

## OPULENT, ITINERANT AND PARLIAMENT CLOCKS AT THE WEST COAST CLOCK AND WATCH MUSEUM

Ed Pasahow

The WCCWM collection contains many magnificent timepieces including those that might have graced mansions. We'll take a look at one that is worthy of an opera house or the home of a multimillionaire. In the early days of clock making, manufacturers did not have access to Facebook, YouTube or other forms of social networking to advertise their products. No retail clock stores existed then either. Consequently, they resorted to direct selling to the customers, which required either the clockmaker or an employee to wander from home to home carrying samples of their wares. A clock in the collection memorializes these merchants. The last clock in this investigation is one that traces its history back to the tax avoidance movement in Great Britain that was so unforgettable that similar clocks of the 20<sup>th</sup> Century still carried a reference to those times.



**French Napoleon III Period Clock**

### *A Clock Worthy of a Robber Baron*

This ginormous French clock exhibits the Napoleon III period of ornamentation popular in the late 19<sup>th</sup> Century when conspicuous consumption was looked upon with favor. Napoleon III, or Charles-Louis Napoleon Bonaparte, was the French emperor from 1852 to 1870. He set the style for elaborately decorated furnishings for homes as well as public buildings. The Paris Opera House was one of the most noteworthy structures built in this style.



**Robber barons cartoon**

Not wanting to be thought barbarians, newly wealthy Americans embraced that excessive decorating style to show that they were just as cultured as the French were. None of the millionaires went more overboard with their décor than the group known as the Robber Barons. This unsavory bunch of unethical, if not downright criminal, businessmen of the late 19<sup>th</sup> Century made their fortunes by exploiting workers, cheating investors, and rigging government boondoggles to their benefits. Many famous names were included in these activities including John Jacob Astor, Andrew Carnegie, Jay Cook, Jay Gould, J.P. Morgan, John D. Rockefeller, and even Leland Stanford – yes, the founder of Stanford University was a member of this less than honorable mob. While a small fraction of their ill-gotten gains went toward charitable causes, the bulk stayed in their possession, with much of it dedicated to building and equipping sumptuous, lavishly appointed homes.

Which brings us back to our clock. Weighing in at about 170 pounds, the clock was made in the 1860s. The movement is unsigned, so the maker of this clock is unknown as is much of its history. We do know that Allard et Cie of Paris made the gilded bronze case with ormolu fittings in the Napoleon III genre. Allard also provided fittings for the Paris Opera House as well as the robber barons' homes. For example, the Breakers and Marble House in Newport, RI survive with bronzes from Allard.



**French Napoleon III Period Clock dial**

The dial designates the hours with twelve Roman numeral enamel plaques and the five-minute intervals with an additional twelve Arabic numeral plaques. Simple barbed hands indicate the time. Winding holes for time on the right and strike on the left power eight-day running. The pendulum suspension is typical of the period. While later clock pendulums were suspended from a steel spring, a silk thread is employed for the pendulum suspension in this clock. Silk thread suspensions are not known for superior time keeping accuracy, but that was the methodology available at the time.



**French Napoleon III Period Clock detail**



**French Napoleon III Period Clock side view**

This clock is best appreciated for its intricate detailing, such as all those women's faces repeated in the design. Who is she? This is Minerva, the Roman goddess of wisdom, strategic warfare, arts and trades. Metis, Minerva's mother, was also a goddess of wisdom and cunning, but she still erred by trusting her husband, Jupiter. Jupiter knew that Metis was pregnant and feared that her child would attempt to overpower him, so he tricked Metis into transforming herself into a fly. He then promptly swallowed her. Unfortunately, for Jupiter, his trick did not work, and Minerva burst from her father's forehead fully grown, armed and armored.



**California seal**

So what's the deal with spreading her face all over the clock? As it turns out, status-seeking organizations frequently display Minerva to associate themselves with her admirable traits. Most of us see her image all the time without registering her presence. She is prominently featured in the Great Seal of California holding her spear and shield, and the seal appears on a great many state documents. She also appears on the US military's Medal of Honor. With those credentials, it is not surprising to have her show up on a clock.



**Clock Seller**

*Clock Seller Timepiece*

This next clock celebrates the honorable trade of clock making by depicting an early clock seller. His accurately detailed German Black Forest costume and wares reflect the way they looked when they traveled about loaded down with samples. We can note the ribbon on his hatband, the red garters on his stockings and an umbrella for inclement weather.



**Clock Seller Detail**



**Clock Seller Back**



**Clock Seller Side**

This fellow carries a pendulum in one hand and a small alarm clock in the other. A complete wall clock, which could be mounted in a tall case, hangs around his neck. Yet another small clock, exhibiting the famous Hamburg American crossed arrows trademark, is carried over his shoulder. The clock is animated. The man's head swivels left and right when the clock is running. This is a rare example from the period of 1890 to 1900.

The Hamburg American Clock Company owes its existence to a family feud. Paul Landenburger, son-in-law of Erhard Junghans, who founded his eponymous company, started as a bookkeeper in the clock factory in 1869. Being ambitious, he married the boss's daughter and became an executive. He overreached his position, however, when he sought an appointment to the board of directors. The Junghans family refused to grant it, and in spite, Landenburger started his own clock company.

The initial start-up did not go smoothly, but the company attracted new investors who purchased its stock. The renamed company was the Hamburg American Clock Factory. "Hamburg" appears in the name because one of the investors came from that city and demanded it. "American" designates the use of new production methods from America for manufacturing the movements. The company competed fiercely with Junghans and was successful until the mid-1920s when falling sales and economic depression allowed Junghans management to merge the two companies.



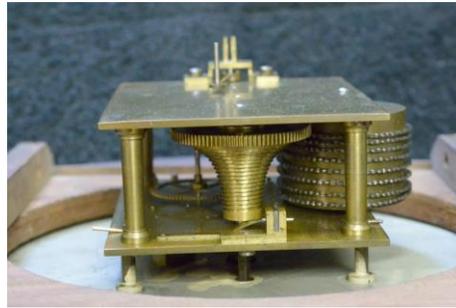
**RR Clock**

### *Railroad Clock*

The simple looks of this clock are deceiving because it hides a surprising complexity inside. The mahogany cased clock has black Roman numerals marking the hours and a railroad track (no pun intended) minute chapter ring. Black triangles designate five-minute intervals. A single hole in the dial is used to wind the spring, which powers the clock for ten days. Black spade hands mark the time. The clock was made in the 1890 to 1900 interval.

Public clocks became ubiquitous in the United Kingdom following an act of Parliament in the mid-18<sup>th</sup> Century. The law enacted a tax of 5 shillings on all clocks. Not being willing to pay the tax, homeowners eliminated their personal clocks and depended on those of inns, taverns and public buildings for telling the time. The tax was extremely unpopular with clockmakers and was repealed after just nine months. The impact of the legislation was so detested that ever after public clocks are still referred to a Parliament clocks.

Most of these clocks were of plain design with large dials. Beginning in the mid 19<sup>th</sup> Century, British railroads became major users of these clocks to keep trains coordinated and to inform passengers of departure and arrival times. In the early days, however, no standard time for the country was in effect. This made scheduling trains difficult because many cities could not agree on the current time. Parliament again jumped into the act and made the time at the Greenwich Observatory the standard for the UK. The observatory sent out synchronizing time signals over telegraph lines to keep all the clocks set to the same time.



**RR Clock movement**

By the mid-1950s, there were 55,000 clocks in service at various railroad facilities. The Southern Railway purchased the last one of these clocks in 1962. It was oak-cased with an 8-inch dial. All of the railroad clocks had to meet strict criteria to ensure reliable and accurate time keeping. Among these requirements was a fusee movement. The photo of the movement of the museum clock shows the conical fusee device in front of a wheel of the going train on the left and the barrel, which contains the mainspring, on the right. A chain that resembles a miniature bicycle chain wraps around the barrel. (Chains were more expensive than the alternative catgut cord). Let's investigate the fusee to understand why the railroads thought it was vital for operation of their clocks.

The fusee appeared in the first spring-driven clocks of the 15<sup>th</sup> Century. Surprisingly, the device originated not with clockmakers but with weapons makers. The earliest known example was used in a crossbow windlass. Both Filippo Brunelleschi (best known for his dome on the cathedral of Florence) and Leonardo da Vinci made machine drawings with fusees as components. The purpose of the fusee is to even out the torque of the mainspring as it unwinds. The torque is maximum just after winding and decreases as the spring unwinds. A constant force on the going train provides the most consistent timing.

The photo of the railroad clock shows the chain entirely wrapped around the main spring barrel. This is the condition when the clock is completely wound down. When the clock is wound, the chain wraps around the fusee started at the widest diameter and ending at the narrowest. The fusee, in turn, is geared to the going train of the clock. The force passed to the movement from the main spring is modulated by the fusee. As a result, when the fully wound main spring turns the barrel, the torque on the fusee is reduced by the small lever arm of the fusee's radius. This lower amount of force then passes to the going train. As the clock continues to wind down, the chain move to wider radius sections, so its weaker torque applied is to a larger lever arm of the

fusee increasing the force on the going train. This results in a force driving the going train that is more constant. This is the same lever principal that allows a lighter person sitting farther from the pivot on a seesaw to balance a heavier person sitting closer to the pivot -- different forces can be balanced by varying the lever arm lengths.

Although fusees were a good mainspring modulator, they now consider obsolete. Among the disadvantages were the bulk, fussy adjustment necessary, and the damage that a broken fusee chain whipping around the movement can cause. Newer designs for spring driven clocks use either pendulums or balance springs to achieve isochronism (consistent timing).

The gamut of the museum collection ranges over timepieces for every interest. Not only are they remarkable mechanical masterpieces but also each carries with it the history of its owners and makers. On your next visit, ask a museum docent to tell you some of these tales.

---

I wish to thank WCCWM curator Ernie Lopez for his knowledgeable assistance in preparing this article.