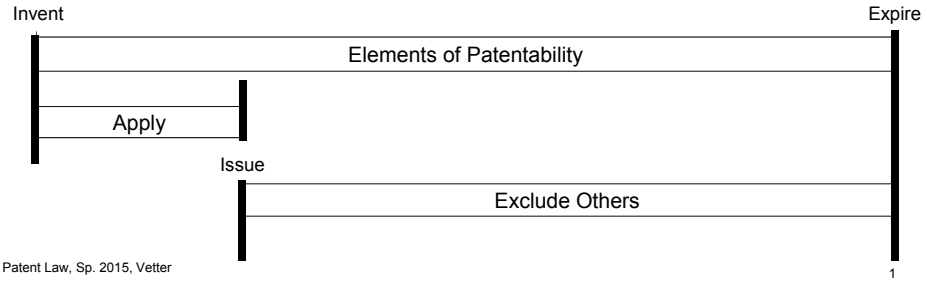
The elements of Patentability

- ***Patentable subject matter***, i.e., patent eligibility
- ***Useful/utility*** (operable and provides a tangible benefit)
- ***New*** (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)



Infringement

- 35 U.S.C. §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.

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

Basis for Patent Rights

Option	Problem				Benefit	Cost
No IP 	Public good nature of info: -nonrivalrous -nonexcludable	Invest in R&D, create & sell product	Imitations sell at lower cost	May not be able to recover R&D costs	Getting info is "cost free"	Info under produced
IP 	Costs associated with limiting access to info	Invest in R&D, create & sell product	IP rights block imitators to some degree	Recoup R&D with (hope-fully) a profit	Info is produced & supplied*	Limits to access of info, ↑ trans-action costs

Commentary on Authors & Inventors clause

It was beneficial to all parties, that the national government should possess this power; to authors and inventors, because, otherwise, they would have been subjected to the ***varying laws and systems of the different states on this subject, which would impair, and might even destroy the value of their rights***; to the public, as it would promote the ***progress of science and the useful arts***, and admit the people at large, after a short interval, to the full possession and ***enjoyment of all writings and inventions without restraint***.	Federalism concerns place much of IP law at the Federal level IP laws exist as a public policy tool to promote production of inventions and works for the public domain (eventually)
In short, the only boon, which could be offered to inventors to disclose the ***secrets*** of their discoveries, would be the ***exclusive right*** and profit of them, as a monopoly for a limited period.	Patent versus Trade Secret protection
And authors would have little ***inducement to prepare elaborate works*** for the public, if their publication was to be at a large expense, and, as soon as they were published, there would be an unlimited right of ***depredation and piracy*** of their copyright.	Copyright to support production and distribution of works

Story, Commentaries on the Constitution of the United States (1833) (emphasis added)

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

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.

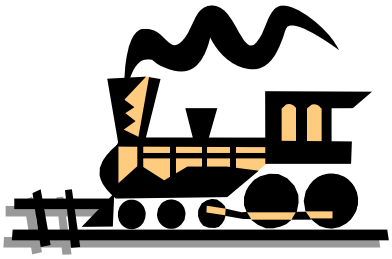
Claim Example

- 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***.

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.*

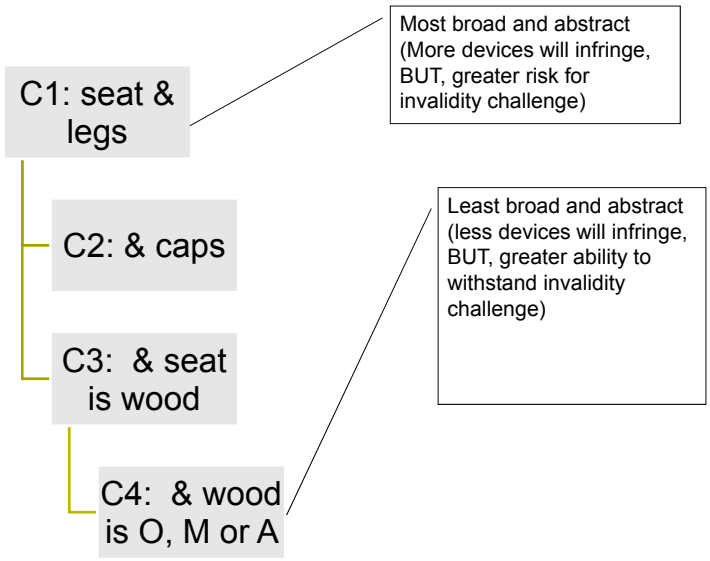
*4. The seating apparatus of **claim 3** wherein the wood is one of the following types: oak, mahogany or ash.*

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.

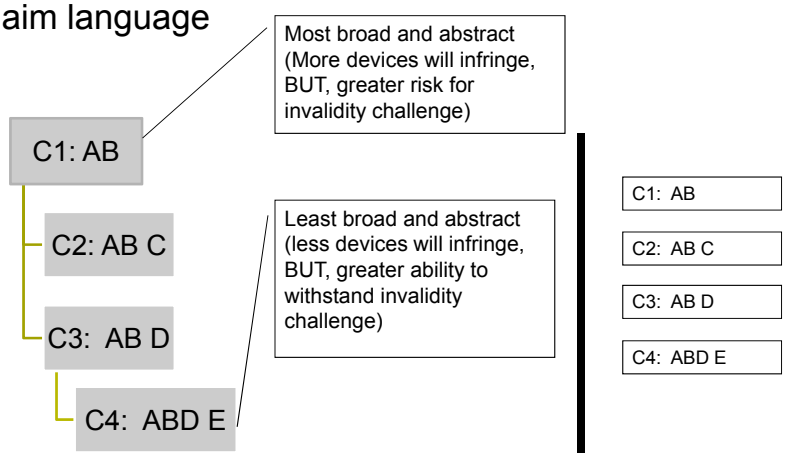
More on claims – visualizing dependent claims

- 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

Sections of a patent document

- First Page / Abstract
- ***Drawings***
- Background of the Invention (field, prior art)
- Summary of the Invention
- Brief Description of the Drawings
- Detailed Description of the Preferred Embodiment
- ***Claims***

The "specification" is the entire disclosure

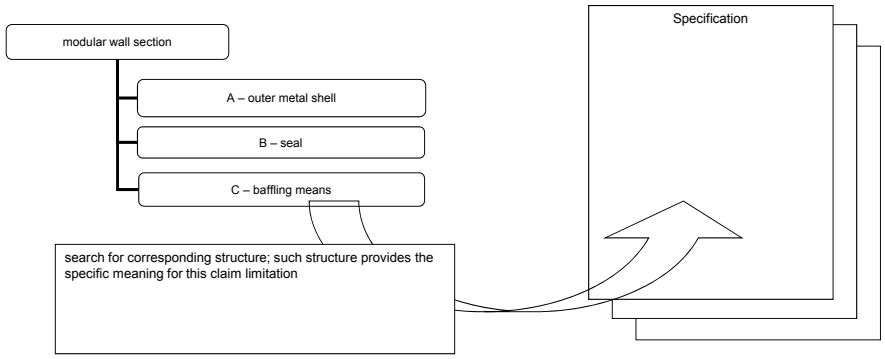
The "written description" is the textual description

The label "written description" that is used to describe a portion of the patent document is different from the **§112(a)** "written description requirement"

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



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 detention 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.

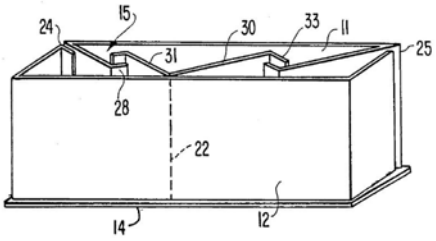


Fig. 6

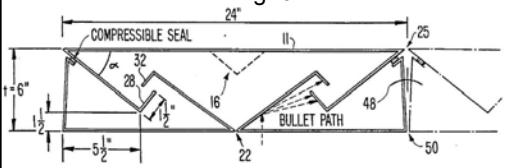
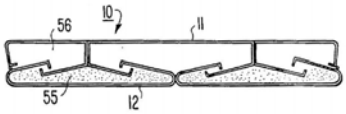


Fig. 7



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Claim Interpretation – Sources / Canons / Procedure

Source(s)		Canons
Plain meaning	Dictionaries	Claim / Specification relationship - Don't read a limitation into a claim - One may look to the written description to define a term already in a claim limitation Presumptive breadth - Claim should be interpreted so as to preserve validity - If a claim is subject to two viable interpretations, the narrower one should apply Others - Inventor's interpretations after issuance are given no weight - Claim differentiation - Patentee can't construe narrowly before the PTO and broadly in court
Specification	The specification can be used to enlighten the court as to the meaning of a claim term	
Prosecution history	Effect on claim construction? - considered if in evidence	
Extrinsic Evidence	Proper to resort to extrinsic evidence?	

- 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

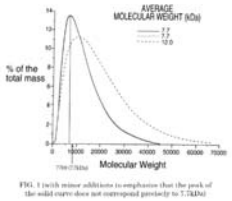
- Ordinarily, each claim in a patent has a different scope; ordinarily, a dependent claim has a narrower scope than the claim from which it depends; and, ordinarily, an independent claim has a broader scope than a claim that depends from it. (these generalizations are referred to as the doctrine of claim 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.

Teva v. Sandoz, (Sup. Ct. Jan. 2015)

- Precursors:
  - Markman (Sup. Ct.): claim construction is for the judge, not the jury
  - Cybor (Fed. Cir. en banc): review of all aspects of claim construction is de novo, meaning that the entirety of the issue is characterized as a question of law (perhaps akin to construction of a statute)
  - FRCP 52(a)(6) states that a court of appeals "must not . . . set aside" a district court's "[f]indings of fact" unless they are "clearly erroneous."
- Teva patents for Copaxone, a drug used to treat multiple sclerosis, use the term "molecular weight"

The phrase might refer (1) to molecular weight as calculated by the weight of the molecule that is most prevalent in the mix that makes up copolymer-1. (The scientific term for molecular weight so calculated is, we are told, "peak average molecular weight.") The phrase might refer (2) to molecular weight as calculated by taking all the different-sized molecules in the mix that makes up copolymer-1 and calculating the average weight, i.e., adding up the weight of each molecule and dividing by the number of molecules. (The scientific term for molecular weight so calculated is, we are told, "number average molecular weight.") Or, the phrase might refer (3) to molecular weight as calculated by taking all the different-sized molecules in the mix that makes up copolymer-1 and calculating their average weight while giving heavier molecules a weight-related bonus when doing so. (The scientific term for molecular weight so calculated, we are told, is "weight average molecular weight.")

To illustrate, imagine we have a sample of copolymer-1 (the active ingredient) made up of 10 molecules: 4 weigh 6 kilodaltons each, 3 weigh 8 kilodaltons each, and 3 weigh 9 kilodaltons each. Using the first method of calculation, the "molecular weight" would be 6 kilodaltons, the weight of the most prevalent molecule. Using the second method, the molecular weight would be 7.5 (total weight, 75, divided by the number of molecules, 10). Using the third method, the molecular weight would be more than 8, depending upon how much extra weight we gave to the heavier molecules.



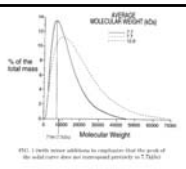
Teva v. Sandoz, (Sup. Ct. Jan. 2015)

While we held in *Markman* that the ultimate issue of the proper construction of a claim should be treated as a question of law, we also recognized that in patent construction, subsidiary factfinding is sometimes necessary

. . .

the [Federal] Circuit feared that "clear error" review would bring about less uniformity

. . .



[PART II.D] Now that we have set forth why the Federal Circuit must apply clear error review when reviewing subsidiary factfinding in patent claim construction, it is necessary to explain how the rule must be applied in that context. We recognize that a district court's construction of a patent claim, like a district court's interpretation of a written instrument, often requires the judge only to examine and to construe the document's words without requiring the judge to resolve any underlying factual disputes. As all parties agree, when the district court reviews only evidence intrinsic to the patent (the patent claims and specifications, along with the patent's prosecution history), the judge's determination will amount solely to a determination of law, and the Court of Appeals will review that construction de novo.

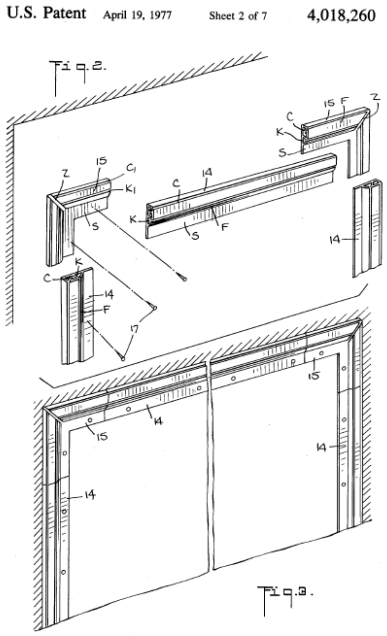
In some cases, however, the district court will need to look beyond the patent's intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period. In cases where those subsidiary facts are in dispute, courts will need to make subsidiary factual findings about that extrinsic evidence. These are the "evidentiary underpinnings" of claim construction that we discussed in *Markman*, and this subsidiary factfinding must be reviewed for clear error on appeal.

For example, if a district court resolves a dispute between experts and makes a factual finding that, in general, a certain term of art had a particular meaning to a person of ordinary skill in the art at the time of the invention, the district court must then conduct a legal analysis: whether a skilled artisan would ascribe that same meaning to that term in the context of the specific patent claim under review. That is because "[e]xperts may be examined to explain terms of art, and the state of the art, at any given time," but they cannot be used to prove "the proper or legal construction of any instrument of writing." . . .

Accordingly, the question we have answered here concerns review of the district court's resolution of a subsidiary factual dispute that helps that court determine the proper interpretation of the written patent claim. The district judge, after deciding the factual dispute, will then interpret the patent claim in light of the facts as he has found them. This ultimate interpretation is a legal conclusion. The appellate court can still review the district court's ultimate construction of the claim de novo. But, to overturn the judge's resolution of an underlying factual dispute, the Court of Appeals must find that the judge, in respect to those factual findings, has made a clear error. Fed. Rule Civ. Proc. 52(a)(6).

In some instances, a factual finding will play only a small role in a judge's ultimate legal conclusion about the meaning of the patent term. But in some instances, a factual finding may be close to dispositive of the ultimate legal question of the proper meaning of the term in the context of the patent. Nonetheless, the ultimate question of construction will remain a legal question. Simply because a factual finding may be nearly dispositive does not render the subsidiary question a legal one. "[A]n issue does not lose its factual character merely because its resolution is dispositive of the ultimate" legal question. It is analogous to a judge (sitting without a jury) deciding whether a defendant gave a confession voluntarily. The answer to the legal question about the voluntariness of the confession may turn upon the answer to a subsidiary factual question, say "whether in fact the police engaged in the intimidation tactics alleged by the defendant." An appellate court will review the trial judge's factual determination about the alleged intimidation deferentially (though, after reviewing the factual findings, it will review a judge's ultimate determination of voluntariness de novo). An appellate court similarly should review for clear error those factual findings that underlie a district court's claim construction.

Unique Concepts v. Brown, 939 F.2d 1558 (Fed. Cir. 1991)



- "right angle corner border pieces"
- preformed versus mitering?
- examiner interview?
- dissent

Claim preamble

- Role in the claim
  - States the general use or purpose of the invention
  - Helps to show the area of technology
- Under what conditions does it limit the claim?
  - Difficult rule to state
  - Issue arises in the claim construction process
    - Depends on importance of the preamble to give meaning to the claim
      - A preamble term serves as a limitation "when it matters"
    - Preamble has the import that the claim as a whole assigns to it
    - Other ways to formulate the test – the preamble is limiting when
      - It is "essential to point out the invention defined by the claim"
      - The body of the claim refers back to terminology in the preamble
      - A preamble term "recites not merely a context in which the invention may be used, but the essence of the invention without which performance of the recited steps is nothing but an academic exercise"
- Hypo – "A food-carrying box comprising . . ." from claim 1 of Hall '626 patent

Claims - Transitional phrases

Type	Words	Meaning / Notes
Open	Comprising [the steps of]	"having at least" The most common and desirable Does not exclude additional, unrecited elements or method steps
Closed	consisting of	"having only" Closes the claim to the inclusion of other elements (except impurities)
Partially closed	consisting essentially of	"having nothing else that affects operation" Limits the scope of the claim to the specified elements "and those that that do not materially affect the basic and novel characteristics"

- Synonyms for "comprising"
  - including, having, characterized by, being, composed of, comprised of, containing
- Examples
  - Open: ABCX is within the scope of coverage of an open claim to ABC
  - Closed: ABCX is NOT
  - Partially closed: If element X would NOT materially change the composition, then ABCX IS within the scope of the partially closed claim to ABC

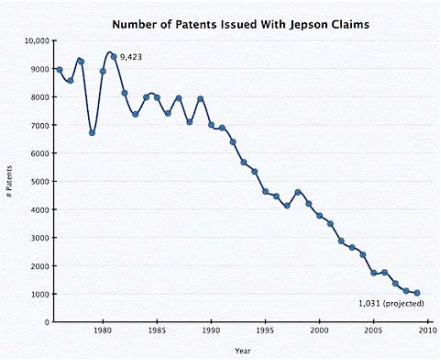
Jepson claims – In re Fout (CCPA 1982)

- Claim 1 of application:
  - In a process for producing a decaffeinated vegetable material suitable for consumption in beverage form wherein caffeine-containing vegetable material is extracted with a volume of recirculating liquid, water-immiscible edible fatty material in a decaffeination zone for a period of time sufficient to transfer caffeine from said vegetable material into said fatty material, and wherein the caffeine-laden fatty material resultant from extraction is separated from said vegetable material and is conveyed to a regeneration zone for removal of caffeine prior to recirculation to said decaffeination zone, ***the improvement which comprises***

    subjecting the caffeine-laden fatty material in said zone to regenerative vaporization conditions such as to vaporize caffeine from said fatty material and further to vaporize from said fatty material any fatty material degradation products present therein.
- Held: Claim is obvious.

Jepson claims

- How does the Jepson claim help a patent examiner?
  - 1. The combination of A, B & C'
  - 2. In the combination of elements A, B & C, the improvement which comprises use of C' as the element C
- How does a Jepson claim help an applicant?



"Markush" Claim elements/limitations

- There is a way of describing a claim element/limitation where adding items increases the scope of the claim
  - This occurs when a "Markush" group is used
  - Name is from a case which allowed listing of items in the alternative in specific situations
  - Traditionally used to claim chemical compounds, can be applied in any claim
- Example (compare the two claims on the next overhead)

"Markush" Claim elements/limitations

Claim 4

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

Claim 5

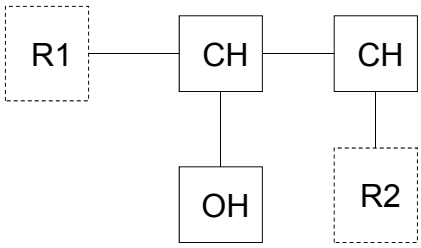
- A seating apparatus, comprising:
- (a) a horizontal seat; and
- (b) three legs each having one end connected to the bottom of said horizontal seat.
- (c) said connection between said legs and bottom of said horizontal seat being a slim metal piece partially traversing some of said leg and said seat,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

- Alternative language for element/limitation 5(c):
- (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, ***wherein the metal of said slim metal piece is selected from the group consisting of brass, steel, iron, and tin***.

Example in a hypothetical chemical compound claim

claim

A compound of the formula



wherein R1 is hydrogen or methyl, and R2 is chlorine, bromine or iodine.

Compounds covered by the claim

Rest of the Molecule	R1	R2
CH-CH OH	H	C
CH-CH OH	H	B
CH-CH OH	H	I
CH-CH OH	M	C
CH-CH OH	M	B
CH-CH OH	M	I

"Markush" Claim

- Requirements for use
  - Ordinarily, the members of the group must belong to a recognized class
  - Also permissible in a process or combination claim if
    - The members of the group are disclosed in the specification to possess a property in common which is mainly responsible for their function in the claimed relationship, and
    - It is clear from their nature or the prior art that all possess the property
- Potential Downside
  - Prior art showing any single embodiment will invalidate claim
  - Cf. multiple dependent claims (inference is that a multiple dependent claim contains separate claims)

Hypothetical patent claim – scope example

A ***firewall*** for restricting transmission of ***email messages*** between a first site and a plurality of second sites in accordance with a plurality of administrator selectable policies, ***said firewall comprising***:

a ***email message transfer protocol relay*** for causing said ***email messages*** to be transmitted between said first site and selected ones of said second sites; ***and***

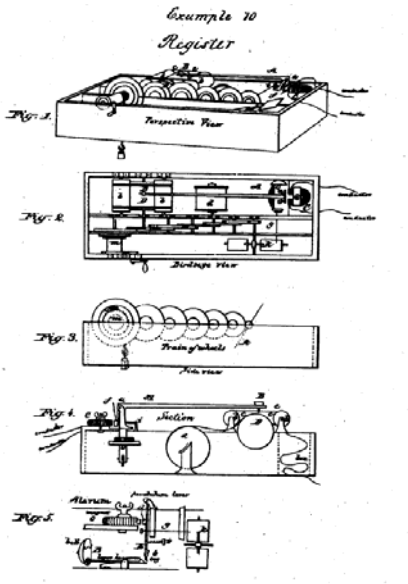
a ***plurality of policy managers***, responsive to said relay, for enforcing administrator selectable policies, ***said policies comprising***

at least a first source/destination policy, at least a first content policy and at least a first virus policy, said policies characterized by a plurality of administrator selectable criteria, and a plurality of administrator selectable exceptions to said criteria,

said ***policy managers comprising***,

- an access manager for restricting transmission of ***email messages*** between said first site and said second sites in accordance with ***said source/destination policy***;
- a content manager for restricting transmission of ***email messages*** between said first site and said second sites in accordance with ***said content policy***; and
- a virus manager for restriction transmission of ***email messages*** between said first site and said second sites in accordance with ***said virus policy***.

O'Reilly v. Morse, 56 U.S. 62 (1854)



- "the essence of my invention being the use of the motive power of the electric or galvanic current, which I call electro-magnetism, however developed for marking or printing intelligible characters, signs, or letters, at any distances, being a new application of that power of which I claim to be the first inventor or discoverer"
- scope
- enablement
- eligibility

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
  - Historical role in policing new matter
  - Role as a standalone requirement

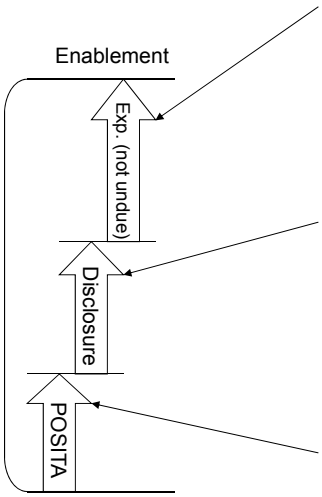
§§ 112(a)-(b) **Language**	
(a) **In General**.-The specification shall contain a ***written description*** of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to ***enable*** any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same,	Written Description requirement Enablement requirement
and shall set forth the ***best mode*** contemplated by the inventor or joint inventor of carrying out his invention.	Best Mode requirement (subjective in part) [But, AIA impact]
(b) **Conclusion**.-The specification shall conclude with one or more claims ***particularly pointing out and distinctly claiming*** the subject matter which the inventor or joint inventor regards as the invention.	Definiteness requirement

Presumption of validity

35 U.S.C. § 282 Presumption of validity; defenses.

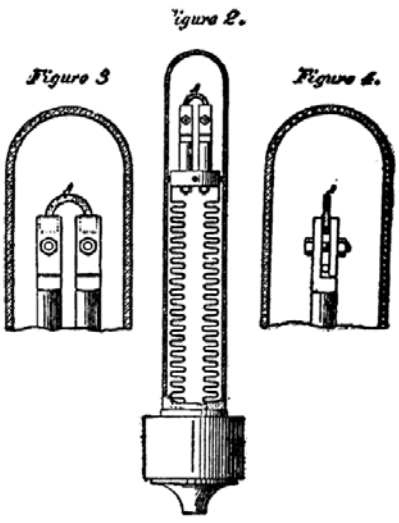
A patent shall be presumed valid. Each claim of a patent (whether in independent [or] dependent . . . form) shall be presumed valid independently of the validity of other claims; . . . dependent claims shall be presumed valid even though dependent upon an invalid claim. . . . The burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity.

How to think about Enablement

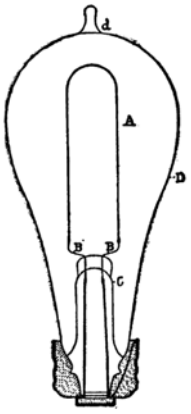


- Based on a number of factors, any experimentation required may or may not be "undue" – if it is "undue" the claim is not enabled
- The specification provides some additional level of information disclosure pertinent to making and using the claimed invention
- A POSITA would know some base level of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

The Incandescent Lamp Case (1895)



- Claims
  - ". . . carbonized fibrous or textile material . . ."
  - ". . . incandescing conductor of carbonized fibrous material . . ."
  - " . . . carbonized paper . . ."
- AID
  - carbonized bamboo



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

Cedarapids v. Nordberg (Fed. Cir. 1997)

- Mechanical device; not unpredicatable art
- One disclosed embodiment for 7 foot crusher
  - speed: up to 100% increase; throw: up to 40% increase

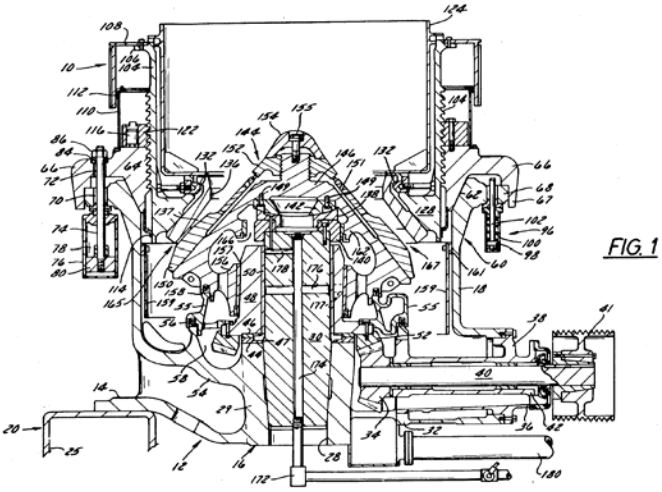


FIG. 1

Automotive Tech. Intl. v. BMW (Fed. Cir. 2007)

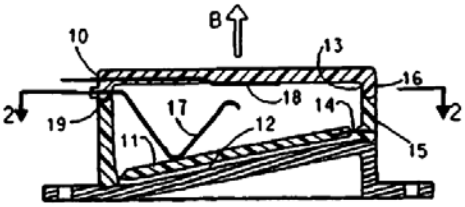


FIG. 1

- claim construction
- Enablement issue with construed claim
  - Mechanical embodiment
  - Electronic embodiment
- Note 3, pg. 119, influenced by AIA

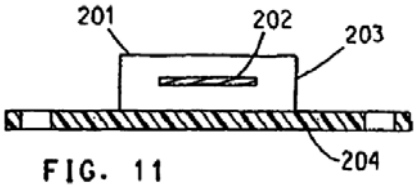


FIG. 11

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.

- Original claims versus later-added/revised claims
- Three "hypothesized" types of molecules with the potential to reduce NF-êB activity in cells: decoy, dominantly interfering, specific inhibitor
  - Disclosure of any specific molecules of these types?

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

1. A sectional sofa comprising:

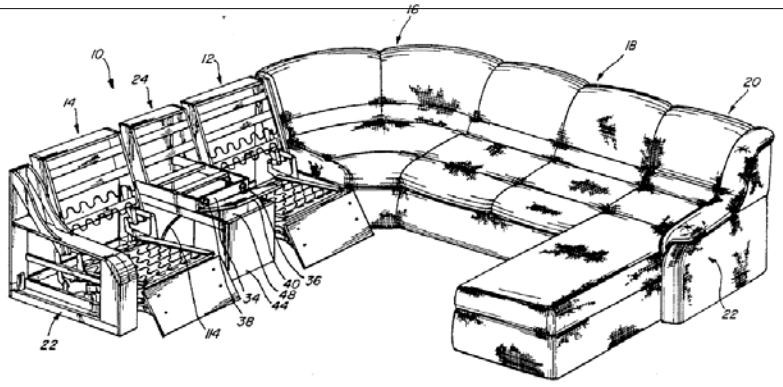
a pair of reclining seats disposed in parallel relationship with one another in a double reclining seat sectional sofa section being without an arm at one end . . .,

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* . . .



Best Mode

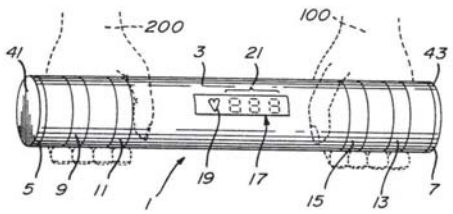
Little remains of the best mode requirement after the AIA. As a longstanding feature of U.S. patent law, the pre-AIA best mode requirement was unique in at least two ways. First, it was a feature of U.S. patent law that made our law an outlier among the patent systems of the world. Second, the best mode requirement was unique within U.S. patent law because whether the inventor had a "best mode" is a subjective inquiry. One would ask: did the inventor have a mental belief that there was a "best" way to practice the invention? This subjective inquiry is in contrast to the POSITA's objective perspective with which the other requirements for patentability are evaluated.

Some believed that the best mode was oftentimes a trap for the unwary and served little additional purpose on top of the other disclosure requirements. Leading up to the AIA's enactment, many believed that eliminating the best mode requirement would benefit the patent system. However, the elimination was implemented in an awkward way: the best mode requirement remained in section 112, but was eliminated for use as a defense in section 282. Thus, patent applicants must still disclose a best mode, but there is virtually no practical enforcement of the requirement. One commenter appraised the situation as follows:

> *The legislative history provides no explanation for Congress's failure to simply repeal the best-mode requirement entirely. Nor is one apparent.*
>
> Joe Matal, *A Guide to the Legislative History of the America Invents Act: Part II of II*, 21 FED. CIR. B.J. 580, 584 (2012).

Those opposing removal of best mode from the U.S. patent system would sometimes cite the idea that its requirement would force disclosure of some of the trade secrets potentially associated with the invention. The patent instrument, however, can oftentimes omit many important secrets from disclosure because it must only enable and describe a prototype. The cases show a consistent stance against expanding the disclosure requirements to force manufacturing or production information from the patentee. This means, practically, that often a patent owner can keep as a trade secret some of the more useful commercial information related to scaling production to mass-market quantities or overcoming other manufacturing challenges. Should the disclosure requirements allow such a "loophole"? Is it unfair to call it a loophole when the claims do not cover those practical aspects of manufacturing the apparatus recited by the claim?

Nautilus v. Biosig 134 S. Ct. 2120 (2014)



- Claim term at issue
  - "spaced relationship"
- Revising the standard

In place of the "insolubly ambiguous" standard, we hold that a patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.


5,337,753

5

other graphics and legends. The paper insert would be rolled up with the graphics on the top surface and slid into the tubular member which would comprise a transparent material so that all of the information imprinted on the insert would be seen through the top surface of the tubular member.

Further, although the electrodes have been illustrated as rings, other configurations, e.g. half rings, spaced plates, etc. could be used.

Although several embodiments have been described, this was for the purpose of illustrating, but not limiting, the invention. Various modifications, which will come readily to the mind of one skilled in the art, are within the scope of the invention as defined in the appended claims.

I claim:

1. A heart rate monitor for use by a user in association with exercise apparatus and/or exercise procedures, comprising:

an elongate member;

electronic circuitry including a difference amplifier having a first input terminal of a first polarity and a second input terminal of a second polarity opposite to said first polarity;

said elongate member comprising a first half and a second half;

a first live electrode and a first common electrode mounted on said first half in spaced relationship with each other;

a second live electrode and a second common electrode mounted on said second half in spaced relationship with each other;

said first and second common electrodes being connected to each other and to a point of common potential;

said first live electrode being connected to said first terminal of said difference amplifier and said second live electrode being connected to said second terminal of said difference amplifier;

a display device disposed on said elongate member;

wherein, said elongate member is held by said user with one hand of the user on said first half contacting said first live electrode and said first common electrode, and with the other hand of the user on said second half contacting said second live electrode and said second common electrode;

whereby, a first electromyogram signal will be detected between said first live electrode and said first common electrode, and a second electromyogram signal, of substantially equal magnitude and phase to said first electromyogram signal will be detected between said second live electrode and said second common electrode;

so that, when said first electromyogram signal is applied to said first terminal and said second electromyogram signal is applied to said second terminal, the first and second electromyogram signals will be subtracted from each other to produce a substantially zero electromyogram signal at the output of said difference amplifier;

and whereby a first electrocardiograph signal will be detected between said first live electrode and said first common electrode and a second electrocardiograph signal, of substantially equal magnitude but of opposite phase to said first electrocardiograph signal will be detected between said second live electrode and said second common electrode;

6

so that, when said first electrocardiograph signal is applied to said first terminal and said second electrocardiograph signal is applied to said second terminal, the first and second electrocardiograph signals will be added to each other to produce a non-zero electrocardiograph signal at the output of said difference amplifier;

means for measuring time intervals between heart pulses on detected electrocardiograph signal;

means for calculating the heart rate of said user using said measure time intervals;

said means for calculating being connected to said display device;

whereby, the heart rate of said user is displayed on said display device.

2. A monitor as defined in claim 1 wherein said elongate member comprises a hollow cylindrical member;

said electronic circuitry being housed in the interior of said hollow cylindrical member.

3. A monitor as defined in claim 2 wherein said first live electrode comprises a first ring member of a conductive material mounted on said first half of said elongate member, and wherein said first common electrode comprises a second ring member of a conductive material mounted on said first half of said elongate member and spaced from said first ring member;

and wherein said second live electrode comprises a third ring member of a conductive material mounted on said second half of said elongate member and wherein said second common electrode comprises a fourth ring member of a conductive material mounted on said second half of said elongate member and spaced from said third ring member.

4. A monitor as defined in claim 3 and wherein said means for measuring time intervals comprises:

a bandpass filter, the output of said difference amplifier being connected to an input of said bandpass filter;

a threshold limiter, the output of said bandpass filter being connected to an input of said threshold limiter;

and wherein said means for calculating the heart rate comprises:

a microprocessor, the output of said threshold limiter being connected to an input of said microprocessor;

the output of said microprocessor being connected to said display device.

5. A monitor as defined in claim 4 wherein said display device comprises:

a pulse indicator adapted to be illuminated each time a heart pulse of the user is detected; and

a pulse rate indicator comprising a numerical indication of the pulse rate of the user.

6. A monitor as defined in claim 5 and comprising elasticized plugs force-fit into both ends of said cylindrical member;

whereby, the interior of said hollow cylindrical member is waterproofingly sealed.

7. A monitor as defined in any one of claims 1 or 6 and including a stand means for mounting the monitor on the floor;

said stand means including a base and an upwardly extending member.

8. A monitor as defined in any one of claims 1 or 6 and including a means for mounting said monitor on a wall,

Halliburton Energy Servs. v. M-I LLC, 514 F.3d 1244 (Fed. Cir 2008) [_NOT ASSIGNED_]

1. A method for conducting a drilling operation in a subterranean formation using a *fragile gel* drilling fluid comprising:
(a) an invert emulsion base;
(b) one or more thinners;
(c) one or more emulsifiers; and
(d) one or more weighting agents, wherein said operation includes running casing in a borehole.
(emphasis added).

- Claim construction of "fragile gel"
  - no or low organophilic clay or lignite issue
  - Preamble phrase; why is it limiting?
  - Two aspects of the claim construction
    - 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?
  - 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"

Example for 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

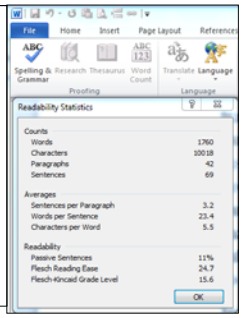
Datamize v. Plumtree (Fed. Cir. 2005)

- Federal Circuit tests
  - "Not amenable to construction"
  - "Insolubly ambiguous"
  - "If the meaning of the claim is discernible, even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree, we have held the claim sufficiently clear to avoid invalidity on indefiniteness grounds." (Exxon, Fed. Cir. 2001)
- Cf. Supreme Court test
  - "[the claims] must clearly distinguish what is claimed from what went before in the art and clearly circumscribe what is foreclosed from future enterprise"

Datamize v. Plumtree (Fed. Cir. 2005)

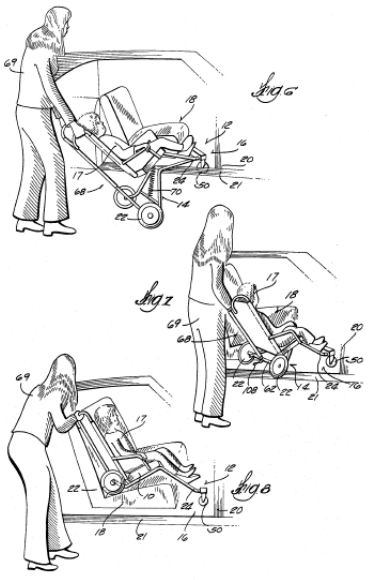
- After Exxon, could anyone possibly write an indefinite claim?
- Apparently so—claim that which is "aesthetically pleasing"
- Is there any reason whatsoever to include any of the limitations containing this term in the claim-at-issue?

What if one gave in the specification ways to quantify a term of broad, subjective meaning?



Claim definiteness – Orthokinetics (Fed. Cir. 1986) (Markey)

- 1. In a wheel chair having a seat portion, a front leg portion, and a rear wheel assembly, the improvement wherein said front leg portion is ***so dimensioned*** as to be insertable through the space between the doorframe of an automobile and one of the seats thereof whereby said front leg is placed in support relation to the automobile and will support the seat portion from the automobile in the course of subsequent movement of the wheel chair into the automobile, and the retractor means for assisting the attendant in retracting said rear wheel assembly upwardly independently of any change in the position of the front leg portion with respect to the seat portion while the front leg portion is supported on the automobile and to a position which clears the space beneath the rear end of the chair and permits the chair seat portion and retracted rear wheel assembly to be swung over and set upon said automobile seat.



Star Scientific v. R.J. Reynolds Tobacco (Fed. Cir. 2008)

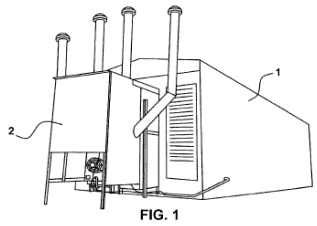


FIG. 1

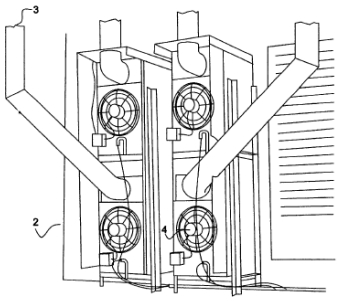


FIG. 2

A process of substantially preventing the formation of at least one nitrosamine in a harvested tobacco plant, the process comprising:

drying at least a portion of the plant, while said portion is uncured, yellow, and in a state susceptible to having the formation of nitrosamines arrested, in a controlled environment and for a time sufficient to substantially prevent the formation of said at least one nitrosamine;

wherein said controlled environment comprises air free of combustion exhaust gases and an airflow sufficient to substantially prevent an *anaerobic condition* around the vicinity of said plant portion; and wherein said controlled environment is provided by controlling at least one of humidity, temperature, and airflow.

- "anaerobic condition" – bounds depend on degree of oxygen deficiency