

Patent Law

Prof. Roger Ford

September 14, 2016

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 versus enablement
- Written description: Timing and limitations on amendments
- Written description: Scope and limitations on claim breadth

**Written description
versus enablement**

(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): Definiteness

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

- 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 at the time of filing?

Written description

- **What purposes does the separate written-description requirement serve?**

Enablement

→ Three big purposes:

- Bargain – advance the state of the art so society gets technical knowledge for future inventors to use
- Timing – ensure the right person gets the patent and the invention is sufficiently concrete and advanced to warrant a patent
- Scope – ensure patentee gets rights commensurate with actual contribution

Written description

→ Enablement:

- Bargain – advance the state of the art so society gets technical knowledge for future inventors to use

→ Written description:

- Bargain – make clear what exactly the inventor actually contributed to the public

Written description

→ Enablement:

- Timing – ensure the right person gets the patent and the invention is sufficiently concrete and advanced to warrant a patent

→ Written description:

- Timing – ensure the right person had invented the invention when she filed for a patent

Written description

→ Enablement:

- Scope – ensure a patentee gets rights commensurate with actual contribution

→ Written description:

- Scope – ensure a patentee gets rights commensurate with intended contribution

Written description versus enablement

→ Three roles, then:

- Scope — had the inventor really invented it?
- Timing — had the inventor really invented it by the time of filing?
- Bargain — did the inventor make clear to the public what she had invented?

**Timing: 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.


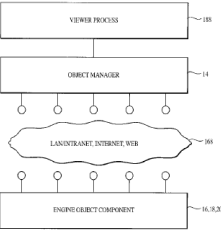
* * *

35 U.S.C. § 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. * * *

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.** * * *

 US006185590B1	
(12) United States Patent Klein	(10) Patent No.: US 6,185,590 B1 (45) Date of Patent: Feb. 6, 2001
(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	5,586,240 * 12/1996 Khan et al. 709/302 5,613,090 * 3/1997 Wilkms 707/7 5,615,401 * 3/1997 Hancock et al. 367/83 5,680,018 * 10/1997 Tread 395/712 5,774,720 * 6/1998 Borgendale et al. 5,920,725 * 7/1999 Ma et al.
(75) Inventor: Laurence C. Klein, Silver Spring, MD (US)	OTHER PUBLICATIONS
(73) Assignee: Imagination Software, Silver Spring, MD (US)	* "Multiprotocol Management Agents: A Look At an Implementation and the Issues to Consider", Balach Murallidharan, IEEE Journal on Selected Areas in Communications, vol. 11, No. 9, Dec. 1993.
(*) Notice: Under 35 U.S.C. 154(b), the term of this patent shall be extended for 0 days.	* "The Definition of Interoperability Architectures for Intelligent Devices Using Abstract Models", Elin L. Klassen, et al., IEEE, (1995), pp. 237-245.
(21) Appl. No.: 08/950,838	* cited by examiner
(22) Filed: Oct. 15, 1997	Primary Examiner —Joseph H. Feild Assistant Examiner —Alford W. Kindred (74) Attorney, Agent, or Firm —Irah H. Donner; Hale and Dorr LLP
Related U.S. Application Data	
(63) Continuation-in-part of application No. 08/911,083, filed on Aug. 14, 1997.	(57) ABSTRACT
(60) Provisional application No. 60/028,126, filed on Oct. 18, 1996, provisional application No. 60/028,125, filed on Oct. 18, 1996, provisional application No. 60/028,697, filed on Oct. 18, 1996, provisional application No. 60/028,679, filed on Oct. 18, 1996, and provisional application No. 60/028,685, filed on Oct. 18, 1996.	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.
(51) Int. Cl. G06F 15/00; G06F 15/00	
(52) U.S. Cl. 707/526; 345/529	
(58) Field of Search 707/526; 513; 395/500, 701, 712, 92; 709/302, 300, 238, 245, 223	
(56) References Cited U.S. PATENT DOCUMENTS 5,430,845 7/1995 Rimmer et al. 5,465,364 11/1995 Lathrop et al.	
22 Claims, 23 Drawing Sheets	
	

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"**



US0006185590B1

(12) **United States Patent**
Klein

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

(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**

(75) Inventor: **Laurence C. Klein, Silver Spring, MD (US)**

(73) Assignee: **Imagination Software, Silver Spring, MD (US)**

(*) Notice: Under 35 U.S.C. patent shall be extended by

(21) Appl. No.: **08/950,838**
(22) Filed: **Oct. 15, 1997**

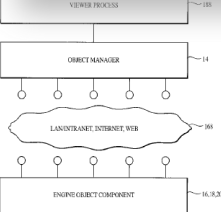
Related U.S. Application Data

(63) Continuation-in-part of application No. 08/911,083, filed on Aug. 14, 1997.

(60) Provisional application No. 60/028,129, filed on Oct. 18, 1996, provisional application No. 60/028,522, 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.

(51) Int. Cl. 7: **G06F 15/16**
(52) U.S. Cl.: **709/500, 701, 712**
(58) Field of Search: **395/500, 701, 712**

(56) **References Cited**
U.S. PATENT DOCUMENTS
5,430,845 7/1995 Rimmer et al.
5,465,364 11/1995 Lathrop et al.




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

→ Filing date:
Oct 15 1997

Related U.S. Application Data

- (63) Continuation-in-part of application No. 08/911,083, filed on Aug. 14, 1997.
- (60) Provisional application No. 60/028,129, filed on Oct. 18, 1996, provisional application No. 60/028,522, 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.

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



US0006185590B1

(12) **United States Patent**
Klein

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

(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**

(75) Inventor: **Laurence C. Klein, Silver Spring, MD (US)**

(73) Assignee: **Imagination Software, Silver Spring, MD (US)**

(*) Notice: Under 35 U.S.C. 154(b) patent shall be extended by

(21) Appl. No.: **08/950,838**
(22) Filed: **Oct. 15, 1997**

Related U.S. Application Data

(63) Continuation-in-part of application No. 08/911,083, filed on Aug. 14, 1997.


(60) Provisional application No. 60/028,129, filed on Oct. 18, 1996, provisional application No. 60/028,522, 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.

(51) Int. Cl. 7: **G06F 15/16**
(52) U.S. Cl.: **709/500, 701, 712**
(58) Field of Search: **395/500, 701, 712, 92, 70**

(56) **References Cited**
U.S. PATENT DOCUMENTS
5,430,845 7/1995 Rimmer et al.
5,465,364 11/1995 Lathrop et al.

What is claimed is:

1. A distributed computer implemented process for migrating at least one program specific Application Programmer Interface (API) from an original state into a substantially consistent interface by building an object for at least one of an engine and a viewer process, the object providing substantially uniform access to the at least one of the engine having engine settings and the viewer process, comprising the steps of:
 - (a) providing, on a server, the at least one engine and viewer process, each with one or more features to be executed;
 - (b) providing, on at least one of the server and another server connectable to the server, at least one engine component or another viewer process configured to execute the one or more features by converting the at least one program specific Application Programmer Interface (API) from the original state into the substantially consistent interface, and mapping the substantially consistent interface to the at least one of the engine and the viewer process; and
 - (c) providing, on a client configured to be connectable to the server and optionally configured to be connectable to the another server, an object manager layer communicable with and managing the at least one engine component or the another viewer process via the substantially consistent interface.



US006771381B1

(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.

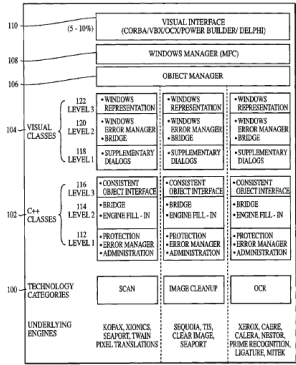
(21) Appl. No.: 09/438,300
(22) Filed: Nov. 12, 1999

Related U.S. Application Data
(60) Provisional application No. 60/108,798, filed on Nov. 13, 1998.

(51) Int. Cl.⁷ G06K 15/00
(52) U.S. CL. 358/1.15; 358/1.1
(58) Field of Search 358/1.1, 1.6, 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


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”



US007477410B1

(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)
G06F 15/00 (2006.01)

(52) U.S. CL. 358/1.15; 358/1.1
(58) Field of Classification Search 358/1.1, 358/1.6, 1.13, 1.15, 1.16, 402, 403, 407, 358/425, 1.18, 1.2, 1.3, 1.4, 1.5, 1.7, 1.8, 358/1.9, 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.

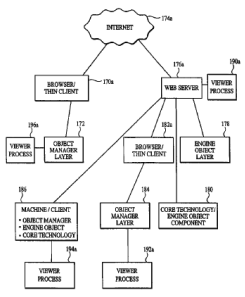
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5,666,495 A * 9/1997 Yeh 710/303
5,689,625 A * 11/1997 Austin et al. 358/1.15
5,754,547 A * 5/1998 Reilly et al. 358/1.15
5,761,296 A * 6/1998 Austin et al. 358/1.15
6,401,150 B1 * 6/2002 Reilly 710/104
* cited by examiner

(74) Attorney, Agent, or Firm—Thomas, Krayden, Horstenmeyer & 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 with 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”



US007986426B1

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

(10) Patent No.: **US 7,986,426 B1**
(45) Date of Patent: **Jul. 26, 2011**

(54) **DISTRIBUTED COMPUTER ARCHITECTURE AND PROCESS FOR DOCUMENT MANAGEMENT**

(75) Inventor: **Laurence C. Klein**, Silver Spring, MD (US)

(73) Assignee: **Renaissance Group IP Holdings, LLC**, Atlanta, GA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 235 days.

(21) Appl. No.: **12/328,104**
(22) Filed: **Dec. 4, 2008**

Related U.S. Application Data

(63) Continuation of application No. 10/874,172, filed on Jun. 24, 2004, now Pat. No. 7,477,410, and a continuation of application No. 09/438,300, filed on Nov. 12, 1999, now Pat. No. 6,771,381, and a continuation-in-part of application No. 08/950,838, filed on Oct. 15, 1997, now Pat. No. 6,185,590, and a continuation-in-part of application No. 08/950,911, filed on Oct. 15, 1997, now abandoned, and a continuation-in-part of application No. 08/950,837, filed on Oct. 15, 1997, now abandoned, and a continuation-in-part of application No. 08/950,738, filed on Oct. 15, 1997, now abandoned, and a continuation-in-part of application No. 08/950,741, filed on Oct. 15, 1997, now abandoned, and a continuation-in-part of application No. 08/911,083, filed on Aug. 14, 1997, now abandoned.

(60) Provisional application No. 60/108,798, filed on Nov. 13, 1998, provisional application No. 60/028,129, filed on Oct. 18, 1996, provisional application No. 60/028,522, 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, provisional application No. 60/028,685, filed on Oct. 18, 1996.

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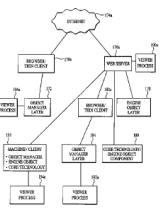
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5,754,747 A 5/1998 Reilly et al.
5,761,396 A 6/1998 Asatfa et al.
6,401,150 B1 6/2002 Rastly

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

ABSTRACT

A system and/or method enables a typical PC user to add electronic paper processing to their existing business process. The system and/or method extends the notion of copying from paper passing through a conventional copier, to a process that involves scanning paper from a first device and copying the image of that paper to a remotely-located second device. The system and/or method can optionally copy paper from a first device directly into a business application residing on a network or on the Internet, or visa versa. The system and/or method includes software that manages paper so that it can be electronically and seamlessly copied in and out of devices and business applications without needing to modify the devices or applications.


11 Claims, 44 Drawing Sheets



U.S. Patent No. 7,986,426

→ Filing date:
Dec. 4, 2008

→ “Distributed
computer
architecture and
process for
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US007986426B1

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

(10) Patent No.: **US 7,986,426 B1**
(45) Date of Patent: **Jul. 26, 2011**

(54) **DISTRIBUTED COMPUTER ARCHITECTURE AND PROCESS FOR DOCUMENT MANAGEMENT**

(75) Inventor: **Laurence C. Klein**, Silver Spring, MD (US)

(73) Assignee: **Renaissance Group IP Holdings, LLC**, Atlanta, GA (US)

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(21) Appl. No.: **12/328,104**
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(63) Continuation of application No. 10/874,172, filed on Jun. 24, 2004, now Pat. No. 7,477,410, and a continuation of application No. 09/438,300, filed on Nov. 12, 1999, now Pat. No. 6,771,381, and a continuation-in-part of application No. 08/950,838, filed on Oct. 15, 1997, now Pat. No. 6,185,590, and a continuation-in-part of application No. 08/950,911, filed on Oct. 15, 1997, now abandoned, and a continuation-in-part of application No. 08/950,837, filed on Oct. 15, 1997, now abandoned, and a continuation-in-part of application No. 08/950,738, filed on Oct. 15, 1997, now abandoned, and a continuation-in-part of application No. 08/950,741, filed on Oct. 15, 1997, now abandoned, and a continuation-in-part of application No. 08/911,083, filed on Aug. 14, 1997, now abandoned.

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References Cited

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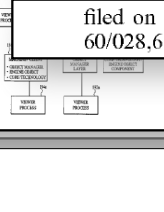
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5,666,495 A 9/1997 Yeh
5,689,625 A 11/1997 Asatfa et al.
5,754,747 A 5/1998 Reilly et al.
5,761,396 A 6/1998 Asatfa et al.
6,401,150 B1 6/2002 Rastly

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

ABSTRACT

A system and/or method enables a typical PC user to add electronic paper processing to their existing business process. The system and/or method extends the notion of copying from paper passing through a conventional copier, to a process that involves scanning paper from a first device and copying the image of that paper to a remotely-located second device. The system and/or method can optionally copy paper from a first device directly into a business application residing on a network or on the Internet, or visa versa. The system and/or method includes software that manages paper so that it can be electronically and seamlessly copied in and out of devices and business applications without needing to modify the devices or applications.

11 Claims, 44 Drawing Sheets



U.S. Patent No. 7,986,426

→ Filing date:
Dec. 4, 2008

→ “Distributed
computer
architecture and
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management”

“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



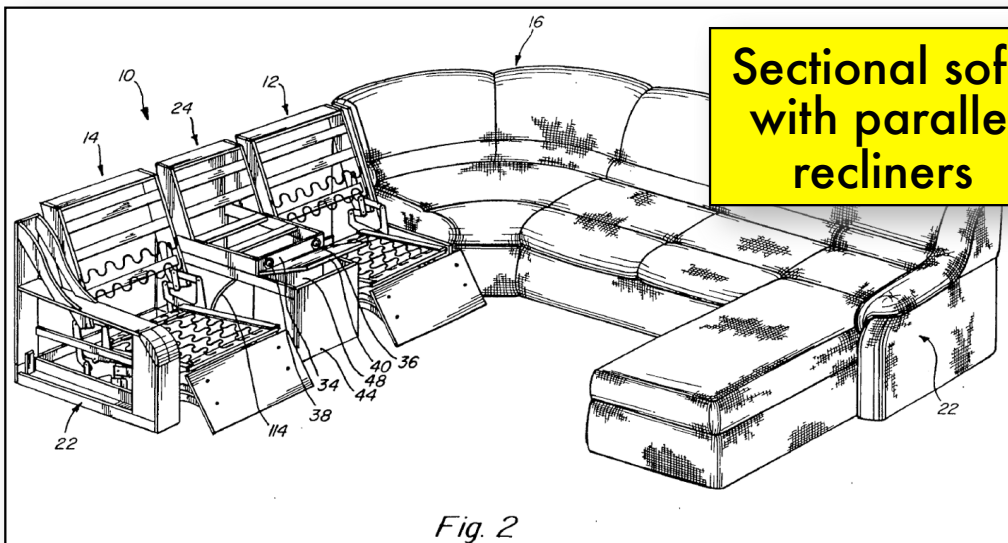
The Gentry Gallery

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

→ Timing:

- 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

- 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 at the time of filing?**

“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

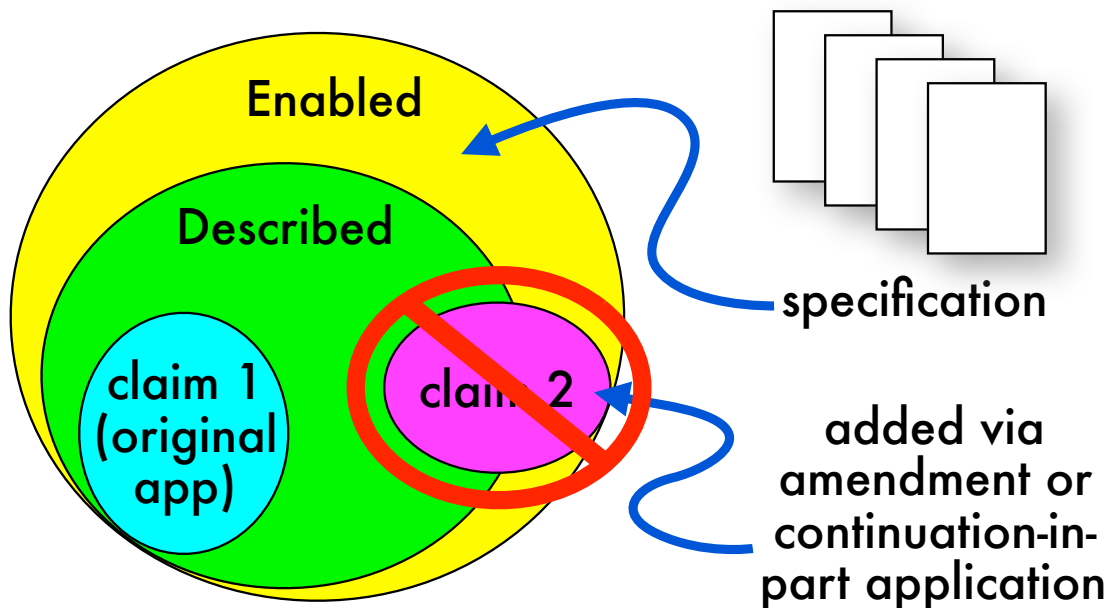
→ So if the inventor enabled an invention, why do we care if she realized it and disclosed it?

Written description

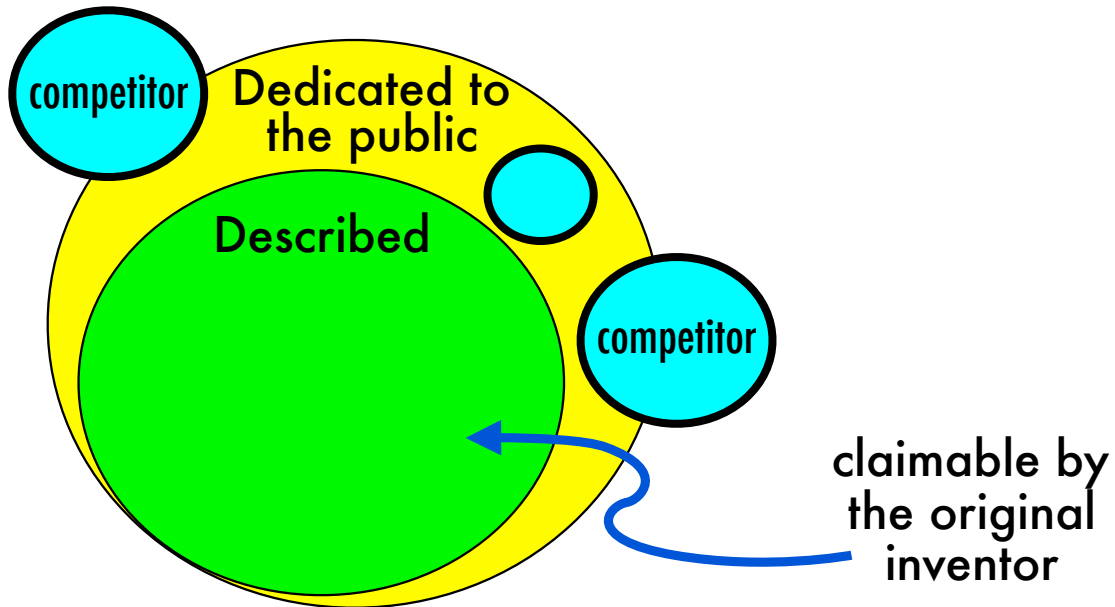
→ Three big purposes:

- Bargain – advance the state of the art so society gets technical knowledge for future inventors to use
- Timing – ensure the right person gets the patent and the invention is sufficiently concrete and advanced to warrant a patent
- Scope – ensure patentee gets rights commensurate with actual contribution

Written description versus enablement



Written description versus enablement



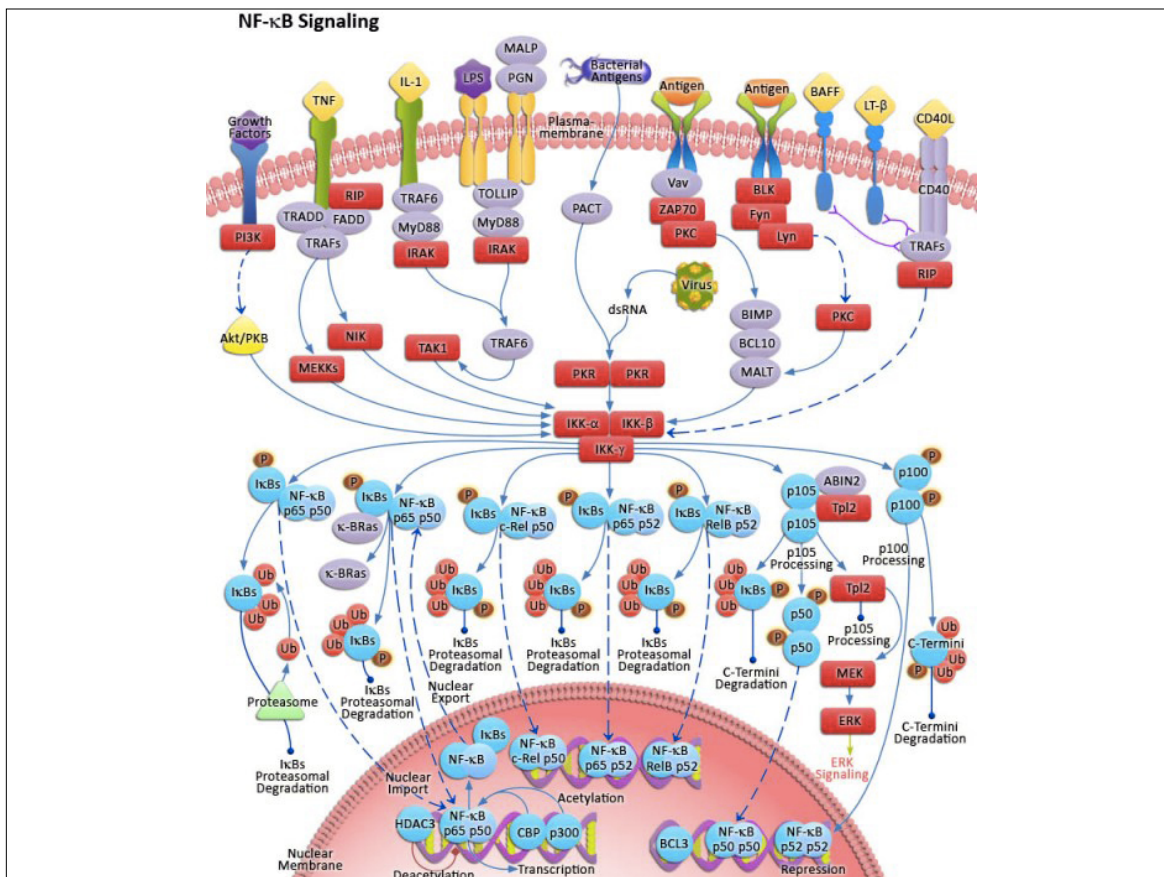
**Scope: Limitations
on claim breadth**

Ariad v. Eli Lilly

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

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

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



Ariad v. Eli Lilly

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

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

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

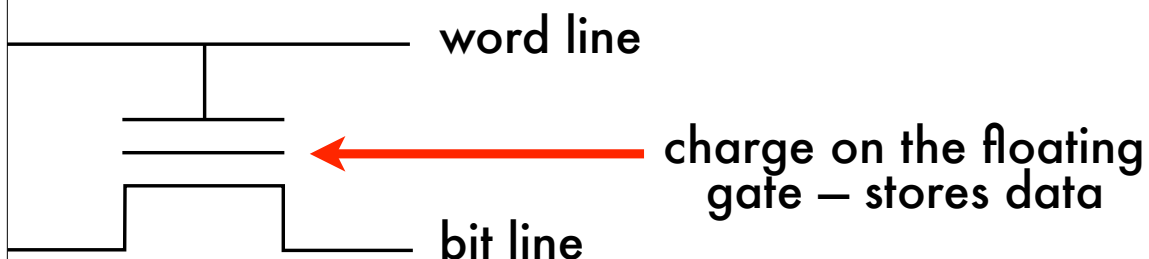
Ariad v. Eli Lilly

→ Three types of molecules capable of reducing NF- κ B activity:

- specific inhibitors – one disclosed
- dominantly interfering molecules – none disclosed, and mentioned in spec as hypothetical
- decoy molecules – mentioned and enabled, without describing how they work

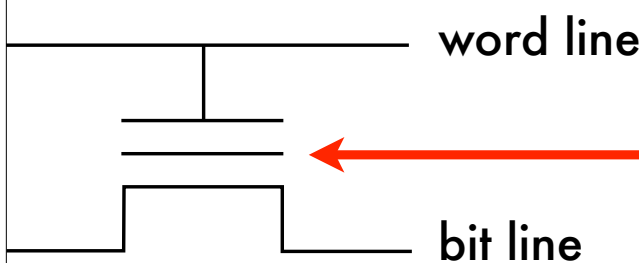
Fundamentally different technologies

→ Flash memory:



Fundamentally different technologies

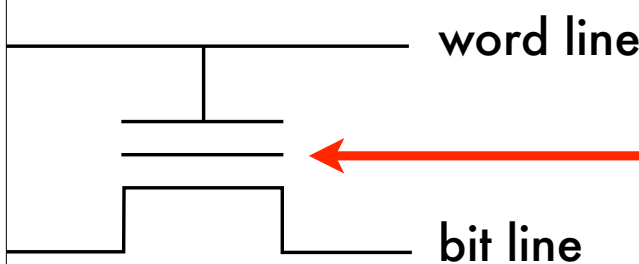
→ Flash memory:




→ Constant-gate method: apply a constant (high) voltage to the word line, and the current through the bit line tells you the data stored in the cell

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



US065764571A

United States Patent [19] **Patent Number:** 5,764,571
Banks [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.⁶** 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

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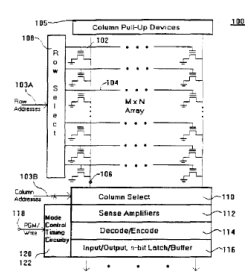
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ABSTRACT

An electrically alterable, non-volatile multi-bit memory cell has Kⁿ predetermined memory states (Kⁿ>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