

Writing/Drawing/Modeling Inventions: Regimes of Description and the ‘Intellectual’ in IP, France-United States ca. 1790-1850

Jérôme Baudry

Swiss Federal Institute of Technology
Lausanne

From Privilege to Patent in France, 1791

- in discourse: from royal grace to natural rights & property:

“every new idea (...) originally belongs to the one who conceived it (...) it would be an attack on the essence of the rights of man not to consider an industrial discovery as the property of its author.”

Preamble of the 1791 law

From Privilege to Patent in France, 1791

- in discourse: from royal grace to natural rights & property:

“every new idea (...) originally belongs to the one who conceived it (...) it would be an attack on the essence of the rights of man not to consider an industrial discovery as the property of its author.”

Preamble of the 1791 law

- in practice: from prior examination to registration & specification:

“the inventor shall join an exact description of the principles, means and processes that constitute the discovery, as well as the eventual related plans, sections, drawings and models”

1791 law, art. 4

Questions

- how did patentees choose to describe their inventions?

Questions

- how did patentees choose to describe their inventions?
- which textual, graphical and other representational styles did they use?

Questions

- how did patentees choose to describe their inventions?
- which textual, graphical and other representational styles did they use?
- how did these regimes of description shape (if they did) the emerging legal categories of *intellectual* property?

Captions: Ex. of a carding & spinning machine patented by Grangier, 1791

Description of the major pieces composing the mechanism, or machinery, which by its movement, cards and spins wool and cotton; makes reels and skeins of thread while carding and spinning.

- A. Shaft being moved by wheel B that acts on the whole mechanism.
- B. Wheel being run by water, a horse or any other necessary force; that gives movement to the entire machinery.
- C. Wheel which whirling makes the two pieces Z turn.
- D. Wheel or corona fitted with cards all around, which is activated by shaft A.
- E. Other wheel, or corona fitted with elastic cards, which takes its movement by gearing M. [...]

Grammatical subjects: Ex. of the endless saw patented by Albert, 1799

From A to B is the tree of the saw C, which holds the pulley D at one end, the latter receives its rotating motion through an endless string. On the other end of the tree A B is a pinion II; so that it communicates to the carriage I, a uniform motion in proportion to the speed of the saw, this pinion II is meshed with [engrène] a wheel K, of which the pinion L is meshed with the wheel M and its pinion N is meshed with the wheel O, of which the pinion P is meshed with the rack Q which is placed below the carriage I [...]

Rational reconstruction: Ex. of the steam engines (*pompes à feu*) patented by the Périer brothers, 1792

The Périer brothers have sought ways to extend the use of this machine and to make it more economical, by avoiding the usual construction works and buildings layout required by its establishment. They have thought that it would an important service given to the Arts, if one could compose this machine so that it could be placed inside a workshop at no additional expense & could make it, so to speak, portable.

Rational reconstruction: Ex. of the steam engines (*pompes à feu*) patented by the Périer brothers, 1792

The Périer brothers have sought ways to extend the use of this machine and to make it more economical, by avoiding the usual construction works and buildings layout required by its establishment. They have thought that it would an important service given to the Arts, if one could compose this machine so that it could be placed inside a workshop at no additional expense & could make it, so to speak, portable.

Consequently, they have imagined a machine of which the cylinder A is laid down horizontally and fixed on the tank B or injection-water reservoir [...]

Theoretical principles: Ex. of a stove (*poêle à grill aérien*) patented by Schmidt, 1799

The physical principle of this invention can be found in this general law of hydrostatics: fluids tend to equilibrium, and the following consequences of this law:

1° two columns of fluids or of portions of a same fluid with different gravity, in communication through their base, the heaviest column lifts the column which is momentarily lighter, or which becomes so through the expansion of its parts or through being mixed with a lighter fluid.

2° fluids or portions of fluids of different gravity place themselves in layers over one another, in the order of their gravity, so that the heaviest always occupies the inferior section.

Theoretical principles: Ex. of a stove (*poêle à grill aérien*) patented by Schmidt, 1799

The physical principle of this invention can be found in this general law of hydrostatics: fluids tend to equilibrium, and the following consequences of this law:

1° two columns of fluids or of portions of a same fluid with different gravity, in communication through their base, the heaviest column lifts the column which is momentarily lighter, or which becomes so through the expansion of its parts or through being mixed with a lighter fluid.

2° fluids or portions of fluids of different gravity place themselves in layers over one another, in the order of their gravity, so that the heaviest always occupies the inferior section.

A, channel which conducts an atmospheric air stream in the chamber or reservoir B. C, one of the walls of this chamber, pierced with openings to receive the tubes or branches of the aerial grill E [...]

Titles: Exs. of Thilorier and Stone & Henderson

Patent taken by Thilorier in 1796 for “the art of using air and water to overcome their own resistance and that of other bodies”

Titles: Exs. of Thilorier and Stone & Henderson

Patent taken by Thilorier in 1796 for “the art of using air and water to overcome their own resistance and that of other bodies”

Patent taken by Stone & Henderson in 1804 for “a new mechanical principle, designed to replace labor, by joining the sides of the segments of any flexible material”

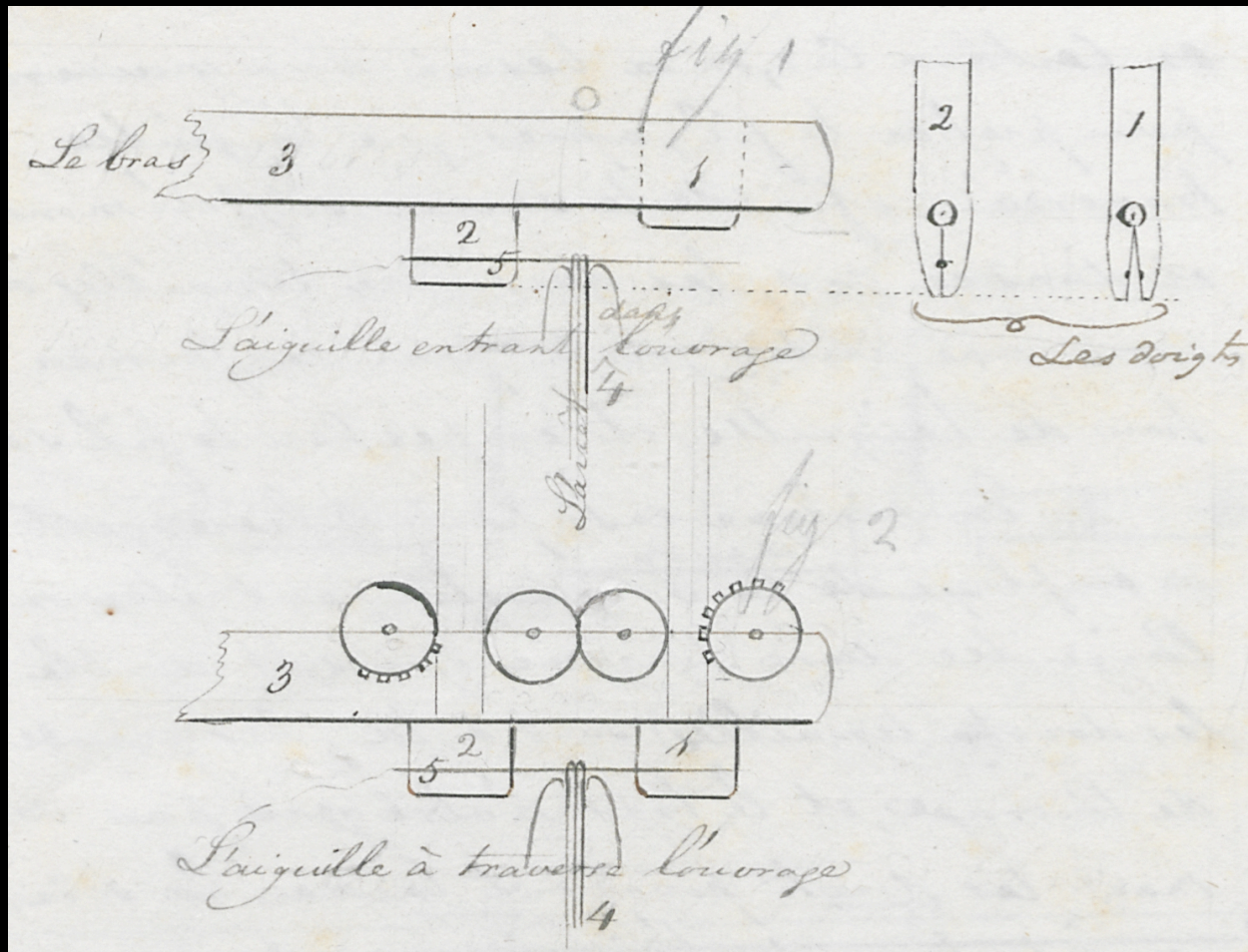
Titles: Exs. of Thilorier and Stone & Henderson

Patent taken by Thilorier in 1796 for “the art of using air and water to overcome their own resistance and that of other bodies”

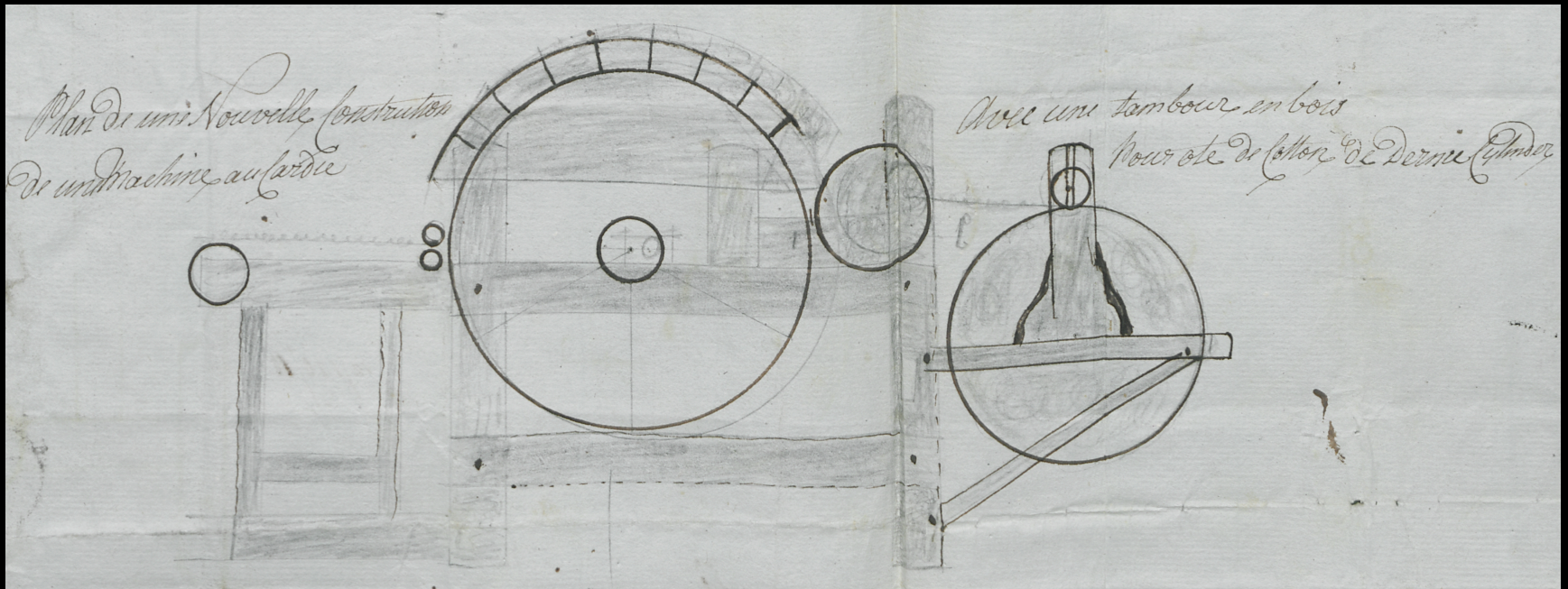
Patent taken by Stone & Henderson in 1804 for “a new mechanical principle, designed to replace labor, by joining the sides of the segments of any flexible material”

cf. Marx on James Watt (*Capital*, ch. 15, “Machinery and Modern Industry”): “The greatness of Watt’s genius showed itself in the specification of the patent that he took out in April, 1784. In that specification his steam-engine is described, not as an invention for a specific purpose, but as an agent universally applicable in Mechanical Industry.”

Drawings: Ex. of Stone & Henderson, 1804



Drawings: Ex. of Browne & Pickford, 1792



Inventor & Invention in Patent Specifications

persona of the inventor:

- author
- savant
- “entrepreneur”

Inventor & Invention in Patent Specifications

persona of the inventor:

- author
- savant
- “entrepreneur”

image of the invention:

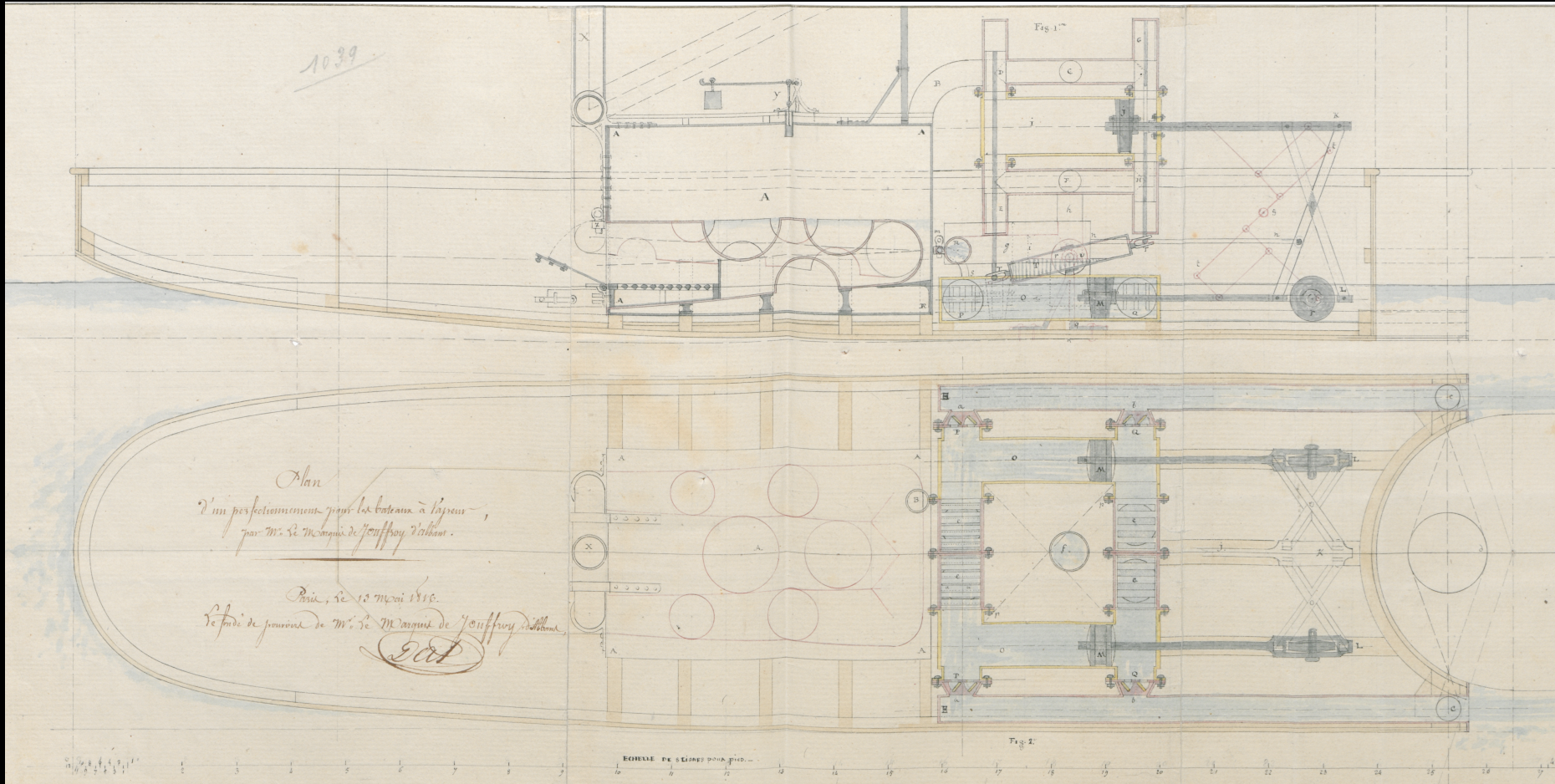
- reification
- abstraction

French Patents, 1791-1844: Some statistics

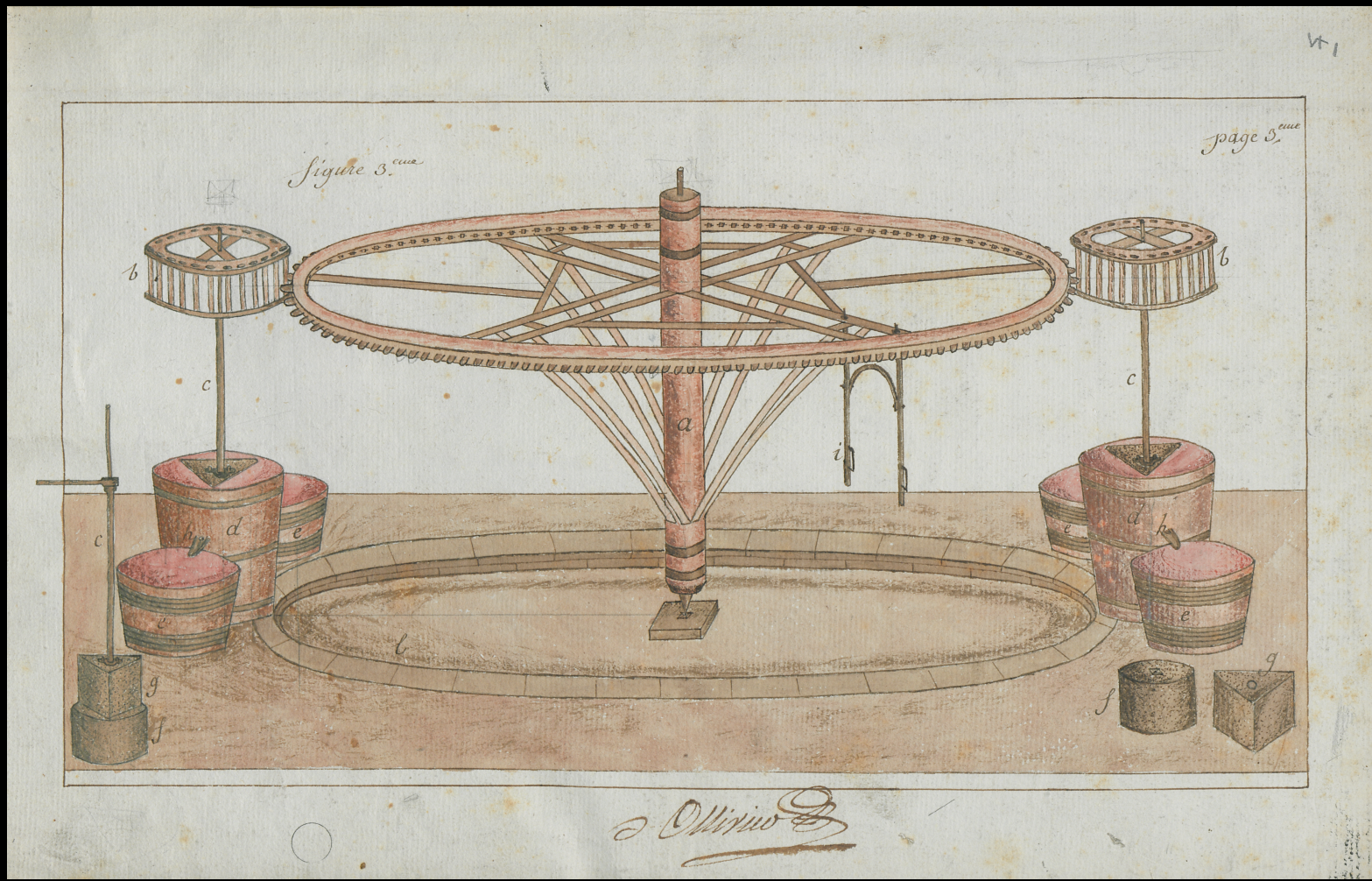
~ 3/4 of all patents come with at least one drawing

less than 10% come with a model or samples

Ex. of an analytical drawing: Improved steamboat patented by Jouffroy d'Abbans, 1816



Ex. of a realist drawing: Mill patented by Olivier, 1793



French Patents, 1791-1844:

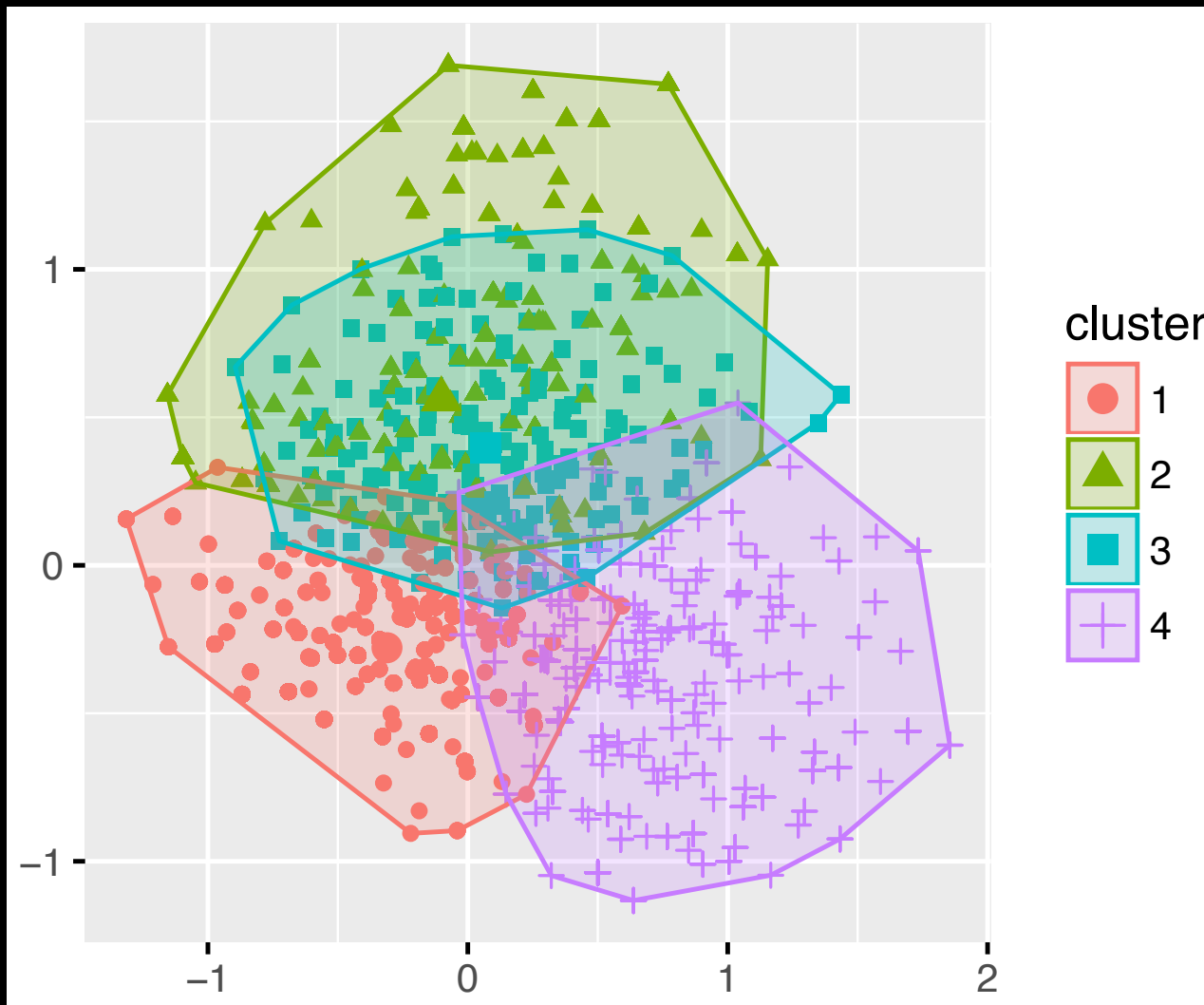
Some statistics

~ 3/4 of all patents come with at least one drawing

less than 10% come with a model or samples

	Model	Drawing	Analytical	Schematic	Realist
1791-1815	17.9%	61.4%	82.6%	41.9%	58.9%
1816-1830	21.0%	73.5%	86.9%	55.1%	44.9%
1831-1843	8.6%	73.6%	90.0%	66.8%	33.2%

Patents & Representation



Two modes of representation (ideal-type)

capital-intensive sectors

means of production
(machines),
technological systems
(transportation)

complex texts

analytical & schematic
drawings

Two modes of representation (ideal-type)

capital-intensive sectors

means of production
(machines),
technological systems
(transportation)

complex texts

analytical & schematic
drawings

low-capital sectors

consumer goods (health,
office supplies, luxury &
novelty items)

simple texts

models, samples, realist
drawings

Two modes of representation (ideal-type)

capital-intensive sectors

means of production
(machines),
technological systems
(transportation)

complex texts

analytical & schematic
drawings

low-capital sectors

consumer goods (health,
office supplies, luxury &
novelty items)

simple texts

models, samples, realist
drawings

representation as
reproduction

IP as brand or quality
signal

Two modes of representation (ideal-type)

capital-intensive sectors

means of production
(machines),
technological systems
(transportation)

complex texts

analytical & schematic
drawings

representation as
abstraction

IP as 'intellectual'
property

low-capital sectors

consumer goods (health,
office supplies, luxury &
novelty items)

simple texts

models, samples, realist
drawings

representation as
reproduction

IP as brand or quality
signal

American Patents, 1790-1836: Some Statistics

1790: examination + models a requirement

1793: end of examination + models no longer a requirement

American Patents, 1790-1836: Some Statistics

1790: examination + models a requirement

1793: end of examination + models no longer a requirement

between 1790 and 1823, more than half of all patents come with a model

between 1823 and 1836, more than 80% of all patents come with a model

American Patents, 1790-1836: Some Statistics

1790: examination + models a requirement

1793: end of examination + models no longer a requirement

1836: examination + models a requirement

between 1790 and 1823, more than half of all patents come with a model

between 1823 and 1836, more than 80% of all patents come with a model

American Patents, 1790-1836: Some Statistics

1790: examination + models a requirement

1793: end of examination + models no longer a requirement

1836: examination + models a requirement

between 1790 and 1823, more than half of all patents come with a model

between 1823 and 1836, more than 80% of all patents come with a model

models especially frequent for pumps, presses, looms, nail cutting machines, steamboats

Concluding remarks

1) France & drawings / U.S. & models:
paradox?

Concluding remarks

- 1) France & drawings / U.S. & models:
paradox?
- 2) what's in a "regime of description"?

Concluding remarks

- 1) France & drawings / U.S. & models:
paradox?
- 2) what's in a "regime of description"?
- 3) mediation between media and legal
productivity

Concluding remarks

- 1) France & drawings / U.S. & models: paradox?
- 2) what's in a "regime of description"?
- 3) mediation between media and legal productivity
- 4) look at specifications of 'international' patents