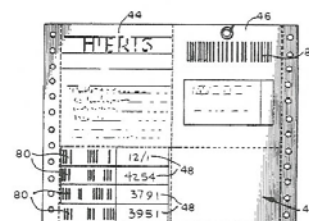
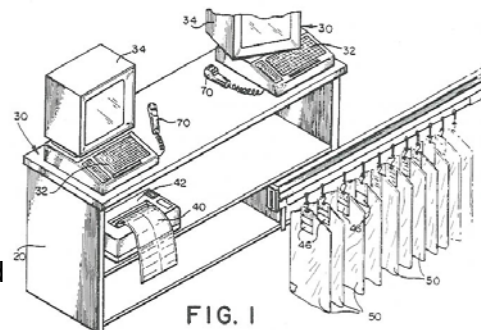


Patent Law

- Module H
- Enforcing Patent Rights

Literal Infringement – Markman v. Westview Instruments (SCT 1996)

- System that is
 - “capable of monitoring and reporting upon the status, location and throughput of **inventory** in an establishment”
 - Clothing sorted and grouped for processing, later “desorted” for return to customer
- Cash inventory or physical inventory or both?



Markman

- Section II

- No 7th Amendment right for claims to be construed by a jury
- History a bit fuzzy, but courts traditionally construed specifications and claims
- Query: Then when and how did juries start doing it?

- Section III

- If 7th Amendment does not decide it, then just pick the one with the best “interpretative skills”
- This issue is neither one of pure law nor pure fact
 - A “mongrel”

Markman

- Section III (cont.)

- “The claims of patents have become highly technical in many respects as the result of special doctrines relating to the proper form and scope of claims that been developed by the courts and the Patent Office.”
 - How does this square with Phillips requirement that claims be interpreted as a PHOSITA would?
 - Would a PHOSITA be familiar with these special doctrines?
- Judges will be more accurate and uniform than juries

Cybor v. FAS Technologies (Fed. Cir. 1998)

- Note 2 after Teva
- “We conclude that the Supreme Court’s unanimous affirmance in *Markman* ... of our in banc judgment ... fully supports our conclusion that claim construction, as a purely legal issue, is subject to de novo review on appeal.”
 - Didn’t the Supreme Court say the issue was a mixed one of law and fact?
- Uniformity is an important principle
 - Do not want patents interpreted differently in different courts

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.

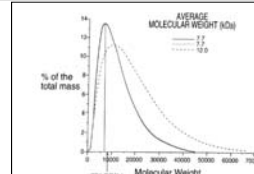
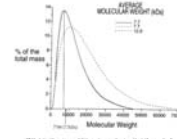


FIG. 1 (with minor additions to emphasize that the peak of the solid curve does not correspond precisely to T.F.)

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.

Claim Interpretation – Sources / Canons / Procedure

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

● 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.

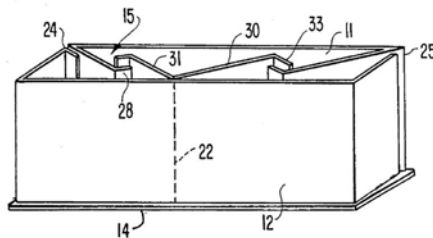


Fig. 6

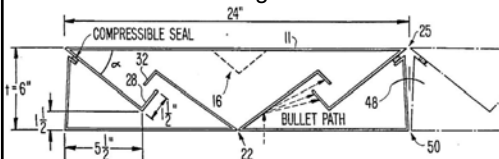
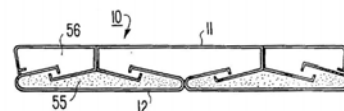
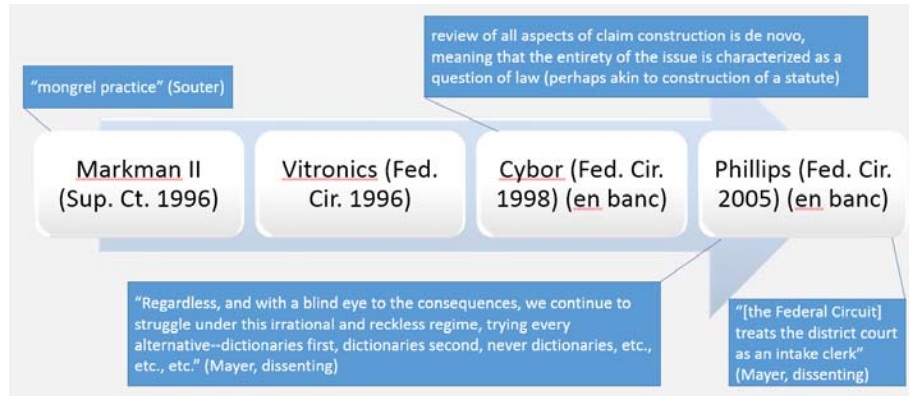


Fig. 7



Claim Construction before Teva



Federal Rules of Civil Procedure 52

Rule 52. Findings and Conclusions by the Court; Judgment on Partial Findings

(a) Findings and Conclusions.

(1) *In General.* In an action tried on the facts without a jury or with an advisory jury, the court must find the facts specially and state its conclusions of law separately. . . .

(2) *For an Interlocutory Injunction.* . . .

(3) *For a Motion.* The court is not required to state findings or conclusions when ruling on a motion under [Rule 12](#) or [56](#) or, unless these rules provide otherwise, on any other motion.

(4) *Effect of a Master's Findings.* A master's findings, to the extent adopted by the court, must be considered the court's findings.

(5) *Questioning the Evidentiary Support.* . . .

(6) *Setting Aside the Findings.* Findings of fact, whether based on oral or other evidence, must not be set aside unless **clearly erroneous**, and the reviewing court must give due regard to the trial court's opportunity to judge the witnesses' credibility.

Teva v. Sandoz: District Court Opinion

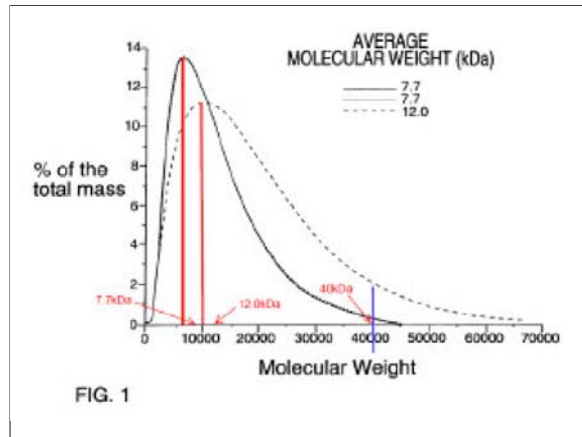
- District Court (S.D. NJ June 2012) (Judge Jones)
 - Sandoz and related parties – ANDA infringement acts – regulatory filings to market generic versions of Copaxone®, a drug for multiple sclerosis
 - The “Orange Book” patents corresponding to Copaxone claim copolymer-1, a polymeric material that is “a mixture of individual polymer molecules that have varying molecular weight”; there are nine patents in the family, sharing a common specification
 - Markman order (August 2011)
 - The claim term at issue for indefiniteness is “molecular weight”, but when that term is applied to a mixture like copolymer-1, artisans would understand it to refer to Average Molecular Weight (AMW)
 - AMW might be M_p (peak average) or M_n (number average) or M_w (weighted average)
 - The specification indicates that molecular weight is measured using Size Exclusion Chromatography (SEC), which an artisan would understand to inherently provide M_p
 - The prosecution history of the '539 patent said molecular weight is M_p ; but, that of the '847 said M_w ; Teva “admits” in litigation that the '847 prosecution history statement is an error
 - Dr. Grant, the expert for Teva, is credited with various aspects of the scientific conclusions underlying the claim construction and the determination that indefiniteness is not proven
 - Including the conclusion that an artisan would understand that the statement in the '847 patent prosecution history is incorrect, and thus that the artisan would disregard it
 - All claims of various Teva patents are infringed by Sandoz; and are not invalid (surviving, among others, challenges based on obviousness and lack of enablement)

Teva v. Sandoz: Federal Circuit Opinion

- Federal Circuit (October 2013) (Judge Moore)
 - Classifies the claims into Group I and Group II
 - Group I form: “having a molecular weight of about 5 to 9 kilodaltons”
 - Group II form: “having over 75% of its mole fraction within the molecular weight range from about 2 kDa to about 20 kDa”
 - Group I claims are indefinite; Group II claims are not
 - The prosecution history conflict between the '539 patent (AMW is M_p) and the '847 patent (AMW is M_w) “cannot be reconciled”
 - Under the Federal Circuit’s “de novo review” power, Dr. Grant’s testimony does not save the Group I claims from indefiniteness; Dr. Grant indicated that SEC data, after applying some calculations, can give M_n or M_w ; the Sandoz expert asserted that SEC measurement can give M_n or M_w
 - In the same paragraph, the Federal Circuit “credits” the Sandoz annotated presentation of Fig. 1 from the common specification as showing the possibility that the curve indicates M_w rather than M_p

Teva v. Sandoz: Federal Circuit Opinion

- Federal Circuit (October 2013) (Judge Moore)
 - “the 7.7 kDa value is closer to the M_w than to the M_p of the corresponding batch, which makes it difficult to conclude that M_p is the intended measure. J.A. 5285.”
 - In the District Court's Markman order, relying on Dr. Grant's input, this anomaly was attributed to the process of collecting and processing the data from the SEC measurement technique



Teva v. Sandoz: Federal Circuit Opinion

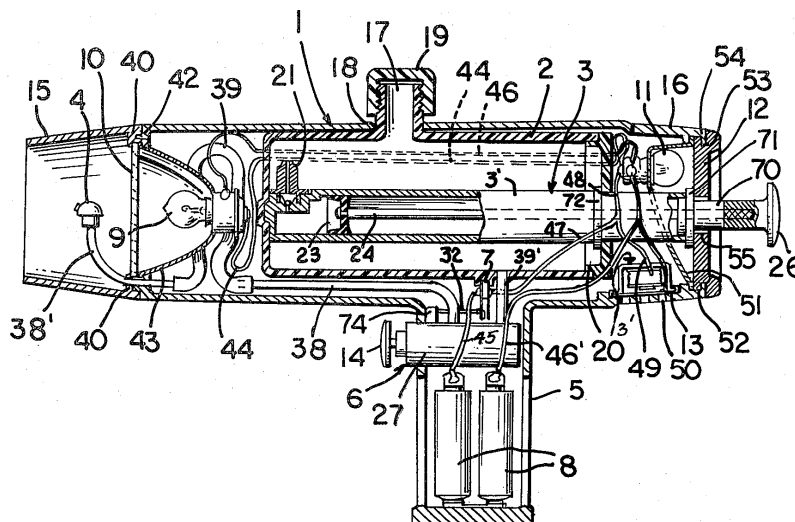
- Federal Circuit (October 2013) (Judge Moore)
 - Group II claims survive indefiniteness under the analysis below

Group II claims, by contrast, do not recite average molecular weight values. Instead of describing copolymer-1 in terms of a statistical measure, such as M_w , Group II claims recite the percentage of copolymer-1 molecules in a sample falling within an arbitrarily set molecular weight range. The numbers that set the boundaries of that range, such as “2 kDa” and “20 kDa” in the ’430 patent claim 1, refer to precise points on the “Molecular Weight” axis, rather than to statistical properties of the polymer molecular weight curves. Like the numbers 10,000 (i.e., 10 kDa) and 20,000 (i.e., 20 kDa) in the figure above, “2 kDa” and “20 kDa” refer to exact values rather than statistical measures. The scope of Group II claims is thus readily ascertainable. We hold that Group II claims are not invalid for indefiniteness.

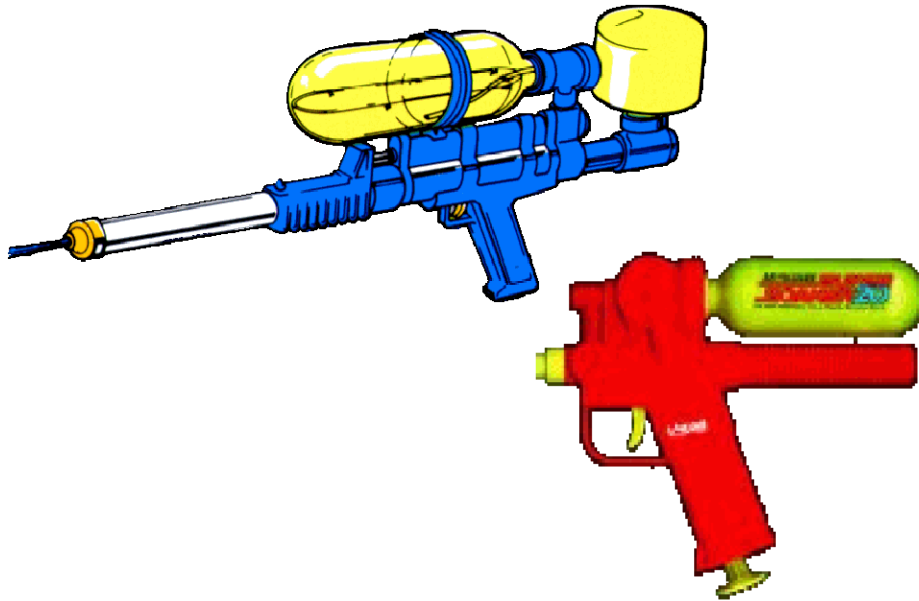
Larami v. Amron – claim 1

Claim 1	Id.
[a] toy comprising	
an elongated housing [case] having	A
a chamber therein for	B
a liquid [tank],	C
a pump including	D
a piston	E
having an exposed rod [piston rod] and	F
extending rearwardly of said toy	.
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.	.

Larami v. Amron - embodiment



Larami v. Amron – accused device(s)



Graver Tank v. Linde Air Products (US 1950) [not assigned]

- Idea underlying DOE
 - Pirates of an invention “may be expected to introduce minor variations to conceal and shelter the piracy”
 - But not limited to circumstances of copying.
 - We don’t want to put the inventor “at the mercy of verbalism”
- Does DOE conflict with the “notice” function of claims? If so, should it be scaled back or eliminated?
- “reverse” DOE
 - “The wholesome realism of this doctrine is not always applied in favor of a patentee but is sometimes used against him. Thus, where a device is so far changed in principle from a patented article that it performs the same or a similar function in a substantially different way, but nevertheless falls within the literal words of the claim, the **[reverse]** doctrine of equivalents may be used to restrict the claim and defeat the patentee’s action for infringement.”
- Essentially dead

Graver Tank [not assigned]

- DOE
 - Even if accused device, method, etc. does not fall in the literal meaning of the claims, infringement can still be found if the device, method, etc. meets the “function-way-result” test
 - Does the accused device, composition, method, etc. perform “substantially the same function in substantially the same way to obtain [substantially] the same result”
 - “Area” of equivalence varies with the circumstances
 - What factors cause the variance?
 - The context of the patent, the prior art, and the particular circumstances of the case.
 - “Pioneering” equivalents will usually receive broader scope than mere incremental inventions.

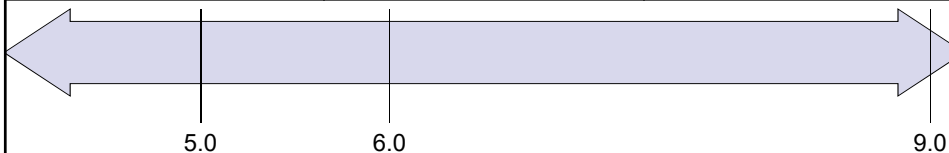
Warner-Jenkinson v. Hilton Davis (US 1997)

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

Warner-Jenkinson v. Hilton Davis (US 1997)

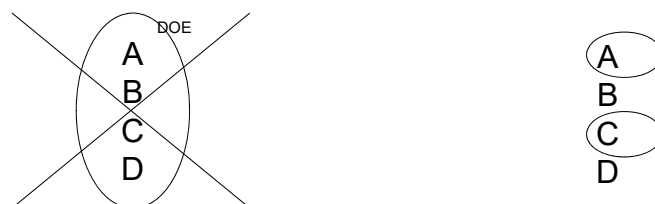
- Jury found patent infringed under DOE
- Federal Circuit affirms in fractured opinion
 - Dispute is over scope of DOE – i.e., scope of equivalents
- Supreme Court reverses

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



Warner-Jenkinson v. Hilton Davis (US 1997)

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



Warner-Jenkinson v. Hilton Davis (US 1997)

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

Warner-Jenkinson v. Hilton Davis (US 1997)

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

Warner-Jenkinson v. Hilton Davis (US 1997)

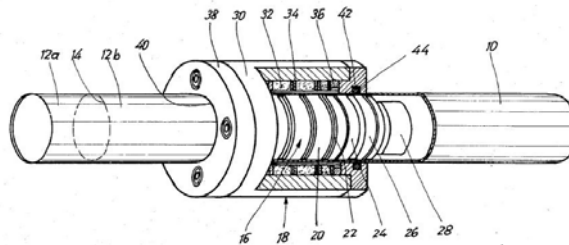
- Linguistic framework of the DOE test
 - SSF-SSW-SSR or
 - Insubstantial Differences?
 - An analysis of the role played by each element in the context of the specific patent claim will thus inform the inquiry as to whether a substitute element matches the function, way, and result of the claimed element,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



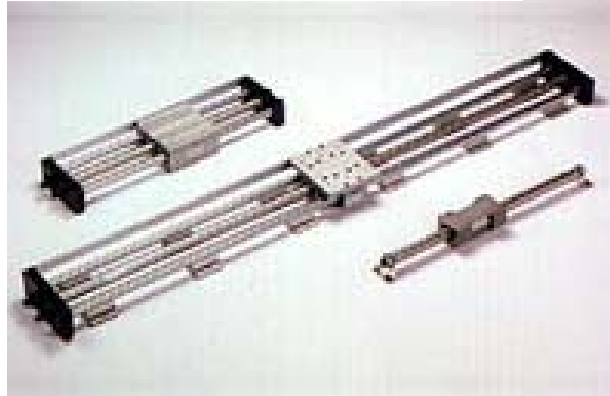
Infringement – comparison of “equivalence” types

Literal		§112¶6 Equiv. (“Literal”)	DOE
<u>§112¶6:</u> Find the structure in the specification that implements the function <u>Other:</u> claim construction and comparison to the accused device, method, etc.	F-W-R approach or test (tripartite test)	Identical Function	Substantially Similar Function (SSF)
		SS Way	SS Way
		SS Result	SS Result
	Insubstantial Differences approach or test	Identical Function	SSF
		Insubstantial Differences	Insub. Diff.

Festo (US 2002)



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



Festo (US 2002)

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

Festo (US 2002)

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

Festo (US 2002)

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

Festo (US 2002)

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

Festo (US 2002)

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

Festo (US 2002)

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

Festo (US 2002)

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

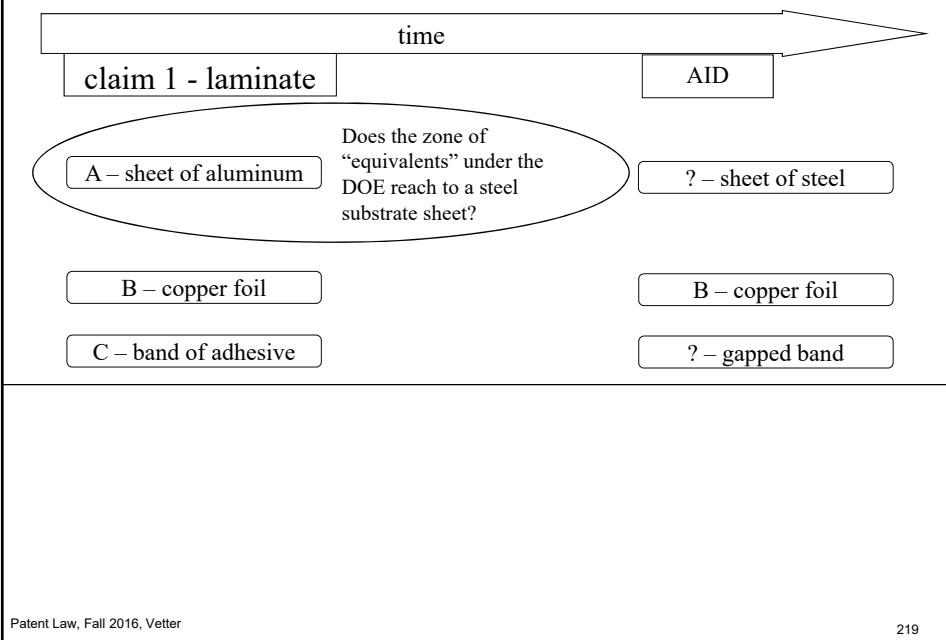
Festo on remand – order for additional briefing (9/20/02) – Opinion on 9/26/03

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

Festo on remand – Opinion on 9/26/03

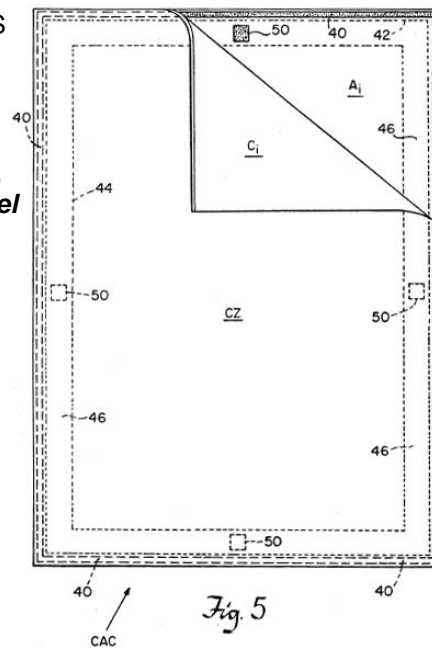
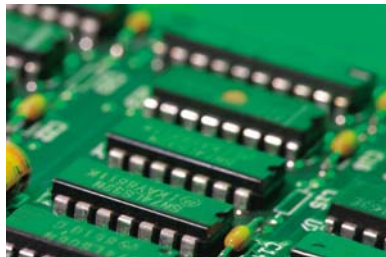
- Foreseeability
 - Objective
 - Evaluated at the time of the amendment
 - “Usually, if the alleged equivalent represents later-developed technology (e.g., transistors in relation to vacuum tubes, or Velcro® in relation to fasteners) or technology that was not known in the relevant art, then it would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

Johnson & Johnston Assocs. v. R.E. Serv. Co



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 ... polypropylene [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”

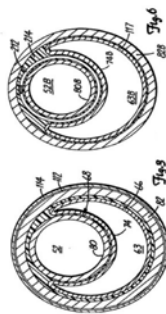


Johnson & Johnston v. R.E. Service (Fed. Cir. 2002)

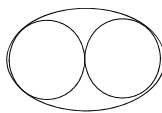
- How does the patentee protect herself?
 - Claim everything?
 - What happens if the claim is later invalidated?
 - It is in the patentee's hands to "get it right" during prosecution

Scimed v. Advanced Cardiovascular (Fed. Cir. 2001)

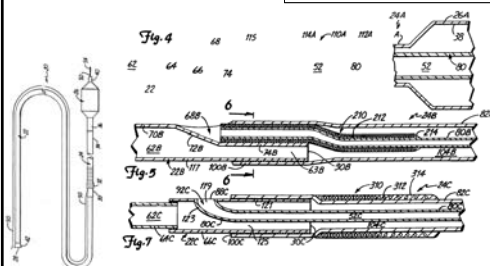
U.S. Patent Oct. 26, 1992 Sheet 3 of 4 5,156,594



AID:

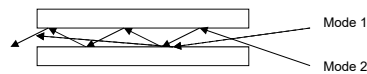
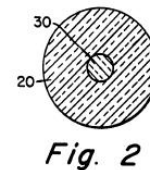
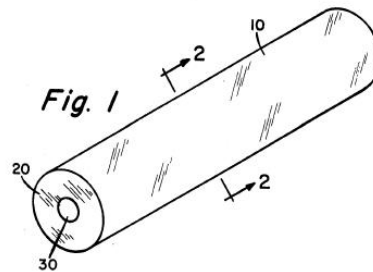


- Balloon dilation catheters
- Claim construction and DOE assertion
- Vitiate
- All elements/limitations
- Specific exclusion
 - Most relevant to this fact pattern



Corning Glass v. Sumitomo (Fed. Cir. 1989) (Nies) [note 3 after Scimed]

- Court affirms DOE infringement judgment against Sumitomo
- Claimed technology is glass-clad / glass-core fiber
 - Outer cladding layer has lower RI
 - Fiber used for optical communications needs to limit the fiber-transmitted light to preselected “modes”
 - Optimum is a single “mode”
- Corning Inventors – developed first 20db/km fiber – single or low number of modes
 - Properties due to
 - pure fused silica cladding
 - a fused silica core containing approximately three percent by weight of titania as the dopant in the core
 - careful selection of the core diameter and the RI differential between the core and the cladding



Corning Glass v. Sumitomo (Fed. Cir. 1989)

- Claim 1 ['915 patent]
 - An optical waveguide comprising
 - (a) a cladding layer formed of a material selected from the group consisting of
 - pure fused silica and
 - fused silica to which a dopant material on at least an elemental basis has been added, and
 - (b) a core formed of fused silica to which a dopant material on at least an elemental basis has been added
 - to a degree in excess of that of the cladding layer so that the index of refraction thereof is of a value greater than the index of refraction of said cladding layer,
 - said core being formed of at least 85 percent by weight of fused silica and an effective amount up to 15 percent by weight of said dopant material.

Corning Glass v. Sumitomo (Fed. Cir. 1989)

- Follow up invention – ‘550 patent
 - Use germania dopant in order to eliminate strength-reducing heat treatment step
- Sumitomo’s S-3 fiber – the Accused Infringing Device (AID)
 - Under SSF-SSW-SSR test
 - SSF & SSR are met
 - SSW is at issue
 - The “Way” part of the tripartite test is usually the crux of the issue

Corning Glass v. Sumitomo (Fed. Cir. 1989)

Claim 1 [‘915 patent]	Application to AID
(a) a cladding layer formed of a material selected from the group consisting of pure fused silica and fused silica to which a dopant material on at least an elemental basis has been added, and	This claim language literally reads on the AID
(b) a core formed of fused silica to which a dopant material on at least an elemental basis has been added to a degree in excess of that of the cladding layer so that the index of refraction thereof is of a value greater than the index of refraction of said cladding layer, said core being formed of at least 85 percent by weight of fused silica and an effective amount up to 15 percent by weight of said dopant material.	Claim limitation calling for addition of dopant to the core was not literally met District court found that addition of fluorine dopant to the cladding (reducing its RI) equivalently met the limitation

Corning Glass v. Sumitomo (Fed. Cir. 1989)

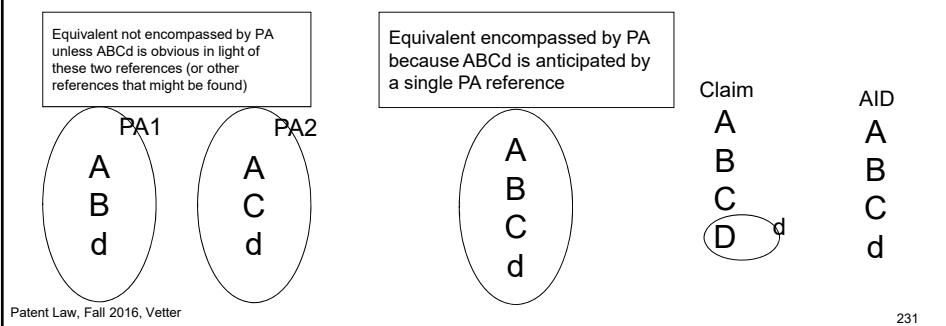
- An aside to discuss the preamble
 - An **optical waveguide** comprising
- Sumitomo argued that the '915 patent was anticipated by a PA reference
- Sumitomo would have won this argument, except that Corning successfully argued that the preamble phrase optical waveguide was limiting
 - "The specification then sets forth in detail the complex equation for the structural dimensions and refractive index differential necessary, in accordance with the invention, for an optical waveguide fiber comprising a fused silica core and cladding to transmit preselected modes of light."
 - "To read the claim in light of the specification indiscriminately to cover all types of optical fibers would be divorced from reality."

Corning Glass v. Sumitomo (Fed. Cir. 1989)

- Is fluorine dopant in the cladding of the AID a SSW to obtain the SSF & SSR compared to
 - The claim's requirement of dopant in the core?
 - If the answer given is "yes" – does that mean the "all elements" rule has been broken?
- The Federal Circuit says the "all elements" rule has not been broken
 - "Sumitomo's analysis is faulty in that it would require equivalency in components, that is, the substitution of something *in the core* for the absent dopant."
 - The application of DOE was not allowed such broad play as to effectively eliminate that element ***in its entirety***

Corning Glass v. Sumitomo (Fed. Cir. 1989)

- The Federal Circuit also says that the “don’t encompass the prior art” restriction on DOE is not triggered here as well
 - Why?
 - The answer relates to whether the “known interchangeable” negative cladding dopant is itself in the PA, or
 - appears in the PA in a combination that would read on the full claim



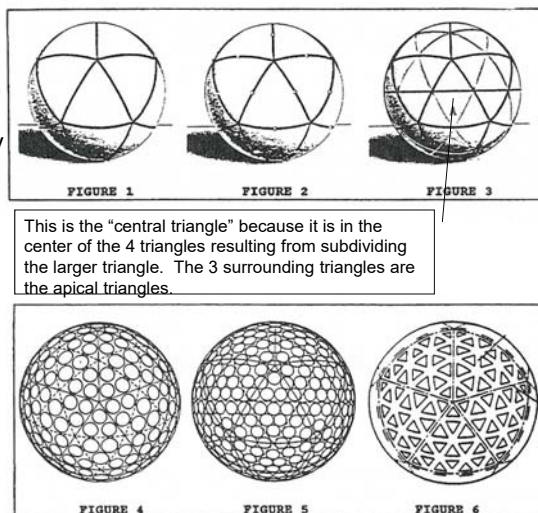
Corning Glass v. Sumitomo (Fed. Cir. 1989)

- Terminology on relationships among claims
 - But, not all claims related in other ways or that share elements have one of these types of relationships

More broad	Example	Less broad	Example
Sub-combination	ABC	Combination	ABCD
Dominant	ABC	Subservient	ABCD
Genus	ABR ₁ where R ₁ is . . . X . . .	Species	ABX

Wilson Sporting Goods (Fed. Cir. 1990) (Rich, J.)

- 1. A golf ball having
 - a spherical surface with a plurality of dimples formed therein and
 - six great circle paths which do not intersect any di[m]ples,
 - the dimples being arranged by dividing the spherical surface into twenty spherical triangles corresponding to the faces of a regular icosahedron,
 - each of the twenty triangles being sub-divided into four smaller triangles consisting of a central triangle and three apical triangles by connecting the midpoints [of the sides] of each of said twenty triangles along great circle paths,
 - said dimples being arranged so that the dimples do not intersect the sides of any of the central triangles.
- [Bracketed insertions ours.]



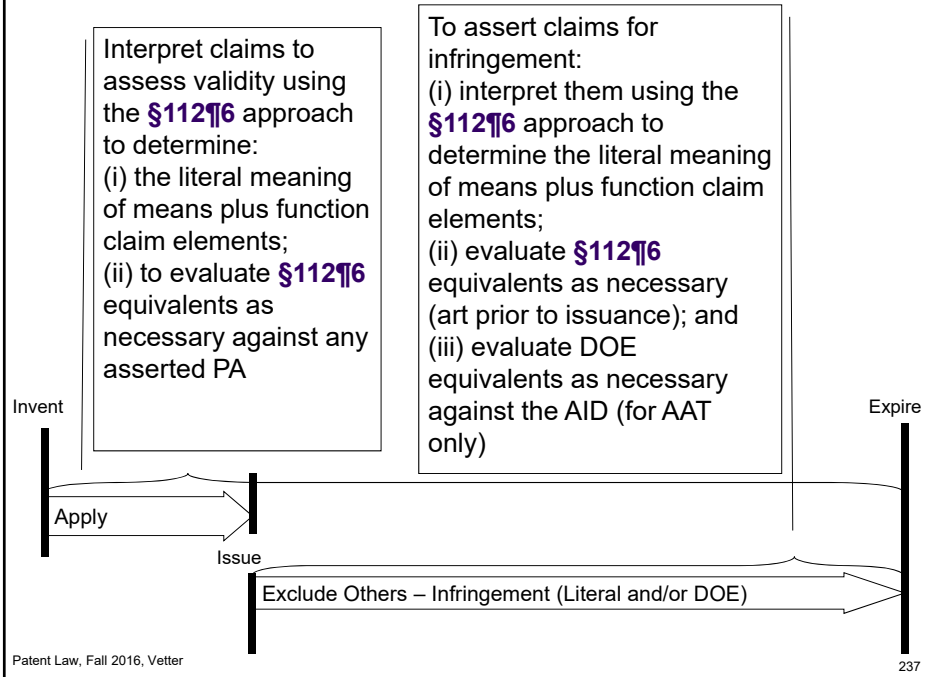
Wilson v. David Goeffrey & Assoc. (Fed. Cir. 1990) (Rich, J.)

- Suit against Dunlop (Maxfli ball) and its distributor DGA (Slazenger ball)
- Law invoked
 - DOE limited by that which would "improperly ensnare the prior art"
 - Methodology is important
 - Claims are not expanded
 - As an analysis tool – conceive of a hypothetical claim which covers the AID
 - Alternative approach is to compare the AID directly to the PA
 - Determine whether this hypothetical claim would have been allowed by the PTO
 - Can be "not allowable" for issues of both novelty/anticipation and/or obviousness
 - Notes: Express some concern with the "hypothetical claim" approach
 - Takeaway is that literal claim scope cannot be expanded to cover territory that would make the claim invalid

Functional Claiming	
§112	
[preAIA ¶6] 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	“means plus function” or “step plus function” (step-plus-result) claims
<div>Patent Law, Fall 2016, Vetter</div> <div>235</div>	

<p>§112 ¶6 - Means + Function Claims</p> <ul style="list-style-type: none"> ● Cover structure disclosed in the specification <ul style="list-style-type: none"> ● Are they narrower or broader than “regular” claim elements/limitations? ● Differences between PTO versus courts? <ul style="list-style-type: none"> ▪ PTO – allowed broadest reasonable interpretation (for claims generally, including §112 ¶6 elements in claims) ▪ BUT, PTO is required to apply the §112 ¶6 approach to determining the meaning of means plus function elements
<div>Patent Law, Fall 2016, Vetter</div> <div>236</div>

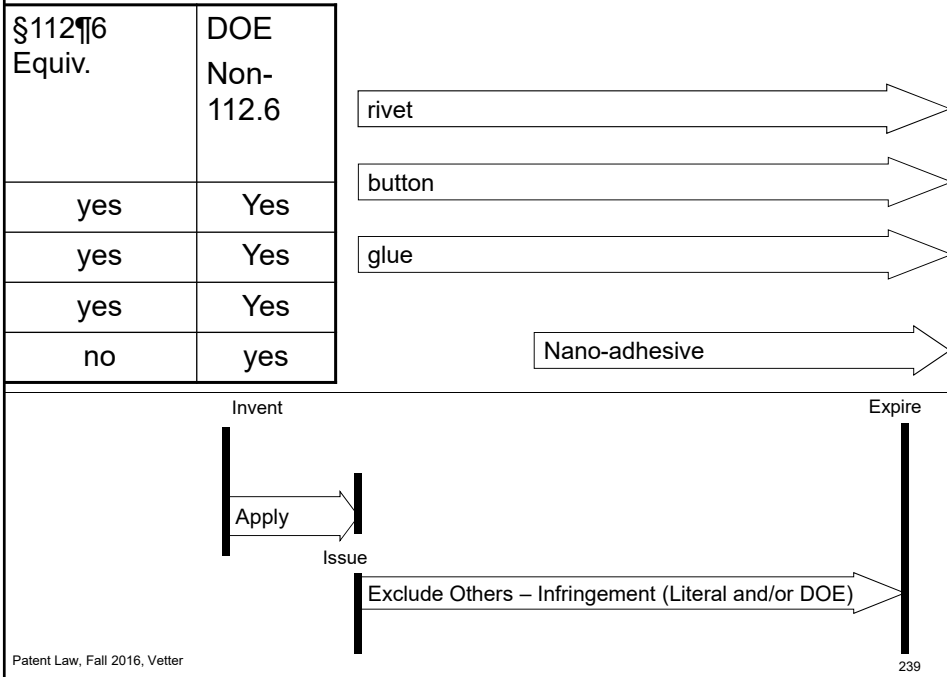
§112 ¶6 - Means + Function Claims



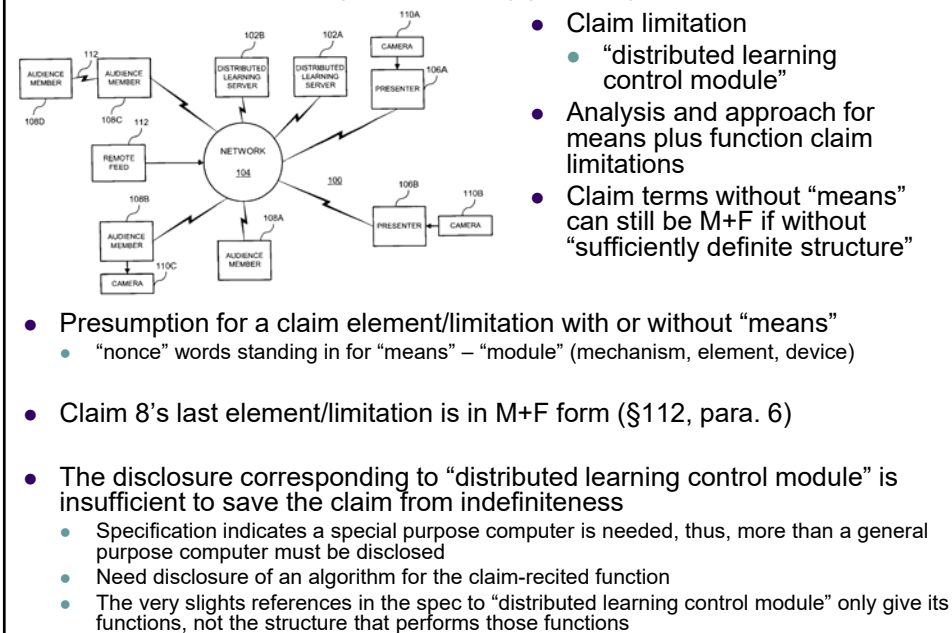
§112 ¶6 - Means + Function Claims

- How is a §112 ¶6 equivalent different from a DOE equivalent?
 - Function
 - Function-Way-Result
 - DOE – substantially similar function, way and result
 - §112 ¶6 – **identical** function, substantially similar way and result
 - Insubstantial Differences
 - DOE – substantially similar function, insubstantial structural differences
 - §112 ¶6 – **identical** function, insubstantial structural differences
 - “After arising” technology
 - DOE covers “after arising” technology
 - §112 ¶6 equivalents cover technology arising prior to issuance

§112 ¶6 - Means + Function Claims



Williamson v. Citrix Online (Fed. Cir. 2015) (en banc)



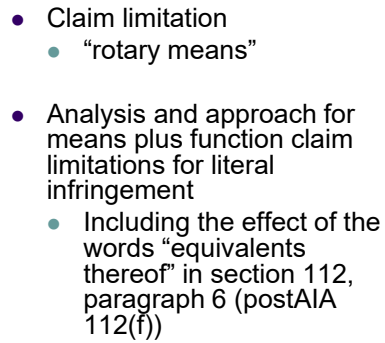
Odetics v. Storage Tech (Fed. Cir. 1999)

Fig. 3

- Claim limitation
 - “rotary means”
- Analysis and approach for means plus function claim limitations for literal infringement
 - Including the effect of the words “equivalents thereof” in section 112, paragraph 6 (postAIA 112(f))

Patent Law, Fall 2016, Vetter

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NTP v. RIM (Fed. Cir. 2005)

The diagram illustrates the flow of email traffic in the NTP v. RIM case. It shows a map of the United States with an 'Internet' cloud and an 'RF Network' tower. An arrow labeled 'Originates E-mail' points from a computer icon to a 'Mail Server' box. From the 'Mail Server', an arrow points to a 'BlackBerry Enterprise Server' box. From there, an arrow points to a 'BlackBerry Handheld' box labeled 'Receives E-mail'. Another arrow points from the 'BlackBerry Enterprise Server' to a 'Relay' box. A large double-headed arrow connects the 'Relay' to a box labeled 'E-mail Traffic with 15+ Other Countries'. A 'Key' box indicates that a grey box represents 'RIM Product / Service' and a white box represents '3rd-Party Product / Service'.

Product / Process / “system” claims

Control

Beneficial Use

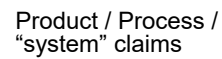
Related Issue:

- Sales and Offers to Sell

The screenshot shows the Verizon Wireless website for BlackBerry smartphones. The header includes the Verizon Wireless logo and navigation links: Devices, B2B, Apps & Media, Software, Support, Where to Buy, Business, and Downloads. The main heading is 'BlackBerry smartphones provided by Verizon Wireless'. Below this, there is a 'Family' section with a list of devices: BlackBerry 10, BlackBerry 10 Bold, BlackBerry 10 Curve, and BlackBerry 10 Torch. The 'Design' section lists 'Phone' and 'Phone + Tablet'. The 'Carrier/Retailer' section lists 'Verizon Wireless'. The 'Color' section lists 'Black'. Below these sections, there are four images of BlackBerry smartphones: BlackBerry Z10, BlackBerry Bold 9930, BlackBerry Torch 9650, and BlackBerry Curve 9310.

Patent Law, Fall 2016, Vetter

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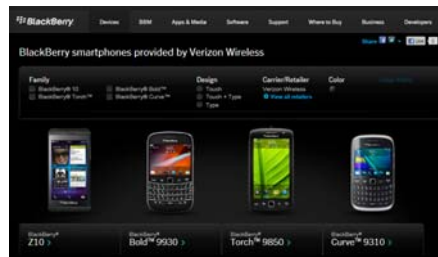


Control

Beneficial Use

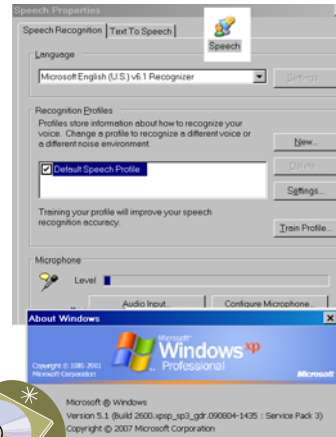
Related Issue:

- Sales and Offers to Sell



Microsoft Corp. v. AT&T Corp., 550 U.S. 437 (2007)

- “Infringement occurs only when Windows is installed on a computer, thereby rendering it capable of performing as the patented speech processor.”
- “a copy of Windows, not Windows in the abstract, qualifies as a ‘component’ under § 271(f)”
- Does a single master CD sent abroad with copies made abroad equate to “supplied from the U.S.”?
- Presumption against extraterritoriality
- Dissent . . .

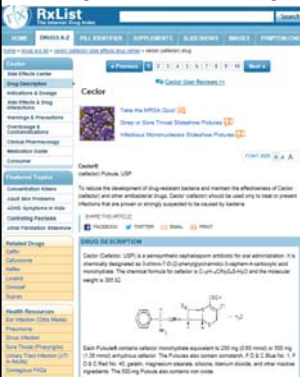


35 U.S.C. 271 Infringement of patent.

. . .

(f)(1) Whoever without authority **supplies or causes to be supplied in or from the United States** all or a substantial portion of the **components** of a patented invention, where such components are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

Eli Lilly v. American Cyanamid (Fed. Cir. 1996)



- District court denied preliminary injunction
- Is there 271(g) infringement of claim 5 of the '085 patent?
- Output of the method of claim 5 is “Compound 6” whereas the accused infringing compound is cefaclor
 - “materially changed”
 - “Lilly notes that there are only four steps between compound 6 and cefaclor, and that all four steps involve relatively routine chemical reactions”
 - Lilly’s approach would look at economic effects
 - Court looks at degree of difference in the “compound’s structure and properties”

271(g)Whoever without authority imports into the United States or offers to sell, sells, or uses within the United States a product which is made by a process patented in the United States shall be liable as an infringer, if the importation, offer to sell, sale, or use of the product occurs during the term of such process patent. In an action for infringement of a process patent, no remedy may be granted for infringement on account of the noncommercial use or retail sale of a product unless there is no adequate remedy under this title for infringement on account of the importation or other use, offer to sell, or sale of that product. A product which is made by a patented process will, for purposes of this title, not be considered to be so made after —

- (1) it is materially changed by subsequent processes; or
- (2) it becomes a trivial and nonessential component of another product.

Indirect Infringement

- Inducement – §271(b)
 - (b) Whoever actively induces infringement of a patent shall be liable as an infringer.
- Contributory infringement - §271(c)
 - (c) Whoever offers to sell or sells within the United States or imports into the United States a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.

Lucent Tech. v. Gateway, Inc. (Fed. Cir. 2009)

- 271(c) issue
 - “special device at the heart of a patented machine”
 - Non-staple article
 - Staple article of commerce doctrine
 - Claim to: ABCD
 - Selling A (material component), “know” it will be combined with BCD, “know” ABCD patented
 - Is A “staple”?
- 271(b) issue

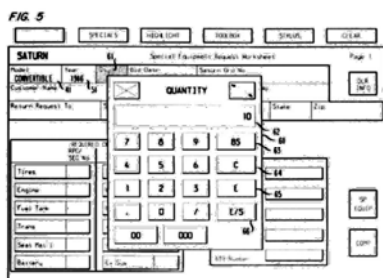
19. A method for use in a computer having a display comprising the steps of

displaying on said display a plurality of information fields,

identifying for each field a kind of information to be inserted therein,

indicating a particular one of said information fields into which information is to be inserted and for concurrently displaying a predefined tool associated with said one of said fields, said predefined tool being operable to supply information of the kind identified for said one field, said tool being selected from a group of predefined tools including a tool adapted to supply an individual entry from a menu of alternatives and at least a tool adapted to allow said user to compose said information, and

inserting in said one field information that is derived as a result of said user operating said displayed tool.



Global-Tech v. SEB (SCT 2011)

- Inducement under Section 271(b)
 - Key issue: Is knowledge of patent-in-suit required? If so, actual or constructive?
 - Note: Only affects pre-suit/judgment damages.
 - Lack of knowledge does not waive post-suit/judgment liability or potential injunction.
- Compare *Aro v. Convertible Top* (Aro II) (1964)
 - Held 5-4 that contributory infringement under Section 271(c) requires knowledge (1) that component is especially adapted or infringement; and (2) **knowledge of the patent-in-suit**

Global-Tech v. SEB (SCT 2011)

In 1997, Sunbeam Products, Inc., a U. S. competitor of SEB, asked petitioner Pentalpha Enterprises, Ltd., to supply it with deep fryers meeting certain specifications. Pentalpha is a Hong Kong maker of home appliances and a wholly owned subsidiary of petitioner Global-Tech Appliances, Inc.

In order to develop a deep fryer for Sunbeam, Pentalpha purchased an SEB fryer in Hong Kong and copied all but its cosmetic features. Because the SEB fryer bought in Hong Kong was made for sale in a foreign market, it bore no U. S. patent markings. After copying SEB's design, Pentalpha retained an attorney to conduct a right-to-use study, but Pentalpha refrained from telling the attorney that its design was copied directly from SEB's.

The attorney failed to locate SEB's patent, and in August 1997 he issued an opinion letter stating that Pentalpha's deep fryer did not infringe any of the patents that he had found. That same month, Pentalpha started selling its deep fryers to Sunbeam, which resold them in the United States under its trademarks. By obtaining its product from a manufacturer with lower production costs, Sunbeam was able to undercut SEB in the U. S. market.

After SEB's customers started defecting to Sunbeam, SEB sued Sunbeam in March 1998, alleging that Sunbeam's sales infringed SEB's patent. Sunbeam notified Pentalpha of the lawsuit the following month. Undeterred, Pentalpha went on to sell deep fryers to Fingerhut Corp. and Montgomery Ward & Co., both of which resold them in the United States under their respective trademarks.

SEB settled the lawsuit with Sunbeam, and then sued Pentalpha, asserting two theories of recovery: First, SEB claimed that Pentalpha had directly infringed SEB's patent in violation of 35 U. S. C. §271(a), by selling or offering to sell its deep fryers; and second, SEB claimed that Pentalpha had contravened §271(b) by actively inducing Sunbeam, Fingerhut, and Montgomery Ward to sell or to offer to sell Pentalpha's deep fryers in violation of SEB's patent rights.

Following a 5-day trial, the jury found for SEB on both theories and also found that Pentalpha's infringement had been willful. . . .

Global-Tech Historical Cases

- America Cotton Tie (SCT 1882)
 - “the defendants prepare and sell the [component] . . . intending to have it used . . . to produce the results set forth in the [asserted] patents”
- Morgan Envelope (SCT 1894)
 - Proper reading is specific intent as to acts; not knowledge of patent
- A.B. Dick (SCT 1912)
 - Dicta stating that knowledge of the patent was required

Global-Tech (2011)

- Supreme Court argues that pre-1952 case law was unclear on scienter requirement
- Although “there is much to be said” for the majority and dissent’s views in Aro II, in light of the “special force” of stare decisis, Court reaffirms that 271(c) requires knowledge of patent
- Based on this premise, 271(b) requires same knowledge as 271(c)
- Court rejects “deliberate indifference” test and adopts “willful blindness”
 - Of course, “actual knowledge” will always suffice

Two-Step Test for 271(b) and 271(c)

- (1) “Defendant must subjectively believe that there is a high probability that” an infringement exists; and
- (2) “Defendant must take deliberate actions to avoid learning of that fact”
- These requirements “surpass[] recklessness and negligence”
 - Recklessness is where defendant “merely knows of a substantial and unjustified risk” of infringement
 - Rejects CAFC test on this basis plus fact that CAFC test does not require active efforts to avoid knowledge

Scienter Levels for Patent Infringement	Scienter Level	Requirements
Direct Infringement [271(a)]	None (Note: vicarious liability for corporate officers generally requires scienter)	None (Note: But copying may be relevant to an obviousness determination and, on the view of some judges, DOE.) <u>Even accidental or inadvertent infringement counts.</u>
Active Inducement [271(b)]	Specific Intent	Must have (1) specific intent to induce direct infringement; and (2) must have knowledge of the patent or meet willful blindness requirement
Contributory Infringement [271(c)]	Specific Knowledge [Note: There is some debate here, so read the cases carefully if it comes up in practice.]	“knowing the same to be especially made or especially adapted for use in an infringement of such patent” means (1) knowledge that the component was especially made or adapted for a particular use; and (2) must have knowledge of the patent or meet willful blindness requirement [Intent to do (1) is required but inferred from knowledge]
Exporting components (inducement prong) [271(f)(1)]	Specific Intent	Same as active inducement
Exporting components (contributory prong) [271(f)(2)]	Specific Intent? [Chisum: The “intent” element is in addition to the usual requirements for contributory infringement under Section 271(c).]	“knowing that such component is so made or adapted and <u>intending that such component will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States</u> ”
Willful Infringement	Objective Recklessness	“Accordingly, to establish willful infringement, a patentee must show by clear and convincing evidence that the infringer acted despite an objectively high likelihood that its actions constituted infringement of a valid patent.”

Akamai v. Limelight (Fed. Cir. 2012) (en banc) [not assigned]

- The problem of “divided infringement” for method claims
- “redefining” direct infringement?
 - All steps of the method must be performed by someone
 - But no longer by some one single actor or its agents

Step	Actor	Inducer
A	Jim	n/a
B	Sally	Jim
C	Tom	Jim

Step	Actor	Inducer
A	Frank	Carol
B	Greg	Carol
C	Henry	Carol

In the McKesson case, Epic can be held liable for inducing infringement if it can be shown that (1) it knew of McKesson’s patent, (2) it induced the performance of the steps of the method claimed in the patent, and (3) those steps were performed. . . .

In the Akamai case, . . . Limelight would be liable for inducing infringement if the patentee could show that (1) Limelight knew of Akamai’s patent, (2) it performed all but one of the steps of the method claimed in the patent, (3) it induced the content providers to perform the final step of the claimed method, and (4) the content providers in fact performed that final step. . . .

Limelight v. Akamai (2014)

- Two scenarios for two defendants
 - Akamai – web content delivery system
 - Defendant Limelight does some of the method steps itself for its system to facilitate downloading
 - McKessen - method of electronic communication between healthcare providers and their patients
 - Defendant EPIC does none of the method steps itself, but its software systems enable others to do the full method as a collective where no one entity does all the steps

This case presents the question whether a defendant may be liable for inducing infringement of a patent under 35 U. S. C. §271(b) when no one has directly infringed the patent under §271(a) or any other statutory provision. The statutory text and structure and our prior case law require that we answer this question in the negative. We accordingly reverse the Federal Circuit, which reached the opposite conclusion.

- why?