The Role of Patent Law in the Research & Development Process

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What is a Patent?

- A Negative Right—not an Affirmative Right
- Quid pro quo of the Patent System:
  - An “Enabling” Disclosure of a
    - “Novel,” “Non-obvious,” and “Useful”
    - “Machine, Article of Manufacture, Composition of Matter, or Process”
  (in exchange for)
- Grant of a Limited Monopoly
Why do we have Patents?

- Costly to Innovate, Cheap to Imitate
  - Utilitarian, not Moral, Justification
- Patent Policy aims to Balance:
  - Providing an Incentive to Innovate
    - Promote development of technologies that might not otherwise be produced (or be produced as fast)
  - Social Costs of a Private Monopoly
    - Restricted output; higher prices
U.S. Constitution, Article I, Section 8, Clause 8:

The Congress shall have Power...

To promote the Progress of Science and useful Arts by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries...
The United States.

To all to whom these Presents shall come, Greeting.

Whereas, Samuel Hopkins of the City of Philadelphia and State of Pennsylvania hath discovered an Improvement not hitherto known to Posterity in the making of Ash and Pearl Ash by various Apparatus and Processes, that is to say, in the making of Pearl Ash 1° by burning the raw Ashes in a Furnace 2° by digesting and boiling them when so burnt in Water 3° by drawing off and setting the tars and 4° by boiling the tars into oils which, when use the Vine Ashes, and also in the making of Ashes by digesting the Pearl Ash in an apparatus, which operation of digesting the raw Ashes in a Furnace improves their Digestibility and boiling in Water, is new, scarce and rare

It is therefore in pursuance of the Act entitled "An Act to promote the Discovery of useful Arts", enacted to the end that Samuel Hopkins, his heirs, Administrators and assigns, for the term of fourteen Years, shall and shall have exclusive Right and Liberty of using and working to others the said Discovery of digesting the raw Ashes previous to their being dissolved and heated in Water, according to the time, Interest and Meaning of said apparatus. In Testimony whereof, I have caused these Letters to be made Patent, and the seal of the United States to be hereunto affixed.

Given under my hand at the City of New York the thirty first Day of July in the Year of our Lord one thousand seven hundred ninety-six.

City of New York July 31st 1790

I, hereby certify, that the foregoing Letters Patent were delivered to me in pursuance of the Act entitled "An Act to promote the Discovery of useful Arts", that I have examined the same and find them consonant to the said Act.

R&D and Product Development

Product Development Process

1. Idea, Screening & Evaluation
2. Detailed Investigation
3. Development
4. Testing
5. Market Launch
Acquisition of Patent Rights

- Provisional Patent Applications
- Non-provisional Patent Applications
  - Specification
  - Claims
  - Drawings
  - Inventor Oath and Declaration
  - Filing Search and Examination Fees
Indeterminacy of Language

• The Problem of Interpretation: The Core and the Penumbra of Natural Language
  – H.L.A. Hart’s Legal Positivism

• Core of Determinate Meanings
  – Loosely, meanings that all native speakers of a language would agree on

• Penumbra of Indeterminate Cases
  – Loosely, meanings that native speakers of a language could reasonably disagree about
Acquisition of Patent Rights

- Prosecution of Patent Applications
  - PTO (Examiner) “examines” Application
  - PTO Issues Office Action
  - Applicant Responds
- Allowance and Issue
  - Notice of Allowance
  - Continuation Applications
R&D and Product Development

Product Development Process
Patent Issues in Going to Market

- “Patent Landscape” Analysis
  - Freedom to Operate/Clearance Search
- Non-Infringement Opinions
- Invalidity Opinions
- USPTO Proceedings
  - Post Grant Review
  - Inter Partes Review
Variations Between Industries

• Characteristics of Innovation
  • Pharmaceuticals
  • Business Methods
  • Software
  • Biotechnology
  • Integrated Circuits
  • Telecommunications
R&D and Product Development

Product Development Process

- Idea, Screening & Evaluation
- Detailed Investigation
- Development
- Testing
- Market Launch
Enforcement

- Litigation
  - Complaint
  - Answer/Counterclaims/Defenses
  - Discovery
  - Claim Construction ("Markman Hearing")
    - Resolve Indeterminacy of Claim Language
  - Pre-Trial Motions
  - Trial
Patent Careers

• Patent Examiner
• Patent Agent
  • “Scientific and Technical Training Requirements”
    • Bachelor’s Degree in Recognized Technological Subject (Physics, Engineering Physics)
• Patent Bar Exam
• Patent Attorney
  • J.D., Admitted to State Bar, Admitted to Patent Bar
Patent Careers

**Pros**
- Variety of Technologies
- High Project Turnover Rate
- Requires “Soft” Skills
- Requires Analysis from a Variety of Perspectives: Legal, Technological, Business, Public Policy

**Cons**
- Lack of Depth—Sacrificed for Breadth
- Occasionally (or Frequently) Requires Long Hours
- Rarely Requires “Hard” Skills
Benefits of a Physics Degree

- Techne vs. Episteme
- Marketability
  - Physics is Fundamental to a *Variety* of Engineering Disciplines—thus Highly Marketable in the Patent World
- Conceptualization of Abstract Ideas
  - Useful in Law and Physics
Questions?
Thank You

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