Pennsylvania Society of Professional Engineers
Philadelphia Chapter

Law for Engineers

A Full First Year of Law School Curated for the Professional Engineer

Presented by: Fredric L. Plotnick, Ph.D., Esq., P.E. , P.L.S.

BSCE Geotechnical 1975, MSCE Construction Management 1977, JD 1980, PhD Civil 2008

Professor of Drexel University 1979 to .., University of Pennsylvania 1990 to 1996, Temple University 2008 to ..

Engineering & Property Management Consultants, Inc. "*Choreographers for the Construction Industry*" since 1983

VP Education PMI College of Scheduling 2004 to 2009 - Creator and Host Construction CPM Conference 2011 to 2026

President Pennsylvania Society Professional Engineers CY2026-27

RD CPM® Compliance Certified

Construction CPM Conference™

Purpose and Learning Objectives

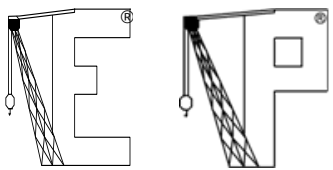
The purpose of this presentation is to educate or perhaps re-educate our audience of the Majesty of our Legal System and educate upon basic elements of the law

At the end of this presentation you will be able to:

1. Understand the thinking process of a Judge who is interpreting a Contract
2. Identify and avoid tortious actions for intentional, negligent or even casual conduct
3. Describe how property law may dictate your design
4. Explain how all LAW involves common elements relating to Control

Presenter Introduction

- Presenter Introduction: **Fredric L. Plotnick, Ph.D., Esq., P.E., P.L.S.**
- **EnProMaC®** Engineering & Property Management Consultants, Inc. Choreographers for the Construction Industry™ since 1983
- CPM in Construction Management, of McGraw-Hill, with James J O'Brien, PE
- Contracts and the Legal Environment for Engineers & Architects, McGraw-Hill, w/ Joseph T Bockrath
- Teaching Law to Engineers and Engineering to Lawyers since 1979
- Creator of RDM, RDCPM®, RD CPM® Compliance Certified, BoBL(Pat), MHRM(Pat), others pending
- **Construction CPM Conference**, creator 2010 through 2026, now emeritus
- Member Speaker Officer of NSPE/PSPE since 1978 and also ASCE AACE PMICOS and **Bar Associations** of Pennsylvania NewJersey Florida Louisiana, Member Bar of SCOTUS
- Current President PSPE Pennsylvania Society of Professional Engineers
- Also to be known as ***The Olde Fisherman of the Seas***

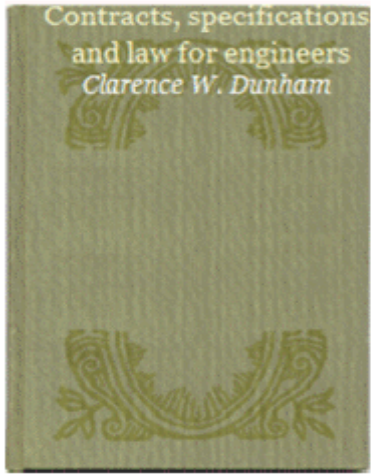


Law for Engineers

A Full First Year of Law School Curated for the Professional Engineer

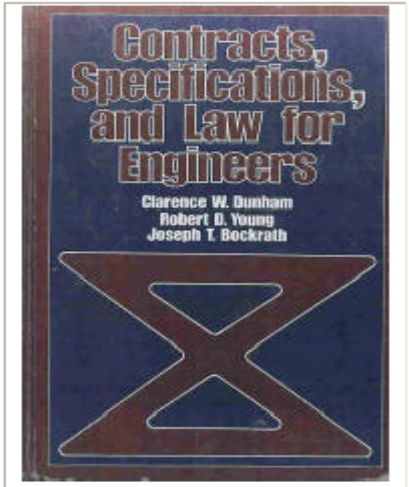
Contracts: Who decides what the words mean?
Torts: What Society demands of the Engineer?
Property: Real, Personal, Intellectual
How All the Law is One

Contracts and the Legal Environment for Engineers and Architects
Joseph T. Bockrath and Fredric L. Plotnick - McGraw-Hill

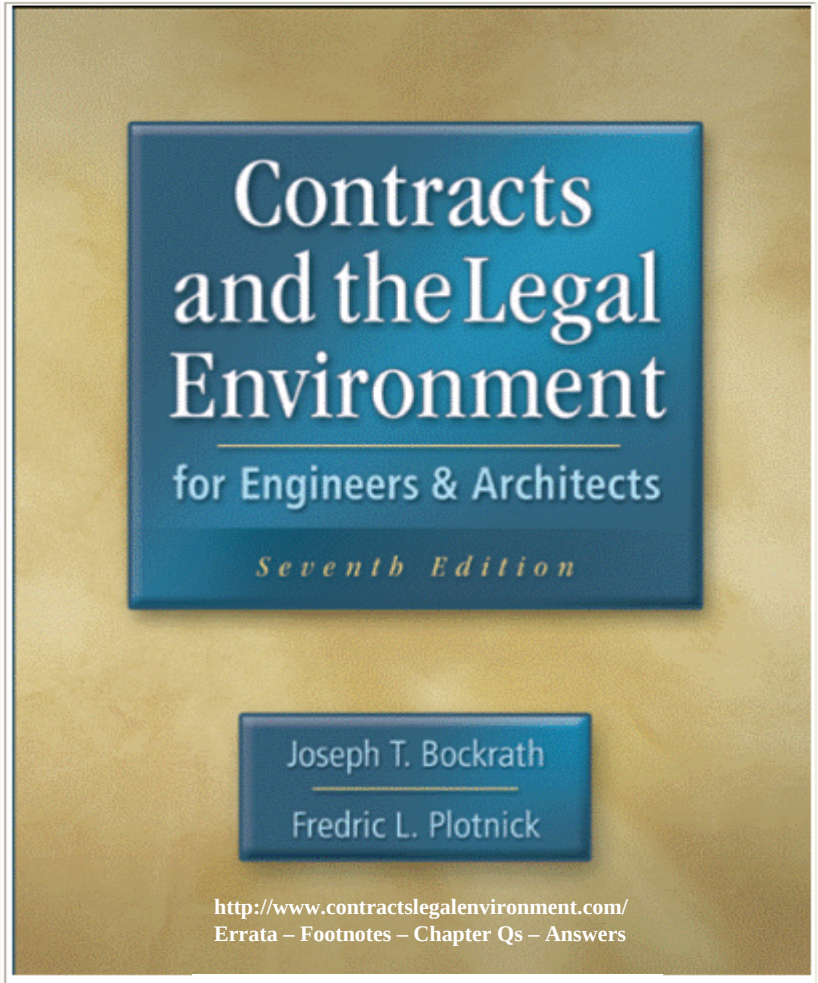


First Edition 1958

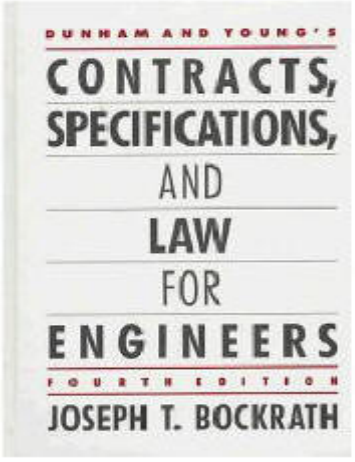
Second Edition 1971



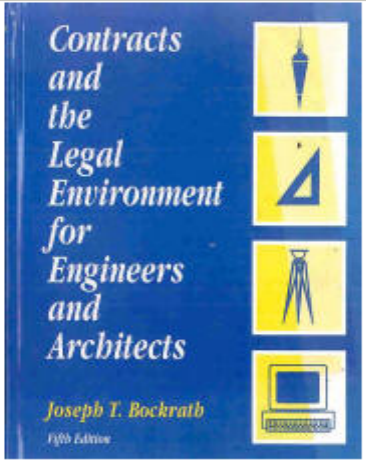
Third Edition 1979



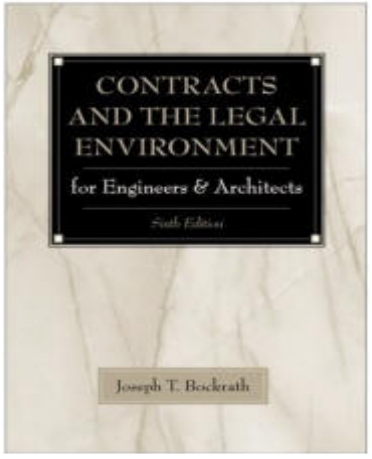
Seventh Edition 2010



Fourth Edition 1986

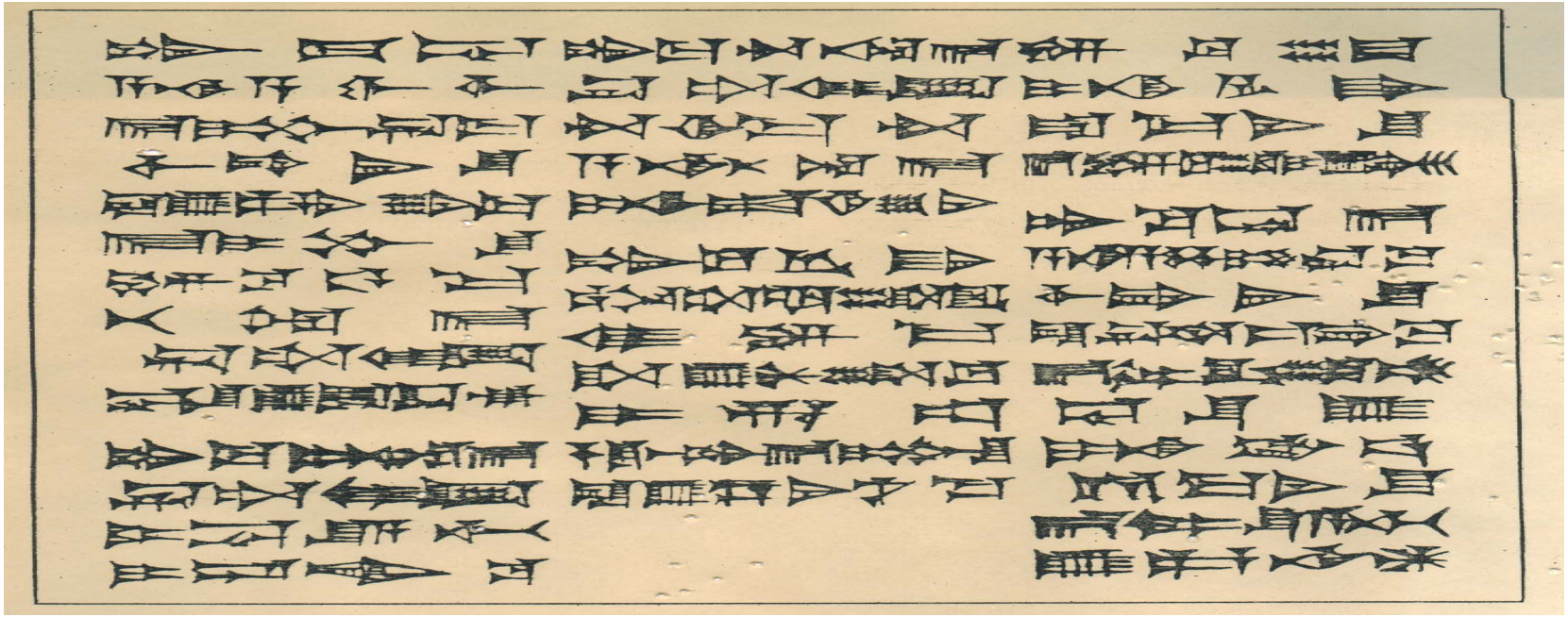


Fifth Edtion 1994



Sixth Edition 2000

OUTLINE FOR FIRST SESSION ON LAW



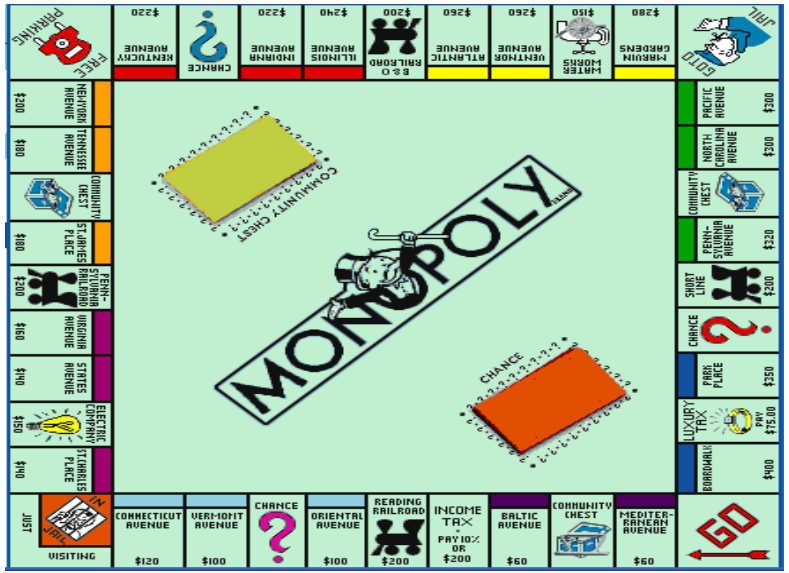
TYPES OF LAW

LAW = Rules of the game

Law & Order v. Justice

Order = Precedence = You should act based upon how others were judged

Bad Cases -- Bad Law



Law v. Moral Code v. Social Code

Why is a contract enforceable?

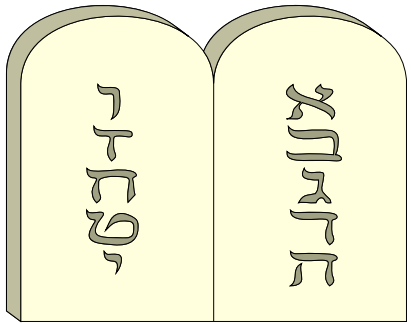
Why is a contract enforceable and not a promise?

When is a promise enforceable?

Why is telling a lie under oath punishable?

Why is telling a lie not under oath not punishable?

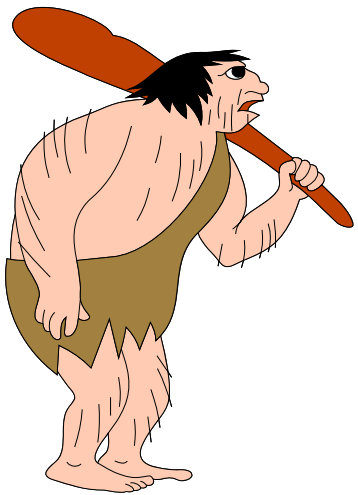
When is telling a lie not under oath punishable?



Law v. Moral Code v. Social Code

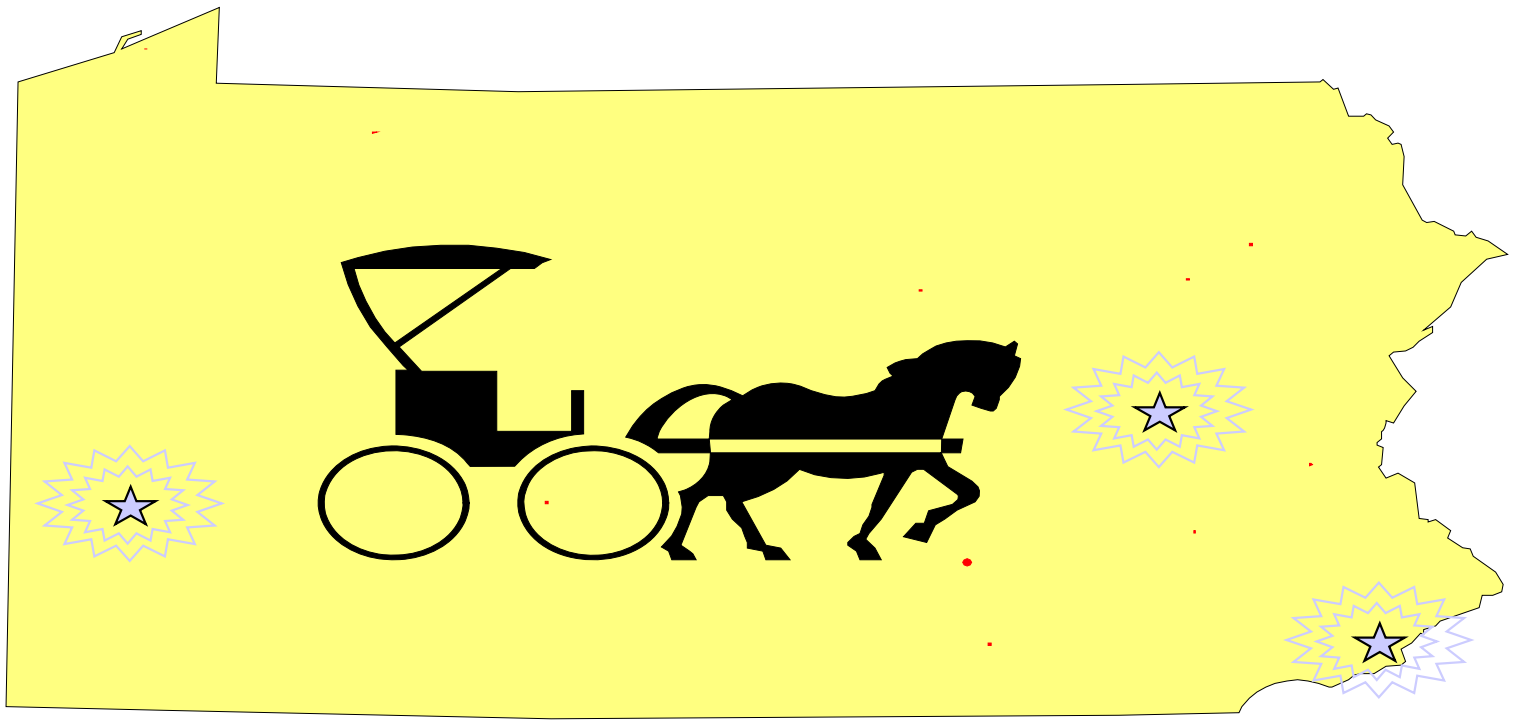
Should society punish:

- persons committing murder of humans, mammals or insects?
- persons consuming chocolate, cigarettes, alcohol, marijuana or heroin?
- persons committing fornication outside of marriage?
- persons using "curse words" within common speech?
- persons verbally abusing others by using "curse words?"
- persons using racially charged epithets before the target group?
- persons privately telling racial/ethnic jokes?
- persons who publicly spit, sneeze, belch, cough or yawn?
- persons who slurp their soup or use the wrong fork?



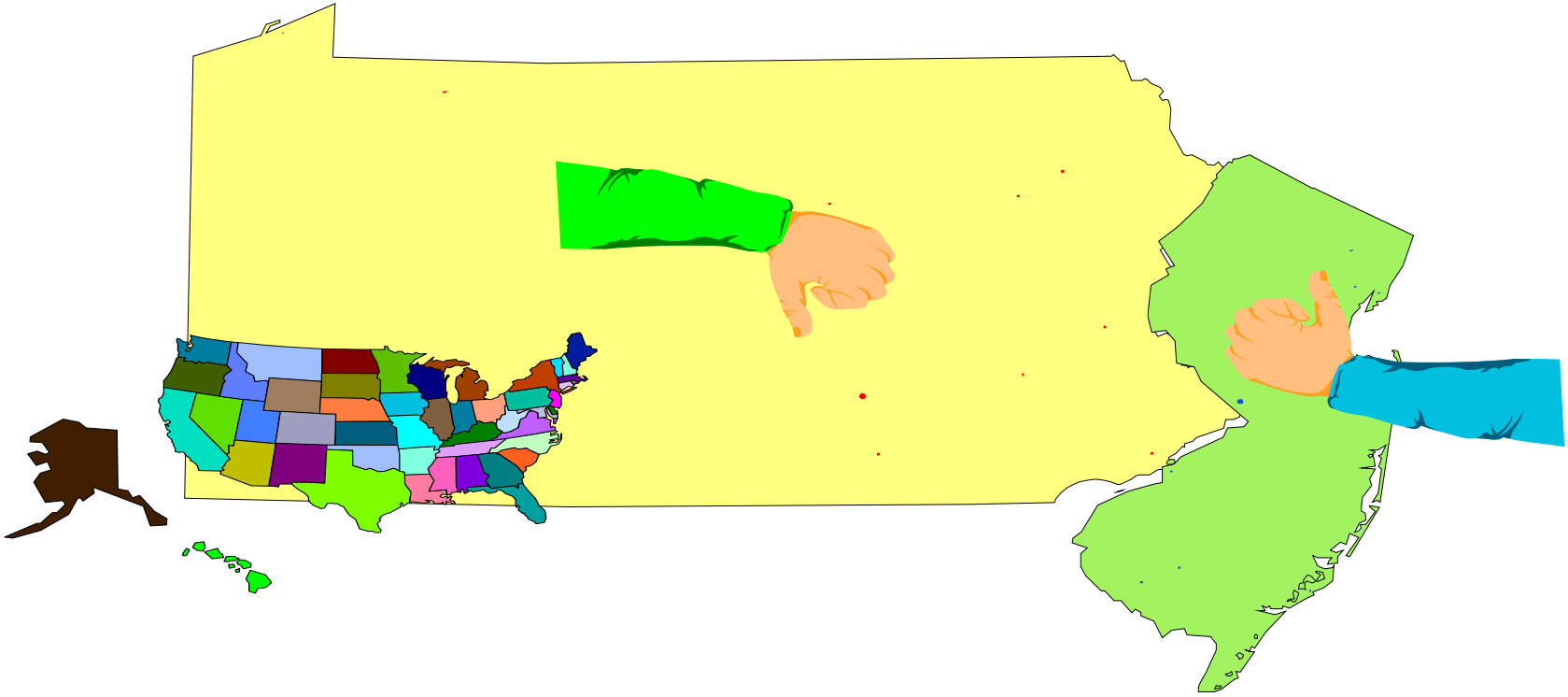
Common v. Statutory Law

Common law - Precedent: Once decision made ...



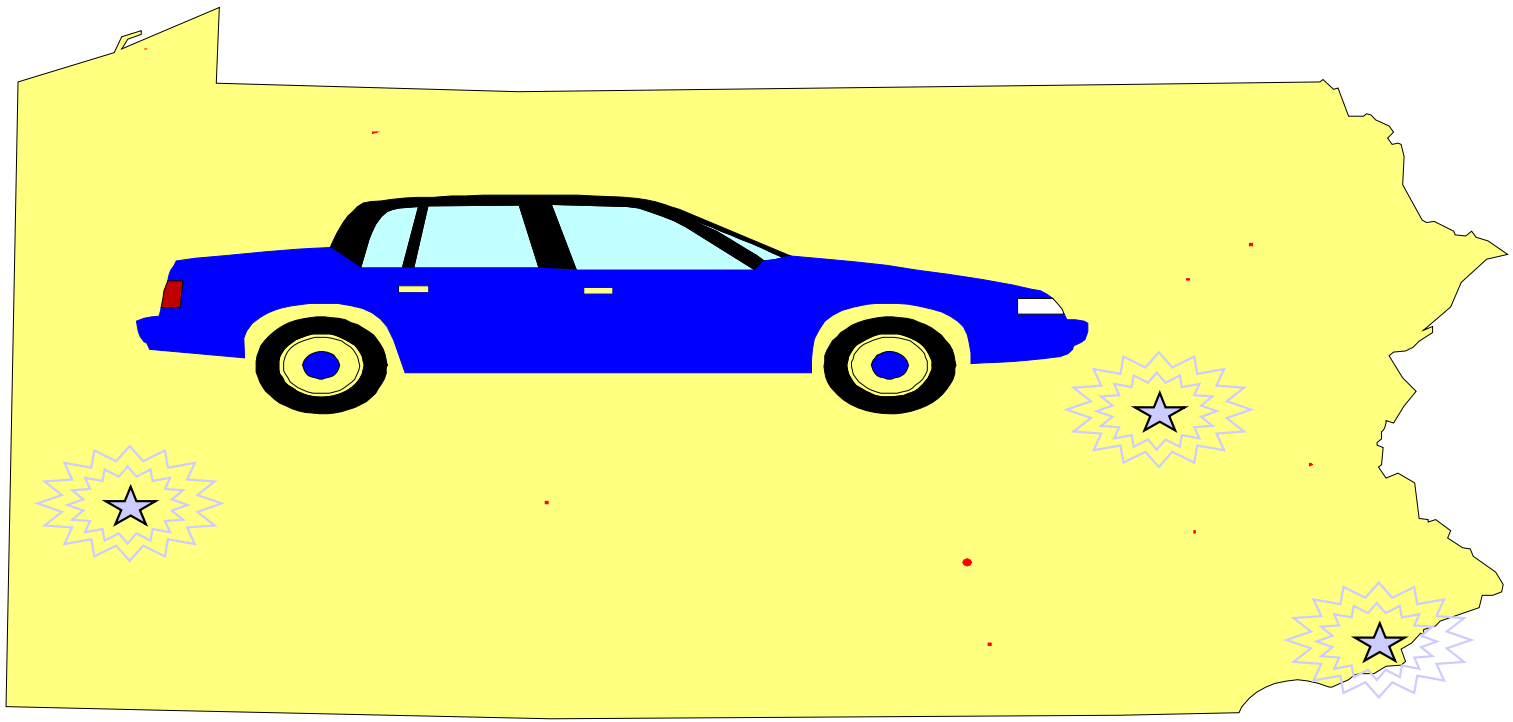
Common v. Statutory Law

Common law - Precedent: Once decision made ...



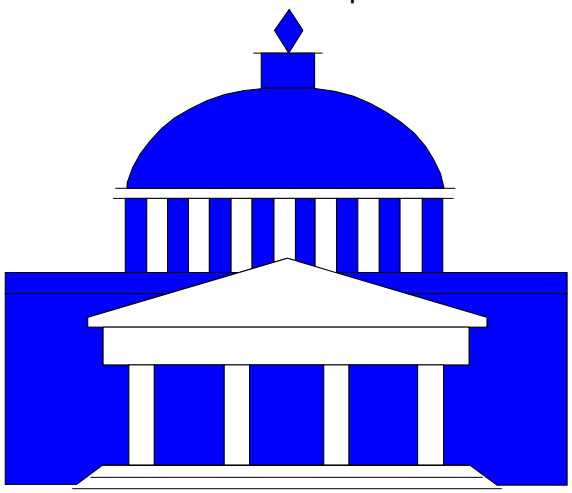
Common v. Statutory Law

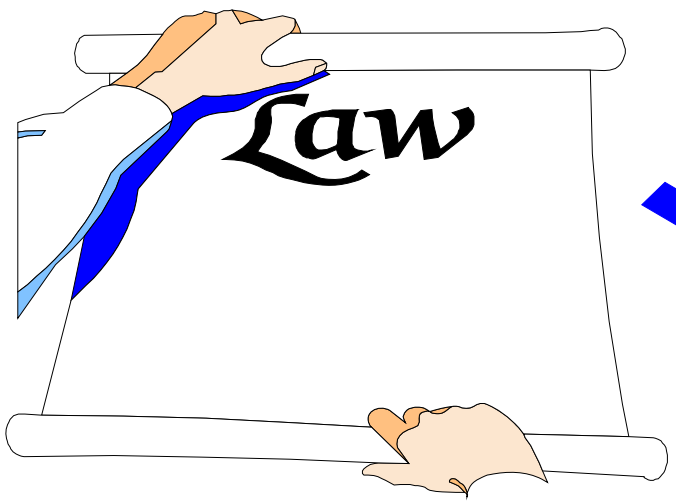
Common law - Precedent: Once decision made ...

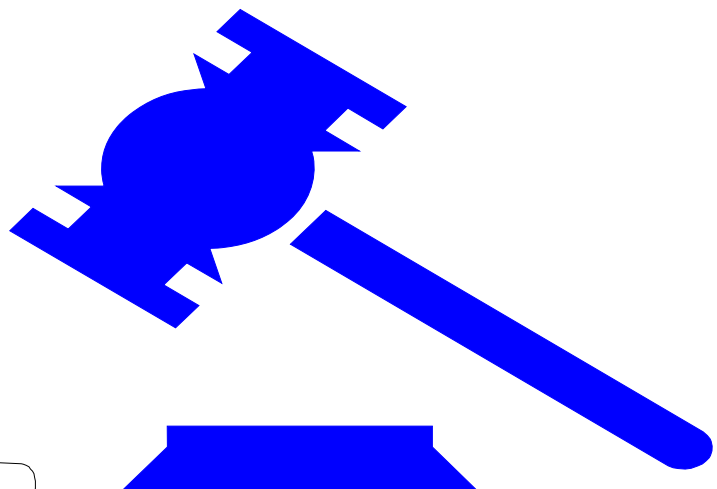


Common v. Statutory Law

- Common law - Precedent: Once decision made ...
- Statutory law - Fiat of the Sovereign = the State
  - Statutory law supersedes common law, but
  - Court interprets statutes thus can supersede statutes



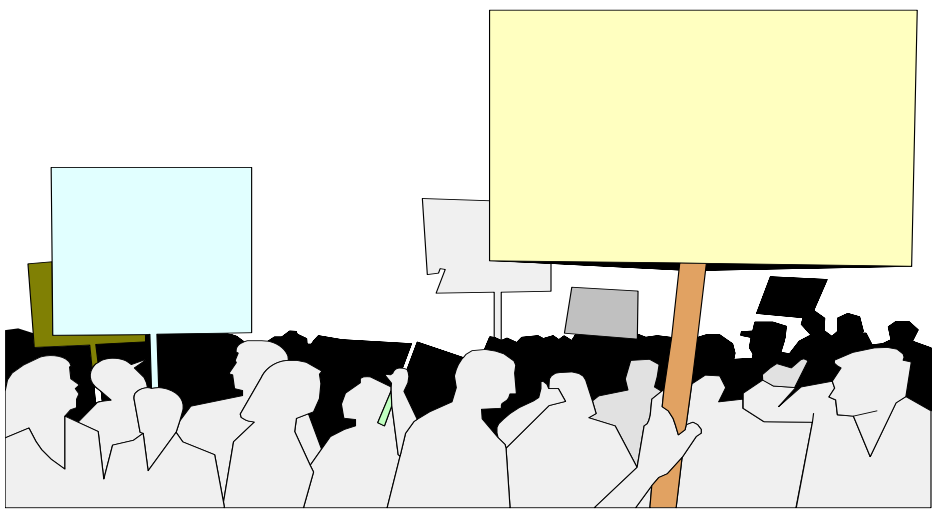


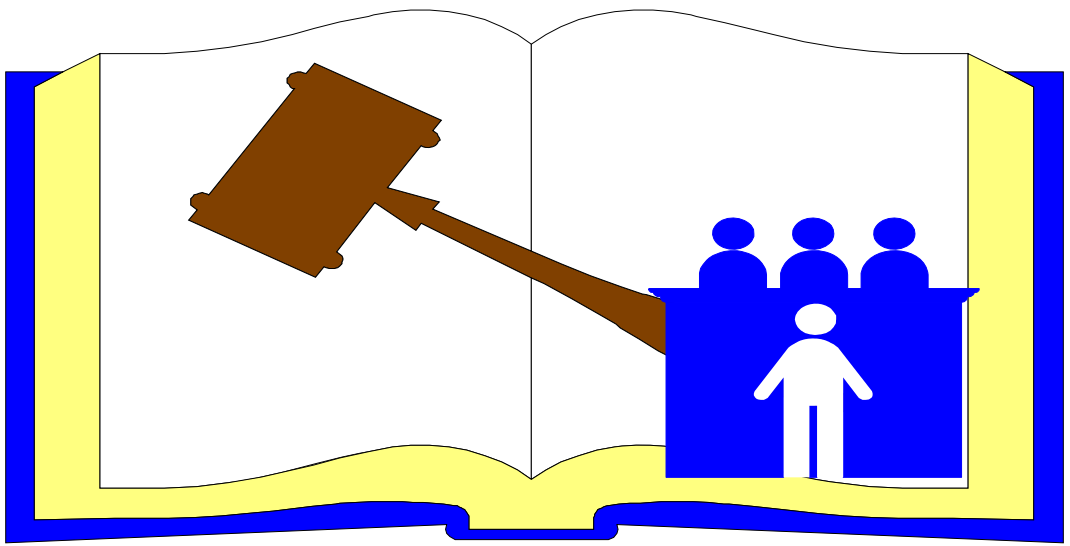


Common Law v. Civil Law Systems

Common - from the people/common wisdom/precedent/trial & error

Civil - from the experts/utopia/definitive-code/no-decisions

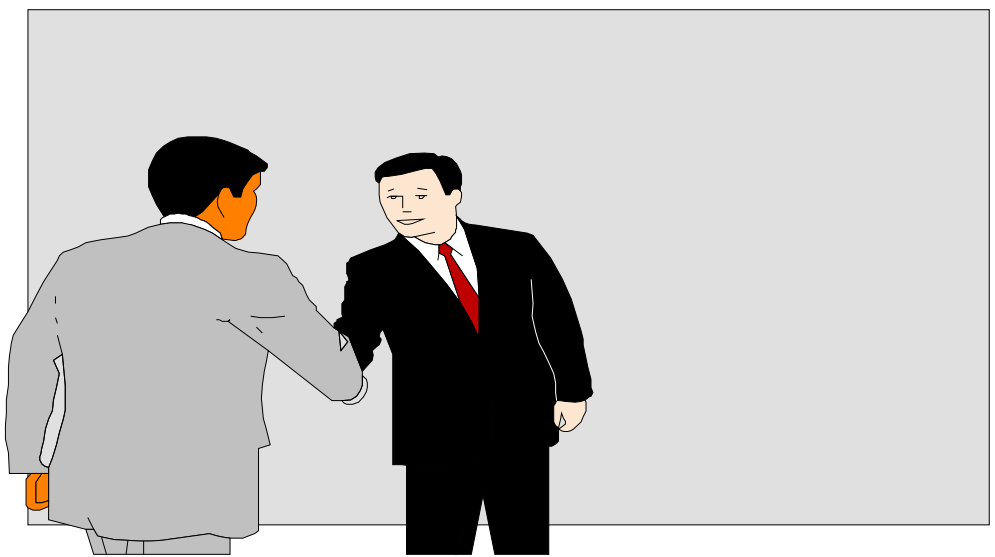


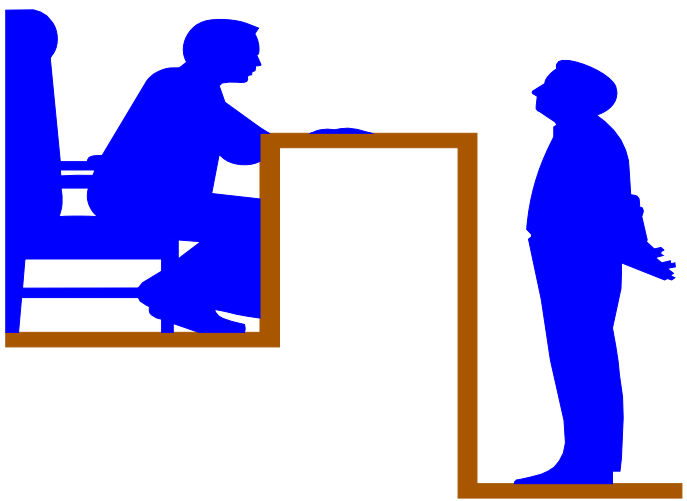


Substantive v. Procedural Law

Substantive - how people should act

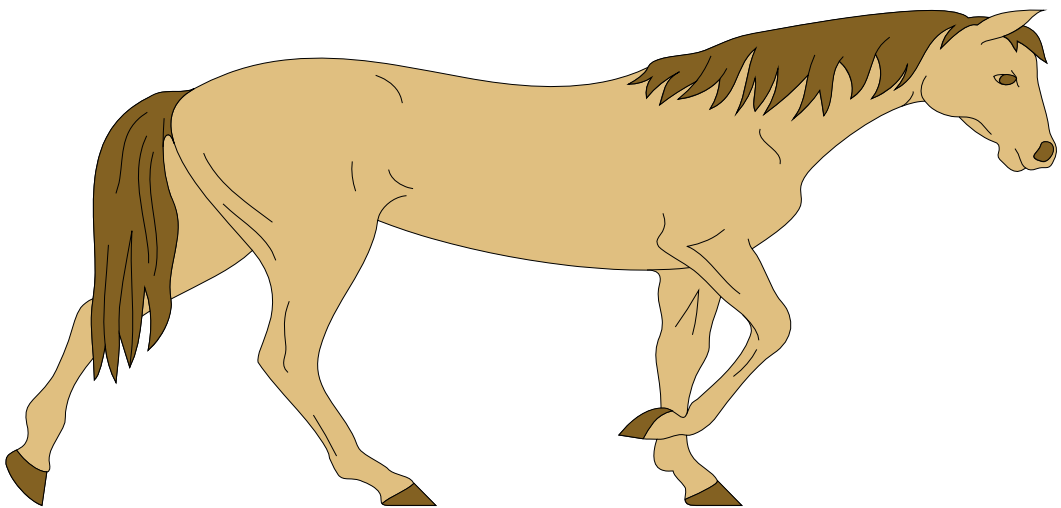
Procedural - how people may judicially enforce substantive law



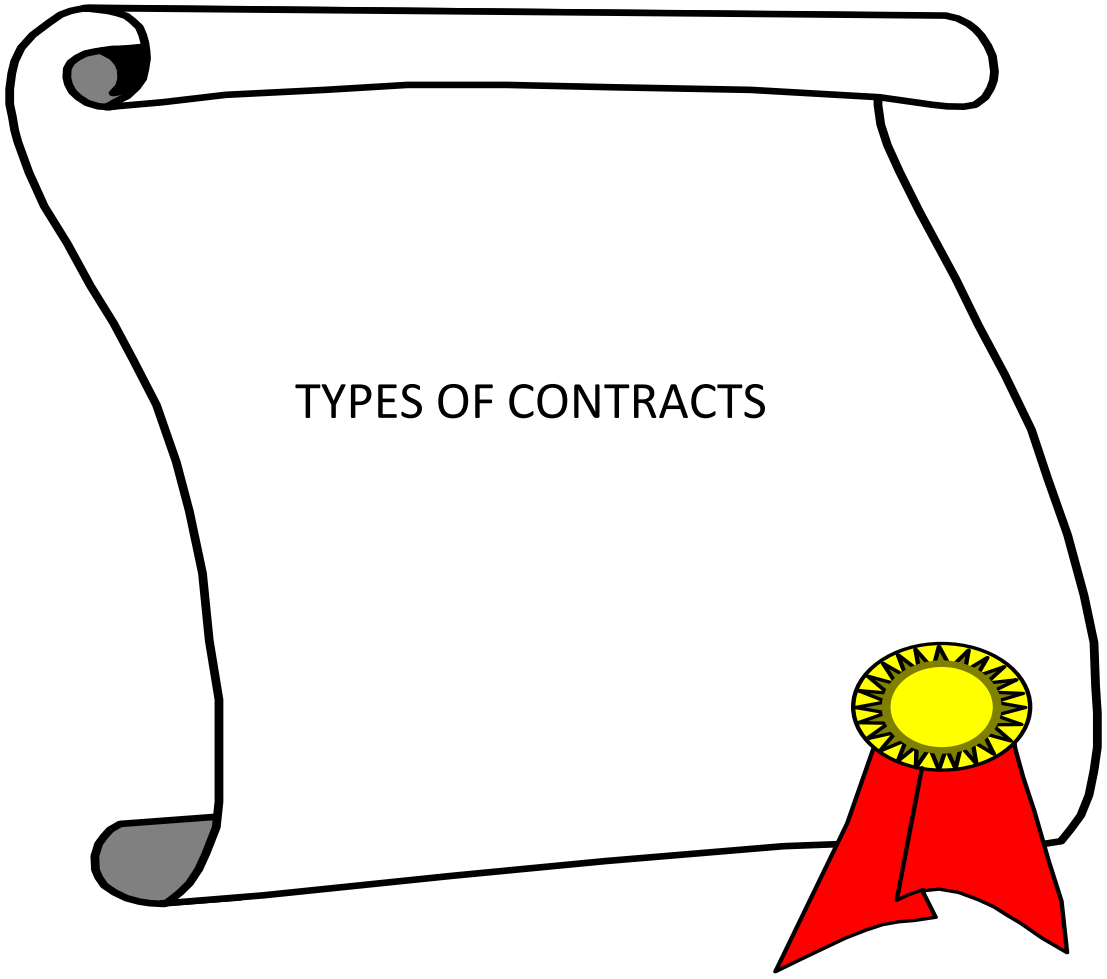


Common law v. Equity Courts - justice for all v. justice for one

- circumscribes Court of Law w/o overruling
  - example: judgment is valid - but enforcement prohibited
- acts *in personam* and not *in rem*



TYPES OF CONTRACTS



Express v. Implied v. Quasi Contracts

Express: Written v. Oral: Both valid - Question of Proof

Parol: In writing, but essential portion being only oral

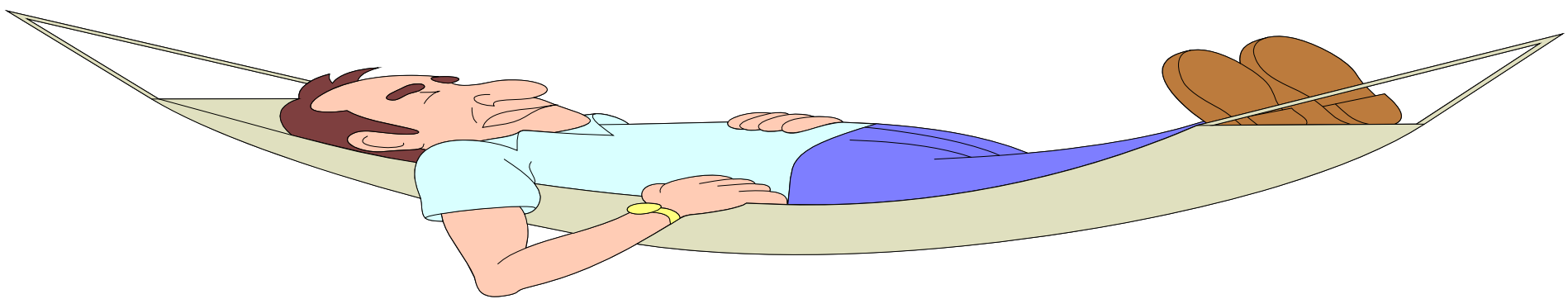
Implied: Actions speak louder than words

Implied in fact: from the conduct of the parties

Implied in law: Quasi contract; but see implied condition

Quasi: Fiction imposed by Court to assure equity

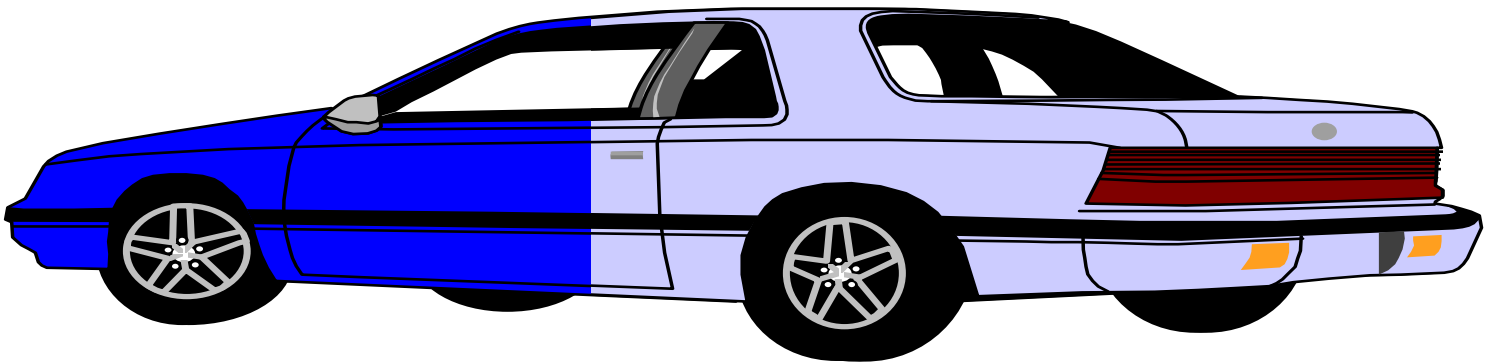
Constructive contract: between Implied and Quasi contract

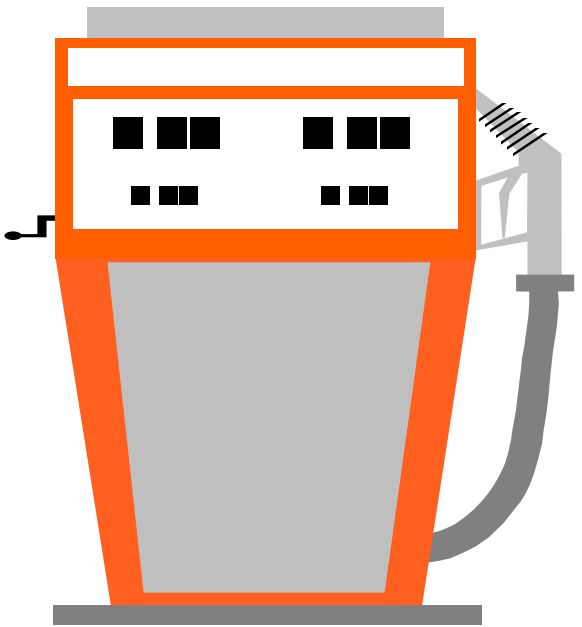


Entire v. Severable Contracts

Entire: Completion of all duties essential before payment is earned

Severable: Completion of part entitles payment for part

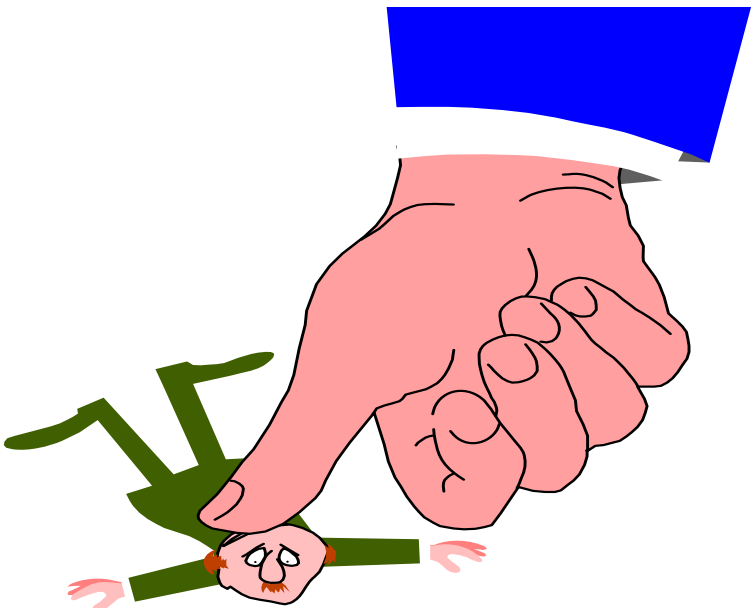




Contracts of Negotiation v. Adhesion
- hard bargaining v. no bargaining -

"Two alert individuals, mindful of their self-interest... ."

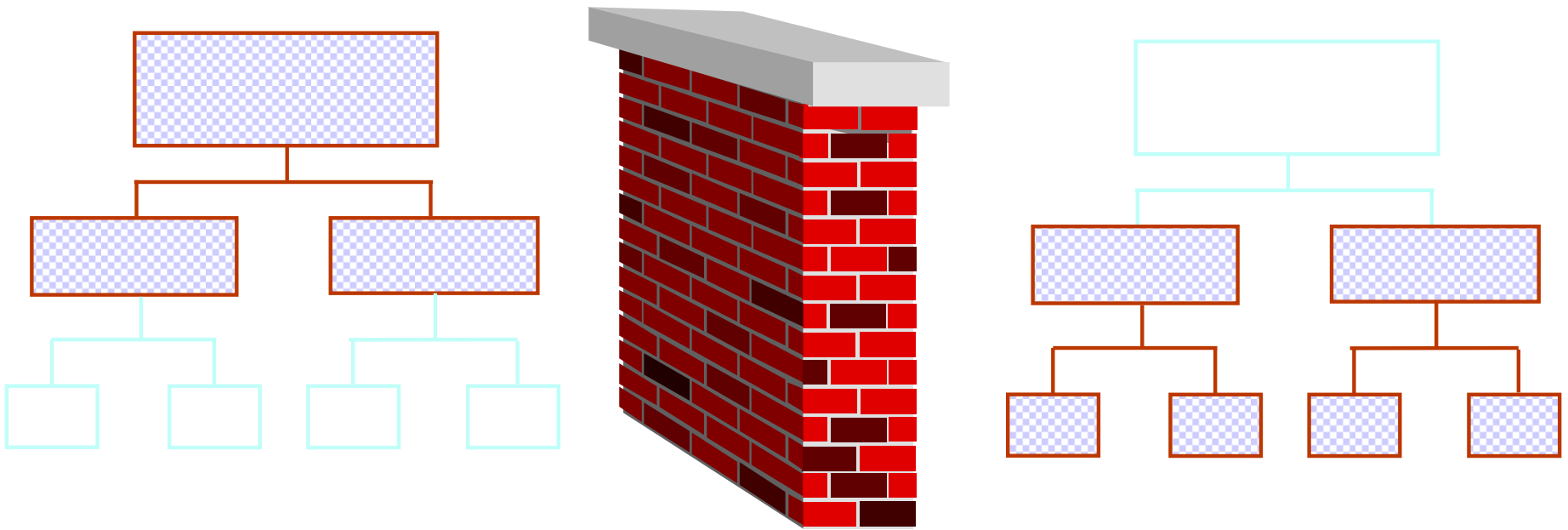
"Take it or leave it" of necessities with no recourse



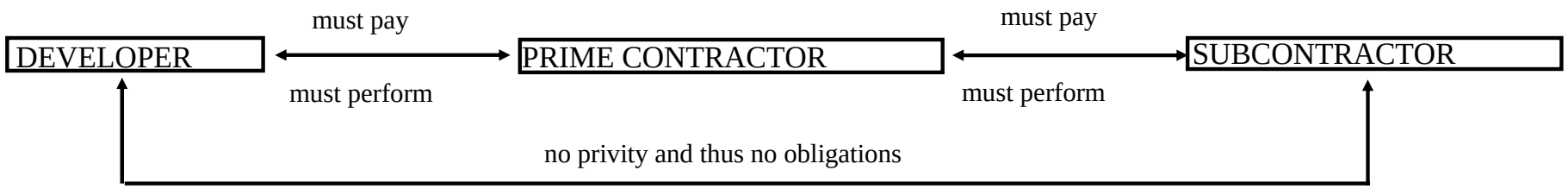
Prime Contract: Between Developer and (Prime) Contractor

Subcontract: Between Prime Contractor and Subcontractor

Privity: Existance of a contract directly between two parties



Prime Contract v. Subcontract



(except as per STATUTE *e.g.* Mechanics Lien Law)

Special treatment of contracts involving:

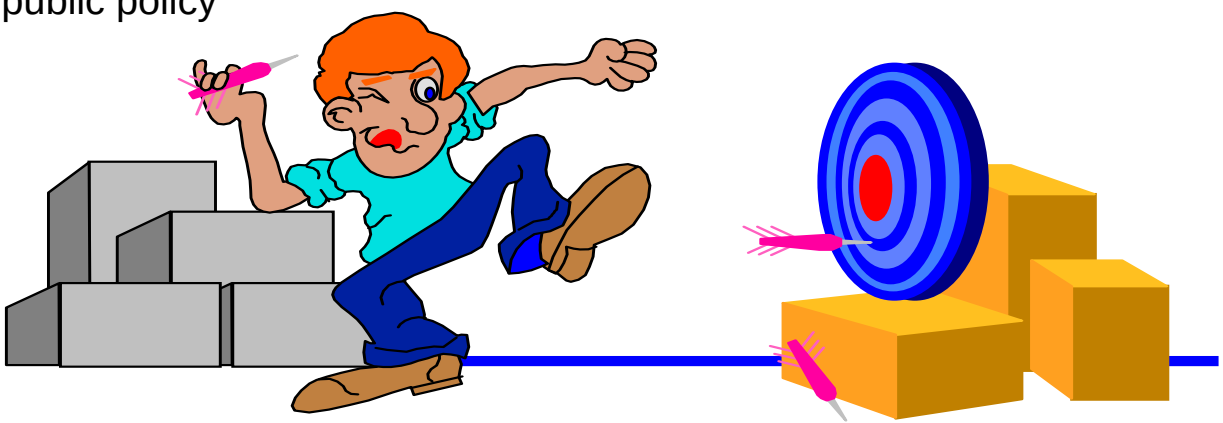
land - still caveat emptor - cf. consumer

goods - implied warranty

services - duty of reasonable care

professional services - community standard > national standard

insurance - benefit to the public policy



FACTUAL PATTERN FOR EXAM QUESTION

The written contract between R and S reads: “R is to install an oil heating system for which S is to pay $5000. R is also to supply oil during the next heating season at the rate of $2/gal. It is the intent of the parties that this contract shall not be severable.” Oil rates for suppliers (such as R) at the time of the contract was $1.90/gal. R’s cost to install the heating system was $4250. S paid R the $5000 agreed upon.

During the heating season the price of oil (for suppliers) increased from $1.90 to $2.90/gal. During November and December S used 100 gals of oil. When R invoiced S at the end of December, he complained that S’s inefficient use of the heating system and refusal to wear a sweater in his home was causing S to use twice the amount of oil that he should use, and that therefore he was stopping future deliveries. S refused to pay the invoice for the 100 galleons used to date and found another supplier who supplied an additional 100 gal. of oil through the end of the season at the rate of $3/gal.

R sues for the $200 due for the 100 gals of oil delivered.

S sues for the return of the $5000 paid for the heating system and $100 premium paid for last 100 galleons of oil

Who wins? How much? Why?

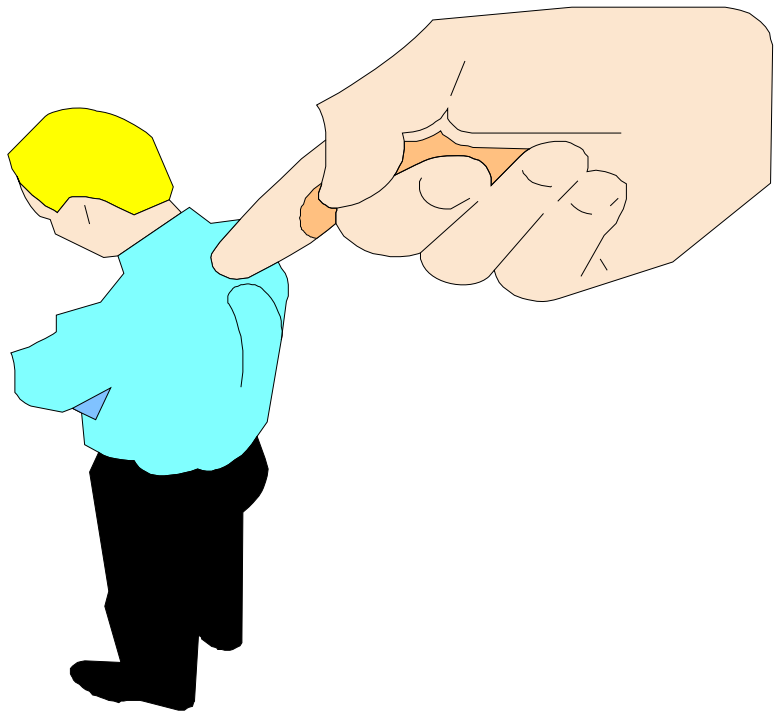
OUTLINE
FOR SESSIONS
ON TORTS

Non-Contractual Civil Obligations

© 2016 All Rights Reserved

A Tort is ...

a breach of duty with such duty imposed by society rather than by contract.



Acts v. Omissions

- breach caused by affirmative action
  - duty to not commit prohibited act - prohibited by society
  - duty to perform act in reasonable manner (or higher standard)
- acquired upon commencement of act
- breach caused by lack of affirmative action
  - duty to perform act - imposed by society
  - no duty to perform act; but once started, reasonable effort

DEFINITION

Degree of Responsibility v. Burden of Duty and Breach Thereof

- Traditional - Intentional v. Negligence v. Casual Conduct
  - Intentional - no need to show damage - punitive damage remedy
  - Negligence - must prove damages - compensatory damages only
  - Casual - must prove special duty & damages - compensatory only
- Modern - Ability to Control Act v. Ability to Control Loss
  - New Societal Duties to Consumers & Constituents
  - The "Deep Pocket" Theory
  - The General Insurer or Spread the Loss Theory

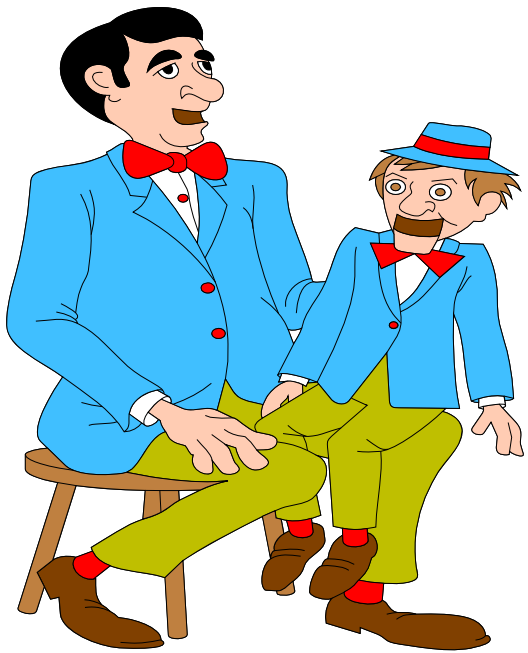
Legal Duty v. Moral Duty

- cf. Strict Liability - Allocation of Loss

Doctrine of Rescue, of the Volunteer

Vicarious Liability - Imputed Liability

"...the general common law notion that one who is in a position to exercise some general control over the situation must exercise it or bear the loss..." Law of Torts, Prosser, p 459



Respondeat Superior

- Employer ◂ Employee
  - scope of employment v. private actions of employee
  - intentional torts v. actions on behalf of the employer
- Employee v. Independent Contractor
  - scope of control over actions
- Employee v. Agent - not subject to control by employer
  - actions within apparent authority of agent

Liability for Independent Acts of Other Parties

Partners and Joint Venturers

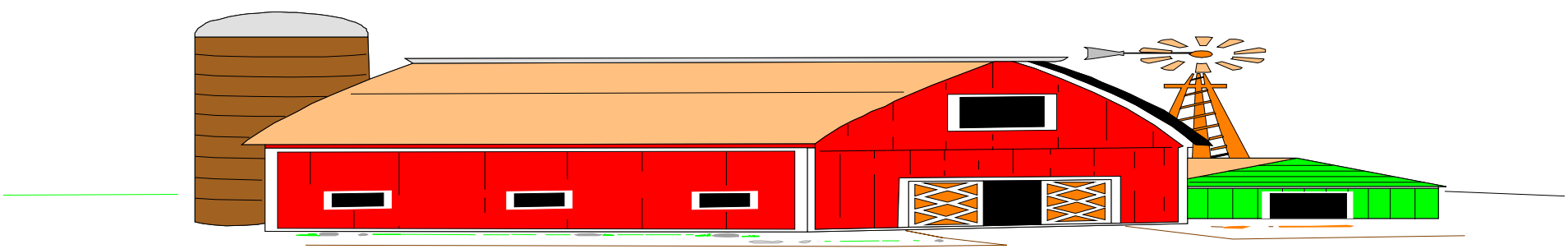
scope of partnership -- enhancement of partnership

Independent Contractors

Non-delegable duties and inherently dangerous activities

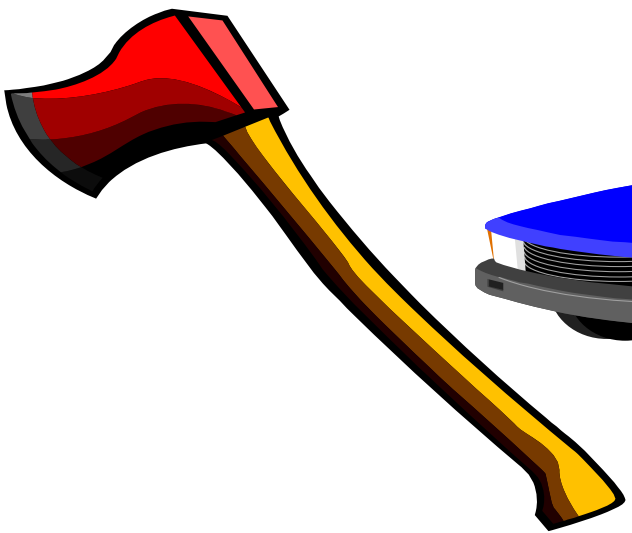
Liability based upon Ownership of Real Property

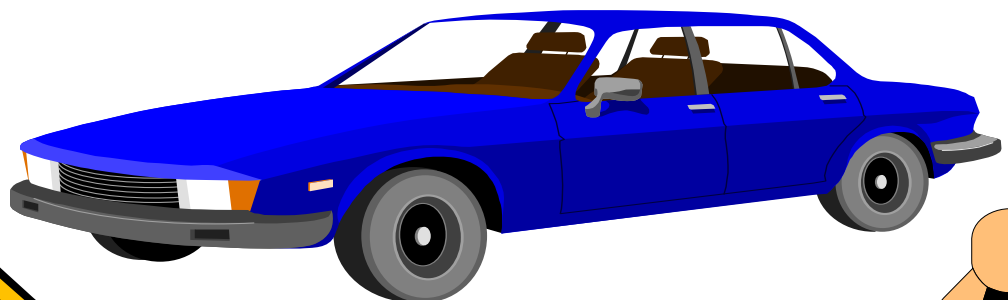
- duty to business visitors, social visitors, trespassers
  - doctrine of attractive nuisance
- duty of lateral and subjacent support
  - special notes to geotechnical engineers
- riparian duties to inhibit waste, pollution of ground waters
- additional duties to adjoining property
- special duties of landlords relating to common areas
  - special rules for leased areas open to public usage

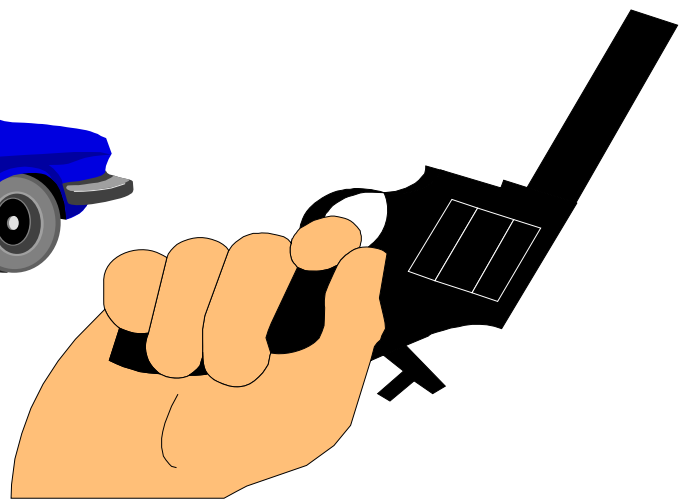


Liability based upon Ownership of Personal Property

- primitive law - liability for injuries caused by inanimates
- common law ... evolving ... action of pendulum
  - general rule of no liability
  - family car doctrine .. but no family gun doctrine
  - mere ownership of car -- the "dangerous instrumentality"





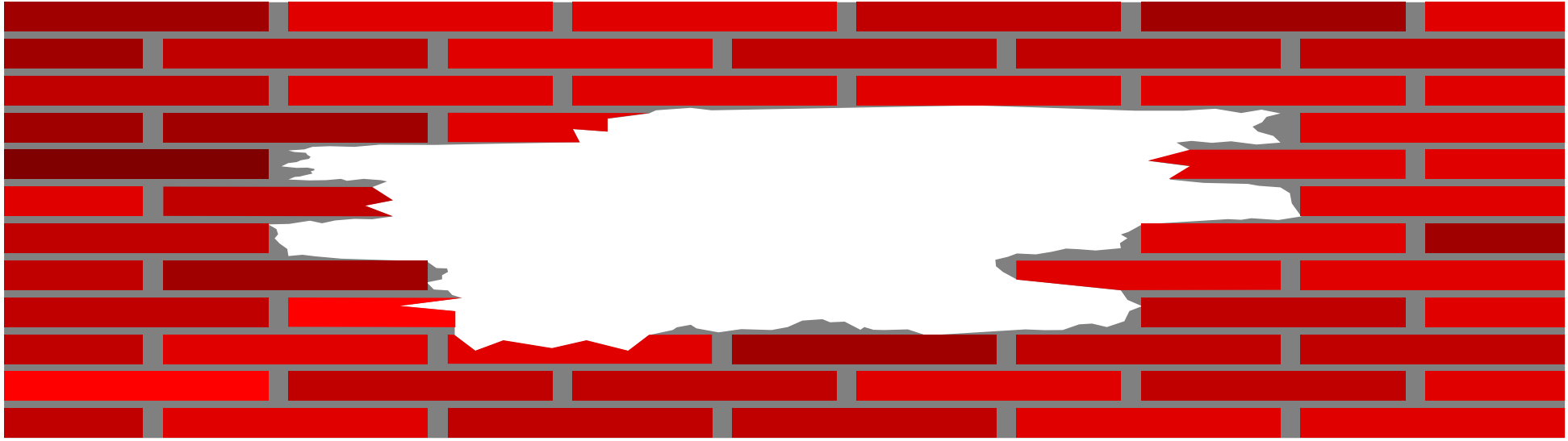


Statutory Expansion of Common Law Duties

Contractual Expansion of Common Law Duties

and the erosion of the concept of privity

the "intended beneficiary" is everyman



INTENTIONAL TORTS

Battery - Unauthorized Contact

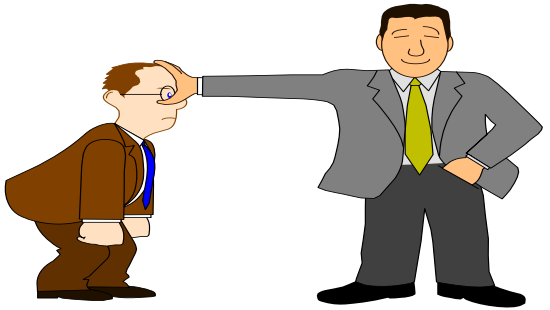
intent - causation - contact

to the person - to zone of the person

Assault - Threat of Immediate Unauthorized Contact

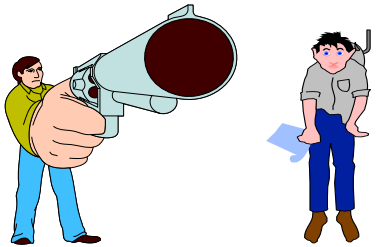
intent - causation - apprehension

physical act required - words not enough



False Imprisonment - Bounded Area

intent - causation - known restraint of movement



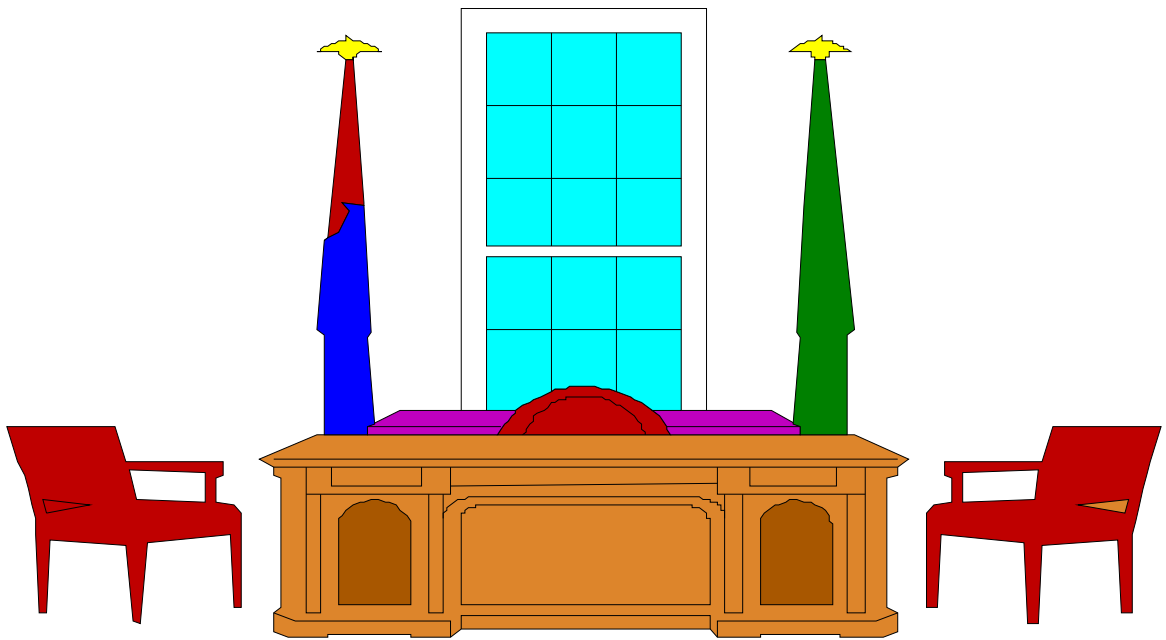
Defamation - Publication of Untrue Allegations

- Defamatory Language - Of or Concerning - Causing Injury
  - comments on member of small group v. of a large group
  - normal meaning of words v. innuendo
- Publication --- 1st time --- 2nd time --- 10th time
- Libel = written word --- Slander = spoken word
- Differing historical bases
  - Actual damage presumed for libel
    - Proof of actual damage required for innuendo
  - Proof of actual damage required for slander
    - Actual damage presumed for per se slander

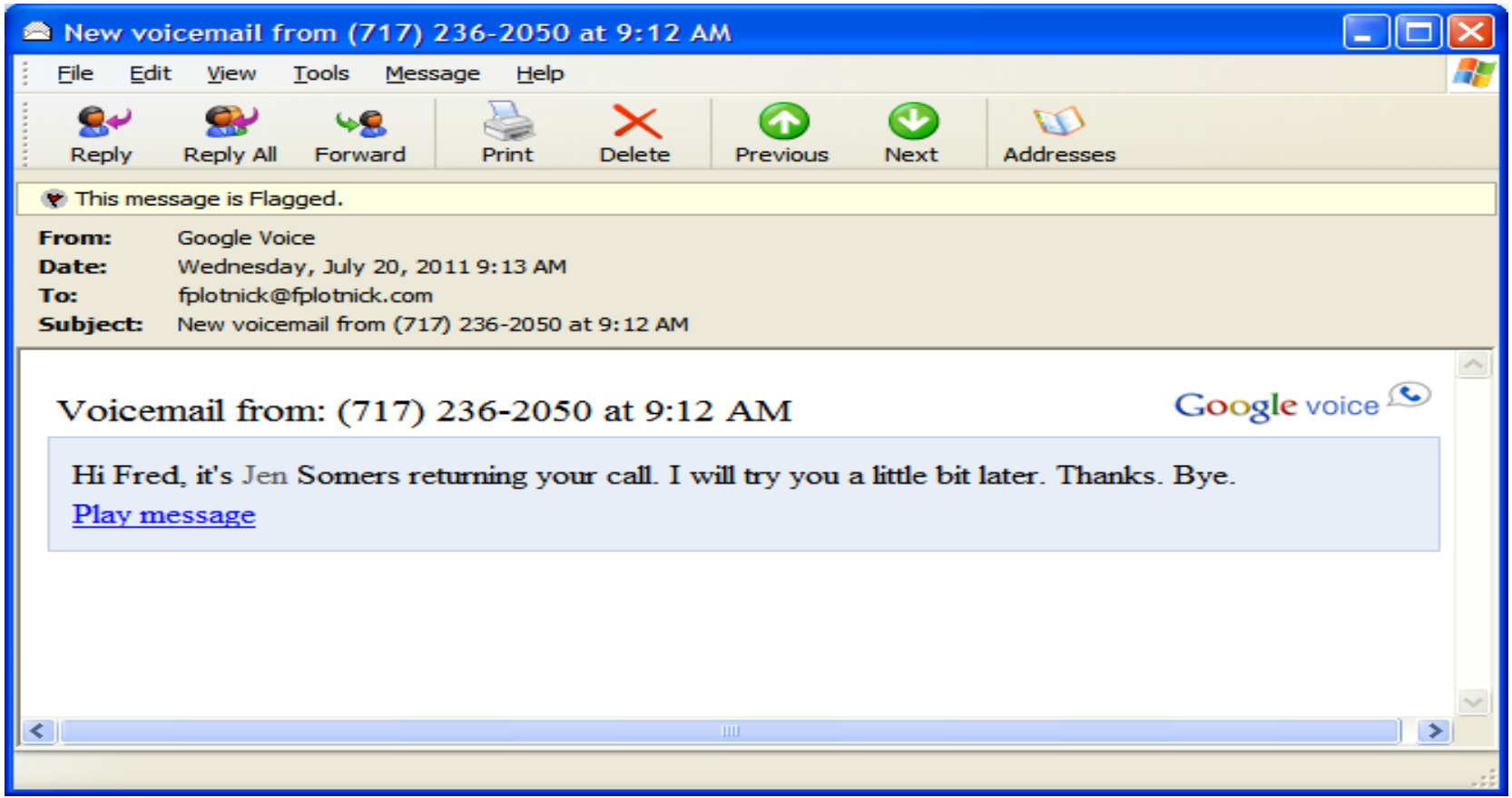
Defamation - Private v. Public Figures

Intent to Act v. Intent to Harm

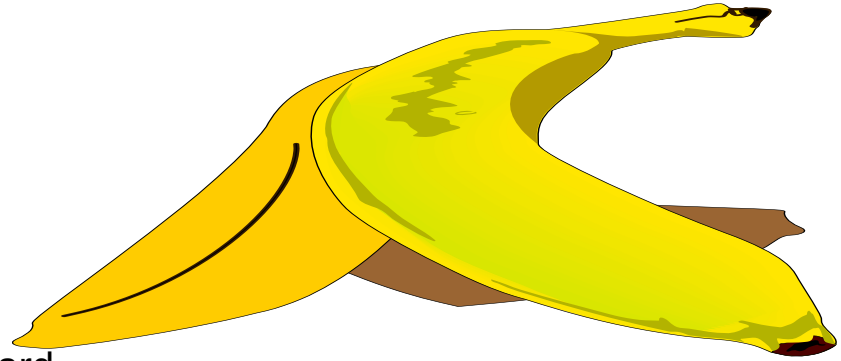
Who is a “public figure?”



INTENTIONAL TORTS



NEGLIGENCE



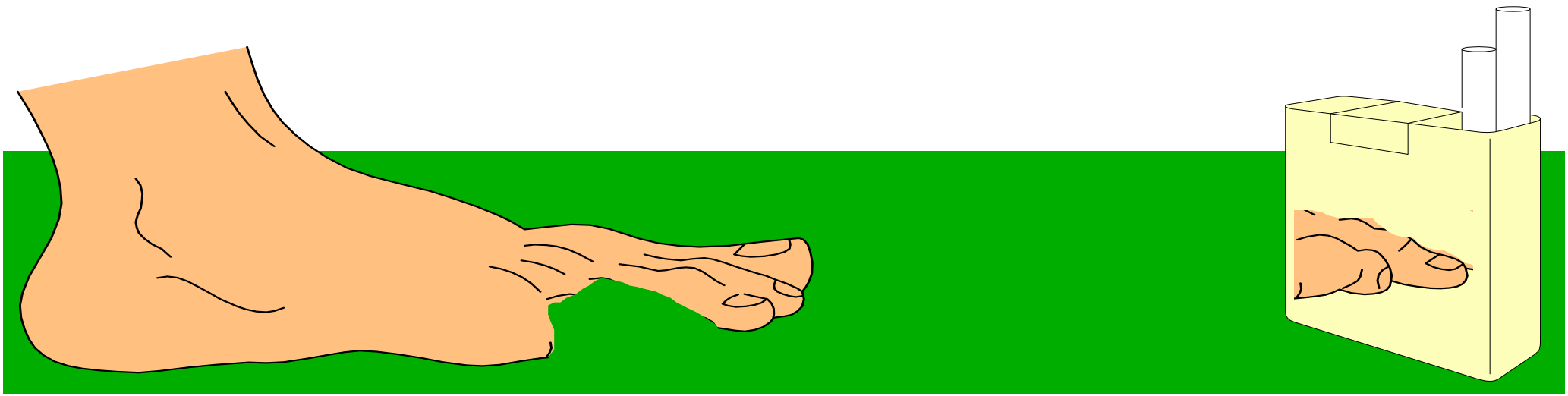
Duty, Breach, Proximate Cause, Damages

Duty - by common law, statute, contract, prior conduct

Breach - reasonable man standard - professional man standard

Proof - need to show duty and breach - or duty and control

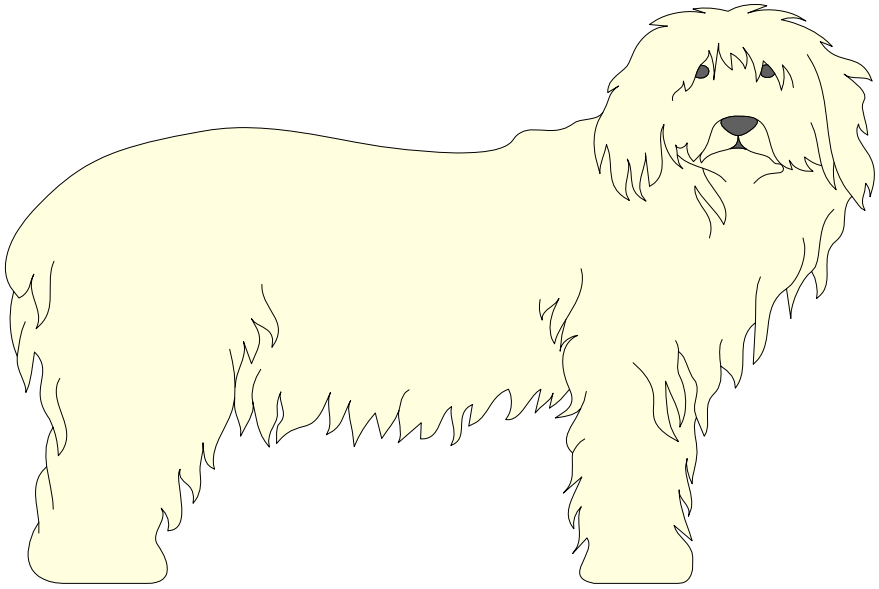
Res Ipsa Loquitur



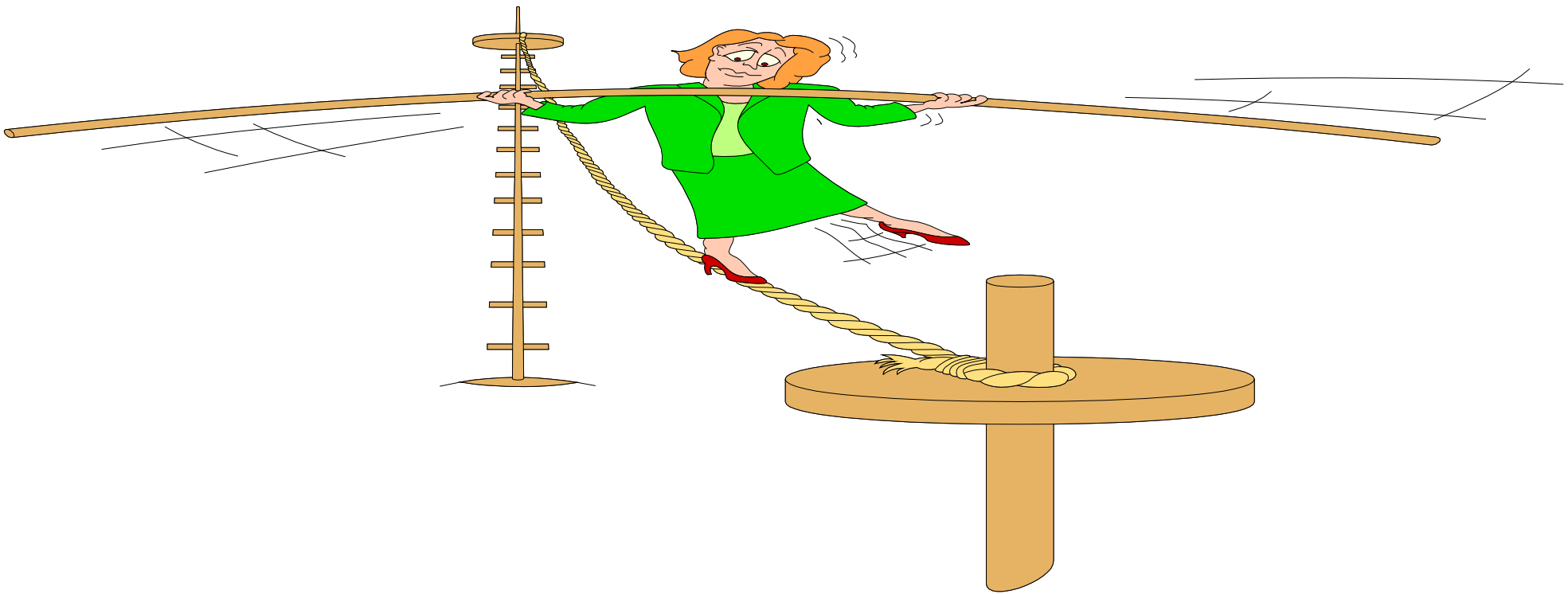
Foreseeability

Proximate Cause - Palsgraf v. Long Island RR, 1928, NY

Intervening Cause - prevents prior actor from curing his act



Dilemma for the Owner or A/E Representative on Site



STRICT LIABILITY

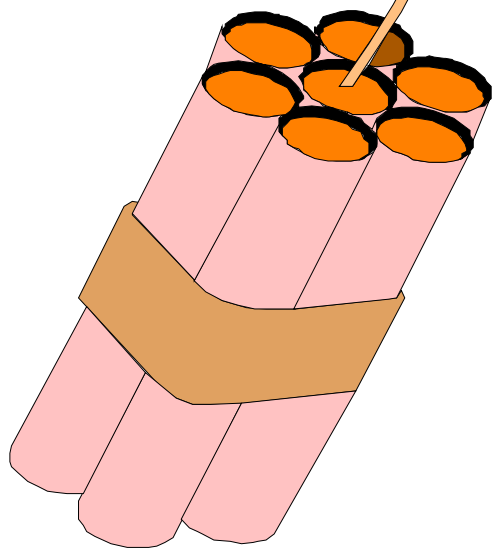
Absolute Duty, Breach, Causation, Damages

Owner & Occupiers of Land

Animals and Ultra-Hazardous Activities

Abnormal or "Non-natural" Activities

Statutory Extensions



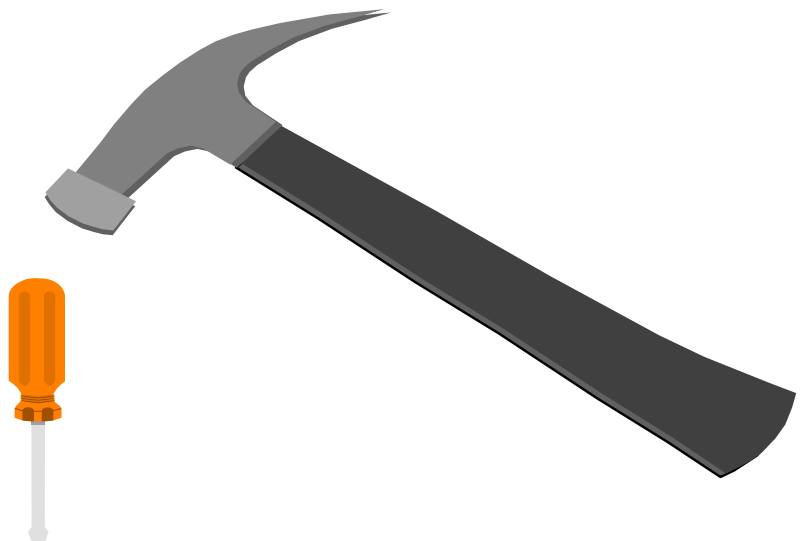
PRODUCTS LIABILITY

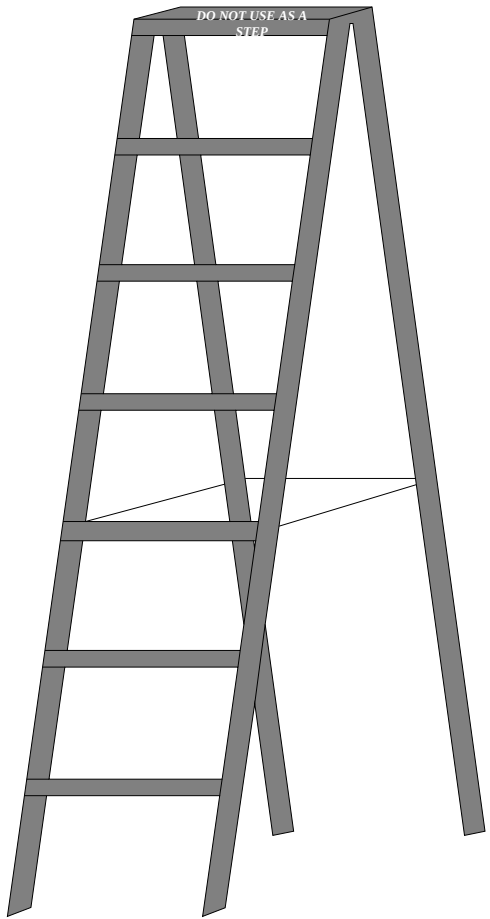
Use, Existance of Defect, Distribution - Chain of Distribution

Negligence, Strict Liability, Breach of Implied Warranty

Due Care v. Abnormal Usage v. Warnings

The Engineer's Role



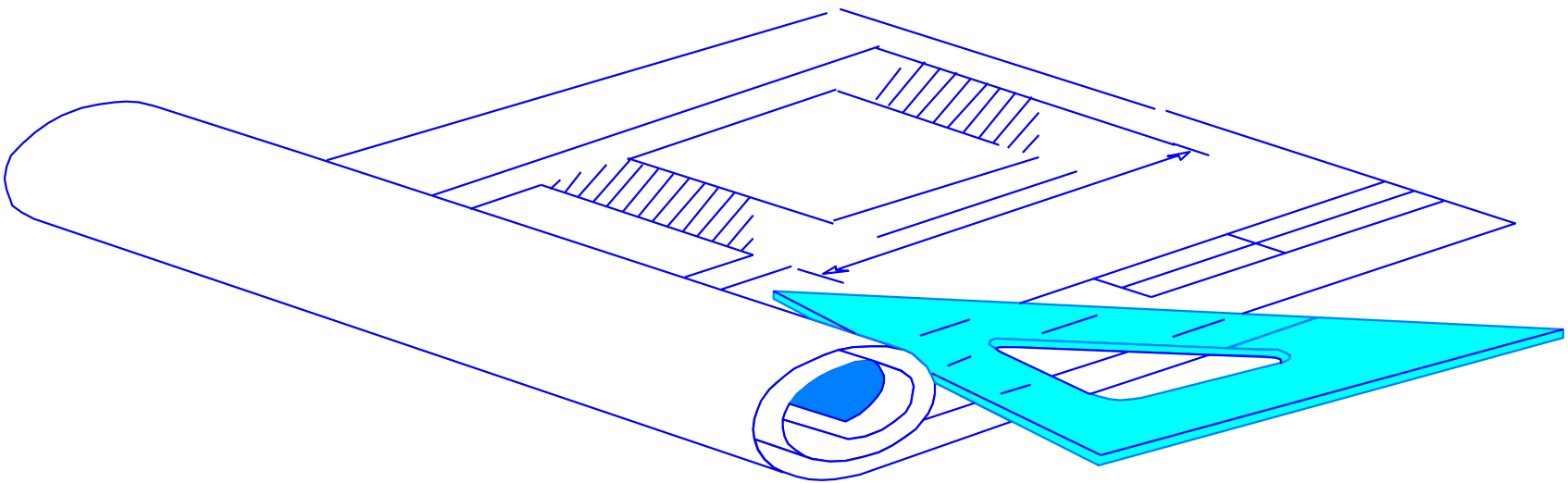


"SERVICES" LIABILITY
for the 1990's ?

Public Misunderstanding of Engineer's Ability to Design

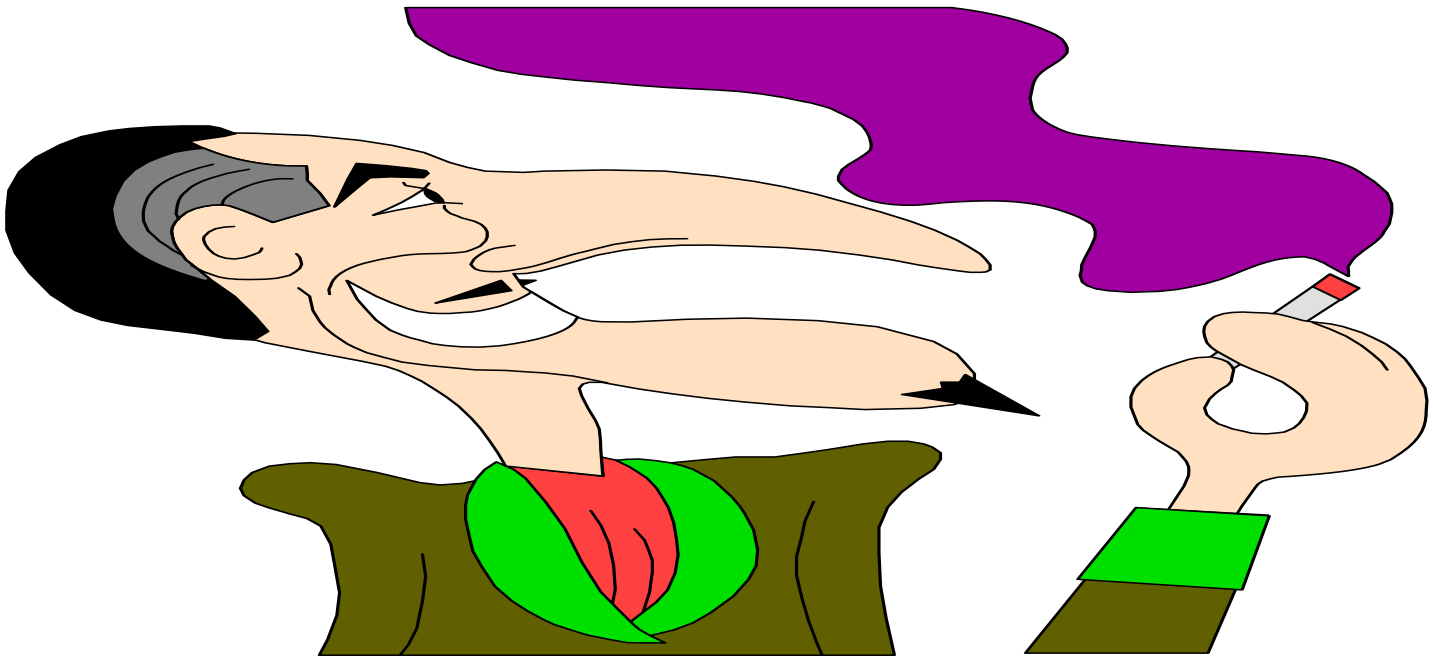
Ability to "Spread the Loss" v. "Luck of the Draw"

What Public Policy May Call For ...



v. Intentional Torts, Negligence, Defamation

Deceit - Common Law v. Equity - requirement of intent



TORT v. CONTRACT REMEDIES

Nonfeasance v. Misfeasance

Duty to accept contract

Misrepresentation

Promise made without intent to perform

Misfeasance of contract v. negligence of gratuitous act

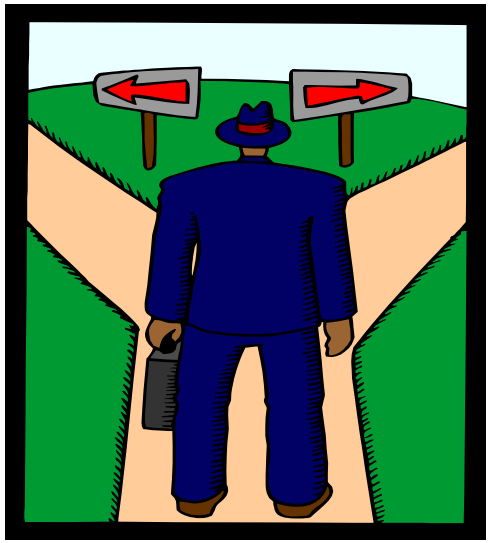
Election - procedural, monetary considerations

Election - by court - property v. personal injury

Third Parties Beneficiaries - Nonfeasance v. Misfeasance

Goods v. Services - Product Liability v. Negligence

Evolution to Quasi-contract - Merging of Law & Chancery



? “liability in an indeterminate amount for an indeterminate time to an indeterminate class” ?

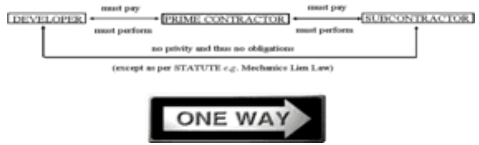
See Ultramares Corporation v. Touche, 174 N.E. 441 (1932)

The Economic Loss Rule

Limiting liability to “foreseeable” or to “practical” – for products, services, professional services?

See Casa Clara Condominium Ass’n v. Charley Toppino and Sons,
620 So. 2d 1244 (Fla. 1993)

“Defective concrete which caused no other injury was deemed solely an economic loss that is not recoverable in tort …[and] …that contract principles were a more adequate remedy than tort principles. This ambiguity blurred the line between the economic loss rule in products liability cases and in contract cases.”
See http://www.smithcurrie.com/commonsensecontractlaw,economic-loss-rule-Florida



See Bilt-Rite Construction, Inc. v. The Architectural Studio,
866 A.2d 270 (2005)

“[T]o apply the economic loss doctrine …would be nonsensical: it would allow a party to pursue an action only to hold that, once the elements of the cause of action are shown, the party is unable to recover for its losses. Thus, we hold that the economic loss rule does not apply to claims of negligent misrepresentation….”
See http://www.martindale.com/personal-injury-law/article_Marshall-Dennehey-Warner-Coleman-Goggin_615198.htm

1993 to 2013 Case Law

re the Economic Loss Rule in Florida

ENR.com
Engineering News-Record

INFRASTRUCTURE | BLDGS | BIZ MGMT | POLICY | EQUIPMENT | PEOPLE | MULTIMEDIA | OPINION | TECH |

BLOGS | EDITORIAL | VIEWPOINT | FORUMS

«Return to full blog index

Blog Home | Write New Post | View/Edit Posts | Approve Comments

The Next Generation

Fredric L. Plotnick, Ph.D., Esq., P.E., is an authority on CPM planning and scheduling and on legal aspects of engineering and construction. Dr. Plotnick, the co-author of two textbooks on CPM scheduling, has also created the Construction CPM Conference, with its third annual meeting set for January 27-30 in New Orleans. The Next Generation blog discusses CPM scheduling, engineering law and other aspects of project management.

Fla. Supreme Court Reverses Course on Economic Loss: A Must-Read for Designers

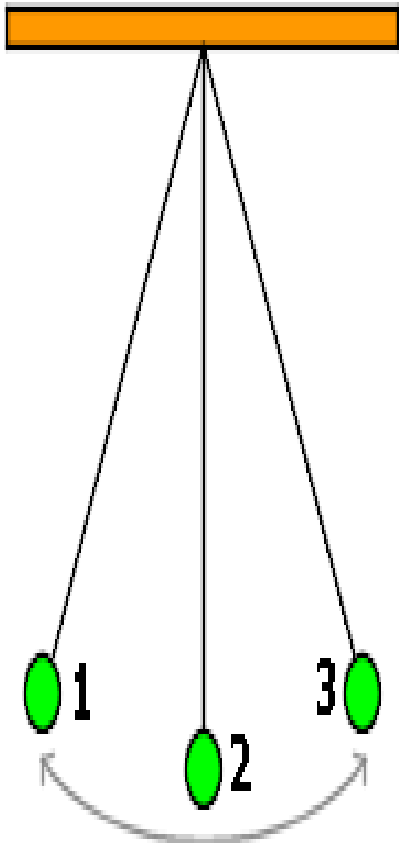
Posted by fplotnick at 3/26/2013 4:09 PM CDT

Rarely will a practitioner live through a full swing of the pendulum of the expansion and retraction of a judicial doctrine. Read how the latest decision of the Florida Supreme Court again changes the legal landscape.

Add blog to WatchList

Recent Entries

- Fla. Supreme Court Reverses Course on Economic Loss: A Must-Read for Designers



1993 to 2013 Case Law

re the Economic Loss Rule in Florida

I was never quite happy with that decision by the Florida Supreme Court to restrict this choice, the Economic Loss Doctrine. So as I recently read the case *Tiara Condominium Association, Inc., vs. Marsh & McLennan Companies, Inc.*, SC10-022, decided only a little over two weeks ago, I experienced a feeling of *deja vu* all over again (sic).

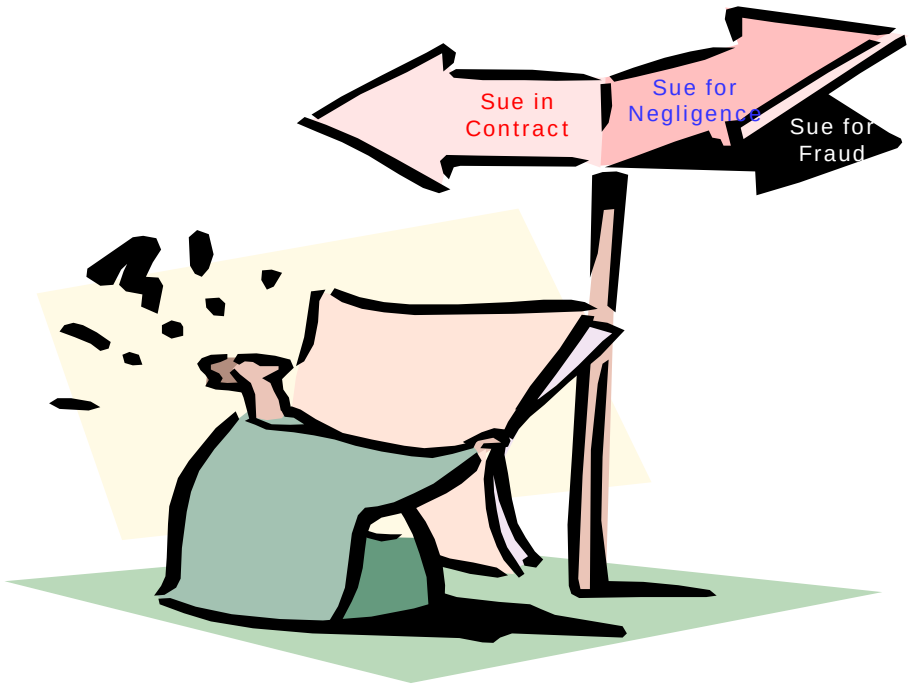
The Supreme Court of Florida, as of March 7th, 2013, now states :

> "For some time ... this Court has been concerned with what it perceived as an over-expansion of the economic loss rule. ... Having reviewed the origin and original purpose of the economic loss rule, and what has been described as the unprincipled extension of the rule, we now take this final step and hold that the economic loss rule applies only in the products liability context. We thus recede from our prior rulings to the extent that they have applied the economic loss rule to cases other than products liability. The Court will depart from precedent .... Stare decisis will also yield when an established rule has proven unacceptable or unworkable in practice. ... Our experience with the economic loss rule over time, which led to the creation of the exceptions to the rule, now demonstrates that expansion of the rule beyond its origins was unwise and unworkable in practice. Thus, today we return the economic loss rule to its origin in products liability."

Rarely will a practitioner live through a full swing of the pendulum of the expansion and retraction of a judicial doctrine.

Perhaps I am getting old. And so I will need to look up my old lecture notes written in WordStar on a DOS computer, and reintegrate into my course.

The case is MUST reading for all design professionals and for those who rely on their opinions and judgment. You may access the decision text via http://www.floridasupremecourt.org/decisions/2013/sc10-1022.pdf.



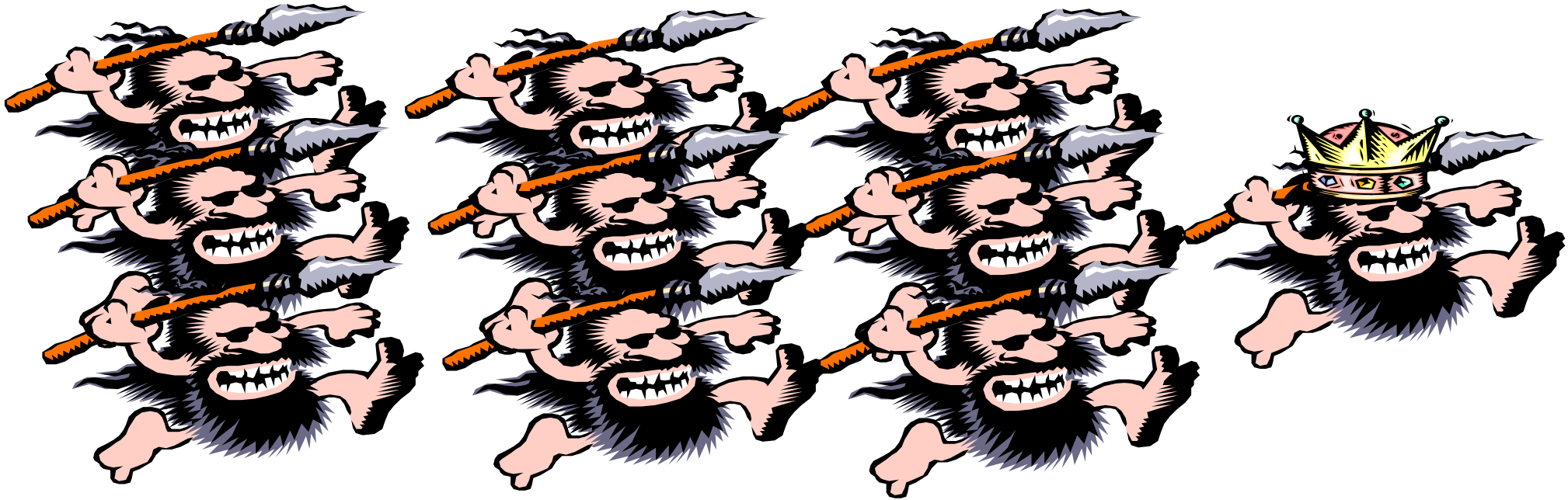
OUTLINE
FOR MATERIALS ON PROPERTY

REAL, PERSONAL, INTELLECTUAL

© 2000, 2009 All Rights Reserved

History

Land owned by the sovereign - e.g. King



Ownership of Property

History

Land owned by the sovereign - e.g. King

Right to possess & use land granted in return for military service

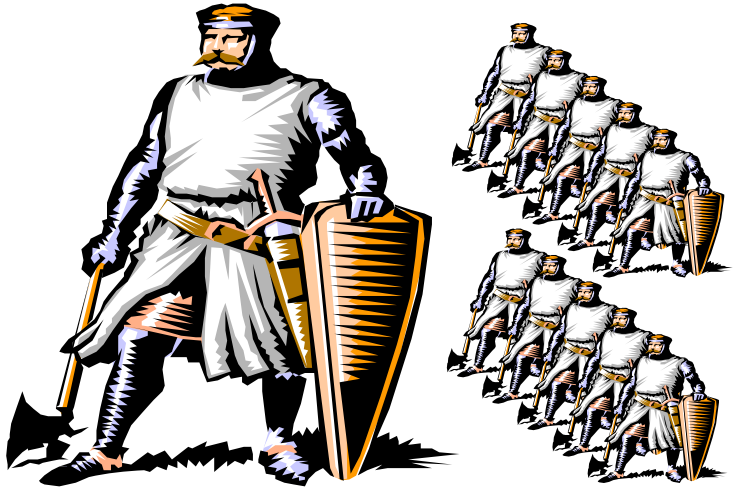
Ownership of Property

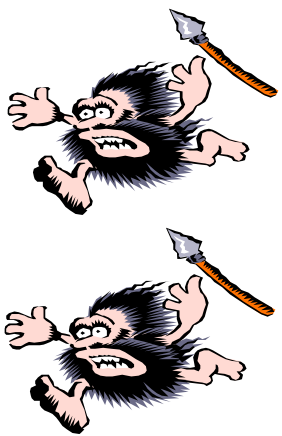
History

Land owned by the sovereign - e.g. King

Right to possess & use land granted in return for military service

"Right" codified & transferable to children if they provide service





Ownership of Property

History

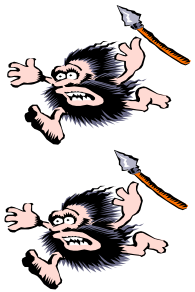
Land owned by the sovereign - e.g. King

Right to possess & use land granted in return for military service

"Right" codified & transferable to children if they provide service

Military service replaced with taxes

Sales of "right" by local lord to aid in raising taxes



Ownership of Property

History

Tax rules for transfer of land led to loopholes

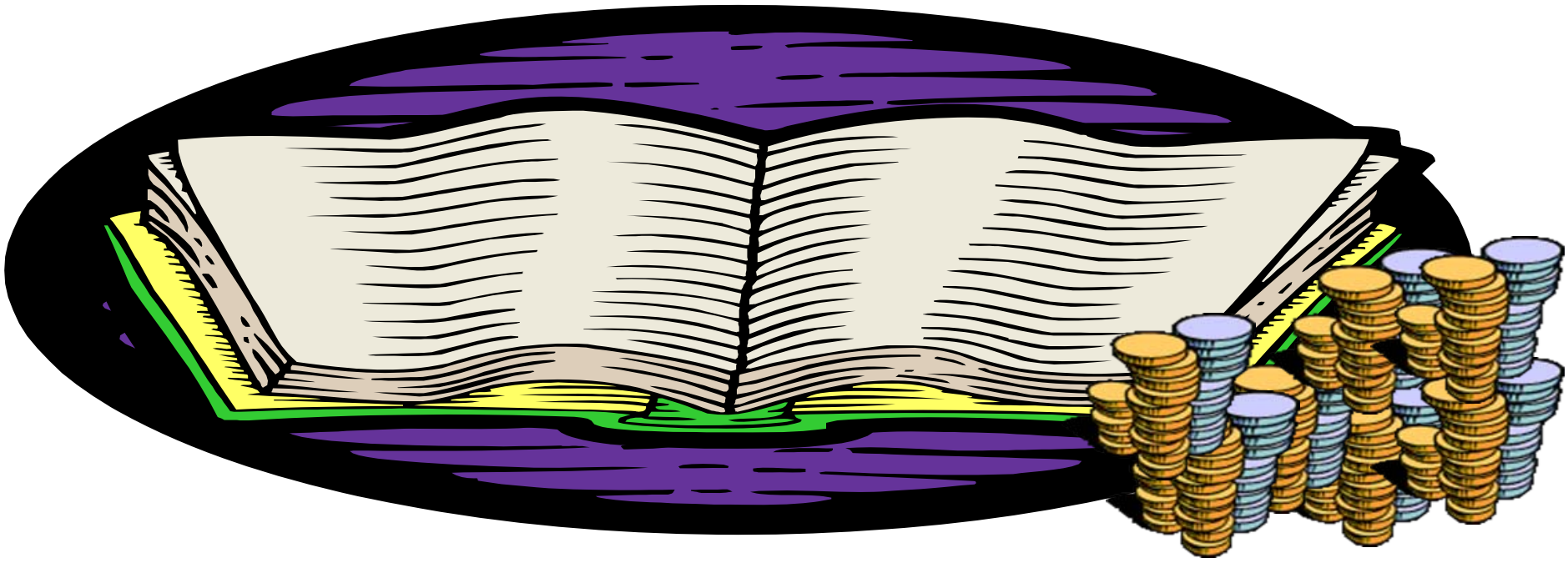
Loopholes led to new rules ...

Cause for land law being so complex

Compare 1916 Income Tax to today's I.R.C.

The sovereign still is ultimately owner of property and may reclaim it at any time after properly compensating current "owner"

Domesday Survey of 1086



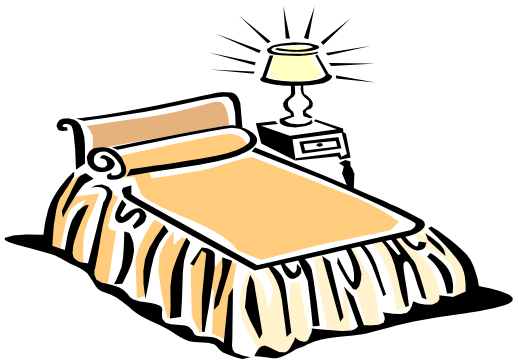
Property - Realty v. Personalty

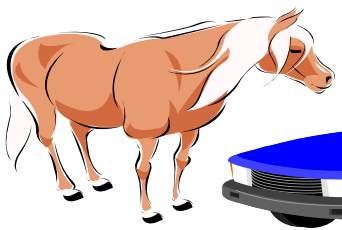
Personalty = personal property = movable property = chattels

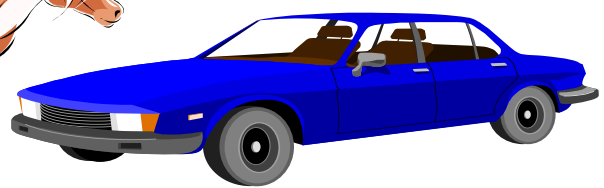
defined as any object or right not properly described as real property

includes rights to land, etc. not held of a freehold nature

e.g. rights not descendible to heirs at law

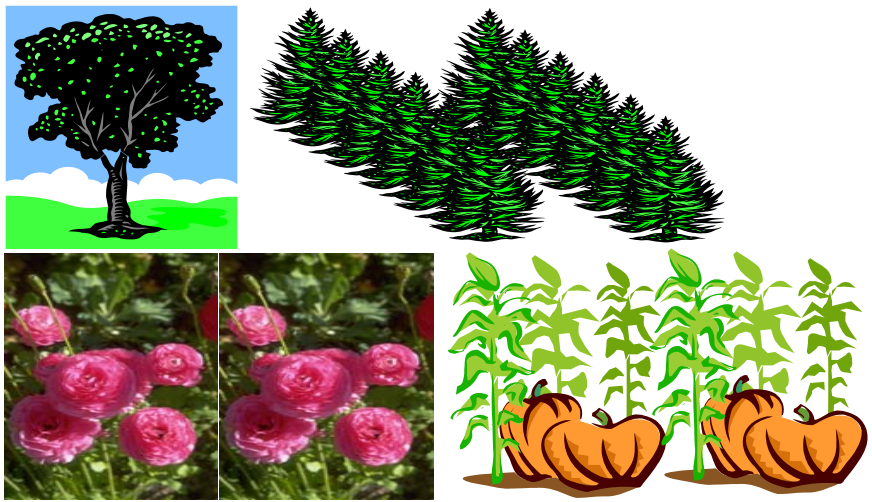


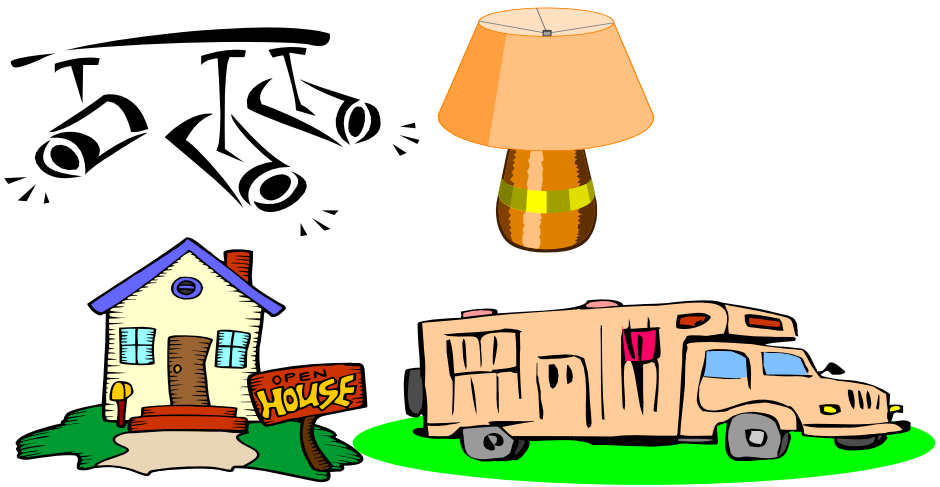




Fixtures

Natural and Artificial - Trees and Buildings





Boundary Law

Elementary Surveying

Precedence – Monuments – Adjoining Tracts – Courses & Distances

Description

- Point of Beginning – monument near the property
- True Point of Beginning – corner of the property
- Definite Corners – angles by degrees and direction – GPS coordinates
- Lengths and Directions along Sides – note adjoining tracts
- Return to True Point of Beginning
- [Return to Point of Beginning or alternate monument by alternate path]
- [compute area and check against prior deeds]

Air and Water Rights

Air Rights

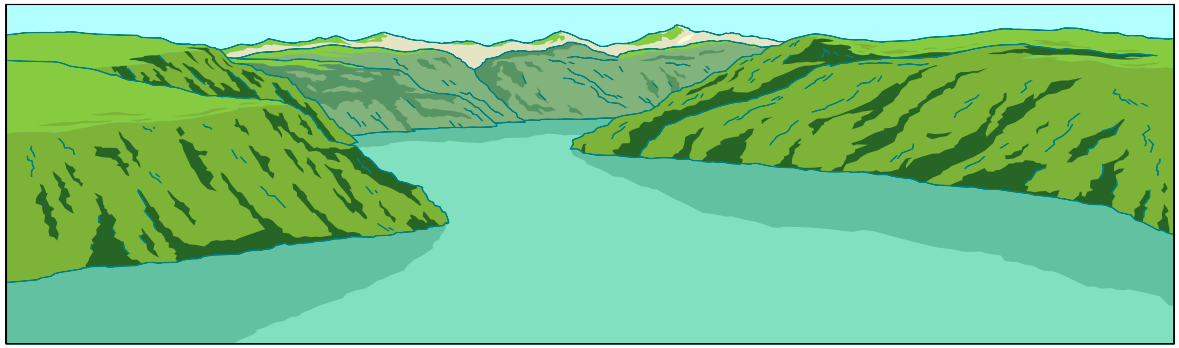
Water Rights

Riparian System

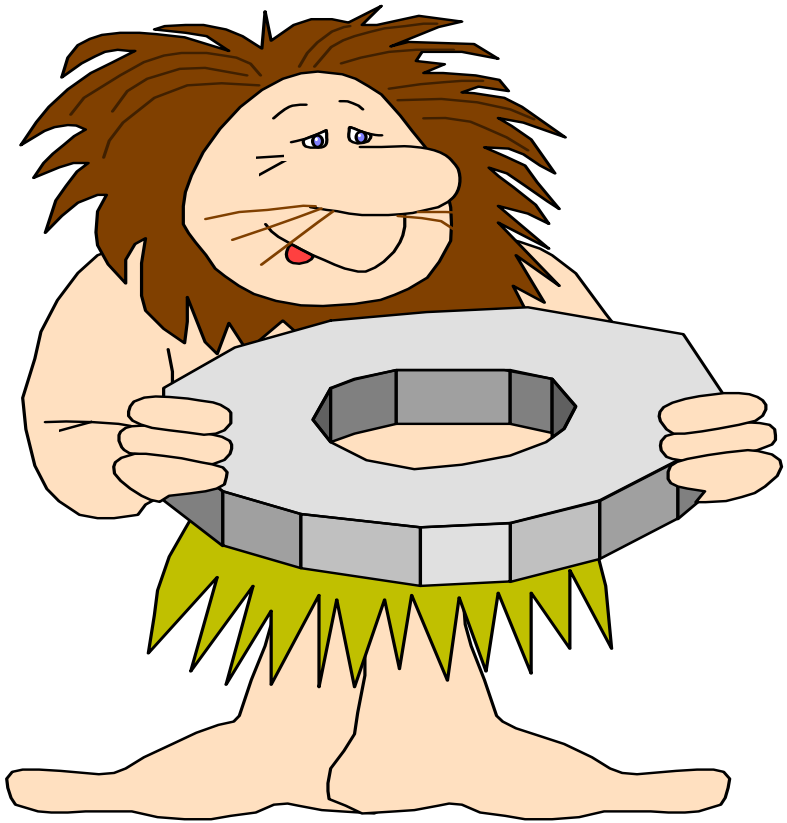
Percolating Water

Drainage

Appropriation System



Intellectual Property



First US Patent

X000001
July 31, 1790

The United States.

To all to whom these Presents shall come. Greeting.

Whereas Samuel Hopkins of the City of Philadelphia and State of Pensylvania hath discovered an Improvement, not known or used before such Discovery, in the making of Pot ash and Pearl ash by a new Apparatus and Process; that is to say, in the making of Pearl ash 1st by burning the raw Ashes in a Furnace, 2d by dissolving and boiling them when so burnt in Water, 3d by drawing off and settling the Ley, and 4th by boiling the Ley into Salts which then are the true Pearl ash; and also in the making of Pot ash by fluxing the Pearl ash so made as aforesaid; which Operation of burning the raw Ashes in a Furnace, preparatory to their Dissolution and boiling in Water, is new, leaves little Residuum; and produces a much greater Quantity of Salt: These are therefore in pursuance of the Act, entituled "An Act to promote the Progress of useful Arts", to grant to the said Samuel Hopkins, his Heirs Administrators and Assigns, for the Term of fourteen Years, the sole and exclusive Right and Liberty of using, and vending to others the said Discovery, of burning the raw Ashes previous to their being dissolved and boiled in Water, according to the true Intent and Meaning of the Act aforesaid. In Testimony whereof I have caused these Letters to be made patent, and the Seal of the United States to be hereunto affixed. Given under my Hand at the City of New York this thirty first Day of July in the Year of our Lord one thousand seven hundred & Ninety.

G. Washington

City of New York July 31st 1790.

I do hereby certify that the foregoing Letters patent were delivered to me in pursuance of the Act, entitled "An Act to promote the Progress of useful Arts", that I have examined the same, and find them conformable to the said Act.

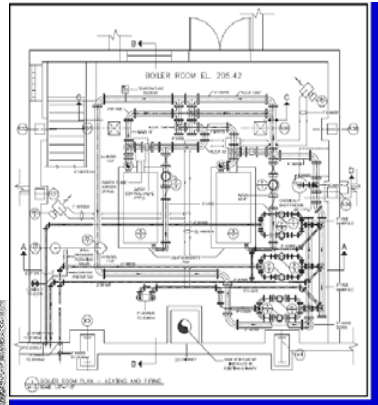
Edm: Randolph Attorney General for the United States.

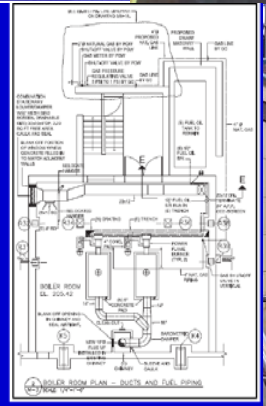
US Patent #1 filed from Philadelphia PA July 31, 1790

Public Domain, https://commons.wikimedia.org/w/index.php?curid=2690173

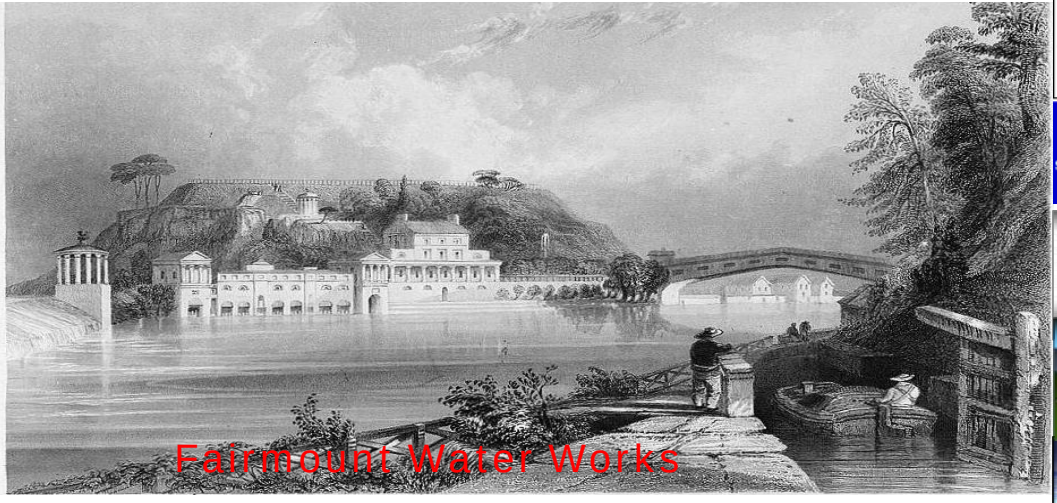
https://commons.wikimedia.org/wiki/File:City_Hall_Philadelphia.jpg
R. Newell & Son, Public domain, via Wikimedia Commons

Built of brick, white marble, and limestone, Philadelphia City Hall is the world's largest free-standing masonry building and was the world's tallest habitable building upon its completion in 1894. In 1976, it was designated a National Historic Landmark, and in 2006, also named a National Historic Civil Engineering Landmark by the American Society of Civil Engineers

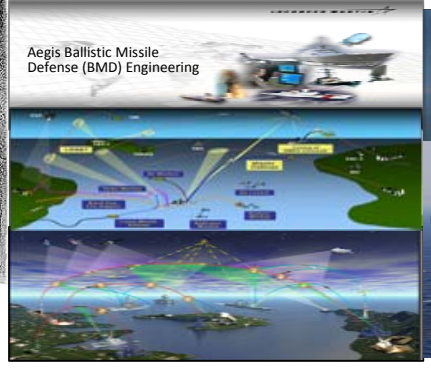


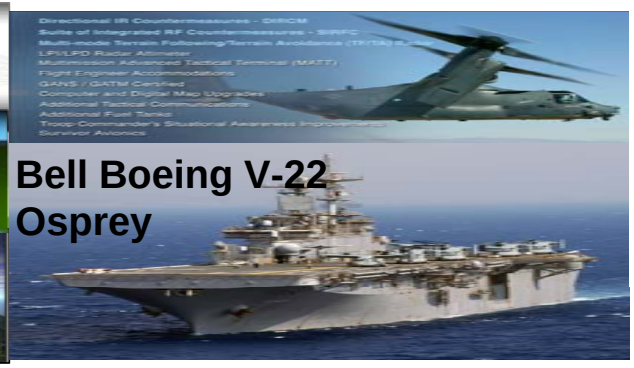


Boiler Room Plan: Adcon designed and specified two modern and efficient boilers and related equipment for the best results and design solutions, including dual supply of energy (new gas line and oil line) for the oil tank. Adcon's design included boilers, burners, inline centrifugal pumps, oil pumps, and related equipment.

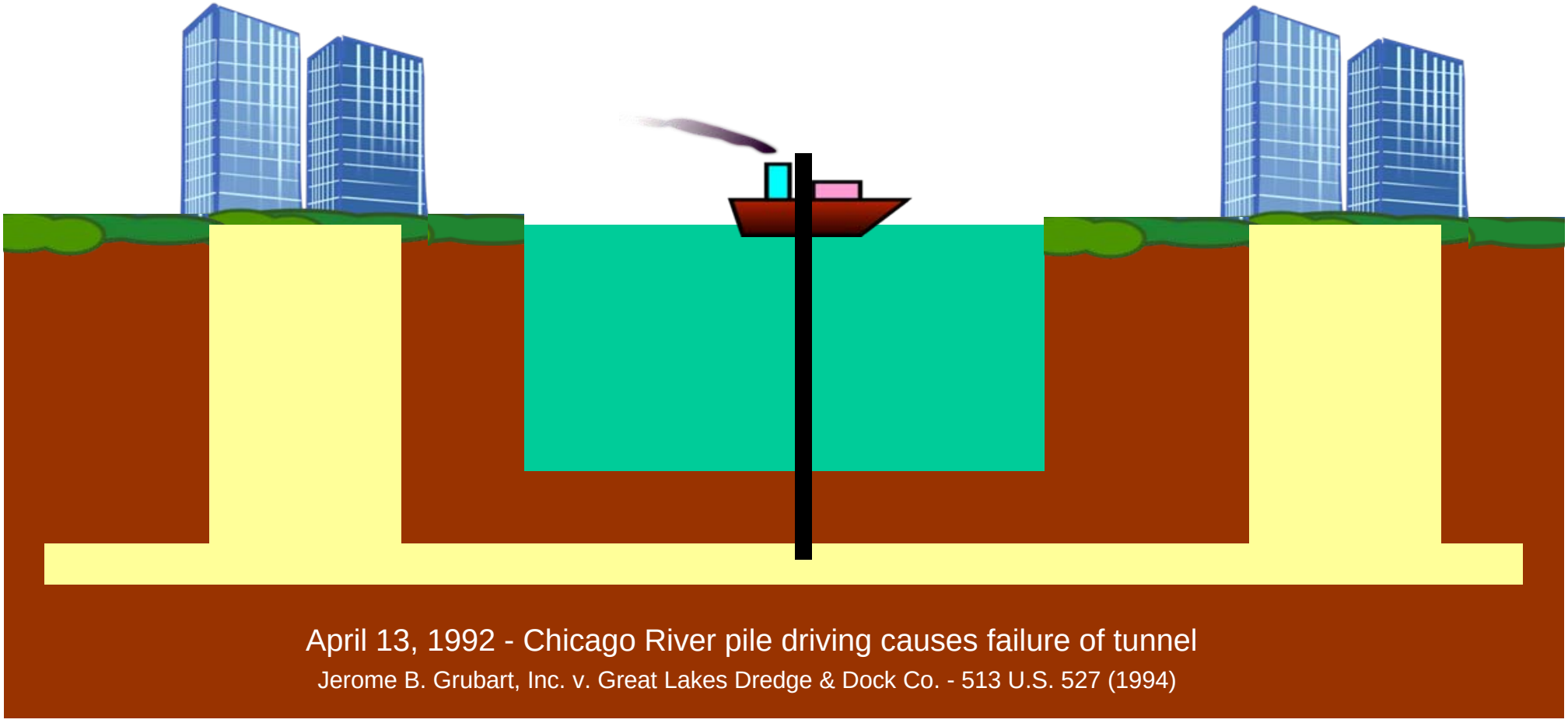


By Engraved by W.H. Bartlett, published by J.C. Armytage. - Historic American Engineering Record, http://memory.loc.gov/pnp/habshaer/pa/pa0800/pa0837/photos/138143pv.jpg, Public Domain, https://commons.wikimedia.org/w/index.php?curid=10172213





Tort v Admiralty Law



April 13, 1992 - Chicago River pile driving causes failure of tunnel

Jerome B. Grubart, Inc. v. Great Lakes Dredge & Dock Co. - 513 U.S. 527 (1994)

Thank you for your time!

This concludes the educational content of this presentation

Questions?

Fredric L. Plotnick, Ph.D., Esq., P.E., P.L.S.
fplotnick@fplotnick.com
215-880-8899

www.fplotnick.com **www.enpromac.com** **www.rdcpm.com**

Construction CPM Conference™

RD CPM® Compliance Certified