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Products Liability

An Interactive Qualifying Project

Submitted to the Faculty

Of the

WORCESTER POLYTECHNIC INSTITUTE

In partial fulfillment of the requirements for the

Degree of Bachelor of Science

By

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Abstract

This project deals with the integration of the basic principles of engineering and of product liability. The three cases that were studied were analyzed independently from the point of view of an expert engineer witness and the law. These cases were put through the litigation process for two purposes, monetary settlement and the purpose of accident reconstruction. By the completion of this project, our group gained a better understanding of the relationship between product liability and the principles of engineering.

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Chapter #1

The Principles of Product Liability

Introduction:

The law of product liability is concerned with the evaluation of personal injury caused by machinery. In each products liability case there are two sides. These two sides include those who are filing the suit and those who are in defense of such suits. The filer is pursuing some judgment, usually monetary. The law enters as a mediator to such disputes and determines whether such claims are reasonable and within legal jurisdiction. When, because of a defect of a delivered product, a life or property of another person is injured, the person who sold the product, manufactured it, processed it, or has claim to the product as a business, is liable for damages to the injured person. The court determines through investigation, trial, and reconstruction whether the product was indeed at fault, or whether it was due to improper use or consumer negligence that the product failed. One of these two conclusions will be met after trial analysis, in which the engineer plays a very important role.

Most, if not all products liability lawsuits, concern products that were involved in "accidents." In these accidents someone has suffered injury. The term accident may have different meanings to different people. Because of this, the term in defined in legal terms by the law. An accident is an occurrence that is unexpected and causes injuries and losses that may in some way be expressed in monetary terms. It is for this reason, that when an accident occurs, the seller and manufacturer are the main targets of blame. With this blame, the design, handling, delivery, and the engineering will be questioned. Some examples of accidents may include collisions, slips and falls, loss of control, fire, and

mechanical failure. Because of the many different kinds of accidents, the courts comprehensive way of analyzing claims and mediating them is necessary.

There will always be someone who does not agree with a decision the courts have made and will say that the courts are unfair. In every court case there must be a winner and a loser. No one will always be happy. The court should be praised for its thoroughness and its attention to detail. If the story of an accident is told properly and effectively, the truth will be found, or at least a justified resolution will be reached. Most judges are compassionate, understanding and wise. Juries perform very well considering the pressure of having to choose one side or the other. Most attorneys are diligent in their work and really listen to the engineer. The engineer is I think the most vital part of a products liability case. He/she will make or break you. If you have a good expert engineer on your side that knows what they are talking about and can effectively prove your position, you will find justification.

How the engineer can help the attorney:

The engineer in the courtroom can be very helpful to the attorney trying the case. To make this relationship work, both the engineer and the lawyer must come to some understanding and cooperate with each other. If this does not happen there may be tension and confusion and this will disrupt the case, which would be an injustice to the people who hired them. The lawyer on the case deals with the concepts. The engineer deals with the numbers and the technical issues of the case. The engineer must realize that the case it not an engineering argument and he is not the main focus. The main focus is the law, which is the lawyer's job. The engineer is a helper, not the leader of the effort.

There are many ways in which the engineer can help in the courtroom. The engineer knows the design and development process. He can describe the technical processes and methods used in designing and in design choices. Most important, he knows why designs are made the way they are. It is common for machinery and product litigation to prove claims that the product should have designed differently. If the engineer works for the plaintiff, he can explain these other designs. If he works for the defendant, he can explain why it was designed the way it was and why he/she feels the design is the right one. The engineer can explain products, systems, parts, and operations of the machine. He can explain the specifics of a particular machine in question to the lawyer who may have trouble understanding it. The engineer must be patient with the lawyer and make sure the lawyer has a good grasp of the material before they proceed. The engineer can also teach the attorney how the product is evaluated and tested. A good explanation of how a machine was tested is a good way to show the jury the machine is

suitable for industry purposes. The engineer can tell the attorney about the successful product. Understanding the reasons for success and failure of a product, becomes important when defending a good product, or trying to discredit a product. The engineer can carry out his own tests to provide demonstrations and evidence for resolving technical questions for the jury. The engineer is familiar with the uses and applications of the product and can prove whether the machine was used properly or whether it was misuse that caused the accident. The engineer can also explain the relationship between the product and the operator. The machine should have been designed with the operator in mind. If the operator cannot easily and comfortably do his job, then the machine was not designed properly.

Maybe the most important skill the engineer has which can be helpful to the lawyer is the ability to conduct accident reconstruction. Accident reconstruction is the rebuilding of the accident scenario from evidence provided by the final position and result of the accident, by witness descriptions, and by other evidence. A reconstruction of the accident is very important to a case especially if there are no witnesses or there is a conflict in witness testimony. The engineer should be a good spokesperson to discuss state of the art technology. He should have a good knowledge of the continually changing technological field and keep the attorney up to date. It is the engineers responsibility to make sure the attorney does not have out-dated information and look foolish or unprepared in front of the jury. The engineer can summarize engineering literature for the attorney. There may be useful information that the attorney can use in these journals. He can translate the technical information into a common language, not

only for the attorney's sake, but for the jury's as well. The attorney can also explain legal information to the engineer. The two can work together and help each other out. The engineer can assist the attorney in examinations, interviews, and depositions of those involved in the case. The engineer can interpret answers, suggest new questions, and pick up discrepancies that the attorney might miss. The engineer may write out a series of questions that the he may want specific answers to and suggest a line of questioning to follow.

The litigation process:

The reason that the litigation process exists is that every citizen of the United Sates or other entity has the right to seek redress for damages in a court of law. The litigation process consists of a few steps. First there is the claim (summons and complaint), then comes the response (defense), then comes the discovery process. The discovery process consists of interrogations, requests for production, requests for admissions, inspections, depositions, and a trial if need be. Then there may be post-trial activities.

The first step in the litigation process is the claim. The person who believes that they have been wronged files a complaint to a court of law. In the complaint they include what happened, who they think is responsible for what happened, and a request for payback for their losses. The claim must be clear and logical enough to justify to the court to continue the litigation process. When the claim is presented before a judge, he may decide it has no merit and dismiss it. The accuser may give a vague complaint for tactical reasons, assuming that a trial will occur. But there is a risk that it will be too vague and it will be dismissed.

The next step in the process is the response, or the accused's answer. If the defendant agrees with what he has been accused of, the two parties may choose to decide the matter of payback outside of the courtroom, which is called a settlement. The litigation process is not continued at this point. If the defendant denies that he was at fault and believes he owes the plaintiff nothing, then the litigation process continues.

After the defendant has responded that he does not believe he was at fault, the next step is the defense. The defendant must list his reasons why he believes he is not at fault. Defenses usually involve more the lawyers than the engineers. The lawyers will use defenses such as lack of jurisdiction, expiration of statute of limitations, or other legal reasons. At this point, if neither side has come up with a resolution and neither side accepts responsibility, the fourth process is started.

The discovery process is the longest and most complicated step. Both parties will now have full legal representation in all matters and interrogations. The discovery process begins with the depositions of all the major parties involved. The attorney for the opponent is allowed to question a witness under oath and before a court reporter, but outside of the courtroom. The questioning is less formal than inside a courtroom but still must be conducted in a legal manner. Even though it is more informal than the actual trial, it is no less important. There are five major reasons for the deposition. The first purpose is simply for discovering and obtaining information. The lawyer will ask you questions and you must answer them truthfully. The second reason is to establish facts and to determine the origins of and bases for those facts. The attorney needs to know the sources of said information and the bases for opinions. He must know both the information that will help his case at that which will hurt it. Without it he may have holes in his argument. The third reason is to determine the opinions that the "expert witnesses" may offer at the trial. An expert witness is one considered an expert by education, training, and experience. He/she is there to offer opinions in an area, usually technical, which may be hard to understand to the layperson. Such fields include

designing, testing, developing, and certainly engineering. The opposing lawyer is allowed to explore the background and credibility of the expert witnesses. A good lawyer will try to discredit the opposition's expert witnesses, making his testimony unbelievable. The fourth reason is that the attorney will be seeking information to impeach the witness. The lawyer wants to show discrepancies between the witness's testimony and another witness's testimony, proving that one is not telling the truth. The fifth reason is that the deposition may be used to pin down testimony so that it cannot be changed at the trial. One negative about the deposition process is that a lawyer may be able to learn the opposing lawyer's strategy. The lawyer may also be giving away his own strategy through his line of questioning if he/she is not careful.

Also in the discovery process are requests for production. This includes the turning over of written and physical evidence. The plaintiff may request prints of a machine, its parts, service records, operator's manuals, and so on. The defendant may ask for photographs, accident reports, and medical records. The plaintiff and defendant can ask for any physical evidence that they desire, but the court will rule on what is a proper request and what is not.

Inspections are another part of the discovery process. This includes inspections of the machine or other parts involved, the accident site, the injured person, or any other relevant thing that may be necessary for the discovery process. Technical inspections, which should be done by experts, may or may not be made in front of both the plaintiff's and defendant's attorneys. Both need not be present though it would be better for your

case if you were. Whichever side does the inspection, they must disclose their information by some time limit before the trial or else the evidence may become inadmissible.

The major part of the discovery process is of course the trial. At the trial, each party in the lawsuit has the opportunity to present their evidence and witnesses in front of a judge and jury. The trial process follows long established and well-developed procedures. The participants allow the court, judge, and jury to settle the dispute for them. The trial consists of choosing a jury, opening statements by each attorney, the presentation of evidence and witnesses for the plaintiff, the defendant's case including their evidence and witnesses, final arguments by both parties, the jury deliberation, and finally the verdict.

Definitions and Techniques used by the Attorney

An engineer may feel out of place in the courtroom if he does not understand the terminology of attorneys and the law. There are many definitions and words that are not common to the layperson and most likely are not familiar to the engineer. It is important for the engineer to work with the attorney to understand the "attorney's language" before entering the courtroom so that he can follow the case easily and be a help to the attorney.

One definition that may be confusing is the term breach. Simply breach means failure to perform. You may here it most commonly used in the context "Breach of Warranty" or "Breach of Contract." When a machine is advertised to perform a certain way and it fails to meet those expectations, it is a breach. As an engineer in a breach of contract case, you would be responsible to prove or disprove whether or not the product in question failed to meet its desired task.

The term "expert witness" refers to someone who through education, training, and experience is able to assist the jury and the court to understand technical aspects of the case, which may be hard to grasp for the layperson. The engineer, or other type of expert witness, can offer their opinions to the jury and help them determine the facts.

Foreseeability is a term used in engineering law. It implies the ability to expect that a situation or condition will occur sometime in the future. With regards to the engineer, it is what he/she may reasonably expect is going to happen after use of his

product or design. If the condition in the future is deemed "foreseeable", the engineer must take this into account and adjust his design accordingly. Some examples of foreseeable conditions are that the operator is human and may make mistakes. The designer should try to make the operating of his machine as simple as possible to assist the user in making fewer mistakes. The engineer should foresee that his product might be used in ways that it was not originally designed. You as the designer however, are not responsible to foresee that the operator would use the product unreasonably or irrationally. You may be responsible for foreseeing unreasonable misuse if it is a very common misuse. For example, speeding in a car. You can foresee that this misuse will happen, and you should design the vehicle to be as safe as possible in the event that it does. Designing with foreseeabilty in mind is very important for liability reasons and also safety reasons.

Hidden defect is another term that should be known by the engineer in the courtroom. A hidden defect is one that is not easily detectable even under reasonable inspections. Hidden defects may still be found to be the cause of accidents. The designer is responsible for these defects and should try to eliminate as many as possible because they can be found liable for them.

The hearsay rule deals with the admissibility and inadmissibility of testimony from a witness. Since the engineer will most likely take the stand, he/she should know what can and cannot be said. A witness may only testify about things that he/she has experienced personally. The one exception to the rule is in the case of expert witnesses.

They are allowed to give their opinions, which may be based on secondhand information such as reports of others or technical and scientific journals.

Inadmissible evidence is evidence that will not be heard by the jury. The rules that define what is an inadmissible piece of evidence vary from district to district. The engineer should find out what the rules are for the district the case is in before entering the courtroom. Evidence he/she may want to introduce could become inadmissible if not presented correctly. This could be important evidence and losing it may be detrimental to winning the case.

Puffery is a term that most likely would be known by the engineer and have to be explained to the jury. Sales puffery is the talk between a consumer and a person selling a product. The law recognizes that when trying to sell a product, the producer may exaggerate a little. It can also be described as sales enthusiasm. The law accepts that a certain amount of puffery goes on and is lenient towards it. There are fewer leniencies for engineers and technical designers who use sales puffery. The engineer is expected to produce the results that he/she claims.

Punitive damages are damages awarded the plaintiff that go over the amount that they first believed they deserved. They are intended to punish the defendant for their negligence and disregard for the safety of the plaintiff. Punitive damages are not based on the plaintiff's economic loss or injury. They are based on how wrong the jury feels the defendant was in his/her actions.

There are several techniques and rules of thumb used by the attorney when in the courtroom. It may be useful for the engineer to know some of these so that he can follow what the attorney is trying to do and help him/her out.

One of these unwritten rules is never ask one question too many. When you have made the point you wished to make, stop. It's just like saying quit while you're ahead. If you keep asking questions, you are bound to get an answer that is detrimental to the point you just made.

Another unwritten rule is never fight or argue with the witness. Many attorneys get excited in the cross-examination battle and forget this rule. The reason for this is that the jury tends to favor the non-fighting side. If you argue with the witness, you are just asking for the jury to take his side. If you are on the stand as an engineer and you feel that you are starting to get into an argument with the attorney, stay calm and don't fight back. Answer questions politely and truthfully and the jury will trust your opinion.

A good unwritten rule to follow is to know the answer to the question you are about to ask. The trial is not the time to go fishing for information. Everything you need to know for the case should have came out in the discovery process. If you ask a question and you don't know what the person on the stand will say, most likely the answer given will be helpful to their case and hurt yours.

The attorney should paint a picture or tell a story when presenting to the jury. The attorney must keep the jury interested and on top of the important information that they are giving them. The picture or story technique works well in keeping the jury's attention, especially when an engineering witness is on the stand. The information the engineer is providing may be dry and boring to the jury, but it is imperative to winning the case that they understand it. It is the lawyer's job to do so.

Accident Reconstruction

In the process of litigation involving machinery and people, there will always be disagreements as to how the accident actually happened. The injured person and the person being sued will each try to pin responsibility for the accident on each other. This is why accident reconstruction is so important. There are methods of recreating accidents through witness testimony and physical evidence, such as skid marks, damage to machinery, distances rolled and moved, scientifically so that these disputes can be settled justly.

An accident reconstructionist can scientifically determine and state the most probable scenarios of an accident, in terms of personal actions, time scales, space and motion scales, the starting conditions, and the final conditions of the accident. But this is not where the job ends for the accident reconstructionist. He must be able to present his findings to the jury convincingly.

The proper starting point for the reconstruction of any accident is the collection of every piece of information and evidence. This includes testimony and impressions of the people involved and witnesses. It also includes all physical evidence. Examples are photographs, broken parts, marks on the road or ground, measurements, and distances. It is important that the reconstructionist knows not only everything about the accident, but also everything that happened before and after the accident. A good accident reconstructionist cannot ignore any piece of evidence or testimony. Whether the

information does not fit the reconstructionists assumptions or whether they believe the information to be fraudulent, it doesn't matter. They should never ignore it and do the best possible job they can with all the information, hoping justice is done in the end.

With all the information, the reconstructionist starts to build the story of the accident. The story is built on a time basis and on a three-dimensional space basis. While going through evidence, you may run into some common problems. The first is that some information will contradict. This will most likely happen on every case. Some information may be very vague and general, such as the car was moving "fast", but an actual mile per hour number is not known. Some information may be missing all together. It could have been misplaced, erased, or not taken at all. The reconstructionist must deal with all these problems when assembling the pieces into possible scenarios.

Possible scenarios will multiply easily. As the information becomes more and more focused, scenarios can be eliminated. The reconstructionist will eventually end up with a final list of possible scenarios. The next step is to rate the scenarios in terms of probability. Only a small portion of the scenarios will be substantially probable. Evaluating the probability of a scenario is a matter of logic and looking at all the factors, including mechanical, physical, and human. Scenarios should be discussed with others and should be open to critical review. If the logic and reasoning is believable to outside critics, it is a good scenario.

There will most likely be one or two scenarios left. If you have one scenario left, only small details may be argued about between the two parties, but at least they are on

the same page as to what happened. If two scenarios are left, you may present both and let the jury decide which they believe actually happened.

There are a few rules as to what makes a good accident reconstruction. First the reconstruction must obey the laws of physics and the rules of engineering. Blank spots must be kept to a minimum and conflicts resolved or else the analysis is useless. Second, the reconstruction should have an agreement with the mass of the information and the evidence. The reconstructionist seldom arrives at an unexpected surprise result. This result would be hard for the reconstructionist to convince to a jury. Third, the reconstruction should be explainable to the laypeople. The reconstruction may be lost if the jurors have to understand all of the science that went into arriving at it. Fourthly, the reconstruction should be as free as possible from bias or preconceived notions. It must be scientifically valid and also make common sense. Lastly, a good reconstruction must be able to withstand all attacks on it, including bias, wrong input, and wrong methods. It must stand up to questioning and arguments from the opposition.

Avoiding Litigation

There are many things an engineer can do to avoid future litigation. If an engineer sets out to avoid a particular accident while he is planning, designing, and building a product, they will have that objective in front of them through out the development of the product. This way you can do something about a potential accident before a real one occurs.

The engineer has to visualize a series of potential accidents that could happen when someone is using his product, and modify his product to account for that. They must eliminate the hazard in the design. The design is a good design if a hazard can be completely eliminated without compromising the usefulness of the machine.

If a hazard cannot be eliminated for some reason, the next best thing is to protect from it. For example, designing the product with protective shields. The engineer could also redesign the machine so that the user could not reach the hazard during normal activities. It should be difficult at least for the user to reach the hazard.

If the hazard cannot be eliminated in the design, and an accident cannot be completely avoided from protection, then the next best thing is to make the accident safe. By that we mean to make it so that if an accident does occur, the user will not be seriously hurt. For example, ROPS (roll over protective system) are designed to protect against the crushing of the operator's space in an accident roll over. There is no way in

the design process that the engineer can eliminate the possibility of a rollover. The best that he can do is make the user as safe as possible if it does happen.

A further method of protecting against accidents is to warn the user of an impending accident. For example, as an airplane approaches conditions, such as air speed and pressure, that may cause it to stall, a buzzer or voice warns the pilot that he is entering dangerous conditions and that he must take action. Too many of these warnings may hurt rather than help, because they may just confuse the operator. But they are an option to the engineer if he cannot design a hazard out of a machine.

The engineer can warn the user of his machine of the possibilities of an accident while operating it through several methods. Some examples can include warning decals on the machine, instruction decals on the machine, instructions in Operator's manuals and safety manuals, and instructions given in training sessions.

Chapter #2

Case File #1
Santino Dellea of Stockbridge Motors vs. Automar New England and Northeast Lift Installers

Introduction:

The first case that this group studied was a case that involved a car lift that was installed without safety restraints. In August of 1992 Santino Dellea, an experienced mechanic, was interested in ordering a Mohawk model number MLF 12 hydraulic lift from Automar New England. An Acanus model number TP-9 lift was installed instead of the Mohawk. The company that installed the Acanus lift, Northeast Lift Installers, failed to install the necessary safety restraints on the lift. As a result of the alleged unsafe lift, a car fell from the lift, injuring Mr. Dellea and he lost about forty percent mobility of his left arm and wrist. It also caused damage to the car and to his garage. Mr. Della, the plaintiff, is suing both Automar and Northeast for breach of contract and negligence.

Background:

In August of 1992 Santino Dellea signed a lease for an Acanus TP-9 hydraulic car lift. Also in August an employee of Northeast Lift Installers came to Mr. Dellea's garage to install the lift. After the lift was installed, Mr. Dellea inspected the lift and noticed that there were no safety restraints. He mentioned this to the installer and the installer said that he was sorry. He also said that he would order the proper restraints and assured Mr. Dellea that the lift is still safe to operate and encouraged him to continue to use the lift until the restraints came in. The installer also said that the restraints were going to be a pain and that Mr. Dellea would probably throw them away after a week of using them. After speaking with the installer, Mr. Dellea was still concerned and called Automar. Automar also re-assured him that the lift was safe, one hundred percent guaranteed, and that they would order a set of safety restraints right away.

While the installer was still there, he trained each person who would use the lift. He did these practice lifts without the use safety restraints. He did these lifts to ensure that each person knew how to operated the lift safely. Mr. Dellea continued to use the lift for the next few days and lifted three cars on it with no problems or difficulties.

Three days after the lift was installed, Mr. Dellea drove a car onto the lift until his shoulder was aligned with the post, the general rule of thumb. Since this car had no designed lifting points it was unclear where to put the lifting arms. It is assumed that Mr. Dellea put the lifting arms on a joint of the frame of the car, the safest place to lift the car from. After positioning the lifting arms, Mr. Dellea lifted the car four or five feet off the

ground. He then left the car there for about thirty minutes while he tended to other customers. He then came back to the lift and tried to raise the car to the proper working height. This is when the front arms of the car slipped out from the front of the car and the car came crashing to the ground.

Deposition of Mr. Santino Dellea:

Mr. Santino Dellea is an experience mechanic and is also the owner of Stockbridge Motors. He was interested in replacing his older, one post lift that he was currently using in his garage. This is how he came in contact with Automar of New England, a company that sold lifts. He wanted to buy a Mohawk model MLF 12 two post hydraulic lift. When the company, Northeast Lift Installers, came to install the lift, Santino noticed that is was not a Mohawk but an Acanus model TP-9 two post lift instead. After noticing this, Santino called Automar and spoke with Don Macher, the financial person and the person that Santino mostly had contact with. Don reassured Mr. Dellea that this lift was as good as the Mohawk. He also said that the lift was designed by the same engineers that designed the Mohawk's but for some reason was sold to Acanus. He also told Mr. Dellea that the lift was reconditioned and one hundred percent guaranteed and was under all warranties. Again while the installation was taking place, Mr. Dellea became concerned when he noticed that there were no safety restraints on the lift. This concerned Mr. Dellea because his old lift had safety restraints, which he used on a regular basis and insisted that all the mechanics that worked at Stockbridge Motors use them as well. Again he contacted Don from Automar and Don insisted that the lift was safe to use right now and that he would order the necessary restraints right away. He also mentioned this to the installer who told him that the safety restraints were a nuisance and he would probably take them off or throw them away after a few days of using them.

After the lift was installed, Dennis Roberts, the installer, gave instructions to everyone that would be using the lift as to the proper and safe operation of the lift. This

included everyone doing at least one practice lift with Dennis watching over them and telling them what to do. He did not however do a sample lift showing them the proper way to lift a car. The procedure was simple: drive the car so that the driver's shoulder was at the post, position the lifting arms on the lifting points of the car or on the frame, and then lift the car using the buttons on the lift.

After the instructions the installer left and Mr. Dellea lifted about two or three cars in a three-day period. Then the accident occurred. He drove the car in using the general rule of thumb of shoulder to the post. He then shut the car off and positioned the lifting arms on the frame of the car, six inches in on the frame in all corners, since the car was older and had no designed lifting points. Immediately after positioning the arms he lifted the car about four or five feet. The phone then rang and he answered along with pumping some gas for customers. He came back to the car about a half an hour later and tried to raise it up to the proper working height and that is when the front arms slipped out from underneath the car and the front end came crashing down. The left front arm was the one that hit him and caused the damage to his left arm.

Immediately after the accident occurred, Mr. Dellea took pictures and called Don. He told Don that he would never use that lift again. Don replied by telling Mr. Dellea to do whatever is necessary and that Automar would take care of everything. Mr. Dellea believes that if the safety restraints were in place, the accident never would have occurred. He believes this because the safety restraints for this lift were designed to keep the arms from swinging out from under the car, which is exactly what happened.

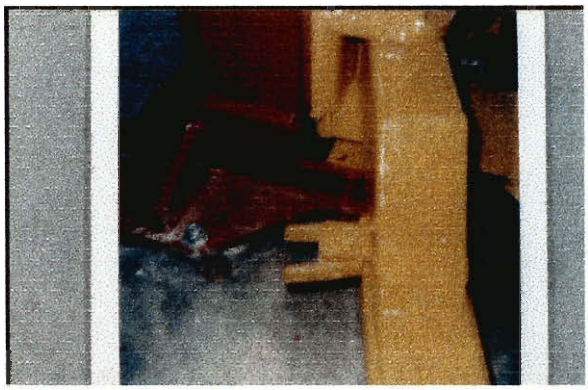
Deposition of Mr. Matthew Sutton:

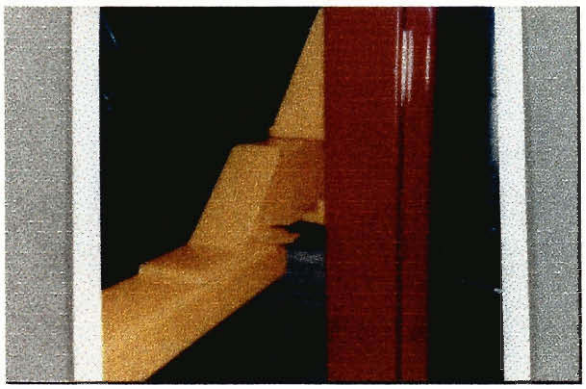
Mr. Matthew Sutton was another mechanic at Stockbridge Motors. He also received instruction on how to operate the new Acanus lift from Dennis. He was familiar with the old center post lift, so positioning the lifting arms underneath the car was easy for him, since the position was the same for both lifts. He was curious as to why there were empty holes at the base of the lifting arms, and he asked Dennis. Dennis said that they were for the safety restraints but, "they're nuisance to have to squeeze the thing and try and push the arm and place it an let of the thing and, not to worry about it." He used the lift about eight or ten times before the accident and never had a problem with it.

Deposition of Mrs. Carol Sutton:

Mrs. Carol Sutton was a bookkeeper, secretary and clerk at Stockbridge Motors. From her understanding the company was supposed to purchase a Mohawk lift from Automar. She also overheard a conversation and being discussed was the fact that the safeties were missing and the installer saying not to worry about it, and that most people take them off.

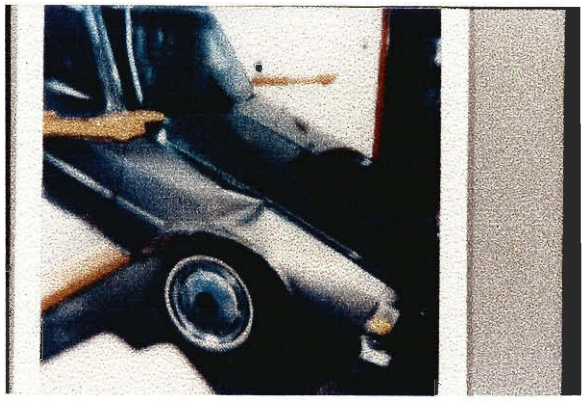
Analysis of Pictures:





The above pictures show the front lifting arms after the car fell from the lift. They both clearly show that there are no restraints to keep the arms in place. They also show the place were the restraints should be.

The above picture shows the car after it fell. It also shows the operating post on the left and where Mr. Dellea was standing when the car fell. It also shows how the front arm swung out and struck him in the arm.



The above picture again shows the car after it fell. It shows the position of the arms after they swung out and the damage that was done to the car as a result of the fall.

Inspection of ANSI Standards:

The lift was built in 1984 and was in compliance with the ANSI standards of 1982. These standards make no mention of safety restraints to prevent the lifting arms from slipping out while the car was raised off the ground. However the lift was reconditioned before it was sold to Mr. Dellea in 1992. Since the lift was reconditioned, it would have to meet the newest ANSI standards, which was 1990. In this latest standard there was mention of these safety restraints. It said that there had to be restraints to prevent the arms from swinging out from under the car and these restraints had to be able to with stand a horizontal force of one hundred and fifty pounds.

Discussion of Main Issues:

There are two main issues involved in this case. The first is whether the lifting supports were placed on the car and the second is if the safety restraints were in place, would they have made a difference.

There are three possible places that the supporting arms could have been placed on the car in order for it to be lifted. The first is at a weak spot on the frame of the car. It is unlikely that the arms were placed in this weak spot because when the car was lifted the frame would have bent and not have slipped off the lift. The second possibility was to place the car on a portion of the frame that was rounded. This could have caused the car to slip off the lift. Again this possibility is unlikely because Santino Dellea is an experienced mechanic and would not have put the arms on an unsafe portion of the frame. The third possibility was that the arms were placed on a joint of the frame, the strongest part of the frame. This is the most likely possibility because Mr. Dellea was an experienced mechanic and knew where to place the arms and where not to place them.

The second main issue is if the safety restraints were in place would the car have still fallen. The answer to this question is probably no. On hundred and fifty pounds is a great deal of force to exceed, especially since this is a horizontal force and the weight of the car is a vertical force. The safety restraints are designed to prevent the arms from swinging out.

Conclusions:

Based on the review of the evidence presented the plaintiff, Santino Dellea, and the by both of the defendants, Automar of New England and Northeast Lift Installers, this group has developed the following conclusions:

- The Acanus lift that was sold and installed at Mr. Dellea garage was unsafe to be operated with out any safety restraints. Mr. Dellea should not have been operating the lift.
- The Acanus lift was in clear violation of ANSI standards. Although the lift was built in 1984, it was reconditioned after 1990. When the reconditioning occurred the lift should have been undated to the newest standards before it was sold. It should not have been installed without these proper safety standards.
- The defendants should not have encouraged Mr. Dellea to use the lift in the condition it was sold to him. They should have told him that the lift was unsafe and told him not to use it until the safety restraints were installed.

Based upon these conclusions from the evidence presented, Mr. Santino Dellea should be awarded a monetary settlement that covers at least the damage done to his garage and the lift, the damage done to the car that fell off the lift, his medical expenses, and his past and future lost work wages, due to his permanent disability of his left arm and wrist.

Chapter #3

Case File #2
Napco Incorporated vs. Brunswick Corporation

Introduction:

The second case that this group studied was the case of Napco Incorporated vs. the Brunswick Corporation. In this case a contract was signed, on March 23, 1992, by both parties in which Napco agreed to design and install an automated golf club plating system and Brunswick agreed to pay them about a million and a half dollars. The condition set by Brunswick was that the plating system had to meet certain standards and specifications that they designed in order for Napco to receive the full payment. Brunswick believes that the plating system is unsatisfactory and refuses to pay Napco the remaining $162,385.00. Napco believes that they fulfilled their part of the contract and is suing Brunswick for the remainder of the money.

Background:

In March of 1992 Brunswick was interested in buying a new automated plater for their factory. They wanted the plater to dip golf club shafts in nickel and then move down the line and dip the same club in chrome. They signed a contract with Napco to provide this machine and gave them a list of specifications that they wanted to machine to meet with out any limitations. These specifications were the following...

- At least 2880 shafts were to be plated each hour
- The machine must apply a coat of thickness of 0.005 inches of duplex nickel uniformly
- The machine must apply a coat of thickness of 0.005 inches of chrome uniformly
- No more than 15 spots can appear on a shaft after forty eight hours of salt spray
- A random sampling of six shaft per hour must meet the visual standards that Brunswick sets
- Napco must replace or repair all of the equipment that does not perform up to the standards set above.

The plater that Napco supplied never met these specifications. In fact the plater had many problems, which are listed below

- There was a constant leak in the cooling system that affected the temperature control system coil in the chrome tank.

- The lubrication system that was designed did not lubricate all parts evenly or thoroughly.
- The chain that rode along the triple sheave and needed replacement more often than it should.
- The shaft that the triple sheave rested and rotated on broke in to two pieces.

To expand on some of the above problems that the platter experienced, the triple sheave assembly (See the analysis of pictures sections), which includes the chain that rides along the triple sheave, and the sheave itself, was replaced three times in the first year of the machine. So far in the eighteen months that Brunswick has had the machine it has been replaced five times. The current one is only five months old and is already badly worn. It looks like that replacing it with another on of similar design will not fix the problem. Each time the sheave is replaced, the whole machine needs to be shut down. This not only makes Brunswick Corporation unhappy because they are losing valuable time and money because the machine is not making any product but it makes the workers unhappy because they get sent home for the day without pay. Finally the shaft that holds the sheave in place and that the sheave rotates on broke and Brunswick had enough with the problems. They informed Napco what happened and also informed them that they will not pay the remaining amount until Napco makes some serious changes to the machine to make it operate properly.

Napco, as a response to the above problems, tried many different things to fix them. One was the replacing of the chains, which included replacing the chain with a wider one, hoping to increase the safety factor and relieve the stress placed on it. They also replaced the lubrication brush and put in a wider one hoping that this would improve the lubrication system. They also went through the entire machine and systematically tightened every nut, bolt and screw.

Even though the machine had all of these problems, Napco still believes that they lived up to the contract and is demanding that the remaining money be paid by Brunswick.

Deposition of Mr. Gourd:

Mr. Gourd is an engineer that specializes in time and motion study at the Nation Engineering Company. He studied the plating machine and believes that there are many problems

- Poor rack design and construction
- Poor frame construction
- Poor assembly techniques in conductive area or any other members that carry voltage

He also believed that the leak in the cooling system was a result of a bad temperature control system, and in particularly the temperature control coil in the chrome tank. He also believes that the new chain does work better than the older and smaller chain because it is 1 7/8 times as big as the previous chain. This helps to relieve the amount of pounds per square inch that is on the sheave and that the chain experiences. He also discovered that the lubrication system was ineffective because some pieces of the chain never get the proper amount of lubrication and the lubrication does not penetrate the chain deep enough.

Deposition of Mr. Michael LaPlante:

Mr. Michael LaPlante was one of the chief engineers that worked on the design of the platting system. He was also one of the engineers that continued working on the platter after it was sold to Brunswick, both on the maintenance of the machine and making design decisions to try to improve the performance of the machine.

During one of Mr. LaPlante's routine inspections of the machine he noticed that as the chain moved along the sheave it did not move in a straight line. It went in a back and forth motion, which caused excessive wear on both the chain and on the sheave. He discovered that the cause of this movement was the orientation of a bearing is not correct. He also said that Napco was responsible for the installation of this bearing, Napco never advised Brunswick to perform maintenance on the bearing, and that it should not have needed maintenance if the original installation was correct.

Mr. LaPlante next discussed the shaft that failed and broke into two pieces. He described it as being held in place by two pillow block bearings and setscrews that attach the bearings to the shaft contain the lateral motion of the shaft. He also said that these setscrews should not back out of their holes, which they did, if the Napco employees who installed the machine used lock tite. He also said that the shaft was made out of stress proof steel and was 1 15/16 inches in diameter. He also stated that he did not do any fatigue calculations on the shaft because he was never asked to by Brunswick. He did however say that now after the shaft failed; if he were to design the machine again he would do these calculations. On page number 37, is a drawing that shows the loads that

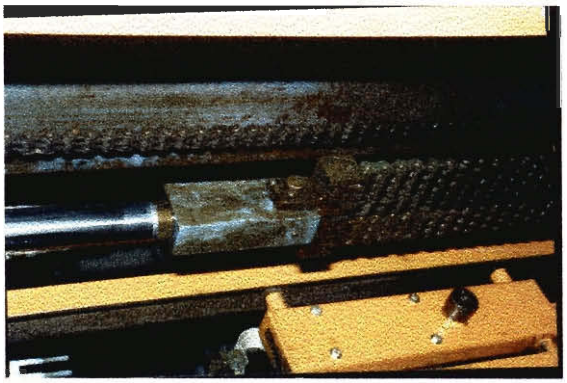
were placed on this shaft and resultant load. Each of the two chains, the one going to the elevator lift and the one going to the hydraulic cylinder, was 7, 080 pounds leading to a resultant of 10, 014 pounds.

There was a sheave assembly that was attached to the shaft and that the chain rode on. Two setscrews also mounted this sheave. When the setscrews are installed, a small hole is drilled through the sheave and a small portion of the shaft is taken out as well. When this small amount of material is taken out it cause a dimple and weakens the shaft at this point. This weak point could be an area of stress concentration and Mr. LaPlante never did any calculations to find out the effect of this stress concentration.

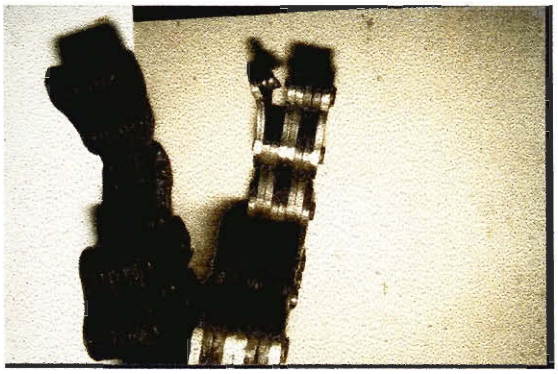
Deposition of Mr. Max Caldwell:

Mr. Caldwell is the president of Napco and was not directly related with the design or installation of the platting system at Brunswick. He does however believe that the system that was designed was suitable and what Brunswick asked for in the specifications that were given to Napco. He also said that except for the sheave issue, the machine's operation was typical from Napco's perspective. He also believes that the electrical fluctuations in the nickel and chrome tanks are a result of the chemicals that Brunswick is using.

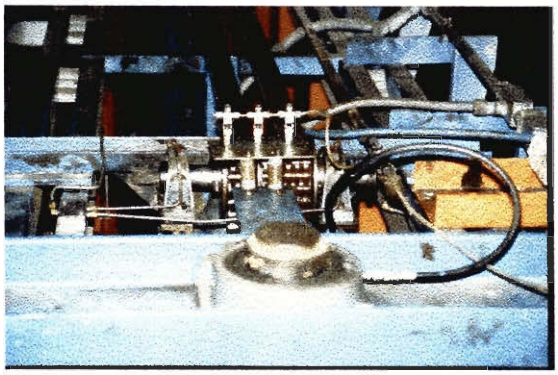
Analysis of Pictures and Diagrams:



The above picture shows the triple chain and the piston that is driven by the hydraulic cylinder.

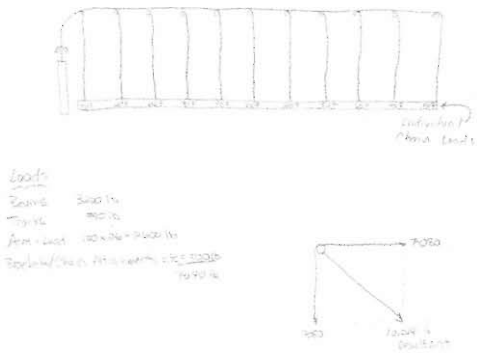


The above picture shows how one of the three chains split due to the excessive frictional drag across the sheave that rotated on the shaft.

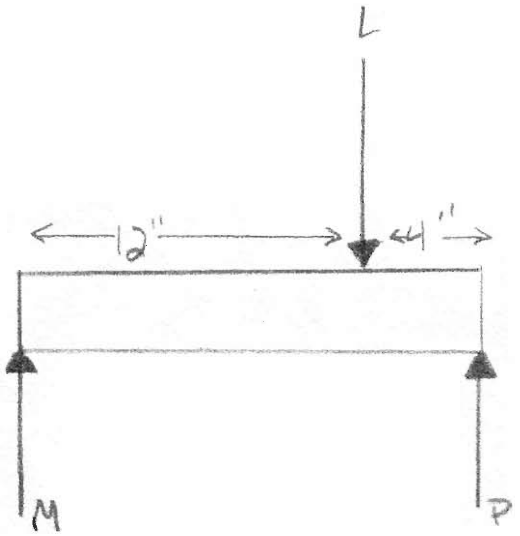


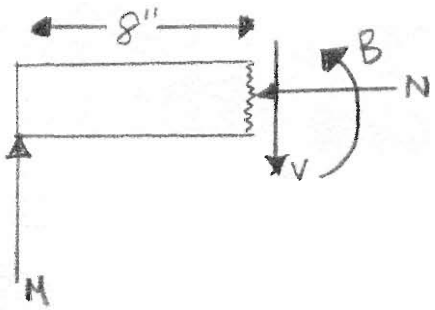
The above picture shows how the chain rode along the sheave and it also shows how the shaft rotates the sheave. This rotation either raises or lowers the elevator mechanism.

The above picture shows the small pimple that was put there by the setscrews. There is also another on the very bottom of the cross section of the shaft. This picture also shows that the lower section of the shaft is smoother than the top part of the shaft. This is a result of the fatigue failure. As the small crack grew it rubbed against the other part of the shaft and make it smooth. Then as the crack grew large enough the shaft fractured leaving the rest of the shaft rough.



The above diagram shows the individual chains and the loads that each of them lifted. It also shows the list of what the hydraulic cylinder lifts and where that number came from, 7,080 pounds. Finally in the bottom right corner is a diagram of the two forces that acted on the chain, the load that is lifted by the hydraulic cylinder and the load from the elevator mechanism. It also shows the resultant force that acts on the sheave, which has a value of 10,014 pounds.





$\Sigma F=0$
$M+P-L=0$
$2,000+P-8000=0$
$P=6,000LB$

$\Sigma M_P=0$
$(L*4)+(M*16)=0$
$(8000*4)+(M*16)=0$
$M=2,000LB$

$\Sigma M=0$
$B=M*8$
$B=24,000LB$ This is the bending moment at the point of fracture

$D=1.9375$ (Without Setscrews)
$I=(\Pi*D^4)/64$
$I=0.6917$

$D=1.8125$ (With Setscrews)
$I=(\Pi*D^4)/64$
$I=0.5298$

$R=0.96875$ (Without Setscrew)
$\sigma=(BR)/I$
$\sigma=33,113$

$R=0.90625$ (With Setscrews)
$\sigma=(BR)/I$
$\sigma=41,053$

Discussion of Main Issues:

The calculations done above calculated the stress, at the fracture point, in shaft. As you can see the setscrews did greatly increase the amount of stress in the shaft at the point of the small dimples. There is one problem with the calculations done above; it is done with a static load of 8,000 lb and that is not the load that the shaft was placed under. The shaft was put under a dynamic load of about 14,000. This number is easy to calculate; it is calculated by taking a measurement of the pressure that it required to move the hydraulic cylinder. Once you have this number and by doing the calculations above again using it is found that the stress on the shaft, at the point of fracture, was about 80,000 instead of the 41,000. This is a problem because the shaft has an ultimate strength of 70,000.

Based on the above numbers, the reason why the shaft failed was because the stress that it was under, at the fracture point, exceed it's ultimate strength. This resulted in a small crack forming when the point was under tension. Each time the shaft was placed under tension again the crack grew larger until it fractured. This process is known as fatigue failure.

Conclusions:

Based on the investigation of the various depositions, the inspection of the photographs, and the testimony of the parties involved this group has developed the following conclusions...

- The plating system that was sold to Brunswick was never lived up to the specifications that Brunswick set forth in the beginning.
- The installation of the machine was done poorly and resulted in the poor output of the machine.
- The design of the machine was poor and simply replacing the broken parts will not make the machine perform up the standards that Brunswick expected.
- The shaft should have had a larger diameter, therefore increasing the ultimate strength.

Bases on the above conclusions, Brunswick is not obligated to pay Napco the Remaining amount of money. In fact this group believes that either Napco should refund the money already paid by Brunswick or they should design a new machine and install it at the Brunswick facility.

Chapter #4

Case File #3
Barton and Brenda Ankenman vs. Web Press Corporation
(Third Party Plaintiff) vs. World Printing

Introduction:

Case number three involves a newspaper printing press and an injury to a man's left hand. The plaintiff is Mr. Barton Ankenman and he is suing World Printing and Web Press incorporated. Mr. Barton Ankenman feels that it was through negligence on the part of World Printing and Web Press that caused him to suffer severe injuries to his left hand while working on a press at the factory of World Printing. World Printing feels that they were not at fault and it was through Mr. Ankenman's own negligence that he suffered those injuries. They feel they owe him nothing and that is why they are not settling and are going to court.

Deposition of Barton Ankenman:

Barton Ankenman worked for four years at World Printing. He started his career in the printing field as a jogger. A jogger stacks the product on a skid and makes sure that it is placed nice and neatly. Mr. Ankenman did this job for one year. The roll tender puts rolls on the rolling stand to feed the press paper. Mr. Ankenman's next job was that of a second pressman. The second pressman's responsibilities included running the machine if the lead pressman is not there and also assisting the lead pressman while he is there. While being a second pressman, he received on the job training. He learned how to set the ink and he learned how to work the folders.

Mr. Ankenman then moved on to be a pressman at Hoffine. Here he was given more responsibility than he had ever had before. Besides dealing with the paperwork aspect of the job, his other responsibility was overseeing the crew and making sure they are doing the job properly and that they are doing it in a safe manner.

His next job was at Winn Press. He went back to being a second pressman. He had the experience of a lead pressman but worked as a second pressman to fill the needs of the company. Working in the Winn press involved working on a web offset press and a cold press.

It is about this time that Mr. Ankenman started working at World printing. He started as a second pressman again. He quit that post because he had lead pressman skills and experience. He wanted to do that job but was not given the opportunity. He was not

happy at World Printing or with its management. Mr. Ankenman got his wish and was hired back as a lead pressman shortly after. His problems with the company did not stop there though. He received warnings on two occasions for being late to work, which the company had little toleration for.

The reason that we focus on Mr. Ankenman's prior working history is to show that he was not just some guy of the street who they stuck in front of the press. The opposition might want to show that the injury occurred because Ankenman wasn't properly trained and didn't know what he was doing, and that is what caused him to be injured. The fact is that Mr. Ankenman was an experienced pressman with many years of experience working with different machines. He knew what he was doing and had never had any problems with these machines in his prior work experience.

Sometimes on the printing machine, a little piece paper lint could accumulate on the roller part of the printing machine. The piece of lint or glob of ink is referred to as a hickey. This little imperfection can ruin an entire batch of newspapers. It must be removed as quickly as possible to lessen the damage to the prints. This is where the big controversies come into play. On the day in question, a hickey developed on the plate cylinder. It was near the end of his shift. Mr. Ankenman stuck his hand into the fast moving machine and tried to scrape the hickey off with a credit card like piece of plastic. There was a loud bang from the other side of the factory, which distracted Mr. Ankenman and he took his mind off the rollers. As we know, his hand was caught between the

rollers. His hand was crushed several times before he hit the emergency stop. Several coworkers then had to unfasten the rollers to get his hand out

The company does not condone the process of trying to scrape off hickeys while the press is still moving. Supervisors claim that they know the practice does go on and they try to curb it, but they are not able to watch all of the workers all of the time. Mr. Ankenman claims that he was never given safety instructions on how to remove a hickey. He even says that some people at web press told him that he only way to remove a hickey was when it is moving. He says that he could have had the press come to a complete stop and then try to find the hickey and clean it off, but he says you cannot always tell exactly where the hickey is unless the press is moving. One feature of the press was to stop the press and then use an inching button, which moves the press along one inch at a time. This was not an option because the inching button was not on the roll in question. It was a few units down. There was no way he could inch the roll and see the hickey at the same time.

Deposition of Sam Clevanson:

One of the witnesses who went through the deposition phase of the litigation process was Sam Clevanson of Clevanson Incorporated. Sam Clevanson ran World Printing with his son. Mr. Clevanson was questioned on many facts of the case, including those about the training of the employees, the machine, and the accident itself.

Mr. Clevanson testified that a Mr. Hinkens was the person who installed the printing press at his plant. He also testified that he provided training to all of the employees in the printing press department. Mr. Ankenamn received the training and had worked on enough presses to know the safety rules for working on it.

Mr. Clevanson said that he could not remember exactly if the topic of guards came up when Web Press was installing the press. He did say later in the deposition that they might have discussed guards in passing. Talk about price or installation of guards was never talked about though.

Eventually, World Printing did purchase guards for the printing presses. Mr. Clevanson testified that they bought the guards because they were on the last machine and they seemed like a good investment. World Printing bought the guards from the Rand Corporation. These guards were the ones involved in the accident. The guards were easily removable. They were not electrically interlocking guards, which have been available for many years. Had electrically interlocking guards been on the machine there never would have been an accident.

Mr. Clevanson also testified about the accident. He said he was in his office when he heard that Mr. Ankenman had been taken to the hospital. He rushed to the hospital to be by his side and give him support. What exactly happened with the accident was not discussed at this time. Mr. Clevanson said he did not know the details of the accident until later the next day.

Mr. Clevanson testified about another accident that happened years before Mr. Ankenman's accident. It happened to a Mr. Jones who had previously worked on the presses. Mr. Jones was running in between two presses when he slipped, and his arm fell into the rollers seriously damaging it. There was legal action taken by the man and Mr. Clevanson had gone through the deposition process then as well. Mr. Clevanson testified it was because of this accident that they installed the guards from the Rand Corporation. These guards would prevent future accidents like this where someone falls into the press from happening. They would not however prevent employees from removing the guards and sticking their hand in the press.

One if the last things Mr. Clevanson talked about was the fact that two "Web Leader Pressman Manuals" were available to the employees at all times. These manuals showed proper safety instructions for cleaning the rollers on the press. Mr. Ankenman had seen these materials before so he did know it was not right to clean the rollers this way. Mr. Clevanson testified that neither he nor the supervisors working on the press, allowed their employees to remove the guards to clean rollers while the press was moving. He said he had seen it done and discouraged it. He always kept a lookout to

make sure employees did not do this practice, but obviously he could not watch them all hours of the day.

Discussion of Expert Testimony:

After the accident, several expert witnesses studied the press and came to there own conclusions as to whether the press was safe or not. Mr. Rennell was the first expert to come to his conclusions. He reasoned that the press was not reasonably safe. He says there was not a proper point of operating guarding system to protect user from in running nip point hazard. Mr. Rennell believes that the press should have had an interlocked barrier guard. He says there also should have been a crawl/inch button at every unit of the press, not just at two of the six units. He finished by saying that hickeys were common occurrences and there was no simple way to remove them from the press.

Dr. Harkness was the second expert to testify. He also agrees the press did not have a local jog button at each unit but should have. He says this would lead to safely removed hickeys. He reminds us that appropriate safeguards have been around for at least 50 years and that they should have been in place on the press in question. He also agreed that there was no proven safe easy way to remove a hickey and that the machines were not designed that way.

Dr. Khuri was the orthopedic surgeon who diagnosed Mr. Ankenman's injury after the accident. He said that Mr. Ankneman had severe disability of his left hand. His future employment was jeopardized by the accident. His possible work could involve only passive assistance of his left hand. In short time there would be increased pain, stiffness, and reduced range of motion. The Doctor recommended that the injury was severe enough for surgery.

Dr. Singh, from pain management care, backed up the surgeon's words and deduced that Ankenman had virtually no functional use of his left hand. Both Doctor's agree that the injury is severe as Mr. Ankenman should be paid for his injuries.

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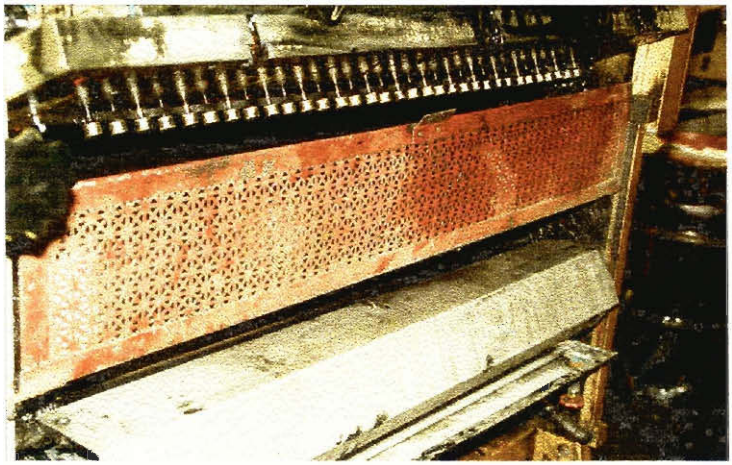
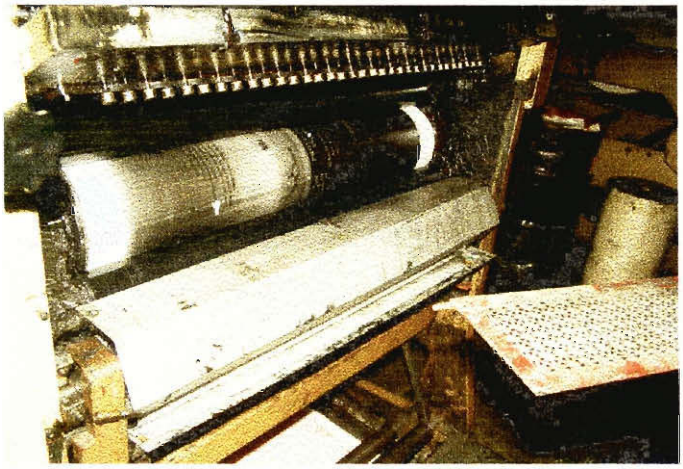
IQP/MQP SCANNING PROJECT

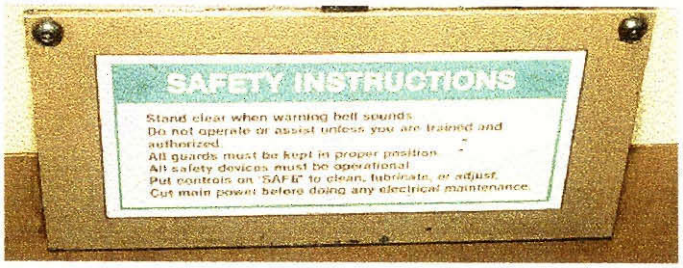
Analysis of Pictures



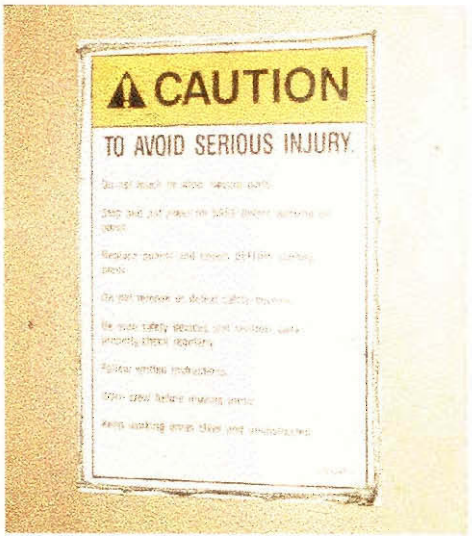
The picture above shows a properly positioned guard for the printing press. With this guard in place, it is impossible to put your hand near the nip point of the rollers. The guards were required to be in this position at all times while the press was running. The guards were not to be removed until the press had come to a complete stop.



The above picture shows the guards completely removed from the printing press. With it removed, there is nothing protecting the workers from getting themselves caught in the nip point and pulled into the roller. The guards were placed on the machine to prevent accidents such as someone tripping in between the presses and falling into the nip point. The guards serve no purpose if the workers remove them from their proper position.



This is an example of the safety instructions that were on the side of the printing press units. The two that are pertinent to this case are numbers 3 and 5. Number 3 states "All guards must be in proper position" and number 5 states "Put controls on safe to clean." Mr. Ankenman saw these warnings everyday but decided to ignore them, and in doing so is assuming all risk.



The picture above is another set of rules that were to be followed when operating the press. These were also located on the side of the printing press. "Do not touch moving parts" and "Put press on safe when working on press." are two of these instructions that Mr. Ankenman disregarded.

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IQP/MQP SCANNING PROJECT

Conclusions:

Mr. Ankenman should be paid for his injuries. We believe that Web Press and World Printing were somewhat at fault. As the experts have shown, there should have been guards on the press so that no one could get their hands into the rollers. Electrically interlocking guards, where the rollers would have come to a stop if they were to be removed, had been available for sometime. However, we do believe that most of the blame should be placed on Mr. Ankneman himself.

The press did meet the requirements of the industry safety standards. When the machine was designed, the press was considered safe. Electrically interlocking guards were not required on any machines. This is the main reason we believe that the designers should not take more of the blame. We believe the owners of the press, the company that Ankenman worked for was also somewhat at fault, but not the main contributor to Mr. Ankenman's accident. Mr. Ankenman should have been trained more properly and should have been supervised better. If they did not want their employees removing hickeys in this unsafe manner, then they should have come up with a safer way and taught this way to its employees. They did however have safety instructions posted in several places. These safety instructions told how not to remove an hickey and the dangers of doing it that way. They also had available a copy of the press manual to anyone who wanted to look at it.

Mr. Ankenman should shoulder most of the responsibility. A man with his experience knew the risks involved when working with these machines. He knew it was unsafe to remove hickeys this way but he did it anyway. He disobeyed safety instructions and put himself in danger and possibly his coworkers.

Mr. Ankneman should be paid for his medical bills and his lawyer bills. He should also be paid for lost wages if he is not already receiving workman's compensation. He should not be made a rich man because of all of this and World Printing and Web Press should not be put out of business. If everybody accepts some responsibility for what happened a resolution that everyone can agree with will be reached at the trial.

Chapter #5
The Mock Trial

Summary of What Happened at the Mock Trial:

The Mock Trial started off by an explanation of Product Liability to the jury. It was basically a quick summary of what the introduction in this paper says. The trial then continued by a quick explanation of the facts of Case Three. We then went into greater discussion of the main points of the case. We tried to put this complex engineering case into simple terms that the juyWe tried to answer the following questions...

- Did Web Press sell a defective machine to World Printing?
- Did Web Press sell defective guards to World Printing?
- Did the printing press have a defective stop/jog/start control system?
- Did the Web Press have defective warnings?
- Did Web Press provide adequate instructions?
- Should Web Press pay any money to Barton Ankenman for his injury?
- Should Web Press Pay any money to Brenda Ankenman for her loss of Consortium?
- Did Barton Ankenman contribute to his own accident?
- Should World Printing reimburse Web Press for any money that they pay to Barton?

During the trial Professor Haglund called on different groups to explain different points of the case. The different groups used visual aids, including overheads and the marker board, to explain the case more effectively.

Results of the Trial:

While the jury was deliberating in another room, the nine different groups voted on what they thought should happen in the case. Five of the groups believed that the machine was not defective; we believed the warning signs were adequate, most of us believe that Barton should deserve money for his injury and that Brenda should not receive money, and that World Printing should reimburse Web for any money that they pay Barton. Our response to the question of how much Barton contributed to his own accident varied, they ranged from 20%-80%.

The jury's responses to the same questions were much different. They believe that the machine was not defective, that Barton should not receive any money for his accident and that he was completely responsible for his accident.

Results of the Actual Trial:

After the mock trial was finished Professor Haglund revealed the results of the actual trial. He told us that he was an expert witness for the defendant and that his side lost. He also told us that he was not informed of the amount of money that Barton was awarded but he would have assumed that it was at least a million dollars. This does not surprise me at all since I agreed that Barton should have received money. However this does greatly contradict what the jury of the Mock Trial thought.