

# PATENTS 101

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## AN OVERVIEW OF U.S. PATENT LAW AND PRACTICE

Ron Laurie  
Managing Director  
Inflexion Point Strategy, LLC  
Palo Alto  
ronlaurie@ip-strategy.com

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# OVERVIEW

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- **ELIGIBILITY REQUIREMENTS**
- **PROSECUTION OF PATENT APPLICATIONS IN THE USPTO**
- **TERM OF PROTECTION**
- **NATURE OF THE PATENT RIGHT**
- **CLAIMS INTERPRETATION**
- **ENFORCEMENT**
- **INTERNATIONAL PATENT PROTECTION**

# ELIGIBILITY REQUIREMENTS

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- **Subject Matter - §101**
- **Innovation Level - §§102/103**
- **Disclosure & Claims - §112**
- **Utility - §101**

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# **ELIGIBILITY: SUBJECT MATTER**

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- **Statutory Subject Matter**
  - **Process (a/k/a Method);**
  - **Machine (a/k/a Apparatus, Device or System);**
  - **Article of Manufacture;**
  - **Composition of Matter; or**
  - **Improvement on any of above.**

## **ELIGIBILITY: SUBJECT MATTER - §101 (cont.)**

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- **"Traditional" Types of Non-Statutory Processes**
  - **Laws of Nature ( $e = mc^2$ ;  $f = ma$ )**
  - **Natural Phenomena (Gravity, Lightning)**
  - **Scientific Principles (Archimedes Principle, Pythagorean Theorem)**
  - **Abstract (Unapplied) Ideas (Binary to BCD Conversion)**
  - **Methods of Doing Business (?) (Drive-In Movies)**

## **ELIGIBILITY: SUBJECT MATTER - §101 (cont.)**

- **Software Patentability**
  - **Case Law**
    - 1968 -70 - Mental Steps (CCPA)
    - 1970 - "Within the Technological Arts" (CCPA)
    - 1970-98 - Mathematical Algorithms (U.S. S.Ct)
  - **PTO Software Examination Guidelines - 1996**
    - **2 Safe Harbors Based on Prior Case Law**
      - **More than:**
        - "Mere Antecedent Data Gathering"**
        - "Trivial Post-Solution Activity"**



## **ELIGIBILITY: SUBJECT MATTER - §101 (cont.)**

- **PTO Software Examination Guidelines - 1996 (cont.)**
  - **New Category – "Practical Technological Application" (Effective Merger of Utility and Subject Matter Requirements)**
  - **Software Product (Article of Manufacture) Claims**
  - **Functional Descriptive Material vs. Non-Functional Descriptive Material**
    - **Computer Programs & Data Structures = FDM**
    - **Data *per se* (e.g. digital music) = NFDM**

## **ELIGIBILITY: SUBJECT MATTER - §101 (cont.)**

- **The Federal Circuit Speaks:**
  - **The *State Street Bank* case (1998):**
    - "Within the Technological Arts" replaced (?) by "useful, concrete and tangible result"
    - The End of the *Mathematical Algorithm* Rejection
    - The End of the *Method of Doing Business* Rejection
    - Is "Technology" Still Required (or just Utility)?
  - **The *AT&T v. Excel* case (1999):**
    - The End of the *Physical Transformation* Requirement?



## ELIGIBILITY: SUBJECT MATTER - §101 (cont.)

- **Business Method Patents**
  - Since State Street ('99) case Methods of Doing Business are patentable in the US --
    - Amazon - One-click ordering
    - Priceline - Reverse (buyer-driven) auction
  - *Probably* requires claiming computer-implementation in order to satisfy subject matter requirement --
    - but has *technology* requirement now been superseded by *utility* requirement?
  - European & UK patent offices strongly disfavor MDB patentability --
    - no *Technical Effect*

# **ELIGIBILITY: LEVEL OF INNOVATION - §§ 102/103**

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- **Novelty - §102**
  - **Must be the First Inventor**
    - **First to Invent (U.S.) vs. First to File (Rest of World)**
    - **Invention = Conception + Reduction To Practice**

# **ELIGIBILITY: LEVEL OF INNOVATION - §§102/103 (cont.)**

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- **Novelty - §102 (cont.) – Reduction To Practice**
  - **Actual RTP**
    - **Operative Device/System/Process**
    - **Must do everything in claim**
    - **Does not have to be in commercial form**
  - **Constructive RTP - filing patent application**

# **ELIGIBILITY: LEVEL OF INNOVATION - §§102/103 (cont.)**

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- **Novelty - §102 (cont.) - Diligence**
  - **Must Be Diligent Between Conception and Filing**
    - **Can lose priority to later inventor who is first to Reduce to Practice - §102(g) (Basis for U.S. "Interference" Practice)**
  - **Must Be Diligent Between Commercialization and Filing**
    - **"On-Sale" and "Public Use" Bars (see below) - §102(b)**

# **ELIGIBILITY: LEVEL OF INNOVATION - §§102/103 (cont.)**

- **Types of "Prior Art"**
  - **Prior to Applicant's Invention Date:**
    - **Printed Publications - anywhere - §102(a)**
    - **Public Knowledge or Use - in U.S. - §102(a)**
    - **Prior (Non-Public) Inventions that are:**
      - **Not suppressed, abandoned or concealed &**
      - **Diligently reduced to practice - §102(g)**
      - **Made in the U.S.A. (or NAFTA) §§104, 119**

# ELIGIBILITY: LEVEL OF INNOVATION - §§102/103 (cont.)

- **Types of "Prior Art" (cont.)**
  - **Prior to Patent Application Date:**
    - **Described in an earlier filed U.S. Patent - §102(e)**
  - **One Year Prior to Application Date:**
    - ***Offers for Sale and Public Uses* - in U.S. - §102(b)**
      - **Actual Reduction to Practice No Longer a Requirement ("*Ready for Patenting*" Test)**
      - **Experimental Use Exception**



# **ELIGIBILITY: LEVEL OF INNOVATION §§102/103 (cont.)**

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- **Non-Obviousness - §103**
  - **The Invention as a whole**
  - **would not have been obvious**
  - **to a person of ordinary skill in the relevant art**
  - **at the time the invention was made.**

# **ELIGIBILITY: DISCLOSURE & CLAIM REQUIREMENTS**

## **- § 112**

- **Disclosure Sufficiency**
  - **Written Description**
  - **Enablement**
  - **Best Mode**
- **Claims**
  - **Definiteness**
  - **"Means (or Step)-Plus-Function" Format**

# **ELIGIBILITY: UTILITY REQUIREMENT - §101**

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- **Usually only an issue for biotech inventions (and perpetual motion)**
- **Related to "Practical Technological Application" for Software and Business Methods (see above)**

# PROSECUTION OF PATENT APPLICATIONS BEFORE THE USPTO

- **Types of Patent Applications**
  - **Provisional**
  - **Original (non-provisional)**
  - **Continuation - no *New Matter***
  - **Continuation-in-Part - *New Matter***
  - **Divisional - no *New Matter* - Emphasizes different inventive aspect**
  - **Reissue - Broadening (2-year window) vs. Corrective**
  - **Re-Examination - Submission of *new* prior art publication**

# PROSECUTION (cont.)

- **Anatomy of a Patent Application**
  - **The Specification**
    - **Background and Summary of the Invention -**  
*The Sales Pitch*
    - **Description of Preferred Embodiment (including drawings)**  
*The Technical Specification*
  - **The Claims**  
**Precise Techno-Legal Single-Sentence Description of Boundaries of *Exclusionary Right***

# PROSECUTION (cont.)

The *Sales Pitch* should  
answer the following five questions:

1. **What is the problem to be solved or objective to be achieved?**
2. **What are the previous solutions to the problem or approaches to achieving the objective?**
3. **What are the shortcomings or limitations of the prior solutions/approaches?**
4. **What is the solution/approach of the present invention?**
5. **How does No. 4, overcome or minimize No. 3?**

# PROSECUTION (cont.)

## The *Detailed Description* should:

1. be “*enabling*,” i.e., it must be sufficient to --  
enable a person skilled in the art  
to practice (make or use) the invention  
without undue experimentation;
2. represent the “*best mode*” of implementing the invention  
known to the inventor(s)  
as of the filing date of the application;
3. provide disclosure support for each and every structural  
element and functional limitation set forth in the claims.

# PROSECUTION (cont.)

- **The *Claims* should:**
  1. **Describe the structure and/or function of the invention at the highest level of generality which is both:**
    - (a) novel (does not also describe the prior art) and
    - (b) non-obvious in view of the prior art;
  2. **Have a hierarchical structure which claims the invention at a series of levels of abstraction from the most general to the most specific.**
  3. **Include both method (process), system (apparatus) and in appropriate cases, data structure (article), formats**

# **PROSECUTION (cont.)**

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- **Procedure**
  - **Pre-Examination Search - Pros and Cons**
  - **Provisional vs. Regular Application**
  - **Expedited Examination - Petition to Make Special**
  - **Duty of Candor - PTO Rule 1.56**  
**Information Disclosure Statement**

# **PROSECUTION (cont.)**

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- **Procedure (cont.)**
  - **Office Actions**
  - **Responsive Amendments & Arguments**
  - **Examiner Interviews – Live vs. Telephonic vs. Video**
  - **Publication After 18 Months (AIPA)**

# PROSECUTION (cont.)

- **Duration**
  - One year to ???????
  - Continuing Applications --
    - Co-pendency maintains priority date for common disclosure
- **Appeal Process**

# TERM OF PROTECTION

- **Old System (pre-June 8, 1995) - 17 years from issue date**
- **New (post-GATT) System - 20 years from filing date**
- **Post-Issuance Maintenance Fees**
  - **3-1/2 Years (\$1000);**  
**7-1/2 years (\$2,000);**  
**11-1/2 years (\$3000).**
  - **Patent lapses if fees not paid.**

# NATURE OF THE PATENT RIGHT

- **Constitutional Authority**
  - Congress shall have the power to pass laws
  - in order to promote the progress of Science and the *Useful Arts*
  - by securing to Authors and *Inventors*
  - for Limited Times
  - the exclusive rights to their respective Writings and *Discoveries.*

# NATURE OF THE PATENT RIGHT (cont.)

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- **Exclusionary vs. Exclusive Rights**
  - The right to *exclude others* from practicing the claimed invention
  - Does *not* give the right to practice the patented invention if covered by third party patent(s)
  - Independent development is never a defense (as it is with copyright and trade secret protection)

# CLAIM INTERPRETATION

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- **Construction - "Markman" Hearing**
  - **Intrinsic vs. Extrinsic Evidence**
  - **Prosecution History Estoppel**

# CLAIMS INTERPRETATION (cont.)

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- **Doctrine of Equivalents -**
  - **Classic "Function-Way-Result" Test**
  - **"Insubstantial Differences" Test**
  - **DOE vs. §112 Equivalents**
  - **Prosecution History Estoppel**
  - **CAFC Decision in *Festo***

# ENFORCEMENT

- **Patent Infringement Litigation**
  - **Infringing Acts**
    - **Manufacture**
    - **Use**
    - **Sale**
    - **Offer for Sale**
    - **Importation**
  - **Process Patent Amendment Act (PPAA) prohibits importation of products made abroad by a process which would infringe a U.S. patent if performed here.**

# ENFORCEMENT (cont.)

- **Declaratory Judgment of Non-Infringement/Invalidity**
  - **Justiciable Controversy Requirement**
  - **Reasonable Apprehension of Suit**
- **Unenforceability**
  - **Inequitable Conduct - Fraud on the PTO**
  - **Patent Misuse**
  - **Antitrust Violation**

# ENFORCEMENT (cont.)

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- **Available Remedies**
  - **Actual (Compensatory) Damages**
    - **Lost Profits *if they can be proven***
    - ***but no less than a Reasonable Royalty***
    - **Post-Publication, Pre-Grant Infringement (AIPA)**

# ENFORCEMENT (cont.)

- **Available Remedies (cont.)**
  - **Up to Treble Damages Due to Willful Infringement**
    - **Opinion of Counsel *May* be Necessary to Avoid Willfulness**
    - **Actual Notice of Patent Triggers Duty to Obtain Opinion**
      - **Other than a direct charge of infringement, very little case law on what constitutes actual notice.**
  - **Opinion must support good faith belief by defendant that judge or jury "might find the patent to be non-infringed or invalid."**

## **ENFORCEMENT (cont.)**

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- **Preliminary Injunction - Not very often (?)**
- **Permanent Injunction -**  
**Always (if patent is still in force)**
- **ITC Action - Exclusionary Order –**  
**"in rem" effect; no damages**
- **Seizure and Destruction by U.S. Customs –**  
**19 USC 1339**

# INTERNATIONAL PATENT PROTECTION

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- **Patents must be obtained on a country-by-country basis (exception is European Patent)**
- **Under the Paris Convention, an application filed in any member country within one year of the filing of the earliest application in any other member country will be given the effective filing date of the first application for purposes of determining what is and is not prior art.**

## **INTERNATIONAL PATENT PROTECTION (cont.)**

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- **A single application may be filed under European Patent Convention for 20 member countries**
- **A single Patent Cooperation Treaty (PCT) application may be filed within the one year foreign filing deadline to preserve the right to file foreign (national) applications in any of over 100 member countries**