

# Un atelier d'horloger de la rue Saint-Denis à Paris

*(Watchmaker's Shop on Rue Saint-Denis in Paris)*

*Prepared by Robert St-Louis, Member of NAWCC Chapter 111  
Presented to Chapter Meeting on Nov. 25, 2018*

*“The love of such a beautiful profession must enter  
your heart, and solely occupy your spirit”*

# Overview

***Introduction to a Parisian watch***

***Technical, historical and social context***

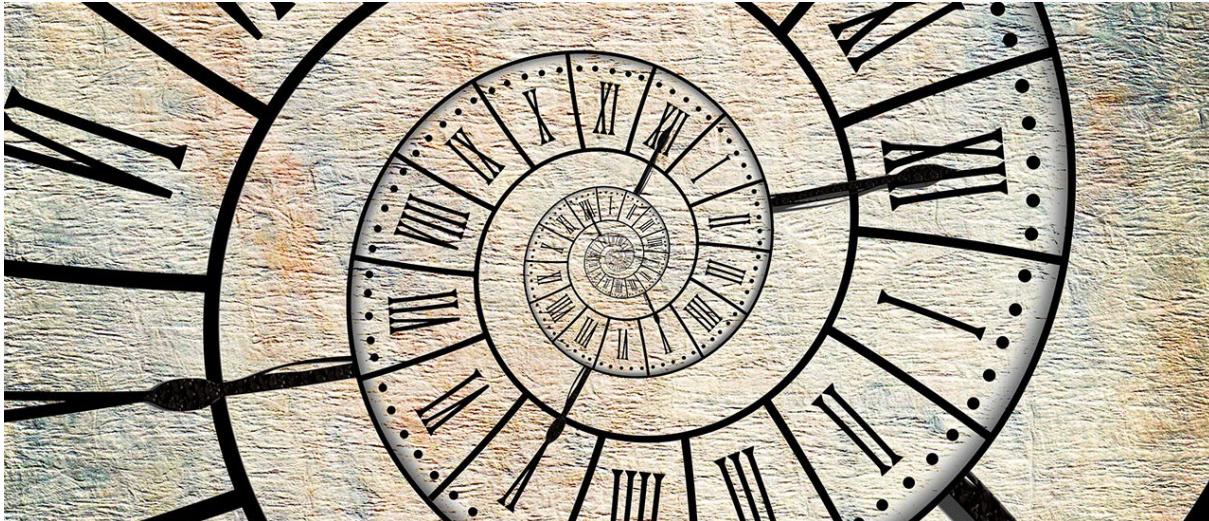
***Who was the horloger?***

***His workshop in Paris***

***Watchmaking practices at the time***

***Two other notable horlogers in that workshop***

***Some details about the watch itself***



## An old watch is a time machine

- It tells the time, obviously
- It allows us to travel through time to its place of origin, and its makers
- This watch takes us to Paris in 1750

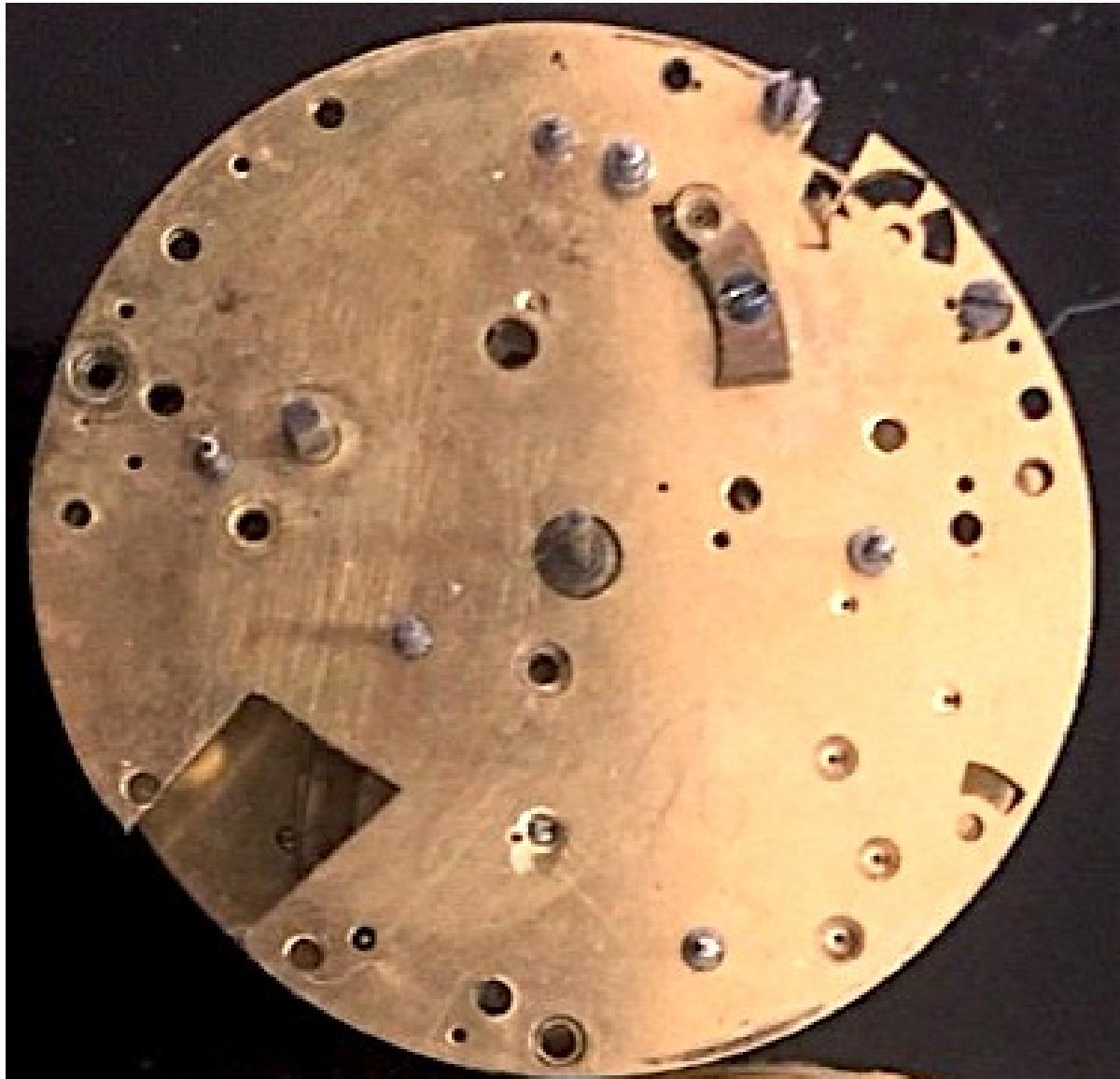


Watch movement bought from France, along with a more complete other French movement

- Markings: “Caron A PARIS N 1244”
- Movement has “Tompion” style silver dial for adjusting hairspring length
- Balance cock style is Louis XV (1715-74)
- All components present between plates
  - Barrel and mainspring
  - Fusee and chain (broken hook)
  - Wheels
  - Verge escapement
- Balance wheel and hairspring complete
- Note markings to right of “Caron”

## Dial side of movement

- Missing motion work, dial, hands
- Why all the holes?
  - A: It was a repeater watch
- Now missing all repeating mechanism
- Common for surviving watch movements to have been separated from their case - usually made of gold - and sold during hard economic times
- Adolphe Chapiro (*La montre française*):
  - Only 2-3 % watches survived from even famous makers (ex. Le Roy)
  - Wars, neglect, outdated designs, ignorance, financial hardships, etc.



What the Caron watch may have looked like, with dial and a gold case  
(this is a Julien Le Roy watch without repeater)



## What other Caron watches looked like (Source: Chapiro, *La Montre Française*)

Caron watch with signed dial

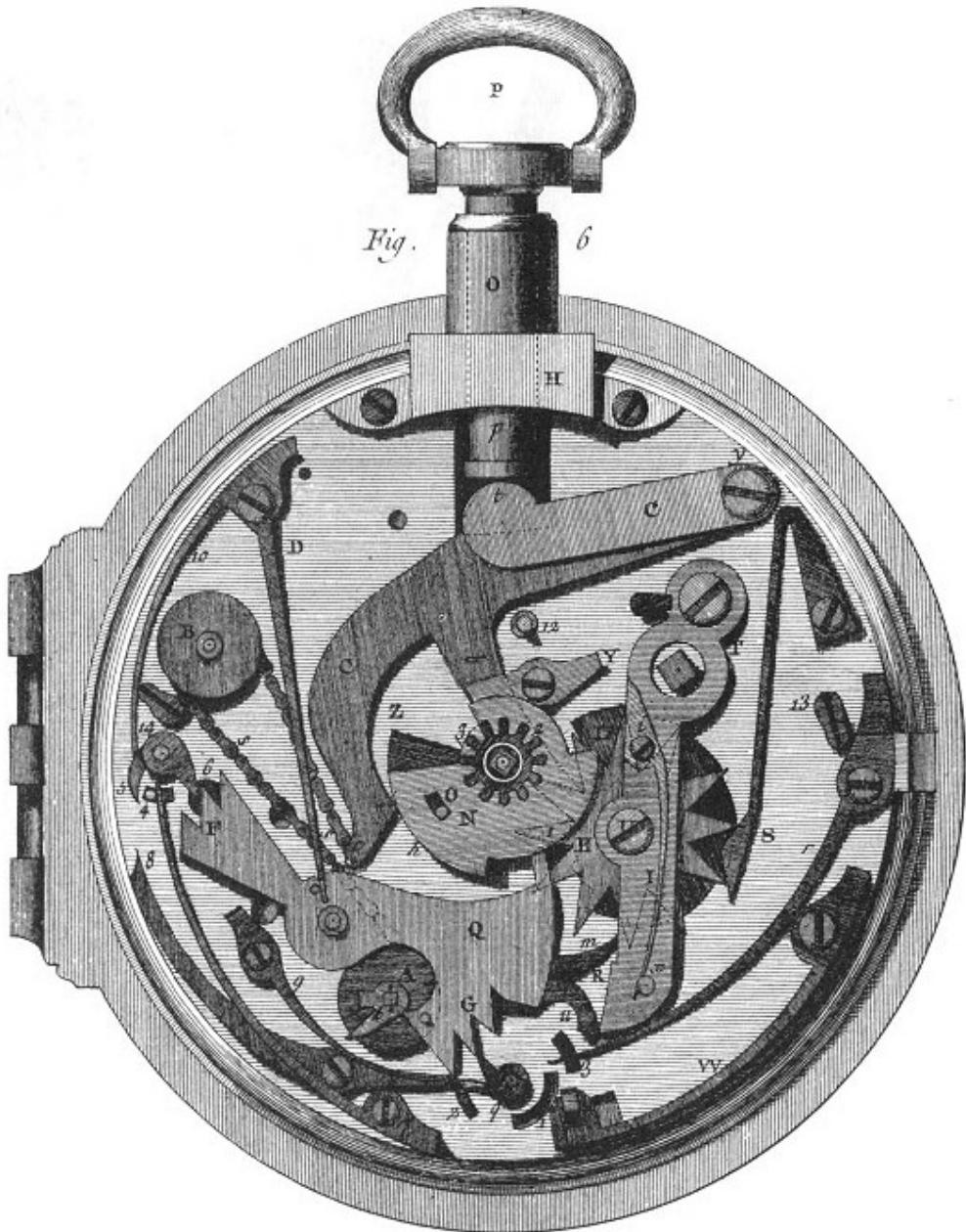


Caron watch with skeleton, jeweled movement





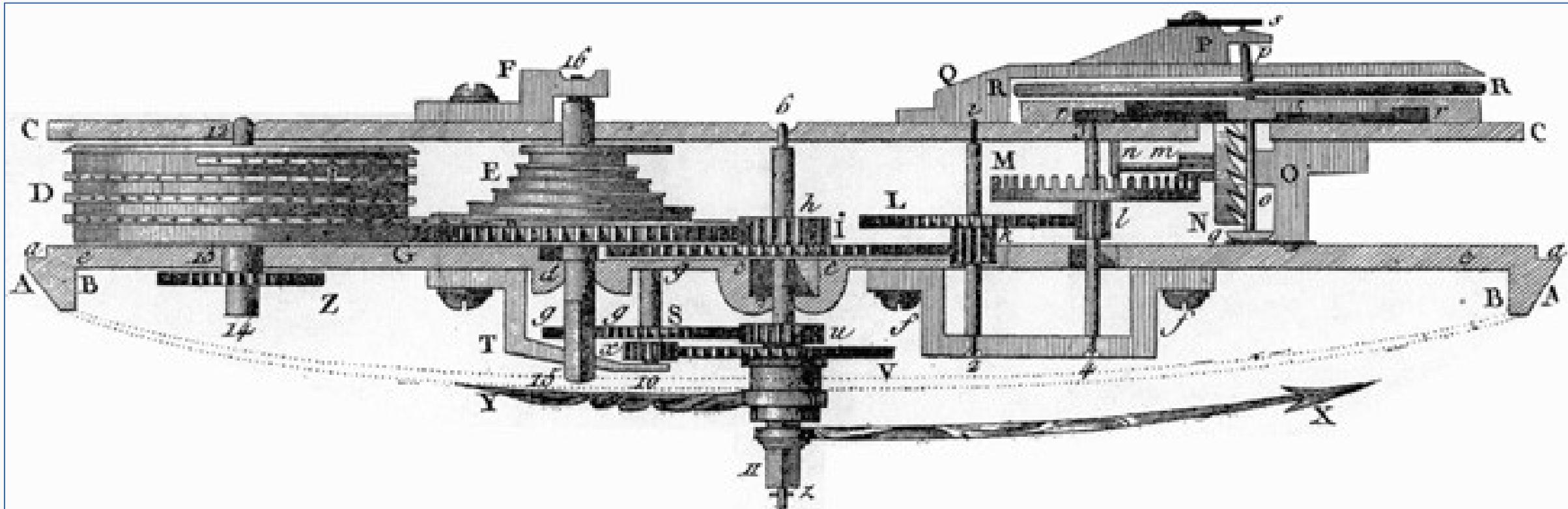
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## Early Repeating Watch Diagram

- Repeating watches invented by Daniel Quare and Barlow in England late 1600's
- Became popular on Continent in 1700's
- Fitted to more costly watches
- Little hammers hit case to mark hours, quarters
- Allowed wearer to know the time in the dark, or in one's pocket, without having to open the watch
- To join Parisian guild of horlogers, an apprentice had to make and submit an alarm or repeating watch for inspection

## Typical verge-fusée watch from around 1680 to mid 1800's



C, G – top and bottom plates

D – mainspring barrel & chain

E – fusée

M – conrate wheel

Y, X – hands

Q – balance wheel cock

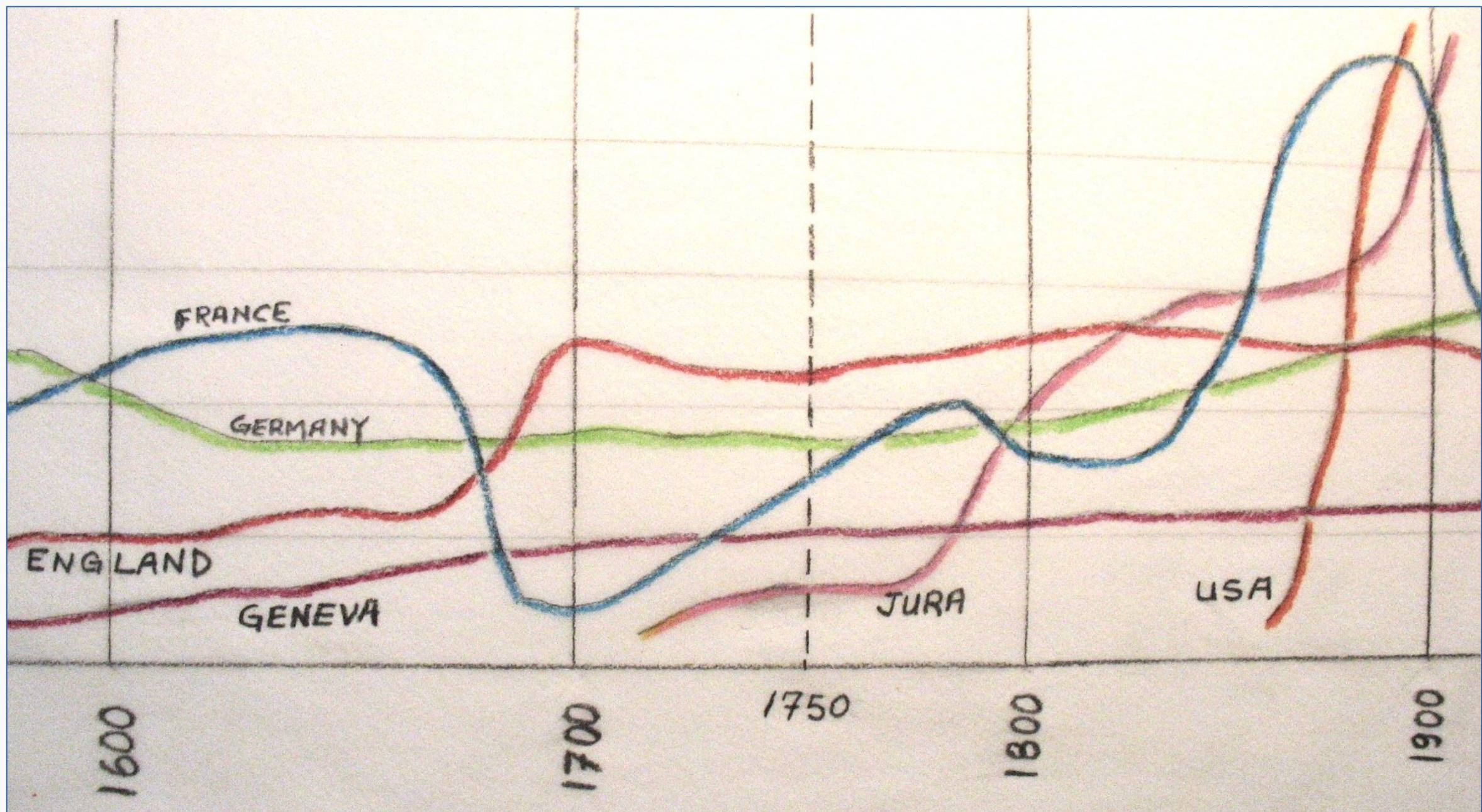
R – balance wheel

O – potency

N – escape (crown) wheel

o-p – verge

## Watchmaking Chronology – from David Christianson, NAWCC Bulletin Dec. 2002



# Horological discoveries / inventions around that time

1724 – Dutertre in Paris invents duplex escapement

1730 – First cuckoo clock produced in Black Forest

1735 – Harrison's first longitude timekeeper

1748 – Pierre Le Roy invents pivoted detent escapement

1751 – Le Plat in Paris makes clock wound by atmos. pressure changes

1759 – Thomas Mudge invents detached lever escapement

1761 – Harrison solves the problem of longitude (No. 4 timekeeper)

1777 – First automatic self-winding watch by Perrelet (Switzerland)

# Who was “Caron”?

André-Charles Caron

- 1698: born 30kms east Paris
- Watchmaker’s son
  - Protestant family - poor
- 1720: joins cavalry regiment
- 1721: moves to Paris,  
renounces his religion,  
becomes Catholic, marries

- 1722: opens his first shop
- Of 14 children, only 6  
survive: 5 daughters, 1 son
- 172-: becomes “horloger du  
Roi”
- 1730: moves to rue St-Denis

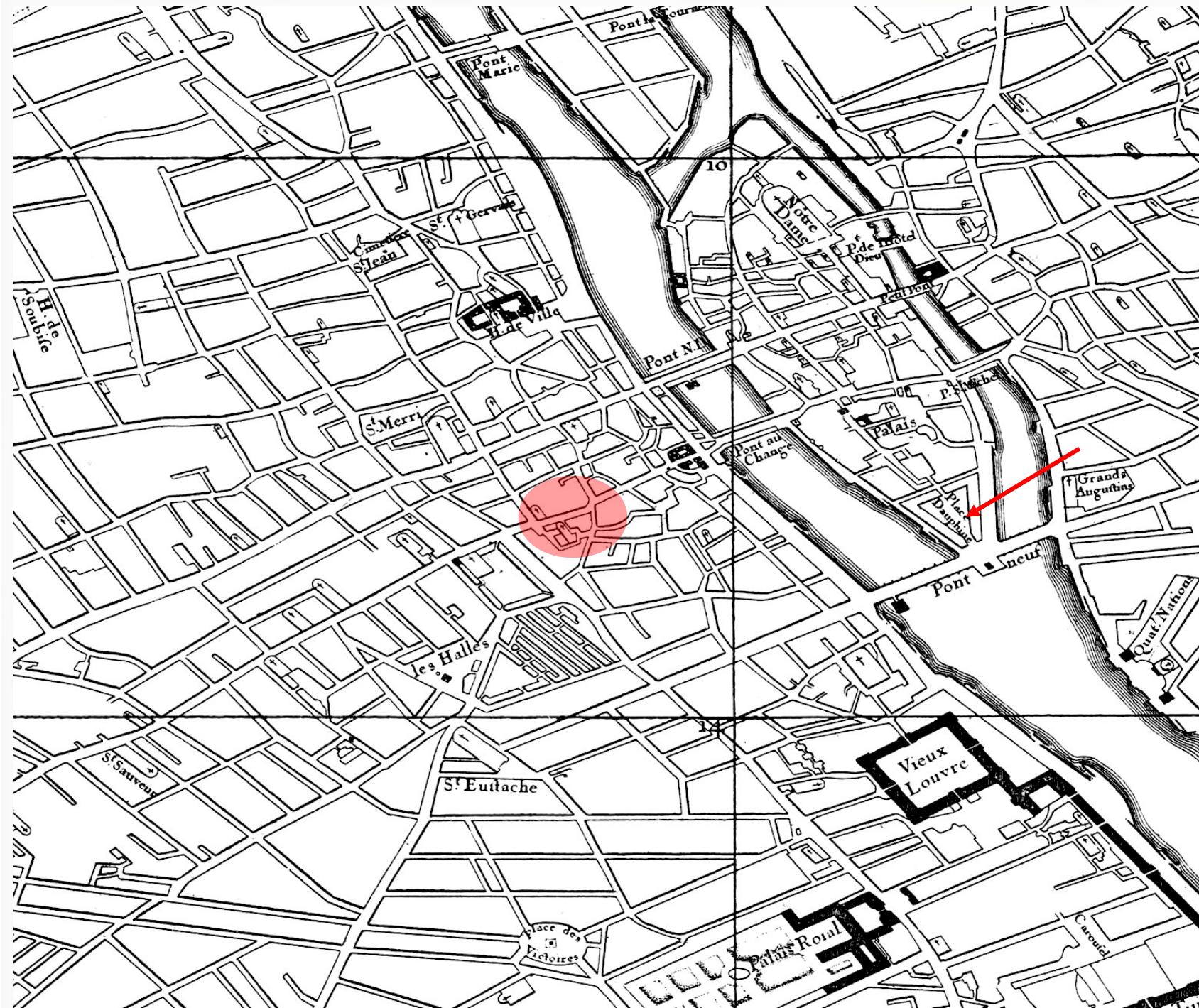
# Who was “Caron”?

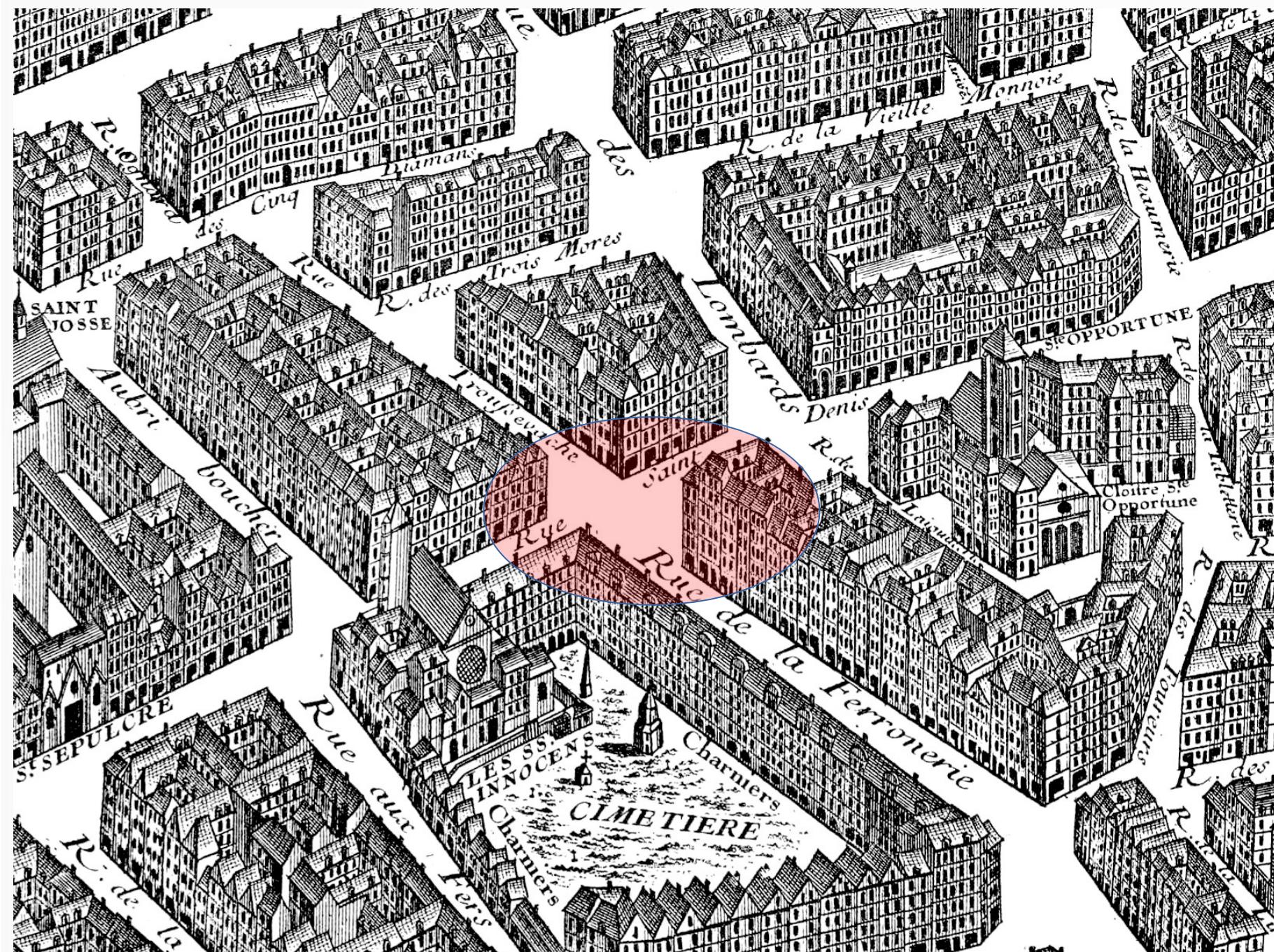
## André-Charles Caron

- 1732: son Pierre Auguste born
- 1744: J-A Lépine joins Caron
- 1745: P-A starts apprenticeship
- 1746: Memoir on dredging machines for rivers and ports
- 1750: Temporarily expulses his son from home and shop
- 1752: P-A one of the most able horlogers in Paris
- 1755: P-A abandons horology
- 1756: Lépine marries one of his daughters, and the two become partners
- 1761: Retires and Lépine takes over his shop and store
- 1772: Lépine moves to Place Dauphine
- 1775: André-Charles dies at age 77

## Bird's Eye view of Paris, circa 1750

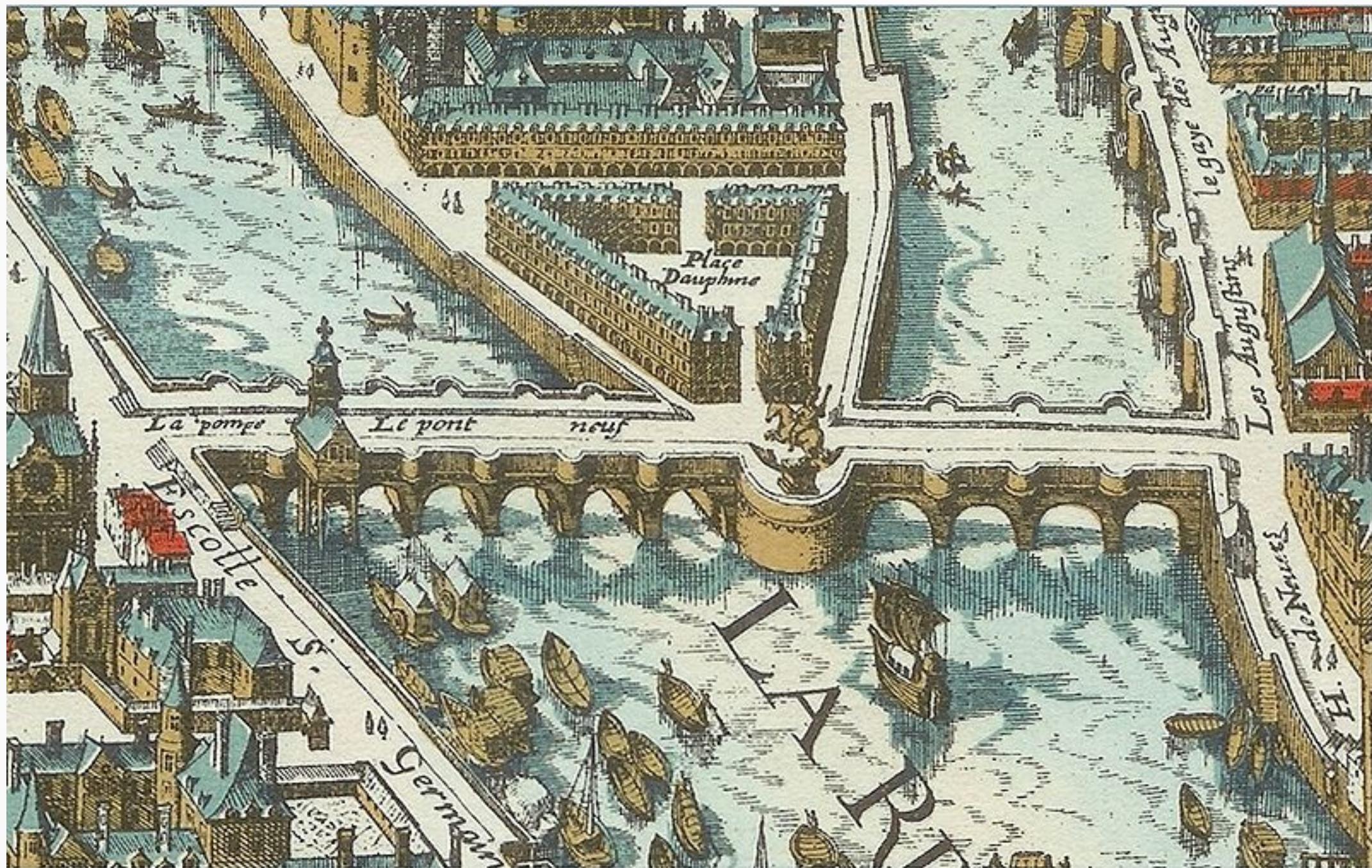
- Shaded area enlarged in following slide
- Arrow points to Place Dauphine on Ile de la Cité
- Seine flows top to bottom





## Enlarged view of Rue Saint-Denis ca. 1750

- Caron's atelier on the bottom floor of one of the buildings in shaded area
  - Chosen for good light exposure
  - Workers had to sit in full-view of passersby
  - Probably lived with family in apartment on a floor above



*Tableau 1 : Répartition des horlogers dans Paris (1751-1812)*

	1751 <sup>8</sup>	1761 <sup>9</sup>	1769 <sup>10</sup>	1781 <sup>11</sup>	1800 <sup>12</sup> (an VII)	1812
Place Dauphine	10	11	10	13	5	4
Rue de Harlay	4	2	9	10	0	2
Rue Saint-Louis (île de la Cité)	3	2	6	16	1	0
Rue Dauphine	2	9	10	10	7	7
Rue Saint-Antoine	2	2	6	8	3	2
Rue Saint-Denis	9	6	17	12	10	7
Rue Saint-Honoré	4	7	13	15	16	17
Rue Saint-Martin	5	0	9	13	10	12
Nombre d'horlogers référencés	183	164	327	405	190	235

Source: Marie-Agnès Dequidt

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# Horloger

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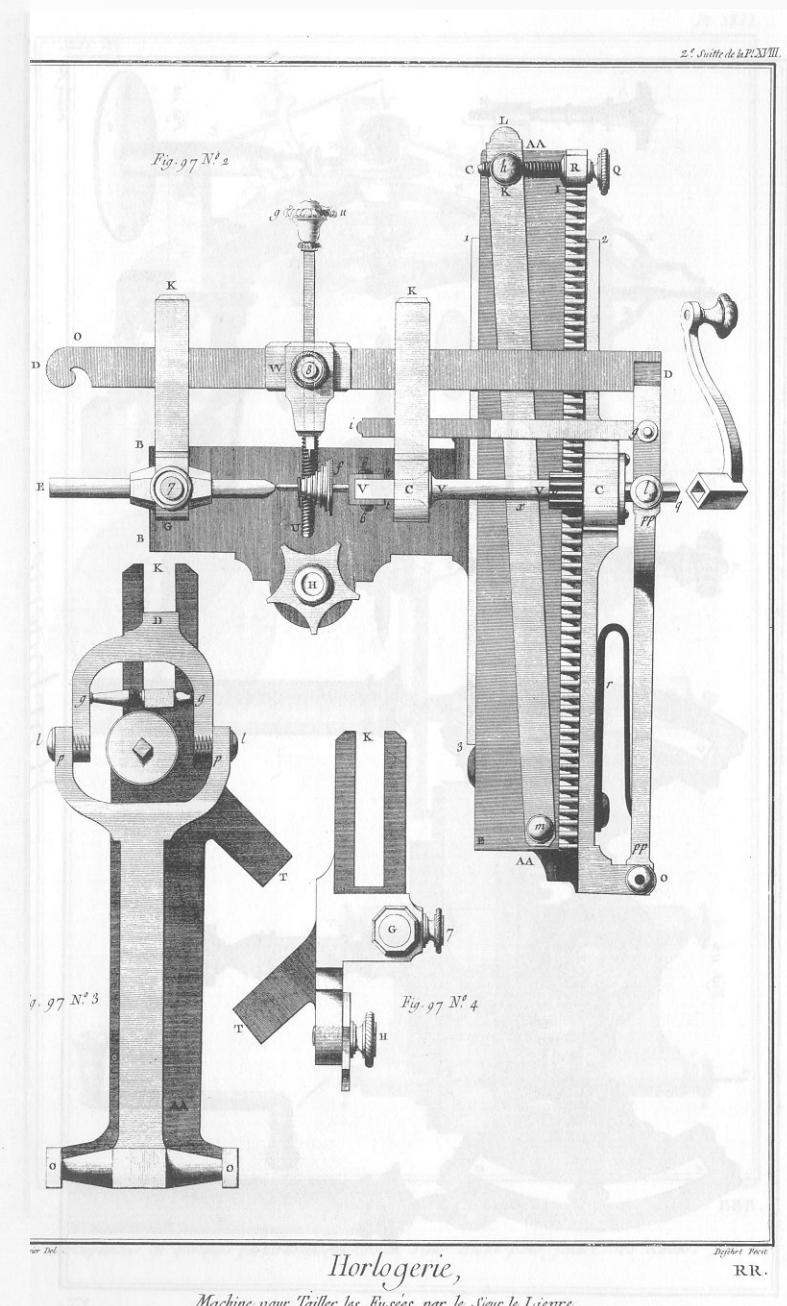
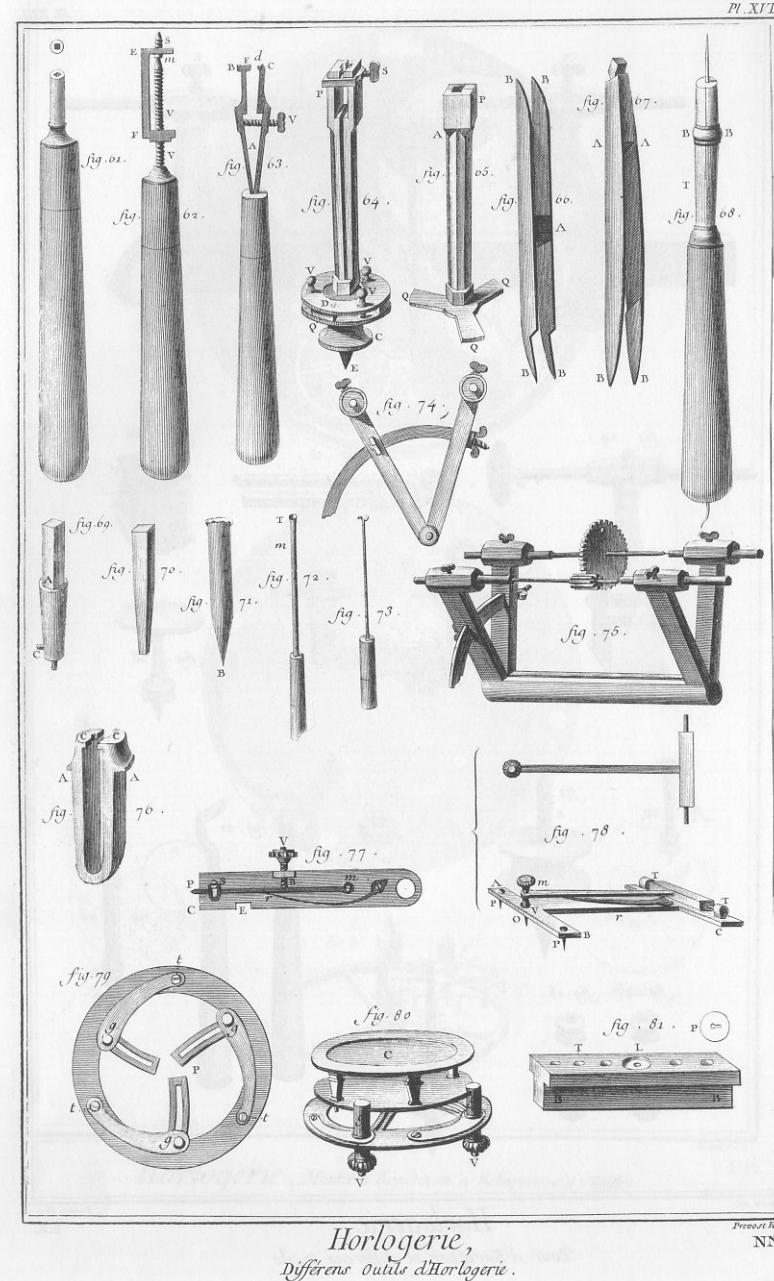
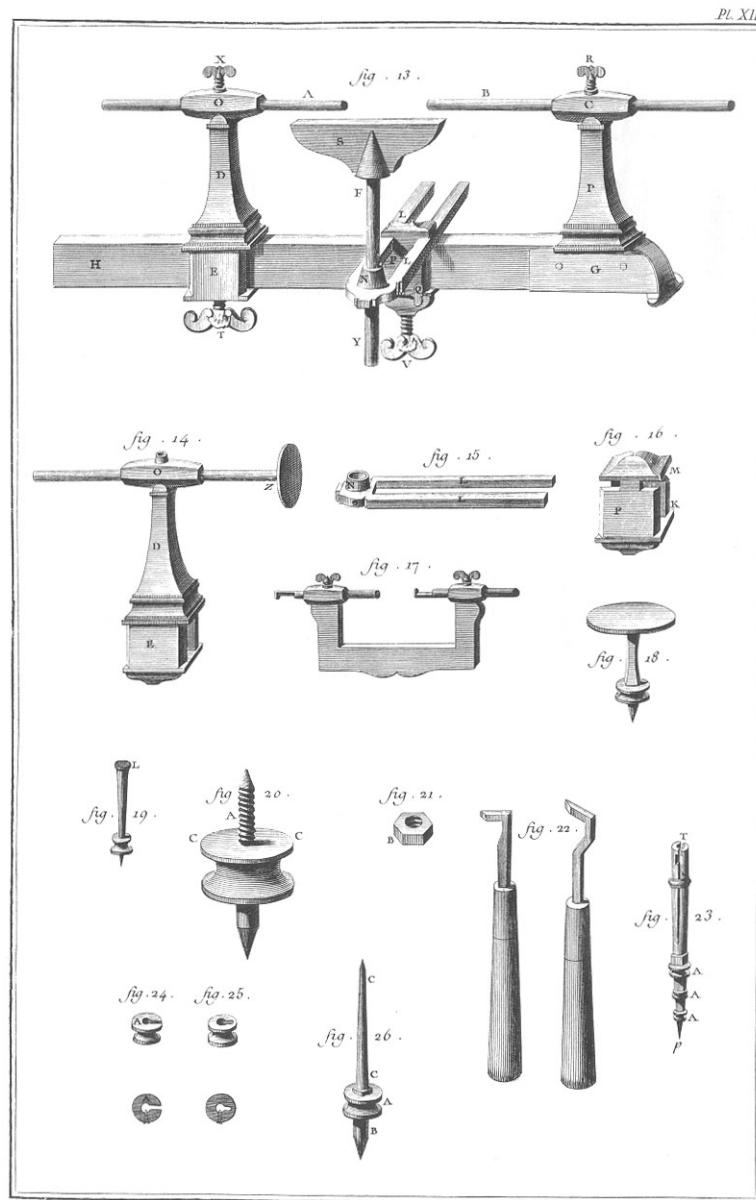


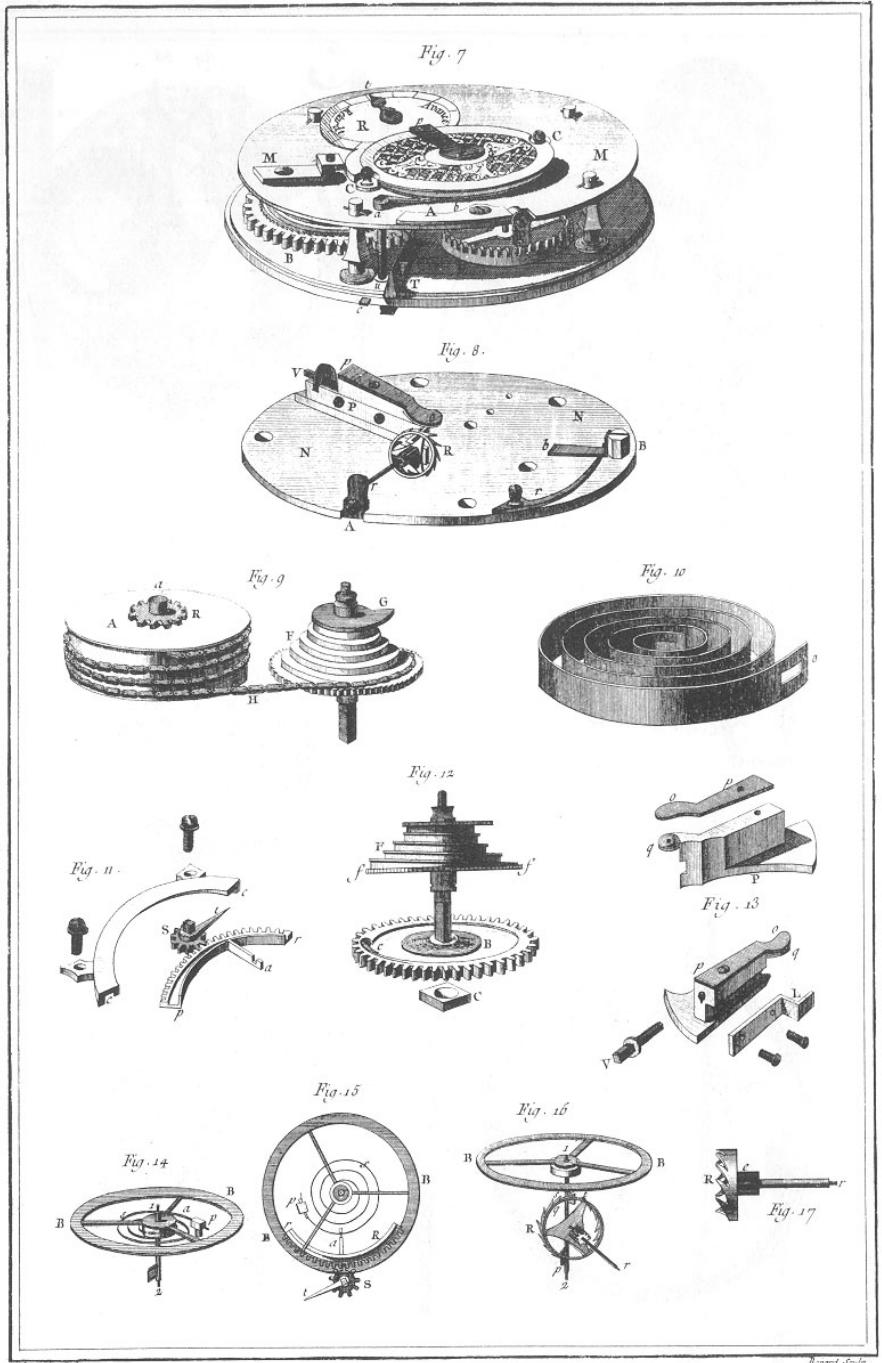
## Old swiss watchmaker at his bench (Perrelet)

- Working on a small lathe (“turns” between centres)
- Spinning the piece with a bow of horsehair
- Looking at work through a small magnifying lens
- Crafting balance staff, or pivots on an arbour?



# Various tools available to watchmakers (source: Encyclopédie Diderot 1751-1772)



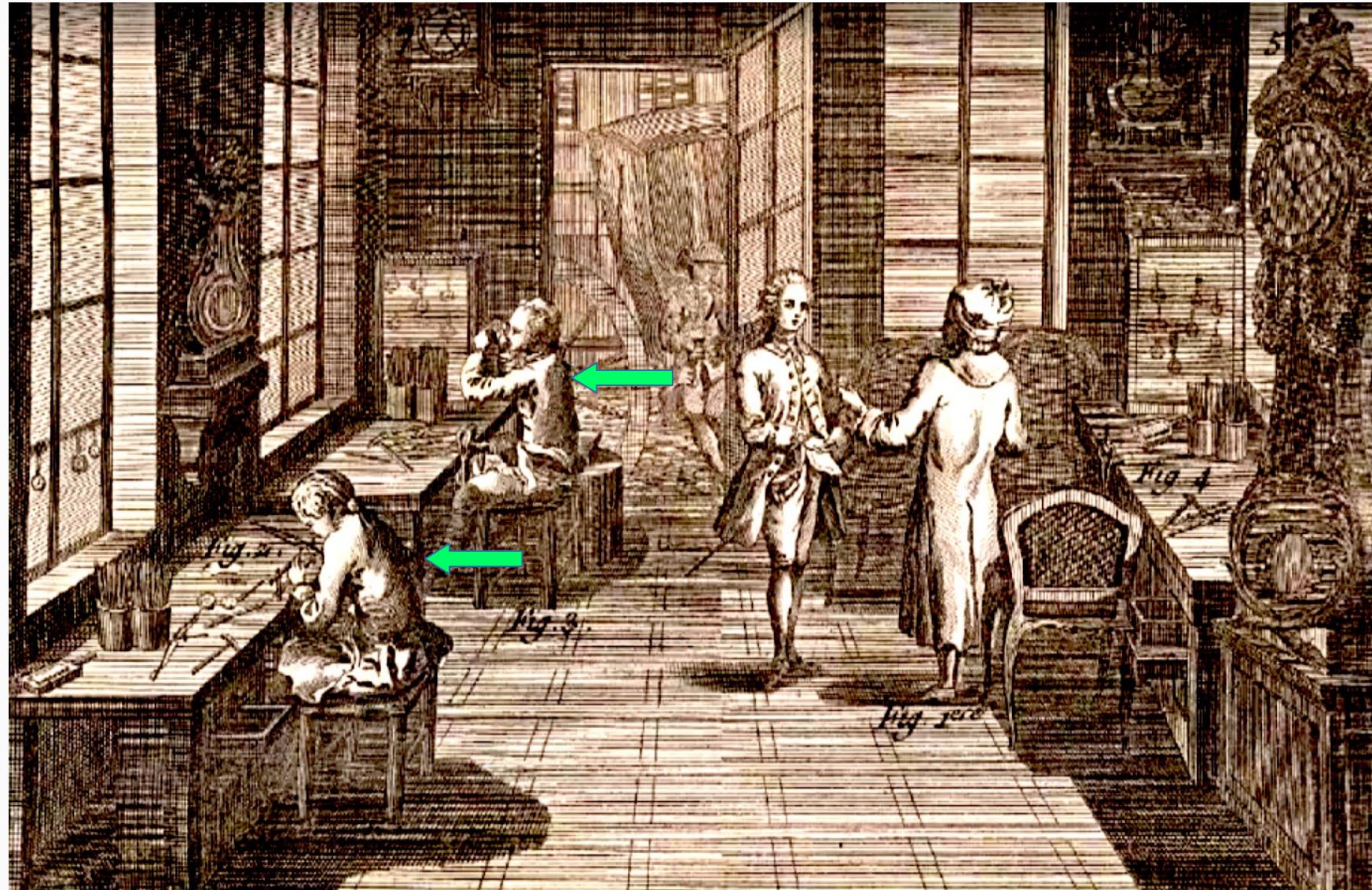


Horlogerie Montre à Roue de rencontre et développemens de plusieurs de ses Parties.

# Watchmaking in Paris ca. 1750

- Individual parts made by various craftsmen(women): plates, wheels, pinions, arbors, screws, fusee, mainspring, hairspring, barrel, potences, glass, case, dial, painting, engraving, gilding, etc etc
- In England, up to 100 different people had a hand in making a watch
- Similar in France, with parts or movements coming from other shops in Paris, in the provinces, or from Geneva or Swiss counties
- Different parts brought together and fashioned into a rough movement
- Watchmaker-Finisher put in escapement, fine tuned movement, fitted it to a case, dial, etc., sold it and serviced it
- By late 1700's, some factories starting to appear in France (Besançon, Beaucourt, Ferney) and Switzerland

# Two fellow *horlogers* in Caron's shop on rue St-Denis





**Pierre-Auguste Caron**  
(aka “Beaumarchais”)  
1732 Paris – 1799 Paris

## Biographical highlights:

- Born in 1732, only son, five sisters
- Musical interests and abilities from a young age
- His father André-Charles starts teaching him in 1745
- Lack of diligence to watchmaking, and nightly musical escapades
- Expelled from home and shop until he agrees to strict conditions
- 1752: Completes his apprenticeship and becomes a great horloger
- 1753-54: Public fight with famous Lepaute over his invention of a double-virgule escapement; vindicated by l'Académie Sciences
- Supplies innovative watches to Royal Family, frequently at Court
- Teaches harp to King's daughters, and leads intimate concerts



**Pierre-Auguste Caron**  
(aka “Beaumarchais”)  
1732 Paris – 1799 Paris

### Biographical highlights:

- Abandons his budding career of horloger in 1755
- Quickly establishes himself as a courtier and assumes official roles
  - André-Charles renounces his profession in 1761 to help him
- Marries twice and soon becomes widower each time
- Adopts the name of “Beaumarchais”
- Wins and loses fortunes, frequently embroiled in public lawsuits
- Becomes a close associate of the King, acting as emissary (and spy)
- Arms dealer to assist the American Revolution
- Writes popular memoirs and theatre plays (Seville, Figaro)
- Edits and publishes Voltaire’s works at great personal cost
- Survives Revolution; Dies in Paris in 1799, aged 67



**Jean-Antoine Lépine**  
1720 Challex – 1814 Paris

### Biographical highlights:

- Works for Caron 1744 to 1756, partners 1756 to 1761
- Takes over business when Caron retires in 1761
- Appointed “Horloger du Roi” around 1765
- Comes up with different repeating mechanism in 1766
- Around 1765-70 develops what is known as the “Lépine Calibre”
  - Individual bars or bridges replacing top plate
  - Going barrel, stronger mainspring, eliminates the fusee
  - Use of virgule, duplex, cylinder escapements
  - Winding from the back, eventually keyless system
  - Thinner, lighter watches – the “modern watch” was born
- Possibly serves as Master to Abraham-Louis Breguet with whom he always held good business relations
- Moves his atelier to illustrious Place Dauphine in 1772
- Partnership with Voltaire at his Ferney watch “factory” 1770-80
- Regarded as a top Parisian horloger in 1789 - when Governor Morris buys a Lépine watch for George Washington
- Hands the business to son-in-law Raguet in 1793
- Dies in 1814 in Paris

# Boilly – Portrait de la famille Beaumarchais-Lépine ca. 1792-4



- Left to Right:*
- . Jean-Antoine Lépine
  - . Pierre-Claude Raguet
  - . Pauline Lépine-Raguet
  - . Unknown lady
  - . Caron de Beaumarchais
  - . Alexandre Raguet-Lépine

## From Verge Movement (Caron ca. 1750)



## To Lépine Movement (Lépine ca. 1780)



## To Breguet Movement (Breguet ca. 1800)



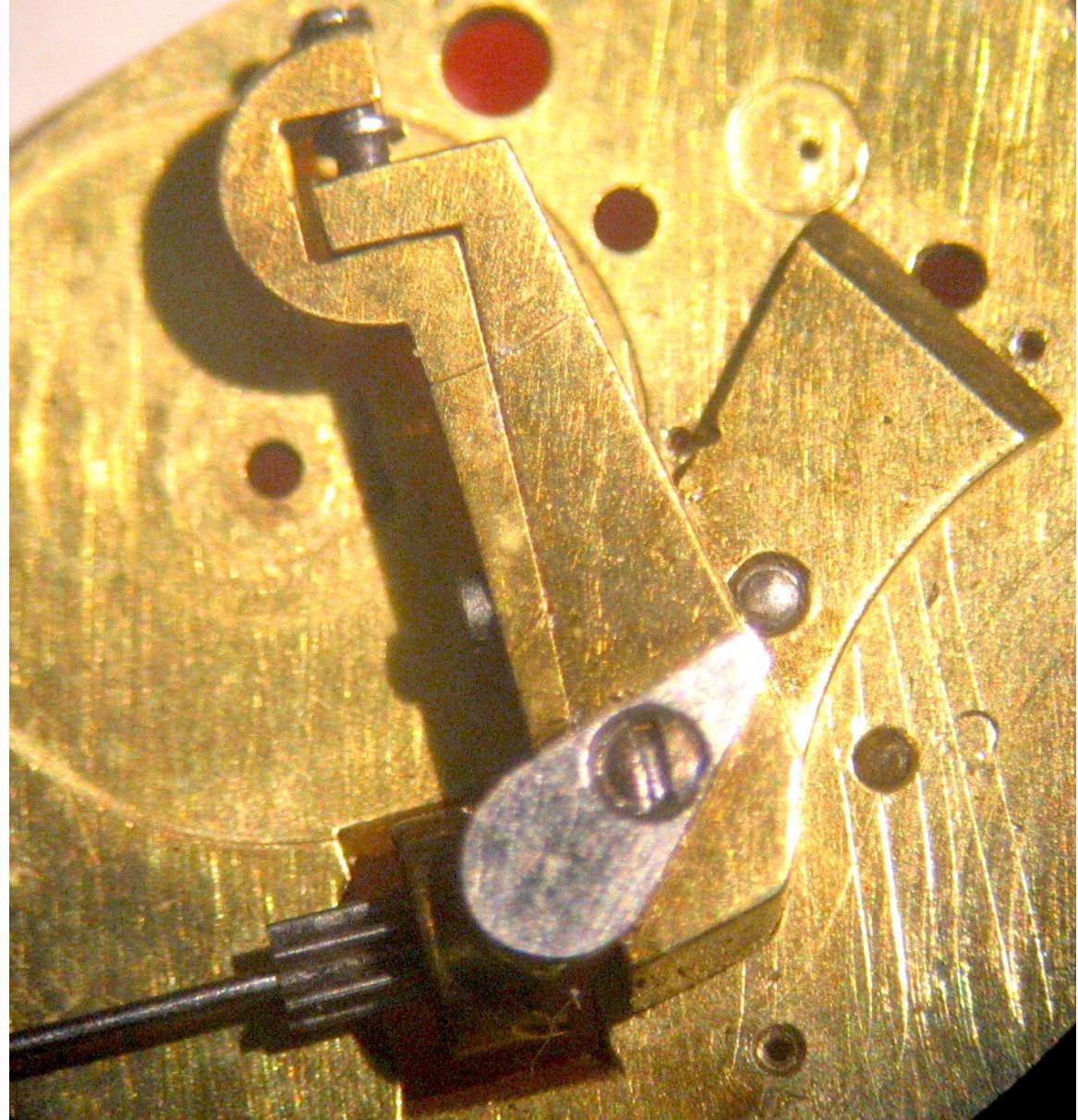
- Lépine worked for/with Caron for 17 years, and was likely influenced by him or his son in some ways
- Lépine's innovations (small bridges instead of top plate, going barrel, thinner watches etc.) changed watchmaking forever, and introduced the “modern watch”
- Breguet was certainly influenced and supplied by Lépine, and took his concepts to another level

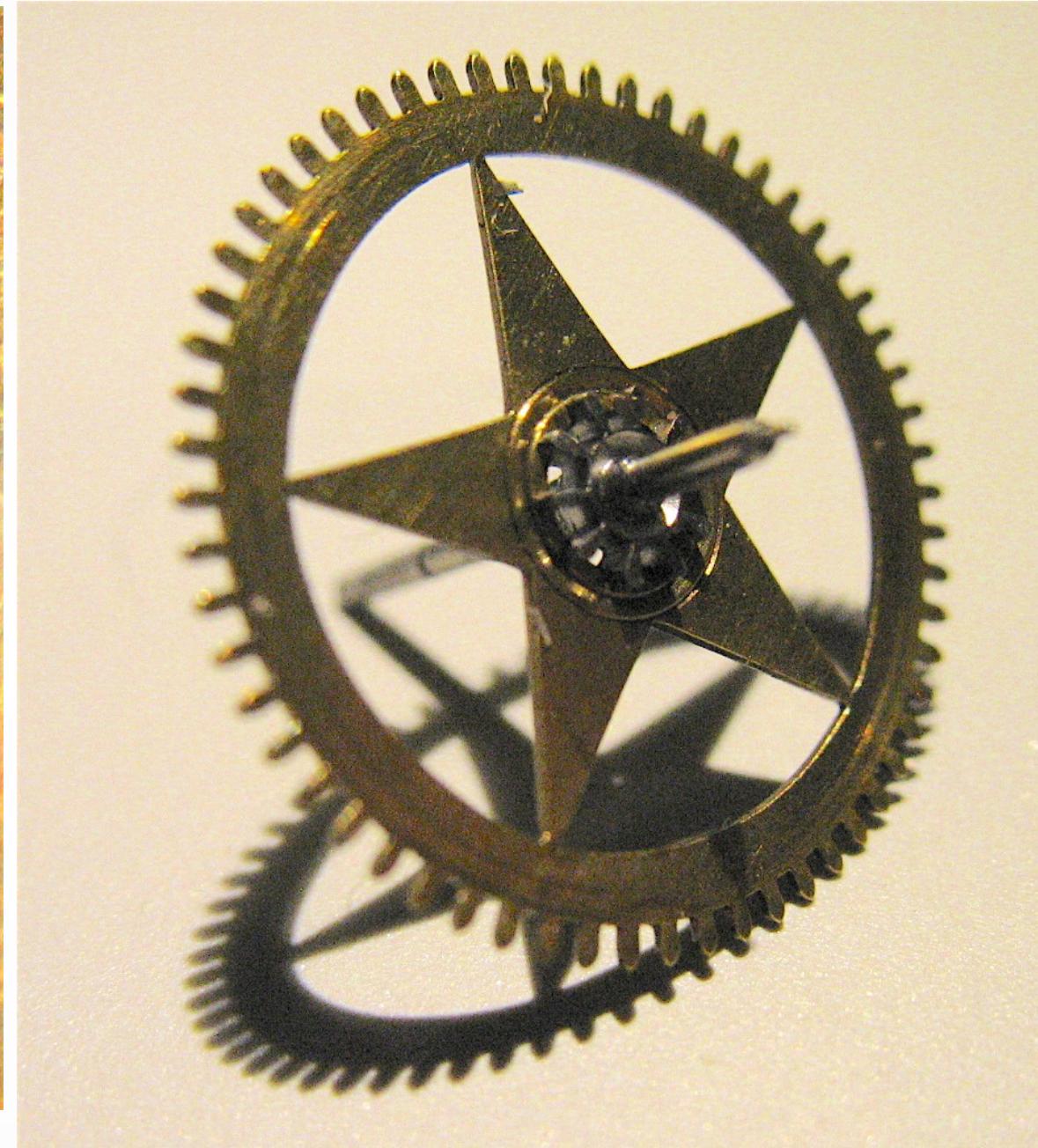
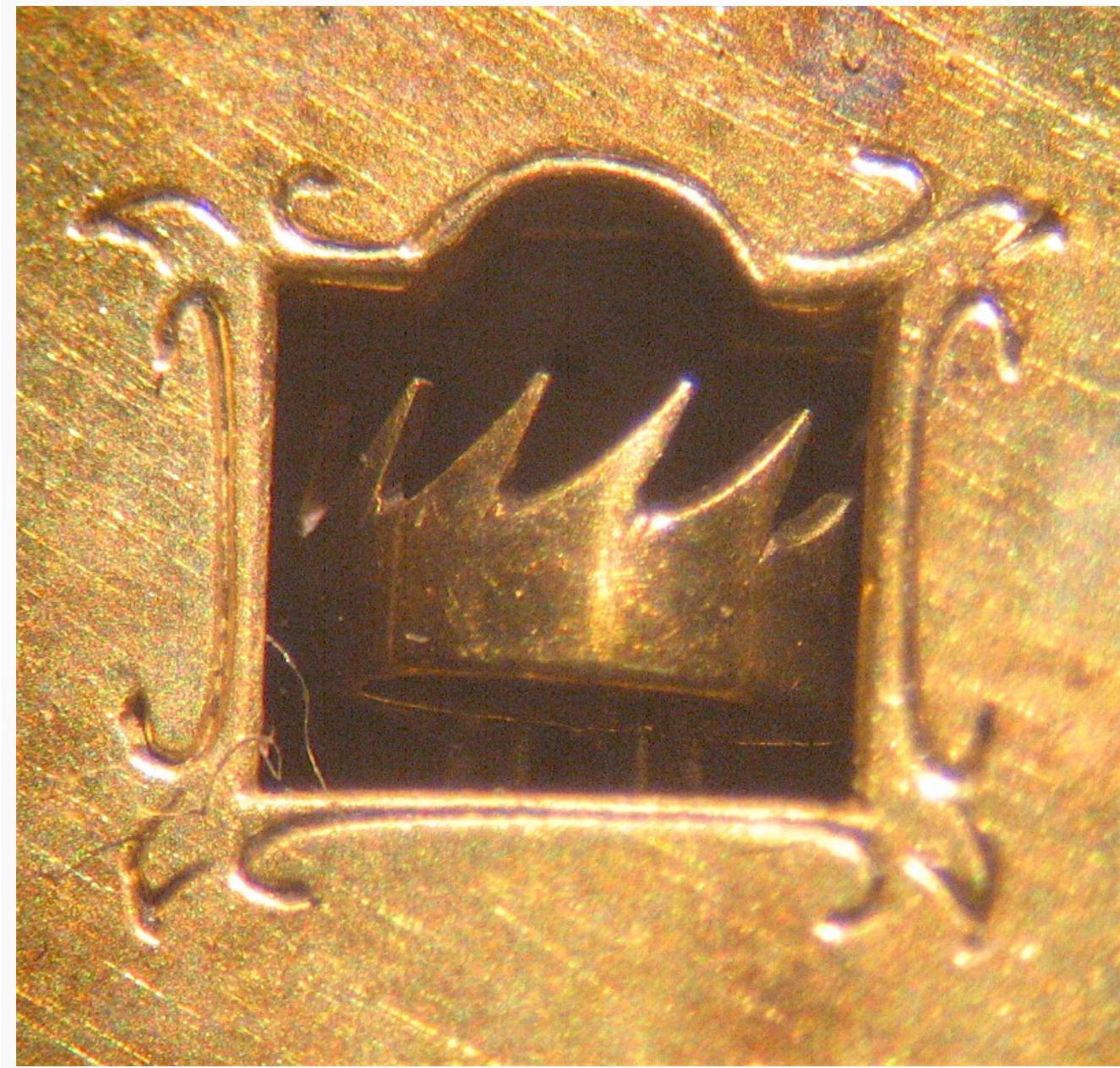
# Peeking inside the Caron watch...

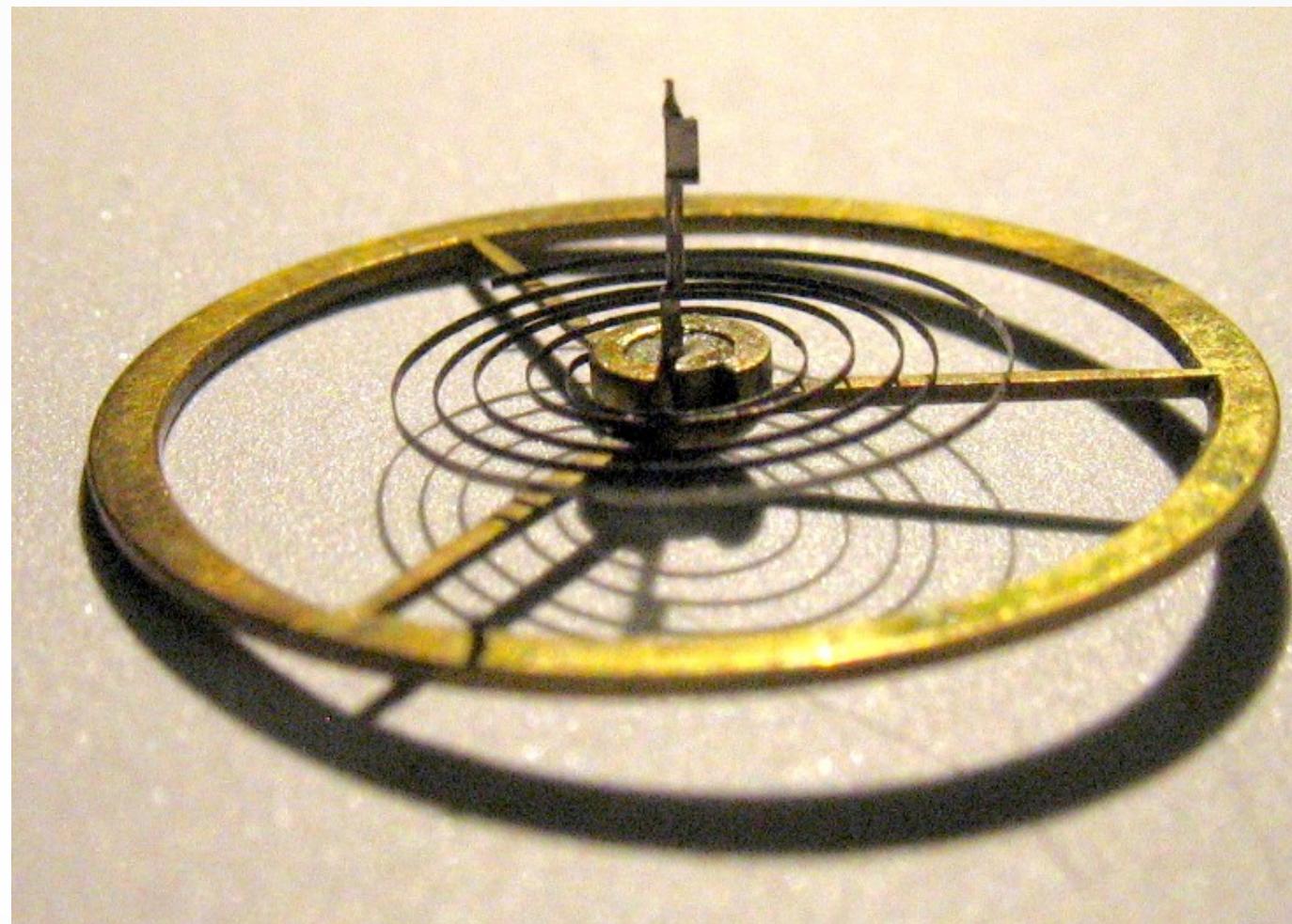




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## **André-Charles Caron**, writing to his son Pierre-Auguste.

1750 (as part of conditions to continue his apprenticeship)

*"I intend you to employ the gifts that God has given you with the sole aim of becoming famous in your profession. Remember that it is shameful and dishonorable for you to move slowly ahead in your trade, and that if you do not surpass everyone you will not deserve the least consideration. The love of such a beautiful profession must enter your heart, and solely occupy your spirit."*

1777 (from his deathbed, as his son was on official mission for the King, in England)

*"My dear friend, my dear son, this name is precious to my heart, I take advantage of a brief respite from my excessive pain, or rather the rages that subject me to convulsions, only to thank you tenderly for what you sent me yesterday. (...) If you go back to England, please bring me back a flask of the salts that are administered to those, like me, who fall into fainting spells. Alas, my dear child, maybe I will no longer have need for them on your return. I pray the Lord each day of my life, to bless you, reward you, and to protect you from any accident; these will always be the wishes of your friend and affectionate father. If you can, please leave your London address to Miron, so that if something happens I can send you my final benediction. Caron."*



*Presented by Robert St-Louis  
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