

Intellectual Property Primer for Entrepreneurs and Early-Stage Companies

Presented by

Jordan M. Becker
Perkins Coie LLP
(650) 838-4365

JBecker@perkinscoie.com

October 18, 2010

Agenda

- Overview of the Various Forms of IP
- Patents
 - What is a Patent?
 - Why Do We Need Patents?
 - Types of Patent Applications
 - Requirements to obtain a Patent
 - Factors in Deciding Whether to Apply for Patent
 - When to Apply
 - Summary of Patent Application Process and Application Timeline

“Skills and knowledge have become the only source of sustainable long-term competitive advantage”

~ Economist, Lester Thurow

Types of IP

- Copyright – Protects original *expression* (but not ideas)
- Trademark / Trade Dress – Protects *branding*
- Trade Secret – Protects commercially valuable business *secrets*
- Patent – Protects *inventions*

What is a Copyright?

- Copyrightable subject matter – An "original work of authorship fixed in a tangible medium of expression."
- Covers software, literary, musical, dramatic, artistic, pictorial, graphics, sculptural, audio-visual, architectural
- Protects against unauthorized copying, making derivative works, distribution, performance, display, or use of the work

What is a Copyright? (cont'd)

- Does *not* protect against *independent* development of a similar work by others.
- Protection is *automatic* as soon as the work is *fixed in a tangible medium*.
 - Use copyright notice with © symbol or "copyright" when publishing (e.g., "© 2010 Perkins Coie LLP. All rights reserved.")
- Still, there are benefits to *registering* copyrights

What is a Trademark?

- Identifies the *source* of goods or services; helps consumers distinguish it from a competitor's product or service.
- Typically a word, name, phrase, symbol, picture, sound, or combination thereof.
- Rights are automatic once you begin branding under the trademark (using it in commerce); but improved rights gained through registration.
 - ® symbol means mark is federally registered.
 - ™ or SM symbol means "common law" trademark protection is being claimed (i.e. no federal registration)

What is Trade Dress?

- Refers to a distinctive physical appearance of a product or its packaging (e.g., the old glass Coca-cola bottles, the Campbell's soup can label, the grill on a Rolls-Royce car)
- Protectable in similar manner to trademarks.

What is a Trade Secret?

- Any non-public information that can be used in the operation of a business that derives independent economic value from the fact that it is not publicly known.
- Examples: a formula, pattern, device, compilation of information
- Low threshold of originality: Must not be generally known

What is a Trade Secret? (cont'd)

- No registration process, but requires reasonable steps to protect the secret.
- Liability requires a "bad actor": misappropriation
- No limit on duration – as long as it's kept secret

Patents



US007331169B2

(12) **United States Patent**
Riley

(10) **Patent No.:** US 7,331,169 B2
(45) **Date of Patent:** Feb. 19, 2008

(54) **CONTROL LOGIC FOR FUEL CONTROLS ON APUS**

(75) **Inventor:** Harold J. Riley, Gilbert, AZ (US)

(73) **Assignee:** Honeywell International, Inc., Morrisstown, NJ (US)

(*) **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.:** 11/593,915

(22) **Filed:** Nov. 7, 2006

(65) **Prior Publication Data**
US 2007/0051090 A1 Mar. 8, 2007

Related U.S. Application Data
(62) Division of application No. 10/781,154, filed on Feb. 17, 2004, now Pat. No. 7,168,254.

(51) **Int. Cl.**
F02C 7/26 (2006.01)
F02C 9/28 (2006.01)

(52) **U.S. Cl.** 60/79,281; 60/790

(58) **Field of Classification Search** 60/39,27, 60/39,281, 243, 790

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,600,888 A * 8/1971 Nathan et al. 60/39,15
3,667,218 A 6/1972 Davis
4,126,995 A 12/1978 Tsai
4,313,167 A * 1/1982 Brown 60/243
4,337,615 A 7/1982 LaCasse
4,350,908 A 9/1982 Ziskowick, Jr.
4,809,497 A 3/1989 Schulz

5,134,845 A * 8/1992 Romano 60/39,281
5,165,223 A 11/1992 Inglessi et al.
5,212,943 A 5/1993 Hama
5,231,822 A 8/1993 Skelton
5,235,812 A 8/1993 Klaus et al.
5,274,896 A 11/1994 Goff et al.
5,303,541 A 4/1994 Goff et al.
5,636,587 A 6/1997 Rajamani et al.
6,182,438 B1 2/2001 Weber
6,945,839 B2 9/2005 Hinojara et al.

FOREIGN PATENT DOCUMENTS

WO WO 02/054951 8/2002

OTHER PUBLICATIONS

PCT International Search Report PCT/US2005/005571.

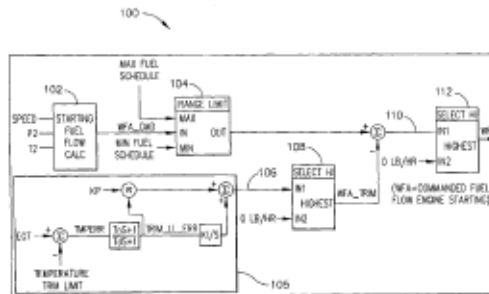
* cited by examiner

Primary Examiner—L. J. Casaregola
(74) *Attorney, Agent, or Firm*—Ingrassia Fisher & Lorenz

ABSTRACT

Conventional auxiliary power units (APUs) may experience over-temperature shutdowns when attempting to start them at high altitudes. Further, such conventional APUs may also experience overspeed conditions when a generator load is removed during on-speed operations. A fuel control logic that controls the fuel flow cartback below the minimum blowout fuel schedule is provided. A temperature trim loop measures engine temperature to determine the onset of a possible over-temperature condition. The fuel flow may then be trimmed accordingly to correct this over-temperature onset. Further, when the onset of an overspeed condition is detected, such as when a generator load is removed, the fuel flow may be trimmed accordingly to correct this overspeed onset. The fuel control logic allows the control to find the individual minimum fuel flow for each fuel control without risking blowout of the APU itself.

6 Claims, 5 Drawing Sheets



What is a Patent?

- The right to *exclude* others from making, using, selling, offering to sell, or importing the patented invention
- Best way to protect *technology*
- Rights are territorial (country-specific)
- High threshold of originality
- No intent or knowledge required for infringement liability ("strict liability")

What is a Patent? (cont'd)

- A patent does *not* give patent owner the freedom to operate -- it is a "negative right":
 - Having a patent does not eliminate the possibility that your patented product may infringe someone else's patent.
- May want to investigate Freedom to Operate (possibly get a legal opinion) to keep out of trouble (caveat: willful infringement issue).
- Can potentially "design around" or license a problematic patent.

Why Do We Need Patents?

- **Building the Business (e.g., Investors)**
 - Build's investor confidence
 - A legally protectable asset
 - Transferable property
 - Increases company valuation
- **Offensively (to protect an R&D investment)**
 - Enforcement -- Prevent others from making, using, selling or importing the invention
 - Leverage for business deals
 - Licensing – Source of revenue
- **Defensively**
 - Blocks competitors from getting patents (establishes "prior art")
 - Bargaining chip for cross-licensing or "ammunition" for counter-suing (strong patent portfolio enhances design freedom).

Why Do We Need Patents? (cont'd.)

- Marketing -- Builds customer confidence
- Reputation -- Enhances company's reputation as an innovator
- Morale -- Provides employee recognition

Types of Patent Applications

- **U.S. Provisional**
 - Lasts one year
 - Will never itself become a patent and is not examined by the Patent Office
 - Just a "stake in the ground" for future US and foreign filings
 - "Patent pending" notice is OK
 - Patent term is not started
- **U.S. Non-Provisional ("normal" patent application)**
 - Utility, Design or Plant
 - Can become a patent
 - Patent term starts with filing date
 - Publication 18 months after filing is default
- **Foreign / International**
 - Direct (foreign) national filing
 - Patent Cooperation Treaty (PCT)
 - Another stake in the ground
 - 30 month pendency

Parts of a Patent Application

- **Title**
- **Abstract**
- **Background – Typically describes the most relevant prior art and the problem to be solved.**
- **Detailed Description – An engineering-style description of the invention.**
- **Drawings**
- **Claims – The legal definition of the invention. Define the *boundaries* of what is to be protected; *not* intended to describe how to make or use it.**

Parts of a Patent Application

Sample apparatus claim:

24. A medical imaging system comprising:

a plurality of detectors, each configured to generate a plurality of event-based trigger pulses in response to scintillation events and a plurality of artificial trigger pulses, and each configured to combine the event based trigger pulses and the artificial trigger pulses into a combined trigger signal;

a coincidence detection circuit coupled to receive the combined trigger signal from each of the detectors and configured to cause each of the detectors to register an event in response to coincidences between the combined trigger signals of the detectors; and

a processing system configured to acquire data representing random coincidences based on the artificial trigger pulses, to acquire coincidence data of the object, to correct the coincidence data based on the acquired data, and to form images of the object based on the corrected coincidence data.

Parts of a Patent Application

Sample method claim:

1. A method comprising:

- creating a point-in-time-image (PTI) of a file system, wherein the PTI is an image of the file system at a predetermined point in time;

- generating a message containing the PTI;

- setting attributes for the message, wherein the attributes define an event-based trigger for managing the PTI in the message; and

- setting access control information for the message, wherein the access control information controls access to the PTI included in the message by a selected user.

Main Requirements for a Patent

- Claimed invention is patent-eligible subject matter.
- Claimed invention is useful.
- Claimed invention is novel over the prior art.
- Claimed invention is not obvious in view of the prior art.
- Adequate description of the Invention.

Patent-Eligible Subject Matter

- Subject matter falls into a *protectable category* and *no exclusion* applies
 - Generally, any machine, manufacture, process or composition of matter → Almost "anything under the sun made by man"
- Main exclusions: Laws of nature (e.g., gravity), physical phenomena (e.g., a plant found in the wild), abstract ideas, pure mathematical algorithms
- Software? Yes!
- Business Methods? It depends. Must be more than just an abstract idea. Helps if it is machine-implemented (e.g. computer-implemented).

Novel

- The exact claimed invention is not known in the "prior art".
- In other words, no *single* piece of prior art contains/discloses *every aspect* of the invention.

Non-Obvious

- Does Not Require Complexity, Sophistication or a "Flash of Genius".
 - Simple solutions can be patentable.
 - Does not require engineering excellence.
 - Does not require stroke of genius -- Most patented inventions are relatively small improvements.
 - New combinations of old techniques can be patentable.
 - New uses for old techniques can be patentable.
 - If unsure, err on the side of being over-inclusive – Let your patent attorney act as a finer-grained filter.

Adequate Description of the Invention

- The price of exclusivity.
 - Must provide an "enabling" disclosure, i.e., must explain how to make and use the invention so that person of ordinary skill in the technology would not need to go through "undue experimentation".
 - Must disclose the "best mode".

Factors to Consider in Deciding Whether to Apply for a Patent

- Likelihood of use of invention by others -- Most important factor
- Difficulty of detecting use by others
- How innovative?
 - See *Obviousness* discussion above
- Commercial value to your business
 - Will invention be productized?
 - Core technology or just peripheral?
- Technology lifecycle
 - Will the "invention", broadly defined*, still be relevant in 5 years?
 - * Patent claims are often much broader (and therefore may have longer usefulness) than the specific embodiment(s) you invented.

Factors to Consider – More Detailed

- **Considerations in Determining Whether an Invention Should Be Patented**
- Does your idea address a long, unresolved need?
- Is your idea the only solution to an existing problem?
- Does your idea result in something that is better/faster/cheaper?
- Is the invention important to the company?
- Will the invention be used long into the future?
- Is the field of the invention wide open?
- Is it likely that other companies are pursuing a parallel development program?
- Will your solution to a given problem be one that others skilled in the field will likely develop in the normal course of their work?
- Does your idea constitute a noninfringing design around a patent owned by a competitor?
- Did you use known technology or processes in an unusual way?
- Did your development produce results greater than or different than what you expected?
- Is your development a new step in a rapidly changing field or where two fields converge?
- Can the invention be exploited under a licensing scheme?
- As an alternative to patent protection, should the invention be protected as a trade secret (e.g., is it difficult to detect infringement)?

When to Apply

- As early as possible, always!
 - US -- 1-year to file patent application after first sale, offer for sale, public use or publication of the invention; **but** . . .
 - Most other countries -- **No grace period** (must file before these events)
 - Even if you file before any known critical date, any delay in filing gives time for third-party "prior art" to appear (bad).
- Best Practices
 - To preserve foreign rights, file before any non-NDA disclosure or announcement of invention to outside parties,.
 - File before any product release or offer for sale of the invention.
 - File before submitting any proposal for government grants.
 - File before entering any joint venture, license agreement, manufacturing agreement or other collaboration agreement.

Pre-Filing Prior Art Search

- Not required by law
- Has pros & cons
- Most commonly, pre-filing search is *not* done.
- Many companies have a policy on this

Summary of Patent Application Process

1) Have an idea for a solution to a problem

2) Write down the idea

- Preferably, fill out a new invention report (provided by law firm or the company)
- Alternatively, describe the idea via e-mail or memo
- Initial description can be very brief, high-level

3) Submit description to person or committee responsible for patent filing review/ approval within the company

Note: *Not* necessary to have a working prototype to get a patent. Just need to be able to *describe* it adequately.

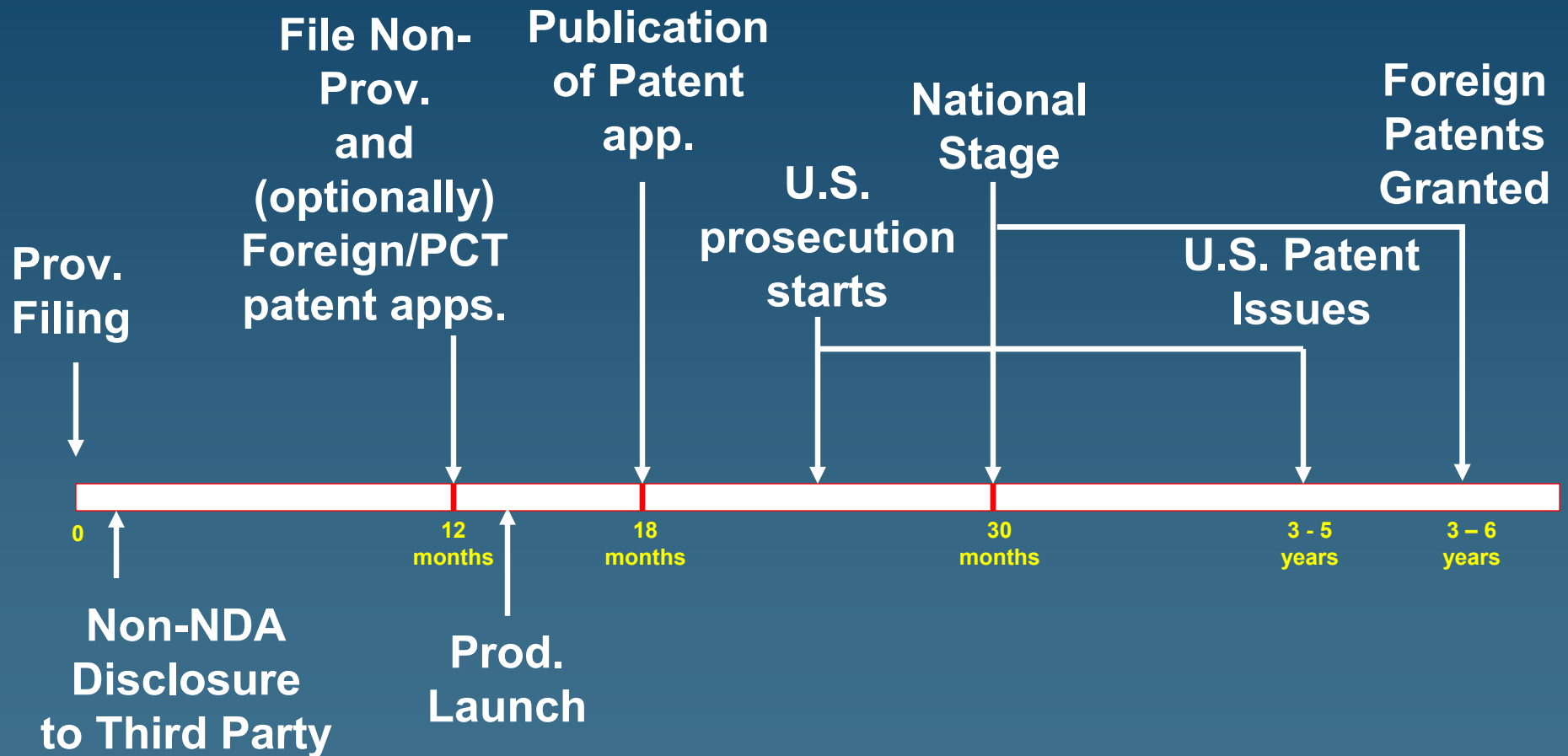
4) Meet with patent attorney

- Typically 1-2 hours
- Detailed discussion of the invention, prior art, implementations, etc.

Summary of Patent Application Process (cont'd.)

- 5) Attorney drafts patent application (typically 25-50 hours of work)
- 6) Inventors review and comment on the draft
- 7) Attorney revises, finalizes draft (possibly repeat steps 6 & 7)
- 8) Attorney files patent application
- 9) Wait 2-3 years (typically) for initial response from U.S. Patent Office
 - Certain ways to accelerate examination (e.g., green-tech inventions, patent prosecution highway (PPH), prior art search)
- 10) Attorney negotiates with U.S. Patent Office over the next 1-2 years
- 11) Get a patent (usually)

Sample Timeline



Last Thoughts

- As engineers we often see patents as directed to important technological improvements. However, slight technological improvements that provide important marketing benefits can lead to valuable patents (e.g., Amazon's one-click patent - successfully asserted (initially) against Barnes and Noble).

Questions?

Thank You!

Jordan Becker
Perkins Coie LLP
(650) 838-4365
JBecker@perkinscoie.com