A Look at the Amazing Variety in Carriage Clock Tops

by Thomas R. Wotruba (CA)

Please reference the inserted section, found after this page, for color images of all of the figures discussed in this article.

Carriage clocks exist in an amazing variety of styles, sizes, shapes, materials, and decorations, in addition to their mechanical and functional features. This article focuses on the characteristics of carriage clocks that set forth their visual distinction and decorative appeal. Their numerous decorative components have been assembled in many combinations to produce an enormous range of individual and distinctive clocks as works of art, in addition to being timekeepers of great historical importance. The descriptive analysis provided here will allow clock collectors and students of horology to gain greater appreciation of these temporal treasures, as they become aware of the many decorative aspects of carriage clocks that might otherwise remain unperceived and unappreciated with more casual inspection. In fact, there are so many decorative components and characteristics to observe and enjoy in carriage clocks that this article is limited to a study of the tops of these clocks—that part that typically serves as the "roof," and covers the movement and its related mechanical features, such as calendar work and striking mechanisms. Later articles may explore other decorative aspects of carriage clock components, such as the dial, side panels, front and back doors, and even the bottoms.

What exactly is a carriage clock? It is generally accepted that a carriage clock is a transportable timekeeper, the so-called *pendule de voyage*. This article focuses on mechanical carriage clocks, whose operation typically involves a platform-mounted escapement powered by a mainspring and controlled by a balance wheel and hairspring. Carriage clocks are not weight-driven nor are they controlled by a pendulum, since a pendulum would not function properly when the clock was being carried. To make portability easy most have a handle on top, and were often sold originally with an outer wood or leather traveling box fitted specifically to the clock's dimensions, with its own attached handle or strap for carrying.

Many of the characteristics and components discussed in this article are illustrated in pictures of nineteenth-century French, English, American, and Swiss carriage clocks that are accessible to the author. Both the top of each clock and its front view are shown and its height is indicated (with the handle up unless otherwise noted). The characteristics or components discussed but not pictured are referenced to illustrations in other publications. Almost everything in this article can be found elsewhere in numerous other sources. This article collects and organizes this material in order to better inform carriage clock collectors and others curious about this fascinating area of horology.

The following is an outline of what's included in this article:

Material and Finish of Carriage Clock Tops

Material. Carriage clock tops are usually made of the same material and are finished in the same manner as the rest of the case. The typical material for most carriage clocks is brass, though the brass surface can be treated and finished in various ways. The Richard in Figure 1 is an example of a plain brass surface that has retained its original polished and lacquered finish. Others, such as the simple little French clock in Figure 2, have a plain brass surface that was recently polished after it began to show tarnish in the exposed brass. If left unpolished and unlacquered for a long time, some can get downright dull, such as the Boston Clock Company's Delos model in Figure 3, which has lost its original gilded finish. To some collectors, this condition indicates a "patina" of age that is not to be tampered with by polishing.

Silver or silver plate is a less common but highly desirable case material. Figure 4 shows a Frodsham with a solid silver case hallmarked to indicate sterling and showing the date 1851 (for more on hallmarks, see reference *BR*, 655-661). Silver-plated clocks occasionally come up at auction (*FCC*, lot 14) and other silver carriage clocks are pictured in various books (*DR*, 122, 137; *JF*, 41, 102, 142, 188, 205). Wood cases are found occasionally, such as the rosewood Vulliamy in Figure 5. The famous watchmaker Breguet also made wooden-case carriage clocks, using mahogany and walnut (*CA*, 38-41). Clocks of mahogany, ebony, and satinwood have been produced by various makers (*DR*, 69, 141, 293, 337; *ERA*, lot 121; *VV*, 30).

Figure 1. Richard, *grande sonnerie* on two gongs; numbered 83 on backplate. Circa 1880, French, 7" high.

Figure 2. France, time and alarm with bell in base; no name (possibly Couaillet), unnumbered. Circa 1890, French, 5-1/2" high.

Figure 3. Boston Clock Company, Delos model, timepiece; numbered C3383. Circa 1890, American, 6-1/2" high.

Figure 4. Frodsham silver timepiece, numbered 847 AD Fmsz and hallmarked 1851. English, 4-1/4" high to top of folded handle.

Figure 5. Vulliamy travel clock, bell strike, no repeat; chamfered top, numbered 1051. Circa 1835, English, 8-1/4" high.

Figure 6. Robert and Courvoisier, *petite sonnerie* on two bells; pull cords for repeat and alarm, numbered 7822. Circa 1799, Swiss, 10" high.

Figure 7. Boston Clock Company, Athens model, numbered C3532. Circa 1890, American, 6-1/2" high.

Figure 8. Dent a Paris (retailer), strikes and repeats on bell; maker's number 301 (possibly Jacot). Circa 1860-1870, French, 5-1/2" high.

Figure 9. Breguet, *grande sonnerie* on two bells; numbered 876. Circa 1847, French, 6" high.

Figure 10. Santiago LaCroix, *petite sonnerie* on two bells to the base, no repeat, double-hour strike, unnumbered. Circa 1850, French, 7-1/2" high at middle of handle.

Figure 11. Gilbert "Hello Long Alarm" model with seconds hand, unnumbered. Circa 1890, American, 8-1/2" high.

Figure 12. Dent, *petite sonnerie* on two bells plus hour strike on gong, numbered 13261. Circa 1850, English, 10-3/4" high.

Figure 13. Unmarked timepiece, unnumbered (possibly Couaillet). Circa 1890, French, 5-3/4" high.

Figure 14. Dent (retailer), strikes and repeats on bell; numbered 164 and 1774 (possibly made by Jacot). Circa 1850, French, 7-1/4" high.

Figure 15. LeRoy & Fils, *petite sonnerie* on two gongs with bottom-wind, numbered 9929. Circa 1880-1890, French, 5-1/2" high.

Figure 16. J. Caldwell & Co. (retailer), time and alarm with bell in base (possibly by Duverdrey & Bloquel). Circa 1890, French, 6" high at middle of handle.

Figure 17. Drocourt, *grande sonnerie* on two gongs with calendar work, numbered 18555. Circa 1860-1870, French, 7" high.

Figure 18. Berthoud, bell strike with seconds hand and 30-minute remontoire, numbered 24. Circa 1860-1870, French, 12" high.

Figure 19. Leroy & Cie, miniature timepiece, *pendule d'officier* style, numbered 21229. Circa 1900, French, 3-3/4"high.

Figure 20. Brocot, *petite sonnerie* on two gongs, numbered 227. Circa 1885, French, 9" high on top of spires.

Figure 21. Duval, bell strike with calendar work, no repeat and no number. Circa 1775, French, 10" high.

Figure 22. Boston Clock Company, Sparta model, timepiece, numbered C3589. Circa 1890, American, 6-1/2" high.

Figure 23. Boston Clock Company, Queen Anne model, timepiece, numbered C3767. Circa 1890, American, 6-1/2" high.

Figure 24. Unmarked, strikes and repeats on gong (possibly Couaillet), numbered 9271. Circa 1895, French, 7" high.

Figure 25. Drocourt, strikes and repeats on gong, numbered 16816. Circa 1870, French, 6-3/4" high.

Figure 26. LeRoy & Fils miniature timepiece, numbered 13828. Circa 1890, French, 3-1/8" high.

Figure 27. Thomas Cole strut clock, strikes on gong, signed but not numbered. Circa 1849, English, 5-3/4" high to top of coronet.

Figure 28. Garnier, strikes and repeats on bell, numbered 1971. Circa 1845-1848, French, 6-7/8" high.

Other materials less commonly found on carriage clock tops include pewter (*CA*, 181), aluminum (*CA*, 187), white metal (*ERA*, lot 23), ivory (*CA*, 181; *DR*, 123), solid glass (*DR*, 142, 145), marble (*CA*, 184), onyx (*FCC*, lot 56), solid enamel (*FCC*, lot 87), and combinations such as silver and gold (*DR*, 122). Occasionally the top is of different material than the rest of the case. Illustrations can be found of a clock with marble panels on all four sides but with a gilded brass top (*CA*, 180), a miniature carriage clock with ebony columns and base but a gilded brass top and handle (*DR*, 144), and a gilt-brass case with leather on top and sides (*ERA*, lots 19, 21).

Figure 6. Robert and Courvoisier, color figure pg. 187.

Finish. A gilded finish on brass is the surface treatment for many fine carriage clocks, though occasionally it is white metal that is gilded (*ERA*, lots 28, 107; *FCC,* lot 52). Gilding can be done in various ways (e.g., gold leaf, fire or mercury gilding, or electroplating), as discussed in more detail elsewhere (*DR*, 351-355). The Robert & Cour-voisier in Figure 6 has a fire-gilded finish, which results from applying an amalgam of powdered gold and mercury and then heating the surface to evaporate the mercury. The term "ormolu" is used to describe a cast bronze or brass case that has been fire-gilded. Little fire-gilding was done after the early nineteenth century because of the development of electroplating and the growing realization of the dangers from mercury poisoning. The final color can be varied somewhat through electroplating when alloys of gold combined with other metals are used. The Boston Athens model in Figure 7 sports a recently-applied satin gilt finish. A major advantage of gilding, besides its elegant look, is that it protects the brass finish from tarnishing. A major quandary occurs, however, when the gilding on an old clock begins to wear and the question of whether to regild is raised, since regilding eliminates some of the clock's originality.

Many gilded carriage clocks also sport decorative engraving, such as the small French-made clock retailed by Dent (Figure 8). Chasing is a step beyond engraving, as illustrated in the Breguet in Figure 9. Engraving and chasing differ in that chasing involves deeper cutting, often assisted by hammers to drive the cutting tool (*DR*, 146). Still another treatment involves casting, in which the decorative pattern is produced by a mold into which molten brass is poured. An example of a cast case is the LaCroix in Figure 10, a clock from the Morez region of France. Castings were sometimes chased or chiseled, especially on ormolu-finished clocks (e.g., Figure 6), to accent details prior to gilding (*DR*, 151).

American carriage clocks were often originally nickel-plated, but for many, like the carriage-type alarm clock by Gilbert in Figure 11, the finish was worn down to the brass from exuberant, though well-meaning, polishing by early owners. Nickel plating also was used for a number of less expensive German carriage clocks (*CA*, 335, 370) and for a few exquisite English and fine French examples (*FCC*, lot 114; *VV*, 23). A bronzed finish is yet another type, and is illustrated here by the large carriage clock by Dent in Figure 12, which shows that bronzing produces a much darker appearance. Some carriage clocks have enameling on their tops and sides as well. This will be examined more under "Ornamentation."

Shape and Design

Shape. Shape of the carriage clock top refers to its geometric pattern and any layers or levels of surfaces observable when looking straight down at the clock's top. The typical geometric shape is the rectangle, with the wider dimensions connecting to the clock's front and back and the narrower dimensions adjoining the clock's sides. Rectangular-shaped tops are shown in an unmarked French clock (Figure 13), the Richard (Figure 1), and many of the other clocks pictured here. Note the differences in corner treatments, however, which is generally repeated in the base of the clock. In Figure 13 the corners are square, as is typical in

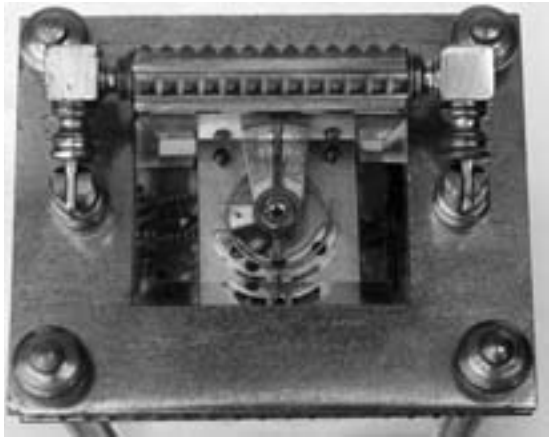

Figure 13. Unmarked timepiece, color figure pg. 189.

anglaise style cases. The Richard corners are rounded, as appropriate to this corniche style case as well as to the more common obis and more sophisticated gorge style cases. Corners at case tops and bottoms might also be extended to protrude beyond the confines of the typical rectangular outline. Extended corners often serve in such cases to accommodate separate or free-standing pillars in the case design (e.g., *DR*, 83; *ERA*, lots 80, 81, 135).

The square top is a special and somewhat rare type of rectangular top and requires that the carriage clock have a square case (*CA*, 181). Also rare are hexagonal shapes; they would appear on a clock with six sides, or vertical panels, instead of the usual four (*DR*, 112; *JF*, 82). Not as rare, but considerably less common than rectangular, are oval-shaped tops, as on the nicely-engraved French carriage clock retailed by Dent in Figure 14. As an aside, oval-shaped cases which contain oval tops are most desirable when designed with curved and beveled glass on the body of the clock, a type of glass not easily replaced should a glass panel break. Also quite rare are round-shaped cases with corresponding round tops (e.g., *CA*, 92). A 3-1/4" diameter Waterbury was recently offered for auction on eBay.

Another geometric pattern is often referred to as serpentine or doucine, as illustrated by the small LeRoy in Figure 15. This pattern is essentially rectangular but with the wavy serpentine shape on the top and base; the clock's case does not contain curved glass. Other patterns are occasionally found as well, such as the curved top of the simple alarm-timepiece retailed by J. Caldwell & Company in Figure 16, which resembles a serpentine pattern but without the middle wave.

Design. While most carriage clock tops are flat, some have added vertical dimension from different layers or distinct shoulders around the edges. For example, the Vulliamy (Figure 5) has multiple top layers as can be seen more clearly in the front view of this clock. Sometimes called a chamfered top as it is stepped up in layers, with the top layer having a low pyramid-like shape. The Drocourt with calendar work (Figure 17) has a distinct raised shoulder, a feature integral to the gorge style case that houses this clock. The shoulders on some clocks bevel downward. A straight downward bevel underlying a slightly chamfered top is seen on the Berthoud in Fig. 18, while a somewhat concave bevel occurs in the oval Dent (Figure 14). A more conspicuous example appears on the Leroy in Figure 19, a miniature in the *pendule d'officier* style, with its scroll-engraved bevel surrounding a plain gilt-brass top.

Some carriage clocks have stylistic designs that are carried through in their tops as well. The result can be a top that is not flat, and an example is the gabled top of the Brocot seen in Figure 20. Another case style pictured in many clock books is the humpback or "borne" style with a top in the form of an arch (*DR*, 27; *CA*, 175)

Figure 5. Vulliamy travel clock, color figure pg. 187.

as made famous by Breguet. When the gable and humpback are blended, the result can be a pediment top, as suggested in the Duval shown in Figure 21. Of course, the semi-circle pediment on this clock does not carry through the entire top, but instead just presents a pediment facade when the clock is viewed from the front. A more complete example of a pediment top is seen in Figure 6. Full pediment-topped carriage clocks are rare (for other examples, see *CA,* 169; *ERA*, lot 73). Some carriage clocks have cases that are completely round in their vertical dimension. These are known as drum-shaped cases and have sloping cylindrical tops (for examples, see *DR*, 253-256). Other case styles are known by their decorative form, such as bambu (or bamboo), art nouveau, and rococo (*CA*, 175-180). Examples of many more unusual and rare case styles are pictured and discussed elsewhere (e.g., *DR*, 96-116).

Ornamentation: Decorative and Functional

Decorative. Carriage clock tops can be embellished with a wide variety of decorative items that can make a clock individualistic and attractive. These are items in addition to the clock handles and glass windows, as those features are distinctly interesting enough to be covered in separate parts of this article. Perhaps the most common ornaments are finials, those decorative objects usually placed in the corners of the top of the case. Corner finials of various shapes are seen in Figure 22 (the Boston Clock Company Sparta model) as well as in Figures 7, 13, and 21. Sometimes finials are added to the handle mounts, as on the LaCroix (Figure 10). Cases of unusual design might sport finials in other places, as shown by the two rather ornate spire finials on the Brocot (Figure 20). A more elaborate ornamentation involves the gallery, illustrated in Figure 23, on the Boston Clock Company Queen Anne model. This specific decoration is unique to this clock model, with the tall rear and short front corner pieces capped by finials and a balustrade of urns supporting the rear railing.

Figure 22. Boston Clock Co., color figure pg. 191.

Numerous other decorative items can be found on carriage clocks. Some complement the style of the case itself, and an example would be cherubs (i.e., putti) reclining on top of a flamboyant rococo case (e.g., see *ERA*, lots 184-185; *VV*, 20). Some of the most curious decorations are included in an enclosed glazed box on top of the clock, often as big as the clock itself. The contents of the box seen most often include a bird sitting on a branch surrounded by foliage. When wound and activated, these automatons move by opening their beaks, raising their heads, and even moving their tail feathers up and down. Sometimes the activation is coordinated with the clock movement, producing the action on each hour (e.g., *DR*, 234). Others have movement independent of the clock movement and can be activated on demand by a lever (*ERA*, lot 101; *JF*, 74). One slightly different example involves an acrobat dancing on a tightrope and manipulating a balance bar to the accompaniment of a built-in music box, all just before each hour (*JF*, 126). Many of the clocks with boxed automatons were made by Japy Freres.

Enameling is found on some clock tops, usually when the clock case has enamel decoration elsewhere. Likewise, porcelain panels are occasionally found on the top of clocks that have porcelain panels on their sides (e.g., *DR*, 204). The diversity in patterns and configurations of enameling is enormous, and every porcelain panel is unique because each is individually created. Clocks with porcelain or enameling anywhere on the case are truly one-of-a-kind, and it is even more rare when the porcelain or enameling occupies some part of the clock's top, as it does in the champlevé enamel example in Figure 24. Note that the Drocourt in Figure 25 has porcelain panels on the front and sides of the case, but no porcelain decoration anywhere on the engraved top. Other sources do provide illustrations of porcelain paneling on clock tops (e.g., *ERA*, lot 1; *FCC*, lot 58; *VV*, 26) as well as champlevé enameling (e.g., *FCC*, lots 1-3 and 8; *JF*, 35, 45, 76). Porcelain and enameling are each discussed in detail in Roberts' book, including additional examples of porcelain and Limoges on clock tops (*DR*, 163-196). Interested readers are urged to consult this source.

Functional. Functional ornamentation is that which produces information in addition to the time measurement of the clock itself. Examples include thermometers, compasses, and barometers on the clock's top, either singly or in combination (*ERA*, lots 78-81). These devices usually rest in the middle of the top, replacing the more typical glass window covering the platform escapement. One most unusual example involves a sundial and compass (*DR*, 235). Alarm bells also have functional value, such as those on top of the Gilbert model shown in Figure 11.

Handles

Presence or Absence. The hallmark of a carriage clock is the handle, as few other types of clocks have this appendage. A handle is generally considered necessary since, by definition, a carriage clock needs a carrying mechanism. There is evidently some disagreement on this point, however, as clocks without handles are occasionally included in books on carriage clocks and in carriage clock auctions. For instance, the Vulliamy in Figure 5 has no handle and might be considered by some collectors as a shelf clock. But Allix includes it in a list of 16 Vulliamy carriage clocks (*CA*, 246). Many Vulliamy clocks had wooden travel boxes, including clock number 1052 (one number in sequence after that in Figure 5) as pictured by Allix (p. 241) and these contained carrying handles. A similar Vulliamy clock with no handle is pictured by Roberts (*DR*, 260) with the caption that it cannot be classified as a carriage clock because it has no carrying handle, even though it does have a separate traveling case and "is designed for travel." A few pages later in his book, Roberts shows a clock by McCabe with no handle but labels it a carriage clock since the clock's accompanying wooden travel case does provide the requisite handle (*DR*, 290). The Brocot pictured in Figure 20 has no handle, but was included in a major auction of carriage clocks (*ERA*, lot 97) as one of at least a dozen clocks in that auction having no handles. Another major auction of carriage clocks presented three clocks with no handles (*FCC*, lots 11, 52, 88) and described them as "travel timepieces." Since transportability is a key feature of a carriage clock, it appears that this category of clock is sometimes broadly defined to include portable clocks with no attached handle if a handle is provided on an associated traveling case. In any case, carriage clocks without handles are definitely atypical.

Fixed or Hinged (with or without stops). The vast majority of handles on carriage clocks are hinged, allowing the handle to pivot from front to back of the clock. Handles that are fixed and cannot pivot are rare, usually found on clocks with unusual case designs such that a pivoting handle would be cumbersome or down-

right dysfunctional. The Gilbert (Figure 11) has a fixed handle, perhaps to keep it away from touching the alarm bells on top of this clock. The miniature Leroy (Figure 19) also has a fixed handle but the reason for this is certainly not obvious. Other miniature carriage clocks, such as the LeRoy & Fils in Figure 26 (a different LeRoy, incidentally, from the Leroy in Figure 19), have hinged handles, so clock size is not the determining factor.

With hinged handles, a further characteristic of interest is whether the handle has stops to keep it from falling forward. A careful look at the Drocourt (Figure 17) or the Berthoud (Figure 18) will show these stops located in each handle mount. Allix noted that handle stops became more common as repeat buttons were used (we discuss repeat buttons further on), in order to keep the handle from falling on the button and causing the last strike to repeat (*CA*, 186). While that seems sensible, it was apparently not a universal practice since we find no handle stops on the Breguet (Figure 9) or the oval Dent (Figure 14), both of which have repeat buttons. Conversely, handle stops occur on some clocks with no repeat buttons, such as the Couaillet (Figure 13) and the Berthoud (Figure 18).

Styles and Shapes. Some standard case styles of French carriage clocks frequently carried correspondingly standard-shaped handles. These are quite elementary in design with a slightly enlarged middle span divided into sections. The simple obis case handle carries two breaks and three sections (e.g., Figure 2). The corniche case handle typically also has two divisions producing three sections (e.g., Figure 1). The more elegant gorge case usually includes a handle with four divisions, or breaks, producing five sections as in the Drocourts in Figures 17 and 25.

But apart from those more conventional configurations, there is enormous variation in styles and shapes of carriage clock handles. Perhaps clockmakers believed that handles were a highly visible and eye-catching feature of their clocks that could be shaped and styled to impart character and distinguish their work from others. So it is probably impossible to construct a clear and complete taxonomy of handle styles and shapes. But we can recognize and compare between two broad categories that can be termed flowing and angular designs. Flowing designs contain curved shapes and avoid sharp or defined angles. Examples here include the reeded bow handle in Figure 15 and the bowed or arched handle in Figure 16. The handle on the Dent in Figure 14 is also somewhat flowing and this type is often termed a scroll handle, but it does contain some angular components. Perhaps the ultimate in flowing designs are circular or elliptical shaped handles such as in Figure 6 which have only one handle mount centered on top of the case.

In contrast, handles with angular designs are found in Figures 7 and 13. These handles seem fitting on clocks with square corners typical of anglaise case

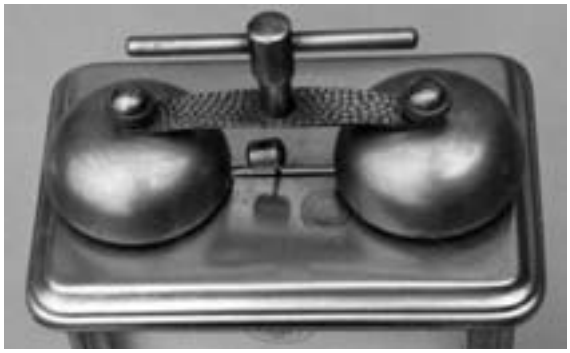

Figure 11, above. Gilbert, color figure pg. 188.

Figure 17, right. Drocourt, color figure pg. 190.

designs. The angular handle in Figure 9 occurs on a one-piece case, also a typical matchup between case style and handle. The bronze Dent in Figure 12 also has an angular handle with some geometric variation, which complements the rather severe design of its anglaise case. An angular handle not shown here but found relatively frequently is called the Greek key handle. It is somewhat like the handle in Figure 15 except that the reeded portion is typically straight, not curved, and the attached sections on either side have right-angled corners (e.g., *ERA*, lots 10, 14, 38, and many more).

A caution on handle names is in order, since similar-shaped handles may be given different names by different writers of auction catalog descriptions. Further, different handle shapes might sometimes be labeled similarly. For instance, in a recent auction catalog (Christie's, 26 March 2003, lots 26 and 35) the term "Greek key" is used to describe handles with angled corners and also handles with rounded corners (the latter similar to Figure 15). Many catalog descriptions of carriage clocks do not even mention or describe the handle, perhaps a sign that no agreed-upon standard terminology exists to cover the many variations extant.

One further dimension of handle shapes might be noted as a basis for comparison. We can distinguish between handles that are round in diameter or not round—flat, square, or some other geometric shape. The standard French case handles pictured here—obis, corniche, and gorge—are all round. The handles pictured in Figures 14 and 16 are flat, however, as are

those in Figures 12, 21, and 24. While it is possible that handles are made flat in order to show off some decoration, such as engraving (Figure 14) or enameling (Figure 24), some flat handles are rather plain. Further, many round handles are profusely engraved, a point addressed further on.

Some handles sport quite unique shapes or designs. For instance, the silver Frodsham in Figure 4 has a split handle, with the two parts able to fold to rest prone on top of the case. When the handle parts are raised, they engage to form the handle. An unusual type of carriage clock, the strut clock made famous by Thomas Cole, is shown in Figure 27. Strut clocks are sometimes called boudoir or desk clocks, although Cole's strut clocks were always provided with traveling cases (*CA*, 239). Roberts called these strut clocks "a direct alternative to the conventional carriage clock" and noted that their "flatness made them, in some ways, more suitable for traveling than the conventional rectangular carriage clock" (*DR*, 270). The clock in Figure 27 also has a two-part folding handle which can be collapsed to rest directly behind the decorative coronet at the top of the case. Note that on these two clocks, the handles are hinged in each part to move up and down but not to the front or back of the clock. Some split folding handles do pivot front to back, however (*DR*, 313, 346; *JF*, 65; *VV*, 23). Some very rare carriage clocks have handles in the form of chain. Examples of these flexible handle shapes are illustrated elsewhere (e.g., *DR*, 264-65 and 326). An Austrian carriage clock exists with a handle that folds down into an opening exactly its shape in the clock's top, rendering the top completely flat when the handle is folded down (*JF*, 214).

Figure 26. Leroy & Fils, color figure pg. 192.

Decorations. The decorative characteristics of handles add further variety. These range from quite plain or absence of decoration (e.g., Figure 16) to decorations provided from casting, engraving, or enameling. Quite often the decorative ornamentation on carriage clock tops is continued into their handles as well. Thus, clocks with cast decorative cases have cast handles, such as the LaCroix in Figure 10 with its entwined serpent handle. Another is the LeRoy & Fils in Figure 26 with its addorsed (set back to back) serpent handle. Clocks with considerable decorative engraving on sides and top will also carry engraved handles. On the fully-engraved Dent in Figure 14, for instance, is a scroll engraved handle. The traditionally-shaped handles on gorge cases are often engraved to dress up the otherwise restrained handle design, especially when engraving covers the rest of the case (e.g., Figure 8). The chased case on the Breguet (Figure 9) contains a corresponding deeply-chiseled floral and leaf pattern in its handle. And the champlevé enamel on the French clock top and case (Figure 24) continues onto its handle.

Numerous instances occur, however, where handle decoration is not simply a match to the rest of the case. These typically involve cast rather than engraved ornamentation, such as the reeded or fluted patterns often used in handles of clocks with plain tops (see Figures 7 and 15). Handles with more complex or fancy imagery can provide attention-getting contrast, especially on more elegant clock tops, as the addorsed serpent handle does in Figure 19. In other cases the handle might repeat a pattern present in the clock case but lacking on the case top. The dentil or ripple pattern in the handle of the unmarked French clock in Figure 13 repeats that same motif found elsewhere on this clock case. It is worth repeating that the diversity of handle styles, shapes, and decorations is enormous. Clock handles composed of two clasped hands or two winged dragons are further examples (*JF*, 84 and 90). In fact, a close look at the handles of clocks pictured in carriage clock publications will clearly demonstrate this profusion (*DR, ERA, FCC,* and *JF*).

Windows

Presence or Absence. Most carriage clocks have a window on top, supported from underneath by brackets and screws that also secure the handle mounts. This glazed opening allows the viewer to see some movement action—typically the oscillating balance wheel and balance spring in the escapement mechanism resting on top of the platform. The LaCroix in Figure 10, for example, has an elaborately engraved platform that is interesting to look at in itself apart from the motion of the escapement.

A number of clocks pictured here do not have windows, however. The Cole strut clock (Figure 27) lacks room at its top, and its vertically-positioned escapement would not provide an interesting view if a top window did exist. The Frodsham (Figure 4) has no window. Perhaps because of its fragile silver case, it was intended to be kept covered and protected in its leather traveling box (*RG*, 17). The Leroy in Figure 19 was styled after the eighteenth-century *pendule d'officier* clocks that typically had no top windows. And the Brocot with the gabled top (Figure 20) has no conve-

nient place for a window. Other clocks with more unusual cases, such as the valuable humpback or borne style by Breguet, contain no top window. But many inexpensive turn-of-the-century (circa 1895-1915) French and American carriage clocks were produced with no top windows, instead having tops, sides, and back door panels made simply of brass (e.g., *CA*, 174 and chapter XII).

If the clock's top contains functional ornamentation such as a compass, that will replace the glass window as already noted. Porcelain panels as decorative ornamentation on clock tops have also been mentioned, and in a few rare instances these panels completely cover the top and thus replace the glass window (besides those already referenced, see *CA*, 164 and 177). Hidden windows comprise another possible option. The wood-cased Vulliamy in Figure 5 has a sliding top section which must be removed to reveal the glass top window. This case feature has been characterized (*CA*, 244) as a "secret sliding chamfered top."

Figure 20. Brocot, color figure pg. 190.

The window atop some carriage clocks requires explanation. Illustrated here are four carriage clock models from the late nineteenth century by the Boston Clock Company. Boston carriage clocks all had vertical escapements rather than those typically mounted on a horizontal platform just beneath the clock top. Under these circumstances, a window on top would provide no interesting view of escapement motion so the tops of three of these clocks have no window (see Figures 7, 22, and 23). But one Boston clock does have a window (Figure 3) even though there is no interesting action beneath it to see. Collectors of these clocks speculate that the company imported cases from France for some of their early production, as French cases were made with top windows to view the horizontal platform escapements of French carriage clocks (*JTW*, 3-4). Subsequently, cases for this Boston model were made in the United States with no top window.

Shapes. The shapes of windows are about as varied as the shapes of clock tops themselves. Since most tops are flat, the windows inserted in them are typically flat as well, and generally rectangular or oval in dimension. Among the clocks pictured in this article, the windows with rectangular shapes are most popular, as in the Dent (Figure 8), LaCroix (Figure 10), and the Berthoud (Figure 18). Oval windows are also quite common, as seen on the Drocourts (Figures 17 and 25), the Richard (Figure 1), and others. Most rectangular windows have square corners, but rounded corners are found occasionally as on the Garnier in Figure 28.

Square windows are certainly possible, but none turned up when searching for examples for this article. An example of a diamond-shaped window was found, however (*JF*, 19), and this might be considered a square rotated 45 degrees on the clock top to appear as a diamond. Circular windows are also possible, and one has been seen on a Swiss carriage clock (*DR*, 244). Both square and circular windows are not only uncommon but also less practical because they do not provide as large an opening for viewing the motion work underneath as do rectangular and oval windows.

Other window shapes have been designed to coordinate with the shape of the clock case. For instance, the shape of the doucine case and top of the LeRoy in Figure 15 is repeated in its window. The window on the Duval (Figure 21) has circular indents at each corner of its otherwise rectangular window. Perhaps this contour was used to mirror the pattern from the finial placements on the top. One clock with six sides and a hexagonal top carried a window with six sides (*JF*, 82). Another clock with a convex-sided case and corresponding top incorporated a convex-sided window as well (*JF*, 133).

Most unusual are clocks with top windows that are not flat. These can range from a slightly curved glass to fit an arched top (*FCC*, lot 44) to a more pronounced curve to fit a pediment top (*ERA*, lot 73). At the extreme is the bubble top, a half-globe of glass covering the escapement which is placed above the level of the clock's top (*CA*, 224; *JF*, 54 and 182). Thus exposed, the escapement can be viewed from all sides, but since these glass bubbles protrude beyond the protective confines of the case, they seem very vulnerable. An occasional flat window is elevated above the rest of the top, described in one source as a "raised escapement viewing aperture" (*JF*, 70). Both rectangular (*RG*, 34) and circular (*JF*, 28) versions exist.

The glass in most carriage clock windows is beveled. This can be seen clearly in Figures 8, 18, 28, and others. In fact, only two clocks pictured here do not have windows with beveled glass. One is the oldest (Figure 21), dating at about 1775, but its age is an unlikely explanation since beveled glass has been used since the late seventeenth century according to standard reference books. Furthermore, the convex glass over the dial of this clock is beveled. Perhaps the unusual shape of the window would have made beveling difficult. Or perhaps the maker believed that the decorative value from beveling was not needed in light of the other decorative

Figure 8. Breguet, color figure pg. 187.

aspects of this clock. Further, one of the reasons for beveling is to protect the glass and minimize chipping. Perhaps the brass collar surrounding the window of this clock was deemed protection enough. The other clock with nonbeveled glass is the Vulliamy (Figure 5). Because its chamfered top has a removable cover over the window, the maker might have felt that the decorative and protective benefits from beveled glass were unimportant in this case as well. Some inexpensive early twentieth century American carriage clocks contained unbeveled glass panels, as specifically noted in their catalog pages (e.g., *CA*, 372). As an aside, it is curious that none of the books referenced in this article discuss the use of beveled glass or anything related to the type of glass in carriage clocks. Of interest to collectors might be the age of the glass used (older glass has distortion), glass thickness, and angle of the bevel.

Size. A final factor regarding carriage clock windows is the size of the window relative to the area of the case top. Allix observed that, in general, the earlier clocks had larger areas of glass (*CA*, 159). A comparison of large versus small-sized windows bears this out, using the rectangular windows to illustrate. The largest rectangular windows are found on the Breguet (Figure 9), the Garnier (Figure 28), and the bronze Dent (Figure 12). The Breguet can be accurately dated since it is accompanied by a certificate of authenticity number 3530 issued by the House of Breguet, 12 Place Vendôme, Paris, and stating that the clock was sold on January 11, 1847, to Count de Lembrocke for 1500 francs. The Garnier is dated circa 1845-1848 and the Dent is dated circa 1850, both according to their serial numbers. In contrast, the smallest rectangular windows occur on the two unmarked French clocks (Figures 13 and 16), both of which are dated circa 1890. In addition to age, however, a determining factor might involve the greater elegance and stylishness contributed by the larger beveled glass opening to the overall character of a clock that was also highly decorative in case style and finish. This combination of features made such clocks more valuable and appealing to the more prosperous buyers. Certainly the clocks here with larger windows were more decorative and ornate, and thus special, than the simple and far more common clocks pictured with smaller windows.

Buttons and Levers

Presence or Absence. Before artificial light was readily available, reading a clock at night was difficult. So most early carriage clocks struck the hour, and often the half-hour, on a bell or, in later years, on a gong. In addition, these clocks were provided with a mechanism that allowed for repeating the last hour struck by pressing a button atop the case. As better lighting became available, a growing proportion of clocks did not have striking and repeating capabilities, which also made them less expensive and more affordable to a wider market. Figures 2, 3, and 16 show examples of nonrepeating and nonstriking clocks from the late nineteenth century. Still, not all clocks that struck on a bell or gong also had a repeat mechanism. For instance, the Vulliamy in Figure 5, the Berthoud in Figure 18, and the Duval in Figure 21 all strike but have no repeat facility. Though not related to carriage clock tops, we might note that some clocks with no repeat or even no strike do, however, have an alarm that could be set to sound at a particular time of significance to the owner (e.g., Figures 2, 11, 16).

Single Repeat Buttons. A single button on a carriage clock top almost inevitably represents a repeat mechanism, and it is usually found centered between the front edge of the top and the window. This arrangement is seen clearly on the LeRoy (Figure 15), the Drocourt (Figure 25) and many others pictured here. Less typical are repeat buttons placed through the top window, as is the case with the Garnier in Figure 28. James McCabe was one carriage clock maker particularly fond of placing repeat buttons through the glass window, and examples of his work are often displayed

Figure 9. Breguet, color figure pg. 188.

(*JF,* 166, 186; *RCC*, 34; *VV*, 24; *DR*, 289-302).

Pressing this button will activate the repeat, and many different repeat patterns exist. It is not within the scope of this article to discuss the numerous striking patterns or systems, such as *grande sonnerie*, quarter striking, or minute repeating, as these are well described elsewhere (*CA*, 195-201; *DR*, 224-225; *ES*). For the moment it is sufficient to say that the pattern repeated from pressing the button will depend on the striking system in that clock. So a clock with *grande sonnerie* striking will also repeat the previous hour and will indicate the number of quarter-hours that have passed since the last hour.

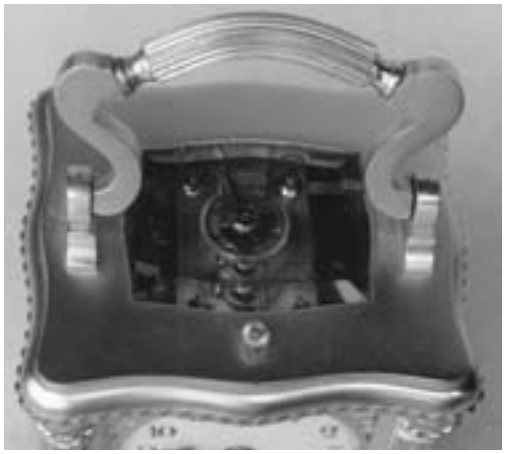

Figure 15. Leroy & Fils, color figure pg. 189.

Even though the utilitarian need for repeating lessened as improved lighting became available, some clockmakers strove for more intricate striking and repeating systems. Perhaps they wished to show off their talent, outdo the work of other clockmakers, and thereby secure esteem and a reputation for high achievement. Five-minute and one-minute repeaters are examples. For instance, some clocks do not strike the hour in passing, but will repeat not only the hour but also the number of five-minute intervals since the last hour (see examples in *ERA*, lots 25, 95, and 96). These are sometimes called plunge repeaters with a button that looks more like a round knob. When the knob is pushed, it winds the spring that activates the repeating mechanism. Of course, there are also clocks that do strike in passing and have repeat buttons that produce a count of the number of five-minute or even one-minute intervals after repeating the previous hour (see examples in *JF*, 33, 41, 86, and 130). Some single button repeaters recount the previous hour, then the quarters, and then the minutes (e.g., *ERA*, lot 90; and *RG*, 22).

A final note regarding single repeat buttons is that they sometimes exist but do not appear on the clock's top. One example illustrated here is the Brocot (Figure 20) with the gabled top. The repeat button is placed within the trefoil design in the middle of the gable which is more a part of the front of the clock rather than the top. Another example is the large bronze Dent (Figure 12), which carries its repeat button through a glass panel on the side of the clock. Other examples can be found elsewhere as well (*JF*, 172).

Multiple Buttons. Two buttons on the top of a carriage clock are rare and generally indicate that the clock has two different repeat mechanisms. For instance, some clocks have a button in front that will cause the last hour to be repeated, and a button at the rear that will count the number of five-minute periods past the last hour (*ERA*, lots 103 and 105; *JF*, 56 and 70). The action from each button is independent. A different two-button system was used on some clocks by Breguet (*JF*, 110 and 152). One button activates the repeat and the other is actually a pull-cord to wind the alarm.

Some even rarer three-button clocks contain two buttons in front near the left and right corners and a third button on the top rear of the case (*ERA*, lot 106; *FCC*, lot 126). Pressing the third button activates a lever which holds back the hammers slightly so that they do not quite hit their gongs. This is called "dumb striking" and its purpose is to allow the traveler (presumably holding the clock) to feel and count the vibrations from the impeded strikes that produced no sound and thus no disturbance to others nearby. The clockmaker Boseet produced some extraordinary carriage clocks with multiple buttons at the top. A three-button example (*CA*, 204) contains one to activate the hour and quarter-hour repeat and a second to manually correct the calendar dials on the front of the clock. The third button is actually a plunger that winds and releases a minute-repeating mechanism. A four-button example (*DR*, 223 and *JF*, 112) is a *grande sonnerie* that has no minute repeat but provides three buttons to adjust the two calendar dials and the moon dial plus a slightly more raised button to activate the quarter-hour repeat.

Other Levers and Cords. While most uncommon, a few other manipulative devices have been found on carriage clock tops. Pull-cords to wind an alarm have already been noted, though pull-cords for this purpose are perhaps more often found on sides of clocks (see the LaCroix in Figure 10; Robert & Courvoisier, Figure 6). Two very similar but different-numbered clocks by Nicole Nielsen (*JF*, 188; *RG*, 22) contain levers on either side of the repeat button that control for silencing the strike and changing the striking pattern from *grande sonnerie* to *petite sonnerie*. A clock by Arnold and Frodsham (*RCC*, lot 70, pictured in *CA*, 270) has two buttons flanking a center lever that slides between strike and silent. One of the two buttons operates the repeat and the other is a loud-soft adjustment for dampening the intensity of the strike. Perhaps the most unique use of a button is found on a clock with compass and small sundial on top (*DR*, 235). The button serves to lock the compass as an aid in proper positioning of the sundial.

Inscriptions and Other Things

The final category of items found on carriage clock tops includes inscriptions to signify a gift, honor, or simply ownership. For example, a Drocourt carriage clock made to special order contains a coronet and two-letter monogram engraved in the top window (*CA*,

117). One extraordinary clock with Limoges dial and side panels contains a presentation inscription engraved in French to "my son Alphonse" on the gilded border surrounding the window (*JF*, 148). An excellent silver-cased perpetual calendar clock bears in its handle a person's name for whom the clock was presumably made (*DR*, 70). A large and exceptional gilt-brass *grande sonnerie* with calendar, alarm, and seconds hand includes an inscription to Congressman Richard Mott with the date December 25, 1875 (*ERA*, lot 181), suggesting that the clock was a Christmas gift. Inscriptions with dates are obviously helpful in discovering when the clock was made, and may offer useful clues regarding their provenance. Many inscriptions on carriage clocks do not occur on their tops, however. More likely they will be found on the back door or on the front below the glass panel covering the dial. Sometimes they are engraved onto a little plaque or cartouche that can then be placed on the clock and later removed if desired. Other elements that are unlikely to reside on the clock's top are the maker's or retailer's name, which if present at all are usually found on the back plate. The same is true of any trademark, serial number or model number. Sometimes repairers will scratch in their initials and a work date, and these might be found anywhere inside the clock on its plates or case parts.

Conclusion

If variety is the spice of life, this examination of carriage clock tops clearly provides a spicy review. A lesser-known saying is that variety is the mother of enjoyment, and the purpose of this article is to expand that enjoyment among carriage clock collectors by stimulating their perception of the variations and vast range of differences in these clocks.

So now is the time to display your carriage clocks on a table before you and study their distinctive features as set forth in this article. I think you may see them in a new light. There are truly many nuances to ponder, even in just the tops of carriage clocks. Distinguishing among the many variations should make collectors more appreciative of the full character of their own clocks or others they have seen. You also become more aware of what to look for to expand your enjoyment and guide your search for future acquisitions. One thing seems certain. With such diversity in so many components of carriage clocks, there will always be something different to discover, some elusive but alluring variation to seek out, enjoy, and possibly bring home, some gap to fill in the collection.

I would like to thank Doug Cowan for reading the early draft of this article and providing many useful comments and suggestions.

Notes

BR Cecil Clutton, *Britten's Old Clocks and Watches and Their Makers*, 9th edition (London: Bloomsbury Books, 1982).

CA Charles Allix, *Carriage Clocks: Their History and Development* (Woodbridge, Suffolk: Antique Collectors' Club, 1974).

DR Derek Roberts, *Carriage and Other Travelling Clocks* (Atglen, PA: Schiffer Publishing, 1993).

ERA *The Dr. Eugene and Rose Antelis Collection of Important French Carriage Clocks*, auction catalog (London: Christie's South Kensington, November 26, 1998).

ES Eric Smith, *Striking and Chiming Clocks* (Newton Abbot, Devon: David & Charles, 1995).

FCC *French Carriage Clocks*, auction catalog (London: Christie's South Kensington, July 3, 1997).

JF Joseph Fanelli, *A Century of Fine Carriage Clocks* (Bronxville, NY: Clock Trade Enterprises, 1987).

JTW *Journal of the Tandem Winders*, Vol. 2, No. 1 (Winter 1983).

RCC *Rare Carriage Clocks*, an exhibition catalog (London: Asprey & Company Ltd., November 26 to December 17, 1975).

RG Richard Good, *Victorian Clocks* (London: British Museum Press, 1996).

VV Vitale & Vitale, *The Carriage Clock: 200 Years of Timely Allure* (no place of publication listed, 1994).

About the Author

Tom Wotruba is a Ph.D. in business administration and a former professor of marketing at San Diego State University where he retired in 2000. During his teaching career of more than 30 years, Tom published textbooks and many articles in academic business journals. An avid collector of carriage clocks for more than 20 years, he published his first clock-related article in the NAWCC Bulletin in August 1999 and another in the *Horological Journal* in January 2003. He can be reached at twotruba@mail.sdsu.edu.