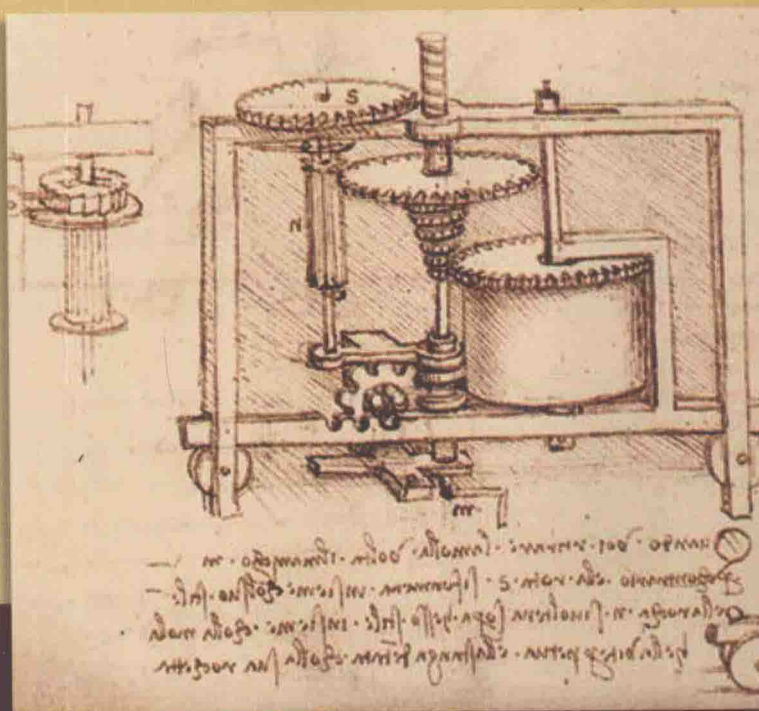


ASPEN STUDENT TREATISE SERIES

# PATENT LAW

FOURTH EDITION



*Janice M. Mueller*



Wolters Kluwer  
Law & Business

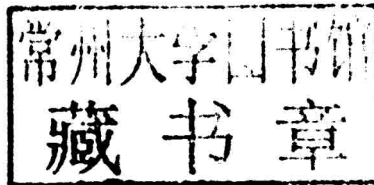
ASPEN TREATISE SERIES

# PATENT LAW

Fourth Edition

**JANICE M. MUELLER**

**Instructor and Co-Founder  
Chisum Patent Academy**



**Wolters Kluwer**

Law & Business

Copyright © 2013 CCH Incorporated.

Published by Wolters Kluwer Law & Business in New York.

Wolters Kluwer Law & Business serves customers worldwide with CCH, Aspen Publishers, and Kluwer Law International products. ([www.wolterskluwerlb.com](http://www.wolterskluwerlb.com))

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or utilized by any information storage or retrieval system, without written permission from the publisher. For information about permissions or to request permissions online, visit us at [www.wolterskluwerlb.com](http://www.wolterskluwerlb.com), or a written request may be faxed to our permissions department at 212-771-0803.

To contact Customer Service, e-mail [customer.service@wolterskluwer.com](mailto:customer.service@wolterskluwer.com), call 1-800-234-1660, fax 1-800-901-9075, or mail correspondence to:

Wolters Kluwer Law & Business  
Attn: Order Department  
PO Box 990  
Frederick, MD 21705

Printed in the United States of America.

1 2 3 4 5 6 7 8 9 0

ISBN 978-1-4548-2244-8

### **Library of Congress Cataloging-in-Publication Data**

Mueller, Janice M., 1963-  
Patent law / Janice M. Mueller. — 4th ed.  
p. cm.  
ISBN 978-1-4548-2244-8  
1. Patent laws and legislation—United States. I. Title.

KF3114.M84 2013

346.7304'86—dc23

2012034434



# PATENT LAW

## **EDITORIAL ADVISORS**

### **Vicki Been**

Elihu Root Professor of Law  
New York University School of Law

### **Erwin Chemerinsky**

Dean and Distinguished Professor of Law  
University of California, Irvine, School of Law

### **Richard A. Epstein**

Laurence A. Tisch Professor of Law  
New York University School of Law  
Peter and Kirsten Bedford Senior Fellow  
The Hoover Institution  
Senior Lecturer in Law  
The University of Chicago

### **Ronald J. Gilson**

Charles J. Meyers Professor of Law and Business  
Stanford University  
Marc and Eva Stern Professor of Law and Business  
Columbia Law School

### **James E. Krier**

Earl Warren DeLano Professor of Law  
The University of Michigan Law School

### **Richard K. Neumann, Jr.**

Professor of Law  
Hofstra University School of Law

### **Robert H. Sitkoff**

John L. Gray Professor of Law  
Harvard Law School

### **David Alan Sklansky**

Yosef Osheawich Professor of Law  
University of California at Berkeley School of Law

### **Kent D. Syverud**

Dean and Ethan A. H. Shepley University Professor  
Washington University School of Law

### **Elizabeth Warren**

Leo Gottlieb Professor of Law  
Harvard Law School

# About Wolters Kluwer Law & Business

Wolters Kluwer Law & Business is a leading global provider of intelligent information and digital solutions for legal and business professionals in key specialty areas, and respected educational resources for professors and law students. Wolters Kluwer Law & Business connects legal and business professionals as well as those in the education market with timely, specialized authoritative content and information-enabled solutions to support success through productivity, accuracy and mobility.

Serving customers worldwide, Wolters Kluwer Law & Business products include those under the Aspen Publishers, CCH, Kluwer Law International, Loislaw, Best Case, ftwilliam.com and MediRegs family of products.

**CCH** products have been a trusted resource since 1913, and are highly regarded resources for legal, securities, antitrust and trade regulation, government contracting, banking, pension, payroll, employment and labor, and healthcare reimbursement and compliance professionals.

**Aspen Publishers** products provide essential information to attorneys, business professionals and law students. Written by preeminent authorities, the product line offers analytical and practical information in a range of specialty practice areas from securities law and intellectual property to mergers and acquisitions and pension/benefits. Aspen's trusted legal education resources provide professors and students with high-quality, up-to-date and effective resources for successful instruction and study in all areas of the law.

**Kluwer Law International** products provide the global business community with reliable international legal information in English. Legal practitioners, corporate counsel and business executives around the world rely on Kluwer Law journals, looseleaves, books, and electronic products for comprehensive information in many areas of international legal practice.

**Loislaw** is a comprehensive online legal research product providing legal content to law firm practitioners of various specializations. Loislaw provides attorneys with the ability to quickly and efficiently find the necessary legal information they need, when and where they need it, by facilitating access to primary law as well as state-specific law, records, forms and treatises.

**Best Case Solutions** is the leading bankruptcy software product to the bankruptcy industry. It provides software and workflow tools to flawlessly streamline petition preparation and the electronic filing process, while timely incorporating ever-changing court requirements.

**ftwilliam.com** offers employee benefits professionals the highest quality plan documents (retirement, welfare and non-qualified) and government forms (5500/PBGC, 1099 and IRS) software at highly competitive prices.

**MediRegs** products provide integrated health care compliance content and software solutions for professionals in healthcare, higher education and life sciences, including professionals in accounting, law and consulting.

Wolters Kluwer Law & Business, a division of Wolters Kluwer, is headquartered in New York. Wolters Kluwer is a market-leading global information services company focused on professionals.

*This book is dedicated to Judge Giles Sutherland Rich,  
1904–1999, the consummate teacher whose passion for patent law  
and a life fully lived continues to instruct and inspire us all.*

# Summary of Contents

<i>Contents</i>		<i>xi</i>
<i>Preface</i>		<i>xxiii</i>
<b>Chapter 1</b>	<b>Foundations of the U.S. Patent System</b>	<b>1</b>
<b>Chapter 2</b>	<b>Patent Claims</b>	<b>77</b>
<b>Chapter 3</b>	<b>Disclosure Requirements</b> (35 U.S.C. §112(a))	<b>117</b>
<b>Chapter 4</b>	<b>Novelty, Loss of Right, and Priority</b> <b>Pre- and Post-America Invents Act of 2011</b> (35 U.S.C. §102)	<b>173</b>
<b>Chapter 5</b>	<b>The Nonobviousness Requirement</b> (35 U.S.C. §103)	<b>271</b>
<b>Chapter 6</b>	<b>The Utility Requirement (35 U.S.C. §101)</b>	<b>321</b>
<b>Chapter 7</b>	<b>Potentially Patentable Subject Matter</b> (35 U.S.C. §101)	<b>343</b>
<b>Chapter 8</b>	<b>Correcting and Challenging Issued</b> <b>Patents in the USPTO</b>	<b>401</b>
<b>Chapter 9</b>	<b>Patent Infringement</b>	<b>439</b>
<b>Chapter 10</b>	<b>Defenses to Patent Infringement</b>	<b>521</b>
<b>Chapter 11</b>	<b>Remedies for Patent Infringement</b>	<b>609</b>
<b>Chapter 12</b>	<b>International Patenting Issues</b>	<b>659</b>
<i>Glossary</i>		<i>697</i>
<i>Table of Cases</i>		<i>713</i>
<i>Index</i>		<i>735</i>



# Preface

## Preface to the Fourth Edition

One of the wonderful, if sometimes maddening, features of U.S. patent law is the speed at which it evolves. Patent law is never stagnant. Change is driven by scientific and technological progress, public policy debate over the proper role of patents in our free market economy, the burgeoning marketplace for patents as a new class of asset, the rise of “non-practicing entities,” a steady stream of precedential decisions from the U.S. Court of Appeals for the Federal Circuit (having nationwide jurisdiction over patent-related appeals), and increasingly frequent course corrections imposed by the U.S. Supreme Court. The extensive new matter added to the fourth edition of *Patent Law* reflects this dynamic milieu.

In the three years following publication of the third edition, the rapidity of change in patent law has, if anything, escalated. After years of conflict between pharmaceutical and technology industry sectors, the America Invents Act (AIA) became law in September 2011. The AIA implements the most significant changes to the U.S. Patent Act since the statute’s codification in 1952. Most notably, the AIA shifts the U.S. patent system from its historic first-to-invent priority system to a unique first-inventor-to-file system. The new framework retains the traditional pre-filing “grace period” but limits its protections to inventor-generated or -obtained disclosures. The AIA-implemented first-to-file system also changes the timing for what qualifies as “prior art” and removes geographic limitations. Other AIA amendments expand prior user rights and create new procedures for challenging the validity of issued patents in the USPTO. In these respects, at least, the AIA moves U.S. patent law closer to harmonization with foreign patent systems. Given their complexity, however, it remains to be seen whether the AIA-implemented changes will truly achieve Congress’s stated goal of providing greater certainty to inventors regarding the scope of their patent rights.

Importantly, the AIA first-to-file changes are prospective only. Over two million extant patents are not impacted by the AIA. The validity of patents issued from applications filed before March 16, 2013, will continue to be assessed under pre-AIA rules for the remainder of the patents’ lives. The upshot is that for the next thirty or more years, the U.S. patent system will operate under a dual system of pre- and post-AIA rules. Students of patent law now need to understand not one but two sets of rules. This text explains both.

## Preface

Although the AIA implemented manifold changes, many fundamental aspects of patent law were not impacted by its passage. For example, the AIA did not affect several contentious aspects of patent law practice including patent claim interpretation, standards for nonobviousness, and which types of inventions qualify as patent-eligible subject matter. The courts continue to evolve the law in these areas. Since the third edition of this text, the Supreme Court issued *Bilski v. Kappos*<sup>1</sup> and *Mayo v. Prometheus*,<sup>2</sup> two landmark decisions denying patent-eligibility to inventions deemed “abstract ideas” and “laws of nature.” These decisions continue the Court’s gradual rebalancing of power away from patent owners and toward those who seek to challenge dubious patents (and/or avoid liability for infringing them).

The composition of the Federal Circuit continues to evolve. The appellate court’s newer members bring an impressive array of experience, not only in patent law but in practice areas as diverse as criminal prosecution, labor law, international trade, First Amendment, and war crimes. This variety of perspectives is an undoubtedly healthy input for a specialized court, one increasingly recognizing that “[p]atent law is not an island separated from the main body of American jurisprudence.”<sup>3</sup> Since the third edition of this text, the Federal Circuit has acted *en banc* to clarify standards in several areas, including the written description of the invention disclosure requirement, joint or distributed infringement, and the defenses of inequitable conduct and patent misuse. The court has also been active in the realm of patent damages. In other fundamentally important areas such as patent claim interpretation (the single most critical part of a patent infringement lawsuit), the court remains mired in intra-Circuit conflicts.

I am indebted to the many patent law students, academics, and practitioners whose feedback and suggestions for this text have proved invaluable during the revision process. I gratefully acknowledge the astute research assistance of Whitney Waters (University of Kentucky College of Law Class of 2012). Any errors are my own. Comments or questions concerning this text are welcome and should be e-mailed to the author at Janice@chisum.com.

Janice M. Mueller  
Lexington, Kentucky

November 2012

<sup>1</sup>130 S. Ct. 3218 (2010).

<sup>2</sup>132 S. Ct. 1289 (2012).

<sup>3</sup>*Knorr-Bremse Systeme Fuer Nutzfahrzeuge GmbH v. Dana Corp.*, 383 F.3d 1337, 1351 (Fed. Cir. 2004) (Dyk, J., concurring-in-part and dissenting-in-part).

# **PATENT LAW**

# Contents

*Preface*

*xxiii*

<b>Chapter 1</b>	<b>Foundations of the U.S. Patent System</b>	<b>1</b>
A.	Introduction and Chapter Overview	1
B.	Why Study Patent Law?	2
1.	Rise of the Information-Based Economy	2
2.	Educational Prerequisites	7
C.	What Is a Patent?	8
1.	Patents as a Form of Intellectual Property	8
2.	The Appropriability Problem of Intellectual Property	8
3.	Public Goods	9
4.	Exception to the General Rule of Competition by Imitation	10
5.	The Patent Document and Its Components	11
6.	The Negative Right to Exclude	17
7.	The Patent Term	20
D.	Economic Considerations	24
1.	Is a Patent a Monopoly?	25
2.	Cost/Benefit Analysis for Patents	26
a.	Costs	27
b.	Benefits	30
E.	Philosophical Rationales for Patent Protection	32
1.	Natural Rights	33
2.	Reward for Services Rendered	34
3.	Monopoly Profits Incentive	34
4.	Exchange for Secrets	35
F.	Primary Sources of U.S. Patent Law	36
1.	The Constitution	36
2.	Federal Statutes and Regulations	38
3.	Case Law	40
G.	Adjudicatory Forums for Patent Matters	42

## Contents

1.	U.S. District Courts	42
a.	Subject Matter Jurisdiction and Venue	42
b.	Civil Actions Against the USPTO Director in the Eastern District of Virginia	46
2.	U.S. Court of Appeals for the Federal Circuit	47
3.	USPTO Patent Trial and Appeal Board	50
4.	U.S. International Trade Commission	51
H.	Patent Prosecution Overview	52
1.	Introduction	52
2.	Filing the Application	53
3.	Examination by the USPTO	56
a.	Sample Office Action and Applicant's Response	60
4.	Publication of Pending Patent Applications	65
5.	Continuing Application Practice	66
6.	Double Patenting	71
 <b>Chapter 2 Patent Claims</b>		 <b>77</b>
A.	Introduction	77
1.	Historical Development of Patent Claiming	77
2.	Definition of a Patent Claim	78
3.	A Key Reference Work	80
B.	Claim Definiteness Requirement (35 U.S.C. §112(b))	81
1.	Own Lexicographer Rule	81
2.	Definiteness Standards	82
3.	Antecedent Basis	89
C.	Anatomy of a Patent Claim	90
1.	Preamble	90
2.	Transition	92
a.	“Comprising” Transition	92
b.	“Consisting of” Transition	95
c.	“Consisting Essentially of” Transition	95
3.	Body	96
D.	Independent and Dependent Claims	98
E.	Specialized Claiming Formats	100
1.	Means-Plus-Function Claim Elements (35 U.S.C. §112(f))	101
a.	Introduction	101
b.	Interpreting the Scope of Means-Plus-Function Elements	102
c.	Distinguishing §112(f) Statutory Equivalents and the Doctrine of Equivalents	106
2.	Product-by-Process Claims	108
3.	<i>Jepson</i> Claims	112
4.	<i>Markush</i> Claims	114

<b>Chapter 3 Disclosure Requirements (35 U.S.C. §112(a))</b>	<b>117</b>
A. Introduction	117
1. The Statutory Framework	117
2. Disclosure as <i>Quid Pro Quo</i>	119
3. Timing of Disclosure Compliance	120
B. The Enablement Requirement	124
1. Undue Experimentation	124
2. <i>Wands</i> Factor: Predictable Versus Unpredictable Inventions	126
3. <i>Wands</i> Factor: Scope of the Claims	128
4. <i>Wands</i> Factor: Working Examples	130
5. Nascent and After-Arising Technology	131
C. The Best Mode Requirement	133
1. Best Mode Scale-Back by America Invents Act of 2011	133
2. Distinguishing Best Mode from Enablement	135
3. Policy Rationale	136
4. The <i>Chemcast</i> Analysis	138
a. Step 1: Subjective Inquiry	138
b. Step 2: Objective Inquiry	139
5. Scope of the Best Mode Obligation	140
D. The Written Description of the Invention Requirement	143
1. Timing Mechanism	144
2. How an Application Conveys Possession of an Invention	146
3. Distinguishing Written Description from Enablement	150
4. Typical Fact Scenarios Invoking Written Description Scrutiny	152
5. Federal Circuit's Expansion of the Written Description Requirement	153
 <b>Chapter 4 Novelty, Loss of Right, and Priority Pre- and Post-America Invents Act of 2011 (35 U.S.C. §102)</b>	 <b>173</b>
<i>Guide to This Chapter</i>	173
<i>Part I: General Principles of Anticipation</i>	174
A. The Meaning of Anticipation	174
B. Burden of Proof	174
C. The Strict Identity Rule of Anticipation	175
1. In General	175
2. The Special Case of Species/Genus Anticipation	176

## Contents

D.	Anticipation by Inherency	178
E.	Enablement Standard for Anticipatory Prior Art	181
F.	What Is a Printed Publication?	182
	<i>Part II: Novelty, Loss of Right, and Priority Pre-America</i>	
	<i>Invents Act of 2011</i>	188
G.	Introduction	188
	1. Statutory Basis	188
	2. Geographic Distinctions	191
	3. Who Is the Actor?	192
	4. Distinguishing Novelty from Loss of Right	193
H.	“Known or Used” Under 35 U.S.C. §102(a) (Pre-AIA)	194
I.	The Statutory Bars of 35 U.S.C. §102(b) (Pre-AIA)	197
	1. Introduction	197
	2. Grace Period	200
	3. Section 102(b) Public Use	201
	4. Section 102(b) on Sale Bar	206
	5. Experimental Use Negation of the §102(b) Bars	210
J.	Abandonment Under 35 U.S.C. §102(c) (Pre-AIA)	212
K.	Foreign Patenting Bar of 35 U.S.C. §102(d) (Pre-AIA)	213
L.	Description in Another’s Earlier-Filed Patent or Published Patent Application Under 35 U.S.C. §102(e) (Pre-AIA)	215
M.	Derivation and Inventorship Under 35 U.S.C. §102(f) (Pre-AIA)	219
	1. Derivation	219
	2. Who Is an Inventor?	220
	3. Correction of Inventorship	221
	4. Joint Inventors	222
N.	Prior Invention Under 35 U.S.C. §102(g) (Pre-AIA)	223
	1. Introduction	223
	2. Interference Proceedings Under §102(g)(1)	223
	3. Anticipation Under §102(g)(2)	226
	4. Applying the Priority Rule of §102(g)	228
O.	Antedating (or “Swearing Behind”) Prior Art (Pre-AIA)	231
	<i>Part III: Novelty and Priority Post-America Invents Act of 2011</i>	233
P.	Introduction	233
	1. Statutory Basis	236
	2. Sense of Congress and Legislative History	237
	3. Comparing Pre- and Post-AIA Frameworks	239
	a. What Section 3 of the AIA Retained	241
	b. What Section 3 of the AIA Changed	242
Q.	Presumptively Novelty-Destroying Events Under Post-AIA 35 U.S.C. §102(a)(1)	247
	1. Invention “Patented, Described in a Printed Publication, or in Public Use, [or] on Sale” Before Effective Filing Date	247

2.	Invention “Otherwise Available to the Public” Before Effective Filing Date	249
3.	Does the AIA Permit Secret Prior Art?	250
R.	Presumptively Novelty-Destroying Events Under Post-AIA 35 U.S.C. §102(a)(2)	252
S.	Novelty-Preserving Exceptions Under Post-AIA 35 U.S.C. §102(b)	256
1.	Introduction	256
2.	Post-AIA §102(b)(1): Shields Against Post-AIA §102(a)(1) Presumptively Novelty-Destroying Events	257
a.	(A)-Type Exceptions	257
b.	(B)-Type Exceptions	260
3.	Post-AIA §102(b)(2): Shields Against Post-AIA §102(a)(2) Presumptively Novelty-Destroying Events	262
a.	(A)-Type Exceptions	262
b.	(B)-Type Exceptions	264
T.	Effective Date for AIA §3 First-Inventor-to-File Amendments	264
U.	Common Ownership Under Joint Research Agreements	267

## Chapter 5 The Nonobviousness Requirement (35 U.S.C. §103) 271

A.	Introduction	271
B.	Historical Context: The <i>Hotchkiss</i> “Ordinary Mechanic” and the Requirement for “Invention”	273
C.	Enactment of §103 of the Patent Act of 1952, Incorporating the Requirement of Nonobviousness	276
D.	The <i>Graham v. John Deere</i> Framework for Analyzing Nonobviousness	277
1.	Constitutionality of 35 U.S.C. §103	278
2.	<i>Graham’s</i> Analytical Framework for a §103 Analysis	279
E.	<i>Graham</i> Factor: Level of Ordinary Skill in the Art	279
F.	<i>Graham</i> Factor: Scope and Content of the Prior Art	284
1.	Terminology	284
2.	Sources of Prior Art	284
3.	Section 102/103 Overlap	285
4.	Analogous Art	293
G.	<i>Graham</i> Factor: Differences Between Claimed Invention and Prior Art	297
H.	<i>Graham</i> Factor: Secondary Considerations	297



## Contents

1.	The Weight to Be Accorded Secondary Considerations Evidence	299
2.	The Nexus Requirement for Evidence of Commercial Success	301
I.	Combining the Disclosures of Prior Art References to Establish Obviousness	302
1.	Teaching, Suggestion, or Motivation to Combine	302
2.	<i>KSR v. Teleflex</i> : Combinations, Predictability, and “Common Sense”	304
3.	Teaching Away	310
4.	“Obvious to Try”	311
J.	The <i>Prima Facie</i> Case of Obviousness	312
K.	Federal Circuit Standards of Review in §103 Determinations	319
1.	USPTO	319
2.	Federal District Court	320
 <b>Chapter 6 The Utility Requirement (35 U.S.C. §101)</b>		<b>321</b>
A.	Introduction	321
B.	Practical Utility	322
C.	The Supreme Court View: <i>Brenner v. Manson</i>	325
D.	The Federal Circuit View	327
1.	Chemical Compounds	327
2.	Methods of Medical Treatment	328
3.	Genetic Inventions	330
E.	Inoperability	333
1.	Examples of Inoperable Inventions	334
2.	Inoperable Species Within a Genus	335
F.	Immoral or Deceptive Inventions	336
G.	Relationship Between Utility Requirement of §101 and How-to-Use Requirement of §112(a)	338
H.	Utility Requirement in Foreign Patent Systems	339
1.	Industrial Applicability	339
2.	Morality Criterion	340
 <b>Chapter 7 Potentially Patentable Subject Matter (35 U.S.C. §101)</b>		<b>343</b>
A.	Introduction	343
1.	The General Nature of §101	343
2.	The Statutory Categories of §101	345
3.	Claiming the Inventive Concept Within Different Statutory Categories	345