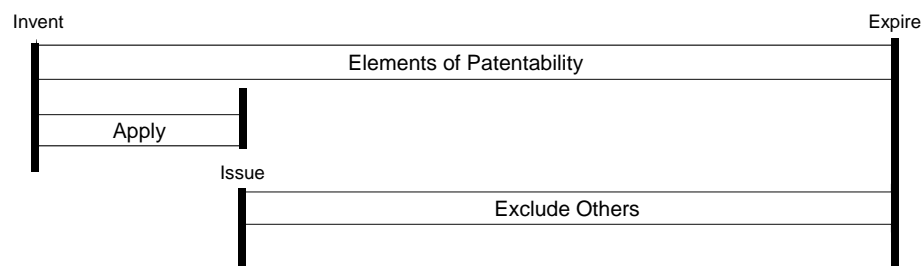


IP Core

- Patent Law

The elements of Patentability

- **Patentable subject matter**, i.e., patent eligibility
- **Useful/utility** (operable and provides a tangible benefit)
- **New** (statutory bar, novelty, anticipation)
- **Nonobvious** (not readily within the ordinary skills of a competent artisan at the time the invention was made)
- **Specification requirements / disclosure requirements** (enablement, written description, best mode, definiteness)



35 USC §101

Whoever invents or discovers any
new and useful
process,

machine, manufacture, or
composition of matter,

or any new and useful improvement
thereof,

may obtain a patent therefor, subject to the
conditions and requirements of this title

“Product”
claims or
inventions

Diamond v. Chakrabarty, 447 U.S. 303 (1980)

- Patent application for genetically engineered bacteria
 - It had the property of breaking down multiple components of crude oil
 - Its intended application was to treat oil spills (never field tested or applied)
- Claim to the bacteria itself:
 - "a bacterium from the genus *Pseudomonas* containing therein at least two stable energy-generating plasmids, each of said plasmids providing a separate hydrocarbon degradative pathway."
- Various other claims in other claim formats
- Issue – is the bacteria a “manufacture” or “composition of matter” within the meaning of those terms as they apply from 35 U.S.C. §101?

Diamond v. Chakrabarty, 447 U.S. 303 (1980)

- Mode of analysis (in essence common to all of the patent eligibility cases)
 - First, determine whether the claim is “within” the meaning of one of the four statutory terms
 - Apply statutory interpretation “argument categories”
 - Meaning of the words (statutory definitions, plain meaning, canons of construction, past court opinions on the meaning)
 - Inferences from the provisions or structural characteristics of the statute or other related statutes (same word used in other places in the statute, significance of sectioning, divisions, cross-references, etc.)
 - Legislative History (a number of principles and “canons” are sometimes used to structure use of legislative history; for example, the sometimes employed doctrine that the legislative history should only be authoritative if the statutory language is ambiguous)
 - Policy and/or historical arguments
 - Second, even if the analysis from the first step seems to indicate that the claim is within one of the terms, evaluate whether the claim fits into one of the various remaining exceptions to patent eligibility
 - These exceptions are judicially created, so the mode of analysis looks more like the common law than like statutory interpretation (for example, the line of cases dealing with the now mostly defunct “mathematical algorithm” exception)

Diamond v. Chakrabarty, 447 U.S. 303 (1980)

- PTO rejection
 - Examiner rejected bacterial claims on two grounds
 - micro-organisms are “products of nature”
 - that as ***living things micro-organisms are not patentable subject matter under § 101.***
 - A new “proposed” exception, or does it fit within one of the three exceptions? (natural phenomenon? but, human-made)
- Meanings of terms
 - Manufacture
 - produce articles for use from raw or prepared materials by giving these materials new forms, qualities, properties, or combinations
 - Composition of matter
 - all compositions of two or more, all composite articles – whether chemical or mechanical union/mixture, whether gases, fluids, powers or solids
 - Both “wide scope” terms

Diamond v. Chakrabarty, 447 U.S. 303 (1980)

- Legislative History
 - Language of 101 tracks closely with Jefferson's originally-authored 1793 patent act
 - Embodies Jefferson's philosophy that "ingenuity should receive a liberal encouragement"
 - Congress intended patentable subject matter to include "anything under the sun that is made by [humans]"
- Exceptions - Physical phenomena?
 - Compare to Funk (US 1948):
 - Applicant discovered certain bacteria whose characteristics were such that when mixed together they assisted the process of nitrogen fixation in plant roots
 - In rejecting the application the court said that the "use in combination does not improve in any way their natural functioning"
 - "they perform in their natural way"
 - Chakrabarty's bacteria has "markedly different characteristics" from those in nature
 - Chakrabarty **transformed** the natural bacteria into his own handiwork
- Other considerations
 - Consider the definition of "invention" in §100, which says that "invention" means both "invention and discovery"

Diamond v. Chakrabarty, 447 U.S. 303 (1980)

- First counter argument
 - 1930 Plant Patent Act (seedless "asexual" reproduction)
 - 1970 PVPA (sexual reproduction, excluded bacteria)
 - Passage of both acts evidences congressional understanding that "manufacture" or "composition of matter" do not include living things – if they did, neither act necessary
 - Only one specific PPA legislative history provision stating that "the patent laws . . . at the present time are understood to cover only . . . inanimate nature"
- Not persuasive because there were other reasons to pass both acts
 - PPA – work of the breeder "in aid of nature" was patentable
 - Prior to 1930, even artificially bred plants considered "products of nature" (an instance of "natural phenomena")
 - Written description problem for plant patent (may differ only by color or perfume) (relaxed by PPA)
 - **Relevant distinction is not between living and inanimate things, but between products of nature, whether living or not, and human-made inventions**
 - PVPA – sexually reproduced plants not included in PPA because new varieties could not be reproduced true-to-type through seedlings in 1930
 - PVPA excluded bacteria (i) simply in agreement with a court case that held that bacteria were not plants under PPA, or (ii) because prior to 1970 the PTO had granted some patents on bacteria

Diamond v. Chakrabarty, 447 U.S. 303 (1980)

- Second counter argument – need Congress to authorize patents on micro-organisms, genetic technology unforeseen when §101 enacted
 - Flook: the judiciary “must proceed cautiously when . . . asked to extend patent rights into areas wholly unforeseen by Congress”
 - Congress has spoken, court says it is simply doing its Marbury duty to say what the law is – high policy choice is not for the court and has already been made by congress
 - Congress is free to amend to exclude these inventions, and has similarly done so for nuclear weapons technology

Madey v. Duke Univ., 307 F.3d 1351 (Fed. Cir. 2002)

Duke University

Free Electron Laser Laboratory

About the Duke FEL Laboratory

Contact and Visitor Information
Directory
Research
Lightsources
Operations
News and Announcements

Related Links
Duke University



The Duke Free Electron Laser Laboratory operates a storage ring based free electron laser light source. This ultraviolet FEL installed on a 1.2 GeV storage ring provides tunable coherent radiation from 400 nm to 193 nm. Intense gamma rays are produced by internal backscattering. Active areas of research at DFEL include FEL physics, nuclear physics, materials science, and biological and biomedical sciences.

The Duke FEL Laboratory is housed in a 52,000 square foot facility with the addition of the 13,000 square foot Keck Life Sciences Research Laboratory on the campus of Duke University in the Raleigh-Durham-Chapel Hill area of North Carolina.

- Embodiments
 - An infrared FEL called the “Mark III FEL,” embodying the ’994 patent and the ’103 patent (by incorporating the microwave electron gun in the infrared FEL).
 - A “Storage Ring FEL,” embodying the same patents as the Mark III FEL because it incorporates a Mark III FEL.
 - A “Microwave Gun Test Stand,” embodying the ’103 patent (by incorporating the microwave electron gun).

Problem

Phillips Modular Wall (PMW) is a nonprofit that makes modular wall sections for easy construction of temporary housing. Their biggest customers are other nonprofit entities that setup housing after disasters, such as hurricanes, or for the homeless. In its R&D lab, PMW devises a new type of optical microscope. Unbeknownst to PMW, a U.S. patent is in force at the time PMW devised and began using the microscope. The PMW microscope is an embodiment of claim 1 in that patent. Putting aside any questions about what monetary damages amounts might or might not flow if the acts where infringement, which of the following are acts of infringement?

1. During manufacturing, PMW uses the first microscope to examine the welds on its walls to ensure quality.
2. PMW makes a second microscope exactly the same as the first and donates it to the optometry department of a local university. A professor there studies it to discover how it works, and uses it to expose six images to a digital camera. Then she puts the images on her web site with an explanation of how the microscope works. Thereafter, she retires the microscope to the school museum.
3. A chemistry professor at the local university sees the microscope in the school museum and secures permission from the optometry professor to remove it to his lab. There he regularly uses it to study the structure of different welding patterns on metal in furtherance of his research grant from the (hypothetical) National Welding Quality Assurance Society.
4. PMW makes a third microscope and donates it to a local public high school. The school uses it in the physics lab as another educational tool to help teach high school physics.
5. The high school physics lab technician doesn't know where the microscope came from. From her perspective, it just showed up one day. She likes the microscope so much that she searches in the marketplace for it and finds the patent owner as a supplier. Never realizing it is a different source of supply, she purchases six microscopes from the patent owner.
6. The lab technician sells the donated microscope and one of the purchased microscopes to QOX, a for profit competitor of PMW. QOX uses both to inspect welds in its manufacturing line. Later, QOX sells both to RPY, a regular microscope purchaser from the patent owner.

eBay Inc. v. MercExchange, L.L.C., 547 U.S. 388 (2006)

35 U.S.C. 283 Injunction.

The several courts having jurisdiction of cases under this title may grant injunctions in accordance with the principles of equity to prevent the violation of any right secured by patent, on such terms as the court deems reasonable.

- Trial Court outcome?
- Federal Circuit outcome?
- Supreme Court . . .

According to well-established principles of equity, a plaintiff seeking a permanent injunction must satisfy a four-factor test before a court may grant such relief. A plaintiff must demonstrate:

- (1) that it has suffered an irreparable injury;
- (2) that remedies available at law, such as monetary damages, are inadequate to compensate for that injury;
- (3) that, considering the balance of hardships between the plaintiff and defendant, a remedy in equity is warranted; and
- (4) that the public interest would not be disserved by a permanent injunction.

The decision to grant or deny permanent injunctive relief is an act of equitable discretion by the district court, reviewable on appeal for abuse of discretion.

Claims

- Claims are the heart of the patent system
- **Inventors** are those who thought of something covered by the claims, not those who learned it from someone else
 - You may not know who they are until claims are drafted
- Claims define the scope of coverage of the right to exclude
- Those who **operate within the language of the claim** are subject to an infringement action

Patent – claims

New Product



Narrow

Broad

1. A **seating apparatus, comprising:**
 - (a) a horizontal **seat**; and
 - (b) three **legs** each having one end connected to the **bottom** of said horizontal **seat**.

1. A device for supporting objects, **comprising:**
 - (a) a horizontal support member; and
 - (b) three vertical support members each having one end connected to the same face of said horizontal support member.

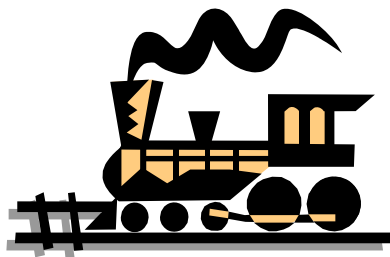
Claim Example

- Client shows you a machine she has devised. It has:
 - Chassis
 - 4 wheels
 - 10-cylinder engine
 - Brake on each wheel
 - 3-speed transmission
- How to Claim?
 - Rule 1 - as broad as possible but must not cover any previously known configuration.
 - Rule 2 - Claim must embrace something the inventor devised
- Assume that the closest previously known machine is the horse-drawn wagon
- Claim 1:
 - A vehicle, comprising:
 - a chassis;
 - a plurality of wheels attached to said chassis; and
 - an engine for turning one of said wheels.
- Goals
 - Don't give up broadest claim scope
 - Write many other, narrower, claims in case Claim 1 is found to violate Rule 1.



Claim Example (cont'd)

- New information on prior art
 - You learn at some point that the locomotive pre-existed your client's development of the car
- This generates a need to amend the claim
- (amended) Claim 1:
 - A vehicle, comprising:
 - a chassis;
 - a plurality of wheels attached to said chassis;
 - an engine for turning one of said wheels;
 - A steering device for turning at least one of said wheels.



Claim elements/limitations

- In claims using the transition word “comprising,” adding more elements/limitations makes the claim more narrow (i.e., there are a smaller number of items that might be covered by the claim)
 - There are other ways to make the claim more narrow, this is not the only way
- For example, arrange these three claims from most to least broad:

Claim 1

- A device for supporting objects, comprising:
 - (a) a horizontal support member; and
 - (b) three vertical support members each having one end connected to the same face of said horizontal support member.

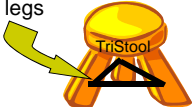
Claim 3

- A **seating apparatus**, comprising:
 - (a) a horizontal **seat**;
 - (b) three **legs** each having one end connected to the **bottom** of said horizontal **seat**;
 - and
 - (c) said connection between said legs and bottom of said horizontal seat being a slim metal piece partially traversing some of said leg and said seat.

Claim 2

- A **seating apparatus**, comprising:
 - (a) a horizontal **seat**; and
 - (b) three **legs** each having one end connected to the **bottom** of said horizontal **seat**.

Patent – claims

Ver. I	Ver. II	Ver. III	Ver. IV
Narrow			Broad
<p>1. A seating apparatus, comprising:</p> <p>(a) a horizontal circular seat;</p> <p>(b) three vertical legs of equal length each having one end connected to the bottom of said horizontal seat; and</p> <p>(c) three horizontal support members connecting said three vertical legs</p> 	<p>1. A seating device, comprising:</p> <p>(a) a flat, substantially elliptical board;</p> <p>(b) three rods, each connected at one end to the same side of said board;</p> <p>(c) wherein the point of connection between each rod and said board is located an equal distance from the point of connection of every other rod</p>	<p>1. A seating apparatus, comprising:</p> <p>(a) a horizontal seat; and</p> <p>(b) three legs each having one end connected to the bottom of said horizontal seat.</p>	<p>1. A device for supporting objects, comprising:</p> <p>(a) a horizontal support member; and</p> <p>(b) three vertical support members each having one end connected to the same face of said horizontal support member.</p>
IP Survey, Fall 2011, Vetter			18

Dependent claims

1. A seating apparatus, comprising:
 - (a) a horizontal seat; and
 - (b) three legs each having one end connected to the bottom of said horizontal seat.

Examples of dependent claims:

2. *The seating apparatus of **claim 1** further including rubber caps at the end of each said leg opposite the end of said leg connected to the bottom of said horizontal seat.*

3. *The seating apparatus of **claim 1** wherein the said horizontal seat is made from wood.*

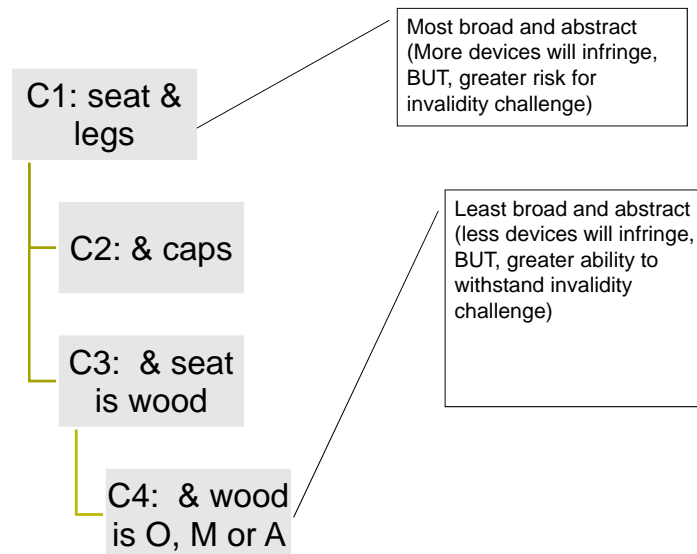
4. *The seating apparatus of **claim 3** wherein the wood is one of the following types: oak, mahogany or ash.*

General rule of “claims scope”: the independent claim is always “broader” than its dependent claims.

“comprising” is a magic word. It makes the claim “open-ended” - any device or method that includes all the limitations after the word comprising will infringe, e.g. a four-legged stool infringes claim 1.

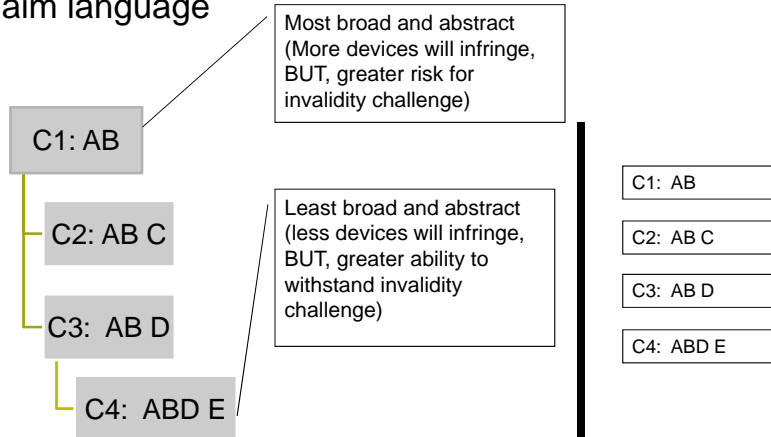
More on claims – visualizing dependent claims

- Dependent claims are often visualized in a tree hierarchy

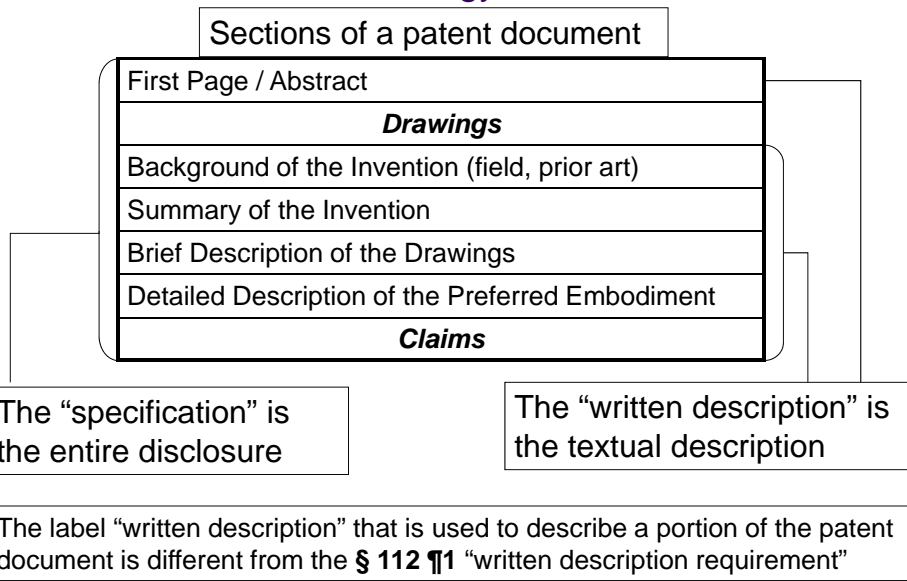


More on claims – labeling elements/limitations

- Patent attorneys use a shorthand for discussing claim elements/limitations
- That short hand is to use a symbol, often letters, for each major component or subdivision, or major qualifier in the claim language



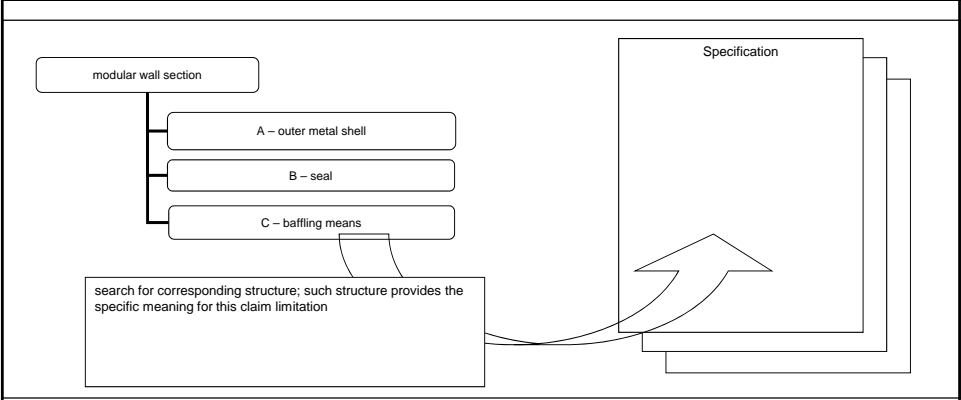
Patent Document Terminology



Means plus function - § 112, ¶ 6

Revised hypothetical claim to demonstrate “means plus function” claim limitations

1. A modular wall section, comprising:		preamble
	an edge-wise rectangular outer metal shell where the longer side of the rectangle is within the length range of 2 feet to 5 feet;	A
	one or more seals on one or both of the shorter sides of the rectangle for interfacing with other modular wall sections; and	B
	baffling means.	C



Example Patent - U.S. Pat. No. 5,505,330 (Nunes)

United States Patent [98] [31] Patent Number: **5,505,330**
 Names [45] Date of Patent: **Apr. 9, 1996**

(54) **REUSABLE BEVERAGE CAN GRIP**
 (76) Inventor: **James Nunes**, 12129 Antwood Dr., Austin, Tex. 78727
 (21) Appl. No. **322,109**
 (22) Filed: **Oct. 21, 1994**
 (51) Int. Cl. **B60D 23/00**
 (52) U.S. Cl. **220/462, 220/715, 220/736, 220/765, 240/512.1, 361/114 R**
 (56) **Field of Search** **220/731, 241, 311.3, 312.1, 391/14 R, 294/21.1, 32, 33**
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Primary Examiner—Alan N. Sloop
 Assistant Examiner—Stephen Christie
 Attorney, Agent, or Firm—Novak Druce Haneman Butz

ABSTRACT
 A beverage can holder having a flat top member with a protrusion having grooves for engaging the top rim of a beverage can, a central elongated body having a hollow upper portion and a flat lower portion to provide a grip conformable to the user's hand, and a base member with a flat bottom and first and second curving flaps for engagement with the bottom and side of the beverage can. The beverage can holder is releasably attached to the beverage can such that the beverage can is held at an angle to a flat surface. The novel method of attachment to a beverage can, and the novel shape of the beverage can holder allows the user to enjoy a beverage from a can as if the user was obtaining them a soda or mug.

13 Claims, 1 Drawing Sheet

U.S. Patent **Apr. 9, 1996** **5,505,330**

U.S. Pat. No. 4,677,798 (Phillips)

United States Patent [19]
Phillips

[11] **Patent Number:** **4,677,798**
 [45] **Date of Patent:** **Jul. 7, 1987**

[54] **STEEL SHELL MODULES FOR PRISONER
 DETENTION FACILITIES**

[76] **Inventor:** Edward H. Phillips, P.O. Box 979,
 Fort Collins, Colo. 80522

[21] **Appl. No.:** 852,021

[22] **Filed:** Apr. 14, 1986

[51] **Int. Cl.⁴** E04H 3/08

[52] **U.S. Cl.** 52/106; 52/79.4;
 52/79.9; 52/144; 52/404; 109/79

[58] **Field of Search** 52/106, 79.1, 79.4,
 52/79.5, 79.9, 79.12, 144, 243, 404; 109/78, 79

[56] **References Cited**

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Primary Examiner—J. Karl Bell
Attorney, Agent, or Firm—Laurence R. Brown

[57] **ABSTRACT**

Vandalism resistant building modules suitable for deten-

tion and secured storage facilities provide good architectural properties and significant resistance to noise, fire and impact. Thus, steel shell modules are welded together to produce steel inner and outer walls. The modules contain strengthening and bullet deflecting internally directed steel baffles and various types of insulating materials. Construction is facilitated by providing modules that are welded together along only two lines coinciding with mating end positions on the steel plate inner and outer walls. Three steel panel pieces are formed into a module, each being partly triangular in cross section so that only one weld seam between two of the panels is required in assembling the three pieces which thereby form the internal baffles at angles for deflecting bullets. The baffles form an intermediate barrier between the walls and flanges at the ends of the module between which an insulating rope is compressed to provide a thermal and sound barrier between the inner and outer steel walls. Different types of internally disposed insulating materials may be disposed on either side of the intermediate barrier thus to provide the best combination of impact, fire and sound resistant properties.

26 Claims, 18 Drawing Figures

Phillips v. AWH Corp., 415 F.3d 1303 (Fed. Cir. 2005) (en banc)

- Degree of influence on meaning for the claim term “baffle” from:
 - The dictionary
 - The disclosure (“specification”)
 - Function intended for structure recited in the claim
- Internal versus External sources of meaning and context

FIG. 2.

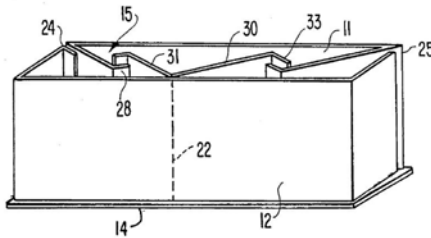


Fig. 7

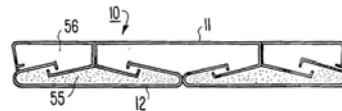
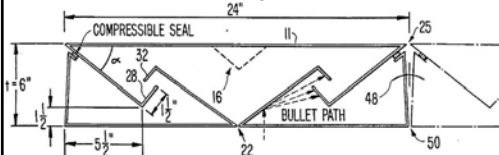


Fig. 6



Problem

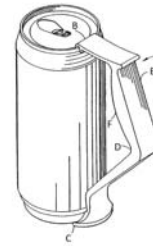
A handle for a beverage can, comprising:

- a handle body;
- a top connector;
- a bottom connector;
- a flexible joint that facilitates the attachment of the handle to the beverage can;

and

a handle grip connected between the top connector and the bottom connector; wherein the handle grip further comprises one or more bulbous handle portions forming the handle grip.

Diagram 1



1. Dependent claim 2 is as follows: "2. The handle for a beverage can of claim 1, further comprising a vertical height in the range of four inches to five inches." Would an AID the same as Diagram 1 that is half a foot high literally infringe if made in the United States?
2. You make AID₁ in the United States and it is the same as Diagram 1, 4.5 inches high, made of steel, but painted pink. AID₂ is the same as AID₁, but is made of pink fiberboard. Do either AID₁ or AID₂ or both literally infringe claim 1, or claim 2 from the prior problem? Would your analysis change if the fiberboard was not pink? Would your analysis change if claim 1 instead recited "a plastic handle body" for limitation A, but claim 2 retained its form as given in the prior note?
3. The specification of the patent containing claim 1 makes this statement: "the handle body should be made of a pliable plastic." AID₃ is the same as Diagram 1, but its handle body is made of styrofoam. A POSITA would testify that styrofoam is pliable, but no POSITA would state that styrofoam is made of, or similar to, plastic. What might the claim construction for the handle body limitation look like? What are the chances of meeting that claim limitation literally for AID₃? Would your analysis change if claim 1 instead recited "a plastic handle body" for limitation A?

Problem . . .

4. Is owning a U.S. patent claiming ABCD infringement of a claim in a third party U.S. patent to ABCD? Your only act was to purchase the patent claiming ABCD. Thereafter you let the patent sit in your desk drawer in Chicago. In this problem, ignore any consternation that reasonably might arise as to having two patents issued for the same invention; it happens more often than you might expect.

. . .

5. You own a U.S. patent claiming ABCDE. You discover someone in Hong Kong making and selling an AID that embodies ABCDE. What recourse does your U.S. patent provide?

Specification Requirements – Objective Disclosure Requirements	
<ul style="list-style-type: none"> • Enablement is the central doctrine <ul style="list-style-type: none"> • It fulfills the “public disclosure” part of the patent bargain • It helps delimit the boundaries of patent protection by ensuring that the scope of a patent claim accords with the extent of the inventor’s technical contribution • Written description doctrine <ul style="list-style-type: none"> • Historical role in policing new matter • Role as a standalone requirement 	
§ 112 ¶¶1-2	Language
<p>¶1] The specification shall contain a written description of the invention, and of the <u>manner and process of making and using it</u>, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to <u>make and use</u> the same,</p>	<p>Written Description requirement.</p> <p>Enablement requirement.</p>
<p>and shall set forth the best mode contemplated by the inventor of carrying out his invention.</p>	<p>Best Mode requirement (subjective in part).</p>
<p>¶2] The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.</p>	<p>Definiteness requirement.</p>
<p>IP Survey, Fall 2011, Vetter 29</p>	

Halliburton Energy Servs. v. M-I LLC, 514 F.3d 1244 (Fed. Cir 2008)	
<p>1. A method for conducting a drilling operation in a subterranean formation using a <i>fragile gel</i> drilling fluid comprising:</p> <p>(a) an invert emulsion base;</p> <p>(b) one or more thinners;</p> <p>(c) one or more emulsifiers; and</p> <p>(d) one or more weighting agents, wherein said operation includes running casing in a borehole.</p> <p>(emphasis added).</p>	
<ul style="list-style-type: none"> • Claim construction of “fragile gel” <ul style="list-style-type: none"> • no or low organophilic clay or lignite issue • Preamble phrase; why is it limiting? • Two aspects of the claim construction <ul style="list-style-type: none"> • 1) A gel that easily transitions to a liquid state upon the introduction of force (e.g., when drilling starts) and returns to a gel when the force is removed (e.g., when drilling stops); and • 2) At rest, is capable of suspending drill cuttings and weighting materials • Is “fragile gel” definite? <ul style="list-style-type: none"> • A POSITA cannot determine how quickly the fluid will return to the liquid state, or its capacity for suspending drill cuttings and weighting materials • compared to “synergistically effective amount” 	
<p>IP Survey, Fall 2011, Vetter 30</p>	

Halliburton – note on a preamble phrase that is limiting	
Preamble phrase “fragile gel” is not limiting; it remains like the rest of the preamble language: describing a general purpose, context, field, or use for the invention	Preamble phrase “fragile gel” is found to be limiting (by admission in this case; but various legal tests allow parties to argue that preamble language is limiting)
A – invert emulsion base	A – invert emulsion base
B – thinner(s)	B – thinner(s)
C – emulsifier(s)	C – emulsifier(s)
D – weighting agent(s)	D – weighting agent(s)
E – fluid is visco-elastic	E – fluid is visco-elastic
	F – fluid is a fragile gel
<p>IP Survey, Fall 2011, Vetter 31</p>	

Halliburton – note on the presumption of validity
<p>35 U.S.C. § 282 Presumption of validity; defenses. A patent shall be presumed valid. Each claim of a patent (whether in independent [or] dependent . . . form) shall be presumed valid independently of the validity of other claims; . . . dependent claims shall be presumed valid even though dependent upon an invalid claim. . . . The burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity.</p> <ul style="list-style-type: none"> ● Standard of proof ● Pros / cons of that standard? <p>IP Survey, Fall 2011, Vetter 32</p>

CFMT, Inc. v. YieldUp Int'l Corp., 349 F.3d 1333 (2003)

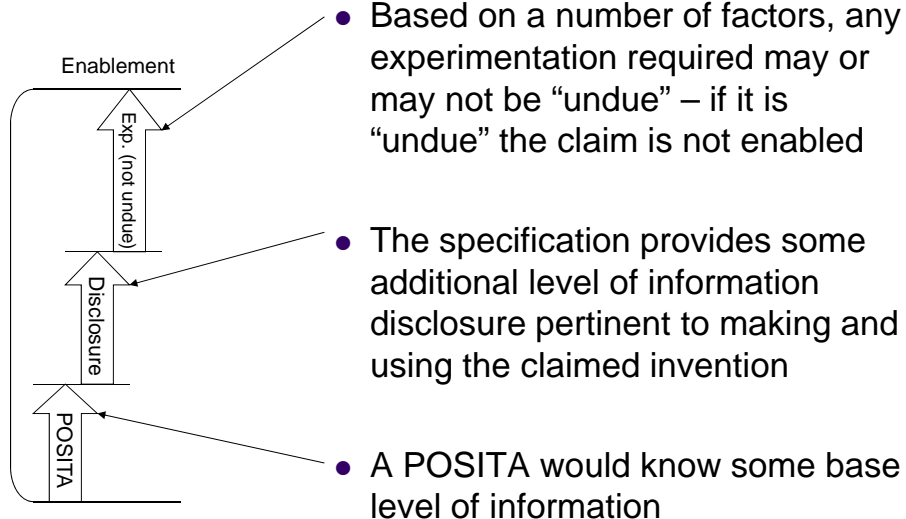
20. Apparatus for *wet processing* of semiconductor wafers comprising:

(a) vessel means for supporting said wafers in a closed circulation process stream wherein process fluids may sequentially flow past said wafers and

(b) means for supplying at least one chemical reagent to said process stream for reacting with portions of said wafers, said process stream being positioned within said vessel means such that said vessel means is hydraulically full with process fluid.

- Claim construction for “cleaning,” “treatment,” and “wet processing”
- Embodiments
 - Prototype that can clean penciled grease marks
 - Full Flow system for TI
- Success and/or failure with embodiments
- Effect of follow-on patent

How to think about Enablement

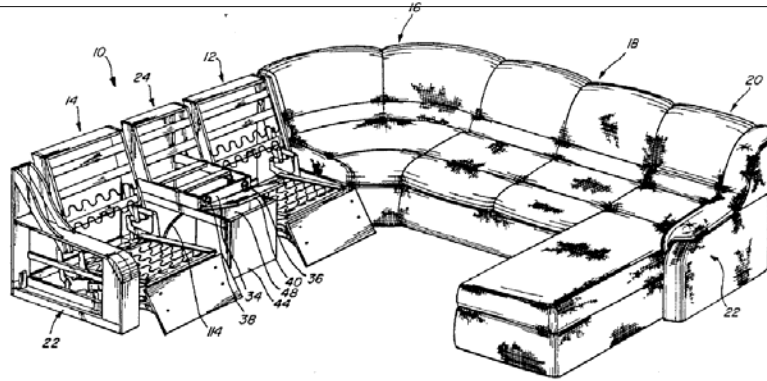


Note on CFMT, Inc. v. YieldUp - embodiments		
Hypothetical Prototype	Contaminant size the prototype can clean	Months it takes a POSITA to make the prototype operate based on teachings from the patent instrument
One	100 microns or larger	1 month
Two	90-100 microns	2 months
Three	80-90 microns	3 months
Four	70-80 microns	4 months
Five	60-70 microns	5 months
Six	50-60 microns	6 months
Seven	40-50 microns	7 months
Eight	30-40 microns	8 months
Nine	20-30 microns	9 months
Ten	10-20 microns	10 months
<p>IP Survey, Fall 2011, Vetter 35</p>		

<u>Enablement – undue experimentation – Wands factors</u>
<ul style="list-style-type: none"> ● quantity of experimentation necessary ● amount of direction or guidance provided ● presence or absence of working examples ● nature of the invention ● state of the prior art ● relative skill of those in the art ● predictability or unpredictability of the art ● the breadth of the claims <p>IP Survey, Fall 2011, Vetter 36</p>

Gentry Gallery v. Berline Corp., 134 F.3d 1473 (Fed. Cir. 1998)

1. A sectional sofa comprising:
a pair of reclining seats disposed in parallel relationship with one another in a double reclining seat sectional sofa section being without an arm at one end . . . ,
each of said reclining seats having a backrest and seat cushions and movable between upright and reclined positions . . . ,
a *fixed console* disposed in the double reclining seat sofa section between the pair of reclining seats and with the console and reclining seats together comprising a unitary structure,
said console including an armrest portion for each of the reclining seats; said arm rests remaining fixed when the reclining seats move from one to another of their positions,
and a *pair of control means*, one for each reclining seat; *mounted on the double reclining seat sofa section* . . .



Ariad Pharms., Inc. v. Eli Lilly & Co., 598 F.3d 1336 (Fed. Cir. 2010)

Possession Test: whether the disclosure of the application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date

The term "possession," however, has never been very enlightening. . . . "possession as shown in the disclosure" is a more complete formulation. . . .

This inquiry, as we have long held, is a question of fact. Thus, we have recognized that determining whether a patent complies with the written description requirement will necessarily vary depending on the context. Specifically, the level of detail required to satisfy the written description requirement varies depending on the nature and scope of the claims and on the complexity and predictability of the relevant technology. For generic claims, we have set forth a number of factors for evaluating the adequacy of the disclosure, including "the existing knowledge in the particular field, the extent and content of the prior art, the maturity of the science or technology, [and] the predictability of the aspect at issue."

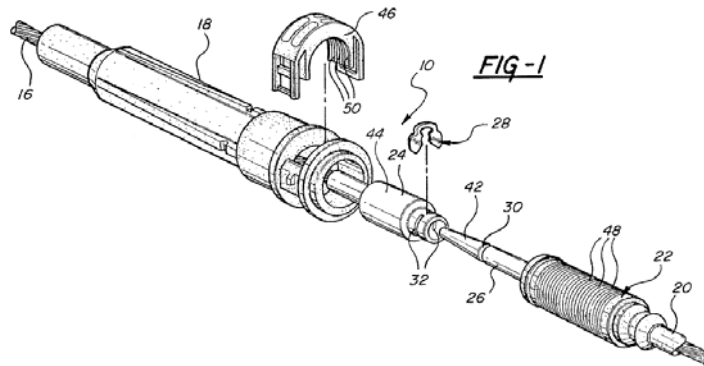
The law must be applied to each invention at the time it enters the patent process, for each patented advance has a novel relationship with the state of the art from which it emerges. . . .

There are, however, a few broad principles that hold true across all cases. We have made clear that the written description requirement does not demand either examples or an actual reduction to practice; a constructive reduction to practice that in a definite way identifies the claimed invention can satisfy the written description requirement. Conversely, we have repeatedly stated that actual "possession" or reduction to practice outside of the specification is not enough. Rather, as stated above, it is the specification itself that must demonstrate possession. And while the description requirement does not demand any particular form of disclosure, or that the specification recite the claimed invention in haec verba, a description that merely renders the invention obvious does not satisfy the requirement.

Teleflex, Inc. v. Ficosa N. Am. Corp., 299 F.3d 1313 (Fed. Cir. 2002)

1. . . .

a clip (28) manually insertable into and manually removable from said locked position mechanically interlocking said core element sections together while moving axially within said guide lengths, . . . said clip (28) being disposed about said female member (24) and extending through said slot (32) and into said male groove (30) for mechanically interlocking said core element sections together in said locked position.



Problems

Alpha owns the '123 patent where claim 1 is: a cleaning fluid comprising: (a) 5-15% hydroxide detergent; (b) 2-10% scrubbing bubble facilitator fluid (SBFF); (c) an effective amount of mixing agent; and (d) balance water. The inventor is Smith, an employee of Alpha. This problem will model claim 1's four limitations symbolically as ABCD. An embodiment of claim 1 will implement actual percentages for all four limitations, and POSITAs understand that the sum will equal one hundred percent. For this set, any facts stated in a particular problem apply in all problems.

1. POSITAs are familiar with mixing agents for hydroxide detergent based cleaning fluids. Such mixing agents are easy to figure into a composition. The only mentions in the '123 patent specification about the mixing agent are that the most effective cleaning action occurred around 5%, that the JohnsonReMix agent was ineffective at all plausible percentages, and that some mixing agent was absolutely necessary. It turns out, however, that Alpha did not understand how to use JohnsonReMix; their directions in the specification incorrectly say how to use it. Beta makes and sells a first accused infringing product (AID₁) that clearly has A, B, & D. For the mixing agent, AID₁ uses the JohnsonReMix product at 6% because Beta understood the proper way to use JohnsonReMix. Proffer a claim construction on behalf of Beta for limitation C in claim 1 with the objective of avoiding infringement with AID₁. Assess Beta's ability to prevail on a definiteness or enablement challenge for limitation C.

Problems

Alpha owns the '123 patent where claim 1 is: a cleaning fluid comprising: (a) 5-15% hydroxide detergent; (b) 2-10% scrubbing bubble facilitator fluid (SBFF); (c) an effective amount of mixing agent; and (d) balance water. The inventor is Smith, an employee of Alpha. This problem will model claim 1's four limitations symbolically as ABCD. An embodiment of claim 1 will implement actual percentages for all four limitations, and POSITAs understand that the sum will equal one hundred percent. For this set, any facts stated in a particular problem apply in all problems.

2. Beta makes and sells cleaning fluid AID₂ that has ABC, but instead of a balance of water, it uses coconut juice. Coconut water is a mostly-clear, naturally-occurring liquid that builds up inside a coconut. It is about 95% water and about 5% dissolved solids. The '123 patent specification discusses in five places the need for filtered, clear water with only trace amounts of solids. The patent instrument never mentions coconut water. Strangely, however, at the time of the '123 patent's filing, Smith was making batches of the cleaning fluid with coconut water. His batches were an embodiment of the claim, and worked just fine with coconut water. No one else knew Smith made these batches. He took it home to wash his car, thinking "this is the best way to make this stuff and my car will look better than anyone else's on my street." Proffer a claim construction on behalf of Beta for limitation D in claim 1 with the objective of avoiding infringement with AID₂. Assess Beta's ability to prevail on a best mode challenge to claim 1. I changed this to its more common name, but if you prefer juice we can change it back.

Problems

Alpha owns the '123 patent where claim 1 is: a cleaning fluid comprising: (a) 5-15% hydroxide detergent; (b) 2-10% scrubbing bubble facilitator fluid (SBFF); (c) an effective amount of mixing agent; and (d) balance water. The inventor is Smith, an employee of Alpha. This problem will model claim 1's four limitations symbolically as ABCD. An embodiment of claim 1 will implement actual percentages for all four limitations, and POSITAs understand that the sum will equal one hundred percent. For this set, any facts stated in a particular problem apply in all problems.

3. No POSITA has ever heard of the term "scrubbing bubble facilitator fluid." Alpha's factory discharges numerous types of foaming agents in varying quantities into a big vat for pickup each week. Within the factory it uses several dozen foaming agents. Smith simply takes material from the big vat as his SBFF to make the claim 1 cleaning fluid. POSITAs know how to use individual foaming agents, but do not know how to combine them. The '123 patent specification does not discuss foaming agents nor does it give any details about SBFF. Assess Beta's ability to prevail on a definiteness or enablement challenge for limitation B.

Problems

Alpha owns the '123 patent where claim 1 is: a cleaning fluid comprising: (a) 5-15% hydroxide detergent; (b) 2-10% scrubbing bubble facilitator fluid (SBFF); (c) an effective amount of mixing agent; and (d) balance water. The inventor is Smith, an employee of Alpha. This problem will model claim 1's four limitations symbolically as ABCD. An embodiment of claim 1 will implement actual percentages for all four limitations, and POSITAs understand that the sum will equal one hundred percent. For this set, any facts stated in a particular problem apply in all problems.

4. About thirteen months after filing, while the '123 application was still before the PTO, Alpha added independent claim 2 to ABD. In other words, claim 2 is claim 1 rewritten to eliminate limitation C. In the United States, Beta makes and sells cleaning fluid AID₃ that is an embodiment of ABD. Assess Beta's ability to prevail on a written description challenge for limitation C to invalidate claim 2 and thus escape infringement for AID₃.

35 USC §101

Whoever invents or discovers any
new and useful
process,

machine, manufacture, or
composition of matter,

or any new and useful improvement
thereof,

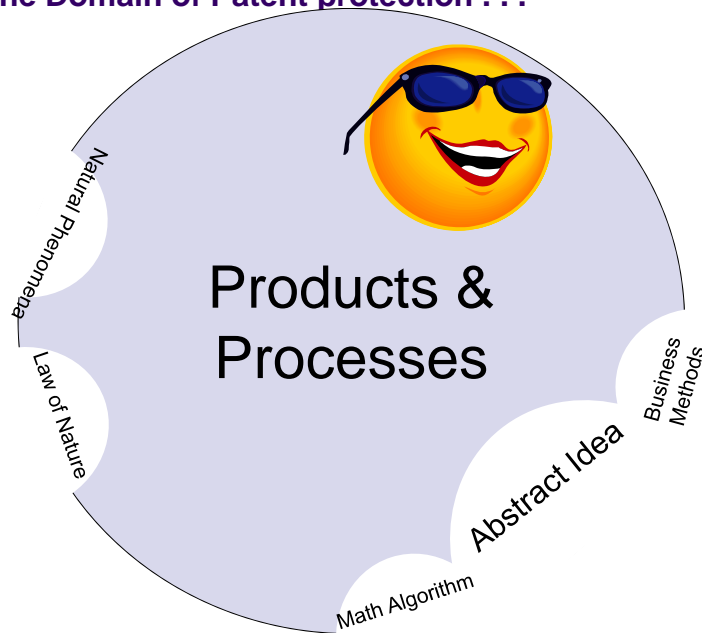
may obtain a patent therefor, subject to the
conditions and requirements of this title

"Product"
claims or
inventions

Patent Eligibility - Process

- 35 U.S.C. 100(b)
 - The term "process" means process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material.
- Modern test of the bounds of the broad term “process” has been in relation to computer software
 - Is software more like abstract principles and mental steps or like implemented electronic circuits?

The Domain of Patent protection . . .



In re Nuijten, 500 F.3d 1346 (Fed. Cir. 2007)

Nuijten claim 14: A *signal* with embedded supplemental data, the signal being encoded in accordance with a given encoding process and selected samples of the signal representing the supplemental data, and at least one of the samples preceding the selected samples is different from the sample corresponding to the given encoding process.

- A “watermark distortion-reducing encoded signal”, when claimed by itself, is not a “manufacture” because it is a transitory embodiment (mere propagating signal) {nor is it a “process”, “machine” or “composition”}
- As a transitory embodiment, it is not an “article” as in Chakrabarty

“Step Change” in Patent Law - Abstract Ideas & Business Methods

- Eligible Subject Matter
- Utility
- Statutory Bars, Novelty
- Non-obvious
- Disclosure Requirements

In re Bilski (Fed. Cir. 2008) (en banc)

- Claimed method does not transform an “article”
 - Machine-or-Transformation (MoT) is **THE** test
 - Need meaningful limits on claim scope
 - Field preemption prevention policy concern (vs. particular application)
- “articles”
 - “The raw materials of many information-age processes, however, are electronic signals and electronically-manipulated data.”
 - Make it a “different state or thing”
 - Too abstract to be an article: “legal obligations, organizational relationships, and business risks.”
 - Data that represents physical and tangible objects/substances is an “article”

Bilski claim 1: A method for managing the consumption risk costs of a commodity sold by a commodity provider at a fixed price comprising the steps of:

- (a) initiating a series of transactions between said commodity provider and consumers of said commodity wherein said consumers purchase said commodity at a fixed rate based upon historical averages, said fixed rate corresponding to a risk position of said consumer;
- (b) identifying market participants for said commodity having a counter-risk position to said consumers; and
- (c) initiating a series of transactions between said commodity provider and said market participants at a second fixed rate such that said series of market participant transactions balances the risk position of said series of consumer transactions

Bilski v. Kappos, 130 S. Ct. 3218 (2010)

- Some methods of doing business might pass muster as a “process” under section 101
 - After State Street, Congress enacted a type of “prior user rights” for methods of doing business
 - This foreclosed an interpretation where one might say “no business methods can be a ‘process’ in a section 101 sense
- The “machine-or-transformation” test is not the only test for when a claim recites a qualifying “process”
- Emphasis is still on the need for limits on the claim to make it non-abstract
 - Field preemption prevention policy concern (vs. particular application)

Bilski claim 1: A method for managing the consumption risk costs of a commodity sold by a commodity provider at a fixed price comprising the steps of:

- (a) initiating a series of transactions between said commodity provider and consumers of said commodity wherein said consumers purchase said commodity at a fixed rate based upon historical averages, said fixed rate corresponding to a risk position of said consumer;
- (b) identifying market participants for said commodity having a counter-risk position to said consumers; and
- (c) initiating a series of transactions between said commodity provider and said market participants at a second fixed rate such that said series of market participant transactions balances the risk position of said series of consumer transactions

Bilski v. Kappos, 130 S. Ct. 3218 (2010)

- Commentary on the machine or transformation test and on business methods as claimed processes:

n.8 This Court's precedents establish that the machine-or-transformation test is a useful and important clue, an investigative tool, for determining whether some claimed inventions are processes under § 101. The machine-or-transformation test is not the sole test for deciding whether an invention is a patent-eligible "process." . . .

the machine-or-transformation test would create uncertainty as to the patentability of software, advanced diagnostic medicine techniques, and inventions based on linear programming, data compression, and the manipulation of digital signals . . .

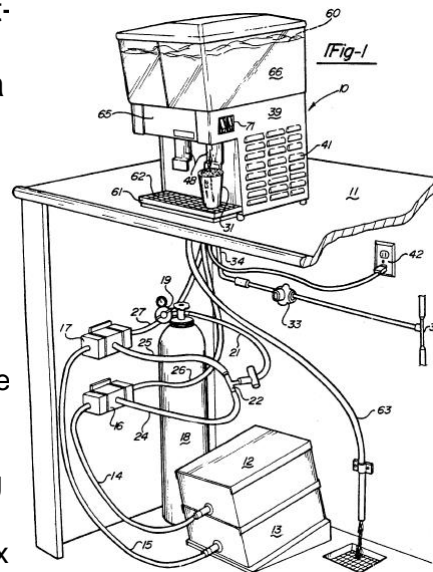
Interpreting § 101 to exclude all business methods simply because business method patents were rarely issued until modern times revives many of the previously discussed difficulties. . . . At the same time, some business method patents raise special problems in terms of vagueness and suspect validity. See *eBay Inc. v. MercExchange, L.L. C.*, 547 U.S. 388, 397 (2006) (KENNEDY, J., concurring). The Information Age empowers people with new capacities to perform statistical analyses and mathematical calculations with a speed and sophistication that enable the design of protocols for more efficient performance of a vast number of business tasks. If a high enough bar is not set when considering patent applications of this sort, patent examiners and courts could be flooded with claims that would put a chill on creative endeavor and dynamic change.

Bilski claim 1: A method for managing the consumption risk costs of a commodity sold by a commodity provider at a fixed price comprising the steps of:

- (a) initiating a series of transactions between said commodity provider and consumers of said commodity wherein said consumers purchase said commodity at a fixed rate based upon historical averages, said fixed rate corresponding to a risk position of said consumer;
- (b) identifying market participants for said commodity having a counter-risk position to said consumers; and
- (c) initiating a series of transactions between said commodity provider and said market participants at a second fixed rate such that said series of market participant transactions balances the risk position of said series of consumer transactions

Juicy Whip, Inc. v. Orange Bang, Inc., 185 F.3d 1364 (Fed. Cir. 1999)

- Juicy Whip's patent is for "post-mix" beverage dispenser that simulates the presentation of a "pre-mix" beverage dispenser
- District court, on S/J, held patent invalid
 - Purpose is to increase sales by deception
 - Other claimed usefulness (eliminating need to clean) is not independent of deceptive purpose and thus insufficient to raise a genuine issue of material fact
 - Improves prior art only by making the product more saleable
 - Is merely an imitation of a pre-mix dispenser



Juicy Whip v. Orange Bang



- Utility threshold is not high
 - merely need some identifiable benefit, useful result, or beneficial end
- District court applied two pre-1952 Second Circuit cases about creating artificial impressions of higher quality
 - “Spotting” unspotted tobacco leaves
 - “Seaming” seamless hosiery
- These cases do not represent the modern state of the utility doctrine
 - The fact that one product can be altered to make it look like another is in itself a specific benefit sufficient to satisfy the utility requirement
 - Product imitation is not unusual
 - It is not unlawful to display the simulated beverage
 - Utility requirement is not meant to make the courts or the PTO be arbiters of deceptive trade practices

Types of Utility

- operability
- beneficial/moral utility
- immediate benefit to the public, i.e., substantial utility, with its synonyms of practical and real-world utility
- specific utility, seeking to tie the utility to the claimed subject matter
- credible utility, so that the utility is provable to a POSITA.

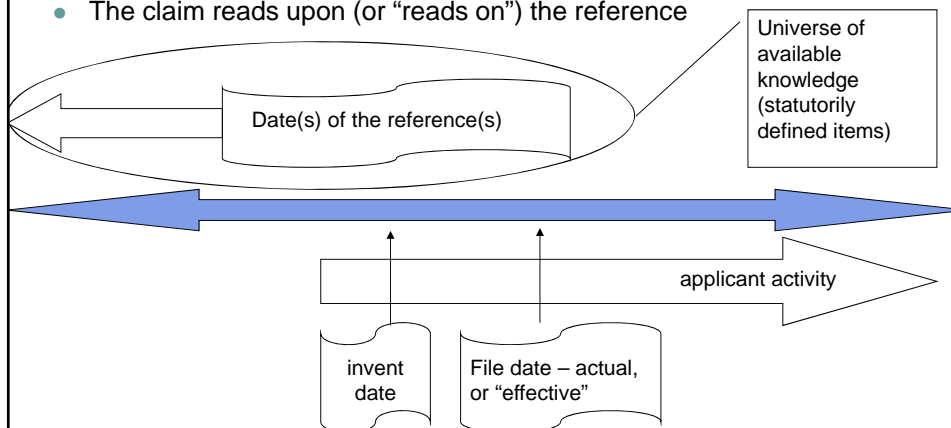
From 2001 Revised Utility Guidelines: For example, a claim to a polynucleotide whose use is disclosed simply as a “gene probe” or “chromosome marker” would not be considered to be *specific* in the absence of a disclosure of a specific DNA target.

Novelty and Statutory Bars (patent defeating events) in §102

- Novelty
 - sections (a), (e) & (g)
 - the **age** of the prior art reference is earlier
 - “keyed” to the date of invention
 - “first to invent” priority system
- Statutory Bars
 - sections (b) & (d)
 - if I delay I am **barred**
 - “keyed” to the filing date
- Other patent-defeating events
 - abandonment - §102(c)
 - derivation - §102(f)



Prior Art References

- “anticipating” references are part of the analysis for both novelty and statutory bar patent defeating events
- What is an “anticipating” reference? (answered different ways that mean the same thing)
 - The reference “has” all the elements of the claim
 - The claim covers what is disclosed by the reference
 - The claim reads upon (or “reads on”) the reference



§102(b)



102(b) – if the applicant does not file within one year of the date of the prior art reference or activity, then the patentee is barred from applying for the patent.

	in public use or	No purposeful hiding of use. Experimental use exception.
	on sale	Commercial offer for sale and invention is ready for patenting
	patented or	same as 102(a).
	printed publication	same as 102(a).

“the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States ”

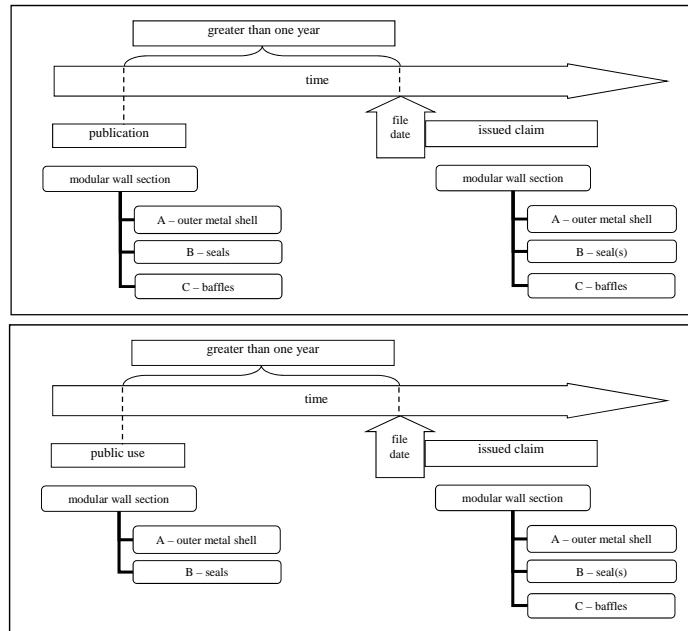
§102(a)

102(a) – if the prior art reference occurred prior to the date of invention of what is claimed, then the claim is not novel if that reference anticipates the claim (has all the limitations/elements of the claim).

	public knowledge or	“Public” is an implied requirement, relates to that segment of the public most interested in the technology, public if no deliberate attempts to keep it secret.
	used by others	One use is sufficient, even if private, remote or widely scattered, public if no deliberate attempts to keep it secret.
	patented or	A grant of exclusive rights, evaluated for what is claimed, accessible to public & not secret
	printed publication	Public accessibility – the document was made available to the extent persons interested and ordinarily skilled in the art, exercising due diligence, could locate it. The test for what is a “patent or printed publication” is the same under 102(a) & (b).

“the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent”

bars/novelty – prior art references & anticipation



§102(a) & (b) - "Printed Publication" – In re Hall (Fed. Cir. 1986)

- Hall's effective filing date is 2/27/79
- During September 1977 the anticipating doctoral thesis of Dr. Foldi was submitted to the Dept. of Chemistry and Pharmacy at a university in Germany
- German library says that its dissertations are made available to the public by being cataloged, indexed and placed in the collection
- Dr. Foldi's thesis was likely available for general use during December 1977
 - This is based on library's estimation of its typical timeliness in processing received dissertations
 - The known date of receipt was in November, 1977
- Implications if the library's estimate is incorrect by 3 months?
 - This would put the library cataloging/indexing of the dissertation into March 1978 – how would this impact the outcome?

Egbert v. Lippman (1881)

- How does Egbert deal with the following considerations in determining whether a use is “public use” under §102(b)?
 - Number of articles in use?
 - Number of users?
 - Significance of public observation?
 - Number of observers?
 - Extent to which observers understand the disclosed technology?
- Significance of efforts to keep it secret?
 - Presence or absence of a confidentiality agreement?
 - Can close personal relationships substitute?

City of Elizabeth v. Pavement Co. (1877)

- Experimental use doctrine
 - If the doctrine applies, then the use is not a patent defeating statutory bar event under §102(b)
- Fundamental inquiry
 - ***is the use necessary to demonstrate workability of the invention, i.e., suitability for its intended purpose***
- Does doctrine apply to Mr. Nicholson’s road pavement invention?
 - Abandonment is not the issue here, although abandonment can occur during the §102(b) “grace” period



City of Elizabeth v. Pavement Co. (1877)



- Must experiment on street pavement in public
 - Some experiments, such as for durability, may take time
- A use is not a “public use,” even if the public benefits, if the use is still an experiment
- Nicholson’s situation
 - He controlled the experiment, had consent and performed it on the premises of the company he had some influence over
 - Experiment had the valid purpose of testing for durability and needed the public venue to properly test this characteristic
 - While it was a long test, the length seems reasonable
 - Users did not pay any additional amounts for the use of the invention, the road was already a toll road
 - Mr. Nicholson was constantly inspecting the road and monitoring its performance, asking the toll gate operator how travelers liked it

Experimental Use factors

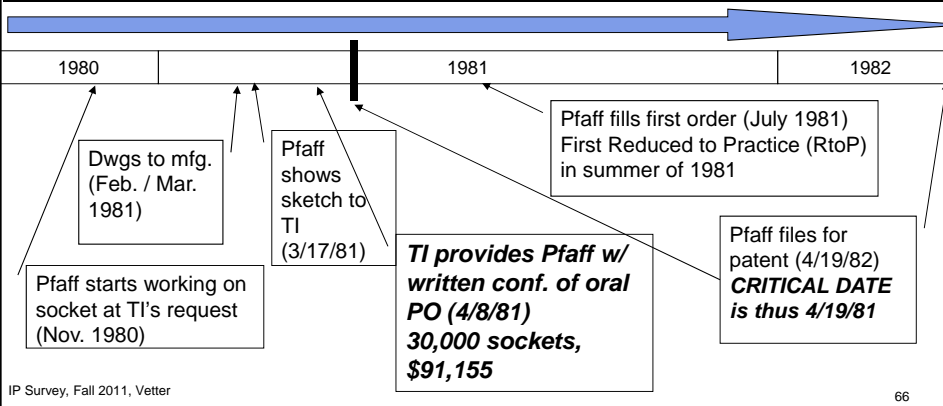
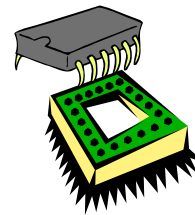
- Factors for experimental use exception to public use statutory bar – to help determine whether the experiment is leading to an actual reduction to practice:
 - Control by inventor (most important)
 - Confidentiality / secrecy agreements
 - Necessity of public testing
 - Length of test period, number of prototypes
 - Did users pay? Commercial exploitation?
 - Progress reports, monitoring, records of performance
 - The experiment must be for claimed features of the invention, or perhaps for general purpose/utility of the invention
 - Are experiments hidden?

On Sale Bar – §102(b)

- Subject of a commercial sale or offer for sale
- Intention is “ready for patenting,” i.e., it is “complete,” satisfied in either of two ways:
 - Actual Reduction to Practice
 - invention in existence and proven to operate for its intended purpose
 - This could mean it has been “built” or could be met though other forms of evidence
 - OR
 - “Ready for patenting”
 - Sufficiently specific information is available to prove that the invention is fully conceived, such as drawings, technical descriptions
 - Must enable a person skilled in the art to practice the invention.
 - Analogous to a “Constructive Reduction to Practice” – a term sometimes used to refer to the filing of a patent application

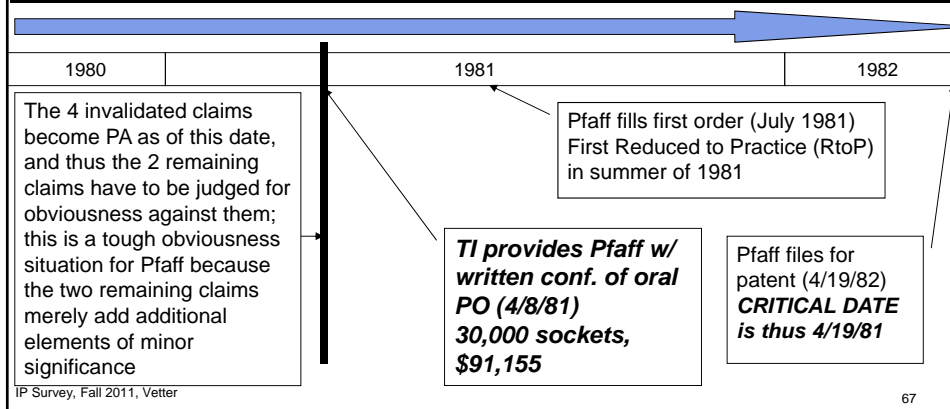
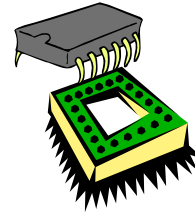
Pfaff v. Wells Elec. (1998)

- Pfaff invents new socket for Texas Instruments (TI)
 - His normal practice is not to make or test a prototype before offering to sell it in commercial quantities
 - District court rejects Wells’ §102(b) On Sale Bar (OSBar) defense



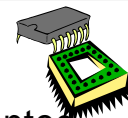
Pfaff v. Wells Elec. (1998)

- Federal Circuit Opinion
 - Four of Six claims are invalidated by OSBar
 - The remaining two claims are invalid under the obviousness test when the four invalidated claims are considered as prior art references
 - If invalid under the OSBar, these 4 claims would be Prior Art to the two remaining claims



Pfaff v. Wells Elec. (1998)

- Supreme Court
 - Well settled that an invention may be patented before an Actual Reduction to Practice (ARtoP)
 - Only reference to term RtoP in statute is §102(g)
 - This reference demonstrates that the date of the patent right is keyed to the conception date
 - To file without an ARtoP, the filed application must meet the Specification Requirements (enablement, written description, best mode, definiteness), but this does not always require building a prototype

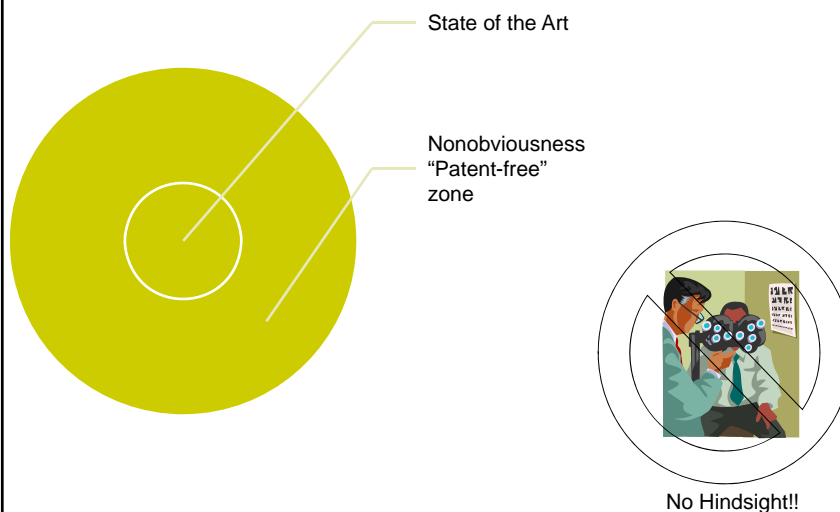


Pfaff v. Wells Elec. (1998)

● Supreme Court

- Pfaff could have patented the invention at the time of the PO
 - The drawings Pfaff provided to the manufacturers described the invention with “sufficient clearness and precision to enable those skilled in the matter” to produce the invention
 - Thus, the invention was “ready for patenting” at the time of the PO
- However, even though Pfaff loses, the Supreme Court agrees that the Federal Circuit’s “substantially complete” Totality of the Circumstances (TofC) test is the wrong standard
- Inventor can both understand and control the timing of the first commercial marketing of the invention
- Here, there was a commercial offer for sale by Pfaff, a response from TI with a purchase order, and an acceptance; all at a time when the invention was “ready for patenting”

The obviousness inquiry



§103(a) – The obviousness inquiry

- 103(a):
 - A patent may not be obtained
 - though the invention is not identically disclosed or described as set forth in section 102 of this title **[distinguishes from novelty]**,
 - if the differences between **[{2} ascertain differences]**
 - the subject matter sought to be patented
 - and
 - the prior art are such that **[{1} scope & content]**
 - the subject matter **[A] as a whole [B] would have been obvious [C] at the time the invention was made [D] to a person having ordinary skill in the art** to which said subject matter pertains. . . . **[{3} assess level of skill]**
- Patentability shall not be negated by the manner in which the invention was made

§103(a) – The obviousness inquiry

- Fundamental Inquiries
 - **{1} scope & content of the prior art**
 - **{2} ascertain differences between**
 - the subject matter sought to be patented & the prior art
 - As a whole; claim by claim
 - for the claims at issue on a claim by claim basis
 - **{3} assess level of skill of a POSITA**
 - **{4} “secondary” or objective indicia**
 - One formulation of the list of these indicia
 - Commercial success
 - Long-felt but unsolved need
 - Failure of others
 - Prompt copying, licensing
 - Unexpected results
 - Recognizing the problem
 - Teaching “away”
 - Results unexpected
 - Disbelief / incredulity

Graham v. John Deere Co. (US 1966)

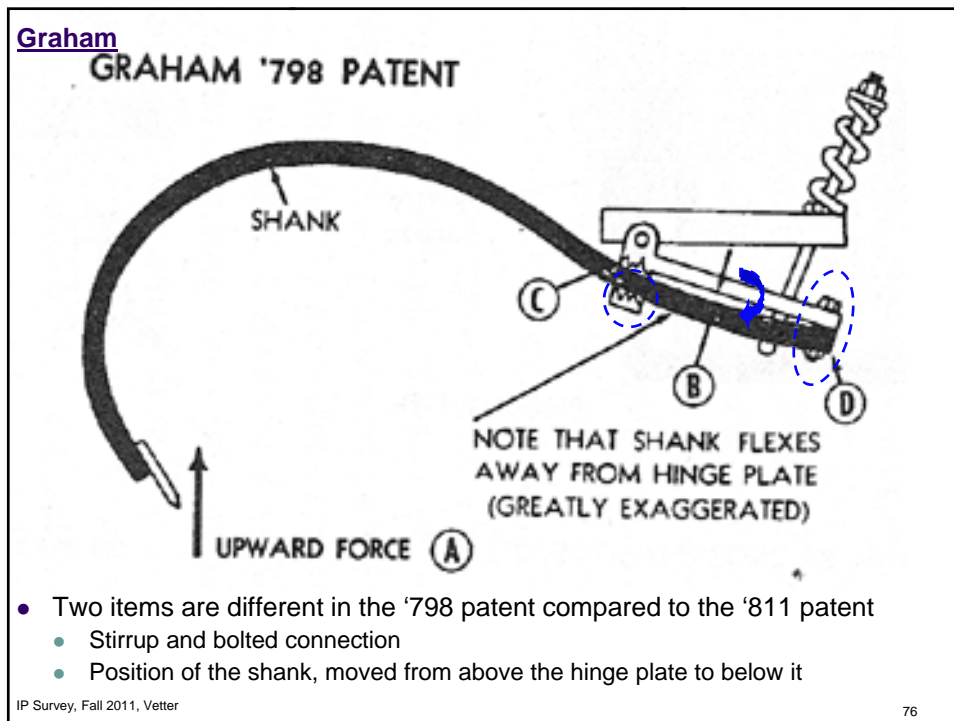
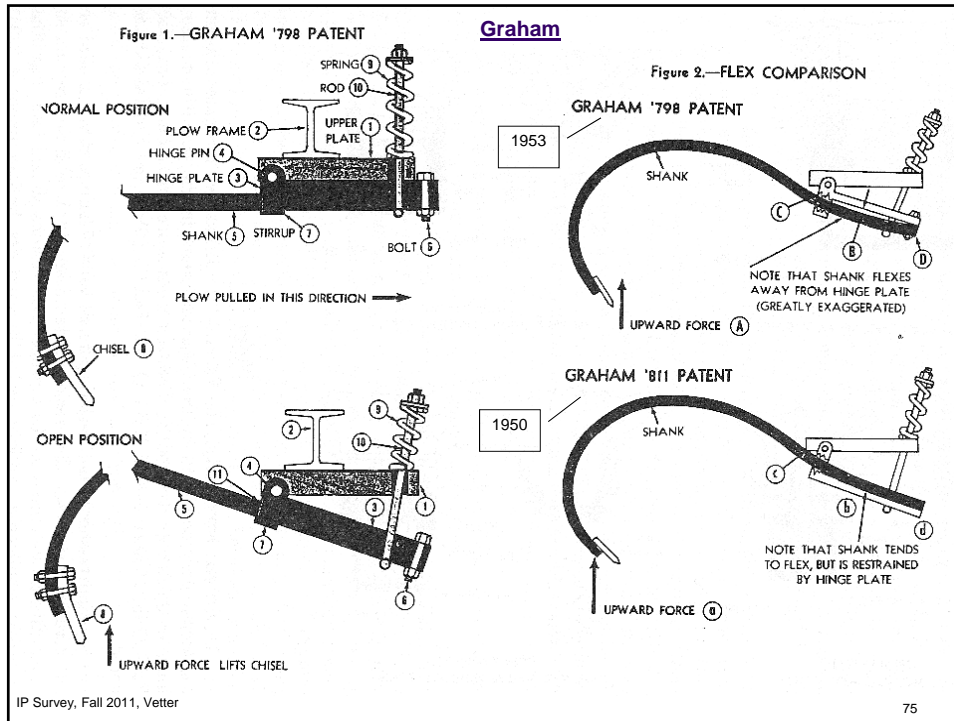
- Split among the circuits on Graham's '798 plow shank patent
 - The 8th circuit says that the patent is invalid
 - ultimately affirmed by the Supreme Court
 - 8th applied the traditional standard of "invention"
 - The 5th circuit said that the patent was valid
 - It produced an old result in a cheaper and otherwise more advantageous way

Graham – how to deal w/ the statutory change

- How to draw the line
 - "between the things which are worth the public embarrassment of an exclusive patent and those which are not"
 - Jefferson only wrote the utility and novelty requirements into the original patent act
- Hotchkiss (US 1851)
 - (U)nless more ingenuity and skill . . . were required . . . than were possessed by an ordinary mechanic acquainted with the business, there was an absence of that degree of skill and ingenuity which constitute essential elements of every invention. In other words, the improvement is the work of the skillful mechanic, not that of the inventor
 - 103 codifies this "additional" requirement of patentability
- Recharacterize "invention" test as a "label"
- Clear emphasis on new word – nonobviousness
 - Difference between the subject matter sought to be patented and the prior art
- New statutory language not intended to change the general level of "patentable invention"
 - as evidenced by the legislative history's apparent references to Hotchkiss



"first administrator of our patent system"



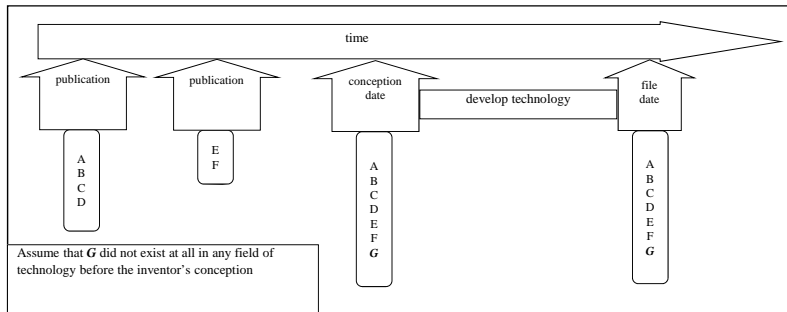
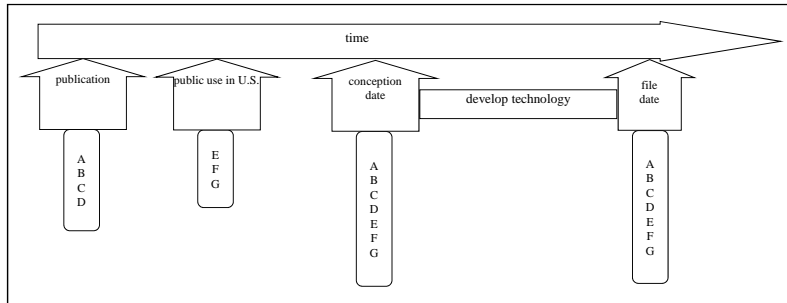
Graham

- **{1} scope & content of the prior art**
 - Graham '811
 - Glencoe device
 - Shank is above hinge plate, like the '811 patent, but it provides a stirrup about which the hinging action occurs.
- **{2} ascertain differences between**
 - the subject matter sought to be patented & the prior art
 - Graham '811
 - Does not have the stirrup & bolt
 - The shank is above the hinge plate
 - Glencoe
 - The shank is also above the hinge plate
 - Has the stirrup and has a bolt
 - for the claims at issue on a claim by claim basis

Graham

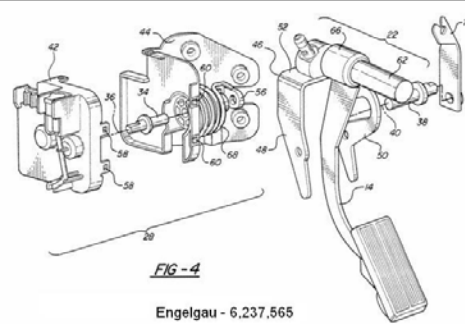
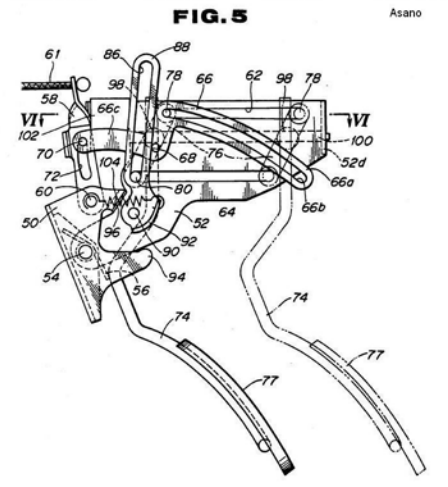
- **{3} assess level of skill of a POSITA**
 - The court notes that Graham's expert stated that "flexing" in the '798 patent was not a significant feature
 - Without documenting much of its basis for saying so, the court determines that this change in the cooperation among the elements would have been obvious
 - In large part based on the belief that a POSITA would have instantly thought so
 - What is the "flexing" argument? Why is it rejected by the court?
- **{4} "secondary" or objective indicia**
 - The court does not do much with its quote:
 - Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy.
 - However, this quote becomes the basis for significant development of this fourth fundamental inquiry by the Federal Circuit

Other obviousness examples



KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398 (2007)

U.S. Patent Apr. 30, 1991 Sheet 5 of 7 5,010,782 Asano



Engelgau - 6,237,565

KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398 (2007)

For a designer starting with Asano, the question was where to attach the sensor. The consequent legal question, then, is whether a pedal designer of ordinary skill starting with Asano would have found it obvious to put the sensor on a fixed pivot point. The prior art discussed above leads us to the conclusion that attaching the sensor where both KSR and Engelgau put it would have been obvious to a person of ordinary skill.

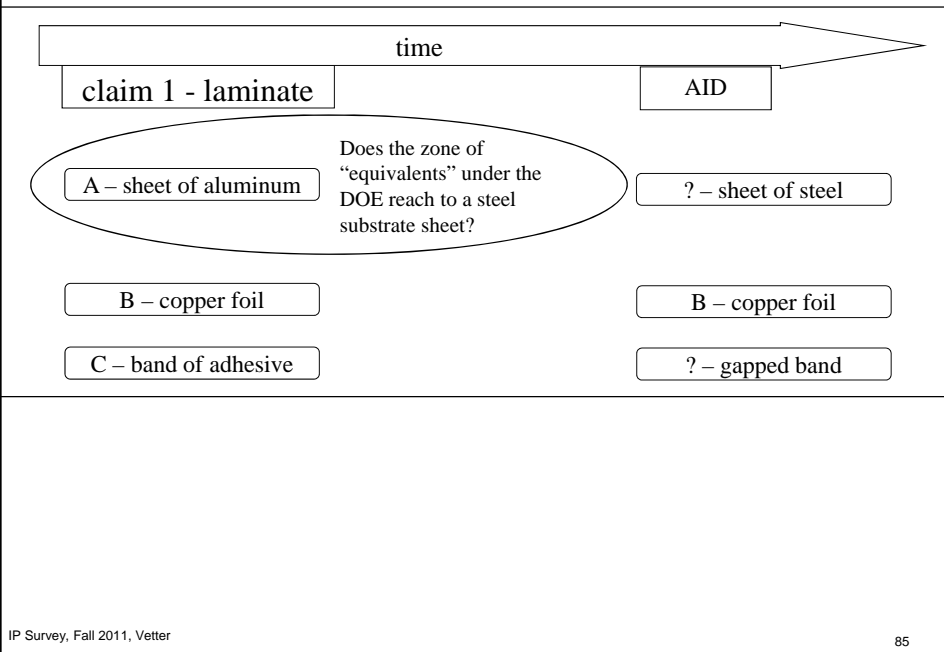
The '936 patent taught the utility of putting the sensor on the pedal device, not in the engine. Smith, in turn, explained to put the sensor not on the pedal's footpad but instead on its support structure. And from the known wire-chafing problems of Rixon, and Smith's teaching that "the pedal assemblies must not precipitate any motion in the connecting wires," the designer would know to place the sensor on a nonmoving part of the pedal structure. The most obvious nonmoving point on the structure from which a sensor can easily detect the pedal's position is a pivot point. The designer, accordingly, would follow Smith in mounting the sensor on a pivot, thereby designing an adjustable electronic pedal covered by claim 4.

Just as it was possible to begin with the objective to upgrade Asano to work with a computer-controlled throttle, so too was it possible to take an adjustable electronic pedal like Rixon and seek an improvement that would avoid the wire-chafing problem. Following similar steps to those just explained, a designer would learn from Smith to avoid sensor movement and would come, thereby, to Asano because Asano disclosed an adjustable pedal with a fixed pivot.

KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398 (2007)

claim limitation	reference(s) providing elements corresponding to the limitation	apparent reason for POSITA to combine
a support . . .	Asano; Redding	
an adjustable pedal assembly having a pedal arm moveable . . .	Asano; Redding	
a pivot for pivotally supporting said adjustable pedal assembly . . . defining a pivot axis	Asano	Not merely useful to a POSITA as an example of how to solve the "constant ratio problem" (even force for the pedal throughout its range of movement)
- position of said pivot remains constant while said pedal arm moves . . . (from the last 2 claim lines)	Asano	Rixon, an adjustable pedal with electronic sensor on the footpad, discussed wire chaffing problems; eliminating such problems is suggested by a fixed pivot to eliminate/reduce wire movement
an electronic control attached to said support . . .	'936 patent (detect the pedal position on the pedal structure, not in the engine area); Smith (how to mount a sensor on the pedal's support structure, noting wire chafing problems in Rixon)	Market conditions show demand for computerized throttle control, suggesting eventual use of electronic sensors to transfer pedal position to engine controls
- responsive to said pivot for providing a signal that corresponds to pedal arm position . . .	'068 patent (modular sensor); use of modular sensors in Chevrolet trucks	For non-adjustable pedals, Chevrolet had used modular sensors for measuring pedal position by attachment to the rotating pedal shaft

Johnson & Johnston Assocs. v. R.E. Serv. Co (both cases together)



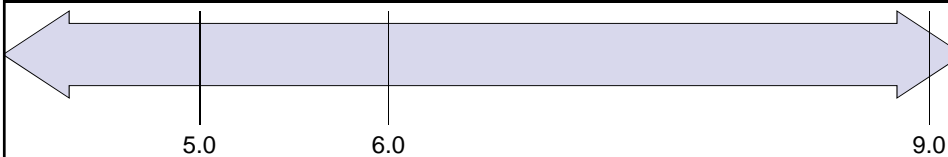
Warner-Jenkinson v. Hilton Davis (US 1997)

- Hilton holds the '746 patent to a process for ultrafiltration of dyes
 - Claim:
 - In a process for the purification of a dye . . . the improvement which comprises: subjecting an aqueous solution . . . to ultrafiltration through a membrane having a nominal pore diameter of 5-15 Angstroms under a hydrostatic pressure of approximately 200 to 400 psig, **at a pH from approximately 6.0 to 9.0**, to thereby cause separation of said impurities from said dye . . .
 - The Claim was amended
 - to distinguish a prior art patent, to Booth, that disclosed an ultrafiltration process operating above 9.0
 - But, disagreement as to why the lower limit is included
 - Warner says lower limit added because "foaming" below 6.0 pH
 - Hilton says process tested to 2.2 pH w/ no foaming, but gives no other reason as to why 6.0 selected

Warner-Jenkinson v. Hilton Davis (US 1997)

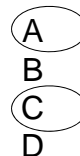
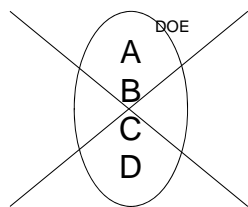
- Jury found patent infringed under DOE
- Federal Circuit affirms in fractured opinion
 - Dispute is over scope of DOE – i.e., scope of equivalents
- Supreme Court reverses

Item	Hilton (claim)	Warner (allegedly infringing)
Pore Diameter (Angstroms)	5-15	5-15
Pressure (p.s.i.g.)	200-400	200-500
pH	6.0 – 9.0	5.0 pH



Warner-Jenkinson v. Hilton Davis (US 1997)

- DOE, broadly applied, conflicts with the definitional and public notice function of the claims
- To resolve that tension, apply DOE on an “element by element” basis



Warner-Jenkinson v. Hilton Davis (US 1997)

- Concepts are later modified by Festo
 - Where the reason for the change was not related to avoiding the prior art, the change may introduce a new element, but it does not necessarily preclude infringement by equivalents of that element
 - Festo expands this to other reasons that can trigger PHE
 - Warner-Jenkinson implements a presumption against the patentee in cases where the reason for the amendment is not revealed on the record
 - Place the burden on the patentee to establish the reason for the amendment
 - If not established, rebuttably presume that it is for a RRtoPat – in which case PHE applies to exclude what the patentee surrendered
- In the present case, no reason given for 6.0 limitation, so presumption should be evaluated on remand

Warner-Jenkinson v. Hilton Davis (US 1997)

- Infringement, including DOE infringement, is intent neutral and an objective inquiry
- Proper time to evaluate DOE and interchangeability for DOE purposes is at the time of infringement
 - Not at time of patent issuance
 - As a result, after-arising technology can be equivalent

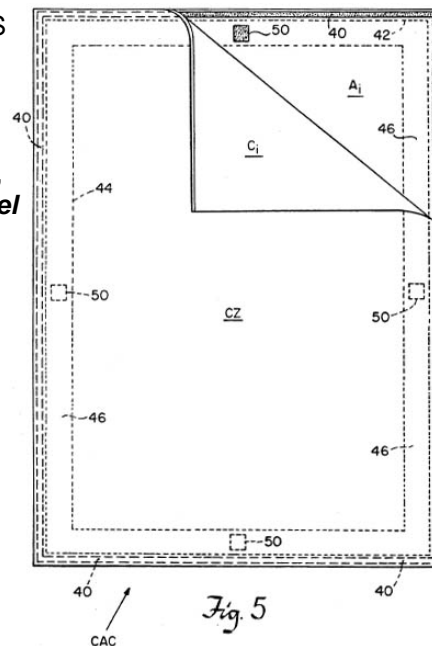
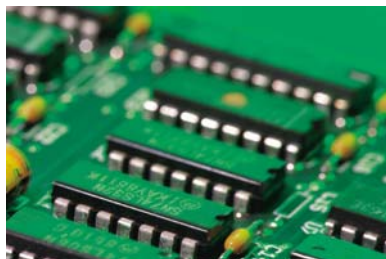
Warner-Jenkinson v. Hilton Davis (US 1997)

- Linguistic framework of the DOE test
 - SSF-SSW-SSR or
 - Insubstantial Differences?
 - An analysis of the role played by each element in the context of the specific patent claim will thus inform the inquiry as to whether a substitute element matches the function, way, and result of the claimed element, or whether the substitute element plays a role substantially different from the claimed element



Johnson & Johnston v. R.E. Service (Fed. Cir. 2002)

- J&J won DOE jury verdict against RES
- Federal Circuit reversed
- Specification
 - While aluminum is currently the preferred material for the substrate, other metals, such as stainless **steel** or nickel alloys, may be used. In some instances ... polypropelene [sic] can be used.



Johnson & Johnston v. R.E. Service (Fed. Cir. 2002)

- Claim 1. A component for use in manufacturing articles such as printed circuit boards comprising:
 - a laminate constructed of a sheet of copper foil which, in a finished printed circuit board, constitutes a functional element and a sheet of **aluminum** which constitutes a discardable element;
 - one surface of each of the copper sheet and the **aluminum** sheet being essentially uncontaminated and engageable with each other at an interface,
 - a band of flexible adhesive joining the uncontaminated surfaces of the sheets together at their borders and defining a substantially uncontaminated central zone inwardly of the edges of the sheets and unjoined at the interface.
- RES products use sheet of steel as a substrate rather than aluminum

Johnson & Johnston v. R.E. Service (Fed. Cir. 2002)

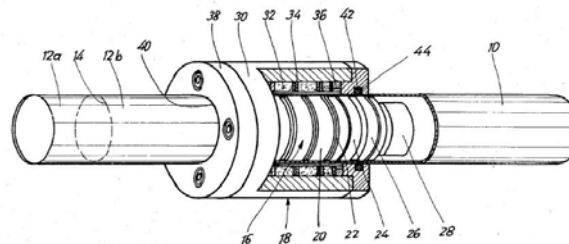
- Maxwell (Fed. Cir. 1996)
- Claiming fastening tabs between inner and outer soles
 - Disclosed, did not claim, fastening the tabs into the lining seam of the shoes
- So, Dedicated it!
- Policy
 - Avoided examination
 - POSITA would think its public domain
- YBM (Fed. Cir. 1998)
- Claim magnet alloy
 - 6k to 35k ppm oxygen
 - Specification allegedly disclosed a range below 6k
 - AID used 5.45k to 6k
- Cabined Maxwell to situations where the unclaimed alternative was “distinct”



Johnson & Johnston v. R.E. Service (Fed. Cir. 2002)

- How does the patentee protect herself?
 - Claim everything?
 - What happens if the claim is later invalidated?
 - It is in the patentee's hands to "get it right" during prosecution

Festo (US 2002)



- SMC's cylinder, rather than using two one-way sealing rings, employs a single sealing ring with a two-way lip
- SMC's sleeve is made of a nonmagnetizable alloy
- Thus, no literal infringement



Festo (US 2002)

- Should PHE
 - Apply to every type of amendment made?
 - In other words, what qualifies as an amendment for a “Reason Related to Patentability” (RRtoPat) for purposes of applying PHE to limit the DOE?
 - Bar all equivalents (complete bar)
 - Or, bar only some, i.e., the equivalents “surrendered” (flexible bar)
- Limits of language to describe technology versus policy reasons to “distinctly claim”
- The Fed. Cir. had said the flexible bar was “unworkable”
 - “the clearest rule of patent interpretation, literalism, may conserve judicial resources but is not necessarily the most efficient rule”

Festo (US 2002)

- Implications of the “indescribable” theory underlying the Supreme Court’s opinion
 - The court assumes that, under the limits of language, there is an inference that “a thing not described was indescribable”
 - Meaning that we should allow DOE to “expand” the claim element’s coverage because language does not reasonably allow for effective description of the asserted equivalent
 - In the court’s view, PHE acts to rebut this inference of “indescribability” that “authorizes” equivalents under DOE
 - When there is an amendment, the rationale for not applying the complete bar is that
 - Even though an amendment was made, that does not mean that the claim is “so perfect in its description that no one could devise an equivalent”

Festo (US 2002)

- What qualifies as a RRtoPat?
 - Traditionally, amendments triggering PHE were in response to PA
 - But, amendments related to the form of the patent, primarily §112 amendments, should also qualify as RRtoPat
 - Patentee has either
 - Conceded an inability to claim the broader subject matter or
 - At least has abandoned his right to appeal a rejection
- Once an amendment occurs for a RRtoPat – what effect does this have on the scope of equivalents?
 - The complete bar implemented the very same literalism that the DOE exists to resist
 - Once amended, there is no more reason to treat the claim literally than there is to treat the original claim literally, except for the surrendered material
 - Courts must be cautious before disrupting the settled expectations of the inventing community

Festo (US 2002)

- Presumption when there is an amendment:
 - surrender of all subject matter between broad earlier claim and narrow amended claim
 - Patentee bears burden of rebutting the presumption
- General principle to rebut:
 - show at time of amendment POSITA could not reasonably be expected to have drafted a claim that would have literally encompassed the alleged equivalent
- Three ways to implement the general principle to rebut:
 - equivalent unforeseeable at time of application **[foreseeability]**
 - rationale underlying the amendment may bear no more than a tangential relation to the equivalent in question **[tangentialness]**
 - some other reason that the patentee could not reasonably be expected to have described the insubstantial substitute in question **[reasonable expectations of those skilled in the art]**

Festo (US 2002)

- Present case
 - The amendment was made to add the sealing rings and composition of the sleeve
 - These amendments were made in response to a §112 rejection, and may also have been made for reasons having to do with PA
 - Thus, these are RRtoPat triggering the presumption

Festo (US 2002)

- From the press files . . .
 - Robert Bork attacked the Court of Appeals for the Federal Circuit's (CAFC) ruling saying that it "**radically undermines the patent system**" with a rule that would not reduce patent litigation. Mr. Bork also stated "**one thing this rule does not do is eliminate uncertainty.**"
 - Bork's second argument rested on Constitutional grounds. In essence, Mr. Bork asserted that the CAFC in *Festo* went outside the judiciary power by making sweeping changes to the patent prosecution system. Mr. Bork accused the CAFC of making legislative decisions; he argued that only Congress or the Patent Office, not the circuit court, has authority under the Constitution to make such changes in the patent system.

Festo (US 2002)

- From the press files . . .
 - Lastly, Mr. Bork argued that the retroactive application of the rule would render **millions of patents “virtually worthless.”** Mr. Bork was referring to the millions of patent holders that are now holding on to essentially less valuable patents because prior to the decision in *Festo*, patent attorneys and inventors freely and frequently amended the claims during the examination process, often at the request of examiners seeking clarification. Mr. Bork also said that patent attorneys, fearful of triggering any claim amendments during prosecution, would seek patents that are too narrow to start with, and therefore would be of “little value” to the inventor, thereby discouraging innovation in the future. Furthermore, Mr. Bork added that “if this were done by anything other than a court, it would be a **taking**” in violation of the Fifth Amendment.

Festo on remand – order for additional briefing (9/20/02) – Opinion on 9/26/03

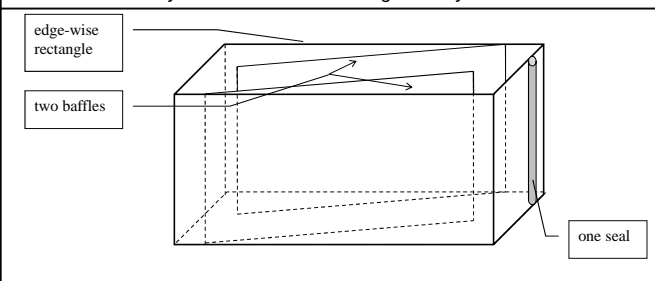
1. Whether rebuttal of the presumption of surrender, including issues of foreseeability, tangentialness, or reasonable expectations of those skilled in the art, is a **question of law** or one of fact; and what role a jury should play in determining whether a patent owner can rebut the presumption.
2. What factors are encompassed by the criteria set forth by the Supreme Court.
3. [omitted]
4. [omitted]

Festo on remand – Opinion on 9/26/03

- Foreseeability
 - Objective
 - Evaluated at the time of the amendment
 - “Usually, if the alleged equivalent represents later-developed technology (e.g., transistors in relation to vacuum tubes, or Velcro® in relation to fasteners) or technology that was not known in the relevant art, then it would not have been foreseeable.
 - In contrast, old technology, while not always foreseeable, would more likely have been foreseeable.
 - Indeed, if the alleged equivalent were known in the prior art in the field of the invention, it certainly should have been foreseeable at the time of the amendment.”
- Tangentialness
 - Objective
 - Discernible from the prosecution history record
 - “whether the reason for the narrowing amendment was peripheral, or not directly relevant, to the alleged equivalent”
 - an amendment made to avoid prior art that contains the equivalent in question is not tangential
- Reasonable expectations of those skilled in the art
 - Narrow, linguistic limitations, probably objective
 - “When possible, it should be evaluated from the prosecution history”

Problem

A modular wall section, comprising:
an edge-wise rectangular outer metal shell where the longer side of the rectangle is within the length range of 2 feet to 5 feet;
one or more seals on one or both of the shorter sides of the rectangle for interfacing with other modular wall sections; and
vertically inclined baffles extending inwardly from the outer metal shell.



1. You make AID₁ in the United States and it is the same as the Diagram except that its baffles extend inwardly from a horizontal line where they connect to the outer metal shell, but at an angle that points them upward and downward, respectively from each side, at about thirty degrees measured from the long side of the outer metal shell. In other words, their connection to the shell is horizontal, rather than vertical as shown in Diagram and as recited in the claim. A POSITA would say that the horizontally inclined baffles perform a substantially similar function in a substantially similar way with a substantially similar result. What result for an infringement claim based on the hypothetical claim?

Problem

A modular wall section, comprising:

an edge-wise rectangular outer metal shell where the longer side of the rectangle is within the length range of 2 feet to 5 feet;

one or more seals on one or both of the shorter sides of the rectangle for interfacing with other modular wall sections; and

vertically inclined baffles extending inwardly from the outer metal shell.

2. Add or change the following facts from problem number one. A POSITA would say that horizontally inclined baffles perform a substantially similar function with a substantially similar result, but that the way the function is performed is not at all substantially similar. What result for an infringement claim based on the hypothetical claim?

3. Add or change the following facts from problem number one. A POSITA would say that horizontally inclined baffles are an insubstantial difference as compared to vertically inclined baffles, particularly because, according to the POSITA, all artisans would recognize that horizontally inclined baffles are interchangeable with vertically inclined baffles. What result for an infringement claim based on the hypothetical claim?

4. Add or change the following facts from problem number one. The specification of the patent containing the hypothetical claim (it is the only claim in the patent, and was the only originally filed claim) states: "for any purpose that the baffles need to fulfill in this invention, horizontally inclined baffles will meet that need." What result for an infringement claim based on the hypothetical claim?