Patent Law

Prof. Roger Ford
Class 7 · September 20, 2016
Novelty and statutory bars:
intro; pre-AIA § 102(a) prior art

Recap

Recap

→ Definiteness background

→ *Nautilus v. Biosig*

→ Functional claiming

→ Best mode

Today's agenda

Today's agenda

- → Novelty: introduction
- → Anticipation: the basics
- → "known or used by others"
- → "printed publication"

Novelty: introduction

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→ The patent bargain:

- In return for inventing something new and disclosing it to the world, the patent system grants a limited monopoly

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- In return for inventing something new and disclosing it to the world, the patent system grants a limited monopoly

→ So how do we tell if something isn't new enough to get a patent?

Novelty: introduction

→ Three doctrines:

- Novelty – is there a single piece of prior art that anticipates the patented invention?
- Statutory bars – is there a single piece of prior art that came too soon before filing a patent?
  - Now largely considered with novelty – we will consider them together
- Obviousness – is there one or more pieces of prior art that render the invention obvious?

Novelty: introduction

→ Novelty as a four-step process:

- Which law applies? (Pre-AIA or post-AIA)
- Does a reference qualify as prior art under a subsection of § 102?
- Does the timing work? Or, what are the effective date of the prior-art reference and the critical date of the patent?
- Does the information disclosed in the prior-art reference anticipate the patent claim(s)?

Novelty: introduction

→ Novelty as a four-step process:

- *Note:* The test is not "is the invention new?"
- *Instead*: "Is there a particular piece of prior art that proves the invention is not new?"

Novelty: introduction

→ Terminology: reference = prior art

- Something predating the critical date
- In the public domain
- Can be anything: patent, scientific paper, physical product, newspaper article, &c

Novelty: introduction

→ Terminology: critical date

- Pre-AIA: date the invention was invented
  - Can be difficult to discern
  - Sometimes litigated
- Pre-AIA: *OR*, one year before effective filing date
- Post-AIA: effective filing date

Novelty: introduction

→ Terminology: effective date of the reference

- When it entered the public domain
- Must come before critical date to be prior art
  - So if I write a paper, but never publish it, and then you invent the thing I described, you get the patent – does that make sense?

Novelty: introduction

→ Terminology: anticipation

- If a prior-art reference includes the claimed invention, it anticipates the claim
- A claim is "invalid by anticipation"
- Evaluated claim by claim

Novelty: introduction

→ Terminology: all-elements rule

- A single claim usually has several elements
- A single prior-art reference must have every element to anticipate

Patent: iPod

Claim: A device for listening to digital music comprising a hard drive, a click wheel, interface software, and headphones

Patent: iPod

Claim: A device for listening to digital music comprising a hard drive, a click wheel, interface software, and headphones

Prior art #1: Nomad Jukebox

A device for listening to digital music with a hard drive, interface software, and headphones, but no click wheel

Patent: iPod

Claim: A device for listening to digital music comprising a hard drive, a click wheel, interface software, and headphones

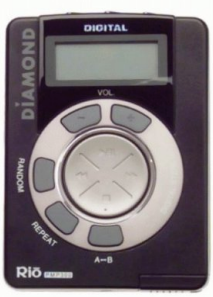
Prior art #2: Kenwood car stereo

A device for listening to digital music with interface software and a click wheel

Patent: iPod

Claim: A device for listening to digital music comprising a hard drive, a click wheel, interface software, and headphones

Prior art #3: Diamond Rio mp3 player



A device for listening to digital music with interface software and headphones, and (maybe) a hard drive and a click wheel

Patent: iPod	Nomad reference	Kenwood reference	Rio reference
A device for listening to digital music comprising:			
a hard drive,			
a click wheel,			
interface software,			
and headphones.			

Patent: iPod	Nomad reference	Kenwood reference	Rio reference
A device for listening to digital music comprising:	✔		
a hard drive,	✔		
a click wheel,	✘		
interface software,	✔		
and headphones.	✔		

Patent: iPod	Nomad reference	Kenwood reference	Rio reference
A device for listening to digital music comprising:	✔	✔	
a hard drive,	✔	✘	
a click wheel,	✘	✔	
interface software,	✔	✔	
and headphones.	✔	✘	

Patent: iPod	Nomad reference	Kenwood reference	Rio reference
A device for listening to digital music comprising:	✔	✔	✔
a hard drive,	✔	✘	? ? ?
a click wheel,	✘	✔	? ? ?
interface software,	✔	✔	✔
and headphones.	✔	✘	✔

Patent: iPod	Nomad reference	Kenwood reference	Rio reference
A device for listening to digital music comprising:	✔	✔	✔
a hard drive,	✔	✔	? ? ?
a click wheel,	✘	✔	? ? ?
interface software,	✔	✔	✔
and headphones.	✔	✘	✔

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Novelty: introduction

→ Two parallel patent systems:

- Pre-AIA § 102: effective filing date of every claim before March 16, 2013
- Post-AIA § 102: effective filing date of any claim on or after March 16, 2013

Novelty: introduction

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- Which law applies? (Pre-AIA or post-AIA)
- Does a reference qualify as prior art under a subsection of § 102?
- What are the effective date of the prior-art reference and the critical date of the patent?
- Does the information disclosed in the prior-art reference anticipate the patent claim(s)?

(pre-AIA) 35 U.S.C. § 102 — Conditions for patentability; novelty and loss of right to patent

A person shall be entitled to a patent unless —

(a) the invention was **known or used by others in this country**, or **patented or described in a printed publication in this or a foreign country**, before **the invention thereof** by the applicant for patent, or

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or

(c) he has abandoned the invention, or

(d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States, or

* * *

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(b) the invention was **patented** or **described in a printed publication in this or a foreign country** or **in public use** or **on sale in this country**, more than **one year prior to the date of the application** for patent in the United States, or

(c) he has abandoned the invention, or

(d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States, or

* * *

(pre-AIA) 35 U.S.C. § 102 — Conditions for patentability; novelty and loss of right to patent

* * *

(e) the invention was described in—

(1) an **application for patent**, published under section 122(b), by another **filed in the United States before the invention** by the applicant for patent or

(2) a **patent granted on an application** for patent by another **filed in the United States before the invention** by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for the purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language; or

(f) he did not himself invent the subject matter sought to be patented, or

* * *

(pre-AIA) 35 U.S.C. § 102 — Conditions for patentability; novelty and loss of right to patent

* * *

(g)

(1) during the course of an **interference** conducted under section 135 or section 291, another inventor involved therein establishes, to the extent permitted in section 104, that before such person's invention thereof the invention was **made by such other inventor and not abandoned, suppressed, or concealed**, or

(2) before such person's invention thereof, the invention was **made in this country by another inventor who had not abandoned, suppressed, or concealed it**. In determining priority of invention under this subsection, there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

Novelty: introduction

→ Relevant prior-art references (pre-AIA):

- § 102(a): things "known or used by others in this country"
- § 102(b): things "in public use or on sale in this country"
- § 102(a)/(b): "patented or described in a printed publication in this or a foreign country"

Novelty: introduction

→ Relevant prior-art references (pre-AIA):

- § 102(e)(1): "an application for patent, published under section 122(b), by another filed in the United States"
- § 102(e)(2): "a patent granted on an application for patent by another filed in the United States"
- § 102(e)(1) or (2): "an international application filed under the treaty defined in section 351(a) [when the application] designated the United States and was published under Article 21(2) of such treaty in the English language"

Novelty: introduction

→ Relevant prior-art references (pre-AIA):

- § 102(g): the invention was "made in this country by another inventor who had not abandoned, suppressed, or concealed it"

Novelty: introduction

→ Novelty as a four-step process:

- Which law applies? (Pre-AIA or post-AIA)
- Does a reference qualify as prior art under a subsection of § 102?
- What are the effective date of the prior-art reference and the critical date of the patent?
- Does the information disclosed in the prior-art reference anticipate the patent claim(s)?

(post-AIA) 35 U.S.C. § 102 — Conditions for patentability; novelty

(a) Novelty; Prior Art.— A person shall be entitled to a patent unless—

(1) the claimed invention was **patented**, **described in a printed publication**, or **in public use, on sale, or otherwise available to the public** before the **effective filing date** of the claimed invention; or

(2) the claimed invention was **described in a patent issued under section 151**, or in an **application for patent published or deemed published under section 122(b)**, in which the patent or application, as the case may be, names **another inventor** and was **effectively filed before the effective filing date** of the claimed invention.

(b) Exceptions.—

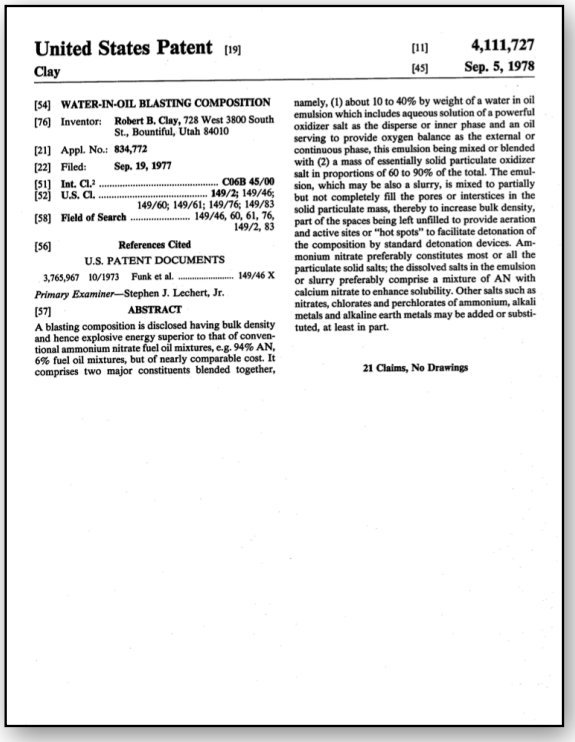
* * *

Novelty: introduction

→ Relevant prior-art references (post-AIA):

- § 102(a)(1): things "patented"
- § 102(a)(1): things "described in a printed publication
- § 102(a)(1): things "in public use, on sale, or otherwise available to the public"
- § 102(a)(2): "described in a patent issued under section 151 … nam[ing] another inventor"
- § 102(a)(2): "described in … an application for patent published or deemed published under section 122(b) … nam[ing] another inventor"

Anticipation: the basics



United States Patent [19]
Clay

[11] 4,111,727
[45] Sep. 5, 1978

[54] WATER-IN-OIL BLASTING COMPOSITION

[76] Inventor: Robert B. Clay, 728 West 3800 South St., Bountiful, Utah 84010

[21] Appl. No.: 834,772

[22] Filed: Sep. 19, 1977

[51] Int. Cl.² C06B 45/00

[52] U.S. Cl. 149/2; 149/46; 149/60; 149/61; 149/76; 149/83

[58] Field of Search 149/46, 60, 61, 76, 149/2, 83

[56] References Cited
U.S. PATENT DOCUMENTS

3,765,967 10/1973 Funk et al. ..... 149/46 X

Primary Examiner—Stephen J. Lechert, Jr.

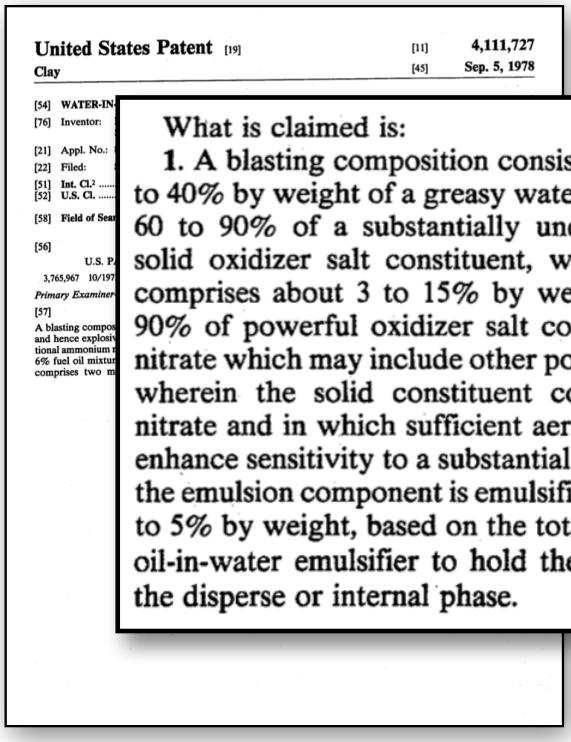
[57] ABSTRACT

A blasting composition is disclosed having bulk density and hence explosive energy superior to that of conventional ammonium nitrate fuel oil mixtures, e.g. 94% AN, 6% fuel oil mixtures, but of nearly comparable cost. It comprises two major constituents blended together, namely, (1) about 10 to 40% by weight of a water in oil emulsion which includes aqueous solution of a powerful oxidizer salt as the disperse or inner phase and an oil serving to provide oxygen balance as the external or continuous phase, this emulsion being mixed or blended with (2) a mass of essentially solid particulate oxidizer salt in proportions of 60 to 90% of the total. The emulsion, which may be also a slurry, is mixed to partially but not completely fill the pores or interstices in the solid particulate mass, thereby to increase bulk density, part of the spaces being left unfilled to provide aeration and active sites or "hot spots" to facilitate detonation of the composition by standard detonation devices. Ammonium nitrate preferably constitutes most or all the particulate solid salts; the dissolved salts in the emulsion or slurry preferably comprise a mixture of AN with calcium nitrate to enhance solubility. Other salts such as nitrates, chlorates and perchlorates of ammonium, alkali metals and alkaline earth metals may be added or substituted, at least in part.

21 Claims, No Drawings

U.S. Patent No. 4,111,727

→ "Water-in-oil blasting composition"



United States Patent [19]
Clay

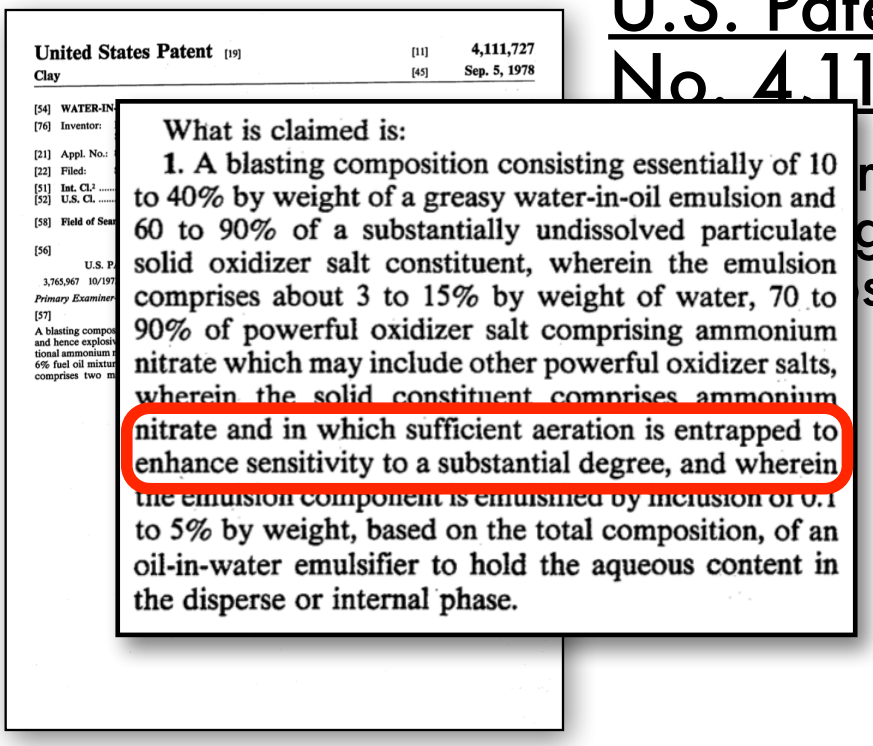
[11] 4,111,727
[45] Sep. 5, 1978

What is claimed is:

1. A blasting composition consisting essentially of 10 to 40% by weight of a greasy water-in-oil emulsion and 60 to 90% of a substantially undissolved particulate solid oxidizer salt constituent, wherein the emulsion comprises about 3 to 15% by weight of water, 70 to 90% of powerful oxidizer salt comprising ammonium nitrate which may include other powerful oxidizer salts, wherein the solid constituent comprises ammonium nitrate and in which sufficient aeration is entrapped to enhance sensitivity to a substantial degree, and wherein the emulsion component is emulsified by inclusion of 0.1 to 5% by weight, based on the total composition, of an oil-in-water emulsifier to hold the aqueous content in the disperse or internal phase.

U.S. Patent No. 4,111,727

r-in-oil
g
sition"



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U.S. Patent No. 4,111,727

r-in-oil
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- What are the effective date of the prior-art reference and the critical date of the patent? – they're prior art here
- Does the information disclosed in the prior-art reference anticipate the patent claim(s)?

Clay claim	Egly reference	Butterworth reference
1. A blasting composition consisting essentially of		
10 to 40% by weight of a greasy water-in-oil emulsion and		
60 to 90% of a substantially undissolved particulate solid oxidizer salt constituent,		
wherein the emulsion comprises about 3 to 15% by weight of water, 70 to 90% of powerful oxidizer salt comprising ammonium nitrate which may include other powerful oxidizer salts,		
wherein the solid constituent comprises ammonium nitrate and		
in which sufficient aeration is entrapped to enhance sensitivity to a substantial degree,		
and wherein the emulsion component is emulsified by inclusion of 0.1 to 5% by weight, based on the total composition, of an oil-in-water emulsifier to hold the aqueous content in the disperse or internal phase.		

Clay claim	Egly reference	Butterworth reference
1. A blasting composition consisting essentially of	✔	✔
10 to 40% by weight of a greasy water-in-oil emulsion and	✔ 20-67%	✔ 30–50%
60 to 90% of a substantially undissolved particulate solid oxidizer salt constituent,	✔ 33–80%	✔ 50–70%
wherein the emulsion comprises about 3 to 15% by weight of water, 70 to 90% of powerful oxidizer salt comprising ammonium nitrate which may include other powerful oxidizer salts,	✔ 15–35% water; 50–70% NH_4NO_3	✔ 7–27% water; 65–85% NH_4NO_3
wherein the solid constituent comprises ammonium nitrate and	✔	✔
in which sufficient aeration is entrapped to enhance sensitivity to a substantial degree,	???	???
and wherein the emulsion component is emulsified by inclusion of 0.1 to 5% by weight, based on the total composition, of an oil-in-water emulsifier to hold the aqueous content in the disperse or internal phase.	✔ 1–5%	✔ 0.5–15%

Atlas Powder

→ So what counts as "sufficient aeration … entrapped to enhance sensitivity to a substantial degree"?

- Interstitial air between oxidizer particles?
- Porous air within pores of oxidizer particles?

Atlas Powder

→ So what counts as "sufficient aeration … entrapped to enhance sensitivity to a substantial degree"?

- Interstitial air between oxidizer particles?
- Porous air within pores of oxidizer particles?

→ Court: "those of ordinary skill in the art … knew that both interstitial and porous air enhance sensitivity."

Atlas Powder

→ Why allow things that are only implicit in the prior art to anticipate a later patent?

Atlas Powder

→ Why allow things that are only implicit in the prior art to anticipate a later patent?

- The patent doesn't actually disclose anything new if it already existed!
- So the patent would take things out of the public domain

Atlas Powder

→ "That which would literally infringe if later in time anticipates if earlier than the date of the invention." *Lewmar Marine, Inc. v. Barient, Inc.*, 827 F.2d 744, 747 (Fed. Cir. 1987)

Atlas Powder

→ Why allow things that are only implicit in the prior art to anticipate a later patent?

- Often prior art is written in slightly different language or makes slightly different assumptions

"Because 'sufficient aeration' was inherent in the prior art, **it is irrelevant that the prior art did not recognize the key aspect of Dr. Clay's alleged invention** — that air may act as the sole sensitizer of the explosive composition. An inherent structure, composition, or function is not necessarily known. Once it is recognized that interstitial and porous air were inherent elements of the prior art compositions, the assertion that air may act as a sole sensitizer amounts to **no more than a claim to the discovery of an inherent property of the prior art, not the addition of a novel element**."

Atlas Powder, Nard at 251

Schering v. Geneva Pharmaceuticals

→ Two patents:

- '233 (on loratadine / Claratin)
- '716 (on DCL, a metabolite of Claratin)

→ The '716 patent is an example of evergreening

Schering v. Geneva Pharmaceuticals

→ DCL:

- Was produced in the body
- …but no one knew
- …but, it was detectable and necessarily made, as part of the process of using Claratin

"Where … the result is **a necessary consequence of what was deliberately intended**, it is of no import that the article's authors did not appreciate the result."

Schering (citing and quoting *MEHL/Biophile Int'l Corp. v. Milgraum*, 192 F.3d 1362, 1366 (Fed. Cir. 1999))

"[I]f granting patent protection on the disputed claim would allow the patentee to **exclude the public from practicing the prior art**, then the claim is anticipated."

Schering (citing and quoting *Atlas Powder Co. v. IRECO Inc.*, 190 F.3d 1342, 1346 (Fed. Cir. 1999))

"known or used by others"

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or

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(d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States, or

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(b) Exceptions.—

* * *

Gayler v. Wilder

→ Patent: fireproof chests using plaster of Paris

→ Who was the first inventor?

Gayler v. Wilder

→ Patent: fireproof chests using plaster of Paris

→ Who was the first inventor?

- James Conner – made one between 1829 and 1832
- Wilder (patent holder) didn't make one until the 1840s

Gayler v. Wilder

→ So what's the dispute, if Wilder wasn't the first inventor?

Gayler v. Wilder

→ So what's the dispute, if Wilder wasn't the first inventor?

- There is no generic rule saying that someone has to be the first inventor to receive a patent
- They have to be an inventor, and
- There can't be sufficient evidence of an earlier invention that was sufficiently conveyed to the public

Gayler v. Wilder

→ Consistent with the statute?

- "known or used by others in this country"
- Probably not required by the text
- But normatively desirable under the patent bargain?

Gayler v. Wilder

→ Analogy: foreign knowledge

- Doesn't count as prior art because it is unlikely to benefit the (American) public
- Similarly, things previously invented, but then abandoned / lost, don't benefit the public
- But at least it's explicit in the text with foreign knowledge!

→ This is a running theme in novelty: policy-oriented glosses on the statutory text

Rosaire v. Baroid Sales Division

→ Patent: method for prospecting for oil or natural gas

→ Again, the patent holder wasn't the first inventor:

- Brief admits (!!) that Teplitz conceived of the idea first (Nard 259)

Rosaire v. Baroid Sales Division

→ This time, the prior use is invalidating. Why?

Rosaire v. Baroid Sales Division

→ This time, the prior use is invalidating. Why?

- It was a public, non-secret use: "done openly and in the ordinary course of the activities of the employer, a large producing company in the oil industry"

"With respect to the argument advanced by appellant that the lack of publication of Teplitz's work deprived an alleged infringer of the defense of prior use, **we find no case which constrains us to hold that where such work was done openly and in the ordinary course of the activities of the employer, a large producing company in the oil industry, the statute is to be so modified by construction as to require some affirmative act to bring the work to the attention of the public at large**."

Rosiare v. Baroid Sales Division, Nard at 260

Rosaire v. Baroid Sales Division

→ Discussion question: Does this rule make sense?

Rosaire v. Baroid Sales Division

→ Does this make sense?

- Has the first inventor contributed anything to society?
- Would a patent take away the first inventor's right to practice his/her invention?
- Is there a better rule that would be easy to apply?

Rosaire v. Baroid Sales Division

→ How important is incentivizing public disclosure?

- If the patent bargain is really key, the patentee here contributed a lot to society
- But it's hard to separate the cases where they've contributed a lot from the ones where they're just free-riding on common knowledge

Secret uses

→ Time 0: Company X invents a novel process and uses it as a trade secret to produce widgets

→ Time 1: Company Y invents the same process and files a patent application

→ Is Company X's use prior art to Company Y's patent application?

Secret uses

→ Time 0: Company X invents a novel process and uses it as a trade secret to produce widgets

→ Time 1: Company Y invents the same process and files a patent application

→ Is Company X's use prior art to Company Y's patent application?

→ No. A trade secret is not "work done openly and in the ordinary course of the activities of the employer," so not a public use.

Secret uses

→ Time 0: Company X invents a novel process and uses it to produce widgets, while giving public tours that show the process

→ Time 1: Company Y invents the same process and files a patent application

→ Is Company X's use prior art to Company Y's patent application?

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→ Yes. "The nonsecure use of a claimed process in the usual course of producing articles for commercial purposes is a public use." *WL Gore v Garlock.*

Secret uses

→ Time 0: Company X invents a novel process and tries to use it to produce widgets, but later abandons the process as unworkable without successfully producing any widgets

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→ No. An abandoned experiment that has not become known to the public is not a public use. *Picard v. United Aircraft.*

Secret uses

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→ Yes. Something that has been reversed engineered is not a trade secret, and so is a public use.