

# Nonobviousness: The Economics and Legal Process of the Doctrine

John F. Duffy

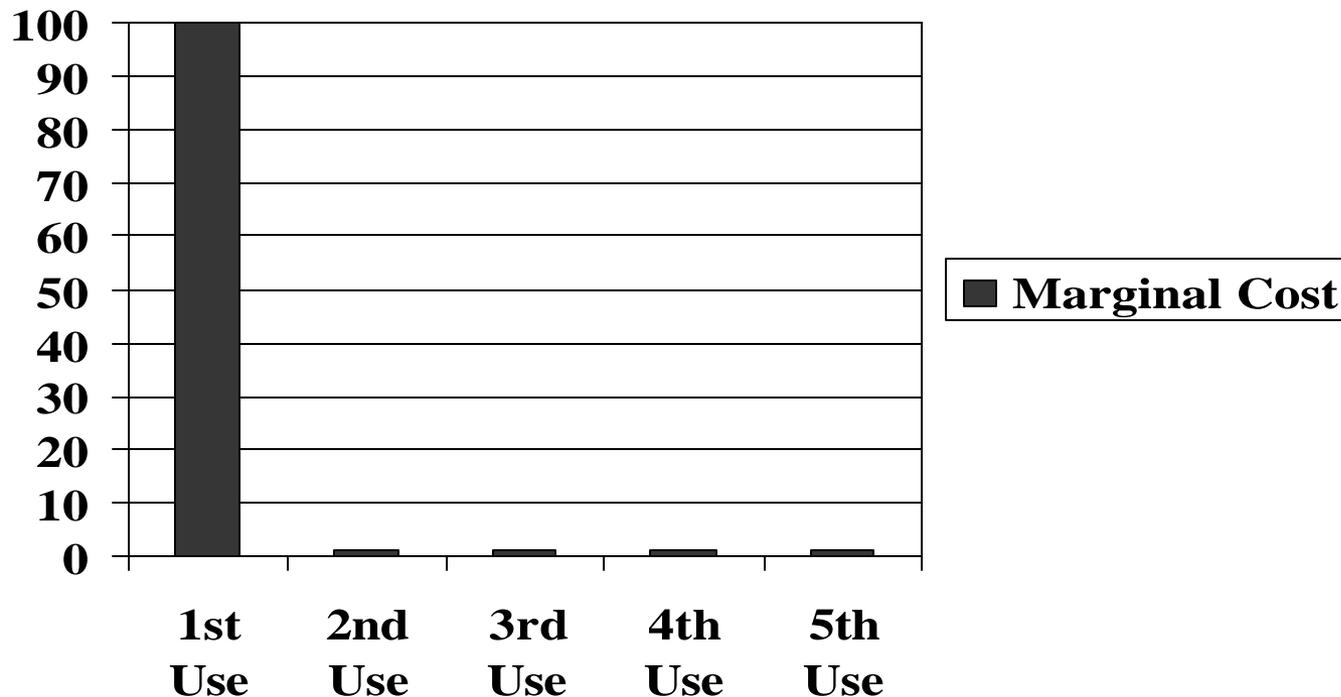
Associate Professor of Law

William & Mary School of Law



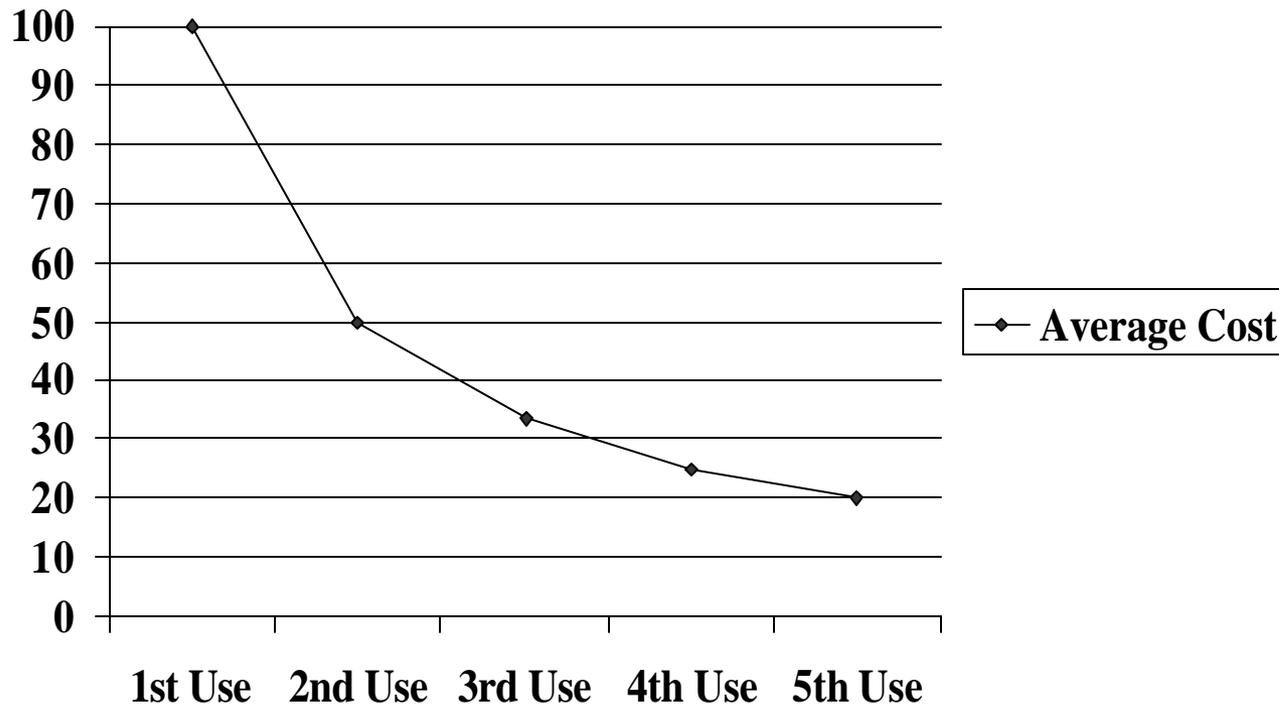
# Innovation as Natural Monopoly

- Like a traditional natural monopoly, innovation has high fixed costs (the cost of producing the information) and low marginal costs (the cost of using the information each additional time).



# Innovation as Natural Monopoly

- Like a traditional natural monopoly, the market for innovation exhibits declining average costs.
- “Nonrival Consumption” = Zero Marginal Cost



# Innovation as Natural Monopoly

- Reasons to Regulate:
  - Production by single firm is optimal.
  - Destructive Competition: Without regulation, competition will push price down to MC, so that fixed costs of production cannot be recovered.
- Regulatory Technique: Temporally Limited Exclusive Franchise
  - Similar to 18th and 19th Century Bridge Regulation.

# Role of the Nonobviousness Doctrine

- The doctrine assures that the fixed costs of producing the relevant innovation are in fact substantial. In other words, the doctrine insures that the production of the innovation is a natural monopoly.
- It can be considered a nontriviality requirement, where triviality is measured by *technical difficulty*.

# Why not permit trivial patents?

- Profusion of Paltry Patents:
  - Each patent individually will not impose significant output constraints, but ...
  - Collectively they may be expensive to search and license and
  - May generate a great deal of litigation due to accidental infringements.
- Economically Significant Patents:
  - Technical Triviality  $\neq$  Economic Triviality
  - Thus, a patent on an obvious development may impose significant output constraints.
  - Possibly the more important reason for the doctrine.

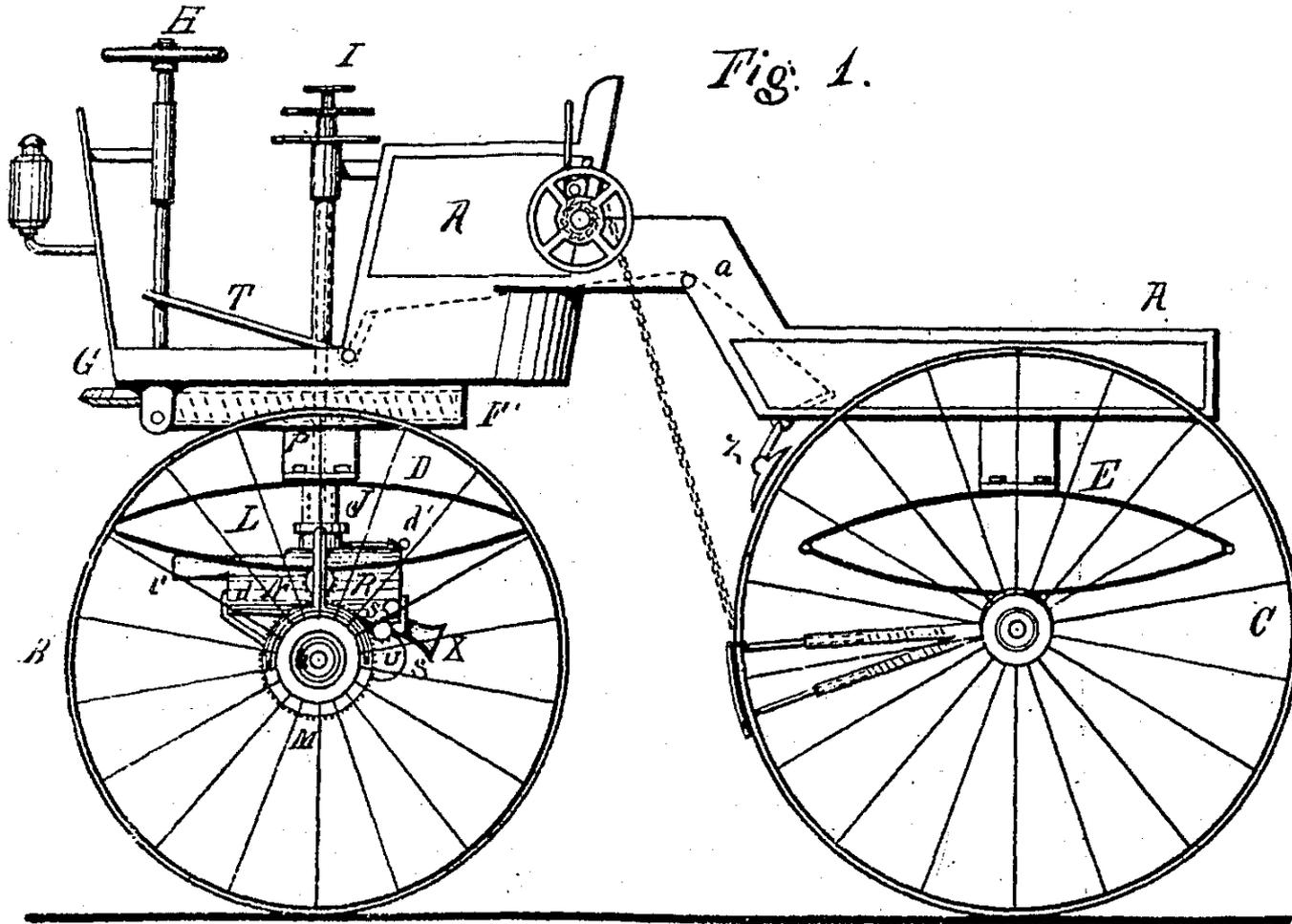
# Poster Child for Nonobviousness: The Selden Patent

- Selden's patent claimed:
  - The combination with a road-locomotive,
    - » provided with suitable running gear including a propelling wheel and steering mechanism,
  - of a liquid hydrocarbon gas-engine of the compression type, comprising one or more power cylinders,
  - a suitable liquid\_fuel receptacle,
  - a power shaft connected with and arranged to run faster than the propelling wheel
  - an intermediate clutch or disconnecting device, and
  - a suitable carriage body adapted to the conveyance of persons or goods.
- Covers nearly every car on the road.

G. B. SELDEN.  
ROAD ENGINE.

No. 549,160.

Patented Nov. 5, 1895.



# Points from the Selden Experience

- Selden's combination may have been novel.
  - Gasoline engines were relatively new.
  - Selden may have been the first to mount one on a car.
- Development was trivial.
  - Many individuals independently thought to use gasoline engines for cars.
- Economic effects:
  - Imposes an unnecessary output constraint.
  - Decreases royalties to inventors: Thus, a lax nonobviousness doctrine is not necessarily pro-inventor.

# The Obviousness Inquiry

- Why does a valuable novelty appear?
- Two possible explanations:
  1. Inventor's intellectual contribution.
  2. Exogenous forces.
    - » Technological change (Selden Case; possibly the “one-click patent”).
    - » Regulatory change (*Richardson-Vicks Inc. v. Upjohn Co.*, 122 F.3d 1476, 44 U.S.P.Q.2D (BNA) 1181 (Fed. Cir. 1997)).
    - » Market change: Increased labor costs (*Sakraida v. Ag Pro, Inc.*, 425 U.S. 273 (1976)); changed costs of materials (possibly *Hotchkiss v. Greenwood*, 52 U.S. 248 (1851)).

# Historical Development of Obviousness

- First case in 1851 (various precursors).
- Part of the “invention” requirement until 1952.
- Codified as a separate doctrine in 1952.
- Relatively recent development of the doctrine is consistent with theory:
  - Obviousness become more important as pace of exogenous change quickens.
  - Where society is relatively static, valuable new developments are most likely attributable to the energies of the inventor.

# Analysis from *Graham v. John Deere*

- Three Primary Factors:
  - Scope and Content of the Prior Art
  - Differences between the Prior Art and the Invention
  - Level of Ordinary Skill in the Pertinent Art
- “Secondary” Factors:
  - Commercial Success
  - Long Felt Need
  - Failure of Others
  - etc. (copying by others, unexpected results)
- Obviousness is a Question of Law

# Difficulties with the *Graham* Analysis

- The primary factors merely identify the relevant question.
  - They identify the “gap” between the prior art and the invention but provide no guidance for evaluating the significance of the gap.
- The importance of the secondary factors is unclear.
  - “more susceptible of judicial treatment”
  - “subtests” to “tip the scales of patentability”

# Federal Circuit's Obviousness Test

- **Prima Facie Case**
  - evidence of a “suggestion, teaching, or motivation” to combine or otherwise modify the prior art reference to produce the invention
  - PTO bears the burden of establishing
  - PTO receives deference in interpreting references
- **Secondary Considerations**
  - can be used to rebut a prima facie case
  - required part of the analysis

# Features of the Federal Circuit's Caselaw Favoring Findings of Nonobviousness

- Prima Facie Burden on the PTO
- Suggestion Test
- Increased Importance of Secondary Factors (especially commercial success)
- Strong Presumption of Validity for Issued Patents (“clear & convincing” evidence required even if the PTO did not consider the relevant prior art)

# Counterpoints in the Caselaw

- **Implicit Suggestions**
  - e.g. motivation to modify prior art may come from “the nature of the problem to be solved”
  - Deference to PTO in interpreting prior art
- **The Commercial Success Nexus**
  - “nexus” required between invention and the commercial success
- **Failure of PTO to Find Relevant Prior Art Weakens Issued Patents**
  - Identifying new prior art “partially discharges” the burden on a party challenging a patent

# Possible Changes

- Seek to Supreme Court Review of Certain Key Points of Federal Circuit Caselaw
  - Suggestion Test -- Eliminate or restrict.
  - Commercial Success -- Limit to situations where patentee can prove that no exogenous changes account for success
  - Presumption of Validity -- Presumption could be eliminated where challenger demonstrates that the PTO did not have relevant prior art.
- Greater Use of Reexamination for Significant Patents

# Possible Changes

- Competition in Technology Audits
  - PTO monopoly on examination may not be necessary.
  - Litigation presumption should be keyed to degree of the examination.
  - Registration firms (patents without a presumption, or with a presumption of invalidity).
  - “Gold Standard” firms

## Less Promising Avenues

- Seek a Supreme Court ruling that requires greater deference to the PTO's obviousness determinations.
  - S.Ct. itself has repeatedly held obviousness to be an issue of law.
  - *Zurko* (1999) gave the PTO greater deference but has changed little.
- Rely mainly on “patent scope” doctrines
  - Inquiry into technical merit still needed.
  - Legal tools better developed for obviousness inquiries.