

“The Carriage Way”



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Brocot Carriage Clock No.227

President's Report



Stan Boyatzis

Welcome to the November Chapter 195 newsletter with a special welcome to all our new members. Chapter 195 has recently celebrated its first anniversary and the executive is working hard to build the chapter. At present, membership stands at 131. I encourage current members to spread the word about Chapter 195 and invite friends with an interest in carriage clocks to join.

The feature article in the newsletter this month is "A Guide to Carriage Clocks" by Doug Cowan. Doug has rewritten and updated his original Carriage Clock article in the April 2004 Bulletin. He discusses the history and styles of carriage clocks with comments from his own research. Tom Wotruba has written a short article on "A Remarkable Carriage Clock and Its Maker, Achille Brocot". He has thoroughly researched this clock and the article again should stimulate a great deal of interest and debate. Tom will welcome any queries from the membership. The contributions from various members in the Hint Section should prove helpful. Remember, this is your newsletter so if you have any helpful hints to share with the membership, please email our Secretary to include these in our newsletter. The executive is proposing to hold a meeting of Chapter 195 at the 2015 National in Chattanooga. A room has been booked at the National and there will be a lecture for members. This will be our first face to face meeting and we hope to see as many members as possible. We will provide further details as they become available.

Copies of previous newsletters, hints and a question page are included on our website. We also have added carriage clock articles from the Bulletin and carriage clock videos from the NAWCC library. You will need to be logged in as a NAWCC member to access these:

<http://community.nawcc.org/Chapter195/Home/>.

A link to the Online Galleries and 1st dibs websites are included. These are useful websites to research retail prices of carriage clocks and what is currently for sale. The websites are updated weekly. We are happy to include other websites that may be of interest to the membership. The Executive Committee hopes you enjoy reading the Newsletter.

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A GUIDE TO CARRIAGE CLOCKS

By Doug Cowan

Introduction:

This article is a revision of the NAWCC Bulletin # 349 article titled "An introduction to carriage clocks". It attempts to put the subject into a better perspective. Carriage clocks are part of a much wider category of timepieces which are intended to continue to run accurately while taken on trips/voyages or other moving "adventures". The category does not include portable clocks which can be moved safely when they are not running. Hence, striking watches or marine chronometers would qualify whereas table clocks and boudoir timepieces would not. The term 'carriage clock' used widely today is believed to be a mid 19th century French invention to enhance the prestige of these timepieces within the English market. English horologist David Penney reports that he has seen a French carriage clock sales catalogue dated 1860, the earliest known use of the name. In France, these clocks were and still are known as Trip Clocks (*pendules de voyage*), though the carriage clock name is so popular with auctioneers and collectors as to be used for all sorts of small portable timepieces and even many alarm clocks from the late 19th C.

History:



Figure 1. French *Corniche* cased carriage clock, Circa 1890.



Figure 2. German/French coach watch, Circa 1730

The most common carriage clock seen today is French in the *Corniche* style, introduced in the 1890's. (Figure1) How did that come to be? A brief history may help provide the answer. The quick adoption of the hairspring to the balance during the last quarter of the 17th century made

travel clocks feasible. Miniature bracket clocks were made in Paris and London, but weren't sufficiently popular and were swallowed by the "coach watch" products by 1700. (Figure 2).

Signed Ageron a Paris, it is in fact German as are most of the ones I see in this format. It is essentially a giant verge watch, with a 3.5 inch dial, quarter striking, hour repeater, alarm and calendar. It resides in a robust pair-case and shows a hanger stem which pivots as the clock is travelling, to keep the watch more even. It runs for a little more than a day. These clock watches in one form or another (later ones with less features and smaller cases) were sold until about 1775.

Next comes the first easily recognizable travel clock which originated in Vienna and south Germany circa 1700. (Figure 3) These ran a little longer (up to 40 hours), still having a verge escapement and fusee as well as many "complications " to reassure travellers. The clocks were about 5 to 8 inches tall and appear with makers names from all over continental Europe, though all were actually made in Germany or under the influence of Viennese designers. New technology such as rack striking, going barrel, new escapements and better balance spring controls were all incorporated as they appeared from London and Paris. This form of travel clock lasted well into the 1770's.



Figure 3. Viennese Travel Clock, Circa early 1700's



Figure 4. Small Austrian Travel Clocks, Circa early 1800's

By the mid 1700's things were changing fast. Fusees disappeared except for a few time train ones when the makers did not trust their spring quality or were just plainly conservative. Verge escapements were expiring rapidly, replaced by cylinder and later lever types. France began to dominate in travel clock design as seen by Western European and English speaking markets.. The French clocks ran 8 days or more and used going barrels. But the Eastern markets continued to be dominated by Viennese/ South German designs which emphasized short running times with lots of striking and alarm options plus very lovely case designs and display features.

There was a lot of glass in the cases, exhibiting the motion work outside of the backplate, and many of these clocks looked much like 100+ years later carriage clocks (that is, glass-enclosed movements) but with the addition of a more elaborate frontal dial presentation. But be assured that the Viennese style and presentation did not disappear. As late as the 1840's the Viennese-style clock was continuing to sell as seen in Figure 4. We just didn't see them here in America. The story is well told in Austrian horologist Peter Fritsch's 2010 book "Viennese Travelling Clocks".

The first new French design began Circa 1775 and was called the "officer's clock" (pendule d'officier in French) The elegant design is shown in Figure 5, a clock made in 1780 by Robert, Paris who was just at that time being joined by Swiss maker Courvoisier. These clocks did not change much as their appeal lasted well into the 1840's. They were reproduced in France for a few years ca 1900 and I have seen a few new ones circa 2000, probably from Eastern Europe. Swiss travel clock history is another subject that needs research and English language publication. Many famous "Paris" makers, not least Breguet, Houdin, and Berthoud were Swiss, working back and forth across the Franco-Swiss border. The clock shown is an 8 day with time, quarter hour strike and pull wind alarm, with a duplex escapement.



Figure 5. French Officer's Clock by Robert, Circa 1780



The final pre-carriage clock type in France was called Capucine, (possibly an allusion to the nun- like hooded appearance,) as well as "Foncine", the name of a town where some were made and finally and not very respectfully, stable lantern. Figure 6 shows one, about 12 inches tall, running more than 8 days while striking the hours and repeating that one or two minutes later. This quirky striking was a feature of farm clocks made in the same area of south eastern France. The one shown uses a cylinder escapement, two going barrels and a pull wind alarm. The non-travel versions mostly used verge escapements and pendulums. These clocks are normally not signed and when they are signed it would generally be for a merchant or owner. Once again, little is published in English regarding their story, but they were popular in France, lasting in that market at least into the 1840's.

Figure 6. French Capucine travel clock Circa 1825

As an aside, it is believed that all of the 18th century travel clocks, as well as all of the expensive 19th century ones, came with a travel case-- that being a wooden box with thin leather covering and a sliding shutter type opening in the front to allow inspection of the time. In the 1800's a soft push button in the top of the case allowed the owner to repeat the last hour without needing to open the case. Figure 7. Even the capucines had them, though it was not very handy to have to unscrew the bell and handle from the top as well as reattaching them when the lower clock parts were safely inside the case!



Figure 7. French giant *Gorge* case with travelling box, Circa 1885.



Figure 8. French Carriage Clock by Breguet, Circa 1837.

Now we get to the first examples of what we now expect to be called carriage clocks. Philip Poniz, a Breguet expert, has established that French master A.L. Breguet made the first "modern style" carriage clock in the 1780's. Philip reports that Breguet did not make many carriage clocks but they were virtually works of art. In fact the first ones were part of a small batch that did not sell. Breguet reissued them in the late 1790's most notably selling one to Napoleon just before he left upon his successful Egyptian campaign. Figure 8 above shows a Breguet carriage clock in his typical style.

But Breguet could not have alone created the vast success of French carriage clock design and sales during the 19th c. He died in 1823. And his clocks, probably the finest ever made, were very expensive, often made to order and complex beyond the realm of most repairmen then or now. To quote Charles Allix, "the carriage clock in its developed form was an evolution-- not an invention". Greatly furthering that evolution was Paul Garnier, 1801-1869 who was working in Paris from about 1825. Famous and successful he pioneered pre-industria



Figure 9. Paul Garnier, Paris. One-piece style case, Circa 1840s.

as well as being an inventor. Figure 9 is one of his products along with its original patented double escape wheel and original travel case.



Other clockmakers in France began making carriage clocks in the early 1830's. Famous makers such as Berolla Figure 10, Raingo, Leroy and Lepine recognized a good idea. The so called "one piece case" was another Garnier development and was copied in various offshoot styles by these other makers.

Figure 10 French C-scrolls carriage clock by Berolla Circa 1840

It is most likely that French supremacy in carriage clock production and sales, flowed from three sources. First was brilliant designs and workmanship, which continued well into the late 1800's. Second was very good business "savvy" by the French manufacturers, clock wholesalers, and town/ city public relations people. Mass produced carriage clocks were labelled Paris, suggesting prestige but the bits and pieces that went into them were after 1860 mostly made in Western (Dieppe) and South Eastern France (near Switzerland). Quite early on , only the casing and finishing was done in Paris. This explains why many nice carriage clocks have unfilled holes in the plates. The movement blanks could then be finished into the desired striking complexity in Paris workshops. Of course this suggests a significant standardization going on, which reduces cost as well. Finally and very important was the role of Paris technology Expositions which ran every few years from 1798 to 1849. It is possible that carriage clocks first showed at these in 1819 but they were certainly present in the 1830's. These Expositions at the time were like today's Apple new product introduction events-- exciting and well attended. They became even more important as the French targeted the English for their sales. Copying the 1851 London Great Exhibition which allowed exhibits from around the world, the French started the Expositions Universelle, 1867, with about 50 French horological enterprises displaying their products. These went on regularly, culminating with the peak year for French carriage clocks sales, 1889.

During their peak years, say 1880 to 1914. French carriage clocks filled every niche in the market both in design and price levels. . The following descriptions of case styles will give evidence of that. They also explored, sometimes weakly, with anything else that might appeal to carriage clock buyers, such as the very ordinary looking Japy Freres clock I examined which had an original spring detent escapement. What were other countries doing to gain a share?

Basically, they copied the French styles. This article cannot grow longer , but my conclusion regarding country competition is as follows. The Austrian/German supremacy of the 1700's was lost by excessive reliance on past efforts rather than new designs (most noticeably in declining to make 8 day clocks) They finally made look-alike 8 day carriage clocks Circa 1850, too late! Figure11. Germany returned in the 1880's with 30 hour alarm clocks that looked like carriage clocks. Figure 12.



Figure 11. Austrian 40-hour multi-train clock, Circa 1850.



Figure 12. German Hamburg- American alarm clock, Circa 1890



Figure 13. Swiss Clock, Circa 1855, front hand set.

Swiss clockmakers were not financially very significant, their superficial differences from the French ones disappeared circa 1850 Figure 13. The Swiss basically turned to supplying carriage clocks to the Ottoman countries. American companies competed directly with lower end French alarm timepieces and German "carriage clocks" though there were a few very interesting exceptions such as the Waterbury long-wind and the high quality jeweled carriage clocks made by the "ever present /often bankrupt" Joseph Eastman . (eg Boston Clock Co. , Figure 14).



Figure 14. Boston Clock Company, Athens model numbered C3532. Circa 1890, American 6-1/2” (16.5cms) high.

The English trade made superb "Gentlemen's library carriage clocks" by noted makers such as McCabe and Dent. They were in early, before 1850, but did not aggressively seek market growth. Japanese carriage clocks were made for the home market and GI post war souvenir trade but were never a factor with Western markets.



Figure 15. English carriage clock by James McCabe
Circa 1860.

Carriage clocks have seen many revivals since the watershed destruction of European infrastructure in world wars 1 and 2.. Virtually every carriage clock made since 1918 has been a reproduction of earlier styles. Many of them, such as the L'Epee models of the 1980's were excellent, but they did not prosper. Hundreds of good small carriage clocks have been made in England since the 1960's, mainly for the gift trade. China produces constantly improved versions of French carriage clocks. And people want them, even though they almost certainly do not travel and are unnecessary for modern travel. And so now we will proceed to show the progression of the successful case styles that won the day for France.

Case Shapes and Styles:

French carriage clocks formed a reasonably well-documented group in that the case styles had names that were accepted by virtually all manufacturers. A variety of shapes proliferated as the carriage clock market grew, and most shapes were introduced after 1880. The following list includes most of the shapes currently found in the marketplace. (Note that the French clocks are commonly identified by their French names. I have included English translations in brackets for clarity.)

One Piece. Early French carriage clocks included one-piece and multi-piece cases in the one-case style (Fig.9) both popular from about 1826 to 1860. Actually, none of these cases were made in one piece. The earliest, until 1845, used at least three castings including the body, base, and handle. Later clocks were similar except that the body was made up of several pieces screwed together. Still they all had that "chunky" square look with a large glass area at the top for viewing the escapement.

Borne [milestone] cases were introduced in the 1830s and revived as a style circa.1900 (Figure 16).



Figure 16, *Borne* case style revival, Circa 1900, English.



Figure 17, Engraved French oval case, Circa 1850

Oval cases began sometime after 1850 (Figure 17).

Gorge [grooved] cases were in use by the mid-1860s and were the shape preferred by French makers for their best clocks (Figure 18). At least five sizes were made, ranging from miniatures to giant clocks.



Figure 18. French *Gorge* cased carriage clock by Drocourt, Circa 1885

Corniche (*cornice style*) clocks were introduced circa 1875-80. This is the most commonly seen case shape (Figure 1)

Anglaise [English].

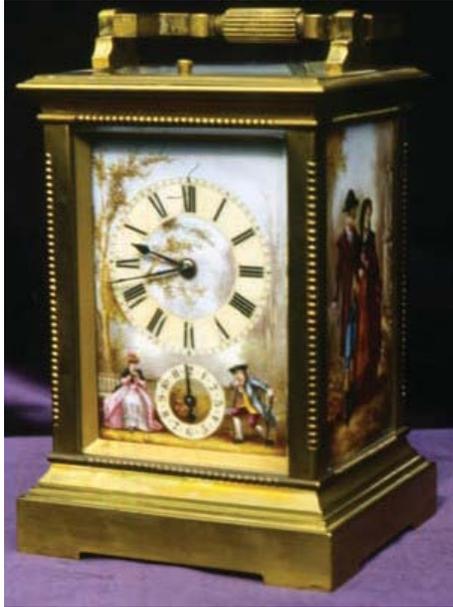


Figure 19. French *Anglaise* case with porcelain panels,
Circa 1885.

Art Nouveau [new art].

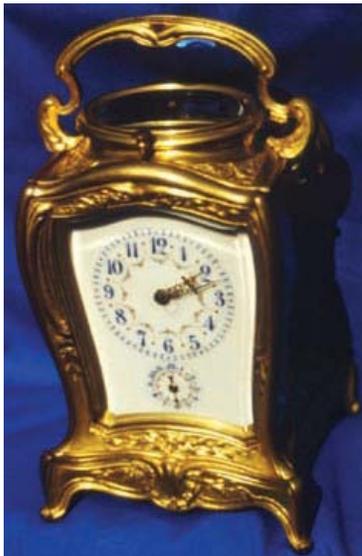


Figure 20. French Art Nouveau style, Circa 1900.

Bambu [bamboo] also called *Chinoise* [Chinese].



Figure 21. *Bambu* case, French, Circa 1900.

Boite [box].

Cannalee [fluted]. This style looked very similar to the *Gorge* style.



Figure 22. French *Cannalee* case with period painted dial
Circa 1885.

Cariatides [caryatides]. The clock corners were female figures from classical mythology.



Figure 23. Cariatides on the front corners

Doucine [serpentine].



Figure 24. French *Doucine* case, Circa 1885.

Fantasy Styles. Ornately decorated, see Figure 30 and extreme shapes such as sedan chairs and bird cages. Figure 25.



Figure 25. French cast brass Sedan Seat carriage clock.
Ht.11inches (28cms). Circa 1890.

Obis [double zero]. This looked like a less expensive *Corniche*, and was almost always a design used for the least expensive timepieces and alarms, with the dial mounted directly onto the front plate of the movement rather than onto a separate plate. This is a confusing term because the word *Obis* also referred to a certain movement size, separate from its case-related meaning.



Figure 26. French *Obis* case, for timepieces and alarm clocks. Circa 1910.

Figure 27 American Waterbury



Oblong. A rectangular shape as in a stretched box.

Rococo. Somewhat resembled art nouveau but with style differences.

Finally, a few manufacturers actually invented their own names for their clocks, such as **Boite Jong** [reeded box] or “**Madelaine**,” a pedimented style often using marble or onyx in the design. This is pure speculation, but I think that the naming of these clocks may have been due to the influence of mass-produced American carriage clocks, which bore names rather than case descriptions. American carriage clocks seem mostly to have used catchy names, such as “Pilgrim” (New Haven), “Pert” (Ansonia), “Conductor” (Waterbury), “Little Corinne” (Welch), and “Dorrit” (Seth Thomas) Figure 27 shows a typical Waterbury repeating carriage clock with case.

Case Sizes:

French carriage clocks showed the greatest variation in size, measuring from 2.6 to 12.0 inches tall (with handle up). Most American, Austrian, and Swiss clocks were in the middle of the French range, measuring from 3 to 8 inches tall. Despite the almost continuous size range of French clocks, it is currently customary to describe them as falling into one of three groups. “Regular” includes clocks in the range of 4.55 to 7.5 inches tall. “Miniatures” (sometimes called *mignonettes* [“little darlings”]) are less than 4.5 inches tall, and “Giant” carriage clocks are usually about nine inches tall.

Far fewer giant carriage clocks are found today, and they, as well as the miniatures, tend to date from after 1875.



Figure 28. Some size variations from 9.5 to 3.0 inches (24 to 7.6cms) tall with handle up.

Mechanical Variations:

Most French carriage clocks were eight-day. The early ones had distinctive maker-designed lever escapements and usually struck the hours and repeated them by a push-button on top of the case. In the late 1800s the French introduced timepieces, cylinder escapements, and even a few spring detent escapement clocks.

Austrian and Swiss carriage clocks resembled the French ones, except that many, if not most, Austrian ones ran for 40 hours.

American carriage clocks were mass-produced with very little hand finishing. They mostly utilized inexpensive pin-pallet escapements mounted vertically instead of horizontally, 30-hour and eight-day winding, some with hour repeating buttons.

A notable exception to this was the production of Joseph Eastman's companies—the Boston, Harvard, Fairhaven and Vermont Clock Companies—circa 1880-1908. Those clocks had lever escapements with jeweled pallets (Figure 14).



Figure 29. Small English carriage clock Circa 1835.
Ht: 4 3/4 inches (12cms), Width: 2 3/4 inches (7cms)
Depth: 1 3/4 inches (4.5cms)

English carriage clocks ran eight days and used high-grade lever or spring escapements. They also usually struck the half hours (one chime) and the hours, sometimes with push-button hour repeating. A separate class of small going barrel timepieces was introduced in the 1830s. These are much less well known to today's collectors (see Figure 29). But it was the French makers who excelled in complications, especially in the late 1800s.

The following list describes what was available in their clocks, in order of increasing complexity: simple timepiece; timepiece and alarm (alarms could be added to almost any other clock); chiming the hours with one stroke at the half hour; and push-button repeating doing any of the following—hours; quarter hours, five minutes, or one minute.

Quarter striking was of two basic types. In *petite sonnerie* (little chime), the clock struck the first three quarter hours but only the hours at the hour. In *grand sonnerie* (big chime), the clock struck the hours and quarters at every quarter. In both cases two gongs or bells were used. Virtually all *grand sonnerie* clocks included a lever under the base to reduce the striking to *petite* or even silent if desired.

The striking or *petite sonnerie* could similarly be reduced. And there were a few *petite sonnerie* clocks that did not have a silent switch. In addition, center sweep seconds were sometimes offered, as well as subsidiary seconds (small seconds dial), calendar dials (day and date), barometer, or thermometer. Certainly something for every taste!

Comments:

I don't wish to suggest that other countries' carriage clock histories are not as complex and interesting as that of French; However the drive behind this wonderful collecting category belongs to the 19th century French makers and retailers.



And now I'd like to share a few observations about collecting French carriage clocks. Since there are so many, condition is very important. Cracked dials, replaced hands, replaced escapement platforms, non running cylinder escapement clocks and defaced case finishes are big "hurts". Not so much replaced case glasses, even though modern glass is not quite the same color as old glass. (modern is too green). Collectors seem to allow for that as an unavoidable problem. Understand that names on the dial are more than likely to be retailers, not makers. This is also true of some initials stamped into the backplate. What raises value?

Early known makers or clocks from before 1860.
Signed clocks by the best late 19th c. makers such as

Figure 30. Fantasy case with minute repeating Circa 1895

Drocourt or Margaine. Magnificent excess is rewarded, including very fancy late 19th century cases with original silver plating or porcelain side panels where normal beveled glass would usually have been used. And of course fancy mechanisms such as minute repeating or unusual escapements Example Figure 30.

References:

Three really good ones, the first two out of print but available at conventions and used book sites on the internet.

Carriage Clocks: Their History and Development, by Charles Allix. Antique Collectors Club 1974.

Carriage and Other Traveling Clocks, by Derek Roberts. Schiffer Publishing 1993.

"Viennese" Travelling Clocks, by Peter Fritsch. 2010, FCP Eigenverlag Wien

Figures 1, 14, 17 and 24 courtesy Tom Wotruba .

A Remarkable Carriage Clock and Its Maker, Achille Brocot

By Tom Wotruba

Introduction

This brief article presents a remarkable and uniquely designed carriage clock made shortly after the mid-19th century by Achille Brocot. We first focus attention on the clock and then offer some details about this clockmaker and his accomplishments.

The Clock

This carriage clock of unusual design is shown in Figure 1. Its gilt-brass case style is Gothic with gabled architectural features and spire shaped finials instead of the more usual flat or horizontal top with an embedded viewing window. There is substantial engraving and decoration throughout. Each lattice-design panel is outlined with a rope-twist pattern. The feet are accompanied by engraved foliate spandrels, and the center of the gable on both front and back contains a trefoil mount of rosettes, with a repeat button on the front. The dial is framed by a foliate scroll. The silvered chapter ring, engine-turned with blued fleur de lys hands, surrounds its center of quatrefoils cast in low relief.



Figure 1. Brocot carriage clock #227

The side panels on both the main body and on the gable continue the engraved lattice design and foliate spandrels to the feet. The back likewise offers the engraved lattice design and the trefoil mount on the gable as on the front. Applied to each side panel are quatrefoil mounts cast with rosettes and overlaid with shields. Figure 2 shows one side panel and the outside back of the case. The clock is 9 inches tall to the top of the spires and 4 inches wide at the base.



Figure 2. Side panel and view of outside back.



Figure 3. Clock with leather travel case but missing its carrying strap.

Carriage clocks are usually defined as having a handle attached to the clock itself to permit carrying. This clock has no such handle but was defined as a carriage clock when it came up for auction at Christie's in 1998. This was most likely because of its accompanying leather travel case (also gabled to conform to the shape of the clock) that originally, at least, had a strap stretching from side to side across the top of the gable to facilitate carrying. Figure 3 shows the clock and its travel case. Barely discernible in the picture is the location about a third of the way up the left side of the case where the missing carrying strap was originally attached. A similar "scar" occurs also on the right side of the case. The key accompanying the clock is not numbered.

Apart from its case style, this clock is much like those by other notable makers who offered complex movements. It is quarter striking in passing (sometimes called *petite sonnerie*) with *grande sonnerie* striking when the repeat is activated. Two hammers and two gongs to the backplate provide the sound. The rear door contains a cut-out circled to accommodate the gongs. Figure 4 shows the backplate of the clock when the door is open. Not visible are the silvered

platform with bimetallic balance and lever escapement as these are not unusual, but the two winding arbors for the twin barrels are evident. It is interesting to note that the gable on top is empty except for the lever or arm extending from the repeat button to the rack hook in the movement which activates the repeat. And there is no strike/silent lever in the base.



Figure 4. Open back door of clock.

Two sets of marks exist on the backplate. One is the Brocot trademark –an A and B separated by a five-pointed star, all within an oval. This is one of two trademarks Brocot used. The other is an AB within a five-pointed star, found frequently on carriage clocks of his. Why one was used over the other for a given clock is not known. Also on the back is the name and address of the retailer, Hunt & Roskell, 156 New Bond St., London. Figures 5 and 6 present these items. Note the clock number 227 is also visible in Figure 5.



Figure 5. Brocot trademark and clock number on backplate.

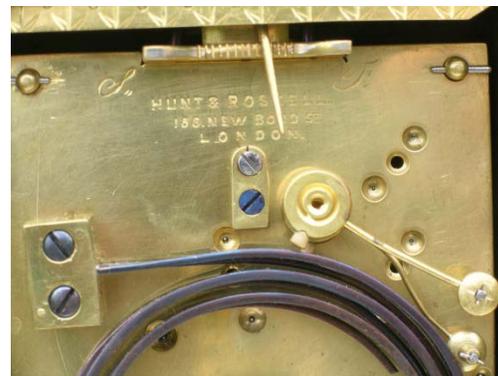


Figure 6. Retailer (Hunt & Roskell) stamped on backplate.

The Clockmaker

Achille Brocot was a member of an important 19th century family of clockmakers, based on a business established by his father, Louis-Gabriel Brocot, in 1813. Achille was born Louis-Achille in 1817 but preferred using his middle name, perhaps to avoid being confused with his father. He was one of five brothers, though only three survived beyond birth. His older brother, Antoine-Gabriel was born in 1814 and specialized in the production of parts such as hammers and gongs which were not typically provided with *blancs* (*ébauches* obtained from Saint-Nicolas d'Aliermont and elsewhere that included the plates, barrel, and trains for the strike, time, and dial). Achille's younger brother, Gustave-Amédée was born in 1819 and became a successful hat maker, but was apparently not directly involved in any aspect of clockmaking. Gustave-Amédée's son Jean-Louis, born in 1855, was involved with clockmaking, however, and became known as a maker of suspension springs for which he received three patents. Achille's son Paul Louis, born in 1846, was known as an artist and dealer in statuary and Paris clocks, but did not make clocks or clock parts.¹

Perhaps the horological item most often associated with the name Brocot is the Brocot escapement. It was first invented by Louis-Gabriel in 1823, and was a type of anchor escapement, sometimes termed a "pin-pallet" or deadbeat escapement, in which the pallets were essentially half-circles. Achille refined and improved this device, however, so that might explain why he is often credited as its inventor. For example, he experimented with its design so that it could be made visible in the dial of many clocks he produced starting in 1842. In 1848 he introduced triangular pallets to replace the half-circles and thus improve its precision. An example of the Brocot escapement is seen in Figure 7. But as far as I know, the Brocot escapement was never used in carriage clock.



Figure 7. An example of a visible Brocot escapement.

¹ More information about the Brocots is available in Richard Chavigny, *Les Brocots: Une Dynastie d'Horlogers*, published by A. Simonin, 1991. A powerpoint summary of this book can be found in "The Brocots: A Dynasty of Horologers," by John G. Kirk at www.nawcc69.org/pdf/Brocots_v3.pdf.

Achille produced many carriage clocks, usually with striking complications such as grande or petite sonnerie. They have appeared frequently in the major auctions in Europe and occasionally the U.S. In the Christie's auction that provided Brocot #227, for example, there were three other Brocot carriage clocks, all with the more traditional rectangular shapes, and were numbered 82, 296, and 641. These, including #227, were all made sometime between the middle 19th century to circa 1875. But since I have never seen another carriage clock by Brocot (or any other maker) with the design of #227, I think it is possible that #227 is one-of-a-kind.

In addition to the many carriage clocks he produced, Achille also was the maker of larger-size mantel and table clocks, often with calendar and pendulum mechanisms which he patented. His inventions included perpetual calendars (which adjust for leap years), equation of time displays, thermal-compensated pendulums, and long-running clocks with periods from one to four years.² He formed a business with Jean-Baptiste Delettrez in 1851 to produce these larger clocks, and they continued working together until Achille's death in 1878. An example of the clocks by this partnership is seen in Figure 8. Achille Brocot contributed much to our appreciation of clockmaking.



Figure 8. A Clock by Brocot and Delettrez with Calendar and Moon Phases, circa 1857.

I encourage any reader to contact me with questions or comments on this article. Please email me at twotruba@mail.sdsu.edu.

²A description of a year-going movement by Achille Brocot with five barrels and requiring thirty-nine turns to wind fully is found in *Antiquarian Horology*, vol. 22 no. 5 (Spring 1996), pg. 424.

Hints:

When seeking to start a carriage clock by way of the horizontal sharp twisting of the wrist so you can see whether the balance responds, be careful about clocks with a cylinder escapement. Most cylinder escapements carriage clocks have narrower balance pivots than their lever escapement cousins, and you can easily break a pivot doing this: **Greg McCreigh (USA)**.

With some small carriage clocks both a male and a female key are required to wind the clock. If the keys are missing it is difficult to find the right size male key to wind the strike train through the small aperture on the dial. I have a series of different size watch stems which I use to size the winder in the aperture. Once the correct size stem is found the square of the watch stem can be cut off and soldered to the inside of one end a double female carriage clock key. We now have a double sided male and female key to wind the clock: **Stan Boyatzis (AUS)**.

To set up the end shake for a contrate wheel in a carriage clock, tighten screw until there is no end shake and then reverse screw by a third to a half a turn to produce the optimum end shake: **Andrew Markerink (AUS)**.

When setting Return Spring on the dial side of a carriage clock **don't** over tighten. "Just able to operate" is the parameter otherwise performance is dramatically affected: **Andrew Markerink (AUS)**.

Do you own a carriage clock?

If so, you may have questions about your clock.

Such as - - - -

1. When was it made and by whom if it is not signed by a maker.

Many carriage clocks are marked by retailers, such as “Tiffany”. Many times the maker is not identified. However the maker can often be identified by the construction style and other tell-tell signs found on the movement.

2. Should I clean the case, or not?
3. And the greatest question of all, what is it's value.

This is the hardest question to answer because of the many variables, such as condition of movement and case, the name and standing of the clockmaker, & the quality and rarity of the clock. We are not licensed appraisers. We can only advise you where to look for comparable clocks so you can make your own "best guess" as to the actual value, always remembering the oldest approach to a value is "Willing Buyer, Willing Seller".

Members of our chapter have many years of experience collecting, researching and restoring carriage clocks. Many are willing to help you answer some of these questions.

This free service is for NAWCC members only.

Email questions and pictures of your carriage clock (one clock at a time, please) to:

Ken Hogwood: (USA) kenhogwood@aol.com

Doug Minty: (Australia) dminty@optusnet.com.au

Link to the Online Galleries website

www.onlinegalleries.com/art-and-antiques/antique-clocks/carriage-clocks

Link to the 1stdibs website

<https://www.1stdibs.com/furniture/more-furniture-collectibles/clocks/?q=carriage+clock>