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
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.

---

**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** (enablement, written description, best mode, definiteness)
Patent Acquisition and related actions

Supreme Court

Ct. of Appeals for the Federal Circuit

Dist. Ct. for the Dist. of Columbia

PTO Board of Patent Appeals and Interferences

PTO Examiner

Patent Enforcement and related actions

Supreme Court

Ct. of Appeals for the Federal Circuit

District Court
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; and
  - (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

<table>
<thead>
<tr>
<th>Ver. I</th>
<th>Ver. II</th>
<th>Ver. III</th>
<th>Ver. IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Narrow</td>
<td>1. A seating apparatus, comprising: (a) a horizontal circular seat; (b) three vertical legs of equal length each having one end connected to the bottom of said horizontal seat; and (c) three horizontal support members connecting said three vertical legs.</td>
<td>1. A seating device, comprising: (a) a flat, substantially elliptical board; (b) three rods, each connected at one end to the same side of said board; (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.</td>
<td>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.</td>
</tr>
</tbody>
</table>
**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

```
C1: seat & legs
   C2: & caps
   C3: & seat is wood
      C4: & wood is O, M or A
```

Most broad and abstract
(More devices will infringe, BUT, greater risk for invalidity challenge)

Least broad and abstract
(less devices will infringe, BUT, greater ability to withstand invalidity challenge)
More on claims – labeling elements/limitations

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

Most broad and abstract (More devices will infringe, BUT, greater risk for invalidity challenge)

C1: AB

C2: AB C

C3: AB D

C4: ABD E

Least broad and abstract (less devices will infringe, BUT, greater ability to withstand invalidity challenge)

Patent Instrument

United States Patent

| Patent Number: 5,190,351 |
| Date of Patent: Mar. 2, 1993 |

Primary Examiner—David M. Mitchell
Attorney, Agent, or Firm—Albritt, Rosales, Starks & Sawai

ABSTRACT

A wheelbarrow has an enlarged wheel and a low center of gravity for transporting heavy loads. The enlarged wheel and low center of gravity increases the stability of the wheelbarrow. The wheelbarrow includes a payload bucket which is tiltable for dumping the payload. The bucket is mounted such that the dumping operation is behind the wheel of the wheelbarrow, whereby the dumping operation can be completed without substantially altering the center of gravity of the wheelbarrow, further enhancing the stability of the wheelbarrow when transporting heavy loads. The wheelbarrow bucket includes an arcuate or C-shaped bottom facilitating the dumping operation.

3 Claims, 1 Drawing Sheet
### Example Utility Patent - 5,190,351

**Claim 1**

1. A wheelbarrow... _comprising_

   - a frame having two... rails... and at least one cross brace...
   - an axle...
   - a wheel... [with] minimum diameter of 30 inches
   - a pair of mounting brackets... mounted...
   - Intermidately...
   - a box having a semicylindrical closed bottom, upstanding side walls having a C-shaped bottom edge... Including a pair of axially aligned pivot posts...
   - a support...

**Label**

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
</table>
The "specification" is the entire disclosure
The "written description" is the textual description

The label “written description” that is used to describe a portion of the patent document is different from the § 112 ¶1 “written description requirement”

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**Applying for a patent – “prosecution” & amendments**

I claim:

1. A wheelbarrow for transporting rocks and stones, comprising:
   a. a frame . . .;
   b. an axle . . .;
   c. a wheel mounted on said axle for rotation relative to said frame, *wherein the wheel is of a minimum diameter of 30 inches*;
   d. a pair of mounting brackets . . .;
   e. a box having a semicylindrical closed bottom . . .; and
   f. a support secured to and extending downwardly from said frame between the handles and the box for supporting the frame and the box above the ground.

- In prosecution, PTO examiners often reject claims for a number of reasons related to one of the elements of patentability
- In response, applicants can do a number of things, including amending the claim language
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** (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
Chakrabarty

- 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?

Claim illustration – Chakrabarty, Pat. No. 4,259,444

From the originally allowed claims:
14. An inoculated medium for the degradation of liquid hydrocarbon substrate material floating on water, said inoculated medium comprising a carrier material able to float on water and bacteria from the genus *Pseudomonas* carried thereby, at least some of said bacteria each containing at least two stable energy-generating plasmids, each of said plasmids providing a separate hydrocarbon degradative pathway and said carrier material being able to absorb said hydrocarbon material.
Claim illustration – Chakrabarty, Pat. No. 4,259,444

- **in·oc·u·late** v. *tr.* **in·oc·u·lat·ed** **in·oc·u·lat·ing** **in·oc·u·lates**
  1. To introduce a serum, a vaccine, or an antigenic substance into (the body of a person or an animal), especially to produce or boost immunity to a specific disease. **2.** To communicate a disease to (a living organism) by transferring its causative agent into the organism. **3.** To implant microorganisms or infectious material into (a culture medium). **4.** To safeguard as if by inoculation; protect. **5.** To introduce an idea or attitude into the mind of.

<table>
<thead>
<tr>
<th>Broad Claim Language</th>
<th>Embodiment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>14.</strong> An inoculated medium for the degradation of liquid hydrocarbon substrate material floating on water, said inoculated medium comprising</td>
<td>Material such as straw acting as an &quot;inoculation medium&quot; by floating on water and degrading oil</td>
</tr>
<tr>
<td>a carrier material able to float on water and</td>
<td>Straw</td>
</tr>
<tr>
<td>bacteria from the genus Pseudomonas carried thereby, at least some of said bacteria each containing at least two stable energy-generating plasmids, each of said plasmids providing a separate hydrocarbon degradative pathway and</td>
<td>Chakrabarty's &quot;oil eating&quot; bacteria mixed in with other, more general bacteria from a specific genus of bacteria</td>
</tr>
<tr>
<td>said carrier material being able to absorb said hydrocarbon material.</td>
<td>The straw (or whatever &quot;carrier material&quot; is used) must be able to absorb the oil</td>
</tr>
</tbody>
</table>
**Chakrabarty**

- 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)

**Chakrabarty**

- 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
**Chakrabarty**

- 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 where 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”

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**Chakrabarty**

- First counter argument
  - 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
**Chakrabarty**

- 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

**Parke-Davis**

- Technology at issue
  - Isolating purified adrenalin (less gland tissue left over)

- Basis for awarding protection?
  - Isolation?
  - Purification?
  - Discovery?
  - A new thing commercially?

- Creation of a new thing – commercially and therapeutically
  - Purification exception to product of nature exception to patentable subject matter
Abstract Ideas & Business Methods

- Abstract Ideas
  - use of electro magnetism for marking or printing intelligible characters
    - Is the problem one of claim breadth or patentable subject matter?

- Business Methods
  - State Street Bank

State Street Bank

- Mutual funds (spokes) pooled into a single portfolio (hub, a partnership)
- System of the patent allows for daily allocation and balancing of assets amounts
- Needs computing power to operate because of deadlines to recalculate share prices under securities regulations
Types of Utility

- GENERAL UTILITY
  - Operable or Capable of any type of use
  - Can the invention do anything?
  - Is there a describable benefit in currently available form?
    - Medical compound that seems to have tumor inhibiting effects in mice?
    - Medical compound that itself seems to have no effect on mice or any other animals, but its “cousin” (a compound similar to it) seems to have a tumor inhibiting effect in mice?

- SPECIFIC UTILITY
  - Does the invention work to solve the problem it is designed to solve
  - Is it credible?
  - Is it substantial? – countering “throwaway” utilities

Beneficial or Moral Utility

- Juicy Whip v. Orange Bang
- 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

Specification Requirements – Objective Disclosure Requirements

- Enablement is the central doctrine
  - 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 is in flux
  - Recent cases have applied the written description test as a more stand-alone requirement whereas (arguably) traditionally it was not

§ 112 ¶¶1-2 Language

[¶1] The specification shall contain a written description of the invention, and of the manner and process of making and using it, 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 make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

[¶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.
How to think about Enablement

- Based on a number of factors, any experimentation required may or may not be “undue” – if it is “undue” the claim is not enabled
- The specification provides some additional level of information disclosure pertinent to making and using the claimed invention
- A POSITA would know some base level of information

Enablement – undue experimentation – Wands factors

- 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
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)

Novelty / Statutory Bar– structure of analysis

- Two step inquiry
  - First, assess the [current] state of knowledge known to the art as a basis for comparison
    - Must determine which sources from the universe of available knowledge are pertinent to the inquiry
    - Pertinent sources are defined by the patent act – called references
    - Prior Art is the sum of these references
  - Second, ask whether any references anticipate
    - Anticipate means:
      - each and every element of the claimed invention must be disclosed in a single reference
**Dates of Invention and 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(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).

<table>
<thead>
<tr>
<th>public knowledge or used by others patented or printed publication</th>
<th>“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. One use is sufficient, even if private, remote or widely scattered, public if no deliberate attempts to keep it secret. A grant of exclusive rights, evaluated for what is claimed, accessible to public &amp; not secret. 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) &amp; (b).</th>
</tr>
</thead>
</table>

"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"
### §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.

<table>
<thead>
<tr>
<th>in public use or on sale</th>
<th>No purposeful hiding of use. Commercial offer for sale and invention is ready for patenting</th>
</tr>
</thead>
<tbody>
<tr>
<td>patented or printed publication</td>
<td>same as 102(a).</td>
</tr>
<tr>
<td></td>
<td>same as 102(a).</td>
</tr>
</tbody>
</table>

"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"

---


![Diagram](image)
**Claim 1**

<table>
<thead>
<tr>
<th>Claim 1</th>
<th>Simplified expression</th>
<th>Id.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A method for logging a bore hole drilled for the</td>
<td>sample along bore hole</td>
<td>A</td>
</tr>
<tr>
<td>production of petroleum which <strong>comprises</strong></td>
<td>for most of its depth</td>
<td></td>
</tr>
<tr>
<td>securing samples of earth at selected points along the bore</td>
<td>but some of its depth runs through “dry” areas</td>
<td>B</td>
</tr>
<tr>
<td>hole for a considerable portion of its length</td>
<td>analyze each sample for a</td>
<td>C</td>
</tr>
<tr>
<td>including a substantial portion traversing non-petroleum producing</td>
<td><strong>at least one</strong> material</td>
<td></td>
</tr>
<tr>
<td>formations,</td>
<td>indicating oil is nearby</td>
<td></td>
</tr>
<tr>
<td>quantitatively analyzing each sample for its content of at</td>
<td>same material</td>
<td>D</td>
</tr>
<tr>
<td>least one constituent significant of the proximity of a petroleum</td>
<td>normally mostly present in</td>
<td>E</td>
</tr>
<tr>
<td>deposit,</td>
<td>minor amounts</td>
<td></td>
</tr>
<tr>
<td>the constituent determined being the same</td>
<td>correlate to depth</td>
<td>F</td>
</tr>
<tr>
<td>for all the samples &amp;</td>
<td></td>
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<td>being one which is normally present in most of the formations</td>
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<tr>
<td>traversed in minor amounts &amp;</td>
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<td></td>
</tr>
<tr>
<td>which may be normally foreign to some of the formations traversed and</td>
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<td></td>
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<tr>
<td>correlating with depth and concentrations of the constituents so</td>
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<tr>
<td>determined.</td>
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**Rosaire v. National Lead**

- Technology at issue?
- Trial court’s opinion?
- Why affirmed?
  - Significance of stopping after Teplitz completed successful field trial?
  - Significance of open nature of the work?
  - Significance of “experimental”? Publication?
- Why the discussion of whether the Teplitz work was kept secret?
### '085 Claim 1 HYPO

<table>
<thead>
<tr>
<th>Claim 1</th>
<th>Simplified expression</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A method for logging a bore hole drilled for the production of petroleum which comprises securing samples of earth at selected points along the bore hole for a considerable portion of its length including a substantial portion traversing non-petroleum producing formations, quantitatively analyzing each sample for its content of at least one constituent significant of the proximity of a petroleum deposit,</td>
<td>sample along bore hole for most of its depth but some of its depth runs through “dry” areas analyze each sample for a at least one material indicating oil is nearby the constituent determined being the same for all the samples &amp; being one which is normally present in most of the formations traversed in minor amounts &amp; which may be normally foreign to some of the formations traversed and correlating with depth and concentrations of the constituents so determined, AND WHICH CONSTITUENT, WHEN FOUND IN A SAMPLE, IS PRESENT IN A RANGE OF 0.1% TO 20% IN SAID MATERIAL</td>
</tr>
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### §102(a) & §102(b)

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§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?

The obviousness inquiry

State of the Art
Nonobviousness
“Patent-free” zone

No Hindsight!!
§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 negatived 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 skilful 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
Two items are different in the '798 patent compared to the '811 patent:
- Stirrup and bolted connection
- Position of the shank, moved from above the hinge plate to below it
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
Claims - Anticipation

When a claim “reads-on” a Prior Art reference, that reference anticipates the claim. Put another way, whenever a Prior Art reference has or discloses all of the elements/limitations expressed by the claim, that Prior Art reference anticipates the claim.

<table>
<thead>
<tr>
<th>Anticipating Reference ?? (assume its prior)</th>
<th>A seating apparatus, comprising:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A drawing disclosing a stool with:</td>
<td>1. a (a horizontal base; and)</td>
</tr>
<tr>
<td>A (a perfectly square seat)</td>
<td>b (three legs each having one end connected to the bottom of said horizontal base); and</td>
</tr>
<tr>
<td>B (four legs)</td>
<td>c (said connection between said legs and bottom of said horizontal base being a slim metal piece partially traversing some of said leg and said base, wherein the metal of said slim metal piece is brass, steel, iron, or tin)</td>
</tr>
<tr>
<td>C (legs connected to the seat with glue)</td>
<td></td>
</tr>
<tr>
<td>D (a “back” like a chair)</td>
<td></td>
</tr>
<tr>
<td>A plant stand with:</td>
<td>Same as above</td>
</tr>
<tr>
<td>A (an oval base)</td>
<td></td>
</tr>
<tr>
<td>B (two legs and a “wall”)</td>
<td></td>
</tr>
<tr>
<td>C (legs connected to the base with glue)</td>
<td></td>
</tr>
<tr>
<td>D (a “back” like a chair)</td>
<td></td>
</tr>
</tbody>
</table>

Claims - Obviousness

Unlike anticipation, to allege that a patent is “obvious” does not require that all the elements/limitations be in a single anticipating reference. Typically, the elements/limitations are spread over multiple references (but can be in one). The legal argument is that a POSITA would have found it obvious to combine the elements/limitations from multiple references.

Teachings

A more fine-grained distinction between claim language that describes structure versus claim language that describes how structure connects, interacts, or cooperates is necessary for the obviousness inquiry.

Is the invention obvious in light of the patent in view of the stool sold in the US?

<table>
<thead>
<tr>
<th>A patent disclosing a stool with:</th>
<th>A seating apparatus, comprising:</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (seat)</td>
<td>1. a (a horizontal base; and)</td>
</tr>
<tr>
<td>B (three legs)</td>
<td>b (three legs each having one end connected to the bottom of said horizontal base) and</td>
</tr>
<tr>
<td>C (legs connected to the base with glue)</td>
<td>c (said connection between said legs and bottom of said horizontal base being a slim metal piece partially traversing some of said leg and said base, wherein the metal of said slim metal piece is brass, steel, iron, or tin)</td>
</tr>
<tr>
<td>A stool sold in the US with:</td>
<td></td>
</tr>
<tr>
<td>A (seat)</td>
<td></td>
</tr>
<tr>
<td>X (two “walls” on either side)</td>
<td></td>
</tr>
<tr>
<td>Y (walls connected to the seat with metal screws)</td>
<td></td>
</tr>
</tbody>
</table>
In re Dembiczak (Fed. Cir. 1999)

74. A decorative bag for use by a user with trash filling material, the bag simulating the general outer appearance of an outer surface of a pumpkin having facial indicia thereon, comprising:
   a flexible waterproof plastic trash or leaf bag having an outer surface which is premanufactured orange in color for the user to simulate the general appearance of the outer skin of a pumpkin, and having facial indicia including at least two of an eye, a nose and a mouth on the orange color outer surface for forming a face pattern on said orange color outer surface to simulate the general outer appearance of a decorative pumpkin with a face thereon,
   said trash or leaf bag having first and second opposite ends, at least said second end having an opening extending substantially across the full width of said trash or leaf bag for receiving the trash filling material, wherein when said trash or leaf bag is filled with trash filling material and closed, said trash or leaf bag takes the form and general appearance of a pumpkin with a face thereon.

In re Dembiczak (Fed. Cir. 1999)

- Emphasis on eliminating hindsight
  - Apply rigorously “showing [clear & particular] of the [suggestion,] teaching or motivation to combine” prior art references
  - From:
    - Prior art references
    - POSITA knowledge
    - Nature of the problem

- Lack of a specific indication to combine children’s art references with conventional lawn bag references
KSR Intl. v. Teleflex

- What impact on the "suggestion test"?

§103(a) – The obviousness inquiry – Secondary Indicia

- Fundamental Inquiries
  - (1) scope & content of the prior art
  - (2) ascertain differences between
    - the subject matter sought to be patented & the prior art
    - 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
    - Unexpected results
    - Long-felt but unsolved need
    - Recognizing the problem
    - Failure of others
    - Teaching “away”
    - Prompt copying, licensing
    - Results unexpected
    - Disbelief / incredulity

Remember – the Nexus requirement
Peripheral claiming – an analogy to “regular” property law

<table>
<thead>
<tr>
<th>Claim 1</th>
<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>A wheelbarrow . . . comprising a frame having two . . . rails . . . and at least one cross brace . . .</td>
<td>frame [10]</td>
</tr>
<tr>
<td>an axle . . .</td>
<td>axle [24]</td>
</tr>
<tr>
<td>a wheel . . . [with] minimum diameter of 30 inches mounted . . .</td>
<td>wheel [26]</td>
</tr>
<tr>
<td>a pair of mounting brackets . . .</td>
<td>brackets [42, 44]</td>
</tr>
<tr>
<td>a box having a semicylindrical closed bottom, upstanding side walls having a C-shaped bottom edge . . . including a pair of axially aligned pivot posts . . .</td>
<td>box [50]</td>
</tr>
<tr>
<td>a support . . .</td>
<td>support [36, 38]</td>
</tr>
</tbody>
</table>

**Problem 3-5 – Cheese Slicer**

- Slice-O-Rama’s patent – uses wire cutting element
  - Claim terms is “cutting wire”
- BigChem of OmniCorp made sharpylene – “cutting edge” plastic
- FoodMulch of OmniCorp wants to make a cheese slicer with sharpylene
- Would there be infringement if all other elements but the “cutting wire” are the same?
<table>
<thead>
<tr>
<th>Source(s)</th>
<th>Canons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plain meaning</td>
<td>Dictionaries</td>
</tr>
<tr>
<td></td>
<td>Claim / Specification relationship</td>
</tr>
<tr>
<td></td>
<td>- Don't read a limitation into a claim</td>
</tr>
<tr>
<td></td>
<td>- One may look to the written description to define a term already in a claim limitation</td>
</tr>
<tr>
<td>Specification</td>
<td>The specification can be used to enlighten the court as to the meaning of a claim term</td>
</tr>
<tr>
<td></td>
<td>Presumptive breadth</td>
</tr>
<tr>
<td></td>
<td>- Claim should be interpreted so as to preserve validity</td>
</tr>
<tr>
<td></td>
<td>- If a claim is subject to two viable interpretations, the narrower one should apply</td>
</tr>
<tr>
<td>Prosecution history</td>
<td>Effect on claim construction?</td>
</tr>
<tr>
<td></td>
<td>Others</td>
</tr>
<tr>
<td></td>
<td>- Inventor’s interpretations after issuance are given no weight</td>
</tr>
<tr>
<td></td>
<td>- Claim differentiation</td>
</tr>
<tr>
<td>Extrinsic Evidence</td>
<td>Proper to resort to extrinsic evidence?</td>
</tr>
<tr>
<td></td>
<td>- Patentee can’t construe narrowly before the PTO and broadly in court</td>
</tr>
</tbody>
</table>

**Procedure**

- **Markman** – the meaning of the claims is a question of law, and thus subject to de novo review and a matter for the judge, not the jury

---

### Claim construction canons

- Ordinarily, each claim in a patent has a different scope; ordinarily, a dependent claim has a narrower scope than the claim from which it depends; and, ordinarily, an independent claim has a broader scope than a claim that depends from it. (these generalizations are referred to as the doctrine of claim differentiation);
- Ordinarily, claims are not limited to the preferred embodiment disclosed in the specification;
- Ordinarily, different words in a patent have different meanings;
- Ordinarily, the same word in a patent has the same meaning;
- Ordinarily, the meaning should align with the purpose of the patented invention;
- Ordinarily, general descriptive terms are given their full meaning;
- If possible, claims should be construed so as to preserve their validity;
- Ordinarily, absent broadening language, numerical ranges are construed exactly as written;
- Ordinarily, absent recitation of order, steps of a method are not construed to have a particular order; and
- Absent highly persuasive evidentiary support, a construction should literally read on the preferred embodiment.
Phillips v. AWH Corp. (Fed. Cir. 2005)

- 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.**

---

Larami v. Amron – claim 1

<table>
<thead>
<tr>
<th>Claim 1</th>
<th>Id.</th>
</tr>
</thead>
<tbody>
<tr>
<td>[a] toy comprising</td>
<td></td>
</tr>
<tr>
<td>an elongated housing [case] having a <strong>chamber therein</strong> for a liquid [tank],</td>
<td>A</td>
</tr>
<tr>
<td>a pump including a piston having an exposed rod [piston rod] and extending rearwardly of said toy</td>
<td></td>
</tr>
<tr>
<td>facilitating manual operation for building up an appreciable amount of pressure in said chamber for ejecting a stream of liquid therefrom an appreciable distance substantially forwardly of said toy, and means for controlling the ejection.</td>
<td>.</td>
</tr>
</tbody>
</table>
Infringement under the Doctrine of Equivalents

- Idea underlying DOE
  - Pirates of an invention “may be expected to introduce minor variations to conceal and shelter the piracy”
  - We don’t want to put the inventor “at the mercy of verbalism”

- 35 USC §271
  - (a) Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.


- 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

- 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

<table>
<thead>
<tr>
<th>Item</th>
<th>Hilton (claim)</th>
<th>Warner (allegedly infringing)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pore Diameter (Angstroms)</td>
<td>5-15</td>
<td>5-15</td>
</tr>
<tr>
<td>Pressure (p.s.i.g.)</td>
<td>200-400</td>
<td>200-500</td>
</tr>
<tr>
<td>pH</td>
<td>6.0 – 9.0</td>
<td>5.0 pH</td>
</tr>
</tbody>
</table>

### DOE

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.

---

**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.
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”

---

**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