Crane, Jose Bracetti-Rolon, left the concrete form suspended about 4 or 5 feet above the pier to take a bathroom break. Santos Lopez-Irizarry decided to operate the crane in the mean time.

As he was climbing into the crane the suspended load released, falling onto Carballo-Rodriguez. Two co-workers tried to help Carballo-Rodriguez when the load accidentally fell again, this time killing one co-worker and injuring another. The mechanism on the Lima Crane that is being accused of being faulty is the main hoist brake. Plaintiffs, Jose Miguel Carballo-Rodriguez and Hector Manuel Lopez-Irizarry, are suing the Clark Equipment Company, Inc. for negligence to manufacturer and distribute the Lima Crane Model 700-TC whose main hoist brake was defective. The following companies are also being sued for their possible involvement of neglecting to warn operators and owners of the defect in the main hoist brake of the crane: Ingersoll-Rand Company; Dial Corporation; Volvo Construction Equipment North America, Inc.

Santos Lopez-Irizarry, the head foreman of the Pier # 4 project seen in Figure 6.2, had thirteen men working under his supervision the morning of the accident.

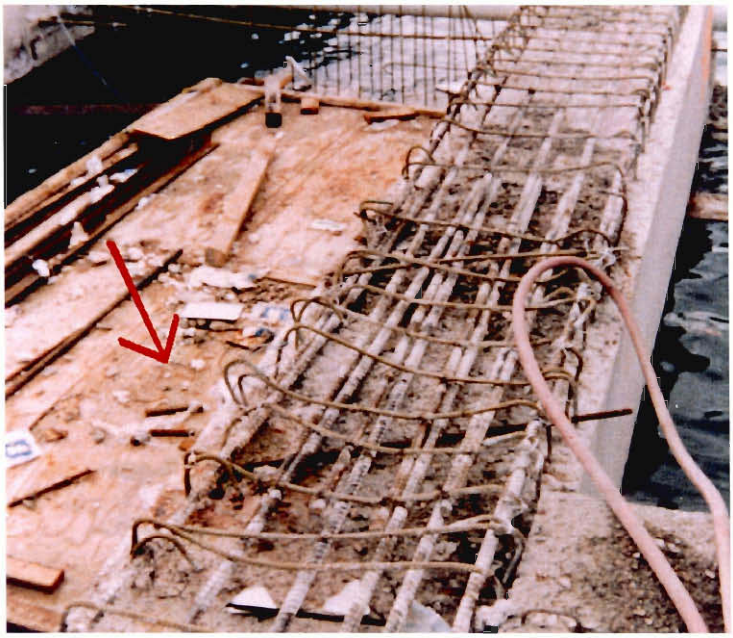

Figure 6.2: "Accident Scene"

Approximately between 10:15 and 10:30 a.m. is when the accident had occurred. Santos had proceeded to climb into the crane after the operator had left for a bathroom break. As he had climbed into the cab of the Lima Crane it dropped a 4-ton concrete form onto Carballo-Rodriguez. Santos's brother, Hector Manuel Lopez-Irizarry, signaled to lift the load while William Moreno helped Carballo-Rodriguez. Upon lifting the load he proceeded to apply the main hoist brake into a "locking" position. The load had fallen a second time onto all three men sending them off the pier into the water. Santos Lopez-Irizarry stated that his foot was still on the pedal trying to place the main brake into a "lock" position when the load fell for a second time. The three men were removed from the water and William Moreno was killed. Carballo-Rodriguez and Hector Lopez-Irizarry were sent to a near by hospital to be treated for their injuries.

On June 22, 1974 the Clark Equipment Co., Inc. sold and shipped the Lima Crane Model 700-TC, with serial number 3689-5, to Casco Sales in San Juan, Puerto Rico. In 1975 the Redondo Construction Corp. bought the Lima Crane from Casco Sales. In the years prior to the accident a representative of Redondo Construction Corp. stated that they had never had any problems with the crane. Even though Santos Lopez-Irizarry was not the original operator of the crane the day the accident had occurred, he had many hours of operator experience with this particular Lima Crane.

In a sworn statement taken on December 12, 1990, Santos Lopez-Irizarry stated that at the time of the accident he had been working for Redondo Construction Corp. since 1976, a total of fourteen years. In the fourteen years of work experience he had many hours of operating experience on the Lima Crane that the Redondo Construction Corp. owned. He had also stated that even before working for Redondo Construction

Corp. he had operated cranes while working for other construction companies. Mr. Lopez-Irizarry stated that "when [he] pressed on the brake, and lifted the lever, [his] right foot slipped from the brake with the result that William Moreno, Lopez and Jose M. Carballo were struck and they fell into the water." In a second sworn statement taken on October 20, 1998, Santos stated that he had been in the process of locking the hoist brake pedal when the his foot slipped and the load came crashing down. Also, he said that there had been problems with the latch of the brake prior to this particular incident. About a month and a half before the Lima Crane was being operated by another employee of Redondo Construction Corp. when the load had fallen due to the latching mechanism of the main hoist brake. In a third sworn statement taken on May 7, 2000, Santos states that he "thought the brake had locked [but] it was not so, since the pedal suddenly jumped upwards making [his] foot slip from the pedal."

In Gerald D. Whitehouse's deposition, an experienced mechanical engineer who is familiar with the brake latch mechanism of the 700-TC Lima crane, he stated that the brake latch mechanism works when "the operator depresses the pedal on whichever drum is tied to the load and if he pushes the right pedal, that's tied to the back drum. He depresses that pedal and then rotates the toe of the pedal until the latch is engaged on a pin underneath the floor board of the operator." When the operator engages the brake the load is held by a frictional band on the drum. Mr. Whitehouse was asked by the plaintiff's representative to consult with them concerning specifically the design of the latch brake mechanism and to give his opinion of the design. He goes on to state that the latch "could slide off two ways. It could slide off and become unlatched or it could slide off to the [proper] latched position. It's an unstable position." The latch can be seen in

Figure 6.3(a) in the proper lock position and Figure 6.3(b) shows the latch resting on the pin. It is in Mr. Whitehouse's opinion that it is the company's responsibility to design a product without any hazards, but if the hazards cannot be eliminated then they should be guarded. If the hazard can not be guarded then it is the company's responsibility to warn operators of the potential hazards. Clark Equipment Company took none of these steps to lower the potential hazards.

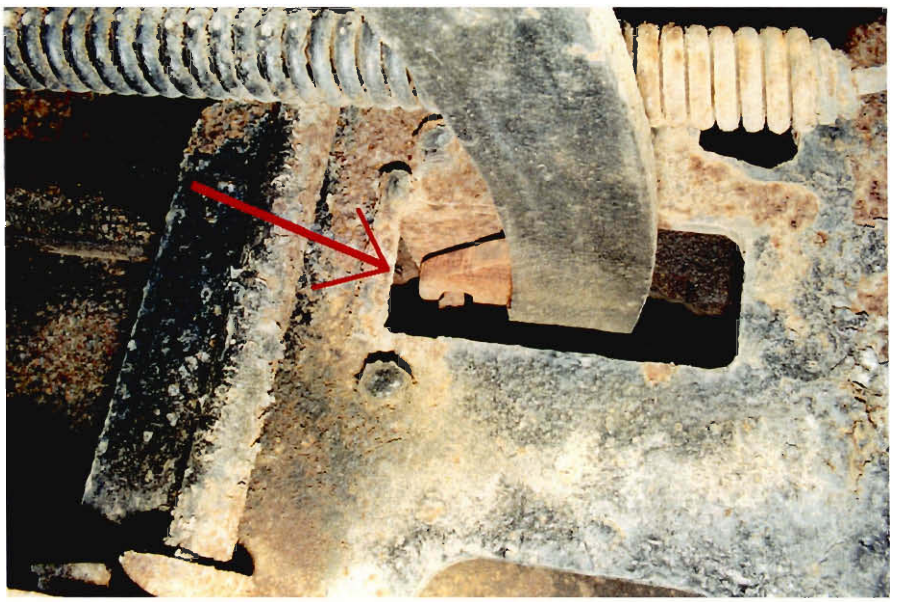

Figure 6.3(a): "Latch in Lock Position"

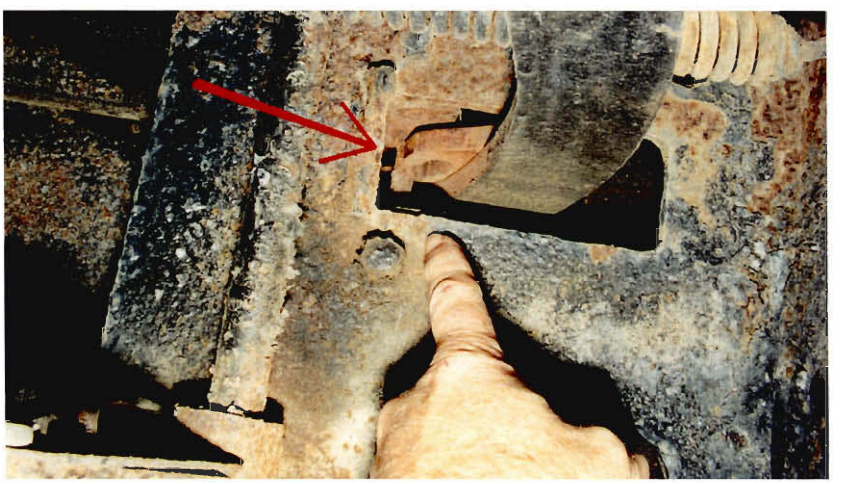

Figure 6.3(b): "Latch Resting on Pin"

In previous years to the accident in question, multiple service calls were made to Lima cranes when the owner complained of the main hoist brake not engaging properly. On September 13, 1973 Wayne K. Kinnzie, a service representative of Clark Equipment Company, made a service call to Cleveland, Ohio for a complaint of the latching mechanism not working properly on a Lima Crane Model 700-HC, which is a similar latching mechanism on Model 700-TC. The owner of the crane, Great Lakes Construction Co., had stated the right-hand brake released the load suspended above the ground. In Mr. Kinnzie's opinion the latch rested on the pin and the vibration of the crane cause the latch to slip off the pin, into the "unlatched" position. A similar complaint was made, on August 7, 1974, by Underpinning Foundation for the latch vibrating off the pin. On January 14, 1974, Lima received complaints of a Model 700-TC crane, owned by National Steel Erectors, concerning the latching mechanism not working properly.

There have been similar incidents of the Lima Crane Model 700-TC dropping its load due to the main hoist brake not working properly. On June 28, 1984, John P. Morrie was severely injured when a Lima Lattice Crane, Model 700-T, Serial No. 3578-9, dropped its load when it had been suspended in mid-air. A suit had been brought against Clark Equipment Company for a defective locking mechanism on the main hoist brake. The operator thought the brake was in the locking position when it really was not in the proper locking position. The Clark Equipment Company settled for $450,000.00.

Involved with the Morrie vs. Clark Equipment Company was expert witness Dr. Raymond Hagglund, P.E., who was hired by Clark Equipment Company to investigate the accident. In Dr. Hagglund's opinion it is the responsibility of the manufacturer to

warn and instruct against potential hazards found in a product. He stated, in a letter to Attorney Ritchie Berger on December 4, 1985, that the operator's manual for the Lima 700-TC crane did not provide any warnings or instructions that direct the crane operator how to place the tip of the hook onto the latch pin. While investigating the accident, Dr. Hagglund proceeded to engage the hoist brake on the Lima Crane and found no visible means of knowing if the brake had been properly engaged. Dr. Hagglund had also found, in his opinion, the hoist brake pedal to be defective in its design due to the fact that the tip of the hook could be placed on the "bottom of the latch pin to give an improper and unstable brake application which can slip and allow the load to drop." He had found the defective latching mechanism for the main hoist brake to be the cause for the load falling and inflicting injuries upon Mr. Morrie.

On August 15, 1984, Mr. Horace Lindley sustained serious injuries when a beam that was suspended in mid-air fell due to a defectively designed hoist brake mechanism on a Lima 700-TC crane, Serial No. 3656-14. This particular crane had been manufactured by Clark Equipment Company in 1973. Again, it had been stated that the main hoist brake had appeared to be in the locking position when in fact the brake had been falsely locked. There is no method of visually or mechanically confirming that the locking mechanism is in the proper position. Due to the inability to confirm that the main hoist brake is in proper position, the design misleads the operator to assume that the locking mechanism is properly engaged. Clark Equipment Company assumed full responsibility for this case and settled for $750,000.00, since the crane had been manufactured by Clark.

The Clark Equipment Company immediately filed a suit, after the Morrie case was settled, against the Dial Corporation, who had held responsibility for product liability claims for Lima Cranes prior to April 30, 1971 when Clark bought the rights to the Lima Crane. Originally the locking mechanism for the hoist brake was designed, manufactured, and sold by Baldwin-Lima-Hamilton ("BLM"). Prior to Clark purchasing the assets of the Construction Equipment Division of Baldwin-Lima-Hamilton, Armour and Company was the owner of "BLH". Through a merger and changes of name, Armour and Company became The Dial Corporation. The following states the responsibility of the new ownership of "BLH":

> "As part of the sale and purchase of the assets of the division, the parties allocated responsibility for the liabilities associated with any defective products produced by the division. First, Armour (now Dial) assumed responsibility for claims for injury or damages caused by equipment or parts sold before April 30, 1971. Clark assumed responsibility for claims for injury or damage caused by the equipment or parts sold on or after April 30, 1971."

In the Morrie case the crane had been sold prior to April 30, 1971 making Armour and Company (now Dial) at fault. The crane that Santos Lopez-Irizarry was operating at the time of the accident was manufactured and sold by Clark Equipment Company.

There were three types of product defects rendered on February 24, 1998 after the case Aponte Rivera vs. Sears Roebuck of Puerto Rico: manufacturing defects, design defects, and defects due to insufficient warnings or instructions. After the case of Downing vs. Overhead Door Corp. in 1995 the following was stated:

> "The duty to warn exists where danger concerning the product becomes known to the manufacturer subsequent to the sale and delivery of the product, even though it was not known at the time of the sale. After a product involving human safety has been sold and dangerous defects in design has come to the manufacturers attention, the manufacturer has a duty either to remedy the defects, or if a complete remedy is no feasible to give users adequate warnings and instructions concerning methods for minimizing danger."

Even after these cases had gone to court, Clark Equipment Company still neglected to warn other owners and operators of the defective locking mechanism for the main hoist brake on all Lima Model 700 series cranes.

Volvo Construction Equipment North America, Inc., previously known as VME Americas Inc., bought the Lima Crane rights from Clark Equipment Company in 1985. After numerous complaints of the defective locking mechanism for the main hoist brake on the cranes, VME Americas Inc. distributed memos with decals to their distributors to give to crane owners on February 21, 1990. The same memo was sent to Clark Equipment Company, since Clark had sold Lima Cranes before VME had purchased the rights of the crane. As seen in the case of Clark Equipment Company vs. Dial Corporation, it was Dial Corporation's responsibility to warn owners, of the defective latching mechanism, who had purchased the crane when Dial owned the rights to the crane. Also, Clark service engineers had recommended that Clark issue some type of warning decal to all owners to the Lima Crane. However, Clark took no type of actions to do so. The warning decals distributed by VME Americas Inc. clearly shows the false

latching of the hoist brake on the Model 700-TC that can cause the load to drop, as seen in Figure 6.4 (a) & (b). In Mr. Whitehouse's deposition he had stated that he believed that the warning decals were not necessary, but the decals were clear enough for operators to understand the potential hazards.

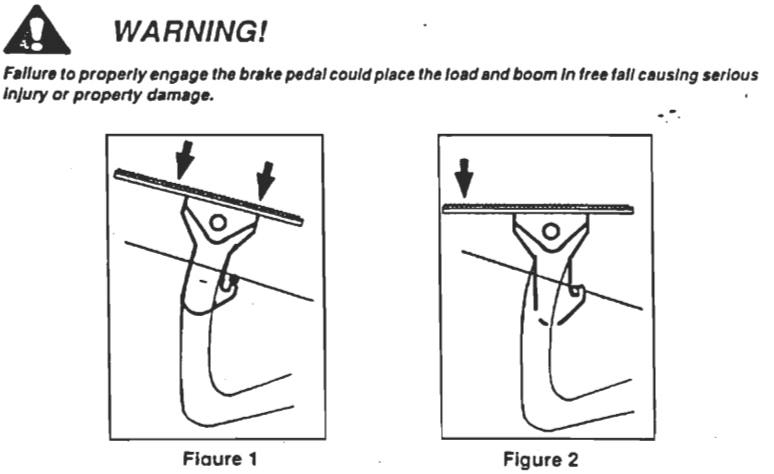

Figure 6.4(a): "Warning Decal 1"

Figure 6.4(b): "Warning Decal 2"

In March of 1995 VME sent out another memo containing a warning decal. This memo was sent to rental companies and owners of a Lima crane Models 450TC, 550Tc, 700TC, 770TC, 990TC and 50SC. The memo stated that the decal must be placed in a visible place in the cab of the crane to warn operators of the latching mechanism on the main hoist brake and how to properly engage the brake, as seen in Figure 6.5.

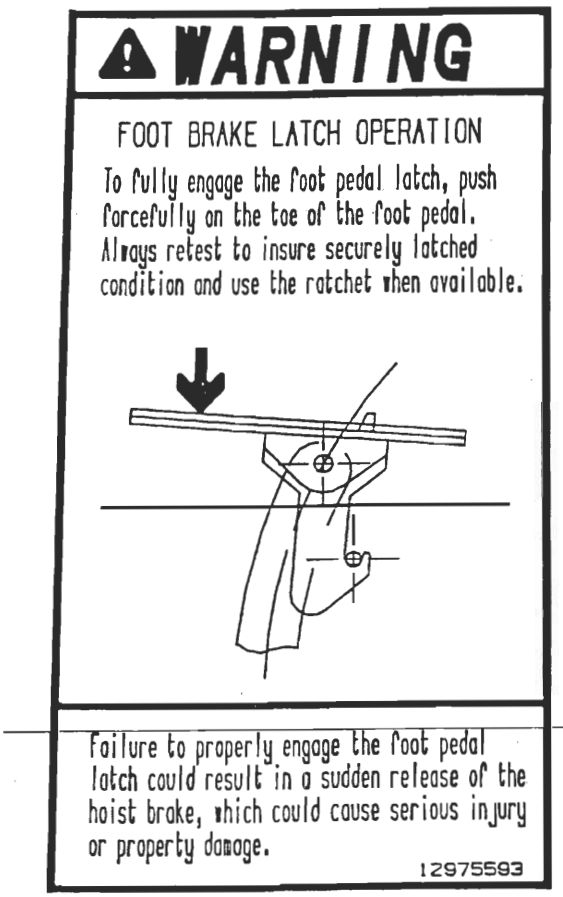

Figure 6.5: "Warning Decal 3"

Once again this memo was sent to Clark to distribute to customers who purchased a Lima Crane while Clark had manufactured the crane. Clark never distributed the memo to owners of the cranes. Roy W. Ghrist, the director of product integrity for Volvo Construction Equipment North America, stated in a deposition taken on March 15, 2001,

that Casco Sales and Redondo Construction Corp. were not notified of the defective latching mechanism.

Wayne Shaw, the chief engineer for Clark Equipment Company in the Lima Division, had sent a letter on December 16, 1985 to Mr. John C. Cary, who represented Clark Equipment Company in the case Lindley vs. Clark Equipment Company, reporting that he had investigated the latching mechanism for the hoist brake mechanism on the Lima Model 700 series cranes. He had found no possible means of changing the latching mechanism for the main hoist brake. At the end of the letter Mr. Shaw had enclosed a "possible warning decal" and suggested that the decal be distributed to all Lima Cranes that contain the "hook latch type" brake mechanisms. He had also mentioned in the letter that the operator's manual for the Lima Model 700 series cranes mentioned nothing about engaging the hoist brake properly, but then revoking that statement in his deposition taken on March 15, 2001. In Mr. John Cary's deposition, take on March 15, 2001, he stated that Clark Equipment Company did have knowledge of the problem in the hoist latch mechanism of the Lima Model 700 series cranes.

According to the USA Standards Safety Code for Cranes, Derricks, Hoists, Jacks, and Slings, section 5-1.3.2 "Main Hoist Mechanism", it states "Positive means controllable from the operator's station shall be provided to hold the drum from rotating in the lower direction and be capable of holding the rated load indefinitely without further attention from the operator." The latching mechanism for the main hoist brake on the Lima Model 700 series cranes are rated at 70-tons. In the accident being questioned the load suspended was only 4-tons. The Lima Crane Model 700-TC, with serial number

3689-5, involved in the accident was unable to suspend the load "indefinitely" which violates the USA Standards Safety Codes for Cranes.

With the presented documents it is evident that Clark Equipment Company is at fault for the accident being questioned. In our opinion, the defendants Ingersoll-Rand Company, Dial Corporation, and Volvo Construction Equipment North America, Inc. are innocent in this case due to the fact that Clark Equipment Company held full responsibility for all liability claims for all Lima Cranes manufactured while they owned the rights to the crane. Even though it was Clark's responsibility to warn all customers who purchased a Lima Model 700 series crane manufactured by Clark, VME Americas Inc. ("Volvo") took actions to warn and instruct customers of potential hazards found in the latching mechanism of the main hoist brake.

In conclusion it is in our opinion that Clark Equipment Company is at fault for the accident involving Jose Miguel Carballo-Rodriguez and Hector Manuel Lopez-Irizarry in San Juan, Puerto Rico, due to negligence to warn against potential hazards existing in the main hoist brake on the Lima Crane Model 700-TC. The plaintiffs should be awarded money to cover all medical expenses and loss of income due to injuries sustained in the accident.

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