

# The US Patent System: The Good, The Bad, and the Ugly

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C2S2

Council on Realizing Excellence in Management

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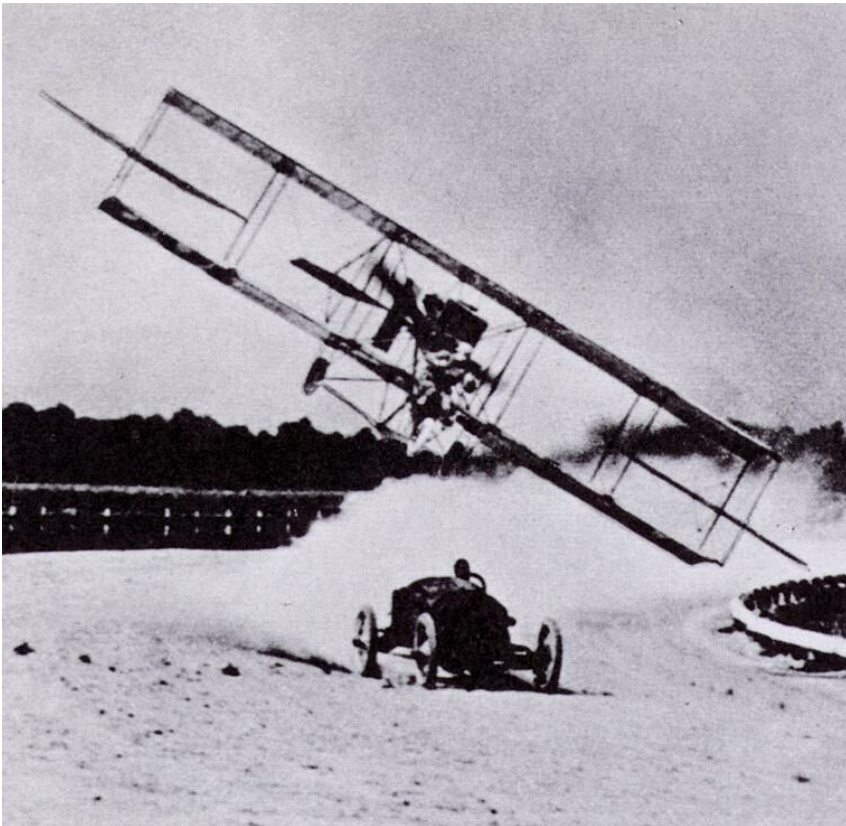
# At the Albuquerque Airport: *Monument to the Ugly Side of Patents*

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# Curtiss Pusher

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Ruth Law in Curtiss Pusher

# Agenda

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- A Little History of Patents
- Nuts and bolts of Patents
- Wrights vs Bell/Curtiss
- Armstrong vs Levy
- De Forest
- Rim vs NTP

# Letters Patent and Letters Close

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- Letters Patent are a public disclosure of ownership -- in this case, of ideas.
- Should be win-win:
  - Inventor (or assignee) gets exclusive control for a limited time
  - Society gets detailed knowledge
- Does not always work
  - NTP vs RIM (or Wright vs Curtiss)
  - Universities
  - Pharmaceuticals

# Real Estate Analogy

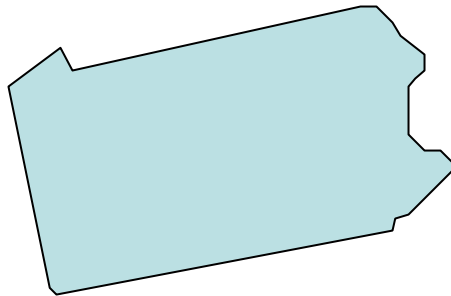
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- A way to think about validity and infringement.
- Two identical claims can not both be valid
- If claims are not identical, they can still infringe

# Pennsylvania

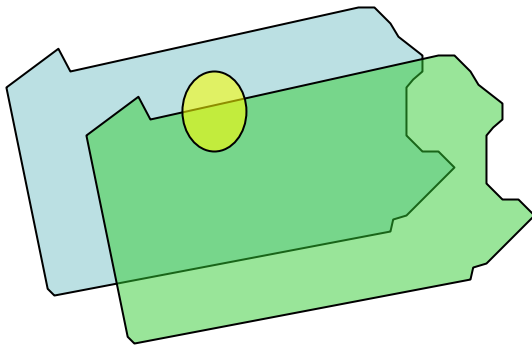
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William Penn was given Pennsylvania through a “Letters Patent,” from the King Charles II of England in 1681.



# Real Estate Analogy

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- **Two congruent patents cannot both be valid**
- **Overlapping patents may both be valid, with infringement**
- **A patent inside another may be valid, but not necessarily useful**

# It's Constitutional!

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*US Constitution- Art. 1, Sec. 8, CL.8:*

“[The Congress shall have the 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.”

# Why Patents Have Value

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- Stop others from
  - Any use
  - Any copying
  - Any commercial application
  - Any demonstration
- They are thus critical for maintaining an **exclusive** market.
- Research on Pharmaceuticals is an exception

# How does anything get done?

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- **Cross licensing!**
- **BUT— not universities!**
- **Also, not NTP with RIM, or Curtiss with Wright**

# Intellectual Property Definitions

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- **Patents** protect inventions and discoveries
  - useful processes
  - machines
  - items of manufacture
  - composition of matter
  - new and useful improvements
  - Some software, some business models
- **Copyrights** protect the original expression of ideas
  - not the ideas themselves
  - tangible medium of expression
- **Trademarks** protect terms, logos, designs
  - designates source of goods and services
- **Trade Secrets**
  - some things lose advantage in public disclosure
  - maintained in secret

# Get a Patent!

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- Get a good idea that's new, *not obvious*, and necessary for business
- Write it in your lab notebook, with a witness
- Submit disclosure, with 2 witnesses
  - [www.carnegiemellonctt.com](http://www.carnegiemellonctt.com)
- Work with IP attorney to find broadest claims
- File with USPTO and internationally
  - Cost: \$500 and up
  - Or file a *Provisional disclosure* – a *place holder*
- Wait for fame and fortune – or make a start-up

# Alternatives

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- Secrets: no public disclosure!
- Publication: no one can stop your own use
- Copyright
  - Free or \$30
  - Applies to a concrete expression of art, or ideas

# Value to Tech Companies

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- Exclusivity
  - Prevent any use by anyone else
  - Venture capitalists need this
- Cross licensing
  - I'll let you use my patents, if you'll let me use yours
- Royalties
- Problems for Universities:
  - Royalties are the only route
  - Tax status inhibits exclusivity
  - Cross licensing not effective for non-manufacturer

# US Patent office web site

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[www.uspto.gov](http://www.uspto.gov)

# Reasons to Submit Disclosure

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- It might be the next Google!
- It can unclog the bureaucracy
- It goes on your resume
- Some companies give awards for highly rated disclosures, even if not filed

# Parts of a Disclosure

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- First copy in lab notebook, with witness!
- Use copy disclosure form:
  - Lots of bureaucratic data
  - Diagrams and Figures
  - A description
  - What makes it new?
  - Which companies would use it (for university).
  - Usually two witnesses, mainly to establish priority

# *Parts of a Patent*

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- *Background*
- *Description*
- *Claims <==Very Important!*
- *Drawings*

# *Tension in the system*

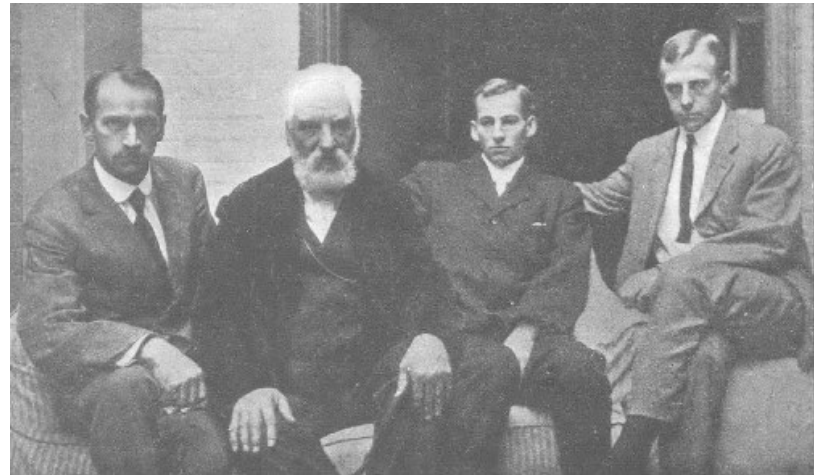
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- Exclusive use of IP encourages investment but also discourages development
- What about patents owned by universities?
- Not all granted patents are valid
  - Infringement
  - Background patents
- Owners rights versus fair use

# Aircraft Control: Infringement

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- Wilbur Wright
- Orville Wright
- A.G. Bell
- Glenn Curtiss



**Click Figure for Patent**

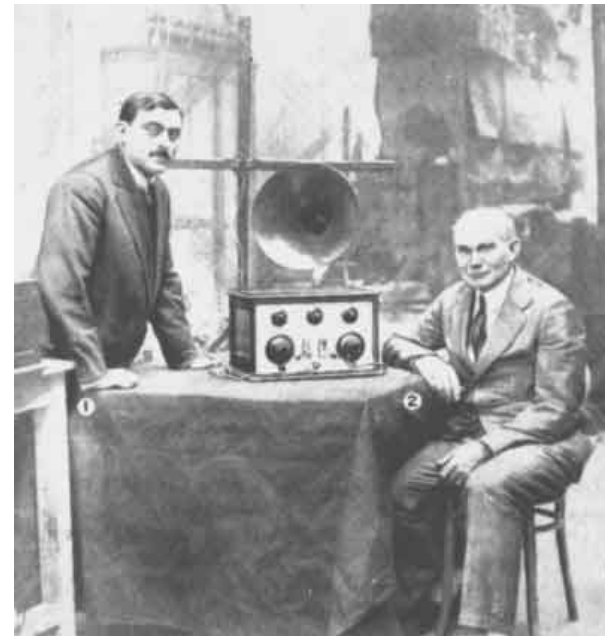
# Superheterodyne Radio Receiver: Invalidation

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Edwin H. Armstrong



Lucien Levy

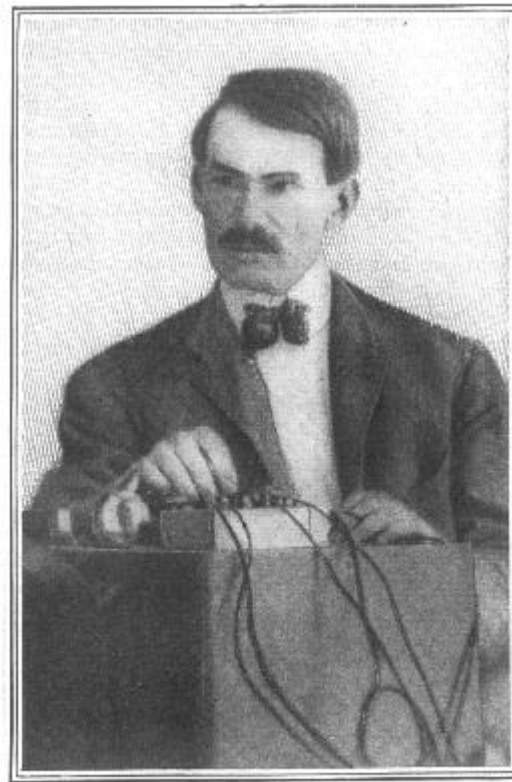


**Click Figure for Patent**

# Triode Vacuum Tube: No need to understand

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Lee De Forest



LEE DE FOREST.

**Click Figure for Patent**

# Discussion: NTP vs RIM

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- [Wall Street Journal](#)