

# Patent Law

Prof. Roger Ford

January 26, 2015

Class 4

Disclosure: Written Description

# Recap

# Recap

- Disclosure requirements & the patent bargain
- Enablement: patent breadth & experimentation
- Enablement: timing & speculation



Today's agenda

# Today's agenda

- Written description: limitations on amendments
- Written description: limitations on claim breadth

**Limitations on  
amendments**

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

(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.

\* \* \*

### **35 U.S.C. § 132 — Notice of rejection; reexamination (Post-AIA)**

(a) Whenever, on examination, any claim for a patent is rejected, or any objection or requirement made, the Director shall notify the applicant thereof, stating the reasons for such rejection, or objection or requirement, together with such information and references as may be useful in judging of the propriety of continuing the prosecution of his application; and **if after receiving such notice, the applicant persists in his claim for a patent, with or without amendment,** the application shall be reexamined. **No amendment shall introduce new matter into the disclosure of the invention.** \* \* \*

## 35 U.S.C. § 120 — Benefit of Earlier Filing Date in the United States (Post-AIA)

An application for patent for an invention disclosed in the manner provided by section 112 (a) (other than the requirement to disclose the best mode) in an application previously filed in the United States, \* \* \* which names an inventor or joint inventor in the previously filed application shall have the same effect, as to such invention, as though filed on the date of the prior application, if filed before the patenting or abandonment of or termination of proceedings on the first application or on an application similarly entitled to the benefit of the filing date of the first application and if it contains or is amended to contain a specific reference to the earlier filed application. \* \* \*

(12) United States Patent	
Klein	
(10) Patent No.:	US 6,185,590 B1
(45) Date of Patent:	Feb. 6, 2001
<div>(54) PROCESS AND ARCHITECTURE FOR USE ON STAND-ALONE MACHINE AND IN DISTRIBUTED COMPUTER ARCHITECTURE FOR CLIENT SERVER AND/OR INTRANET AND/OR INTERNET OPERATING ENVIRONMENTS</div> <div>(75) Inventor: Laurence C. Klein, Silver Spring, MD (US)</div> <div>(73) Assignee: Imagination Software, Silver Spring, MD (US)</div> <div>(*) Notice: Under 35 U.S.C. 154(b), the term of this patent shall be extended for 0 days.</div> <div>(21) Appl. No.: 08/950,838</div> <div>(22) Filed: Oct. 15, 1997</div> <div>(63) Continuation-in-part of application No. 08/911,083, filed on Aug. 14, 1997.</div> <div>(60) Provisional application No. 60/028,120, filed on Oct. 18, 1996, provisional application No. 60/028,128, filed on Oct. 18, 1996, provisional application No. 60/028,697, filed on Oct. 18, 1996, provisional application No. 60/028,639, filed on Oct. 18, 1996, and provisional application No. 60/028,685, filed on Oct. 18, 1996.</div> <div>(51) Int. Cl. G06F 13/00; G06F 15/00</div> <div>(52) U.S. Cl. 707/526; 345/329</div> <div>(58) Field of Search 707/526; 513; 395/500; 701; 712; 92; 709/302; 300; 238; 245; 223</div> <div>(56) References Cited</div> <div>U.S. PATENT DOCUMENTS</div> <div>5,430,845 7/1995 Rimmer et al.</div> <div>5,465,364 11/1995 Lathrop et al.</div> <div>5,586,240 12/1996 Khan et al.</div> <div>5,613,080 3/1997 Williams</div> <div>5,615,401 3/1997 Hancoet et al.</div> <div>5,680,618 10/1997 Freund</div> <div>5,774,720 6/1998 Bogardale et al.</div> <div>5,920,725 7/1999 Ma et al.</div> <div>OTHER PUBLICATIONS</div> <div>"Multiprotocol Management Agents: A Look At an Implementation and the Issues to Consider", Baktha Muralidharan, IEEE Journal on Selected Areas in Communications, vol. 11, No. 9, Dec. 1993.</div> <div>"The Definition of Interoperability Architectures for Intelligent Devices Using Abstract Models", Elin L. Klasseen, et al., IEEE, (1995), pp. 237-245.</div> <div>* cited by examiner</div> <div>Primary Examiner—Joseph H. Feild</div> <div>Assistant Examiner—Alford W. Kindred</div> <div>(74) Attorney, Agent, or Firm—Irah H. Donner, Hale and Dorr LLP</div> <div>(57) ABSTRACT</div> <div>An image viewer process views at least one document image including an electronic document image, and performs viewing operations to the electronic document image. The process includes the step of selecting, by the user, one of a plurality of image viewing perspectives. Each of the plurality of image viewing perspectives provide the user the capability of viewing the document image in accordance with a different predefined user perspective. The process also includes the steps of selecting, by the user, using the image viewer process the document image to be viewed, and retrieving, by the image viewer process, the document image. The process also includes the step of displaying, by the image viewer process, the selected document image in accordance with an image viewing perspective selected by the user.</div> <div>22 Claims, 23 Drawing Sheets</div> <div></div>	

## U.S. Patent No. 6,185,590

→ Filing date:  
Oct. 15, 1997

→ "Process and architecture for use on stand-alone machine and in distributed computer architecture for client server and/or intranet and/or internet operating environments"



(10) Patent No.: US 6,185,590 B1  
(45) Date of Patent: Feb. 6, 2001

architecture for  
client server and/  
or intranet and/or  
internet operating  
environments"

(12) **United States Patent**  
**Klein**

(10) Patent No.: **US 6,771,381 B1**  
(45) Date of Patent: **Aug. 3, 2004**

(54) **DISTRIBUTED COMPUTER ARCHITECTURE AND PROCESS FOR VIRTUAL COPYING**

(76) Inventor: **Laurence C. Klein**, 1010 Wayne Ave., Silver Spring, MD (US) 20910

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/438,300**  
(22) Filed: **Nov. 12, 1999**

**Related U.S. Application Data**

(60) Provisional application No. 60/108,798, filed on Nov. 13, 1998.

(51) Int. Cl.<sup>7</sup> ..... **G06K 15/00**

(52) U.S. Cl. .... **358/1.15, 358/1.1**

(58) Field of Search ..... **358/1.15, 1.16, 1.13, 358/1.15, 1.16, 402, 403, 407, 425; 710/8, 14, 15, 33, 62, 63, 64, 65, 72, 73**

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

5,666,495 A \* 9/1997 Yeh ..... 710/303

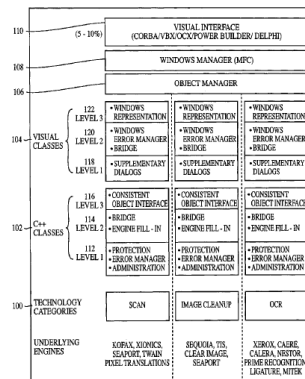
\* cited by examiner

Primary Examiner—Arthur G. Evans  
(74) Attorney, Agent, or Firm—Irah H. Donner, Esq., Wilmer, Cutter, Pickering Hale and Dorr LLP

(57) **ABSTRACT**

The purpose of the Virtual Copier invention ("VC") is to enable a typical PC user to add electronic paper processing to their existing business process. VC is an extension of the concept we understand as copying. In its simplest form it extends the notion of copying from a process that involves paper going through a conventional copier device, to a process that involves paper being scanned from a device at one location and copied to a device at another location. In its more sophisticated form, VC can copy paper from a device at one location directly into a business application residing on a network or on the Internet, or visa versa. The VC invention is software that manages paper so that it can be electronically and seamlessly copied in and out of devices and business applications (such as Microsoft Office, Microsoft Exchange, Lotus Notes) with an optional single-step Go operation. The VC software can reside on a PC, LAN/WAN server, digital device (such as a digital copier), or on a web server to be accessed over the Internet.

**15 Claims, 44 Drawing Sheets**



# U.S. Patent No. 6,771,381

→ Filing date:  
Nov. 12, 1999

→ “Distributed  
computer  
architecture and  
process for virtual  
copying”

(12) **United States Patent**  
**Klein**

(10) Patent No.: **US 7,477,410 B1**  
(45) Date of Patent: **\*Jan. 13, 2009**

(54) **DISTRIBUTED COMPUTER ARCHITECTURE AND PROCESS FOR VIRTUAL COPYING**

(76) Inventor: **Laurence C. Klein**, 1010 Wayne Ave., Silver Spring, MD (US) 20910

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 964 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **10/874,172**

(22) Filed: **Jun. 24, 2004**

**Related U.S. Application Data**

(63) Continuation of application No. 09/438,300, filed on Nov. 12, 1999, now Pat. No. 6,771,381.

(60) Provisional application No. 60/108,798, filed on Nov. 13, 1998.

(51) Int. Cl. .... **G06F 3/12** (2006.01)

(52) U.S. Cl. .... **G06F 15/00** (2006.01)

(58) Field of Classification Search ..... **358/1.1, 358/1.15, 1.13, 1.16, 402, 403, 407, 358/425, 1.18, 1.2, 1.3, 1.4, 1.5, 1.7, 1.8, 358/9, 1.11, 1.12, 1.14, 1.17, 468; 710/8, 710/14, 15, 33, 62, 63, 64, 65, 72, 73**

See application file for complete search history.

(56) **References Cited**  
**U.S. PATENT DOCUMENTS**

5,303,336 A \* 4/1994 Kagiyama et al. .... 358/1.15  
5,666,495 A \* 9/1997 Yeh ..... 710/303  
5,680,625 A \* 11/1997 Austin et al. .... 358/1.15  
5,754,747 A \* 5/1998 Reilly et al. .... 358/1.15  
5,761,396 A \* 6/1998 Austin et al. .... 358/1.15  
6,401,450 B1 \* 6/2002 Reilly ..... 710/104

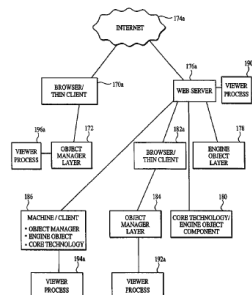
\* cited by examiner

Primary Examiner—Dov Popovici  
(74) Attorney, Agent, or Firm—Thomas, Kayden, Horstemeier & Risley LLP

(57) **ABSTRACT**

A computer data management system is capable of transmitting one or more of an electronic image, electronic graphics and electronic document to external destinations including one or more of external devices and applications. The computer data management system includes at least one memory storing a plurality of interface protocols for interfacing and communicating and at least one processor. The processor is responsively connectable to the memory, and implements the interface protocols as a software application for interfacing and communicating with the plurality of external destinations, including external devices and applications.

**47 Claims, 44 Drawing Sheets**



# U.S. Patent No. 7,477,410

→ Filing date:  
June 24, 2004

→ “Distributed  
computer  
architecture and  
process for virtual  
copying”



wherein the computer data management system includes integration of at least one of said electronic image, electronic graphics and electronic document using software so that said electronic image, electronic graphics and electronic document gets seamlessly replicated and transmitted to at least one of said plurality of external destinations.

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gement”

☐ ☐ 1. Does your company use document scanning equipment that is network addressable (*i.e.*, it has an IP address and can communicate on your network);

☐ ☐ 2. Does your company use Microsoft Exchange/Outlook, Lotus Domino/Notes or a comparable system for company email;

☐ ☐ 3. Are at least some of your employees' email addresses loaded into the scanner, so that you can select to whom you wish to send a scanned document by email; or, alternatively, can you manually input an employee's email address into the scanner to whom you wish a scanned document to be sent; and

☐ ☐ 4. Can you cause your scanner to transform your paper document to a .pdf file, and have it automatically transmitted to one or more of your employees by email. By automatically, we mean that pressing a "Start" or "Go" button instigates both the copying of the document and the automatic transmission of the document to its intended destination (such as a Microsoft Outlook email inbox)

“While they are engaged in this process of negotiating and amending, patent lawyers also keep an eye on the inventor’s follow-up research and the market into which the invention has found (or will find) its way. As events unfold in these corners, the lawyer may tailor the more narrowly drafted claims to cover the embodiments subsequently found to be promising by either the inventor or the inventor’s competitors.”

Merges & Duffy, page 291

## *The Gentry Gallery*

Sectional sofa



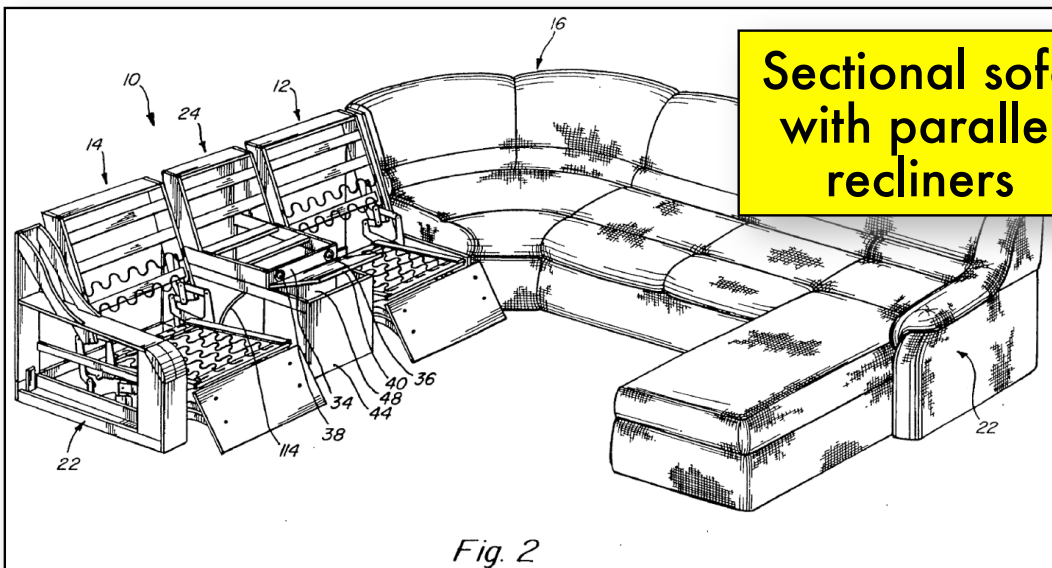
# The Gentry Gallery

Sectional sofa  
with recliners



# The Gentry Gallery

Sectional sofa  
with parallel  
recliners



# *The Gentry Gallery*

→ Accused infringer

- “In the allegedly infringing sofas, the recliners were separated by a seat which has a back cushion that may be pivoted down onto the seat, so that the seat back may serve as a tabletop between the recliners.”

# *The Gentry Gallery*



# *The Gentry Gallery*

- So what was wrong with the claims?  
Why were they invalidated?

# *The Gentry Gallery*

- So what was wrong with the claims?  
Why were they invalidated?
  - They were too broad, at least as construed by the court
  - They covered sofas with controls in places other than the fixed console

# Written description

→ First goal:

- Prevent inventors from later claiming things they did not describe in their initial disclosure
- Ensuring patent-holder only receives exclusivity to what he/she actually invented

What is claimed is:

1. A sectional sofa comprising:

a pair of reclining seats disposed in parallel relationship with one another in a double reclining seat sofa section. said double reclining seat sofa section being without an arm at one end whereby a second sofa section of the sectional sofa can be placed in abutting relationship with the end of the double reclining seat sofa section without an arm so as to form a continuation thereof,

each of said reclining seats having a backrest and seat cushion and movable between upright and reclined positions, said backrests and seat cushions of the pair of reclining sets lying in respective common planes when the seats are in the same 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 and each readily accessible to an occupant of its respective reclining seat and when actuated causing the respective reclining seat to move from the upright to the reclined position.

“In this case, the original disclosure clearly identifies the console as the **only possible location** for the controls. It provides for only the most minor variation in the location of the controls, noting that the control ‘**may be mounted on top or side surfaces of the console rather than on the front wall ... without departing from this invention.**’ No similar variation beyond the console is even suggested. Additionally, the **only discernible purpose** for the console is to house the controls. As the disclosure states, identifying the only purpose relevant to the console, ‘[a]nother object of the present invention is to provide ... a **console positioned between [the reclining seats] that accommodates the controls** for both of the reclining seats.’ Thus, locating the controls anywhere but on the console is outside the stated purpose of the invention.”

*The Gentry Gallery, Merges & Duffy at 295 (citations omitted)*

## Written description versus enablement

→ What’s the difference?

# Written description versus enablement

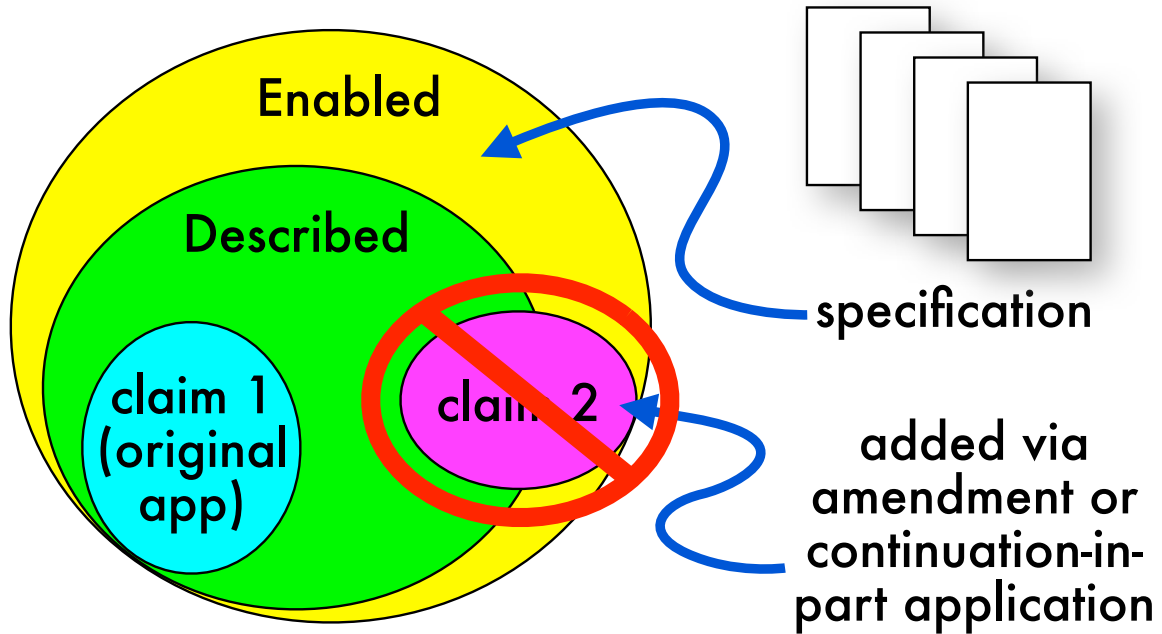
→ What's the difference?

- Enablement: Would someone of ordinary skill in the art be able to know how to implement the invention?
- Written description: Does the patent make clear that the inventor invented – “possessed” – the full scope of the invention?

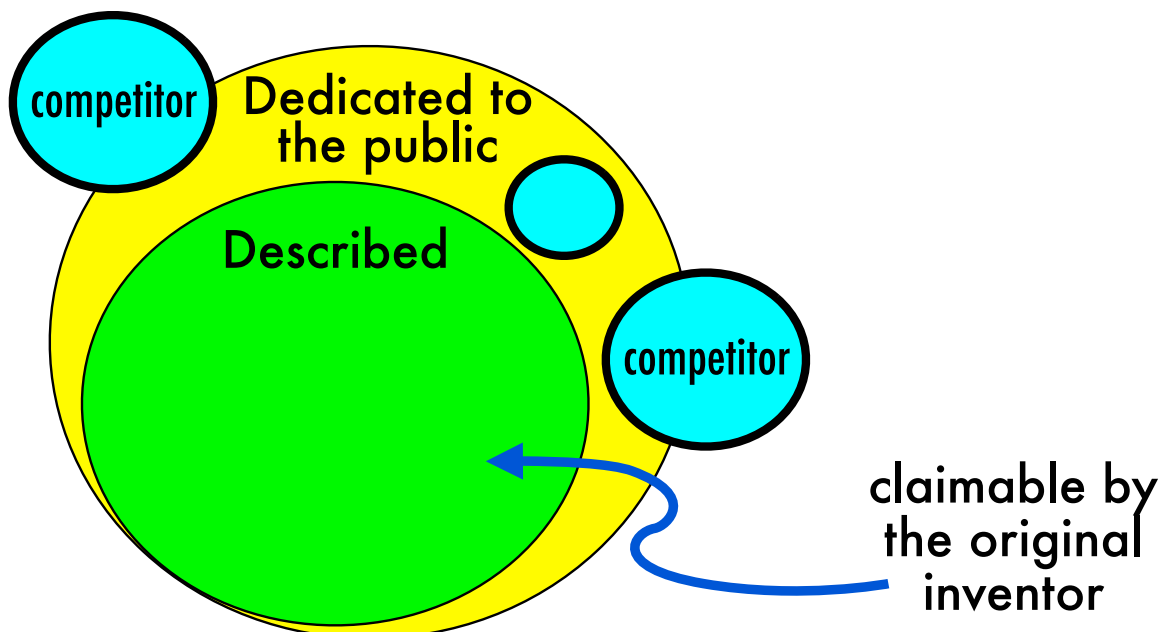
“For greater clarity on this point, consider the case where the specification discusses only compound A and contains no broadening language of any kind. This might very well enable one skilled in the art to make and use compounds B and C; yet the class consisting of A, B and C has not been described.”

*In re DiLeone*, 436 F.2d 1404, 1405 n.1  
(C.C.P.A. 1971)

# Written description versus enablement



# Written description versus enablement



# Limitations on claim breadth

## *Ariad v. Eli Lilly*

→ Ariad's reading of § 112:

The specification shall contain:

[1] A written description

[a] of the invention, and

[b] of the manner and process of making and using it,

[c] 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 ...

# *Ariad v. Eli Lilly*

→ Eli Lilly's reading of § 112:

The specification shall contain a written description:

[a] of the invention, and

[b] 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 ...

“We agree with Lilly and read the statute to give effect to its language that the specification ‘shall contain a written description of the invention’ and hold that § 112, first paragraph, contains two separate description requirements: a ‘written description [i] of the invention, *and* [ii] of the manner and process of making and using [the invention]’.”

*Ariad*, Merges & Duffy at 305 (citations omitted)

# Written description versus enablement

→ What's the difference?

- Enablement: Would someone of ordinary skill in the art be able to know how to implement the invention?
- Written description: Does the patent make clear that the inventor invented – “possessed” – the full scope of the invention?

# Written description

→ Second goal:

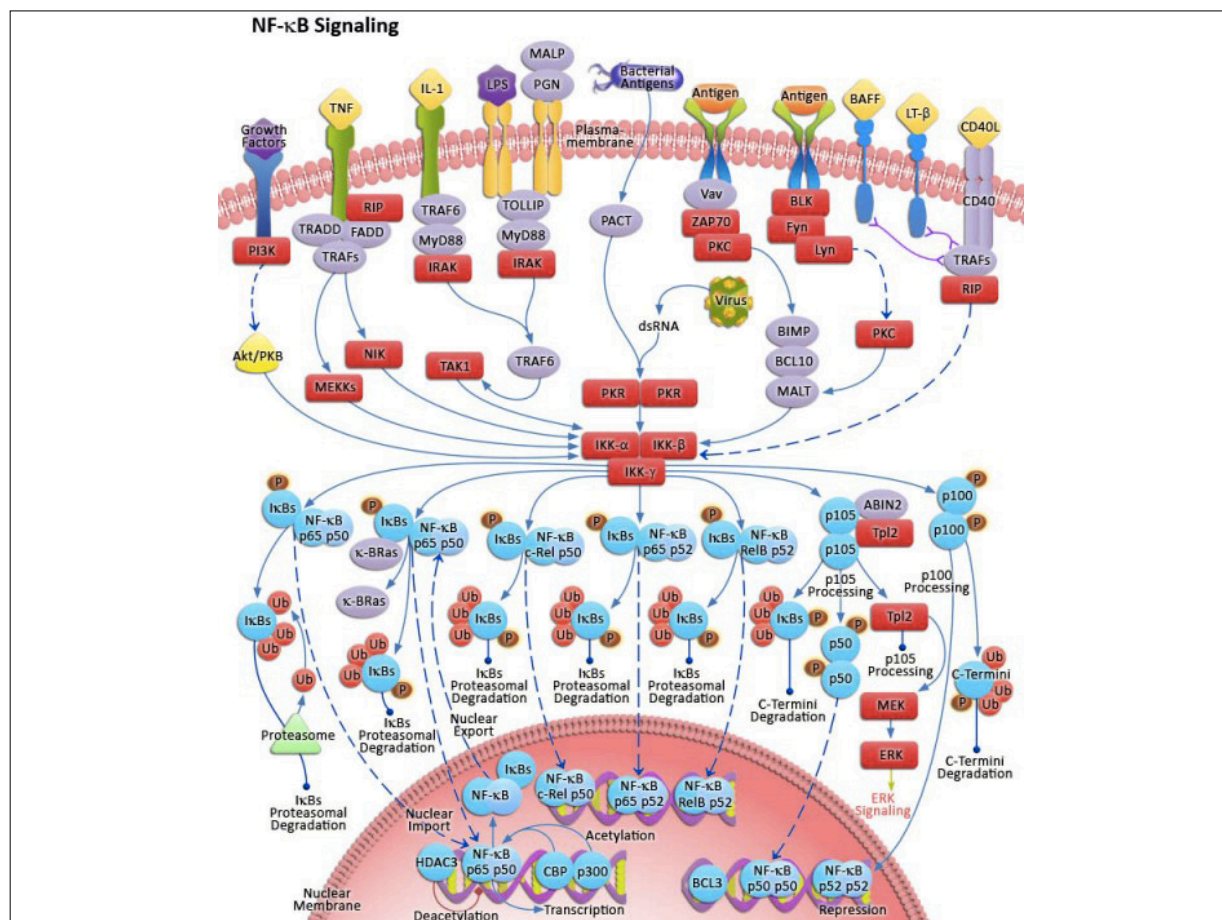
- Make sure the inventor has completed his/her work and has actually invented what he/she claims

# Ariad v. Eli Lilly

7. A method for modifying effects of external influences on a eukaryotic cell, which external influences induce NF- $\kappa$ B-mediated intracellular signaling, the method comprising altering NF- $\kappa$ B activity in the cells such that NF- $\kappa$ B-mediated effects of external influences are modified.

8. The method of claim 7, wherein NF- $\kappa$ B activity in the cell is reduced.

80. The method of claim 8 wherein reducing NF- $\kappa$ B activity comprises reducing binding of NF- $\kappa$ B to NF- $\kappa$ B recognition sites on genes which are transcriptionally regulated by NF- $\kappa$ B.



# *Ariad v. Eli Lilly*

7. A method for modifying effects of external influences on a eukaryotic cell, which external influences induce NF- $\kappa$ B-mediated intracellular signaling, the method comprising altering NF- $\kappa$ B activity in the cells such that NF- $\kappa$ B-mediated effects of external influences are modified.

8. The method of claim 7, wherein NF- $\kappa$ B activity in the cell is reduced.

80. The method of claim 8 wherein reducing NF- $\kappa$ B activity comprises reducing binding of NF- $\kappa$ B to NF- $\kappa$ B recognition sites on genes which are transcriptionally regulated by NF- $\kappa$ B.

# *Ariad v. Eli Lilly*

→ How to describe?

“[A] sufficient description of a genus instead requires the disclosure of either a **representative number of species** falling within the scope of the genus or **structural features common to the members of the genus** so that one of skill in the art can **‘visualize or recognize’** the members of the genus. We explained that an adequate written description requires a precise **definition, such as by structure, formula, chemical name, physical properties, or other properties**, of species falling within the genus sufficient to distinguish the genus from other materials. We have also held that functional claim language can meet the written description requirement when the art has established a correlation between structure and function. But merely drawing a fence around the outer limits of a purported genus is not an adequate substitute for describing a variety of materials constituting the genus and **showing that one has invented a genus and not just a species.**”

*Ariad*, Merges & Duffy at 306 (citations omitted)

“Specifically, the description must ‘clearly allow persons of ordinary skill in the art to **recognize that [the inventor] invented what is claimed.**’ In other words, the test for sufficiency is **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.”

*Ariad*, Merges & Duffy at 306 (citations omitted)

# *Ariad v. Eli Lilly*

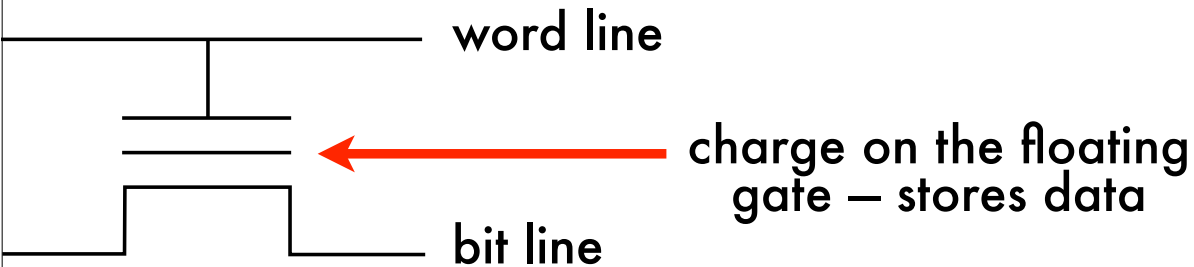
→ Why?

“In *Rochester*, we held invalid claims directed to a method of selectively inhibiting the COX-2 enzyme by administering a non-steroidal compound that selectively inhibits the COX-2 enzyme. We reasoned that **because the specification did not describe any specific compound capable of performing the claimed method** and the skilled artisan would not be able to **identify any such compound based on the specification’s function description**, the specification did not provide an adequate written description of the claimed invention. Such claims merely recite a description of the **problem to be solved while claiming all solutions to it** and, as in Eli Lilly and Ariad’s claims, cover any compound later actually invented and determined to fall within the claim’s functional boundaries—**leaving it to the pharmaceutical industry to complete an unfinished invention.**”

*Ariad*, *Merges & Duffy* at 308 (citations omitted)

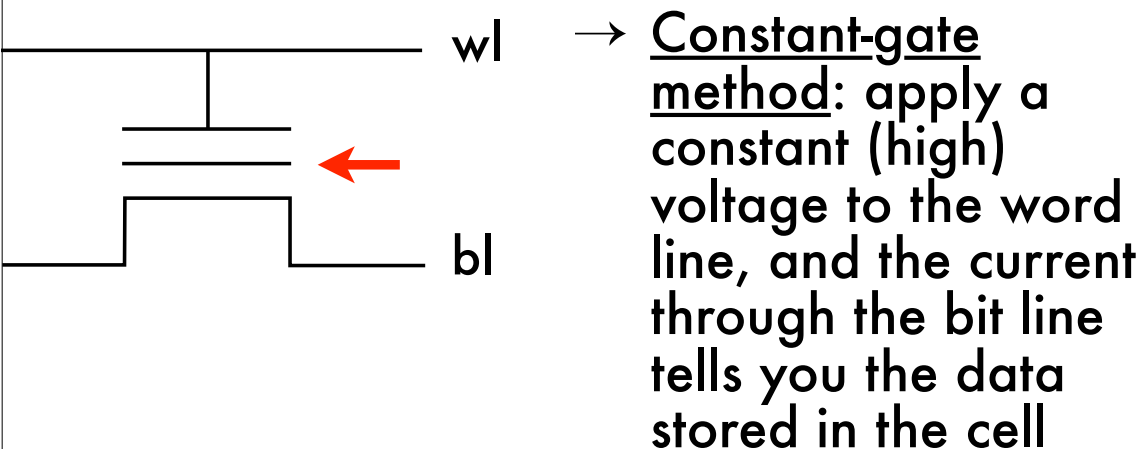
# Fundamentally different technologies

→ Flash memory:



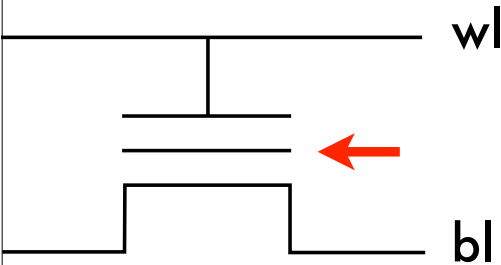
# Fundamentally different technologies

→ Flash memory:



# Fundamentally different technologies

→ Flash memory:



→ Variable-gate method:  
apply different (low) voltages to the word line, and whether current flows at all through the bit line tells you the data stored in the cell

US005764571A

**United States Patent** [19]  
**Banks**

[11] Patent Number: **5,764,571**  
[45] Date of Patent: **Jun. 9, 1998**

[54] **ELECTRICALLY ALTERABLE NON-VOLATILE MEMORY WITH N-BITS PER CELL**

[75] Inventor: **Gerald J. Banks**, Fremont, Calif.  
[73] Assignee: **BTG USA Inc.**, Gulph Mills, Pa.  
[21] Appl. No.: **410,200**  
[22] Filed: **Feb. 27, 1995**

**Related U.S. Application Data**

[62] Division of Ser. No. 71,816, Jun. 4, 1993, Pat. No. 5,394,362, which is a continuation of Ser. No. 652,878, Feb. 8, 1991, Pat. No. 5,218,569

[51] Int. Cl.<sup>6</sup> **G11C 13/00**  
[52] U.S. Cl. **365/189.01; 365/189.07; 365/168; 365/201**  
[58] Field of Search **365/189.01, 189.07, 365/168, 201**

**References Cited**

**U.S. PATENT DOCUMENTS**

3,660,819 5/1972 Frohman-Bentchowsky ... 317/235 R  
3,801,965 4/1974 Keller et al. ... 340/173 R  
4,004,159 1/1977 Rai et al. ... 307/238  
4,054,864 10/1977 Audane et al. ... 340/173 R  
4,090,258 5/1978 Cricchi ... 365/184

(List continued on next page.)

**FOREIGN PATENT DOCUMENTS**

0 390 404 10/1990 European Pat. Off.  
2 630 574 10/1989 France  
WOR/02276 7/1982 WIPO  
WOR/02976 9/1982 WIPO

**OTHER PUBLICATIONS**

M. Bauer et al., *A Multilevel-Cell 32Mb Flash Memory*, 1995 IEEE International Solid-State Circuits Conference, Session 7, Paper TA7.7.  
John A. Bayliss et al., *The Interface Processor for the 32h Computer*, 1981 IEEE International Solid-State Circuits Conference, Feb. 1981, at 116-117.  
Christoph Bleiker & Hans Melchior, *A Four-State EEPROM Using Floating-Gate Memory Cells*, IEEE Journal of Solid-State Circuits, vol. SC-22, No. 3, Jun. 1987, at 260-263.  
Raymond A. Heald & David A. Hodges, *Multilevel Random-Access Memory Using One Transistor Per Cell*, IEEE Journal of Solid-State Circuits, vol. SC-11, No. 4, Aug. 1976, at 519-528.  
David A. Rich, *A Survey of Multivalued Memories*, IEEE Transactions on Computers, vol. C-35, No. 2, Feb. 1986, at 99-106.  
R.S. Withers et al., *Nonvolatile Analog Memory in MNOS Capacitors*, IEEE Electron Device Letters, vol. EDL-1, No. 3, Mar. 1980, at 42-45.

**Primary Examiner**—Terrell W. Fears  
**Attorney, Agent, or Firm**—Shapiro and Shapiro

**ABSTRACT**

An electrically alterable, non-volatile multi-bit memory cell has  $K^n$  predetermined memory states ( $K^n > 2$ ), where  $K$  is a base of a predetermined number system, and  $n$  is a number of bits stored per cell. Programming of the cell is verified by selecting a reference signal corresponding to the information to be stored and comparing a signal of the cell with the selected reference signal.

47 Claims, 14 Drawing Sheets

## U.S. Patent No. 5,764,571

→ “Electrically alterable non-volatile memory with n-bits per cell”

→ Describes only the constant-gate method



**Next time**

**Next time**

→ **Disclosure: claim definiteness**