Practical Strategies for Managing Patent Rights After the America Invents Act (AIA)

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Clean Technology Patenting

U.S. clean energy patent grants are on the rise

*data and graphs from the *Clean Energy Patent Growth Index* published by Hesling Rothenberg Farley & Mesiti P.C. The report tracks patents in solar, wind, hybrid/electric vehicles, fuel cells, hydroelectric, tidal/wave, geothermal, biomass/biofuels, and other clean energy.
Clean Technology Patenting by Subject Matter
Overview

- Patent Basics
- The America Invents Act (AIA)
- Patent Strategy
Patent Basics: What is a Patent?

• Complete description of an invention, followed by “claims”

• **Claims**: The claims define in words the inventive technology owned by the patent holder

• **Rights**: Patents provide the right to exclude others from making, using, selling, or importing the claimed invention into the United States – *a patent does not confer a right to use invention*

• **Term**: of 20 years from filing (not counting various patent and regulatory extensions)

- Specification
  - Abstract
  - Detailed Description
  - Figures
- Claims
  - Define the “territory” owned or scope of the invention
Independent and Dependent Claims – Examples from U.S. Pat. No. 8,541,127 Assigned to Tesla Motors, Inc.

1. A thermal management system for use with a battery pack, the battery pack comprised of a plurality of cells arranged into at least a first row of cells and a second row of cells, wherein said first row of cells is adjacent to said second row of cells, said system comprising:

   a cooling manifold assembly interposed between said first and second rows of cells, said cooling manifold assembly comprising; a coolant tube, said coolant tube including at least one coolant channel, wherein said coolant tube is comprised of a first surface adjacent to said first row of cells and a second surface adjacent to said second row of cells; and

   a thermal interface layer overmolded onto said coolant tube, wherein said thermal interface layer is comprised of a plurality of pliable fingers that extend away from said coolant tube, wherein said plurality of pliable fingers are interposed between said first surface of said cooling tube and said first row of cells and between said second surface of said cooling tube and said second row of cells, and wherein said plurality of pliable fingers are deflected by and in thermal contact with said first and second rows of cells.

2. The thermal management system of claim 1, wherein said first row of cells is offset from said second row of cells.
Patentable Subject Matter: Any “new and useful process, machine, manufacture, or composition of matter”

- Mechanical Inventions – turbines, wind power, hydropower, electric vehicles, fueling stations, modular housing

- Electrical Inventions (hardware, software) – solar cells, fuel cells, batteries, power distribution control, network architecture for power management, LEDs

- Chemistry-Related Inventions and Biotechnology – biodegradable materials, polymers made from recycled pollutants, light-weight composites, high-temperature materials for more efficient combustion technologies, cement alternatives, insulation materials

- Methods or processes for any of the above-types of Inventions – methods of use, methods of making, etc.
Example Timeline of a Typical U.S. Patent Application

Year -1: Provisional application filing – “patent pending,”

Year 0: File non-provisional – description substantively frozen

18 months after first filing – patent application publishes unless a nonpublication request was filed

Year 2 – Claims are examined and, often, rejected


Year 3.5: Notice of Allowance

Year 4: Issued U.S. Patent – “Patented” – mark with patent #
Additional Patent Requirements: Duty of Disclosure

- Duty of Disclosure
  - Must disclose anything material to patentability
  - Applies to everyone involved with the prosecution of a patent application – including non-inventors
  - No duty to search
  - Related cases, prior sales, publications, other prior art

- **Consequences**: Failure to comply can render patent (and even related patents) unenforceable
Additional Patent Requirements: Proper Inventorship

- Inventor = One who makes an inventive contribution to at least one of the claims (*i.e.*, conceived of an essential element of the claimed invention)

- AN INVENTOR IS NOT:
  - Someone who uses routine skill in the art to implement another’s idea
  - Someone who explains how the invention works
  - Someone who invented subject matter that is not claimed
  - analogous to publication authorship

- Consequences: Incorrect inventorship can render patent unenforceable, but corrections possible for good faith mistakes
Additional Requirements: Records

• Why are records important?
  – Can be used to establish date of invention
  – Can be used to establish inventorship
  – Document “Conception” and “Reduction to practice” (old law) and “Derivation” (new law)

• Recording Research and & Development
  – Bound books or verifiable electronic records
  – At start of project, describe the goals
  – Have a non-inventor review, understand, and witness pages of your notebook
America Invents Act – Main Provisions

• First inventor to file
• Prioritized examination
• Micro-entity status
• Ways to challenge patents
  – Prior art submission
  – Post-grant review
  – Inter partes review
  – Supplemental examination
America Invents Act (AIA)

• First Inventor to File (effective March 16, 2013)
  – Priority given to first filed patent application

• Prioritized Examination (effective September 26, 2011)
  – Patent Office will target final disposition in 12 months
  – Limited number of claims (4 independent, 30 total)

• Opposition Period (effective September 16, 2012)
  – Within 9 months of a patent grant, a party may challenge claims in a patent by Petition to the Patent Office
  – Must demonstrate it is more likely than not the petitioner will prevail on at least one claim
First Inventor to File  
(effective March 16, 2013)

• Previous Law – First to Invent
  – Can show that one was first to invent, not first to file a patent application

• America Invents Act
  – The first patent applicant to file a patent application has the rights
    • No longer first patent applicant to invent
  – Inventor’s one-year grace period remains
  – May argue earlier filer derived the invention from you

• Consequence: Race to the patent office
First-to-File: Invention and Filing Date Timeline

Example timeline

Under old first-to-invent system:

- Inventor B wins

Under new first-to-file system:

- Inventor A wins
First-to-File: Inventor’s Grace Period

Example timeline

Timeline:  

- Inventor discloses invention
- Third party discloses invention
- Application filed

Third-party disclosure will not bar the application
First-to-File: “First to publish” priority

Example timeline

Timeline:  

Inventor discloses invention  
Third party discloses invention  
Inventor’s Application filed  
Third party files application  

1 year

Inventor may still obtain patent despite being 2nd to file, because they were 1st to disclose
Pitfalls of Provisional Patent Applications

You

Provisional Application
Filing Date, **but** claim not supported

Non-Provisional Application
Filing Date

Your Competition

Provisional Application
Filing Date, claim is supported

Non-Provisional Application
Filing Date

**Before**: Even if provisional fails, could still prove earlier invention

**After America Invents**: Provisional fails, and competition may obtain the patent
Track I Prioritized Examination

• Patent Office Goal: final disposition in 12 months
  – Application is picked-up for examination very quickly by the Patent Office

• Claim Limit: maximum 30 claims, 4 independent

• Prosecution: Costs incurred earlier – It’s expensive $2,000 for a small entity

• Program limited to 10,000 per fiscal year
Micro-Entity Status

• Establishes micro-entity status:
  – For small entities and universities that:
    • filed less than 4 applications in the prior year; and
    • had a gross income of less than 3 times the median household income in the prior year (less than $153,051); or
  – Inventors employed by, or obligated to assign/license to, institution of higher education – beware of assignments to tech transfer offices that are not institutes of higher education
  – Micro-entity applicants receive a 75% reduction in application costs
  – Current small entity status: 50% reduction
Third Parties: How to Mess with other people’s patents

- Preissuance Submission of Prior Art by Third Party
- Post-Grant Review
- Inter Partes Review (replacing inter partes re-exam)
Third Party Prior Art Submission

- Submitting patents or other printed materials to the Examiner of competitor’s patent applications
- Submit before the Examiner allows application or, if application has not been allowed, before a first rejection and before application has been published for 6 months
  - Third party can describe why the materials are relevant

→ Strategic Issues
  → Monitor published patent applications
  → **Big Potential Liability**: Could strengthen competitor’s patent, so only use if you would not consider challenging the patent later in court based on same prior art
Post-Grant Review (PGR)

- Challenge a patent during the nine months following the patent grants
- **Basis:** any ground for invalidity (broader than existing reexamination)
- **Standard:** preponderance of evidence (“more likely than not”) to initiate and to prevail
- **Estoppel:** precluded from using same art, or other known references, in district court action
- PGR may only be filed against patents issuing with priority dates later than March 15, 2013
• Proceeding is conducted by the Patent Trial and Appeal Board

• Final determination must be given within 1 year of institution of proceedings (can be extended by 6 months for good cause shown)

→ **Strategic Concerns:** Can be quicker, and cheaper than litigating, but can preclude your ability to litigate later!
Post-Issuance: Inter Partes Review (IPR)

- Available 9 months after issuance or after termination of post-grant review
- The 3rd party also participates
- **Basis:** only novelty and non-obviousness
- **Standard:** to initiate – reasonable likelihood of prevailing (slightly lower threshold than PGR); to prevail – preponderance of evidence
- **Estoppel:** precluded from using same art, or other known references, in district court action
Supplemental Examination Process – effective Sept. 16, 2012

- Patentee may request the patent office consider or correct information that may be relevant to the patent
- Patent Office will order re-examination if a substantial new question of patentability is identified
- Cannot be used if an infringement suit is already underway

→ Strategic Considerations
  - Can “cure” your own questionable patents
  - Information considered during supplemental examination cannot be used later in court for an unenforceability claim
Patent Strategy: Developing a Cohesive Approach

• Business Goals
  – What is the Market?
  – Competitors?

• Develop a long-term patent strategy
  – Protect current and future product developments
  – Patents protecting current R&D trajectory
  – Patents protecting new products

• Freedom to Practice – Does the product, component of the product, or performance of a process infringe a third party patent?

• In-license Patent Portfolios
Patent Strategy: General Guides for First-to-File

• Consider Competitive Strategy Early
  – Define your market
  – Define your competitors

• File Patent Applications Early – Before public disclosure even though there is still a grace period
  – Use of provisional applications as an integral component of the overall strategy
  – Cover IP through multiple filings over time
  – Claim invention in a variety of ways

• File Patent Applications Fully – Support the claimed subject matter

• Monitor new technological developments/directions of competitors
Patent Strategy: Goals of a Robust Patent Portfolio

- Enforcement – prevent a third party from practicing
  - Monitor marketplace for competitors; notify & pursue

- Support licensing and business negotiations
  - Exclusive or non-exclusive licensees
  - Geographic areas
  - Patent pooling, patent ‘warfare’, patent sales

- Freedom to Practice
Patent Strategy – Defensive and Offensive Patents

• **Defensive Patents**
  – protect what Company is doing or wants to do
  – Define against licensed-in patents

• **Offensive Patents**
  – protect what others might do to get around Company
  – Publication of applications serves as prior art against others seeking broad coverage

*Many companies stop here*

*Savvy companies implement these IP strategies*

- Are we infringing this patent? We just got a letter…
  - Develop an understanding of the product
  - Analyze the patent; construe the claim terms

- Compare

  
  
  Claims of patent vs. Product or activity

- Does the product/activity meet all the limitations of any claim?

- Formal opinion may be used to help protect a client against a willful infringement claim (treble damages)
Patent Strategy: Freedom to Operate

- If we make this widget, will we infringe anyone’s patents?
  - Develop an understanding of the widget
  - Conduct search for patents in the field

- Compare
  - Claims of 3rd party patents vs. Proposed Widget

- Does the widget meet all the limitations of any claim?
- Difficult to find all art
- May be able to find “design-around” to minimize risk
• Consider your patent strategy **before** you disclose technology!!
  • After public disclosure, have 1 year to file (in the U.S.)
  • Public disclosure defeats most foreign patent rights
    – Includes sales, offers for sale
    – Can include trade shows, marketing materials, posters, websites or demos

→ Institute an Internal Patent Review
Thank You! Questions

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