Patent Law

Prof. Roger Ford
September 18, 2017
Class 6
Disclosure: Definiteness; Best Mode

Recap

Recap

→ Written description versus enablement

→ Written description: Timing and limitations on amendments

→ Written description: Scope and limitations on claim breadth

Today's agenda

Today's agenda

→ Definiteness background

→ *Nautilus v. Biosig*

→ Functional claiming

→ Best mode

→ Disclosure recap

Definiteness background

(post-AIA) 35 U.S.C. § 112 — Specification

(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**, and shall set forth the **best mode** contemplated by the inventor or joint inventor of carrying out the invention.

(b) Conclusion.— The specification shall conclude with **one or more claims particularly pointing out and distinctly claiming** the subject matter which the inventor or a joint inventor regards as the invention. * * *

Disclosure requirements

→ § 112(a): Written description

→ § 112(a): Enablement

→ § 112(a): Best mode

→ § 112(b), (f): Definiteness

Disclosure requirements

→ § 112(a): Written description

→ § 112(a): Enablement

→ § 112(a): Best mode

→ § 112(b), (f): <u>Definiteness</u>

Definiteness background

→ What purposes are served by the definiteness requirement?

Definiteness background

→ **What purposes are served by the definiteness requirement?**

- <u>Institutional</u>: Make it easier to evaluate validity, infringement, and so forth

- <u>Public notice</u>: Put the public on notice of a patent holder's exclusive rights

---

"[I]ndefinite claims do not give **clear warning about the patentee's property rights**. They fail to inform passersby whether they are trespassing or not. Further, if patentees are allowed to be vague, they will have an **incentive to do so**, since vague claims will increase the de facto scope of a patent by forcing competitors to **expand the 'safe distance' they keep from the patentee's turf** (claims)."

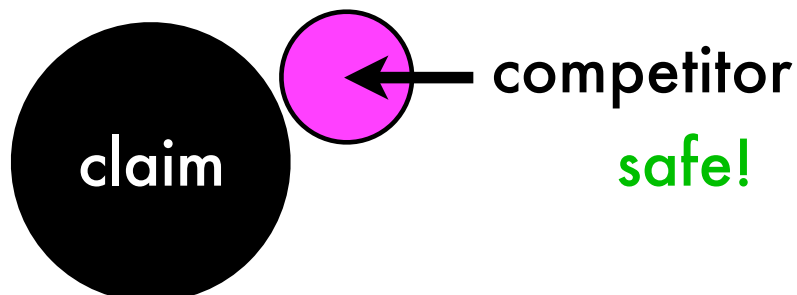Merges & Duffy, *Patent Law and Policy* (6th ed.), at 316

Definiteness background

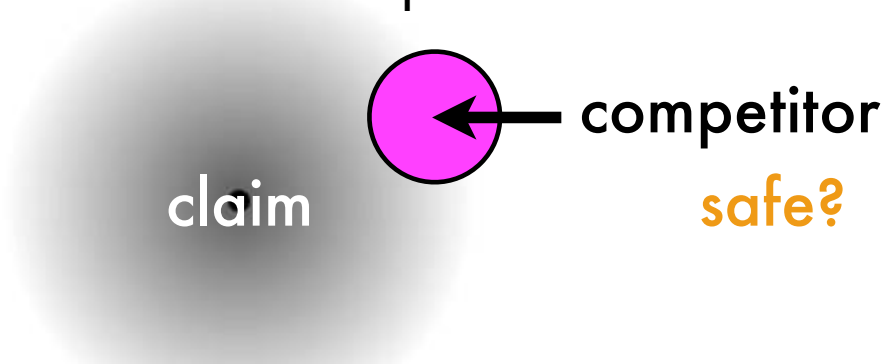→ Why would a patent applicant try to write vague claims?

Definiteness background

→ Why would a patent applicant try to write vague claims?

- Increase scope of 'safe distance'

competitor

claim

safe!

Definiteness background

→ What are the incentives to write vague claims?

- Increase scope of 'safe distance'

claim

competitor

safe?

Definiteness background

→ What are the incentives to write vague claims?

- Creates opportunity for after-the-fact gamesmanship

claim in year 0

Definiteness background

→ What are the incentives to write
vague claims?

- Creates opportunity for after-the-fact
gamesmanship

industry
in year 3

claim in year 0

Definiteness background

→ What are the incentives to write
vague claims?

- Creates opportunity for after-the-fact
gamesmanship

claim in
year 4

claim in year 0

Definiteness background

→ Federal Circuit's pre-*Nautilus* approach:

- 1. Different standards in the PTO and in court, due to the presumption of validity

---

35 U.S.C. § 282 — Presumption of validity; defenses (post-AIA)

(a) In General.—A patent shall be presumed valid. Each claim of a patent (whether in independent, dependent, or multiple dependent form) shall be presumed valid independently of the validity of other claims; dependent or multiple 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.**

* * *

Definiteness background

→ Federal Circuit's pre-*Nautilus* approach:

- 1. Different standards in the PTO and in court, due to the presumption of validity

- 2. If someone of ordinary skill in the art can construe a claim term, it's not indefinite; it must be "insolubly ambiguous"

"We have held that **'[o]nly claims not amenable to construction or insolubly ambiguous are indefinite.'** A claim term is not indefinite just because 'it poses a difficult issue of claim construction.' Rather, the standard is **whether 'the claims [are] amenable to construction, however difficult that task may be.'** 'By finding claims indefinite only if reasonable efforts at claim construction prove futile, we accord respect to the statutory presumption of patent validity....'"

Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.,
537 F.3d 1357, 1371 (Fed. Cir. 2008) (citations omitted)

Definiteness background

→ Federal Circuit's pre-*Nautilus* approach:

- 1. Different standards in the PTO and in court, due to the presumption of validity

- 2. If someone of ordinary skill in the art can construe a claim term, it's not indefinite; it must be "insolubly ambiguous"

- 3. Definiteness is measured relative to the subject matter of the patent

---

"[P]atentable inventions cannot always be described in terms of exact measurements, symbols and formulae, and **the applicant necessarily must use the meager tools provided by language**, tools which admittedly lack exactitude and precision. **If the claims, read in the light of the specifications, reasonably apprise those skilled in the art both of the utilization and scope of the invention, and if the language is as precise as the subject matter permits, the courts can demand no more.** … That an area of uncertainty necessarily exists in such a situation cannot be denied, but the existence of an inescapable area of uncertainty is not sufficient justification for denying to the patentee the fruits of his invention."

Georgia-Pacific Corporation v. United States Plywood Corporation, 258 F.2d 124, 136 (2d Cir. 1958)

"[T]he Federal Circuit made it **triply difficult** to invalidate a claim on indefiniteness ground by (1) using the **presumption of validity** of § 282 to create stringent elements for the invalidity defense and then (2) also requiring **clear-and-convincing evidence** to prove those elements; all while (3) regularly ignoring the reality that indefiniteness is a **question of law** (as are patentable subject matter and obviousness)."

Prof. Dennis Crouch, PatentlyO

Definiteness background

→ Some things were, nevertheless, indefinite:

- Terms without meaning in the specification, claims, prosecution history, and relevant field

U.S. Patent No. RE 28,525

United States Patent [19]

Greene et al.

[11] E   Re. 28,525

[45] Reissued Aug. 19, 1975

[54] PROCESS FOR HYDROLYZING NITRILES

[75] Inventors: Janice L. Greene, Warrensville Heights; Murrel Godfrey, Cleveland, both of Ohio

[73] Assignee: The Standard Oil Company

[58] Field of Search............ 260/557, 561

[56]   References Cited

UNITED STATES PATENTS

3,062,883   11/1962   Gilbert et al.............. 260/561

2. The process for hydrolyzing a nitrile selected from the group consisting of acetonitrile, propionitrile, butyronitrile, acrylonitrile, methacrylonitrile, crotononitrile, maleic dinitrile, glutaronitrile, succinonitrile, adiponitrile, and cyclobutane-1,2-dicyanide [and benzonitrile] comprising contacting said nitrile with water at a pH of from about 1 to about 12.5 in the presence of a copper ion, said copper ion being at least partially soluble in water, the nitrile or in both water and nitrile and said copper ion being composed of copper in a combined valence state of $Cu^\circ + Cu^+$, $Cu^\circ + Cu^{++}$, $Cu^+ + Cu^{++}$, or $Cu^\circ + Cu^+ + Cu^{++}$ at a temperature of from about 25°C to about 220°C at from about atmospheric pressure up to about 2000 psig.

"The term 'partially soluble' is not defined in the patent, nor was a standard definition of that term offered by Sohio. However, the term 'slightly soluble' did appear to have an established meaning at the relevant time, that is, in the mid-1960's.

"The Court has found **no textbook definition of the term 'partially soluble',** however, and Dr. Greene has admitted that **the term 'partially soluble' is not defined in the patent specifications.** She should, of course, have done so in the patent, and if this had been done, that definition would have been binding on this court."

Standard Oil Co. v. American Cyanamid Co.,
585 F. Supp. 1481 (E.D. La. 1984) (citations omitted)

"Obviously, Dr. Green, aware of the meaning of 'slightly soluble', having used it in the specifications, and conceding that she was 'skilled in the art' of chemistry at the time, **Dr. Green nevertheless elected to use another term,** i.e. 'partially soluble' when she stated Claim 2. Considering that she sought to devise a process useful in her employer's business, and having noted that 'lower catalyst levels' required 'quite long' reaction times it can only be fairly concluded that **she contemplated a process which required more than simply a 'slightly soluble' ion; she required that the ion be 'at least partially soluble'.** Thus, in effect Dr. Greene defined in Claim 2 a significant and substantial degree of solubility."

Standard Oil Co. v. American Cyanamid Co.,
585 F. Supp. 1481 (E.D. La. 1984) (citations omitted)

"Sohio argues that 'at least partially soluble' would have the same meaning as 'at least slightly soluble'. This Court disagrees. Taken alone, the expert testimony on this point is far from conclusive. However, **when read against the language of the reissue patent, the testimony of Dr. Cotton and Dr. Ernest Yeager to the effect that 'partially soluble' suggests 'considerable amounts' and 'substantial amounts',** respectively, become more persuasive."

Standard Oil Co. v. American Cyanamid Co.,
585 F. Supp. 1481 (E.D. La. 1984) (citations omitted)

Definiteness background

→ Some things were, nevertheless, indefinite:

- Terms without meaning in the specification, claims, prosecution history, and relevant field

- Dual-purpose/hybrid claims

U.S. Patent

6,149,055

Electronic fund transfer or transaction

1. An electronic financial transaction system for executing financial transactions, each transaction being characterized by a transaction type and a plurality of transaction parameters, the system comprising:

a central controller;

a communications network;

a terminal device selectively connectable to the central controller through the communications network, the terminal device comprising:

a proce...

a displa...

an inpu...

the sy...

def...

ma...

act...

the pr...

screen stored transaction information, the input mechanism enabling a user to use the displayed transaction information to execute a financial transaction or to enter selections to specify one or more transaction parameters.

2. The system of claim **1** wherein the system predicts transaction information that a user of the terminal will desire based on stored data for that user.

25. The system of claim **2** wherein the predicted transaction information comprises both a transaction type and transaction parameters associated with that transaction type and the user uses the input means to either change the predicted transaction information or accept the displayed transaction type and transaction parameters.

"Thus, it is unclear whether infringement of claim 25 occurs **when one creates a system** that allows the user to change the predicted transaction information or accept the displayed transaction, or whether infringement occurs **when the user actually uses the input means** to change transaction information or uses the input means to accept a displayed transaction. Because claim 25 recites **both a system and the method for using that system**, it does not apprise a person of ordinary skill in the art of its scope, and it is invalid under section 112, paragraph 2."

IPXL Holdings, LLC v. Amazon.com,
430 F.3d 1377, 1384 (Fed. Cir. 2005)

Definiteness background

→ Remedy:

- Claim is invalid

- Not considered appropriate to narrow the claim to mean something more definite

Nautilus v. Biosig

Nautilus v. Biosig

→ So why allow any ambiguity? Why not just prohibit ambiguous claims?

Nautilus v. Biosig

→ So why allow any ambiguity? Why not just prohibit ambiguous claims?

- Tradeoffs: There are "inherent limitations of language"

- Ex ante costs: It is expensive to be precise

- No need: Maybe those of ordinary skill in the art can figure out what claims mean

Nautilus v. Biosig

→ Holdings:

- "we read § 112, ¶ 2 to require that a patent's claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty"

Nautilus v. Biosig

→ Holdings:

- "we read § 112, ¶ 2 to require that a patent's claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty"

- Also: presumption of validity doesn't affect definiteness

After *Nautilus*

→ So what happens next?

Slide 1

Patent 6,788,314

[54] ATTENTION MANAGER FOR OCCU THE PERIPHERAL ATTENTION OF PERSON IN THE VICINITY OF A DI DEVICE

[75] Inventors: **Paul A. Freiberger**, San Ma **Golan Levin**, Staten Island, **David P. Reed**, Atherton, Cal

We claim:

1. A method for engaging the peripheral attention of a person in the vicinity of a display device, comprising the steps of:

providing one or more sets of content data to a content display system associated with the display device and located entirely in the same physical location as the

providing to the content display system a set of instructions for enabling the content display system to selectively display, in an unobtrusive manner that does not distract a user of the display device or an apparatus associated with the display device from a primary interaction with the display device or apparatus, an image or images generated from a set of content data, and

data to the content display system independently of each other content provider and without the content data being aggregated at a common physical location remote from the content display system prior to being provided to the content display system, and wherein for each set the respective content provider may provide scheduling instructions tailored to the set of content data to control at least one of the duration, sequencing, and timing of the display of said image or images generated from the set of content data.

"...play device"

Slide 2

After *Nautilus*

→ Is "unobtrusive manner" indefinite? If so, why?

"The key claim language at issue in this appeal includes a **term of degree** ('unobtrusive manner'). We do not understand the Supreme Court to have implied in *Nautilus,* and we do not hold today, that terms of degree are inherently indefinite. Claim language employing terms of degree has long been found definite where it provided **enough certainty to one of skill in the art when read in the context of the invention**. * * * As the Supreme Court recognized in *Nautilus,* 'absolute precision' in claim language is 'unattainable.'"

Interval Licensing LLC v. AOL, Inc., 766 F.3d 1364, 1370 (Fed. Cir. 2014) (citations omitted)

"Although absolute or mathematical precision is not required, it is **not enough**, as some of the language in our prior cases may have suggested, to identify '**some standard** for measuring the scope of the phrase.' The Supreme Court explained that a patent does not satisfy the definiteness requirement of § 112 merely because 'a court can ascribe some meaning to a patent's claims.' The claims, when read in light of the specification and the prosecution history, **must provide objective boundaries** for those of skill in the art."

Interval Licensing LLC v. AOL, Inc., 766 F.3d 1364, 1370–71 (Fed. Cir. 2014) (citations omitted)

"The patents' 'unobtrusive manner' phrase is **highly subjective** and, on its face, provides **little guidance** to one of skill in the art. Although the patented invention is a system that displays content, the claim language offers **no objective indication** of the manner in which content images are to be displayed to the user. As the district court observed, 'whether something distracts a user from his primary interaction depends on the **preferences of the particular user** and the **circumstances** under which any single user interacts with the display.' * * *

"Where, as here, we are faced with a 'purely subjective' claim phrase, we must look to the **written description** for guidance. We find, however, that sufficient guidance is lacking in the written description of the asserted patents."

Interval Licensing LLC v. AOL, Inc., 766 F.3d 1364, 1371 (Fed. Cir. 2014) (citations omitted)

Functional claiming

Disclosure requirements

→ § 112(a): Written description

→ § 112(a): Enablement

→ § 112(a): Best mode

→ § 112(b), (f): <u>Definiteness</u>

---

35 U.S.C. § 112 — Specification (post-AIA)

* * *

(f) Element in Claim for a Combination.—
An element in a claim for a combination may be expressed as a **means or step for performing a specified function without the recital of structure**, material, or acts in support thereof, and such claim shall be construed to cover the **corresponding structure, material, or acts described in the specification** and equivalents thereof.

Slide 1

United States
Bennett

[54] MULTILINE GAM...
[75] Inventor: Nicholas...
    Australia...
[73] Assignee: Aristocr...
    Lane Co...
[21] Appl. No.: 08/8...
[22] PCT Filed: Sep...
[86] PCT No.: PCT...
    § 371 Date: Mar...
    § 102(e) Date: Mar...
[87] PCT Pub. No.: WO...
    PCT Pub. Date: Mar...
[30] Foreign Applic...
Sep. 15, 1994 [AU] Au...
[51] Int. Cl.⁷ ...
[52] U.S. Cl. ...
[58] Field of Search ...
[56] Refer...
    U.S. PATEN...
    Re. 34,244 5/1993 Hag...
    5,580,053 12/1996 Cro...

A   B

"...ne gaming ...e"

What is claimed is:

1. A gaming machine having display means arranged to display a plurality of symbols in a display format having an array of n rows and m columns of symbol positions, game control means arranged to control images displayed on the display means, **the game control means** being arranged to pay a prize when a predetermined combination of symbols is displayed in a predetermined arrangement of symbol positions selected by a player, playing a game, including one and only one symbol position in each column of the array, the gaming machine being characterised in that selection means are provided to enable the player to control a definition of one or more predetermined arrangements by selecting one or more of the symbol positions and the control means defining a set of predetermined arrangements for a current game comprising each possible combination of the symbol positions selected by the player which have one and only one symbol position in each column of the display means, wherein the number of said predetermined arrangements for any one game is a value which is the product $k_1 \ldots \times \ldots k_i \ldots \times \ldots k_m$ where k_i is a number of symbol positions which have been selected by the player in an ith column of the n rows by m columns of symbol positions on the display ($0 < i \leq m$ and $k_i \leq n$).

Slide 2

Aristocrat Tech.

→ So how should we construe "game control means"?

Aristocrat Tech.

→ So how should we construe "game control means"?

→ What's wrong with this claim?

SUMMARY OF THE INVENTION

The present invention consists in a gaming machine having display means arranged to display a plurality of symbols in an array of n rows and m columns of symbol positions, game control means arranged to control images displayed on the display means the game control means being arranged to pay a prize when a predetermined combination of symbols is displayed Ln a predetermined arrangement of symbol positions including one and only one symbol position in each column of the array, the gaming machine being characterised in that the number of said predetermined arrangements for any one game is a value which is the product $k_1 \ldots k_i \ldots k_m$ where k_i represents a number of symbol positions which have been selected by the player in an ith column of the display ($0<i\leq m$), at least one symbol position being selected from each column, and the number of predetermined arrangements being the number of possible combinations of the selected symbol positions which have one symbol position in each column of the display means.

"In cases involving a computer-implemented invention in which the inventor has invoked means-plus-function claiming, this court has consistently required that the structure disclosed in the specification be **more than simply a general purpose computer or microprocessor**. * * * For a patentee to claim a means for performing a particular function and then to disclose only a general purpose computer as the structure designed to perform that function amounts to **pure functional claiming**. Because general purpose computers can be programmed to perform very different tasks in **very different ways**, simply disclosing a computer as the structure designated to perform a particular function does not limit the scope of the claim to 'the corresponding structure, material, or acts' that perform the function…."

Aristocrat Techs. v. Int'l Game Tech., 521 F.3d 1328, 1333 (Fed. Cir. 2008) (citations omitted)

"Aristocrat was not required to produce a listing of source code or a highly detailed description of the algorithm to be used to achieve the claimed functions in order to satisfy 35 U.S.C. § 112 ¶ 6. It was required, however, to **at least disclose the algorithm that transforms the general purpose microprocessor to a 'special purpose computer** programmed to perform the disclosed algorithm.'"

Aristocrat Techs. v. Int'l Game Tech., 521 F.3d 1328, 1338 (Fed. Cir. 2008) (citations omitted)

Aristocrat Tech.

→ Do we think the claim limitation is enabled? If so, what's the problem?

positions, game control means arranged to control images displayed on the display means the game control means being arranged to pay a prize when a predetermined combination of symbols is displayed Ln a predetermined arrangement of symbol positions including one and only one symbol position in each column of the array, the gaming

---

"The fact that an ordinary skilled artisan might be able to design a program to create an access control list based on the system users' predetermined roles goes to enablement. The question before us is whether the specification contains a **sufficiently precise definition of the 'corresponding structure'** to satisfy section 112, paragraph 6, not whether a person of skill in the art **could devise some means to carry out the recited function**."

Blackboard, Inc. v. Desire2Learn, Inc.,
574 F.3d 1371, 1385 (Fed. Cir. 2009)

Aristocrat Tech.

→ How could we rewrite "game control means"?

> positions, game control means arranged to control images displayed on the display means the game control means being arranged to pay a prize when a predetermined combination of symbols is displayed Ln a predetermined arrangement of symbol positions including one and only one symbol position in each column of the array, the gaming

Williamson v. Citrix

→ When does a claim term count as a functional limitation under § 112(f)?

- Why does this matter?

Williamson v. Citrix

→ When does a claim term count as a functional limitation under § 112(f)?

- Why does this matter?

- If it's functional, it's limited to the structure described in the specification (plus equivalents)

Williamson v. Citrix

→ Federal Circuit rule, over time:

- "When the claim drafter has not signaled his intent to invoke § 112, ¶ 6 by using the term 'means,' we are unwilling to apply that provision *without a showing that the limitation essentially is devoid of anything that can be construed as structure.*"

- Strong presumption that can be overcome

- But, hard to predict outcomes…

Structural	Not structural
"perforation means … for tearing"	"spring means tending to keep the door closed"
"system memory means"	"system memory means"
"distributed learning control module"	"distributed learning control means"

Functional Claim Language in Issued Patents

- Independent Claim Contains "Means" Element
- Independent Claim Contains "Configured To/For" Element
- Independent Claim Contains "For …ing" Element

by Dennis Crouch
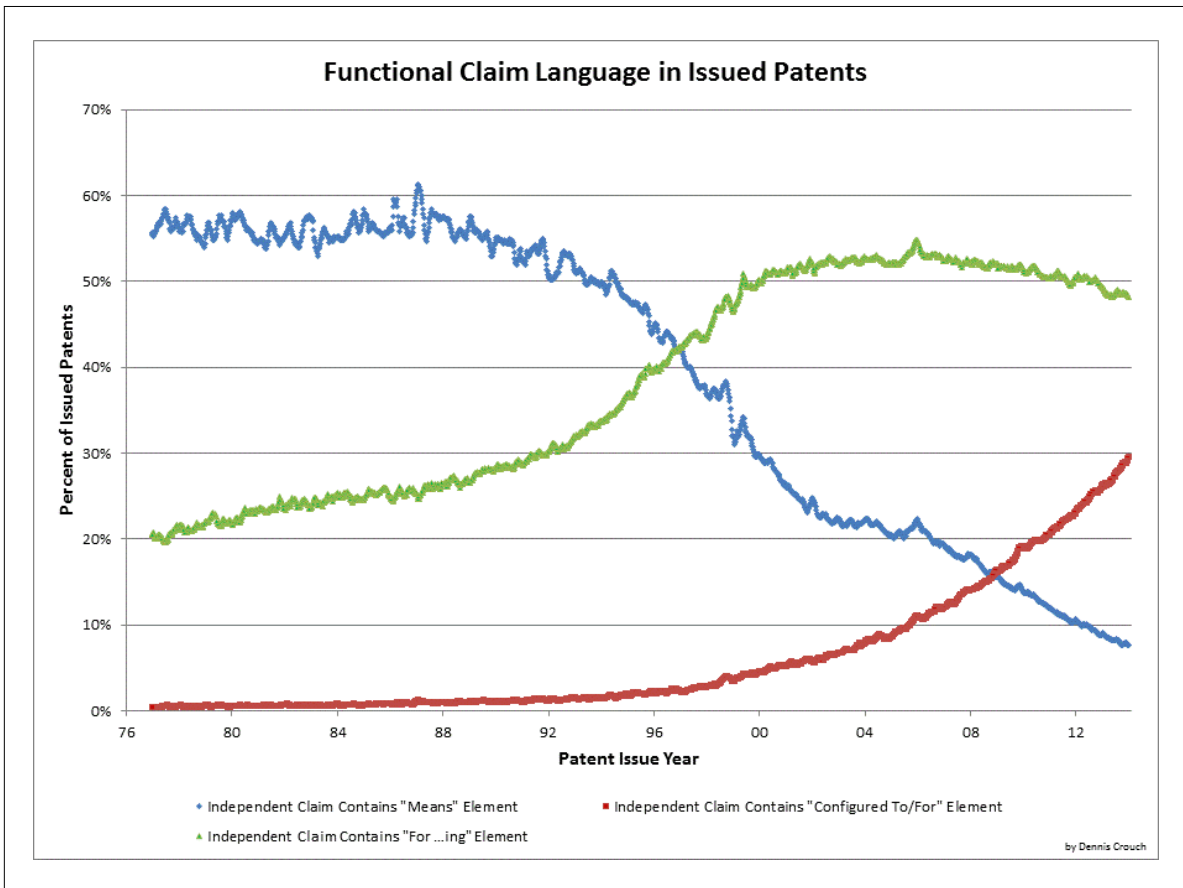
"Our consideration of this case has led us to conclude that such a heightened burden is unjustified and that we should abandon characterizing as 'strong' the presumption that a limitation lacking the word 'means' is not subject to § 112, para. 6. That characterization is **unwarranted**, is **uncertain in meaning and application**, and has the inappropriate practical effect of **placing a thumb on what should otherwise be a balanced analytical scale**. It has shifted the balance struck by Congress in passing § 112, para. 6 and has resulted in a **proliferation of functional claiming untethered to § 112, para. 6 and free of the strictures set forth in the statute**."

Williamson v. Citrix Online, LLC, 792 F.3d 1339, 1349 (Fed. Cir. 2015) (en banc)

"The standard is whether the words of the claim are **understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure**. … When a claim term lacks the word 'means,' the presumption can be overcome and § 112, para. 6 will apply if the challenger demonstrates that the claim term **fails to 'recite sufficiently definite structure' or else recites 'function without reciting sufficient structure for performing that function.'** The converse presumption remains unaffected: **'use of the word "means" creates a presumption that § 112, ¶ 6 applies.'**"

Williamson v. Citrix Online, LLC, 792 F.3d 1339, 1349 (Fed. Cir. 2015) (en banc)

Best mode

Disclosure requirements

→ § 112(a): Written description

→ § 112(a): Enablement

→ § 112(a): Best mode

→ § 112(b), (f): Definiteness

Disclosure requirements

→ § 112(a): Written description

→ § 112(a): Enablement

→ § 112(a): Best mode

→ § 112(b), (f): Definiteness

Best mode

→ Rule: An inventor must disclose the best way of practicing the claimed invention, as contemplated by the inventor, at the time of filing

- Purely a subjective standard
- No duty to update
- Rarely enforced by PTO
- Not enforceable in litigation (!)

Best mode

→ What is the purpose of the best-mode requirement?

Best mode

→ What is the purpose of the best-mode requirement?

- Prevent inventors from double-dipping
- Claiming patent rights but evading the disclosure required by the patent bargain

Best mode

→ Why scale it back in the AIA?

Best mode

→ Why scale it back in the AIA?

- It had become too expensive to litigate – too much a burden for courts and patent holders relative to the gains

- It's really easy to circumvent

- Most countries don't require it

Young Dental Mfg.

→ Two-step analysis:

- 1. Is there a subjective preferred embodiment?

- 2. If so, does the patent, objectively, adequately disclose that best mode so someone of ordinary skill in the art could practice it?

Young Dental Mfg.

→ Tech: Improved disposable prophy angle for polishing teeth

→ Alleged best-mode violation: failure to disclose gear ratio and type of plastic

Young Dental Mfg.

→ Holding: There's no violation because the omitted details were just production details

→ Why?

Young Dental Mfg.

→ Holding: There's no violation because the omitted details were just production details

→ Why?

- Similar to enablement: Someone of ordinary skill in the art can figure it out

- So no evasion of the patent bargain

Disclosure recap

Disclosure summary

→ <u>Enablement</u>: Would <u>someone of ordinary skill in the art</u> be able to know how to <u>implement</u> the invention?

→ <u>Written description</u>: Does the patent make clear that <u>the inventor possessed</u> the full scope of the invention?

→ <u>Definiteness</u>: Does the patent put the <u>public on notice</u> of what is claimed?

→ <u>Best mode</u>: Is the inventor <u>hiding anything</u> from the public?

Next time

Next time

→ Novelty!