BULLETIN

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No. 469

Journal of the National Association of Watch & Clock Collectors, Inc.

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COLUMNS

NAWCC

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ABOUT THE COVER

The chronograph movement on the front cover could be mistaken for an intricate sculpture. It's the Valjoux 72, the favorite of a teenage watchmaker interviewed on page 256. Photo by John Cote.

WHERE IS TOMMY TICKER?

In each *Bulletin,* Mr. Ticker is hiding. If you find his image as shown here, email editor@nawcc.org with your name and the page number and his location. Mr. Ticker's location in the Mar/Apr issue is revealed on page 330. Entries are due by the 1st of the month before publication. Good luck!

MESSAGE FROM THE BOARD CHAIR

I am writing this message upon returning from the Florida Mid-Winter Regional, which for the second consecutive year was held at the incredible World Golf Village in St. Augustine, FL. It was only a few years ago when the future of this event was in doubt, but thanks to the collective efforts of the Florida Chapters and a dedicated team of volunteers led by Mario Taylor, Eric Tibbetts, and Vivian Ello, a new venue was found and the Regional surged ahead as a can't-miss event for members looking for a winter retreat and a chance to engage in fellowship, education, and a large, diverse mart.

The Florida Regional is an excellent example of how individual Chapters and their members can get involved in helping the NAWCC grow and thrive. While we have numerous Regionals scheduled throughout the year (see nawcc.org>Events), there are some geographic areas that are certainly underrepresented. Until recently, New England was one of those areas, but thanks to Bob Frishman, Chris Carey, and support from Chapter 8 and several other area Chapters, a new Regional is now set for the end of April in Concord, NH. I encourage other Chapters and their members to consider hosting an event in their area.

Planning is also well underway for what will prove to be another excellent National Convention this June in Chattanooga, TN. This year's National will include a large mart along with numerous lectures, workshops, and other events for those interested in all facets of horology. Much like a Regional, putting on a National Convention takes a huge team of volunteers. If you're interested in helping, please reach out to co-chairs Chris Martin, Sherry Kitts, and Glen Kitts (https://natcon.nawcc.org/), as they are always looking for help both in the planning stage and at the event itself.

Finally, I would be remiss if I did not mention this year's Ward Francillon Time Symposium, an exciting educational opportunity to be held in historic Sturbridge, MA, on October 21–24 (https://education.nawcc.org/symposium/). The Symposium, co-chaired by Cathy Gorton and Howard Cohen, will feature renowned speakers as well as tours of the Willard House & Clock Museum, Old Sturbridge Village, and the American Clock & Watch Museum—all in the beautiful setting that is New England in the fall.

These events are just a portion of the many benefits of membership in the NAWCC, made possible by your support as members and volunteers. The NAWCC can only be as successful as our membership wants it to be. It just takes getting involved.

Rhett Lucke

RHETT LUCKE
RLUCKE@NAWCC.ORG

There has been a lot going on at the NAWCC over the past couple of months, with major changes to the Museum that involved our team clearing around 1,700 square feet of galleries, filling the cracks, sanding, and painting. The new flooring is installed and is ready for new, engaging displays telling the story of the wristwatch and more. Problems with our antiquated servers and telephone systems are, thankfully, now in the rearview mirror as we completed the last of the upgrade work and look forward to a robust system serving the Association for at least another 10 years.

We are now turning our focus to the National Convention in Chattanooga, TN. It will be great to see old friends, make new ones, and get the chance to unashamedly talk clocks and watches for an entire weekend! I will be there with five other members of the team, who will be helping out across the event. We are really looking forward to being a part of it! Tina, Laura, and Marlo will be at registration, Alex will be working his IT magic to ensure the presentations go off without a hitch, and Ken will be teaching a class on repairing time-and-strike clocks.

The Convention Committee chairs have given me the honor of speaking at this year's banquet. This is a decision that I hope will not ruin the dinner! Please consider attending to hear about a truly extraordinary watch that was completed by Larcum Kendall in 1769. I will share my experience working with the watch and the delights that are hidden inside.

Looking at past issues of the *Bulletin,* the National Convention was celebrated as a jovial meeting of the minds, which it certainly still is. The August 1981 issue gives a perfect flavor and character of the National, back when the fond memories were captured and developed in "Kodak processing centers across the country." Watch for the 2024 Convention recap with lots of photos in the *Bulletin* later this year.

After two years in my role here, I can report that my team have done a phenomenal job in rebuilding after the pandemic. We have achieved much of the necessary

housekeeping and will continue to work hard to maintain the pace of positive change and continue to lay plans for the future. If you would like to learn more about what is going on at the NAWCC, please do watch for our monthly e-newsletter in your inbox or download it from the Message Boards (aka the Forum) on nawcc.org. If you would like to receive it via email, please visit museum.nawcc.org to sign up.

We hope that you will enjoy this issue of the *Bulletin* and that you will get back to us with any comments or suggestions.

RORY MCEVOY
RMCEVOY@NAWCC.ORG

The Earliest Clock with Seconds (Or Maybe Not)

By Philip Poniz, NAWCC Fellow (NJ)

> *It should be remembered that it always remains a possibility that subsequent historians of early horology may find hitherto unsuspected records tending to supplement or even reverse the conclusions which now seem both well attested and logical.*
>
> — Ernest Edwardes[1]

This article questions the existence of what has been considered the earliest clock showing seconds. While researching the history of *compteurs de tierces*—timers with an accuracy of 1/60th of a second—I stumbled upon some unsuspected and surprising finds while working on the main project. I was puzzled by a statement made by Johann Heinrich Poppe in 1828 in *Geschichte der Mathematik*.[2] He claimed that *compteurs de tierces* (like the one made by Louis Moinet in 1816) had already existed in 1557:

> *Compteurs de tierces* or clocks that also determine tierces (sixtieths of a second) already existed around the middle of the sixteenth century. The famous doctor and mathematician Paul Fabricius [Fabricio] of Vienna already mentions it in a dissertation *(de Encomio Sanitatis)* from 1557.[3]

Fabricio's "dissertation," in fact a letter, is the earliest written source that mentions a clock with seconds. As such, it is well known in the horological community (Figure 1).

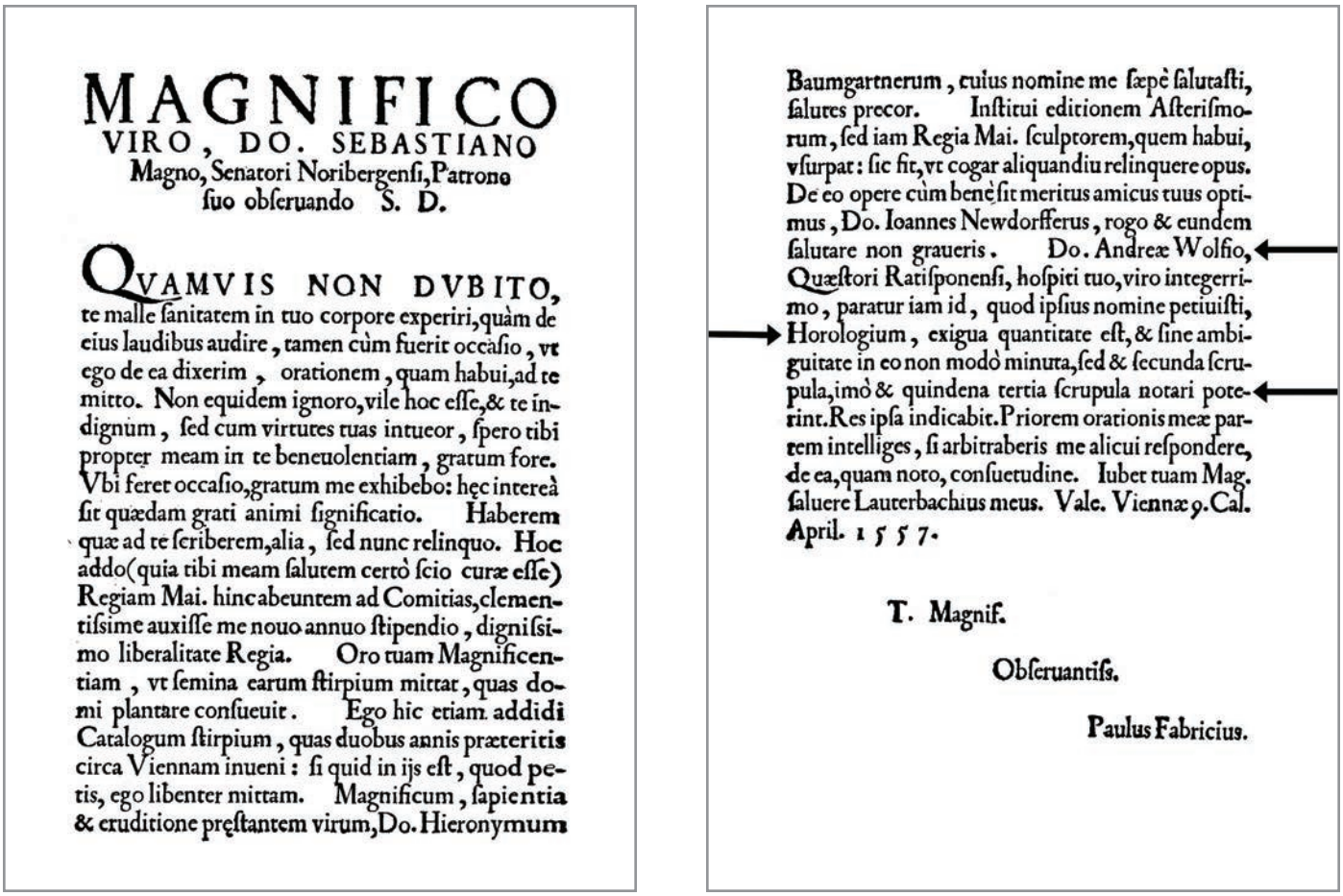
In the 16th century, having a clock with seconds was extraordinarily rare. Even clocks showing minutes were exceptional. Having a clock beating 1/60th of a second was not possible. Fabricio had only a verge escapement and hog bristles at his disposal. He had neither a balance spring nor a pendulum. With those restrictions, making a clock beat every 1/60th of a second was unimaginable. I needed to understand Fabricio's text in detail, which prompted this article.

Fabricio's original text, which I marked by arrows in Figure 1, reads:

> *Do. Andreae Wolfio, Quaestori Ratisponensi, hospiti tuo, viro integerrimo, paratur iam id, quod ipsius nomine petiuisti, Horologium, exigua quantitate est, & sine ambiguitate in eo non modo minuta, sed & secunda scrupula, imo &* ***quindena tertia scrupula*** *notari poterint.*[4]

The passage I marked in bold here has been translated as "even smaller units of time"[5] or "a timepiece that showed minutes, seconds, and 'even shorter time intervals.'"[6]

Even with the help of Google Translate, my high school Latin was not sufficient to investigate the text further. My biggest obstacle was the phrase *quindena tertia scrupula.*



MAGNIFICO
VIRO, DO. SEBASTIANO
Magno, Senatori Noribergenſi, Patrono
ſuo obſeruando S. D.

QVAMVIS NON DVBITO, te malle ſanitatem in tuo corpore experiri, quàm de eius laudibus audire, tamen cùm fuerit occaſio, vt ego de ea dixerim, orationem, quam habui, ad te mitto. Non equidem ignoro, vile hoc eſſe, & te indignùm, ſed cum virtutes tuas intueor, ſpero tibi propter meam in te beneuolentiam, gratum fore. Vbi feret occaſio, gratum me exhibebo: hęc intereà ſit quædam grati animi ſignificatio. Haberem quæ ad te ſcriberem, alia, ſed nunc relinquo. Hoc addo (quia tibi meam ſalutem certò ſcio curæ eſſe) Regiam Mai. hinc abeuntem ad Comitias, clementiſsime auxiſſe me nouo annuo ſtipendio, digniſsimo liberalitate Regia. Oro tuam Magnificentiam, vt ſemina earum ſtirpium mittat, quas domi plantare conſueuit. Ego hic etiam addidi Catalogum ſtirpium, quas duobus annis præteritis circa Viennam inueni: ſi quid in ijs eſt, quod petis, ego libenter mittam. Magnificum, ſapientia & eruditione pręſtantem virum, Do. Hieronymum Baumgartnerum, cuius nomine me ſæpè ſalutaſti, ſalutes precor. Inſtitui editionem Aſteriſmorum, ſed iam Regia Mai. ſculptorem, quem habui, vſurpat: ſic fit, vt cogar aliquandiu relinquere opus. De eo opere cùm benè ſit meritus amicus tuus optimus, Do. Ioannes Newdorfferus, rogo & eundem ſalutare non graueris. Do. Andreæ Wolfio, Quæſtori Ratiſponenſi, hoſpiti tuo, viro integerrimo, paratur iam id, quod ipſius nomine petiuiſti, Horologium, exigua quantitate eſt, & ſine ambiguitate in eo non modò minuta, ſed & ſecunda ſcrupula, imò & quindena tertia ſcrupula notari poterint. Res ipſa indicabit. Priorem orationis meæ partem intelliges, ſi arbitraberis me alicui reſpondere, de ea, quam noto, conſuetudine. Iubet tuam Mag. ſaluere Lauterbachius meus. Vale. Viennæ 9. Cal. April. 1557.

T. Magnif.

Obſeruantiſs.

Paulus Fabricius.

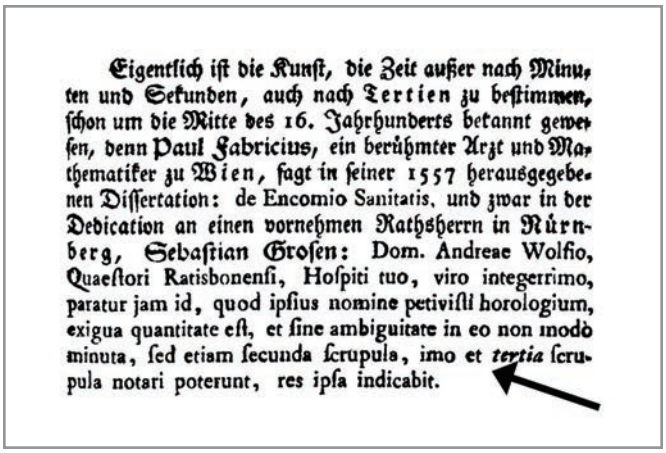
Figure 1. Fabricio's letter from 1557. Arrows indicate the relevant passage.

Luckily, Latin expert Dr. Yelena Baraz, a Latin language and literature professor in the Classics Department at Princeton University, provided a translation. She explained that *quindena* means "containing 15." With this in mind, the text can be translated as follows:

> To Dr. Andreas Wolf, Quaestor of Regensburg, your guest, the most perfect man, is already being prepared that, which in his name you asked for, a clock of small size, and without doubt in it not only minute but also seconds divisions, and even divisions of 15 tierces [a quarter of a second] will be able to be observed.

The translation solved my problem with tierces but subsequently revealed another issue. The clock, as Dr. Baraz pointed out, was in the process of being made. Consequently, we do not know if it was actually completed. Creating a clock in 1557 that beats four times per second is hard to imagine. Renaissance timepieces beat every one to four seconds. The one-second beat must have been considered a fast frequency timepiece. Fabricio's clock would have to run at least four times faster.

Aside from being a horological historian, I am a practical horologist, having restored dozens of Renaissance clocks



Eigentlich iſt die Kunſt, die Zeit außer nach Minuten und Sekunden, auch nach Tertien zu beſtimmen, ſchon um die Mitte des 16. Jahrhunderts bekannt geweſen, denn Paul Fabricius, ein berühmter Arzt und Mathematiker zu Wien, ſagt in ſeiner 1557 herausgegebenen Diſſertation: de Encomio Sanitatis, und zwar in der Dedication an einen vornehmen Rathsherrn in Nürnberg, Sebaſtian Groſen: Dom. Andreae Wolfio, Quaeſtori Ratisbonenſi, Hoſpiti tuo, viro integerrimo, paratur jam id, quod ipſius nomine petiviſti horologium, exigua quantitate eſt, et ſine ambiguitate in eo non modò minuta, ſed etiam ſecunda ſcrupula, imo et *tertia* ſcrupula notari poterunt, res ipſa indicabit.

Figure 2. Poppe's erroneous quotation of *"et tertia scrupula"* instead of Fabricio's actual words *"& quindena tertia scrupula."*

and watches. Making a non-hairspring verge escapement beat four times per second is possible: Renaissance alarms based on verge escapements beat twice that and more. However, they have almost no recoil. The stability of a pre-1657 verge escapement is a function of several factors, the most important being a healthy recoil: too big is no good, and too small is not good either. The recoil, in turn, depends on the power applied to the escapement.

I did a few experiments by applying different torque to trains in clocks and watches of the pre-1557 era. Using a watch beating 6,600 BPH with a small torque and a healthy recoil, I was able to increase the beat to almost 26,000 BPH with a strong torque—almost four times faster! When applying hog bristles, the differences were smaller but still significant. The results were similar with clocks. I used Steve Petrucelli's frequency counter on all clocks and watches. I took measurements over the double revolution of the escape wheel, as well as over the common denominator of the escape and the contrate wheels. The results will be the subject of one of my next articles; what is relevant here is that there was no possibility of getting stability in running. The differences were in tens, sometimes in hundreds, of beats per hour. Consequently, having seconds indication on such a clock was useless. Having quarter-seconds was even more useless.

This led me to the conclusion that Fabricio's description sounded more like wishful thinking than a practical plan. Taken along with his statement that the clock was just in the design phase, substantial doubt is raised about whether the clock ever truly existed.

This reservation is supported further by Fabricio's busy life at the time. He was a mathematician and a physician. Between 1556 and 1558, when the clock was supposed to be built, he seemed too busy to have time for clockmaking activities. He was married in 1555, became a professor of mathematics at the University in Vienna in 1556, was awarded a doctorate in medicine in 1557, and became a personal physician to Emperor Charles V, who died a year later in 1558. In addition, between 1557 and 1558, he published eight books.[7] During that period, his university career had just begun and he was busy building his position there.

All of the above facts led me to believe that Fabricio was planning to give the project to a local clockmaker, who must have known that it was not doable with the technological knowledge of the time.

Fabricio's clock story is also interesting in that it shows how history can relay inaccurate, or completely wrong, horological claims. This particular incorrect claim appears to have been started in 1730 by J. G. Doppelmayr.[8] Poppe's mistake is easy to explain: when quoting Fabricio, he forgot to include the word *quindena*. Fabricio wrote "*quindena tertia scrupula*" (Figure 1). Poppe quoted him instead as "*et tertia scrupula*" (Figure 2).

If Fabricio's clock was never made, its nonexistence raises the question of the true first clock with seconds indications. This subject will be explored in my next article.

Acknowledgments
I am grateful to my daughters, Gabi and Cami Poniz, for discussing the above subject, and to Dr. Yelena Baraz and Tomasz Płóciennik for help with the Latin texts.

Notes and References

1. Ernest L. Edwardes, *Weight-Driven Chamber Clocks of the Middle Ages and Renaissance* (Altrincham, England: John Sherratt & Son, 1965), 90. See his passage on the subject of early seconds clocks.
2. Johann Heinrich Moritz Poppe, *Geschichte der Mathematik seit der ältesten bis auf die neueste Zeit* (Tübingen: C. F. Osiander, 1828), 200.
3. The original text: "*Tertienuhren oder Uhren, welche auch Tertien (Sechzigtheile von Sekunden) beſtimmen, gab es ſchon um die Mitte des ſechszehnten Jahrhunderts. Denn der berühmte Arzt und Mathematiker Paul Fabricius zu Wien führt ſie ſchon in einer Dissertation (de Encomio Sanitatis) vom Jahr 1557 an.*"
4. Paulo Fabricio, *Encomion Sanitatis* (Vienna: Raphael Hofhalter, 1557), 4, 5, https://digital.ub.uni-leipzig.de/mirador/index.php.
5. Klaus Maurice, *Die Deutsche Räderuhr*, vol. 1 (Munich: Verlag C. H. Beck, 1976), 146.
6. Dietrich Matthes and Rocío Sánchez-Barrios, "Mechanical Clocks and the Advent of Scientific Astronomy," *Antiquarian Horology* (September 2017): 339.
7. "Fabricius, Paul," Biobibliographical Handbook of Calendar Makers from 1550–1750, University of Bremen, https://www.presseforschung.uni-bremen.de/dokuwiki/doku.php?id=fabricius_paul.
8. Johann Gabriel Doppelmayr, *Historische Nachricht von den Nürnbergischen Mathematicis und Künstlern* (Nuremberg, 1730), 125.

About the Author

Philip Poniz is a mathematician turned horological historian, collector, author, certified master watchmaker, and restorer. At seven years old, he took apart his first watch, sparking his passion for complicated mechanisms, including automata. Many of the world's ultra-complicated watches and clocks have passed through his restoration and forensic studio. His interests began with Renaissance clocks and watches, and he was very fortunate to examine and restore hundreds of them. Since then, he has embraced all complicated timepieces. His work ranges from being a court expert to a custodian of one of the largest horological e-libraries with over 8 million files. He is the manager of WatchInvest and the owner of European Watch & Casemakers. He moderates the NAWCC Complicated Watches Forum (mb.nawcc.org/forums/complicated-watches.427/) and has helped form several major horological collections.

ERRATA

In my article "The Oldest Known Spring-Driven Clock with 'Seconds' Indication" in the March/April 2024 *Bulletin,* I described one of the Orpheus clocks, the so-called F2. I argued that the seconds display did not actually show seconds. Unfortunately, I was misled into believing that the intermediate wheel has 62 teeth. In fact, it has 60 teeth. Consequently, the seconds wheel turns 60 times in one hour or one turn in 60 full seconds.

The clock has the most unusual arrangement of the contrate wheel: it is mounted concentrically with the escape wheel on the same arbor. I was told it has 30 teeth, but I now believe it has 31. If I am right, the balance beats 3,600 times per hour or one beat per second. Consequently, the escape wheel tooth jumps in one second. If the contrate wheel has the same number of teeth as the escape wheel, it will advance the seconds wheel by one second for each escape, and the clock will beat true seconds.

I thank Denis Kleinknecht for providing the correct train count.

—Philip Poniz, NAWCC Fellow (NJ)

The "Quartz Crisis" and Swiss Watchmaking: Part 2

By Joël Pynson (FR) | Translated by Damon Di Mauro (MA)

Editor's note: This article was originally published in Chronométrophilia *in 2021 and has been revised and expanded by the author for publication in the* Bulletin.

THE TIDAL WAVE: 1975–1980

From 1975 onward, the Swiss watchmaking industry faced a tidal wave of bad news, the most significant being American competition on price, Japanese competition on quality and complications, the sharp devaluation of the dollar against the Swiss franc, and the arrival of a new competitor: China via Hong Kong.

FIERCE AMERICAN COMPETITION

What no one saw coming was that the main American firms in the electronics sector transitioned from being suppliers of electronics to producers of watches (Figure 1): Texas Instruments, Hughes Aircraft, National Semiconductor, and Litronix.[1] The watches produced were exclusively "solid state" (i.e., without gears) with digital displays, which were highly popular with the public. They were also marketed in the United States under multiple brand names outside the usual watchmaking networks in electronics stores and department stores, with discounts and promotional offers. Prices dropped sharply: in 1975, for example, LED watches (60% of sales) went from $80 to $50 ($465 to $295 equivalent in 2024[2]).

Texas Instruments offered LED watches at $20 ($114 equivalent in 2024) the following year. The supremacy of American electronics was complete. Ébauches SA signed a $1.3 million ($7,235,000 equivalent in 2024) contract with Hughes Aircraft.[3] In France, Lip joined forces with National Semiconductor.[4]

Moreover, in 1976, National Semiconductor took on the quartz watch market in Europe under the Novus brand with LED watches. Scott Brown, Novus marketing director, had a pragmatic approach: "Rapid price reductions in the electronics market should come as no surprise, if we look back over the last ten years. This doesn't mean that rapid price changes are a good thing, but they are a given in this sector of the economy. So, if this environment is right for you, you'll learn to make money in it; if not, you'd be better off changing professions."[5]

In 1975, a quartz watch with a digital display and calculator arrived on the scene (Figure 2). This was the first non-watchmaking complication to appear on a quartz watch and, in a way, represented a watershed moment. It proved to be the advent of microprocessors in watches, gradually replacing printed circuit boards. And microprocessors ushered in a new era as well: watches with alarm functions and LED displays would appear the following year, along with 1/100th of a second chronographs, perpetual calendars, multilingual displays, and second time zones.

The success of quartz watches over time had, from a Swiss watchmakers' perspective, an impactful effect on the public: the diminishing importance of precision in watchmaking. Quartz watches displayed such little variation (about 1 minute per month) that it no longer made sense to claim that one was more accurate than another. Quartz watches were precise, period. A pillar of Swiss watchmaking supremacy was crumbling, and precision competitions were slowly going by the wayside.

It should not be thought, however, that the arrival en masse of digital watches in the United States took place without a hitch. Fierce competition often came at the expense of quality. LED watches only lasted a few months, LCD displays regularly broke down, and complaints were rife. All the more so as the customer service provided by vendors was often wanting: these watches can't be repaired! This certainly gave the mechanical watch some breathing space, and little by little it brought home two ideas that were sure to take hold: a watch can be disposable, and it's a consumer product like any other and can therefore be exchanged according to the latest fashion.

The price war was not just about electronic circuits. It also concerned watch cases and the labor required to produce a complete watch. American companies relocated their production to Hong Kong, Taiwan, South Korea, and Singapore, heralding the Asian wave of watch production in the 1980s.

Beginning in 1977, however, the fall in prices began to backfire on the American companies: too cheap is no longer profitable. This was especially true as the public tired of LED displays and analog dials came back into favor. Litronix threw in the towel, followed by American Microsystems, Optel, Intersil, and others.[6] As Peter Morf, managing director of Eterna, pointed out, "The market was completely skewed, if not destroyed, by the American electronics manufacturers, who aimed for the absolute bottom of the price range. American electronics manufacturers didn't understand the watch market at all."[7] Prices were very low indeed: in 1978, Texas Instruments allowed itself the luxury (!) of challenging the Swiss market with a watch that retailed for 35 Swiss francs ($86 equivalent in 2024; Figure 3). That watch was technically original: the case was made of plastic and the movement was soldered inside, an idea that was sure to catch on.

Figure 1. Advertisement for quartz watches by American electronics manufacturer Fairchild, 1976.

Figure 2. Quartz watch with calculator available on the Swiss market in 1975, from *La Suisse Horlogère*.

By 1979, there were only two American firms left to compete with Switzerland: Timex and Texas Instruments. But their clout and low prices were to do a great deal of damage to the Swiss economy watch.

JAPANESE COMPETITION

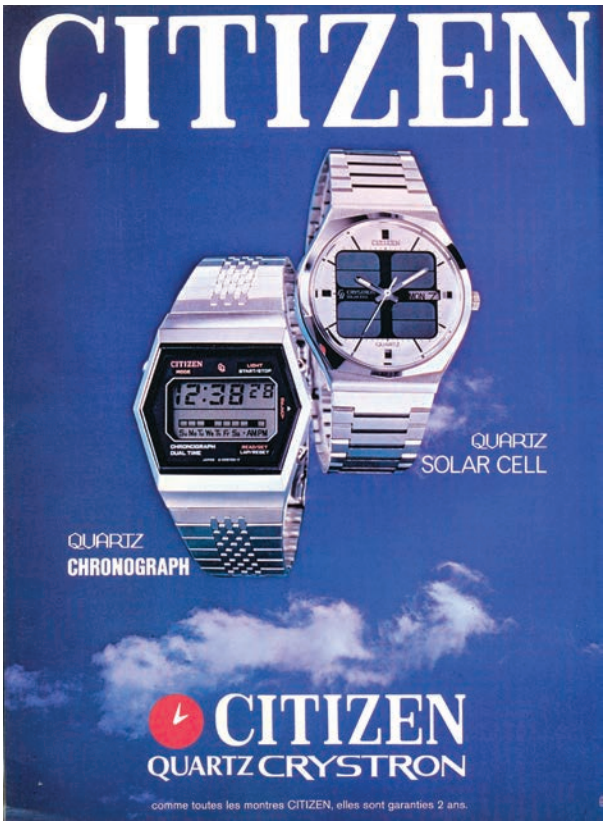
Seiko was the first company to market a quartz watch (Figure 4), but that doesn't mean it had any indication of what was to come in the years ahead. From a technical point of view, quartz was a possible solution but not the only one. To overcome the problem of battery life, Seiko developed prototypes of electronic watches with a spiral balance whose battery was powered by nuclear energy![8] The battery had a lifespan of five years. However, Seiko fully understood the importance of independence in electronics, and in 1975 created Nippon Precision Circuit to produce its own circuits. Even so, although Seiko had been the first Japanese company to venture into quartz watches and to build a strategy for global expansion, it was not alone for long. Three other Japanese companies jumped on the bandwagon with just as much ambition: Citizen, Ricoh, and Casio.

Figure 3. Advertising for Texas Instruments quartz watches in Switzerland in 1978. The first price was 35 Swiss francs.

Figure 4. Seiko quartz watch, 1972.

In 1970, Citizen was the second-largest watch manufacturer in Japan with production of 7 million units.[9] Citizen was equipped with all the cutting-edge technologies of the time: high-frequency mechanical watches (36,000 A/h), electronic watches with spiral balance and high frequencies (Cosmotron), and tuning-fork watches thanks to the agreement with Bulova. The firm landed in the European quartz market in 1974 with an LCD display watch, innovative in that it featured day and date displays, and with a powerful advantage: a two-year warranty (Figure 5). Citizen continued to innovate: solar-powered quartz watches in 1974,[10] high-precision quartz watches with very high frequency (4.2 MHz) in 1975, calculator watches and quartz alarm watches in 1976, extra-thin analog quartz watches the same year, and quartz diving watches in 1977 (Figure 6). By the early 1980s, Citizen had become the world's third-largest watch manufacturer.

◀ **Figure 5.** Citizen quartz watch, 1974.



▶ **Figure 6.** By 1977, Citizen had quartz chronograph and solar-powered watches.

◀ **Figure 7.** Casio's range of quartz watches in 1979. The first model was made of plastic.

▶ **Figure 8.** Casio quartz models from 1980: calculator, chronograph, and musical alarm clock.

Casio's roots were not in watchmaking but in electronics, particularly electronic calculators. Because of stiff competition from American calculator manufacturers, Casio diversified into quartz watches with the Casiotron, a solid-state watch with LCD display released in 1974 (Figure 7). The selection soon expanded to include chronographs, alarm clocks, calculators, plastic watches, and more (Figure 8).[11] Free from any prior watchmaking assumptions, Casio was the first to invent what we might today call the smartwatch, an electronic instrument with a watch, to be worn on the wrist. Watches with heart rate monitors, electronic games, memory calculators, and more would then be launched, thus creating a distinctive universe particular to the brand. In 1983, Casio's position was reinforced by the creation of the G-Shock watch, which has since become iconic. Nevertheless, quartz watches similar to those of the 1970s are still being made by Casio 45 years later!

Figure 9. Ricoh quartz watches, 1977.

Ricoh was a minor watch manufacturer compared to Seiko and Citizen (Figure 9). It did, however, design quartz watches as early as 1971, apparently with the help of the American company Hughes Aircraft,[12] while its expansionist policy came later, around 1975, when the price war was raging.

In 1979, only four Japanese companies were competing with Switzerland.[13] In the mid- to high-end scale, where profit margins were largest, their production capacity was impressive: 49 million watches in 1978. Confident in the future, the Japanese continued to increase their production capacity, running the risk of overproduction. This would indeed happen, starting in 1981.

EVENTS IN SWITZERLAND

In 1975, a subsidiary of Ébauches SA opened in Marin, near Neuchâtel, a production unit for integrated circuits for electronic watches.[14] This entailed a transfer of technology from Hughes Aircraft. In 1978, Ébauches Électroniques Marin was employing over 1,000 people (Figure 10). Ébauches SA also secured quartz production through an agreement in 1977 with the American company Statek, then the primary American producer of quartz.

However, for lack of a powerful and diversified electronics industry—with rare exceptions such as Favag or Brown-Boveri (Figure 11), which mass-produced LCD displays and even supplied Casio—Switzerland was unable to respond in kind to counter the falling price of quartz watches. It reacted in the same way as the English watchmaking industry had at the end of the 19th century, which led to its downfall: producing excellence at a high price. Traditional excellence means thin, complicated watches.

The first quartz wrist chronograph was introduced by Heuer in 1975. It was the Chronosplit with dual display, LCD for the time and date, and LED for the chronograph, with the option of measuring split times to 1/10th of a second (Figure 12). Seiko immediately responded with its own LCD chronograph. This was followed a year later by Omega's Chrono-Quartz (Figure 13) with analog time and date display and LED chronograph display to 1/100th of a second. The new beachhead was to be short-lived: the Americans rolled out their own 1/100th-second LCD chronograph the same year. By 1978, 1/100th chronographs with single or dual displays were everywhere: Heuer (Chronosplit GMT), Breitling (Navitimer quartz, Figure 14), Tissot, Technos, Omega

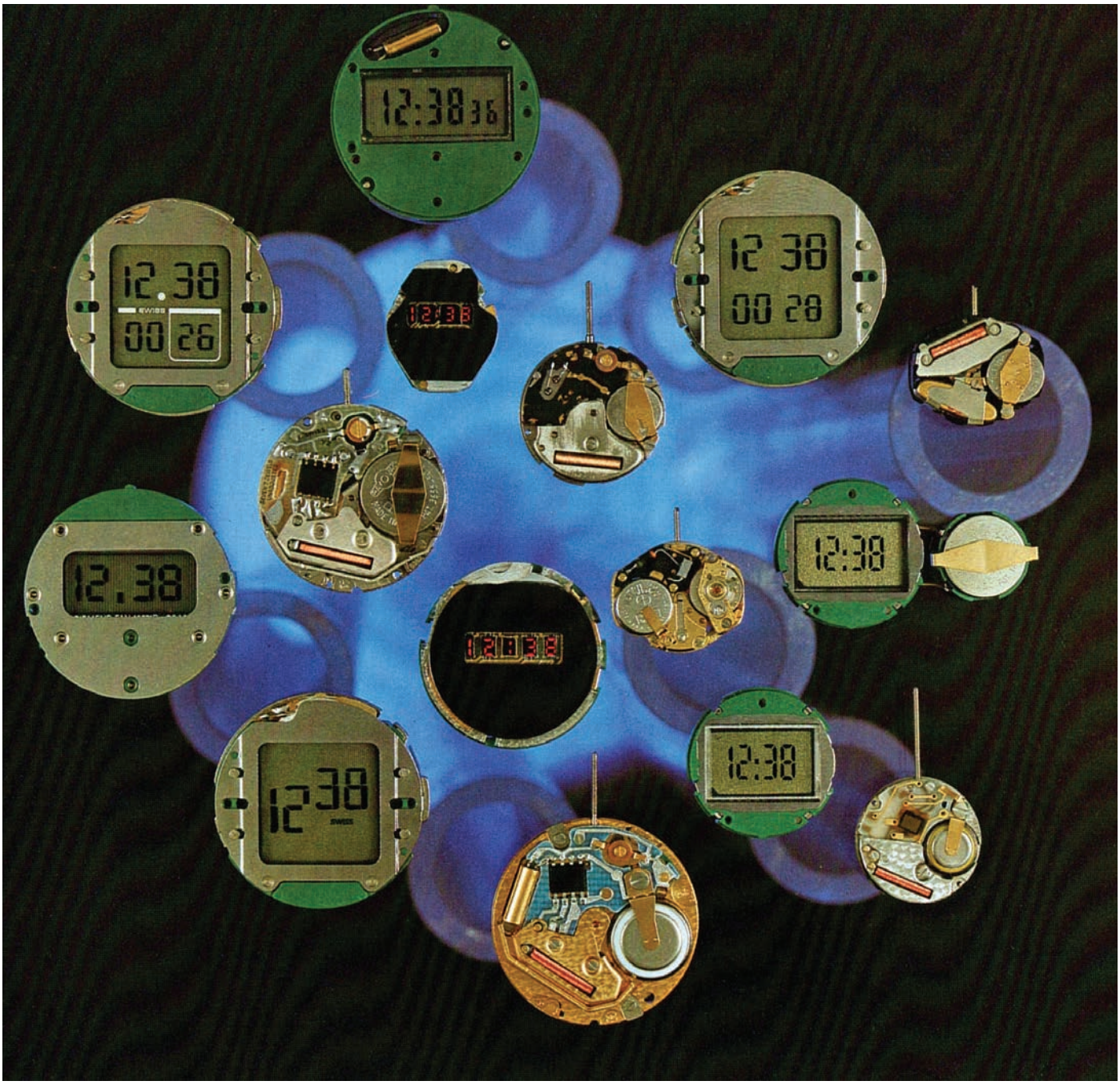


Figure 10. Example of quartz calibers manufactured by Ébauches SA in Marin in 1978, from *La Suisse Horlogère*.

Figure 11. Brown Boveri was one of the few Swiss companies to supply display components for the watchmaking industry.

Figure 12. First quartz wrist chronograph, 1975.

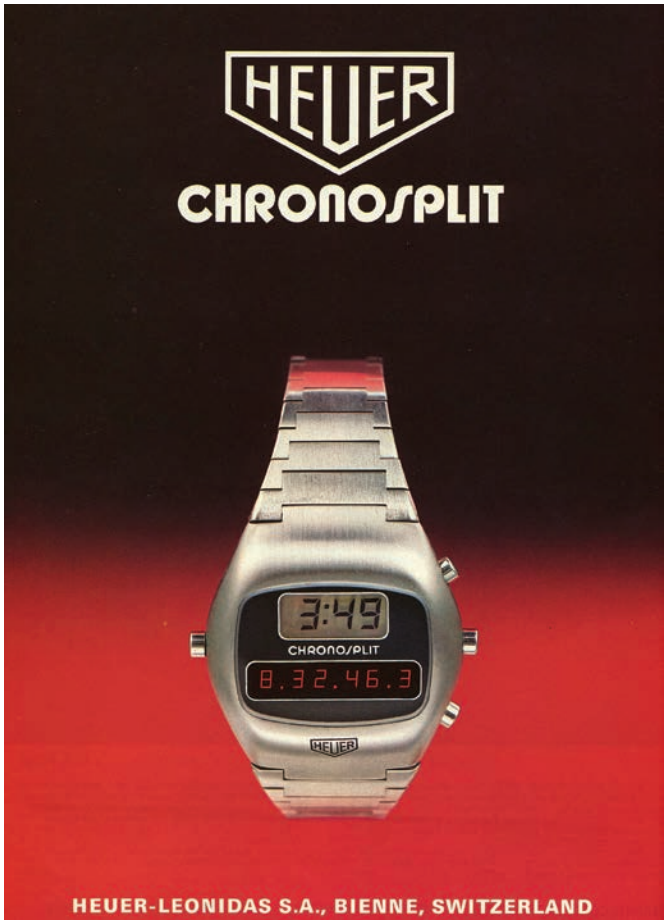


Figure 13. Omega Chrono-Quartz chronograph, 1976. PHOTO COURTESY OF FRANCK INEICHEN.

(Speedmaster quartz), Longines, Certina (Quartz Chronolympic), and even manufacturers of low-cost watches (Sicura, Continental, and Agon).

In 1976, the Ébauches SA ESA 9315 caliber offered a calendar needing adjustment only once every four years, but Seiko already had an LCD perpetual calendar.

For thin watches, Universal made its debut in 1975 with the Golden Shadow quartz watch, whose movement was 3.45 mm thick.[15] In 1978, Longines claimed 2.95 mm with its L 950 caliber, and Patek Philippe 2.50 mm with its own. Citizen and Seiko got everyone on the same page by releasing models less than 1 mm thick that same year. The total thickness of the Seiko watch was 2.50 mm. For the Swiss, this was tantamount to treason! Ébauches SA and ETA rolled up their sleeves to work together, and in just a few months developed the famous ESA

Figure 14. Breitling quartz chronographs, 1977.

Figure 15. The Delirium caliber, the world's thinnest in 1979.

999 Délirium caliber, which was presented to the public in January 1979 (Figure 15). It was fully integrated into the baseplate, which also served as the case back, and the watch, with its analog display, was 1.98 mm thick.[16] Longines, Eterna (Figure 16), and Concord sold the watch for a stratospheric price (equivalent to $62,000 in 2024), yet face was saved. And to drive the point home, Ébauches Électroniques Marin presented a 1.86 mm LCD chronograph watch at the 1979 Basel Fair.[17] The Délirium watch was then modified by reducing the thickness of the glass, setting the new record at 1.47 mm.[18] Seiko responded the same year with two watches, analog and LCD, both 1.79 mm thick but priced at $5,000 ($22,738 equivalent in 2024, less than half that of its Swiss competitor).[19]

The increasing ubiquity and ever-falling cost of electronics soon brought within the reach of the general public watches that in traditional watchmaking had been called "ultra-complicated." These had been the province of exceptional watchmakers in the Vallée de Joux and Geneva: split-second chronographs with chimes and perpetual calendar, for example, to which electronics engineers could add dual time zones, countdown timers, and multilingual displays.

COMPANIES IN DIFFICULTY

Most watch factories had gone into debt to meet the challenges of incorporating electronics, while not reducing their expenses since mechanical watches were still being made. With the dollar becoming more and more anemic every year, and watches still costly to produce, it was hard to keep up the illusion for very long. The context was tragically simple: mechanical watches were rising in price every year due to a weak dollar, while at the same time solid-state watch prices were falling month by month.

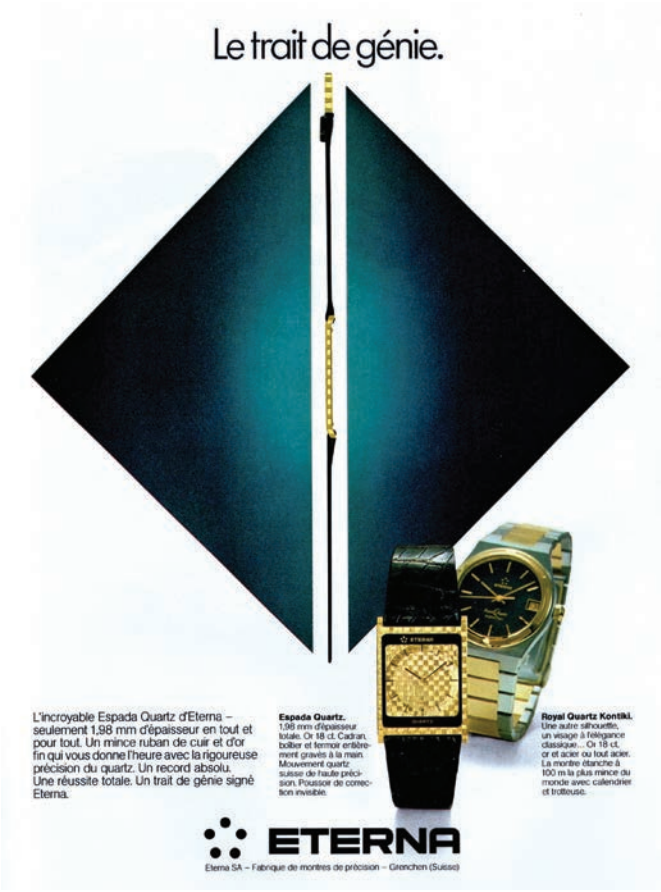


Figure 16. Along with Concord and Longines, Eterna was one of only three companies to market watches equipped with the Delirium caliber.

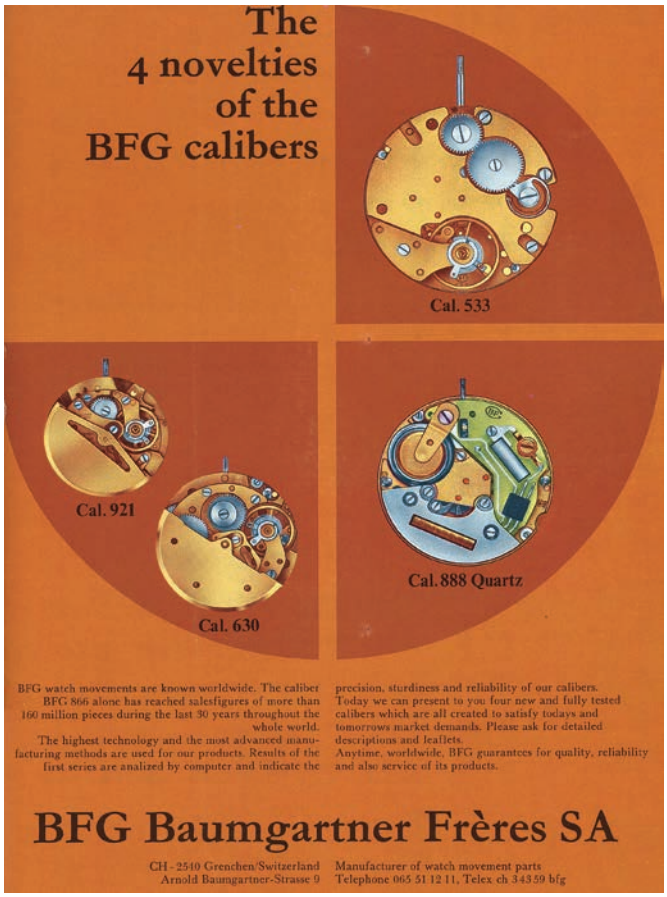


Figure 17. Despite diversification into quartz calibers, Baumgartner, the manufacturer of cost-effective *ébauches*, disappeared in 1981.

Roamer in Solothurn was the first to lay off employees in 1975, followed by Record, Bulova, Portescap, and SSIH (Omega-Tissot-Lémania). From 1978 onward, the list kept growing: Nepro, Oris, Ulysse Nardin, Wittnauer Genève, Précimax, Zodiac, Camy, and Enicar.

Swiss manufacturers at times resorted to crossing the Rubicon and making their watches abroad. It is estimated that one Swiss watch in three was assembled in Hong Kong or Singapore by the end of the 1970s.[20] To be sure, the meaning of "Swiss made" was becoming rather elastic.

Many companies, finding themselves weakened, changed hands. Longines had already joined Allgemeine Schweizerische Uhrenindustrie AG (ASUAG) with Record, Girard-Perregaux was taken over by Desco de Schulthess, IWC and Jaeger-LeCoultre went to the German VDO, Lassale went to Seiko, Lémania was taken over by a group of shareholders who would also acquire Heuer-Léonidas, Zodiac was taken over by Dixi, and Zenith was relinquished by its American parent company and returned to Switzerland.

But the sector that suffered most was that of the Roskopf-type of watches. With the two main markets for this type of watch being the United States and Hong Kong, it was understandable that when the price of quartz watches neared that of cheap Roskopf watches, orders plummeted. Brac in Breitenbach, one of the first companies to manufacture inexpensive plastic watches in 1978, had to lay off staff. SSIH relocated part of its Economic Swiss Time division to Hong Kong and Singapore.[21] Baumgartner ran into difficulties in 1980 and was liquidated the following year (Figure 17). Aetos closed down, and Buler was sold. This would be the end of the Roskopf-type of watches in Switzerland, a sector that in 1970 had employed over 6,000 workers and produced nearly half of all Swiss-made watches and

movements.[22] One of the few companies to survive was Ronda, but its survival came at the cost of relocating to Hong Kong.

ASIA'S RISE

In the 10 years from 1970 to 1980, Hong Kong became the second-largest exporter of watches behind Switzerland. Labor was cheap, and new technology had been brought in from abroad, first from American manufacturers, then from Germany and even Switzerland, since ASUAG had transferred a quartz module originally manufactured by Ébauches Électroniques Marin.[23] Production mostly involved LED watches, and then when they went out of fashion, LCD watches. Industrialization proceeded apace: 148 watchmaking companies in 1974, 770 in 1980! In just one year, between 1979 and 1980, exports from Hong Kong rose from 54 to 119 million watches.[24]

In 1981, Hong Kong became the world's leading producer of watches.[25]

Taking advantage of the weakness of Swiss manufacturers, choked by falling prices, the Chinese eagerly bought them up: Ogival, Solvil & Titus, Bulova, and Nivada. But the Achilles' heel of Hong Kong watches was that they all looked the same. Rudimentary design and no brand policy meant an opportunity for Swiss watchmaking.

COLLAPSE AND REBIRTH: 1981–1985

In 1981, world watch production was overheating. Switzerland exported 73 million watches, Japan 87 million, and Hong Kong 150 million.[26] LCD watches had fallen out of favor with the public and were being sold off by American and Asian manufacturers, including Japanese, who could no longer use up their stock. Production far outstripped demand. In Japan, companies were laying off workers and cutting their operations: Ricoh closed two of its seven factories. Seiko, Citizen, and Casio were forced to slash prices.[27]

In Switzerland, orders fell drastically. Ébauches SA began to lay off staff, followed by the MSR group (Vulcain, Phénix, Revue, Marvin) and Bulova. In just a few years, the giant ASUAG lost 20% of its workforce and closed workshops in La Chaux-de-Fonds, Moutier, Peseux, Fontaine, Montilier, and Bienne. In 1982, the group's earnings collapsed: -43.6% for the lever watch, -48.8% for the Roskopf, and even -12.8% for the electronic watch.[28]

Consumers themselves also changed. For those born in the 1960s, quartz watches were part of their universe. In 1980 in the United States, 56% of watches sold were quartz, and it was the younger generations who appreciated their multiple functions, original designs, and price. Precision was no longer an advantage, nor was customer service for a watch one quickly tired of.

With labor costs nine times higher in Switzerland than in Hong Kong, attempting to make Swiss watches at a competitive price was almost impossible. The only way it could work would be if there were no more workers and the watches were made by machines—not just the movement, as was already largely the case in quartz module factories, but the entire watch: installation of hands, glass, and adjustments.

This is what Ébauches SA sought to do, under the leadership of Ernst Thomke, in becoming a manufacturer of complete watches. Their first product was the now-famous Swatch in 1983 (Figure 18). The success of the

Figure 18. Some models of the famous Swatch in 1985, from *Journal Suisse d'Horlogerie*.

Swatch was not only due to the fact that it was a low-cost quartz watch manufactured by fully automated processes. Central to its success was its being Swiss-made (synonymous with quality), as well as having a design that was both unique (differentiating) and continually updated (to remain fashionable). And all for 50 Swiss francs ($93 equivalent in 2024).

CONCLUSION

If we return to Wikipedia's description of the quartz crisis, mentioned in Part 1 of this article ("It caused a significant decline of the Swiss watchmaking industry, which chose to remain focused on traditional mechanical watches"[29]), we can see that this is quite far from complete. A more accurate description of events would be: "This crisis was linked to the rapid fall in prices of quartz watches manufactured first in Japan and the United States, then in Asia, while the Swiss quartz watch suffered from high production costs and the appreciation of the Swiss franc."

Are there any lessons to be learned for the Swiss watchmaking industry today? China is still the world's leading producer of watches and is now manufacturing smartwatches that are covering the wrists of smartphone owners. Swiss manufacturers (TAG-Heuer, Frédérique Constant, Tissot, Hublot), true to form, are responding in a disorganized fashion with watches at a rather high entry price. As was the case with the Roskopf watch, it is the entry-level watches that are beginning to suffer from this new competition: an Apple Watch made in China starts at about $450. But Ébauches SA, now privately owned, no longer exists for Swiss manufacturers. There is no possibility of relying on a group capable of serving the entire profession. A Swatch-type solution would be to develop a low-cost watch, capable of automatically adapting to standardized operating systems (iOS, Android), with a premium look and an element of fun that consumers will always appreciate. A "Smatch" (smart Swiss watch) of sorts!

Acknowledgment
Swiss trade journals were consulted at the research center of the Musée International d'Horlogerie in La Chaux-de-Fonds, thanks to the team of archivists under the direction of Régis Huguenin, whom I could not thank enough for their warm welcome and helpfulness. Part of the MIH's documentary collection is available online at The Watch Library: https://watchlibrary.org/.

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About the Author
Joel Pynson, MD, ophthalmologist, has spent most of his career as an R&D and engineering manager in the field of eye surgery and contact lenses. He holds some 20 patents in this field. A watch enthusiast and collector, he has published numerous articles on the history of Swiss watchmaking and is the author of two books: *Le chronographe de poche Suisse,* published by Chronometrophilia/Simonin, and *Chronographs for Collectors,* published by Time to Tell.

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A Winterthur Tall Clock

A Study through Time and Art

By Rebecca Lo Presti (DE)

INTRODUCTION

Visitors to the Winterthur Museum, Garden & Library in Delaware are greeted by a sprawling estate tucked into the hills of the Brandywine Valley. Inside the mansion, guests are invited to walk through different time periods and regions of early American domestic life. The objects in these rooms are displayed in frozen scenes, meant to suggest that the historic residents of the space have only just stepped away for a moment. The object of focus for this article, however, does not live in the mansion but instead in a building about half a mile away. The aptly named Gray Building is a sort of purgatory for objects in the Winterthur collection. Every museum has its own version of the Gray Building; very rarely are all objects, archives, and artwork displayed for public view 24/7. The object I examined from the Gray Building is a question mark—an interjection into an established narrative of the decreasing presence of tall clocks past the 18th century. As part of my studies in the Winterthur Program in American Material Culture, furniture curator Josh Lane assigned me the project of discovering the story of this Empire Mid-Atlantic tall clock, made between 1820 and 1845 (Figure 1). In this article I will examine the construction of the clock and consider its possible makers, and then explore the broader story of timepieces in 19th-century America.

FORM AND CONSTRUCTION

At the risk of reiterating a seemingly obvious statement, this tall clock is quite tall—104" to be precise. It is a daunting object to stand in front of. The entire case is veneered with a deep mahogany molding to the tulip poplar and cherry body using nails and hide glue. Working from the top down, three turned urn finials rest above the broken scroll pediment at the top of the hood, which sits securely on a track on the trunk, flanked by a thin column on either side of the glass dial door (Figure 2). The arch tombstone dial plate is painted white with two winding holes, a calendar aperture, and a seconds bit. The tumbling Arabic numbers on the dial are hand-painted in black, with the 60-second, 15-second, 30-second, and 45-second intervals marked on the outer circumference. A polychrome shell with gilt detailing sits in each spandrel. Above the clock face between the 11 and 1 numbers are two equinoctial spheres with longitude and latitude lines. The left globe depicts the Western hemisphere, while the right globe depicts its Eastern counterpart. Above these globes and between the lunette is a hand-painted lunar dial that cycles between a pastoral scene, a moon, a ship at sea, and another moon. The case holds 8-day brass works with separate time and strike trains. The trunk of the clock has a turned column on either side of the rectangular pendulum door, which is secured by two brass hinges and opens to the right. The veneer on the door features a flame mahogany displaying the varied tones of the tropical hardwood that made it such a desired decorative material in the 18th and 19th centuries. The base of the tall clock supports a beveled rectangular panel on the front face and rests on turned ball feet, possibly later additions to the piece.

Despite some chipping paint on the dial and splitting of the veneer at some joins, the tall clock remains in good condition with structural stability from the hide glue,

Figure 1. The tall clock of focus, front view. GIFT OF JOHN M. REED IN MEMORY OF WILLIAM KERSHNER REED, COURTESY OF WINTERTHUR MUSEUM, GARDEN & LIBRARY.

Figure 2. Hood and tombstone dial. All decorations are hand-painted and appear to be original without restoration. GIFT OF JOHN M. REED IN MEMORY OF WILLIAM KERSHNER REED, COURTESY OF WINTERTHUR MUSEUM, GARDEN & LIBRARY.

dovetails, and mortise and tenon joints. Furthermore, while taking apart the clock for study, it quickly became apparent that this was a well-constructed piece with significant time and labor invested in its creation. One feature that supports this observation is the horizontal back paneling of the case, rather than the common vertical paneling seen in early American tall clocks (Figure 3). The curator flagged this quirk for me to investigate, and a conversation with Gary Sullivan revealed the intelligence of this unusual design choice. The typical vertical panels are far more susceptible to warpage as the boards swell and shrink with moisture, all of which puts significant stress on such a tall object dependent upon structural stability for accuracy. These horizontal panels, in contrast, are far more secure and stable. The panels provided clues about the creation of the tall clock, but what struck me the most was that this clock was clearly designed to last decades (if not centuries) to come.

◀ **Figure 3.** Horizontal paneling on the back of the trunk, as seen by opening the case door. GIFT OF JOHN M. REED IN MEMORY OF WILLIAM KERSHNER REED, COURTESY OF WINTERTHUR MUSEUM, GARDEN & LIBRARY.

▶ **Figure 4.** Engraving on the interior of the bell reading "J. Fix." GIFT OF JOHN M. REED IN MEMORY OF WILLIAM KERSHNER REED, COURTESY OF WINTERTHUR MUSEUM, GARDEN & LIBRARY.

This seems like a redundant conclusion to draw, but my research until this point had indicated that this tall clock was an oddity—a piece of obsolete technology that would have been considered unfashionable from the moment it was created. Don Fennimore and Gary Sullivan both observed that the popularity of such clocks decreased as the mid-19th century approached.[1] Yet, here were structural indications that this clock was built to be a fixture within domestic spaces for a very long time. Clearly, there existed a network of craftspeople, makers, and consumers who saw this tall clock as a desirable and investment-worthy object despite the emergence of smaller, more affordable clocks with interchangeable, mass-produced wooden parts at least two decades prior.

THE MAKERS

And who were the individuals who made up these networks? I can provide a name for the possible maker of this clock, as he was the only one of the creators who left a clue of their identity via the name "J. Fix" engraved on the inside of the bell (Figure 4). Through genealogy research, I located a Joseph Fix in the 1860 census of Reading, PA, who listed his job as "Clockmaker." Reading is in the same county where the original owners of the tall clock resided, making this Joseph Fix a probable candidate for being either the original clockmaker or a very early repairer of the piece.

For the dial painter, I had one lead from the corresponding object file for the tall clock: William Jones. Despite having a significant number of dials attributed to him, Jones is hard to pin down in the archival record because "he is not known to have advertised and he never signed his work."[2] Paul J. Foley demonstrated in a 2014 *Watch & Clock Bulletin* that Jones likely trained under dial painter James Harden in the early 1820s and consequently learned his iconic designs from Harden, who had recently immigrated to Philadelphia from Ireland. Foley also showed that a few Mid-Atlantic dial painters contemporary to Jones exhibited similar design characteristics in their work, including the same transfer-painted hemispheres and tumbling Arabic numerals.[3] Therefore, the dial on the tall clock in question is more appropriately identified as Jones-style to avoid misattribution. While Jones is the likely creator of the dial, he did not have a monopoly on dial painting in Philadelphia, nor was his style as unique as previously believed (Figure 5).

Regardless, Jones and his design counterparts all worked in the Mid-Atlantic region from the 1820s to the 1840s. This is where the horizontal back panels prove key in supporting the Jones identification. With the help of Gary Sullivan and Andrew Richmond, I confirmed that these back panels were not uncommon among early to mid-19th-century clock cases made in New Jersey, Pennsylvania, and Ohio.[4] Therefore, both Jones and the cabinetmaker(s) were producing works in the same Mid-Atlantic region through the same decades. And while the cabinetmaker(s) are still unknown as of now, I think it's quite likely that the case came from Pittsburgh or Ohio, which would make this an especially exciting piece for the New England-heavy Winterthur collection. The most comparable cases that I could identify were a tall clock attributed to Ohio clockmaker Luman Watson sold privately through Chairish, and another Watson tall clock at Colonial Williamsburg. Although Watson was definitely not the clockmaker, I believe it is highly likely that a cabinetmaker within the same regional and temporal spheres as Watson constructed the case. In such areas, an Empire tall clock would not have been unfashionable at all.

This is why regionalism is so essential in understanding this tall clock's existence; Mid-Atlantic identity was quite different from the industrialization occurring in New England. Such variety also applied to the aesthetics of furniture, as Empire case furniture in 1830s and 1840s Pennsylvania would be far less out of place than in a New England home. Critically, this is not to imply that Mid-Atlantic and Midwest regions were slower to evolve in taste or preference than New England and Southern consumers. Rather, this is a cautionary statement against treating all areas of the East Coast as a monolith of taste, production, and consumption. Research by historian Thomas R. Winpenny found that several regions in 19th-century Pennsylvania, Ohio, and Delaware remained invested in maintaining craftsmanship while areas in New England developed different aesthetic preferences.[5] So while tall clocks most definitely did decline in popularity through the 19th century, pockets in the Mid-Atlantic and Midwestern regions still hosted what Winpenny called "quasi-artisans" well through the 1880s who maintained artisanal skills while also working in industrial capacities.[6] Such groups knew how to work on, repair, and even create objects that evoked aesthetics of the 18th century, such as the tall clock in question. Communities in the Mid-Atlantic and Midwest maintained an intentional preference for and preservation of handicraft throughout the 19th century.

Figure 5. Jones-style details on the white dial face. GIFT OF JOHN M. REED IN MEMORY OF WILLIAM KERSHNER REED, COURTESY OF WINTERTHUR MUSEUM, GARDEN & LIBRARY.

THE BROADER NARRATIVE OF THIS TALL CLOCK

Understanding the construction of this tall clock is only one part of its story; the other part is interpreting its place within a larger historic narrative. My research interests sit within the history of science, medicine, and technology, which motivated how I decided to contextualize the tall clock as a piece of technology within American material life. Specifically, I wanted to know how this tall clock fit into the experience of time-telling in the 19th century.

Tall clock creation was mostly relegated to the 18th century in large part because of the appeal of mass-produced clocks in the Connecticut River Valley that emerged in 1807.[7] In conjunction with these developments and the economic and material impacts of the War of 1812, American manufacturers realized that smaller and cheaper timepieces like shelf clocks and pocket watches were the most financially accessible objects for middle-class consumers. As such, tall clocks were no longer the only objects that could provide timekeeping in homes by the early 19th century.

Tall clocks did not simply disappear from use following the introduction of newer technology in the 19th century. Such large pieces of furniture represented a significant

investment in materials, space, and money. While some tall clocks were cut down for scrap wood and their metal movements, many were not as easily discarded once they were perceived to fall out of fashion. Tall clocks were oftentimes incredibly expensive objects to purchase, and they likewise required a large footprint in domestic interiors. Many in the early American Republic, especially those in the middle class, did not remove such important (in both cost and space) furnishings with the advent of every new trend.

Moreover, I find it unwise to standardize the experience of time-telling in the 19th century. Although it was in the 1800s when Americans came to perceive themselves in a more uniform temporal space, time still meant different things to different people. In other words, noon on a clock could mean lunch time, worship time, time to break, or time to resume work depending upon the viewer's circumstances.[8] Therefore, timepieces like this tall clock existed alongside small, mass-produced pocket watches because the desire to keep time had varied meanings to those watching the clock. The lived experience of time-telling and time perception changed dramatically throughout the 19th century, and the objects that delineated time likewise reflected this.

Such changing perceptions of time can be seen in the contributors to the making of this tall clock, specifically those who harvested the mahogany for the veneer. In *Mahogany: The Costs of Luxury in Early America*, Jennifer L. Anderson reports that the mahogany trade was operated nearly exclusively by enslaved people in West Indies colonies (Figure 6).[9] The brutal labor requirements of harvesting the massive tropical hardwood transcended gender and age among the enslaved communities, and hundreds of thousands of enslaved people were exposed to hazardous and abusive conditions to process the mahogany. Those forced to harvest mahogany did not have control over their time, nor did they have the autonomy to regulate their days.

Time became further weaponized against enslaved people in the 19th century, when steam engines were introduced to the mahogany-harvesting process. Industrialized transport systems operated on regimented schedules; the rising presence of mass international transport was one of the major factors in implementing a universal prime meridian for timekeeping in 1884 at the International Meridian Conference. Enslavers integrated regimented schedules down to the minute in partnership with the advent of industrialized transportation.

Figure 6. A 1778 engraving by George Robertson that inaccurately depicts a Jamaican plantation as a carefree, pastoral environment. In reality, enslavers in Jamaica and other Caribbean islands forced those they enslaved into deadly forms of labor, including the harvesting of mahogany. COURTESY OF THE JOHN CARTER BROWN LIBRARY.

Figure 7. *The Quilting Frolic* by John Lewis Krimmel. Note the tall clock in the right corner of the room. MUSEUM PURCHASE, COURTESY OF WINTERTHUR MUSEUM, GARDEN & LIBRARY.

Therefore, this incorporation of steam engines into the mahogany trade increased the distinction between those regulated by time and those actually doing the regulation. The enslaved people who harvested the mahogany that ultimately veneered the tall clock in question would not have been given the privilege of monitoring and controlling their own time.

Antebellum plantations in the United States also incorporated timekeeping instruments as a means of further controlling those enslaved there in the 19th century. While enslaved people often did not have access to timepieces, other objects translated the hours on interior clocks into exterior spaces. An especially notable example of this was the development of plantation bells, which translated the time told by timepieces inside a building into sound heard outside, therefore extending the reach of the timepieces to create in the enslaved community a "clock-dependent time-consciousness" that could be regulated to the minute to increase production.[10] When looking for tall clocks that remained in use in domestic plantation interiors, I found that Thomas Jefferson purchased a tall clock in 1812 that remained in his private rooms until his death in 1826. Although Jefferson bought this clock specifically to help with his astronomy studies and not to inform a plantation bell, its continued

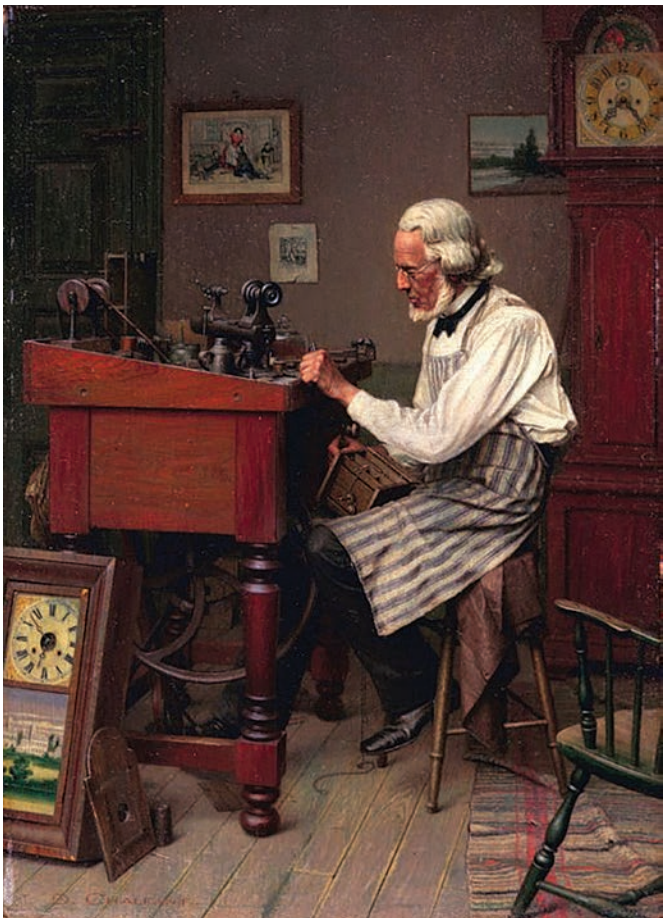

Figure 8. *The Clock Maker* by Jefferson David Chalfant depicts an older artisan working with various eras of timepieces. PUBLIC DOMAIN.

presence in his chambers for the rest of his life is telling.[11] Jefferson's tall clock demonstrates that even after such pieces decreased in popularity by the 1810s, not everyone stopped using them.

In exploring the place of tall clocks in 19th-century America, I also considered the presence of these clocks in art. I examined John Lewis Krimmel's painting, *The Quilting Frolic*, which conveniently lives at Winterthur on public display. In this 1813 genre painting, a Mid-Atlantic tall clock stands in the corner of a busy room filled with textile creations (Figure 7). The painting points to the materials and objects, including the tall clock, that were accessible to the growing middle class of early 19th-century America.[12] However, it also points to the tensions of time-telling. Despite every character in *The Quilting Frolic* sharing the scene with the looming tall clock, not all of them are able to use the 24 hours dictated by the clock equally. The two black characters, both of whom are depicted in racist caricature, are not frolicking but rather working in the scene. The young black girl is shown serving tea to nearby white workers. Likewise, the black musician is seen entertaining the affluent group of white people who appear to own the residence. While the title of the painting applies "frolic" to all those in the scene, it really is only the five young white people who are existing freely and joyfully. Their relationship to the tall clock in the corner of the room is drastically different from that of the black people working; while everyone in this scene has the same 24 hours, what they can do with this time varies drastically depending on race and class.

Like Krimmel working in the early 19th century, Winslow Homer and Jefferson David Chalfant both incorporated tall clocks as central figures in their artwork in 1881 and 1889, respectively. In Homer's lesser-known watercolor *Winding the Clock*, a young woman is seen standing on a chair in front of a tall clock and blowing on the winding crank in her hand. Bob Frishman observed that Homer's painting challenged the gendered roles of women in the 1880s, writing that winding was usually a male task, as the cello behind the woman was perceived as a masculine instrument.[13] The young woman's body position is paralleled in both the tall clock and cello. Her head is framed by the open dial door, and the trunk of the tall clock mirrors her form as she stands attentively tending to the winding crank. Likewise, the curve of the cello is mimicked in the shape created by her detailed Victorian dress. I believe that by syncing up the three figures in this small composition, Homer subverted the gendered expectations that would have been placed on each of the subjects. The tall clock is a vital component in the scene and contributes to Homer's exploration of interiors, objects, and gender.

Almost two decades later, Wilmington, DE, artist Jefferson David Chalfant painted a poignant scene titled *The Clock Maker,* depicting an older craftsman intently seated at his bench and framed in opposite corners by a tall clock and wooden shelf clock (Figure 8). Art historian Emily Dana Shapiro completed a fantastic analysis of this painting in which she argues that the two clocks represent the tension between industrialization and artisans like that of the older craftsman, while also indicating Chalfant's incorporation of modern techniques into his artwork.[14] Throughout his career, Chalfant developed techniques to remove signs of human error in his work and increase the output of visual

art. For example, Chalfant transferred his highly detailed sketches onto the canvas with methodical precision to make his work seem more mechanical. He likewise tinkered to produce a more efficient machine for justifying lines of text in print. At the same time that Chalfant created images like *The Clock Maker* lamenting the impact of industrialization on artists, he himself was tinkering in his workshop to mechanize his production process. While *The Clock Maker* does show anxiety about handicraft symbolized by the tall clock, there is also undeniable effort by both Chalfant and the elder craftsman to adapt to their changing world. When considered within the aforementioned context of Mid-Atlantic "quasi-artisans," the tall clock in the painting also contains an element of hope about the preservation of heritage craft. Yet again, tall clocks held power in the visual depictions of interior spaces long after the pieces allegedly fell out of fashion.

CONCLUSION

Tall clocks like the Mid-Atlantic one discussed here existed as timekeepers in homes and in the imagined space of art in America throughout the 19th century. The craftsmen with the skills needed to construct these specific pieces also remained fixtures in this time period, particularly in the Mid-Atlantic and Midwestern regions. To the first owners of the tall clock in Pennsylvania, this clock would not have been seen as outdated or unfashionable but rather as a cherished piece of furniture. Furthermore, tall clocks in general did not disappear from America upon the introduction of portable, mass-produced timepieces. People continued to perceive and use time differently, and as such, they needed a variety of instruments to regulate their days: from enslaved people who harvested mahogany to aging clockmakers wondering about the future of their craft. Ultimately, the tall clock in question is not an anomaly of the period but rather a piece in a very large web of makers, consumers, and artists in the 19th century. It also represents a challenge to museum professionals, antiques dealers, collectors, and others to look in their storage spaces: what objects remain out of the public eye yet contain equally compelling stories?

Acknowledgments
I thank Josh Lane, Gary Sullivan, Andrew Richmond, and Don Fennimore for their generosity, time, and guidance while I researched this tall clock.

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About the Author

Rebecca Lo Presti is a graduate fellow in the Winterthur Program in American Material Culture. Her research focuses on the objects people have historically used to navigate science, medicine, and technology. She is especially interested in how time-telling pieces influenced American lives, identity, and sense of place.

Collecting Conversations, Episode 6: A Young Watchmaker

By ***John Cote****, NAWCC Fellow (IN)*

This is the first *Bulletin* edition of what will hopefully become many interviews with watch and clock people. Our executive director, Rory McEvoy, first thought of the idea for the *Collecting Conversations* series a little over a year ago, and they began as videos you can find on our YouTube channel: www.youtube.com/@NAWCCMuseum.

What follows is a transcript, edited for length and clarity, of my conversation with a 14-year-old watchmaker named Owen Berger (Figure 1). (If you'd prefer to watch the conversation, it's on our YouTube channel.) I met Owen (@whitewhalewatches on Instagram) and his dad, Alex, at the 2023 NAWCC National Convention, and I was intrigued by the fact that such a young person was as obsessed with a lot of the same aspects of horology as our much older general membership. At the tender age of 14, Owen is already quite an accomplished maker, as you'll see as from this interview conducted at his own watchmaker's bench.

Figure 1. Owen Berger, a new generation of watchmaker at his bench. PHOTO BY ALEX BERGER.

JOHN: We first met at the National Convention in Lancaster last summer, and I assumed that you were following your dad around, but it turned out that you

Figure 2. Owen admires a newly serviced Vulcain Cricket. PHOTO BY ALEX BERGER.

Figure 3. A pile of Vulcain Crickets awaits service on Owen's bench. PHOTO BY ALEX BERGER.

were the real watch nerd of the family. And "nerd" is not a compliment I bestow lightly. What brought you and your dad to the NAWCC National Convention?

OWEN: We had developed a strong interest in watches and watchmaking and were invited up by our friend, Eric Wind. It was our first NAWCC event. We were interested in the swap meet and especially the Breitling dinner, just to get that experience and meet Fred Mandelbaum and other collectors.

JOHN: You also attended a beginner's watchmaking class?

OWEN: Yeah, that was the Horological Society of New York's Horology 101 class. That was mostly an opportunity to meet the people who run that class for HSNY, to get to know them a little better.

ALEX: Yeah, it was also a great opportunity for Owen to watch his dad take the balance out of a 6497 and dangle it over the edge of the table in a disastrous fashion. He got some good laughs out of that one.

JOHN: Your dad sounds like he's interested in watches, but you have the real passion. When and how did you get interested in watches?

OWEN: It started about a year and a half ago, just being interested in wearing watches I liked the looks of. But how I really got into watchmaking and working on them was that my dad was interested in watchmaking as well. He had bought some tools and some pocket watch movements to practice on, but he just he didn't have enough time and put them aside in the drawer. And then I rediscovered them. I decided to try working on them and found it really fun. That's how it caught on.

JOHN: You started with pocket watch movements?

OWEN: Yep, a couple of Elgins.

JOHN: You mentioned Eric Wind and Fred Mandelbaum. Are there any other people in the watch world who have supported you along the way?

OWEN: The main one has been Eric Wind. I met him a year ago when I went down to Florida. And he said if you learn how to fix these watches, specifically the Vulcain Cricket (Figures 2 and 3), I'll send you some to work on for me. So about a month passed and I had bought a couple Cricket movements to practice on and eventually Eric started sending me Crickets. Then later on he started sending me watches of all sorts, which he still does.

JOHN: For our one or two readers who don't know him, who is Eric Wind?

OWEN: He's a very well-known watch dealer and kind of tastemaker, especially for vintage watches. He's based in Palm Beach and he's got a site, WindVintage.com, if anybody wants to go there. He's one of the truly honest and good guys of the watch-dealing world.

JOHN: I would love to be a watchmaker but I don't have the patience for it. I think you either have it or you don't. How did you get interested in the actual hands-on watchmaking side of it?

OWEN: At first I was just interested in collecting and wearing watches and then my dad showed me these two pocket watch movements and said they're yours. You can take them apart. Do whatever you want with them. And, you know, they weren't running to begin with, and I wound up using one for parts to fix the other. I got one running and I thought it was really fun and just went

from there, basically straight into the Vulcain Crickets. After that I started getting all the tools and, of course, a lot more experience. Experience, I think for me, is what's made me so much better. I mean, you can learn these skills, but practicing them is the only way you really get good at them.

JOHN: One of the things that impressed me when we met is that Eric Wind had just given you a quite messed up Rolex Daytona to fix. That Eric trusted a 14-year-old with a job like this shows you've obviously advanced beyond Vulcain Crickets. Do you have a favorite brand of watch to work on?

OWEN: I would definitely say vintage Rolex. They're very reliable. They don't break a lot. Often it's just the service. I don't think I've ever had one give me trouble after being serviced.

JOHN: Being able to fix vintage Rolexes is certainly good for job security. They're the world's largest mechanical watchmaker and probably the most collected. But why? Why do you like Rolex so much?

Figure 4. Owen studies a watch before starting a service. PHOTO BY ALEX BERGER.

OWEN: Well, I certainly appreciate how they found one thing that works, in particular the oyster case. They've stuck with that for, what, 70 years now? The same is true with their movements; they've only made very small changes over five or six generations of the perpetual movement. Rolex has never done too much at one time, they've made improvements in little steps, and I think that's cool because other companies make one movement and then they make a whole other movement that has nothing in common with it. Obviously you couldn't take a part from a 1570 and put it in a 3135, but in principle they're all designed in the same way, which is as simply as possible to do their one job as best they can, as accurately as possible. And you know it's a refined watch.

JOHN: Yeah, I'm certainly a fan. When you put an old Daytona on your wrist next to another chronograph there is a certain quality to that watch that's just unmistakable. Setting Rolex aside, what is another kind of watch that's good to work on?

OWEN: I've certainly learned to appreciate a vintage Seiko, especially the manual wind and higher-grade Seikos. It's kind of the same thing with Rolex: they're two watches and they're built for a purpose and they just do their job well. The watch I wear every day is a Seiko Lord Marvel 36000. They do get quite refined, and I really like this watch. It's one of my favorites and obviously it's a very simple watch, just time-only in a steel case. But it's very versatile, and durable, and also very accurate. It's the most accurate watch I own.

JOHN: Owen, do you think that a watch should beat as fast as 36,000? When Rolex put the Zenith El Primero movements in their Daytonas, they slowed them down to 28,800.

OWEN: Part of what drew me to this watch was its high beat. I think it's pretty cool having that second hand move so smoothly. I don't think there's a whole lot of benefit in going from 28,800 to 36,000, but I certainly notice it and appreciate it. The reason the 36,000 isn't very common is because of potential durability problems. But we'll see if I have any problems with this watch.

JOHN: I want to understand something. Watchmakers have always fascinated me. My dad was a mathematician and a watchmaker, and he said that a watchmaker had to have a mathematician's brain. So when you started taking watches apart, did you have a picture in your mind about where all the parts go and how they interact with each other to make a machine that keeps time?

OWEN: What I did and still do is take the movement out and just sit with it for 15 to 20 minutes and operate it and kind of feel around to see how the parts interact, what part does what, and how to remove them (Figure 4).

Figure 5. Owen's favorite chronograph movement: the Valjoux cal 72 upgraded by Rolex to cal 727 for an early Rolex Cosmograph Daytona. AUTHOR'S PHOTO.

JOHN: That's really great. It gives everybody a picture of what goes on in a watchmaker's mind. But time is a weird thing. You can just measure the progression of hours and minutes with a simple watch, or get more precise with a chronograph or a stopwatch, and then there are calendar watches and GMT watches. So far, in your young career, what is your favorite watch complication or time-telling function?
OWEN: I'd say probably chronographs, just because of how logical they are. Every part has a very specific function and even though they're very complicated and have a lot of parts that need to be absolutely perfect, they're still very robustly designed. Especially the Valjoux 72, which is the chronograph I have worked on the most. I particularly enjoy new complications as well. Hopefully soon I'll be starting on repeaters. They're very different than other complications, and I don't really even know how they work yet, but hopefully I'll build up to that in the next few months.
JOHN: Well, Owen, I might send you a repeater to work on. Who knows? You mentioned the Valjoux 72. Why do you like Valjoux 72s so much?
OWEN: It's probably the most famous chronograph movement, considering that they were used in Daytonas (Figure 5). They're also very nicely laid out, they're very elegant, but I wouldn't say they're particularly refined. An Omega 321 is much nicer in finishing terms than a Valjoux 72. But their parts are very robust and not particularly hard to find. They're just easy to adjust, and the Valjoux 72 is also a very durable movement.
JOHN: The Valjoux 72 in a Rolex is more refined than in other watches, isn't it?
OWEN: Yeah, they do a fair amount more finishing. I have the Daytona that I'm working on for Eric here. Overall, a lot of the parts are the same. They didn't change them at all, which is good, especially if you need to replace them. But even still, I'd say an Omega 321 is a very, very nice movement and probably even nicer than a Rolex 727 or 722.
JOHN: I have to ask, and with the ultimate respect, Owen, you're still just a kid, if older than your years. You're still in school. What's your favorite subject in school, or are you just obsessed with watches and have forgotten about school? I hear your dad laughing in the background.
OWEN: Oh boy, definitely either math or science. I'm currently taking biology and it's pretty interesting how, kind of like a watch, all these different small parts work together to make a single big thing happen.
JOHN: Do you think that you might end up being a watchmaker as a profession?
OWEN: Yeah, certainly. I could see myself working in the watch industry because I enjoy collecting as well as watchmaking. That's definitely a possibility.
JOHN: Well, that sounds really great. I can't thank you enough for being a part of *Collecting Conversations*.

From the Archives: Benjamin Ashman's Sundial Designs

By Thomas Stocker (PA)

While browsing the trove of archival material here at the National Watch & Clock Museum, I stumbled across a collection of papers and drawings with the name "Ashman" on them. This Ashman was Benjamin H. Ashman (1892–1983), a lover of sundials and all things related to them. The collection is filled with mathematical scribblings, sundial designs, and other ephemera from his files.

In the archival box of Ashman materials, there are several sundial designs with mottos on the plates. One design has an unattributed statement: "The sun telleth the earth of the passing of time for her living and her dead."[1] This dial motto holds the *memento mori* message many ancient (and even modern) sundials have, reminding us of our mortality.[2] However, not all the examples in this collection are as profound. Another motto from Ashman's dial designs is "Lead kindly Light" (Figure 1), which is the opening line of the hymn "The Pillar of the Cloud" by John Henry Newman. While the 1834 hymn carries a religious message relating to *memento mori*, the phrase itself is lighthearted in its use on a sundial. Another motto used by Ashman is a verse from a fairly serious poem: "Gather ye rose-buds while ye may, Old Time is still a-flying." This text is from Robert Herrick's 1648 *carpe diem* poem "To the Virgins, to Make Much of Time." Like Newman's hymn, Herrick's poem has an overall *memento mori* theme yet the lines seems playful when placed on a sundial.

Sundial mottos have evolved since their inception.[3] The earliest mottos were more like advertisements, telling the viewer "by whose generosity he was enabled to go about his daily business."[4] Early sundials existed in a period when the majority of the population was illiterate. Mottos—in Latin—were intended for the educated classes who could understand and appreciate their meaning. Even as clock dial makers transitioned into using the vernacular of their regions, sundial makers continued using Latin for several centuries. Mottos shifted from advertisements to witty or thought-provoking sayings to correlate with the movement of the sun.

Along with mottos, Ashman's designs also include a graphical representation of the equation of time for the dial's location (Figure 2). The equation of time as we understand it today came about during the Enlightenment period of the 17th and 18th centuries in Europe. This mathematical principle dealt with the difference between the displayed time on clocks and the sidereal time based on the combined motions of the Earth around the sun.[5]-

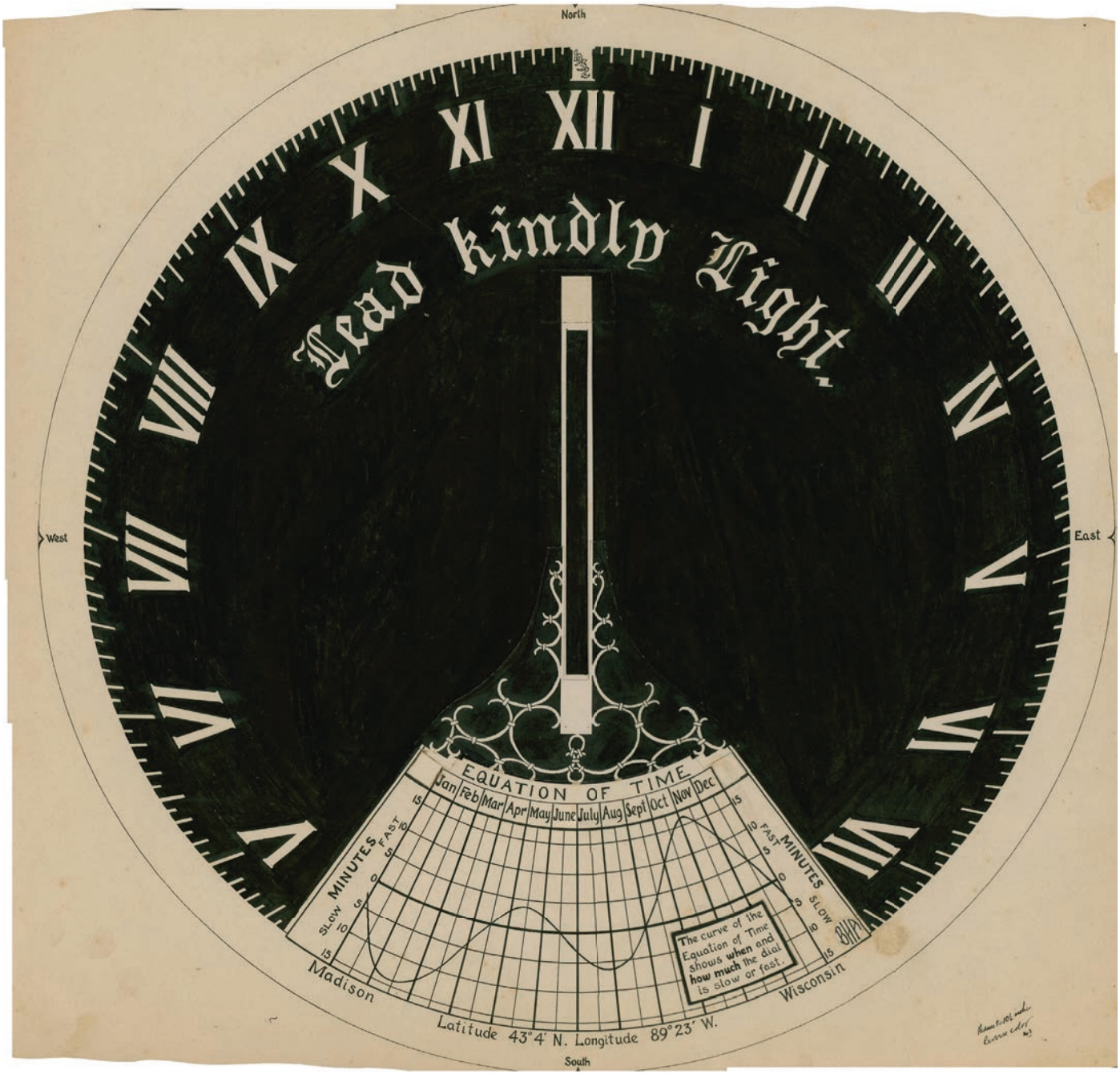
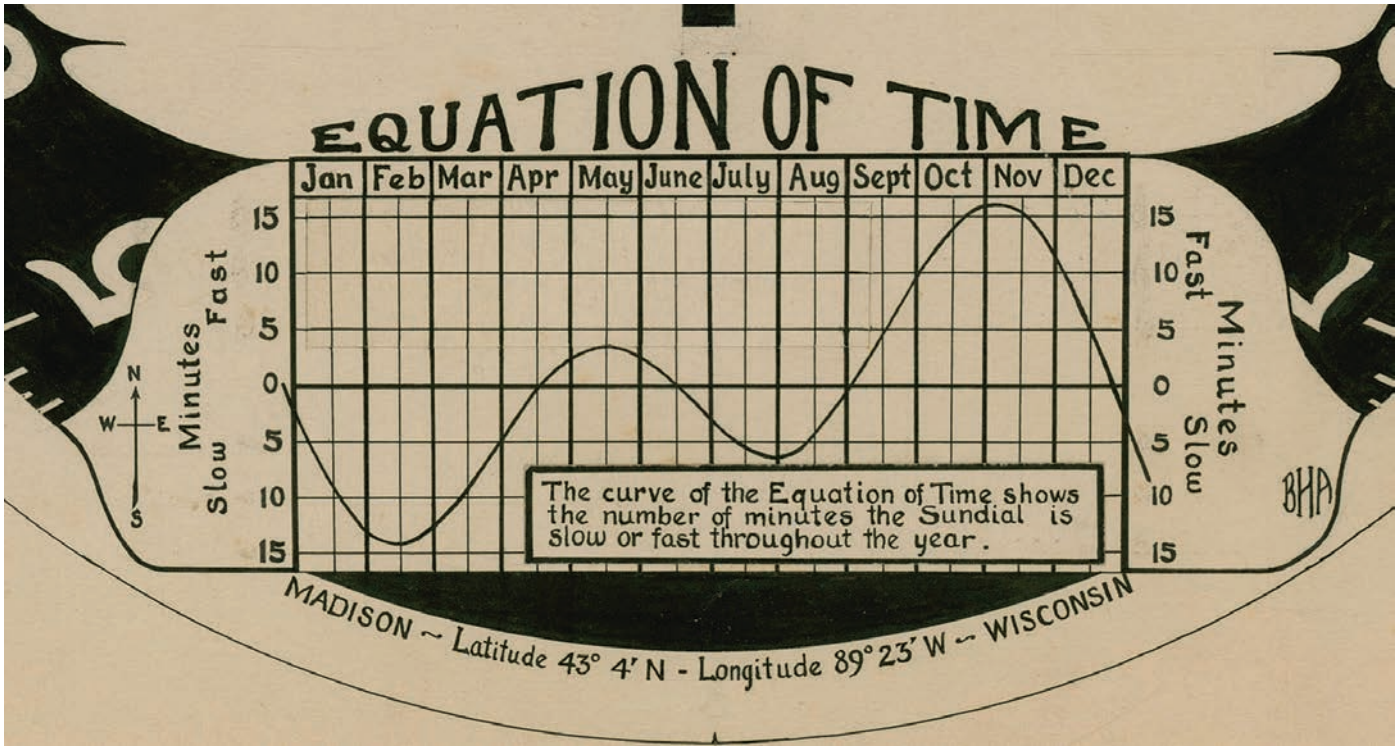


Figure 1. One of Ashman's sundial designs from the collection. COURTESY OF THE NAWCC.

Figure 2. Close-up image of one of the "equation of time" graphs Ashman added to his sundials. COURTESY OF THE NAWCC.



A SUNDIAL READING LIST

These works are available from the NAWCC Fortunat Mueller-Maerki Library & Research Center.

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Sundial designs and their mottos are just part of the Ashman collection. There are some illustrations demonstrating how gnomons would look at different latitudes, from 10° in Panama to 70° in Hammerfest, Norway (Figure 3). The collection also includes prints of geological surveys of several areas in Wisconsin, some done by Ashman himself.

Benjamin Ashman's sundial designs provide insight into early timekeeping and appreciation of the skill needed to create a sundial. Let us remember the words of Frank W. Cousins: "The sundial stands, then, as a tribute to the human mind."[6]

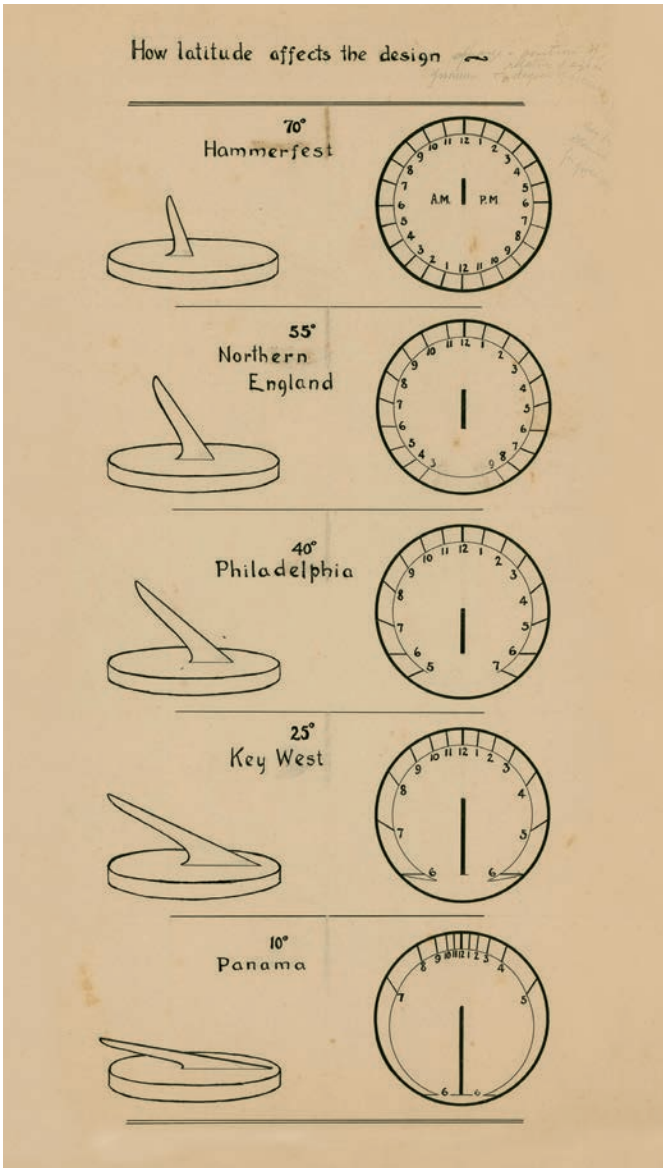


Figure 3. Ashman's illustration of different gnomons based on latitude. COURTESY OF THE NAWCC.

The archives include an amazingly large amount of material from a wide variety of sources, and they are continually evolving and expanding to incorporate donated material and new discoveries. The collections are the safe depository of material explaining our past and the home of future documentation for the next generation. The archives contain keys to understanding horological history, things to learn from and things to make us ponder the bigger questions of life. NAWCC members may access the physical archives by appointment or search our collection at https://archive.nawcc.org. Please note we are always updating and adding information to the database, so if you do not see something you are interested in, please contact us—we may have it. If you would like to borrow material from the library or request research assistance, please contact me at tstocker@nawcc.org or 717-684-8261, ext. 214.

Notes and References

1. Archive identifier no. UPM-131, Fortunat Mueller-Maerki Library & Research Center, National Association of Watch & Clock Collectors, Inc., www.nawcc.org.
2. For a comprehensive list of sundial mottos, see Margaret Gatty, H. K. F. Eden, and Eleanor Lloyd, *The Book of Sundials*, 4th ed. (London: George Bell & Sons, 1900), 201–486; see also Henry Spencer Spackman, *The Time Piece of Shadows* (New York: William T. Comstock, 1895), 90–94. Another great collection of mottos can be found in John Parmenter, *Helio-tropes or New Posies for Sundials*, ed. Perceval Landon (London: Methuen & Co., 1904), https://archive.org/details/heliotropesornew00parm/mode/2up.
3. The exact date of the first sundial is lost to history. Biblical sources claim the Dial of Ahaz (mentioned in both 2 Kings 20:8–11 and Isaiah 38:8, NRSV) was the first sundial created in the 8th century BC, while modern scholars date early sundials to 1500 BC in Egypt. Other scholars claim that Egyptian obelisks dating to 3500 BC are the first sundials.
4. Charles K. Aked, "Sundial Mottoes," *NAWCC Bulletin* 36, no. 290 (1994): 313.
5. For an example of the equation of time, see Albert E. Waugh, *Sundials: Their Theory and Construction* (New York: Dover Publications, Inc., 1973), 205–6, Appendix A.1.
6. Frank W. Cousins, *Sundials: The Art and Science of Gnomonics* (New York: Pica Press, 1970), 19.

H. H. Heinrich: An Almost Forgotten American Chronometer Maker

By Luigi Petrucci (NL)

Marvin E. Whitney presents H. H. Heinrich as part of the "lesser-known American Chronometer Makers":[1] a strange destiny for a maker described by *Jewelers' Circular and Horological Review* as "one of the most prominent chronometer makers of the United States,"[2] "one of the foremost horologists in the world,"[3] and the "American Nestor of active watchmakers."[4] The following tries to address this inconsistency.

LIFE

Hein Hinrich Heinrich[5] was born in 1822 in Cranz, a village on the Elbe, today part of Hamburg, Germany. He was the first son of a wealthy farmer and therefore destined to inherit the family's property and activity.[6] Instead, following an accident at a young age, one of his legs was crippled and he was allowed to follow his desire to become a watchmaker.[7]

Despite Cranz being under Danish control at the time,[8] Heinrich followed the watchmaker guild regulations of the kingdom of Hamburg: an apprenticeship of three to four years followed by several years as a journeyman, ending with the production of a masterpiece.[9] Accordingly, Heinrich was apprenticed in Hamburg by Koderhand, "more a tinsmith than a watchmaker." Notwithstanding the limited teaching from his master, after traveling as a journeyman, Heinrich produced a complete pocket watch as his masterpiece and settled in Hamburg for another six years.[10]

After returning to his father's house for two years to wait out the revolutions of 1848, Heinrich started traveling again through Lunenburg, Hannover, and Leipzig, where he worked for the tell-tale (or "roundsman's watch") and turret clockmakers Christian Friedrich Zachariä and his son Bernhard;[11] the Zachariäs were well regarded and purveyors to the Saxonian king.[12] Heinrich's next stop was Vienna with the watchmaker Ignatz Marenzeller,[13] known for having received a silver medal in the Vienna exhibition of 1835 and a gold medal in 1845.[14] Heinrich then traveled through the Augsburg domains in Italy: he worked in Trieste, Venice, Bergamo, Verona, Vicenza, and finally in Milan with the chronometer maker Kohlschütter.[15]

Zum Verkaufen:

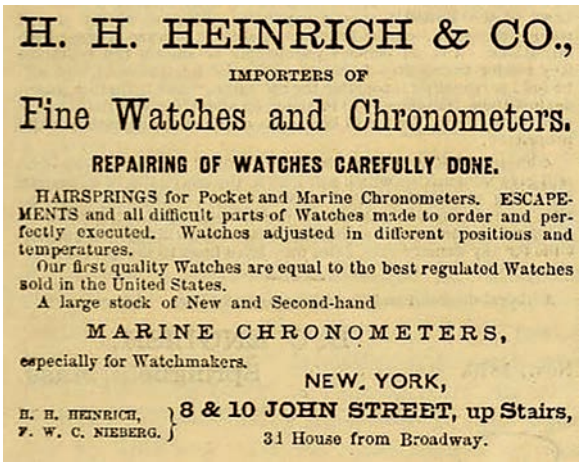
Wegen Abreise eine Bibliothek, enthaltend folgende Werke:

1) Meyer's Conversationslexikon, 15 Bände.
2) Der Rhein und die Rheinlande, 3 Bände.
3) Meyer's Universum, 5 Bände.
4) Schiller's sämmtliche Werke, 6 Bände.
5) Rotteck's Weltgeschichte, 6 Bände.
6) Volksbibliothek, 28 Bände.
7) Sue, Geheimnisse des Volkes, 9 Bände.
8) Zschokke's Werke, 10 Bände.
9) Hausbibel, Prachtausgabe.
10) Gartenlaube, 6 Jahrgänge, 2c.

Sämmtliche Werke sind neu und auf das Eleganteste eingebunden, so daß sie sich sehr gut zu Festgeschenken eignen würden, und werden dieselben sehr billig verkauft.

H. H. Heinrich,
Leopold Robert Nr. 26, Chaux-de-Fonds.

◄ **Figure 1. Figure 1.** Advertising from *Der Bund* (1863).



H. H. HEINRICH & CO.,

IMPORTERS OF

Fine Watches and Chronometers.

REPAIRING OF WATCHES CAREFULLY DONE.

HAIRSPRINGS for Pocket and Marine Chronometers. ESCAPEMENTS and all difficult parts of Watches made to order and perfectly executed. Watches adjusted in different positions and temperatures.

Our first quality Watches are equal to the best regulated Watches sold in the United States.

A large stock of New and Second-hand

MARINE CHRONOMETERS,

especially for Watchmakers.

NEW. YORK,

H. H. HEINRICH, F. W. C. NIEBERG. } 8 & 10 JOHN STREET, up Stairs,

31 House from Broadway.

► **Figure 2.** Advertising from *American Horological Journal* (1871).

After only two months in Milan, Heinrich broke his crippled leg anew and had to return home.[16] Two years later, in 1852, he moved to La Chaux-de-Fonds in Switzerland and worked as an escapement planter on lever and chronometer watches. In 1854, he was active at Rue de la Citadelle 209, and in 1860, at Grand Rue 26, renamed Rue Leopold Robert in 1862.[17] In addition, within two years of his arrival in La Chaux-de-Fonds, he opened a watchmakers' school "attended by more than one hundred students during the 10 years of its existence."[18] The school was for watchmakers who had already passed their apprenticeship and wanted to learn the theory and construction of escapements.[19]

In 1857, Heinrich participated in the exposition of the Swiss industry in Bern. He presented a marine chronometer with a double rim balance[20] and received an honorable mention for it.[21] This prize needs to be put in perspective, however, as almost every participant showing products related to horology received a prize; 39 honorable mentions were distributed to makers of timepieces.[22]

At the end of 1863, after selling the contents of his school's library[23] (Figure 1), Heinrich moved to Geneva and worked as a chronometer and escapement maker for Patek Philippe and as a watch adjuster for Henry Capt.[24]

At the end of 1865, now 43, Heinrich moved to New York City where he started working on his own as a watch adjuster, being paid up to $25 for adjusting a single watch. Within six months of his arrival, he entered the service of Blond & Nicoud on Water St. with a salary of $35 per week.[25]

In 1868, Heinrich opened a shop at 8 & 10 John St. in association with F. W. C. Nieberg (Figure 2).[26] The company imported watches and chronometers, adjusted watches, and made escapements on order.

In 1872, on his return from a trip to Europe, Heinrich dissolved the partnership with Nieberg and entered the service of the International Watch Co. (IWC), where he "revised all pocket watches destined to be exported to America."[27]

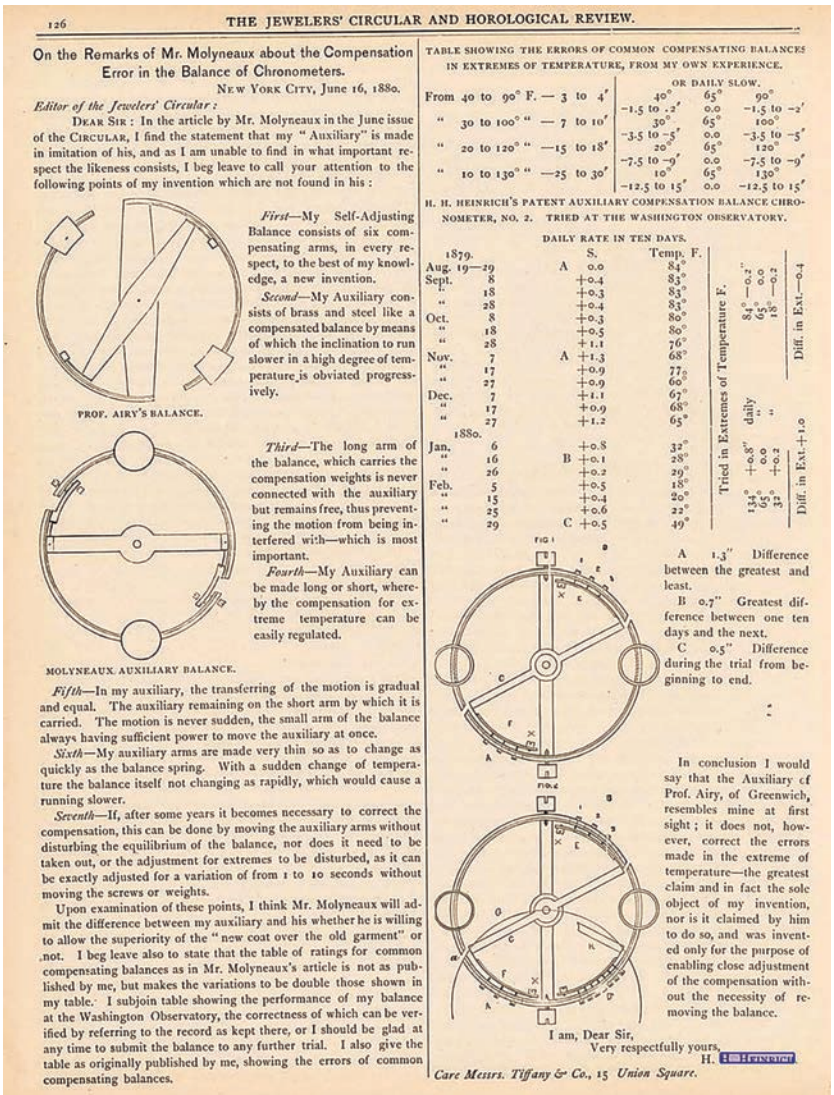
When IWC failed in 1876, Heinrich entered the service of Tiffany & Co., where he remained for four years.[28] During this time, he perfected a self-adjusting auxiliary balance to eliminate the secondary temperature error, a balance for which he was granted patent US208238[29] on September 24, 1878. Heinrich managed to have this auxiliary balance presented in several journals: in England in the *Horological Journal;* in Germany in the *Deutsche Uhrmacherzeitung;* in Switzerland in the *Journal Suisse d'Horlogerie;* and in France in the *Revue Chronométrique*.[30]

By 1880, Heinrich's chronometer with serial number 2 and with his auxiliary balance was tested for six months at the US Naval Observatory in Washington, DC. Theo F. Kole Esq., commander of the observatory, certified that the chronometer showed an average error over the entire test of 0.5 seconds, with the chronometer being tested at temperatures from 134°F down to 18°F.[31]

These results did not go unnoticed. In July 1880, the *Deutsche Uhrmacherzeitung* published a rebuttal by

Heinrich of the insinuation by Em. Berg that his auxiliary balance was a mere "reincarnation" of the auxiliary balance invented by Airy.[32] In August 1880, the *Jewelers' Circular and Horological Review* published Heinrich's rebuttal[33] of the insinuation published in June 1880 in the same journal by Robert Molyneux, chronometer maker, that Heinrich's auxiliary compensation was a mere imitation of Molyneux's. This rebuttal included an explanation of the working of the balance (Figure 3). In the same article, Molyneux also attacked William B. Crisp, chronometer maker of repute and inventor of a further auxiliary compensation, who published his own rebuttal in the *Horological Journal* of February 1881.[34]

On the positive side, Heinrich's patented balance was adopted by several firms. H. R. Ekegren (Geneva) used it in the marine chronometer with serial number 10, and Henry Grandjean & Co. (Locle) used it in the marine chronometer with serial number 86. The two chronometers placed second and fourth respectively (out of five) in the 1883 Swiss national competition held by the Geneva observatory.[35] Henry Grandjean & Co. used it also in the marine chronometer with serial number 97, and presented it to the trials held by the observatory of Neuchâtel in 1886; it placed seventh out of 10.[36] E. Kutter (Stuttgart) used it in the marine chronometer with serial number 24 and presented it for the chronometer



126 THE JEWELERS' CIRCULAR AND HOROLOGICAL REVIEW.

On the Remarks of Mr. Molyneaux about the Compensation Error in the Balance of Chronometers.

NEW YORK CITY, June 16, 1880.

Editor of the Jewelers' Circular:

DEAR SIR: In the article by Mr. Molyneaux in the June issue of the CIRCULAR, I find the statement that my "Auxiliary" is made in imitation of his, and as I am unable to find in what important respect the likeness consists, I beg leave to call your attention to the following points of my invention which are not found in his:

PROF. AIRY'S BALANCE.

First—My Self-Adjusting Balance consists of six compensating arms, in every respect, to the best of my knowledge, a new invention.

Second—My Auxiliary consists of brass and steel like a compensated balance by means of which the inclination to run slower in a high degree of temperature is obviated progressively.

Third—The long arm of the balance, which carries the compensation weights is never connected with the auxiliary but remains free, thus preventing the motion from being interfered with—which is most important.

Fourth—My Auxiliary can be made long or short, whereby the compensation for extreme temperature can be easily regulated.

MOLYNEAUX AUXILIARY BALANCE.

Fifth—In my auxiliary, the transferring of the motion is gradual and equal. The auxiliary remaining on the short arm by which it is carried. The motion is never sudden, the small arm of the balance always having sufficient power to move the auxiliary at once.

Sixth—My auxiliary arms are made very thin so as to change as quickly as the balance spring. With a sudden change of temperature the balance itself not changing as rapidly, which would cause a running slower.

Seventh—If, after some years it becomes necessary to correct the compensation, this can be done by moving the auxiliary arms without disturbing the equilibrium of the balance, nor does it need to be taken out, or the adjustment for extremes to be disturbed, as it can be exactly adjusted for a variation of from 1 to 10 seconds without moving the screws or weights.

Upon examination of these points, I think Mr. Molyneaux will admit the difference between my auxiliary and his whether he is willing to allow the superiority of the "new coat over the old garment" or not. I beg leave also to state that the table of ratings for common compensating balances as in Mr. Molyneaux's article is not as published by me, but makes the variations to be double those shown in my table. I subjoin table showing the performance of my balance at the Washington Observatory, the correctness of which can be verified by referring to the record as kept there, or I should be glad at any time to submit the balance to any further trial. I also give the table as originally published by me, showing the errors of common compensating balances.

TABLE SHOWING THE ERRORS OF COMMON COMPENSATING BALANCES IN EXTREMES OF TEMPERATURE, FROM MY OWN EXPERIENCE.

	OR DAILY SLOW.		
From 40 to 90° F. — 3 to 4′	40°	65°	90°
	-1.5 to -2′	0.0	-1.5 to -2′
" 30 to 100° " — 7 to 10′	30°	65°	100°
	-3.5 to -5′	0.0	-3.5 to -5′
" 20 to 120° " —15 to 18′	20°	65°	120°
	-7.5 to -9′	0.0	-7.5 to -9′
" 10 to 130° " —25 to 30′	10°	65°	130°
	-12.5 to 15′	0.0	-12.5 to 15′

H. H. HEINRICH'S PATENT AUXILIARY COMPENSATION BALANCE CHRONOMETER, NO. 2. TRIED AT THE WASHINGTON OBSERVATORY.

DAILY RATE IN TEN DAYS.

1879.		S.	Temp. F.	Tried in Extremes of Temperature F.			
Aug.	19—29	A 0.0	84°				
Sept.	8	+0.4	83°	84°	— 0.2″		
"	18	+0.3	83°	65°	0.0		
"	28	+0.4	83°	18°	— 0.2		
Oct.	8	+0.3	80°				Diff. in Ext.—0.4
"	18	+0.5	80°				
"	28	+1.1	76°				
Nov.	7	A +1.3	68°				
"	17	+0.9	77°				
"	27	+0.9	60°				
Dec.	7	+1.1	67°				
"	17	+0.9	68°				
"	27	+1.2	65°				
1880.							
Jan.	6	+0.8	32°				
"	16	B +0.1	28°				
"	26	+0.2	29°				
Feb.	5	+0.5	18°				
"	15	+0.4	20°				
"	25	+0.6	22°				
"	29	C +0.5	49°				Diff. in Ext.+1.0

FIG 1

A 1.3″ Difference between the greatest and least.

B 0.7″ Greatest difference between one ten days and the next.

C 0.5″ Difference during the trial from beginning to end.

In conclusion I would say that the Auxiliary of Prof. Airy, of Greenwich, resembles mine at first sight; it does not, however, correct the errors made in the extreme of temperature—the greatest claim and in fact the sole object of my invention, nor is it claimed by him to do so, and was invented only for the purpose of enabling close adjustment of the compensation without the necessity of removing the balance.

I am, Dear Sir,
Very respectfully yours,
H. HEINRICH.

Care Messrs. Tiffany & Co., 15 Union Square.

◄ **Figure 3.** Heinrich's article rebutting Molyneux's arguments from *The Jewelers' Circular – Weekly and Horological Review* (1880).

Figure 4. Advertising from *The Jewelers' Circular and Horological Review* (1884).

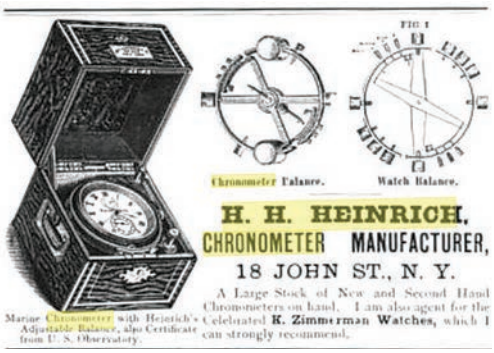


Figure 5. Advertising from *The Jewelers' Circular and Horological Review* (1884).

competition held in 1883–84 by the German admiralty at the Hamburg observatory; it placed 10th out of 28.[37]

In 1880, Heinrich opened his own shop at 41 Maiden Ln. in New York City. An advertisement for the shop appeared in *Scientific American* in December of the same year:

> Mr. Heinrich is a practical working mechanic and adjuster of marine and pocket chronometers to positions and temperatures, and it is now prepared to apply his new balance wheel to any fine timekeeping instrument, either for public or private use; he also repairs marine and pocket chronometers as well as all kinds of complicated watches, broken or lost parts made new and adjusted. . . . Fine watches of the principal manufacturers, for whom he is their agent, constantly on hand. His office is connected by electric wires with the Naval Observatory's astronomical clock through the Western Union telegraph, thus giving him daily New York's mean time.[38]

In the following 20 years, Heinrich was busy as an adjuster of pocket watches and as a chronometer maker and repairer. He also maintained a close relationship with R. & L Friedlander at 65-67 Nassau St. The pocket watches he adjusted and chronometers he made will be discussed below.

In May 1884, Heinrich moved to 18 John St.[39] In the same year he became the sole agent for the US market of the pocket watches made by Karl Zimmerman[40] (Figure 4). He also developed a variation of his auxiliary balance for pocket watches (Figure 5).[41]

In 1886, Heinrich moved to 14 John St. "in order to have his office and workshop together."[42] He was invited to take part in the second competitive chronometer trial organized by the US Naval Observatory in Washington, DC.[43] The Naval Observatory would go on to invite Heinrich to every chronometer competition they held; only retirement stopped him competing.

Around this period Heinrich became interested in the effects of magnetism on watches, as exhaustively explained by Marvin E. Whitney.[44] In 1886, one of the chronometers submitted for the trials had a palladium hairspring,[45] which Heinrich started selling to the trade "with great success."[46] Furthermore, he worked with Giles, Bro. & Co. to use their antimagnetic shield (patent US289642) on his chronometers.[47]


H. H. HEINRICH,
CHRONOMETER MANUFACTURER,
No. 14 John Street, New York.

CHRONOMETERS TO RENT. $5 per month
In order to give an opportunity of examining and testing my Chronometers, I will rent them out at the rate of $5 per month, payable in advance. To those desiring to purchase chronometers, after examining them, an allowance of the first month's rent will be made from purchasing price.

A large stock of new and second-hand Marine Chronometers on hand for the Trade. All my second-hand chronometers are in the very best condition, are readjusted, and look like new. Agent for the **K. Zimmerman Watches** and **Palladium Balance Springs** for Marine Chronometers. Springing and Adjusting a **Specialty.**

MARINE CHRONOMETER WITH HEINRICH'S ADJUSTABLE BALANCE. CERTIFICATE FROM U. S. OBSERVATORY.

Figure 6. Advertising from *The Keystone* (1887).

In January 1887, Heinrich launched a new business model: he would rent his chronometers to the trade for $5 a month (Figure 6).[48] The idea, according to his own account, appears to have been successful;[49] however, it was abused in 1888 by Siegfried Sittner, who acted as agent for Heinrich. Sittner faked rental contracts for several chronometers, whose rent he regularly paid, while in reality he had pawned them. In order to keep this chronometer Ponzi scheme running, Sittner needed an ever-increasing number of the devices and therefore appeared to be a very successful agent. The scheme was discovered when Heinrich sent an invoice to one of the alleged renters, who answered denying any knowledge of the agent.[50] Luckily for Heinrich, after the arrest of Sittner, all of the chronometers were recovered.

In February 1887, Heinrich sold the part of his watch repairing and adjusting business that dealt with trade beyond New York City to Charles S. Crossman at 61 Nassau St.[51]

In 1889, Heinrich participated in the World's Fair in Paris with three chronometers, each containing one of his inventions. One had a simplified application of weight for compensation in ordinary temperature from 40°F to 95°F. Another had the self-adjusting compensation balance, and the third had a new system for regulating the isochronism and for regulation in positions.[52] He was awarded a silver medal for these chronometers.[53]

Heinrich also took part in the 1893 World's Fair in Chicago. As part of the Naval Observatory's exhibit, he showed the following items:

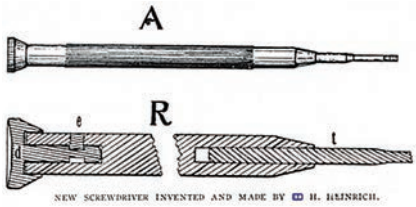
- The marine chronometer he had exhibited in Bern in 1857
- A marine chronometer with both the auxiliary balance and the isochronal regulator
- Two marine chronometer movements: one with both the auxiliary balance and the isochronal regulator, and one with only the isochronal regulator
- A showcase containing a chronometer movement about half-finished, displayed in pieces; the case also contained a facsimile of the silver medal received in 1889 at the Paris exposition.[54]

For his exhibits, Heinrich was awarded a medal and a diploma.[55]

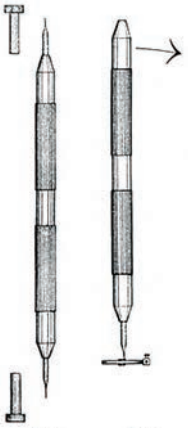
From 1893, the prices paid for his chronometers at the Bern, Paris, and Chicago expositions were used as a marketing tool on Heinrich's chronometers (Figure 7) and in his advertising (Figure 8). In his ads, having "correct city time" on the inside of the chronometers' covers is most probably a reference to the connection by electric wires to the Naval Observatory.

Figure 7. Dial of chronometer 1037. PHOTO USED BY PERMISSION OF NED LLOYD.

Figure 8. Advertising from *The Jewelers' Circular and Horological Review* (1893).



▲ **Figure 9.** Screwdriver made by Heinrich, from *The Jewelers' Circular–Weekly and Horological Review* (1902).



► **Figure 10.** Oiler made by Heinrich, from *The Jewelers' Circular–Weekly and Horological Review* (1902).

In April 1896, Heinrich moved to 102 Fulton St.,[56] and in June 1899 at age 77, he retired after disposing of his stock to C. A. Geisler.[57] His retirement lasted less than three years, as Heinrich was swindled out of his savings. Consequently, by February 1902 he was again working, at age 80, as an independent maker of watchmaker tools, mainly screwdrivers[58] (Figure 9) and oilers (Figure 10).[59]

On November 5, 1902, the *Jewelers' Circular–Weekly and Horological Review* started publishing *Heinrichs' Horologica* by H. H. Heinrich, "being answers to a series of questions on advanced horological subjects."[60] The plan was to publish the articles as a book; however, only eight articles were published before Heinrich died of a stroke on February 25, 1903, in his Brooklyn home.[61] Figure 11 shows a portrait of Heinrich at the age of 75; Figure 12 shows him at a younger age.

POCKET WATCHES ADJUSTED BY HEINRICH

Heinrich was quite successful as a pocket watch adjuster.

In the trials ending in 1883 at Yale College's observatory, a watch presented by Aiken, Lambert & Co. under their private label "Paul Breton, Geneva" and adjusted by Heinrich received the best ranking, a Class III certificate.[62] To receive a Class III certificate, watch movements had to be observed for 19 days in two positions, and in the oven and refrigerator.

In the trials ending in 1884, out of 39 watch movements receiving a Class I certificate, 15 were adjusted by Heinrich, taking places two to four among others.[63] To receive a Class I certificate, watch movements had to be observed for 42 days in five positions, and in the oven and refrigerator. Heinrich adjusted three Karl Zimmerman watches and a J. Jurgensen watch he himself submitted, and 11 Paul Breton watches submitted by Aiken, Lambert & Co. Heinrich's auxiliary balance was mounted on the fourth-placed movement signed by Karl Zimmerman with serial number 15,682 (see Figure 5).

CHRONOMETERS

Working similarly to the other chronometer makers based in the US, as well as most small British chronometer makers, Heinrich bought the basic movement and then finished, sprung, and regulated it.[64] According to Tony Mercer and Marvin E. Whitney,

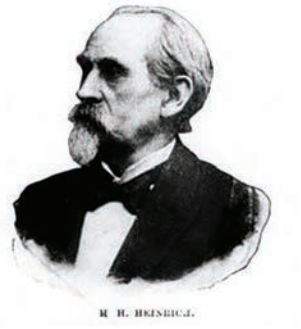


Figure 11. Heinrich's portrait at 75 years old, from *The Jewelers' Circular–Weekly and Horological Review* (1897).

Figure 12. Heinrich's portrait at a younger age, from *Allgemeines Journal der Uhrmacherkunst* (1897).

Heinrich bought the basic movements from the House of Mercer.[65] Parts manufactured by Heinrich included the aluminum escape wheel, the aluminum spring collet, the balance with the auxiliary temperature correction, and the isochronal regulator.

Heinrich won fewer awards as a chronometer maker in the Naval Observatory's competitions[66] than he did as a watch adjuster in Yale's observatory trials.

The scope of the Naval Observatory's competition was to acquire chronometers for naval service and encourage production by US chronometer makers. Between 1885 and 1899, Heinrich sent 34 chronometers to the Naval Observatory, some more than once. The Observatory

Figure 13. Dial of chronometer 503. PHOTO USED BY PERMISSION OF PAUL REGAN.

Figure 14. Movement of chronometer 503. PHOTO USED BY PERMISSION OF PAUL REGAN.

Figure 15. Dimension of the chronometer 503 box. PHOTO USED BY PERMISSION OF PAUL REGAN.

HEINRICH'S US NAVAL OBSERVATORY COMPETITION RESULTS

	SERIAL NUMBER	COMPETITION YEAR	PLACED # OUT OF TOTAL #	FINAL TRIAL NUMBER	SPECIAL FEATURES
1	6	1885–1886	30 / 41	54.404	Heinrich's patent balance; Class A certificate by Yale College's observatory in 1884
2	8	1885–1886	15 / 41	23.405	Heinrich's patent balance
3	10	1885–1886	24 / 41	36.139	Heinrich's patent balance
4	11	1885–1886	31 / 41	90.412	Heinrich's patent balance
5	12	1885–1886	22 / 41	34.855	Heinrich's patent balance
6	13	1885–1886	withdrawn	—	Heinrich's patent balance; Class A certificate by Yale College's observatory in 1884
7	712	1890–1891	29 / 41	30.013	Heinrich's auxiliary balance; Giles nonmagnetic shield
8	**811**	**1887–1888**	**9 / 30**	**16.7141**	**Heinrich's patent balance**
9	990	1894–1895 1895–1896	12 / 13 19 / 21	101.8905 60.7660	ordinary compensation balance
10	994	1894–1895 1895–1896 1896–1897	8 / 13 17 / 21 6 / 10	43.5516 50.4074 30.019	ordinary compensation balance and reverse movement
11	995	1894–1895	7 / 13	40.1797	ordinary compensation balance
12	1001	1890–1891	20 / 41	15.412	Heinrich's compensating weights, white steel spring
13	1002	1890–1891	35 / 41	42.698	Heinrich's regulator, white steel spring
14	1003	1890–1891	37 / 41	44.262	ordinary balance, white steel spring
15	1004	1890–1891	41 / 41	136.075	Heinrich regulator, palladium spring
16	1005	1890–1891	31 / 41	31.943	ordinary balance, palladium spring
17	**1007**	**1890–1891**	**12 / 41**	**12.346**	**Heinrich's regulator, white steel spring**
18	1008	1890–1891	39 / 41	79.132	plain compensation balance, palladium spring
19	1021	1894–1895 1895–1896 1896–1897	5 / 13 21 / 21 5 / 10	25.5961 150.1352 25.917	ordinary compensation: balance with auxiliary check pieces acting in heat and cold
20	1022	1894–1895 1895–1896	9 / 13 18 / 21	44.6234 58.4664	ordinary compensation: balance with auxiliary check pieces acting in heat and cold and isochronous regulator; exhibited at the Chicago World Fair in 1893[67]
21	1023	1894–1895 1895–1896	6 / 13 20 / 21	35.5828 87.1956	ordinary compensation balance
22	1025	1894–1895 1895–1896	1 / 13 15 / 21	35.5828 87.1956	Heinrich's patent balance; photos published in the article by Marvin E. Whitney[68]
23	**1037**	**1899–1900**	**1 / 15**	**16**	
24	**1041**	**1899–1900**	**2 / 15**	**25**	
25	1044	1899–1900	13 / 15	59	

Table 1. Chronometers with Heinrich's signature presented in the US Naval Observatory's competition.

Figure 16. Movement of chronometer 1037. PHOTO USED BY PERMISSION OF NED LLOYD.

purchased only six of them: number 811 in 1888, number 1007 in 1891, and numbers 1037, 1041, 1051, and 1052 in 1900. Numbers 1041, 1051, and 1052 were purchased for $250 each, even if their trial number was higher than required by the Observatory. Number 1037, the winner of that year's competition with a trial number of 16, was purchased for $330.

Table 1 lists the chronometers signed by Heinrich and presented for the Naval Observatory's competition; the ones purchased by the Observatory appear in green. For the competition taking place in the administrative year 1900–1, the chronometers were regulated and presented by Geissler.

Table 2 lists the other nine chronometers signed by Heinrich that I found references to in the literature (excluding auction catalogs). Figures 13–15 show the chronometer with serial number 503, and Figures 7 and 16 show the chronometer with serial number 1037.

HEINRICH'S US NAVAL OBSERVATORY COMPETITION RESULTS *(continued)*

	SERIAL NUMBER	COMPETITION YEAR	PLACED # OUT OF TOTAL #	FINAL TRIAL NUMBER	SPECIAL FEATURES
26	1045	1899–1900	7 / 15	35	
27	1046	1899–1900 1900–1901	14 / 15 17 / 17	81 91.4	
28	1047	1899–1900 1900–1901	12 / 15 12 / 17	58 44.6	
29	1048	1899–1900 1900–1901	9 / 15 13 / 17	50 45.3	
30	1049	1899–1900 1900–1901	10 / 15 11 / 17	53 42.5	
31	1050	1899–1900	15 / 15	236	
32	**1051**	**1899–1900**	**4 / 15**	**27**	
33	**1052**	**1899–1900**	**3 / 15**	**26**	
34	3458	1885–1886 1887–1888	32 / 41 15 / 30	112.956 26.0913	ordinary balance, palladium hairspring, Phillip's curb

Table 1. Chronometers with Heinrich's signature presented in the US Naval Observatory's competition.

OTHER CHRONOMETERS WITH HEINRICH'S SIGNATURE

	SERIAL NUMBER	SPECIAL FEATURES	SOURCE
1	2	Heinrich's patent balance	tested for six months in 1880 by the US Naval Observatory
2	3	Heinrich's patent balance	presented for the trial at the Royal Observatory of Greenwich in 1883; placed 18 out of 40[69]
3	4	Heinrich's patent balance	obtained Class A certificate from Yale College's observatory in 1883
4	9	Heinrich's patent balance	obtained Class A certificate from Yale College's observatory in 1884
5	502		used by Rev. William F. Rigge during the Creighton University expedition to observe the solar eclipse; it "beat half-seconds, showed central time and its ordinary daily rate was about 9 seconds gaining."[70]
6	503		Collection of Paul Regan
7	1015	Heinrich's patent balance isochronal regulator	exhibited at the Chicago World's Fair in 1893[71]
8	1024	isochronal regulator	exhibited at the Chicago World's Fair in 1893[72]
9	1027		photo published on p. 74 of *Chronometers Makers of the World* by Toni Mercer

Table 2. Other chronometers with Heinrich's signature.

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13. *Allgemeines Journal der Uhrmacherkunst* XXII, no. 13.
14. Jürgen Abeler, *Meister der Uhrmacherkunst*, 2nd ed. (Germany: self-pub., 2010), 363.
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16. *Allgemeines Journal der Uhrmacherkunst* XXII, no. 13.
17. *Allgemeines Journal der Uhrmacherkunst* XXII, no. 13; *Indicateur des montagnes pour 1855* XI (Chaux-de-Fonds, Switzerland: Ferd. Heinzely, 1854): 51; *Indicateur des montagnes pour 1861* XV (Chaux-de-Fonds, Switzerland: Ferd. Heinzely, 1860): 40; *INSA, Inventar der neueren Schweizer Architektur, 1850-1920*, no. 3 (Bern, Switzerland: Gesellschaft für Schweizerische Kunstgeschichte, 1982): 129.
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19. *The Jewelers' Circular–Weekly and Horological Review* XLV, no. 5 (September 3, 1902): 86.
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22. *Feuille Fédérale Suisse* IX-II, no. 53, 324–25.
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72. Poundstone, *Catalogue of the Exhibit of the U.S. Navy Department, World's Columbian Exposition.*

About the Author

Luigi Petrucci was born in Rome, where he studied engineering, specializing in aeronautical, rocket, and electric space propulsion. After working for about 20 years as a patent examiner at the European Patent Office in the Netherlands, he discovered the world of pocket watches about five years ago and has been hooked ever since. Luigi is fascinated by both the mechanics of watches and the stories they tell. He is currently training to become a watchmaker and has published articles in the *Watch & Clock Bulletin*, *Chronométrophilia*, *La Voce di Hora*, and *Antiquarian Horology*. Luigi is also active in pocket watch forums under the name VinSer.

American Clockmakers and Slavery to 1860: Part 3

By Mary Jane Dapkus, NAWCC Fellow (CT)

INTRODUCTION

Parts 1 and 2 of this series described the origins of slavery and antislavery in America, presenting evidence illustrating some of the ways in which clockmakers and their peddlers encountered and reacted to them. Part 3 begins with the story of a little-known but well-regarded clock peddler who was once a slave owner himself. The connection between clocks and slavery on the African continent itself and then methods of antebellum plantation timekeeping will also be examined.

CARLOS BATES: CLOCK PEDDLER AND SLAVE OWNER

A NOVICE PEDDLER TAKES TO THE ROAD

On September 23, 1831, 23-year-old Carlos Bates (1808–78) entered into an "Article of agreement" with the firm of C.[hauncey] & C.[handler] Lewis & Co. "to sell Clocks and other property in some of the Western or Southern States" for a two-year term.[1] It is likely Bates's first encounter with slavery occurred during his time with C. & C. Lewis & Co.

The sixth of 10 children, and the fourth son born to Erastus and Amelia (Higley) Bates of East Granby, CT, Carlos Bates attended Westfield [MA] Academy, where he studied French (a useful skill to those working in certain parts of the South), natural philosophy, astronomy, and logic, receiving a teaching certificate on October 23, 1829.[2] He is said to have taught in local schools before heading south on the peddling expedition.[3]

After his term of employment with C. & C. Lewis ended, Bates returned home to East Granby. For the next few years he kept a local general store. In 1834, however, while managing the family farm, Bates returned to the South, where he would spend most winters for the next 20 or more years, conducting business for himself and others.[4]

There can be little doubt either that Carlos Bates excelled at peddling or that he profited from his excursions to the South. Among his papers in the collection of the Connecticut State Library are letters from numerous correspondents, not only transmitting their instructions but often also soliciting Bates's advice and participation in managing their affairs. Bates was once again peddling clocks for C. & C. Lewis, for example, when at Alexandria, Rapides Parish, LA, he received a letter from Chandler Lewis. Dated at Harrisonburg [LA] on January 14, 1835, it read (in part) as follows (Figure 1):

> I sent you a letter from N[ew] Orleans to Opelousas [LA] dated the 10th respecting sum [*sic*] clocks I order[e]d to be sent from N Orleans I left orders... to send 2 Boxes of Brass clocks and 2 Boxes of Alarm clocks to Negrovill[e] the alarm waits [weights] you

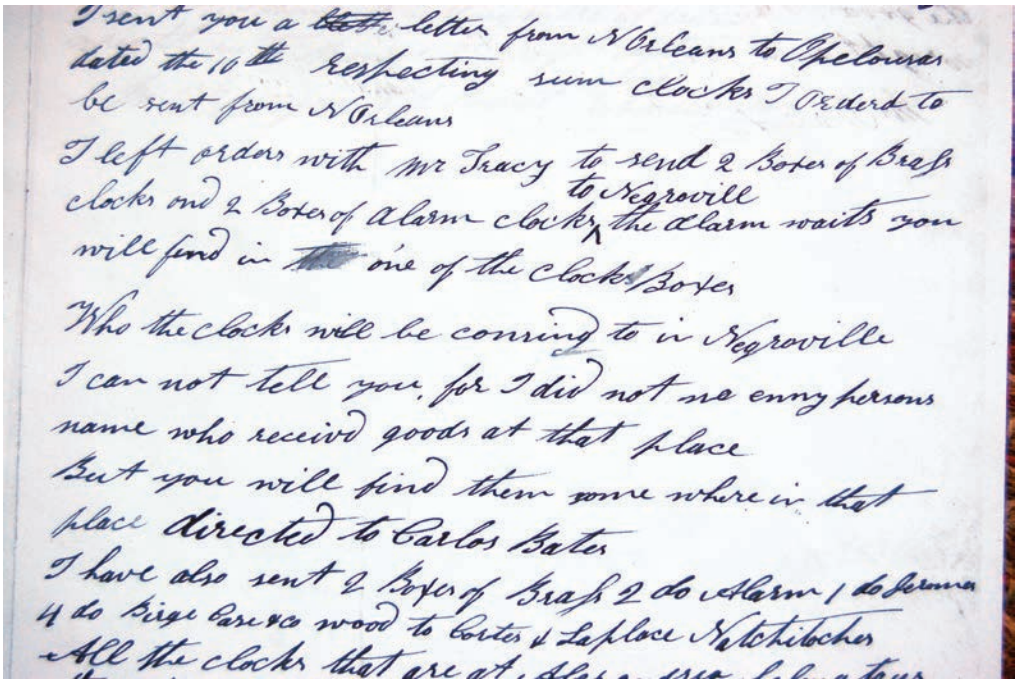


Figure 1. Portion of Chandler Lewis's letter to Bates dated January 14, 1835, discussing clock shipment to "Negroville," possibly in Louisiana or Mississippi. COURTESY OF THE CONNECTICUT STATE LIBRARY. AUTHOR'S PHOTO.

> will find in one of the clocks Boxes Who the clocks will be coming to in Negroville I can not tell you for I did not no [know] enny [*sic*] persons name who recei[ve] d goods at that place... I have also sent 2 Boxes Brass 2 do [ditto] Alarm 1 do Jerome 4 do Birge Case & co...to Cortes & Laplace Natchitoches [LA]. All the clocks that are at Alexandria belong to us.[5]

In a previous letter to Bates, Lewis had stated that the clocks would be sent "to Negro Ville...on the Boat."[6] Therefore, it would appear the mysterious settlement was situated on a navigable body of water, perhaps the Mississippi River, accessible to New Orleans. In comparison with other states, Louisiana was home to a relatively large, well-educated and prosperous free black community, particularly concentrated in New Orleans, Natchitoches, and St. Landry Parish,[7] raising the question of whether at least some of the clocks were being sold to free black persons in Louisiana.

There is some evidence to suggest this was the case. Writing from St. Landry Parish on December 3, 1836 (Figure 2), merchant Christopher Steel informed Bates:

> D[ea]r Sir,
> This is to inform you that Ceprean MareJane (or Marlin) a free man of color is dead[.] There has been a sale made of his property and I think it would be advisable for you to send the note you hold upon him to this place in order to have it attended to, as there is a probability of his not having enough to discharge his debts.[8]

The fact that Steel's letter mentions a debt due Bates from MareJane suggests the latter had made a purchase from him, perhaps a clock. Whether Bates was able to collect on the note is unknown.

By 1860, Christopher Steel (ca. 1795–1890) owned not only extensive farmland near the town of Grand Coteau in St. Landry Parish worth about $5,500, and personal property worth $15,000, but also a total of six slaves.[9]

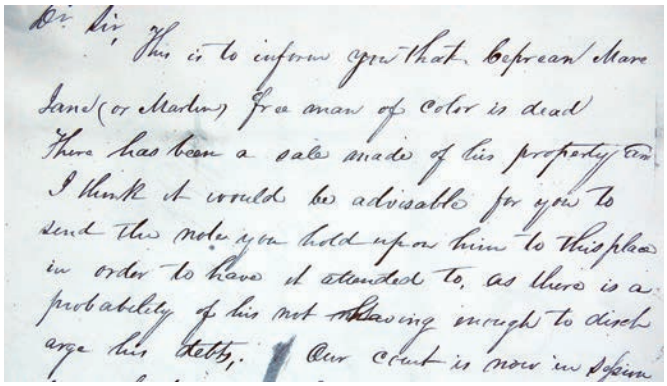


Figure 2. Portion of the December 3, 1836, letter from Christopher Steel to Bates informing the latter of the death of Ceprean MareJane, a "free man of color." COURTESY OF THE CONNECTICUT STATE LIBRARY. AUTHOR'S PHOTO.

AN ERASTUS CASE / BIRGE, CASE & CO. / CASE, WILLARD & CO. CONNECTION

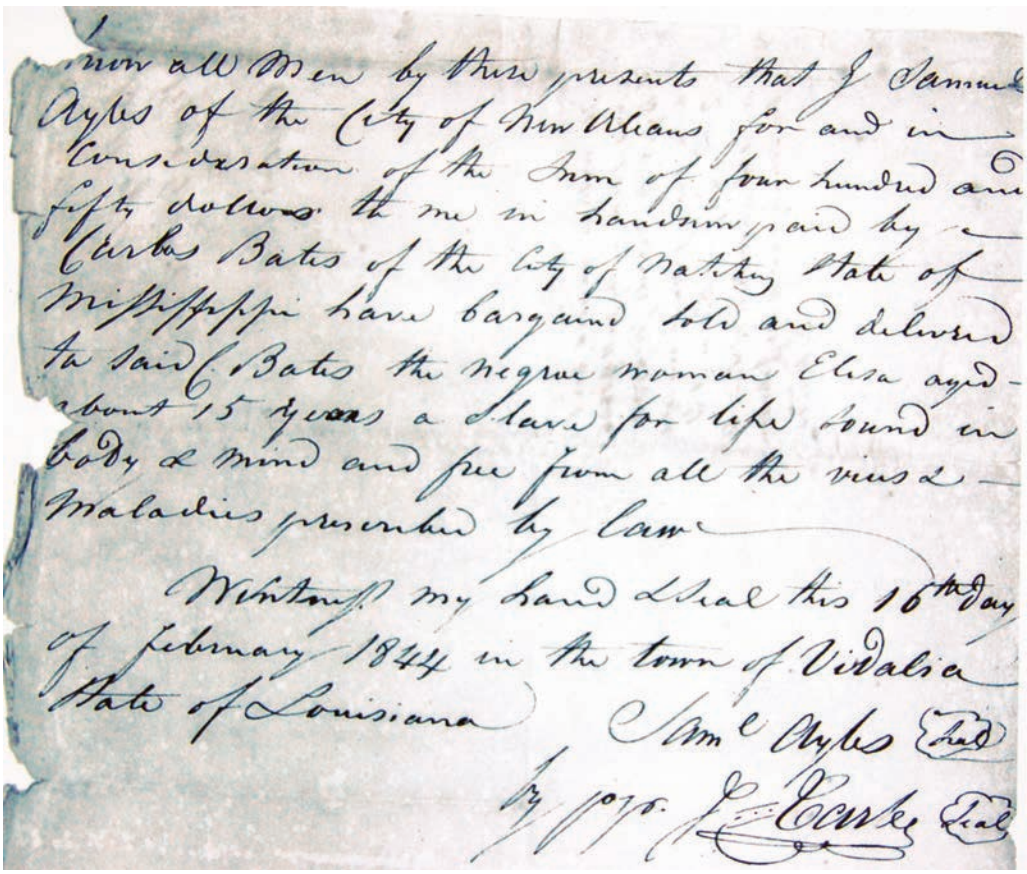
As a peddler for the firm of C. & C. Lewis & Co. in the early 1830s, Carlos Bates dealt largely in clocks produced by the Bristol, CT, firm of Birge, Case & Co. During the late 1830s, Bates became the Southern agent and correspondent of Erastus Case (1789–1857) of Canton and New Hartford, CT, and Auburn, NY. Together with John Birge (1785–1862) of Bristol, Erastus and his brother Harvey Case (1793–1853) comprised the partners in Birge, Case & Co., which manufactured shelf clocks with 8-day strap brass movements designed by Bristol's inventive clockmaker Joseph Ives (1782–1862), from about 1833 to 1835. Subsequently, Erastus Case and his son-in-law, Dr. Sylvester Willard (1799–1886), produced shelf clocks with Ives's strap brass movements at Bristol about 1835–36, in partnership under the firm name of Case, Willard & Co.[10] In addition to clocks, Case, Willard & Co. produced pistols and rifles, samples of which Carlos Bates had trouble selling in Mississippi in 1839, as the nation's economy collapsed following the Panic of 1837.[11] Nonetheless, Case's correspondence with Bates, requesting the latter's assistance in collecting difficult accounts and arranging land transactions (occasionally in connection with current or former Connecticut clockmakers including Seth Thomas and the firm of Birge & Mallory),[12] continued into the 1850s.

INVESTMENTS IN SLAVES

In Vidalia, Concordia Parish, on February 16, 1844, Carlos Bates purchased "the Negro woman Eliza aged about 15 years a slave for life sound in body & mind and free from all the vices & Maladies prescribed by law" (Figure 3).[13] Eliza's last name (if she had one) was mentioned in neither the bill of sale at the price of $450, nor in any of the other documents examined. Her seller, Samuel Ayles (1824–91), then of New Orleans, was a native of Natchez, MS.

Carlos Bates hired Eliza out as a domestic servant, a role for which she proved poorly suited. At home in East Granby, Bates received a letter dated March 18, 1846, from his Natchez agent, T.[ruman] C. Holmes:

> Eliza is still at Peals' and is well placed but they do not feel quite satisfied with her they think she is not qualified. [I] told him to keep her until you come in


Know all Men by these presents that I Samuel Ayles of the City of New Orleans for and in Consideration of the Sum of four hundred and fifty dollars to me in hand now paid by Carlos Bates of the City of Natchez State of Mississippi have bargained sold and delivered to said Bates the Negroe woman Eliza aged about 15 years a slave for life sound in body & mind and free from all the vices & Maladies prescribed by Law

Witness my hand & Seal this 16th day of February 1844 in the town of Vidalia State of Louisiana

Sm[l] Ayles Seal

by pow. J. Clarke Seal

Figure 3. Samuel Ayles's bill of sale of Eliza to Carlos Bates, February 16, 1844. COURTESY OF THE CONNECTICUT STATE LIBRARY. AUTHOR'S PHOTO.

and if he did not want her for a year you would let him have her for 6 mos.... [H]e thinks she is not worth 8$ per m[onth]. I told him you & he would agree about the price.[14]

Truman C. Holmes (1816–72) and his brother, Timothy A. Holmes (1818–51), natives of Plymouth, MA, were partners in the Natchez trading firm of T. C. & T. A. Holmes. By 1850, Truman was also the captain of the steamboat *Princess No. 3,* the "Natchez packet,"[15] making weekly trips on the Mississippi as far as New Carthage and Plaquemine, LA, with stops on both sides of the river in between.[16]

Whether Carlos Bates visited Mississippi in the spring of 1846 remains unclear. If he did, however, with the approach of the torrid, yellow fever-ridden Southern summer,[17] he soon returned home. Meanwhile, on Holmes's recommendation, his business (including slave management), temporarily transferred to the hands of N. H. Merrill of Natchez. Thus it happened that in a letter to Bates dated June 21, 1846, N. H. Merrill informed him:

> Soon after you left Eliza was taken Sick and I took her to Our House and Nursed well she was sick some three or four weeks and I never have seen her look so well as she does now. As soon after she got well as I could I got employment for her. She is Now at Mr. E. B. Fullers – and has been for 10 days past....[18]

Evidently Eliza did not work out at Fuller's. Some three months later, on September 29, 1846, T. C. Holmes's brother and business partner Timothy A. Holmes, wrote Bates:

> Eliza is not sold, was she a good house Servant She would sell readily but I assure you she cannot be recommended for that...but negroes [*sic*] will be in demand this fall I think. I could get for Agy $500 now as house servants are in demand.[19]

But Eliza was not Carlos Bates's only slave. Prior to May 29, 1846, he had acquired another human being to augment his investment portfolio, a young black man by the name of John Chase (ca. 1829–51).[20] Figure 4 shows an example of a period illustration depicting the inspection and sale of a slave. In his above-mentioned letter to Bates of June 21, 1846, N. H. Merrill reported:

> John is in fine Health he has not as yet done Much in the way of Making Money it has been very dull indeed here this Summer thus far: I will try and do the best I can for you and I have not Much doubt but business will be better soon – if there is any thing to be Made in Hacking he will Make it he is a good Boy and Minds Me in every particular – I have not the least difficulty with him he is very steady and I believe Honest – at least as far as a [*sic*] can see – he always comes to Me for every thin[g] he May want – I purchase all of his feed &c and see it is not wasted.[21]

Figure 4. "Inspection and Sale of a Negro," print from wood engraving, ca. 1854, from Theodore Canot and Brantz Mayer, *Captain Canot; or, Twenty Years of an African Slaver...* (New York: D. Appleton & Co., 1854), 94–95. COURTESY OF THE LIBRARY OF CONGRESS, PRINTS AND PHOTOGRAPHS DIVISION, HTTPS://WWW.LOC.GOV/PICTURES/ITEM/98510180/.

Later in the fall of 1846, Carlos Bates sold Eliza to a "Mr. Johnson," a transaction in which N. H. Merrill served as Bates's agent. Eliza's sale price, $500, was $50 more than Bates paid for her, notwithstanding any wages she had earned that were paid to him. However, it was not until April 2, 1847, that Bates received payment for her.[22]

One year later, a letter from Holmes to Bates dated October 24, 1848, not only informed the latter that Chase was doing well, but again expressed interest in buying him "cheap."[23]

Early in 1849, Holmes hired Chase to the firm of Joshua Dixon & Co., informing Bates that "steam boating agrees with him."[24] Explaining that it suited Chase better, on January 17, 1850, Holmes informed Bates that he had had the young man's position changed from "fire man" to that of deck hand. Explaining that Chase had been "getting cramps from overheating," Holmes added, "He is a profitable investment."[25]

Although it is unclear from the records exactly when Holmes and Bates struck a bargain for joint ownership of Chase, it appears that by 1849 the two men each owned a one-half interest in him. During the spring of the same year, however, Bates offered to sell his share in Chase to Holmes, who found Bates's asking price too high. Holmes's response on April 25, 1849, expressed disappointment (Figure 5):

> My inquiries in relation to the boy Chase were not satisfactory you value him entirely too high above our market for No. 1 Negro[e]s 20 or 22 years old with a full guarantee therefore [I] shall wait your arrival among us next fall and we can agree on the matter in the mean time [I] shall forw[ar]d to you his wages as usual.[26]

The matter of Chase's sale became moot. On October 3, 1851, Holmes wrote:

> C. Bates Esq.
> Dear Sir
> With deep regret I write you to inform you that our little partnership has been dissolved by the drowning of poor Chase which was caused by his falling overboard at N. Orleans from the out side of the Boat. Chas[e] had been layd [laid] up for some weeks before I got home by fever but had recovered entirely & was as well as ever, had been on the Boat 2 weeks & I can hardly account for his falling overboard as he always has been very careful but so it is.[27]

Chase died while at work on the *Princess No. 3*, the steamboat Holmes had been piloting.[28]

CARLOS BATES MOVES ON

Writing in 1890, Samuel B. Jerome (1824–1905), one of the sons of clockmaker Chauncey Jerome and a clockmaker himself, described the early 19th-century clock peddlers in these words:

> The "Noble army" of clock peddlers in the south during the early years was recruited very largely from among the people of the towns...(Canton, Simsbury, Granby). They seemed to "take to peddling clocks" as naturally as a duck takes to water.... Their service for the Bristol clock makers, was always well and satisfactorily performed. Their expenses were always paid, their salaries liberal, and with the business experience and the knowledge of men which they

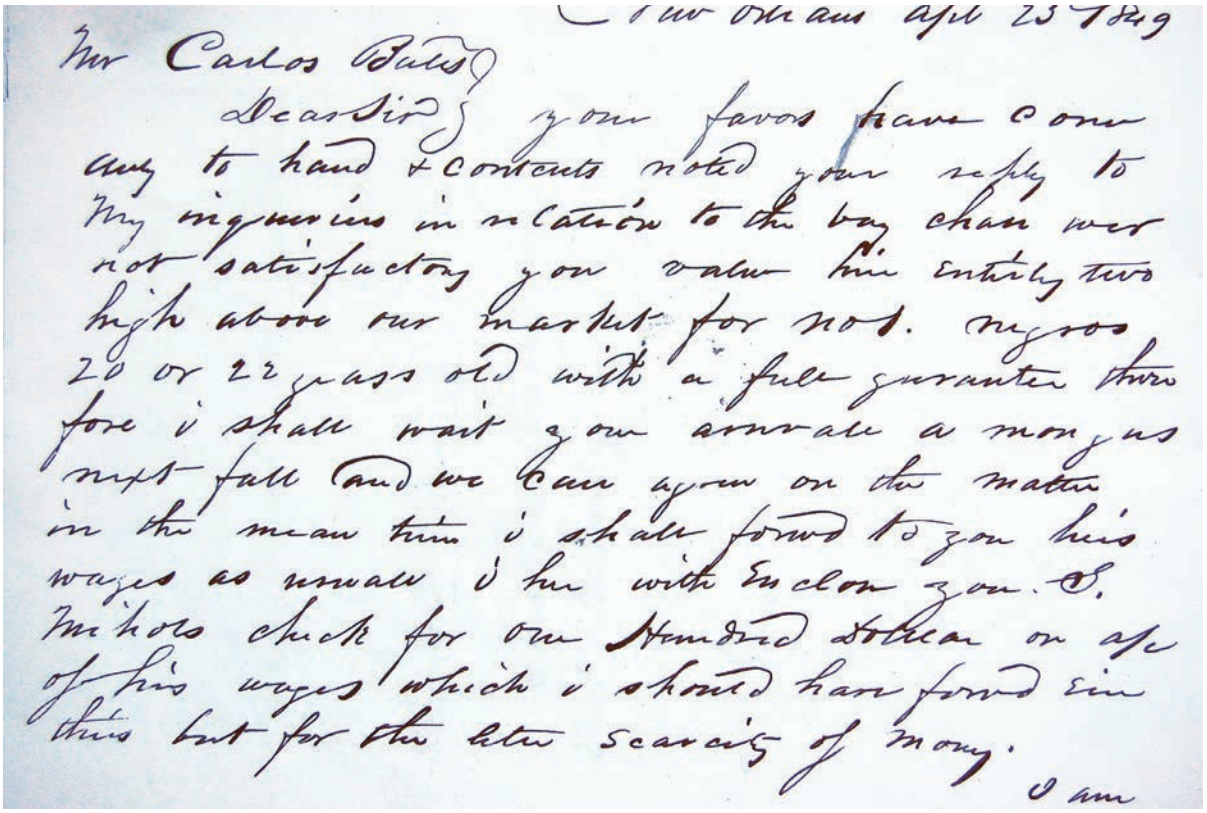


Figure 5. Portion of April 25, 1849, letter from T. C. Holmes to Bates, in which Holmes complains about Bates's high asking price for Chase. COURTESY OF THE CONNECTICUT STATE LIBRARY. AUTHOR'S PHOTO.

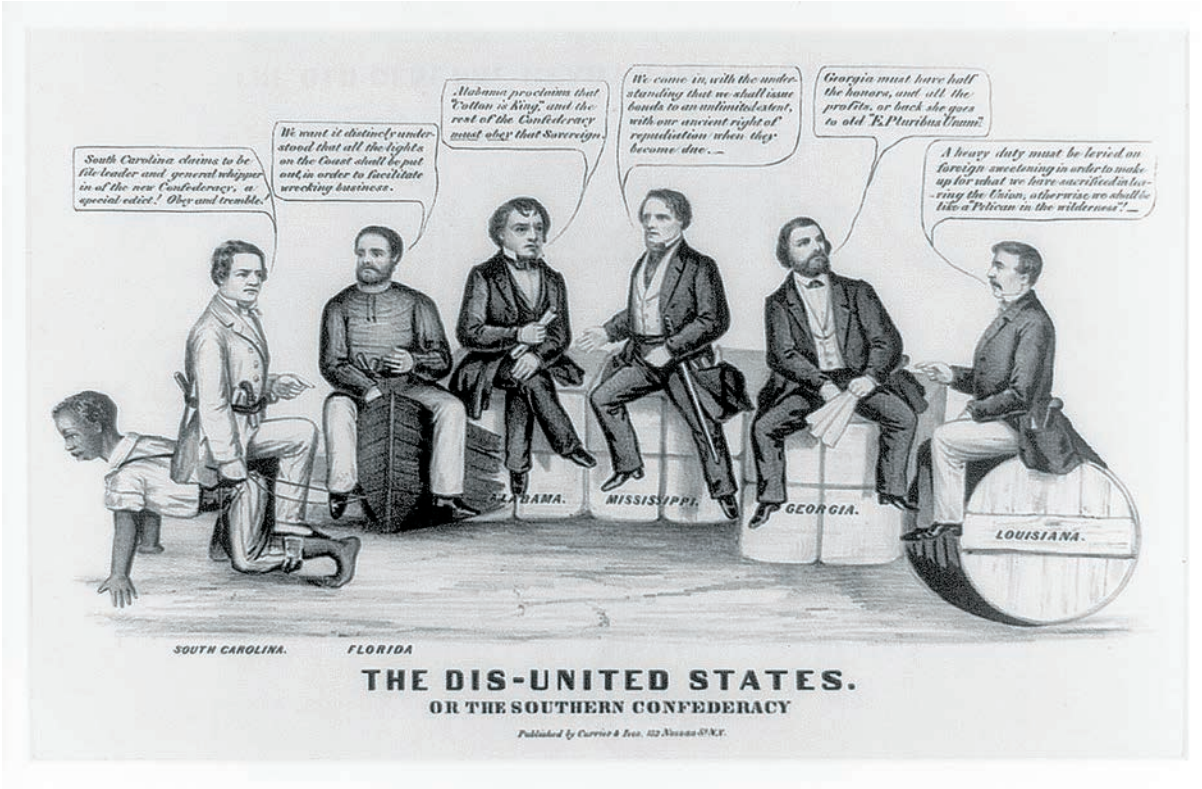


Figure 6. Lithograph on paper titled *The Dis-United States, or the Southern Confederacy* (New York: Currier & Ives, 1861). The print satirizes the seceding states of South Carolina, Florida, Alabama, Mississippi, Georgia, and Louisiana. Note South Carolina seated on the back of a slave, while other states sit on bales of cotton or sugar cane. COURTESY OF THE STERN COLLECTION, LIBRARY OF CONGRESS RARE BOOKS AND SPECIAL COLLECTIONS DIVISION, HTTPS://WWW.LOC.GOV/PICTURES/ITEM/2008551614/.

> gained, they were able to take good care of themselves after retiring from the clock peddling business. They were really a very interesting class of men.[29]

Although neglecting to mention the peddlers' need to suppress any antislavery views they might harbor (or accept the consequences), Jerome's general description accurately summed up Carlos Bates. After a clock peddling and trading career that spanned the rise of radical abolitionism and national polarization over slavery,[30] Bates returned home to comfort in East Granby.

In 1848, Bates joined East Granby's "Rough & Ready Club," established to support the presidential candidacy of Zachary Taylor (1785–1850) on the Whig Party ticket. Reluctant to run for president, Taylor, the renowned leader of US forces during the Mexican-American War of 1846–48, favored preserving the Union while avoiding the question of slavery. Bates also became active in Connecticut Whig Party politics. When the newly organized Union Savings Bank opened for business in Hartford on September 29, 1854, Bates served on its board of directors.[31]

During the mid-1850s, a new national political organization emerged, the Republican Party, intent on preventing the expansion of slavery's into new American states.[32] With his personal history of slave ownership, it is somewhat surprising that Carlos Bates joined the Republicans.

In January 1860, Bates married for the first time, to widow Maria E. Cooley. Three months later, she died. In November of the same year, Abraham Lincoln was elected. South Carolina promptly withdrew from the Union. In the months ahead six additional states followed (Figure 6), and the first shots were fired in the Civil War. On January 1, 1863, Lincoln proclaimed "all persons held as slaves" in the Confederate territory, "then, thenceforth, and forever free" (Figure 7).[33]

On December 12, 1861, Carlos Bates married for a second time, to the widow Hannah S. Stowell, with whom he had one child who lived to adulthood: Albert Carlos Bates (1865–1954). Having bought out his siblings' interests, the 1860s found Carlos Bates living on his family's East Granby farm.[34] In January 1865, he was elected vice president of a Connecticut tobacco growers' convention held to protest a proposed state tax on leaf tobacco.[35]

In a brief letter published in the *Hartford [CT] Daily Courant* on March 29, 1866, Carlos Bates assured the public that contrary to a "Copperhead lie" then in circulation, he would vote 100% for the state's "Union ticket" in the upcoming legislative election.[36] This was followed in April 1874 by Bates's narrow defeat in a bid for state senate.[37]

The then 70-year-old Carlos Bates spent the night of December 19, 1878, at home conversing with family and friends. The next day he died, peacefully, while sitting in his chair. It was said of him, "His whole life has been one of usefulness and activity. Many will morn [*sic*] the loss of his kindness, wise counsel and advice."[38] The family genealogy compiled by his son neglected to mention that Bates had once owned slaves.

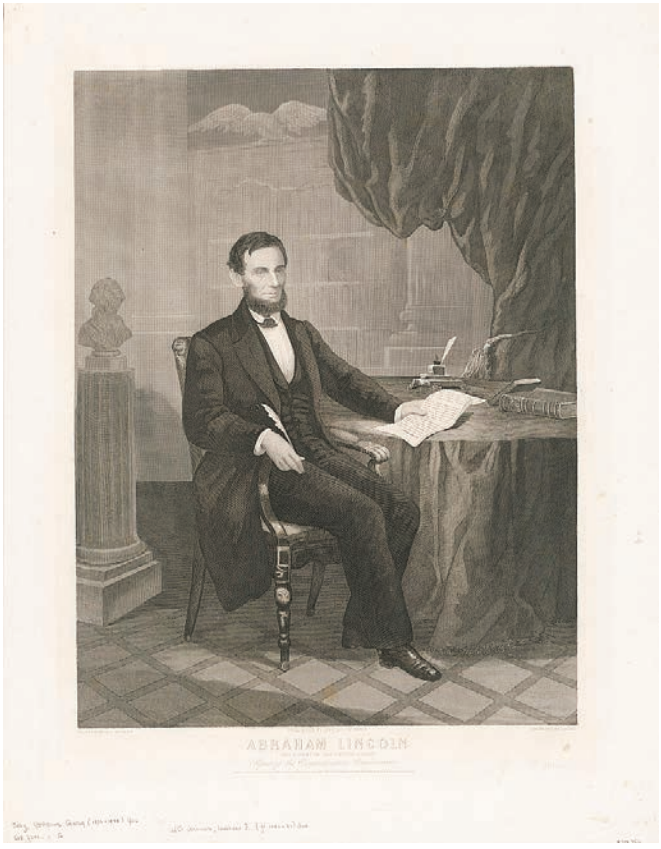


Figure 7. *Abraham Lincoln, President of the United States, Signing the Emancipation Proclamation*, painted by William E. Winner, engraved by John Serz (Philadelphia: John Dainty, 1864). COURTESY OF THE LIBRARY OF CONGRESS, PRINTS AND PHOTOGRAPHS DIVISION, HTTPS://LOC.GOV./PICTURES/ITEM/2015647806/.

IVORY

In the 1780s, goldsmith and tall-clock maker Phineas Pratt (1747–1813) of Saybrook, CT, assisted his son Abel in constructing pioneering machinery to make ivory combs.[39] During the 19th century, members of the Pratt family and others produced combs as well as knitting needles, corset busks, billiard balls, and various other small objects from ivory at Deep River and Meriden, CT. By 1850, however, demand for piano keys eclipsed ivory's other uses.

Produced from the tusks of African elephants, ivory's beauty and utility had long been appreciated by Europe's fine-instrument makers.[40] As Connecticut's ivory-cutting industry developed, uses were found for bits of the material in clockmaking.

In 1818, wooden movement tall-clock and shelf-clock maker Luman Watson (1790–1834) of Cincinnati, OH, offered for sale unusual "Eight Day Ivory Clocks." According to an excellent analysis by researcher A. Bruce Burns, the movement in a surviving example featured a brass escape wheel, brass rack-and-snail striking parts, and wooden winding drums, with ivory wheels, pinions, and arbors. The movement's plates, pillars, and seat board were made from mahogany.[41] Clockmaker Ephraim Downs (1787–1860), a native of Wilbraham, MA, produced these movements for Watson over a two-year period.[42] Downs afterward settled in Bristol, CT, where his work as a clockmaker has been well-documented.[43]

Some clockmakers, notably Silas Hoadley (1786–1870) of Plymouth, CT, inserted ivory bushings in the pivot holes of their tall clock movement plates to help reduce friction, the tendency to wear, and the need for lubricating oil on the bearing surfaces.[44] A number of Connecticut-made shelf clocks dating to the early 1830s claimed to do the same, although it has long been suspected that bone was often substituted.[45] A number of domestically produced shelf clock locks featured keyholes trimmed with ivory keyhole escutcheons. A wooden movement example by clockmaker Riley Whiting (1785–1835) of Winsted, CT, is shown in Figure 8. Around 1835, another wooden movement clockmaker, Olcott Cheney (1795–1860) of Middletown and Berlin, CT, was indebted to one of the aforementioned Pratt family ivory manufacturing firms, presumably for ivory for shelf clock keyhole escutcheons.[46]

By the end of the 19th century, it was clear that unrestrained slaughter of elephants for their tusks had severely reduced their population. Less attention was paid to the cost of ivory in terms of human lives.

It was necessary to transport tusks weighing 80 to 200 lb. each from hunting grounds in Africa's interior to coastal trading centers at Mombasa, Mozambique, or Zanzibar. African railroads did not exist until the end of the 19th century (although even then the ivory trade was slow to use them), and pack animals quickly succumbed to parasitic tsetse flies. Therefore, "it is the custom," wrote a trader to his Connecticut correspondent in 1844, "to buy a tooth of ivory and a slave to carry it to the seashore,"[47] a distance of up to 1,000 miles.[48]

Ivory middlemen set fire to African villages, captured their inhabitants, and forced them into slavery. Barefoot, shackled, starving, tusk-bearing human porters endured open sores on their feet and shoulders and bloody wounds from whip lashings, into which disease-transmitting insects entered. Those who survived the deadly coastal trek were shipped to Brazil, Arabia, and elsewhere to be sold as slaves. It is estimated that during the 1890s alone, as many as 2 million African men, women, and children lost their lives in bondage in the ivory trade.[49] The total number of human lives lost in the trade over more than a century is unknown.

In February 1838, ivory manufacturer Julius Pratt of Meriden became a founding member of the Connecticut Anti-Slavery Society.[50] Similarly, despite his knowledge of (and profiting from) the industry's dependence on slavery in Africa, back home in Connecticut ivory baron George Read (1787–1859) of Deep River became a staunch abolitionist. Under Read's leadership, by the 1830s the entire town of Deep River united against slavery. In the decades leading up to the Civil War, few Connecticut towns operated more dependable stations on the Underground Railroad.[51]

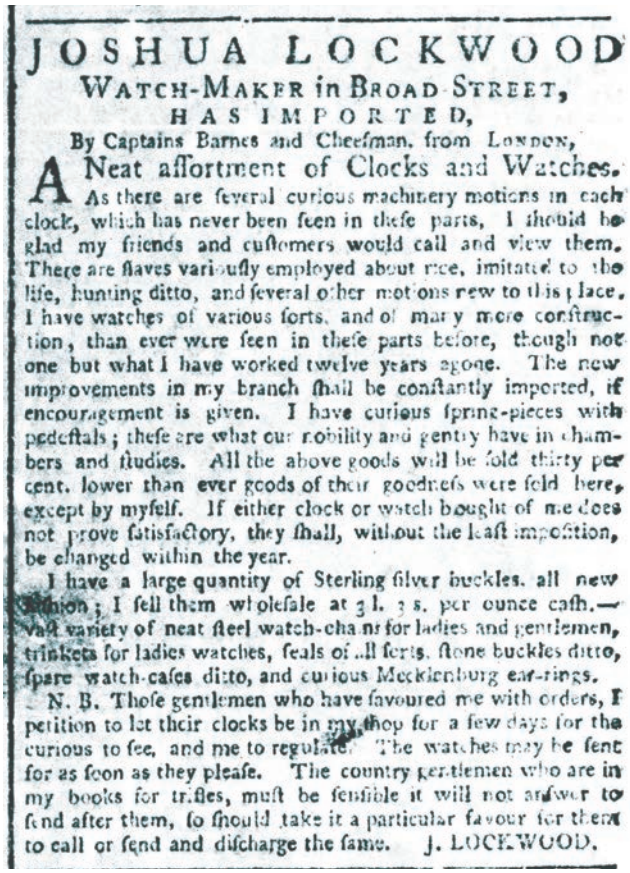
REGULATING PLANTATION LIFE

It has been estimated that the proportion of Southern planters who possessed a clock or watch rose from 5% in the 1780s to 75% in 1865. By the 1830s, daily life on many plantations was regulated by mechanical timekeepers. Communicating time from a clock in the owner's home to far-flung fields and slaves' quarters, however, involved a system of ringing bells or blowing horns—tasks

8B

8A

Figure 8A. Exterior view, 30-hour wooden movement shelf clock produced by Riley Whiting (1785–1835) of Winchester, CT, ca. 1830. Note the old, possibly original, ivory escutcheon. **B.** Close-up of the escutcheon of the clock shown in Figure 11A. COURTESY OF A PRIVATE COLLECTION.



JOSHUA LOCKWOOD
WATCH-MAKER in BROAD STREET,
HAS IMPORTED,
By Captains Barnes and Cheesman, from London,
A Neat assortment of Clocks and Watches.
As there are several curious machinery motions in each clock, which has never been seen in these parts, I should be glad my friends and customers would call and view them. There are slaves variously employed about rice, imitated to the life, hunting ditto, and several other motions new to this place. I have watches of various sorts, and of many more construction, than ever were seen in these parts before, though not one but what I have worked twelve years agone. The new improvements in my branch shall be constantly imported, if encouragement is given. I have curious spring-pieces with pedestals; these are what our nobility and gentry have in chambers and studies. All the above goods will be sold thirty per cent. lower than ever goods of their goodness were sold here, except by myself. If either clock or watch bought of me does not prove satisfactory, they shall, without the least imposition, be changed within the year.
I have a large quantity of Sterling silver buckles, all new fashion; I sell them wholesale at 3 l. 3 s. per ounce cash.—Vast variety of neat steel watch-chains for ladies and gentlemen, trinkets for ladies watches, seals of all sorts, stone buckles ditto, spare watch-cases ditto, and curious Mecklenburg ear-rings.
N. B. Those gentlemen who have favoured me with orders, I petition to let their clocks be in my shop for a few days for the curious to see, and me to regulate. The watches may be sent for as soon as they please. The country gentlemen who are in my books for trifles, must be sensible it will not answer to send after them, so should take it a particular favour for them to call or send and discharge the same. J. LOCKWOOD.

Figure 9. Joshua Lockwood advertisement of August 28, 1762, describing moving slaves depicted on the dials of tall case clocks offered for sale in his shop. FROM SOUTH CAROLINA [CHARLESTON] GAZETTE, COURTESY OF ROBERT MANKE.

performed either by the owner or delegated to an overseer or trusted slave. Specific assignments for slaves, such as cultivating a certain number of furrows or performing an errand offsite, could now be timed. A bell ringing at an odd hour summoned all hands to an emergency at the plantation house.[52]

Viewing such relentless punctuality as an intrusion on the pleasures of rural living, some owners sought less burdensome ways of managing plantation time.[53] In response to a reader's query in July 1855, for example, the editor of the *Southern Cultivator* provided this advice:

> If your overseer *sleeps at home*, a common alarm clock ought to be sufficient to wake him at any hour desired. If you wish a clock large enough to wake up every person on the plantation, you can have it made at a cost, probably, of $30 or $40, by addressing C. JEROME – Clock Manufacturer, New Haven, Conn.[54]

Just how many antebellum plantation owners might have installed tower clocks is uncertain. Nevertheless, although literacy was for the most part denied to slaves, some plantation owners instructed their cooks and house servants to tell time on a clock dial.[55]

CONCLUSION

The evidence presented in this series illustrates some of the ways in which pre-Civil War American clockmakers encountered slavery, how it affected their lives and businesses, and how they responded to it. After Part 1 appeared in the January/February 2024 *Bulletin*, several readers reached out with additional information. Rich Newman explained how clockmaker and watchmaker/retailer Joshua Lockwood (1729–1809) of Charleston, SC, a slave owner himself, catered to a wealthy slave-holding clientele; some of Lockwood's early tall clocks featured slavery-themed dials. Lockwood's advertisement in the August 28, 1762, issue of the *South Carolina Gazette*, for example, described a few such offerings: "There are slaves variously employed about rice, imitated to the life"[56] (Figure 9). Chris Klingemier is aware of at least one Ohio clockmaker whose home was a stop on the Underground Railroad.[57]

Paul J. Foley called my attention to a tall case clock dial dating from 1824–34, signed "ROBt POSTON / LIVERPOOL", depicting four continents in its corners. Among them is a beaded African sporting an uplifted parasol. In the dial's lower left corner, a Native American decked out in ostrich feathers perches on a barely visible, collapsed black man—a jarring portrayal of the Americas as exotic and exploitative.[58] Robert Manke shared the story of a free black man from New York City who met a tragic end while employed by a clock casemaker, and also his discovery of a Northern clock peddler-turned-cotton merchant who actively aided the Confederacy.[59]

No doubt many additional stories await telling. I hope the present effort will serve as a first step toward a broader understanding of the history of American clockmaking as it relates to slavery and will help foster new ways of considering horological objects and sources.

AFTERWORD

William L. Gilbert (1806–90) had long made shelf clocks in Connecticut, first in Bristol about 1828–30, then in Farmington, as a partner in the firm of Marsh, Gilbert &

Co. (ca. 1831–32). Around 1834–37, he became the "Gilbert" in the clockmaking firms of Birge, Gilbert & Co., followed by Case, Gilbert & Co., and then Jeromes, Gilbert, Grant & Co. At Winsted beginning in 1841, he joined the firm of Clarke, Gilbert & Co., once again producing clocks. In 1851, Gilbert took control of the latter firm, renaming it William L. Gilbert & Co.

The success of William L. Gilbert & Co. enabled Gilbert to invest in banking and railroads as well as engage in philanthropy. Hearing in 1875 that the American Methodist-Episcopal Church sought funding to establish La Teche Seminary in Baldwin, LA, a college for newly freed black children, Gilbert donated $10,000 to the college's building fund. A few years later, he donated $40,000 to endow the university, which became known as Gilbert Seminary, and subsequently, Gilbert Academy and Agricultural College. The latter institution continued until its closure in 1949. Mr. and Mrs. Gilbert visited Gilbert Seminary in 1885, five years before William L. Gilbert's death in 1890 at the age of 84. Before his death Gilbert is said to have remarked that his donations had been the greatest pleasure in his life.[60]

Acknowledgments

The author extends her sincerest thanks to Damon Di Mauro, Robert Manke, Les Tyrala, Bob Frishman, Rich Newman, Paul Foley, Chris Klingemier, Gary Sullivan, Laura Taylor, and the staffs of the Connecticut State Library and the NAWCC Library and Research Center, for their thoughtful assistance, unhesitating support, and generous contributions to this project. Through their efforts it is a much better product than it otherwise would have been.

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About the Author

Mary Jane Dapkus, formerly curator of the American Clock and Watch Museum (ACWM) in Bristol, CT, previously worked as an environmental analyst while earning advanced degrees. Together with the late Dr. Snowden Taylor, she is the coauthor of the book *Antebellum Shelf Clock Making in Farmington and Unionville Villages, CT* (NAWCC, 2019), and author of *Joseph Ives (1782–1862) and the Looking Glass Clock* (ACWM, 2020). Mary Jane's articles have appeared in the *Watch & Clock Bulletin*, *The Cog Counter's Journal*, the Willard House & Clock Museum's *Pendulum*, and the ACWM's *Timepiece Journal*, of which she serves as editor.

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Multicolored Gold Pocket Watch Cases

By William B. Christie (CA)

As an enthusiastic collector of watches, I have been particularly attracted to the amazing artistry displayed on the multicolored gold pocket watch cases.

As a child, I recall hearing a dear elderly woman speak affectionately about what she called "Black Hills Gold." She proudly displayed one of her few worldly treasures: a locket embellished with gold devices of several different colors. I never forgot her obvious esteem for that item.

Many years later at a coin show, I saw a gorgeous multicolored gold pocket watch. It wonderfully depicted a standing stag, leaves, branches, and flowers in an elegant arrangement on one cover. It had an equally beautiful lid with an amazingly intricate design surrounding a small shield bearing a personal monogram. Happily, I was able to acquire this watch and came to fully relate to the love of the "Black Hills Gold" locket so treasured by the elderly lady so many years ago. The skill of the craftsmen who created these fine works of art is quite impressive.

Since then I have been able to find additional multicolored gold pocket watches in sizes ranging from the tiny 4/0-size to the hefty 18-size.

As I have learned, alloying gold with various other metals to obtain colorful and decorative effects, while a praiseworthy accomplishment in the US between the 1880s and around 1915, was not without precedent.[1] Two English examples from the 1820s appear in Figures 1 and 2. These watches' cases are relatively plain 18-kt. gold, while the dials are masterpieces.

It is my understanding that the American watch casemakers produced the vast majority of the fully multicolor gold-covered cases.[2] Most of these cases are also beautifully engraved and often embellished with precious gems such as diamonds and rubies.

The subjects depicted on these multicolored gold cases vary considerably. They include birds, deer, horses, flowers, and foliage as well as many geometric shapes (Figures 3–19).

Different gold alloys yield different gold colors. The most frequently encountered variety is derived by alloying gold with copper, producing rose gold. Adding some silver to the alloy turns the rose a pinker shade. Green is frequently found on multicolor gold pocket watches and is the product of adding silver, copper, cadmium, and zinc and alternatively by adding nickel.

Figure 1. John Moncas, 1829, Liverpool, England, full-size. AUTHOR'S PHOTOS.

Figure 2. M. Tobias, 1828, Liverpool, England. AUTHOR'S PHOTOS.

Figure 3. Waltham, 1902, Crescent Street 21-jewel, box hinge, 18-size, standing stag, Roy, 14-kt. case. AUTHOR'S PHOTOS.

Figure 4. Waltham, 1902, Vanguard 21-jewel, 18-size, stag head, Solidarity, 14-kt. case. AUTHOR'S PHOTOS.

Figure 5. Elgin, 1903, 18-size, prowling tiger, Dueber. AUTHOR'S PHOTOS.

Figure 6. Elgin, 1909, 16-size, flower basket, Solidarity, 14-kt. box hinge. AUTHOR'S PHOTOS.

Figure 7. Elgin, 1907, 16-size, bird and flowers, BWC Co., 14-kt. AUTHOR'S PHOTOS.

Figure 8. Elgin, 1907, 16-size, Keystone Repose Floral, 14-kt. AUTHOR'S PHOTOS.

Figure 9. Agassiz, 1884, 8-size, prancing stag, BWC Co., 14-kt., more than 100 separate, colored gold devices embellish this case. AUTHOR'S PHOTOS.

Figure 10. Elgin, 1887, 6-size, birds, diamonds and a ruby, 14-kt. AUTHOR'S PHOTOS.

Figure 11. Elgin, 1888, 6-size, stag surrounded by eight diamonds and eight rubies, Keller & Untermeyer, 14-kt. AUTHOR'S PHOTOS.

Figure 12. Elgin, 1887, 6-size, floral arrangement surrounding a diamond in a triangle, Western, 14-kt. AUTHOR'S PHOTOS.

Figure 13. Elgin, 1890, 6-size, bird, DuBois W. C. Co., 14-kt. AUTHOR'S PHOTOS.

Figure 14. Columbus, 1890, 6-size, small diamond surrounded by rays and flowers, Keller & Untermeyer, 14-kt. AUTHOR'S PHOTOS.

White gold can also contain nickel, but the preferred alloy contains a white metal such as platinum, palladium, or silver. Blue gold is not seen frequently but is made by alloying gallium or iridium with gold. Pure gold is much yellower than the usual 14-kt. gold background of these cases, so higher-karat gold is used effectively to lend a pleasant, rich yellow.

I learned that only a very small percentage of watches carried by Americans around the turn of the 20th century were solid gold.[3] I suspect the number of persons with multicolored solid gold pocket watches must therefore have been infinitesimal. I also suspect these watches were quite expensive, beyond the reach of most.[4]

While many of the watches shown here have premium movements and fancy, colorful dials, a surprising number have only basic movements and plain white porcelain dials. But they are all historical treasures in my eyes!

Figure 15. Waltham, 1894, 6-size, intricate design surrounding a diamond in a six-pointed star, C. W. Mfg. Co., 14-kt. AUTHOR'S PHOTOS.

Figure 16. Unknown maker, 1891, 0-size, standing stag, 14-kt. AUTHOR'S PHOTOS.

Figure 17. Waltham, 1908, 4/0-size, Solidarity, 14-kt., an Anna L. Silveira, San Francisco watch. AUTHOR'S PHOTOS.

Figure 18. Elgin, 1899, 4/0-size, diamond in starburst, B. W. C. Co., 14-kt. AUTHOR'S PHOTOS.

Figure 19. Waltham, 1908, 16-size, Solidarity, 14-kt. AUTHOR'S PHOTOS.

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4. There was a lot of artistry involved in making these cases, and the valuation on page 45 of *Complete Price Guide to Watches* reflects the premium placed upon these multicolored gold watches.

About the Author

William Christie first became interested in pocket watches in the early 1950s, when a kind watchmaker in Stockton, CA, Otto Zimmerman, taught him how to disassemble a watch. Over the years William has pursued his fascination with these mechanical wonders and collected watches, with a particular interest in high-quality American pocket watches. After working for 47 years as a dentist, William is retired and enjoys the company of his "old friends," his pocket watches.

Waltham's "American Watch Co." Grade, 1859–1905: Ingenuity, Elegance, and the Pursuit of Excellence

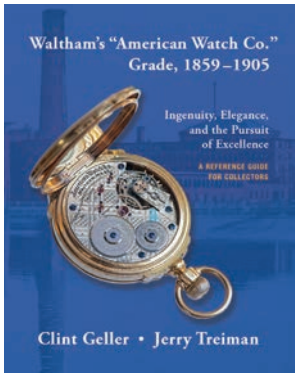
Book review by Tom McIntyre, NAWCC Silver Star Fellow (MA)

Waltham Watch Co. has the distinction of being one of the earliest businesses with the concept of divisions and product lines. Products signed "American Watch Co." were different from other products of Waltham.

This book tells the story of how that structure began and catalogs the products produced under the American Watch Co. name, from the precursors of that name to the products that were produced after the division concept was abandoned at Waltham. Authors Clint Geller and Jerry Treiman present the details of the watches that were made as well as the background stories that can be discovered by close examination of the items themselves and the remnants of the documentation of their production.

Chapters 2 through 9 cover each of the models that have examples in the American Watch Co. grade. The 29 tables provide organized reference to the technical details of each of the models and design features. The 228 figures give visual support for the product descriptions and the people who made the story. More than 100 source references furnish context and access to related work.

The story begins with a rebellious development of watches that were better than R. E. Robbins needed or wanted to pursue his vision of the American marketplace. The first KW18 models were made by Nelson P. Stratton shortly before he and his friend from New Hampshire, B. D. Bingham, left to form the Nashua Watch Co. and took several of the leading employees who liked their vision better than Robbins's plan.



Waltham's "American Watch Co." Grade, 1859–1905: Ingenuity, Elegance, and the Pursuit of Excellence by Clint Geller and Jerry Treiman, 2024, est. 304 pages, 8"x10", hardcover (ISBN 979-8-9859967-5-3) and paperback (ISBN 979-8-9859967-4-6). Published by the NAWCC, expected in June 2024.

The authors delve into the bits of history and fragments of technology that provide insight into what the rebels tried to do and why they were not successful. They analyze the available artifacts and contemporaneous reports to piece together what the accomplishments at Nashua were and how the results were acquired by the company in Waltham and R. E. Robbins.

The next focus is the development of improvements and incorporation of new designs into the new Nashua (or ¾-Plate) Department. Very soon, Charles vander Woerd was put in charge of all watchmaking, but the activities of the ¾-plate and full-plate departments were still separate. Woerd's own activities were focused on the high-end products of the ¾-plate department.

The 1872 Model was the successful child of the Nashua Department. When Robbins decided to invest in the 1876 Philadelphia Centennial Exposition, Woerd gave all of his attention to the exhibition, which not only featured his 1872 Model watch but also his automatic screw machine that showed the new way to use less-skilled labor to produce superior goods.

The downside of this remarkable success was that Woerd appeared to lose track of reality and became an unreliable source of design management and production. The 1872 Model had great success, but soon R. E. Robbins decided he needed to bring the operation back under control and brought Ezra C. Fitch and Duane H. Church in roles of management and design, respectively, while Woerd departed for the U.S. Watch Co.

The next American Watch Co. grade model was the 1888 Model designed by Church. The 1888 Model introduced the Riverside Maximus grade, which was intended to replace the American Watch Co. grade as the top-level watch. This intent was never realized, and the American Watch Co. grade survived for another 10 years with the American Watch Co. OM model and the introduction of the 12-size and 16-size Bridge models. Eventually the Bridge design was made in the Premier Maximus grade, marking the final retirement of the name that had been active for over 40 years.

I have been studying the artifacts covered by this book for over 40 years since I first tried to find out more about a large pocket watch I had bought at London's Portobello market. I am very happy that Geller and Treiman have organized this material and provided their thoughts on the watches' significance. I expect to use this book as my primary reference in my ongoing interest in American Watch Co. products.

I highly recommend the book to anyone who has an interest in American watchmaking. It is a very different approach to the subject matter, as it focuses on a small market segment that tried to increase prestige rather than generate direct profits to the company.

Oblivious with a Longines On

He stretched his body feeling good
Standing on the side of his bed

While around him colorful plumes
Like mountains

Went swirling through infinite space
Leftovers from a wondrous dream

Seneca's conclusion
Hurry up and live

Was easy
Getting dressed in brand-name clothes

And a Longines he recently got
Not wondering at all

How the battered and miserable dream
And what Seneca can mean to them

Or even if family or a neighbor
Could do with some help

This poem uses a Longines watch as a prop for creating a portrait of obliviousness, which can be as harmful as selfishness. Some may welcome the reminder. Ray Comeau is a retired dean and director from Harvard Extension School, where he still serves as a lecturer in courses dealing with the intersection of philosophy, literature, and management. He is a member of NAWCC Chapters 8 and 87 in his native Massachusetts. His email is comeau@fas.harvard.edu.

Chapter Highlights

Total Membership on February 29, 2024: 8,444 • First Accession Number on March 10, 2024: 188208

Chapter reports must be received by the end of the working day (5 p.m. Eastern) on the following date to appear in the next published issue: Friday, May 10 for the July/August 2024 issue. Submission guidelines are available at nawcc.org/publications/chapter-highlights-submission/. Send reports to chaphi@nawcc.org. For reporting questions, email chaphi@nawcc.org or call 717-684-8261, ext. 207.

CALIFORNIA

52. LOS PADRES
LOCATION: South County Senior Center, 1580 Railroad St., Oceano, CA 93445
WHEN: 1:30 p.m. the second Sunday of each month
MEMBERSHIP INFORMATION: Ray Hallenbeck
EMAIL: bcmc26129@yahoo.com
WEBSITE: new.nawcc.org/index.php/chapter-52-los-padres

JANUARY MEETING: The first meeting of 2024 was attended by 14 members and two guests. It was called to order at 1:45 p.m. by newly elected President Tom Jermyn, who replaced outgoing President Phil Keys, who voluntarily relinquished his throne during the November meeting after many years of serving in the post. Ed Musolff also volunteered, and was elected to, the position of vice president.

Bert Townsend, who retains his current position as club treasurer, gave a detailed update of Chapter funds. Receiving no opposition, Ray Hallenbeck was voted in as club secretary.

SHOW AND TELL: Ray Hallenbeck brought two 18-size Elgin railroad loaner watches, circa 1899, from the Bogle Brothers firm. The Bogle Brothers were watchmakers and dealers of watches and jewelry from White River, VT, between 1875 and approximately 1955. Ray explained how he was able to acquire the two rare watches made years apart from each other. Also, he had two original sales receipts from the company dated 1899 that he also purchased years apart from buying the two watches. Ray gave a brief history of the company and the city of White River and its involvement in railroading.

Virginia Rogers spoke about synchronicity and how it related to three separate events that occurred in her life. The first was a broken laptop that she was able to have repaired for a mere $10. The second was a cell phone that abruptly died, and how she was took it to a repair facility who repaired it for free. And lastly, the third event involved a broken refrigerator and how an article she had read allowed her to repair it herself at no charge.

Lee Engdahl passed around two fine women's watches for members to see.

Bert, the lucky winner of the raffle, won back all the money he had invested in tickets.

FEBRUARY MEETING: President Tom Jermyn called the meeting to order and welcomed the 14 members and one guest in attendance. The theme for February's meeting was the Seiko Watch Co. Tom started by speaking about the company's origins in the late 1800s, predating the Seiko brand name we know today. He showed two older Seiko watches from his collection, one a chronograph and the other an automatic. Tom explained that Seiko came out with a quick-set feature to set the day and date that predated the Rolex system by 15 to 20 years. Also, he explained how the older automatic Seiko watches could be manually wound to get them started, a useful function that the newer Seiko autowinds do not have. Tom also told the group about a Seiko Japanese submarine clock that he has had for many years, and how everything on the clock is printed in Japanese except for "Made in Japan," which, oddly, is printed in English.

Ray showed his first-year issue Seiko Pogue chronograph and explained how the watch is believed to be the first chronograph in space. It is named the Pogue after NASA Col. William Pogue, who wore his Seiko chronograph that he purchased from a military exchange in 1972 into space during a Skylab mission in 1974. He had not yet received his government-issued Omega that was required during space flights, so he wore his trusted Seiko that he had worn while training for the mission.

Phil Keys brought his wife's Seiko nurses' watch that has an SQ marking on the dial. He explained that SQ stands for Seiko quartz, and is a marking that appears on older Seikos, likely before 1990.

A lively discussion about Seiko and Japanese goods was had, with Ed Serge explaining how many years ago Americans generally felt that anything made in Japan was of an inferior quality, but as a watch company, Seiko is pretty remarkable.

SHOW AND TELL: Virginia Rogers said she does not own a Seiko and comes from a Citizen family. She showed her Citizen watch that holds the distinction of being the smallest quartz movement made. She also showed two electric clocks from her collection. The first she won at an auction for $5 and then had Bert install a new crystal. The second was a Bakelite clock she paid $3 for that had a factory-type Telechron movement installed in it. She says that both of the clocks keep excellent time (as long as the electricity is on). She showed the book *Watchmaking Revolution* that she said everyone should have in their library. And finally, she brought a DVD about the Hamilton Watch Co. and suggested the film be a part of next month's meeting. After a quick survey of the group, it was decided that the theme of the March meeting would be Hamilton watches and include the DVD in the program.

Ed Serge brought two Elgin up/down wind indicator pocket watches to show. One was a 21-jewel BW Raymond in a stiff bow gold-filled case with a porcelain dial and the second, a 19-jewel BW Raymond model in a star base metal case with a seldom seen metal dial.

Finally, Tom showed an odd wristwatch that he purchased years ago that has no visible way of winding it. The dial is marked Abercrombie and Fitch and appears to be a re-cased movement with the setting lever under the case back of the watch. The watch was passed around to the group and after much speculation left in Tom's pocket with no additional information acquired.
—Ray Hallenbeck

Member John Chambers getting some instructions on a clock movement from Chapter 71 Treasurer Dennis Rieke.

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71. SACRAMENTO VALLEY
LOCATION: Shepard Garden and Arts Center, 3300 McKinley Blvd., Sacramento, CA 95816
WHEN: Fourth Sunday of January, March, May, July, September, and November unless otherwise stated.
MEMBERSHIP INFORMATION: Chris Johnson, 530-433-0084
EMAIL: mysterydriver@sbcglobal.net
WEBSITE: https://new.nawcc.org/index.php/chapter-71-sacramento

JANUARY MEETING: Our January meeting has traditionally been a potluck lunch. However, during the pandemic we did not have any in-person meetings. Last January the Chapter hosted a box lunch of subs in lieu of a potluck. This went over very well with the attendees. So, this January, the Chapter opted for delicious Mexican box lunches from El Pollo Loco. The 31 longtime members and three new members very much enjoyed the lunch. After a good mart and lunch, the meeting was called to

order by Vince Angell, who began by introducing our new members: Bill and Patricia Shrum, James and Tara Bohon, and Tiberuis and Grace Frasché. The program then began.

BRING AND BRAG: New member Richard Larrouy showed a beautiful crystal regulator and a very distinctive gallery clock patented in 1890. The gallery clock has two dials. The inner dial is a 24-hour one, and the outer dial is set for locations around the world. Stephen Hibbs displayed and talked about a beautifully restored Lenzkirch bracket clock. Ken Rothaus showed two great miniature clocks made by Ed Beacham from Sisters, OR. The first was a weighted wall clock from 1987 and the second was a half-size Girandole banjo clock with a seven-day movement. Chris Johnson brought an Ansonia Symbol No. 1 Crystal Palace, circa 1894. He purchased the clock in a thrift store and refinished/polished the brass case. Ron Hoops displayed 11 little clocks including those having animated dials, a tape measure clock, and several more very interesting clocks. Vince Angell brought two figural Ansonia clocks. One called Good Morning, circa 1914, and the other called Buenos Noches. The third clock was a German figural alarm clock of John Bull, circa 1900.

We continue to come up with ideas to grow our Chapter. Having these wonderful Bring and Brag programs has encouraged many more members to participate. Over the last several meetings we've added nine new members. We attribute this great growth to the successful effort of our secretary, Chris Johnson, who has been sending out meeting invitations to all local NAWCC members who were not members of our Chapter.
—Phyllis Angell

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107. DIABLO VALLEY
LOCATION: Danville Grange Hall, 743 Diablo Rd., Danville, CA 94526
WHEN: The second Sunday of even-numbered months, 10:30 mart, 12:30 meeting
MEMBERSHIP INFORMATION: John Koepke, jskoepke@comcast.net
EMAIL: Chapter107NAWCC@gmail.com
WEBSITE: https://new.nawcc.org/index.php/chapter-107-diablo-valley

Steve Kowalski presented some of his unique and delightful "clock-things" to Chapter 107.

FEBRUARY MEETING: The Chapter gathered at the Danville Grange Hall and nice coffee and rolls, all fattening, were soon devoured as we had our mart and social hour. There was a silent auction with useful results. The mart was well attended and active, shifting things from one garage to a different garage.

For our first meeting of the year we had the pleasure of hosting an astonishing artist, designer, fabricator, horologist, and entrepreneur: Stephen Kowalski of Richmond, CA.

Steve fashions himself as a Convention "goer" (attendee), but he is clearly a lot more than that. He builds assemblies of interesting (usually old) devices, typically combined artistically with old clock movements—sometimes mechanical and sometimes quartz. These

are one-off pieces, typically by commission, though occasionally he contracts for and sells a batch lot if he thinks there is sufficient interest.

Originally owning Clockworks, and then Timeworks (both companies building and selling quite distinctive clock-focused pieces), Steve found himself spending too much time managing, and not enough time doing the graphic design and art creation that he enjoys. So he now builds wonderful, strange clock-things, all of which work. These clock-things are developed around interesting old devices such as table lamps, diving helmets, model rockets, and submarines, military-inspired clocks, and anything else that strikes his fancy. He apparently has a vast workshop/store room filled with curious old devices—and from these he draws inspiration. He showed our group photos of a 90% scale steam engine (60 feet long!) constructed for a museum. And a full-scale airplane (28-foot wingspan) for a ranch-house wall (Texans seem to have a lot of money). His latest acquisition was a job-lot of 100 B-29 instruments for purposes yet unknown. It seems his Aladdin's Cave of parts remains bottomless, and his fevered engineering mind endlessly creative.

It was a truly unique and wonderful talk by Steve, and we thank him for his time and energy in producing such inimitable horologic art. Your reporter suggests you go to www.kowalskiobjects.com for an astonishing experience and an inspired guide of what to do with all your old junk clock parts! —*Ross Smith*

COLORADO

21. COLORADO
LOCATION: St. Michael and All Angels' Episcopal Church, 1400 S. University Blvd., Denver, CO 80210
WHEN: Fourth Monday of each month, 7 p.m., except July and December
MEMBERSHIP INFORMATION: David Gies
EMAIL: nawcc21@gmail.com
WEBSITE: http://www.nawcc21.com

JANUARY MEETING: Chapter President Mike Korn called the meeting to order with 34 attending in the room and on Zoom. Two guests were introduced and welcomed.

Cathy Gorton presenting to Chapter 21, "Where Horology has Taken Me — Collecting/Learning/Business/Volunteering."

In the spirit of last month's proclamation for getting more people involved in the Chapter, to be a mentor, encourage show and tell offerings by individual members, and highlight community volunteerism reminding us of changing the tower clocks at East and South High School, Mike began the meeting with a story that was hilarious. You had to be there.

The report on the January 10 Boulder Chapter meeting was provided. You will recall our Chapter was invited to their luncheon meeting in Golden, CO. It was well attended and interesting clock and watch items were shared. Thank you to the Boulder Chapter for their hospitality. More inter-Chapter gatherings can be anticipated.

Tim Orr discussed membership growth and development reported that 126 direct mail thank yous and notices were sent to members, past and present, along with calling cards promoting the Chapter's activities and priorities. You should have received one and more were made available at the meeting. A special shout-out to Tim for leading this effort.

Librarian Paul Wegener critiqued an interesting publication from Chapter 28, *Clocks of the Art Nouveau and Art Deco Style 1890–1940*, published 1996. Thank you, Paul.

Other items of note: Emily Griffith Technology College Clock Repair Class has finally been resurrected after the pandemic. Classes are scheduled to begin next month.

The Winter Workshop, "Polishing, Bluing and Silvering," led by Kenneth Reindel and Richard Sheldon, is scheduled for March 16 at our regular meeting location. Registration is open and limited.

Chapter 21's Regional Clock Expo is confirmed for the Boulder County Fairgrounds again this year, July 26 setup, July 27-28 open session.

PRESENTATION: Cathy Gorton and her husband, Greg, presented, "Where Horology has Taken Me – Collecting/Learning/Business/Volunteering." This was a fascinating chronology of Cathy and Greg's journey for clocks, woodworking, and conservation of furniture. Cathy helped Greg, who chaired the 2014 and 2018 Mid-Eastern Regionals in Greensboro, NC, doing all sorts of activities from registrations to auction preparations and more. They traveled to England pursuing horology. Cathy also promoted the upcoming Ward Francillon Time Symposium – A Horological Tour of New England to be held in Sturbridge, MA, on October 21-24. Cathy's entire lecture is available on Chapter 21's YouTube channel. *—David Gies*

CONNECTICUT

148. CONNECTICUT
LOCATION: Edmond Town Hall, 45 Main St., Newtown, CT 06470
WHEN: September and November
MEMBERSHIP INFORMATION: Cheryl Comen
EMAIL: ccomen@sbcglobal.net
WEBSITE: new.nawcc.org/index.php/chapter-148-connecticut

JANUARY MEETING: On January 20, Connecticut Chapter 148 held its first meeting of 2024. Despite the extremely cold weather, over 75 members and their guests came from Connecticut, New Jersey, and New York to view clocks, watches, and associated horological items for sale by fellow members while enjoying a selection of breakfast items, coffee, and juices.

PRESENTATION: We were pleased to have Robert Frishman, NAWCC Silver Star Fellow, join us and present a slide presentation of his and his wife's trip to Japan in 2023 and their visit to three important horology sites in Tokyo. They first visited the Daimyo Japanese Clock Museum where they learned the history of Japanese timekeeping. They then proceeded to visit the National Museum of Nature and Science, which has a dedicated gallery filled with Japanese timepieces, one slide showing Edo-period pillars (designed to hang vertically on posts) and lantern clocks (many displayed on straight legs, trapezoidal wooden pedestals, or tables and bracket-styles). This was followed by a visit to the Seiko Museum, a five-story building housing more than 10,000 objects, providing a chronological history of timekeeping with a focus on the company's history and products from 1881 to the present day. The presentation ended with a slide of a prototype turret clock movement for Westminster's tower (1884) and some history behind it. The talk was followed by a short question and answer session.

We also wish to thank Robert Frishman, co-chair, for promoting the upcoming New England Regional being held on April 26-27 in Concord, NH.

We were pleased to see many of our members return: Steve Sadowski (NY), Jerry Maltz (NY), Mel Brown (CT), Joe Kaddis (CT), Rick Legnani (CT), Ron Gentile (CT), Brian Albert (NY), Gail Brochu (CT), Carl Mirando (CT), and many more. We welcome our new members from CT and NY and missed some who could not make it for various reasons. We hope they will be joining us at our next meeting in March.

Again, special thanks to all our officers and volunteers. Without them we would not be able to hold our meetings. Special thanks to those members who lent a hand setting up before the meeting and cleaning up afterwards. *—Cheryl Comen*

FLORIDA

19. FLORIDA SUNTIME
LOCATION: SpringHill Suites, 511 W. Lime St., Lakeland, FL
WHEN: May 19
MEMBERSHIP INFORMATION: Stephen Gold
EMAIL: sgold8@aol.com

MARCH MEETING: Chapter 19's March meeting was held at SpringHill Suites in Lakeland, FL. Thirty-three members and guests were present and 12 tables were set up for the Mart at 9 a.m. It was a lively mart with members and guests buying, selling, and exchanging information. A silent auction was held during the mart and saw a lot of activity. Coffee and donuts were offered at 9:30 a.m.

PROGRAM: At 10:15 a.m., President Stephen Gold welcomed the attendees with some opening remarks. He then introduced Hal Thornton and stated he would be giving a presentation on the West Coast Clock and Watch Museum. Hal stated that he had visited the museum, which is the largest clock and watch museum on the West Coast. It is located in Vista, CA, at the Antique Gas and Steam Engine Museum. NAWCC Chapters 136 and 180 are actively involved in the museum. Hal presented a video highlighting the exhibits at the museum. They house a wide variety of all types of clocks from small to street clocks and everything in between. If you ever make a trip to the West Coast, Hal says it is a "must see." President Stephen Gold thanked him for a job well done on behalf of those present. He reminded members that the next meeting will be May 19 and encouraged everyone to attend. He reminded those present that lunch would be served around 11:30 a.m. —*Judy Weyant*

GEORGIA

24. ATLANTA
LOCATION: Mountain Park Aquatic Center (Activity Building), 1063 Rockbridge Rd., Stone Mountain, GA, 30087
WHEN: 9:30 a.m.-1 p.m. the first Sunday of even-numbered months
MEMBERSHIP INFORMATION: Jeff Whitfield
EMAIL: Jeffery_whitfield1@hotmail.com
WEBSITE: http://rgrunwell.hopto.org/NAWCC/NAWCC.htm

Bart Polachek and Hal Thornton talk about Hal's presentation on the West Coast Clock and Watch Museum at the March meeting of Chapter 19.

FEBRUARY MEETING: Thirty-nine members attended the February meeting in person plus three attended virtually. Jeff Whitfield kicked off the business meeting, welcoming the membership and Gary Walton provided the treasurer's report. Sherry Kitts discussed the progress of registration and sales for the 2024 National in Chattanooga this June. This promises to be an outstanding event.

PROGRAM: Vice President Kelly Sims introduced our guest speaker, Bob Frishman, who presented "A Visit to Three Horology Museums in Tokyo." There was much more information than can be covered here and so we highly recommend viewing the YouTube recording of this presentation: https://www.youtube.com/watch?v=1wk5zb2nrQQ.

Bob describes his recent trip to Japan and the evolution of timekeeping in Japan from 600 AD through the 1850s introduction of western timekeeping to this isolated nation, and on to the present. Before exploring the

museums, Bob enjoyed sightseeing and specifically hiking along the Izu archipelago. Another of Bob's passions is collecting period prints of traditional settings with timepieces in the background. Beautiful examples of such Japanese art appear throughout this program.

The first horological site that Bob visited was the Shrine to Emperor Tenji (626-672 CE) in Kyoto, the "patron saint" of Japanese timekeeping. The blessing of clocks has been a common practice at this shrine. It was also a common belief that spirits inhabited clocks and kept them running. To the horror of clock collectors in more recent times, when clocks would no longer run they would be ritualistically burned/cremated at this shrine on "Time Day" (June 1). Ironically, the only remaining clockmaking and repair school in Japan is located on these grounds.

Bob described the use of Seasonal Temporal time. This was used during the Edo period between 1603 and 1868 under the rule of the Tokugawa shogunate and before the adoption of western timekeeping. In this system, day and night were each divided into six equal parts called "toki," which varied in length from season to season since the length of days and nights change. Very interesting examples of period clocks using a double foliot escapement were presented. These required frequent rate adjustments to follow an equation of time chart.

The first museum visited was the Daimyo Clock Museum. This is in a residential section of Tokyo and was the home of a collector who recognized the need to preserve Japanese antiquities that were otherwise being exported or destroyed. Operation of the museum continues in the third generation within the family.

The second museum visited, the Science and History Museum, was much larger and had a broader focus. It included a large gallery of Japanese and international horology. Bob discussed Japanese pieces including open and closed base lantern, incense, and pillar clocks, orreries, and "Inro" watches that were on display here.

The third stop was at the Seiko Museum Ginza. This modern five story building on Tokyo's "Rodeo Drive" (Ginza) housed 10,000 examples of clocks and watches. Kintaro Hattaro (1860-1934) established this shop at the age of 21 and later founded Seiko after the 1873 Calendar Reform Act. Hattaro studied Connecticut clock and watchmaking and adopted styles and manufacturing methods used at that time. As a result, many items on display resemble western products of the time. The Seiko Museum displays are chronologically arranged. These include Japan's first wristwatch (an 1897 Waltham-like example) through the first quartz Seiko wristwatch. Quartz movements were originally developed by the Swiss but first mass-marketed by Seiko in 1969.

Thanks, Bob, for sharing your experiences and insights into Japanese Horology with Atlanta Chapter 24.
—Bob Geier

KANSAS

63. SUNFLOWER CLOCK WATCHERS
LOCATION: Woodland United Methodist Church, 1100 W. 15th St. N., Wichita, KS 67203
WHEN: 7 p.m. the first Friday of each month
MEMBERSHIP INFORMATION: Stev Overstreet
EMAIL: stev.overstreet@cox.net
WEBSITE: http://nawcc63.org/Membership.aspx

MARCH MEETING: President Mark Will presented the March program on Westclox with examples from his personal collection. The company started in Peru, IL, in 1885 as Western Clock Co. and selected the name Westclox in 1888. The patent was issued in 1908 for what would become the Big Ben model. The first Big Ben style 1 was produced in 1909 with a price of $2.50 that remained unchanged until 1918. This same movement was used until 1956.

Mark then took us through the various models in chronological order ending with the style 10, which was manufactured in China. He discussed the features of each model and had a working example from his collection.

SHOW AND TELL: Norma Ciskowski shared her Bingo model. Jeramy Lamar shared a style 4 Baby Ben, a style 7 Baby Ben, and a Moonbeam model with a radium dial and flashing lights in conjunction with the alarm. Nathan Beals shared a Clock of Tomorrow. *—Stev Overstreet*

Chapter 35's Frank Webster and John Siebel with the E. Howard tower clock running on display in the Union Train Station in Louisville.

KENTUCKY

35. KENTUCKY BLUEGRASS
LOCATION: Kyana Building, 3821 Hunsinger Ln., Louisville, KY 40220
WHEN: Varies
MEMBERSHIP INFORMATION: President Tom Hartwein, Secretary Eric Michalsen
EMAIL: thartwein@twc.com or eric.michalsen@gmail.com

JANUARY MEETING: Chapter 35 was the co-host Chapter for the Kentucky Thoroughbred Regional. Members of the Chapter participated by providing the display and the educational program. Tom Hartwein's displays showed a variety of movement-holding fixtures. Frank Webster's program demonstrated and explained navigating the NAWCC Forum.

FEBRUARY MEETING: Chapter 35 volunteers performed the annual maintenance on the E. Howard tower clock that is running on display in the Union Train Station in Louisville. It was an opportunity for teaching and relearning. The event was covered by the Transit Authority of River City public relations crew. All were welcome.

MARCH MEETING: It was a well-attended watch and clock mart at the Chapter 35 meeting this month. Sam Thornton presented a program on polishing brass. Information on upcoming horological opportunities were shared along with cookies, cake, and coffee.

Growing Your Chapter Tip: Get involved where you can in community projects. Chapter 35 looks to team with historical, educational, arts, and business groups to champion and promote their projects. —*Frank Webster*

MARYLAND

11. MARYLAND
LOCATION: Pickersgill Retirement Community, 615 Chestnut Ave., Towson, MD 21204
WHEN: 9 a.m. mart, 10 a.m. meeting and program the second Sunday of even-numbered months
MEMBERSHIP INFORMATION: William Miller
EMAIL: bill1815clocks@gmail.com
WEBSITE: https://new.nawcc.org/index.php/chapter-11-maryland

FEBRUARY MEETING: Since the meeting was held in the Pickersgill assisted living area, we were required to wear masks, except in the meeting room. Thirteen members and guests enjoyed Dunkin's coffee and donuts before and during the meeting.

President Frank Blahut called the meeting to order, and after business items he introduced guest speaker Dave Gorrell.

PROGRAM: Dave presented "The History of French Clocks." He put the clocks in various groups: the Pendule d' Paris, Pendule d' Voyage, Comtoise, marine chronometers, and Normandy clocks and gave examples of each.

Clockmakers did not make the entire clock. There were casemakers, movement makers, ormolu makers, etc. The number on the movement usually found on the upper rear plate and on the pendulum is that of the movement finisher, and is not a serial number. The lower set of numbers relate to the pendulum length in French pounce and lignes.

Movements prior to 1800 used crown wheel escapements and count wheel strike. Rack and snail strike became common after 1870. Escapements included the crown wheel, anchor, and pin wheel. Pendulum suspensions were silk (prior to 1850), knife edge, and Brocot. Major styles of cases were also discussed and illustrated, from Louis XV to the Art Deco and Art Nouveau.

We wish to thank Dave for a very enjoyable presentation that was enjoyed by all. —*Bill Miller*

MASSACHUSETTS

8. NEW ENGLAND
LOCATION: Varies
WHEN: February, April (New England Regional), May (Annual Willard House & Museum Workshop), August, and October.
MEMBERSHIP INFORMATION: Steve Chatlas, 860-828-1743
EMAIL: sgchatlas@aol.com
WEBSITE: https://nawcc8.org

FEBRUARY MEETING: The Chapter 8 annual meeting was held on February 3, 2024, at the Auburn Elks Lodge #2118 in Auburn.

We had a great meeting with about 60 members and guests including the registrations and walk-ins, tables for the mart, annual meeting activities, a cash raffle, and dinner.

Our first guest speaker was David Hagberg. Dave is a well-known member of our Chapter who has spoken a number of times before and this time spoke about how to service the Swiss pinwheel jeweler's regulator movement. Dave explained that servicing a time-only, seconds-beat, weight-driven wall clock should be straightforward but that the Swiss pinwheel regulator movements are another story! He gave a brief overview of the clock type, and then, using a slideshow, took us through the unique disassembly steps. Next he discussed possible problems and solutions unique to this type of clock and then followed with how to clean, reassemble, lubricate, set up, and provide continued care.

Our second speaker was Phil D'Avanza, another well-known and longtime member of Chapter 8. Phil led us

Dave Hagberg speaks to Chapter 8 about the unique challenges of servicing a Swiss pinwheel jeweler's regulator movement.

through replacing a 96-tooth, 5.5-inch diameter gear that had 18 teeth missing. With slides Phil showed us how he laid out the replacement on a hard brass plate, faced the blank, made the arbor, cut the teeth, and cut the spokes. When finished he had produced a finely manufactured replacement wheel for the clock. Our members were pleased to see Phil's workmanship and precision throughout the process.

After our speakers, Chapter 8 President Rich Pompeo opened our annual member election. Several directors, the president, and secretary were elected to new terms on our council. One new candidate, Paul Owens, was nominated and elected to our board. Paul is a longtime member of the NAWCC, comes from Fitzwilliam, NH, and is known by many members from his presentations at the Willard House and other chapters.

A buffet lunch was served at noon followed by a short update on the 2024 New England Regional to be held in late April. Lead host will be Chapter 8 with co-hosts Greater Massachusetts Chapter 87, Connecticut Chapter 148, Granite State Timekeepers (NH) Chapter 189, Green Mountain Timekeepers Society (VT) Chapter 109, and Maine Chapter 89. —*Gary Ewing*

Andy Dervan discusses the repivoting process at Chapter 6's February meeting.

MICHIGAN

6. GREAT LAKES
LOCATION: Various
WHEN: April 7, August 17 All-Michigan Meeting, October 6, December 1
MEMBERSHIP INFORMATION: Tom Morris
EMAIL: thomasm326@gmail.com
WEBSITE: new.nawcc.org/index.php/chapter-6-great-lakes

FEBRUARY MEETING: Great Lakes Chapter 6 met on February 4 at the Masonic Lodge in Dearborn. Thirty members and guests attended on a bright, mild winter day. Selling in the mart was brisk and the Chapter sold several items in a silent auction. There were refreshments and beverages for attendees to enjoy. Andy Dervan gave an interesting presentation called "Minimally Invasive Watch Surgery." He explained via PowerPoint how an Amish watchmaker in New York State does repivoting of very small watch parts like balance staffs. His process, done without electricity and using only natural light, removes the broken staff pivot, drills a tiny hole on center and inserts a new pivot that is then shaped to the correct diameter and profile. These parts are so small that it was difficult to even take pictures of the process for the presentation. In many cases, this type of repair is necessary because balance staffs for many of these older watches are no longer available and would have to be made from scratch. This process provides an alternative to repairing the existing balance staff. —*Tom Morris*

101. WESTERN MICHIGAN
LOCATION: St. Paul's Anglican Catholic Church, 2560 Lake Michigan Dr. NW, Grand Rapids, MI 49504
WHEN: First Saturday of even-numbered months
MEMBERSHIP INFORMATION: Richard Weiderman
EMAIL: pjkurta@gmail.com
WEBSITE: https://www.westmichigan101.com

FEBRUARY MEETING: February's meeting was a surprise and impromptu event, when Chapter 101's aging secretary consulted his wall calendar instead of the event calendar on the front of the Chapter's directory, jumped the gun by a week, and sent out the bi-monthly meeting notice for February 3 instead of February 10, the correct date. But thankfully, President Jon Start knocked the curveball the secretary threw out of the park and delivered an interesting and worthy meeting on the spur of the moment to the fans in the stadium.

The impromptu nature of the meeting did not adversely affect the mart. On offer were four wooden-cased deck watches, three of them by Hamilton. There was a tiny, tiny Lady Elgin wristwatch remarkable not only by its diminutive size but also because it was still in both its elegant, plastic showcase and also its outer cardboard box. Interestingly, there were various piles of watches, all the same price. For example, there was the $10 pile, the $20 pile, and the $30 pile. Buyer's choice.

Although February looked like watch month, there were clocks on offer too.

Among them was a variety of Mastercrafter's clocks, like the ubiquitous "Girl on a Swing." Less common was Mastercrafter's "Good Luck Clock" with its dial in a horseshoe. However, its efficacy was doubted as the horseshoe's opening was on the bottom, where all the luck leaked out. Unique in the bevy was a Mastercrafter's clock-cum-TV lamp. It was not a leopard lamp, nor a long, Asian boat lamp, nor even a cowboy-on-a-horse lamp. Rather it was a 1950s-era TV boasting both a clock and a lamp. How's that for kitsch?

Although the clock contest featured clocks with plastic cases, there was only one delightful piece of kitsch. Interestingly, it too was a TV. This time it was a miniature set from the '60s. However, Tim Post took first place for two fine examples of Herman Miller clocks in plastic while Pat Loftus took second for a clock style known to have been favored by a gangster.

For the last several meetings, members have been investigating different size pocket watches in their watch contests. They worked their way down from 18-size in the beginning to 0-size in February, when Jane Weiderman took first place and Jerry Skelonc took second.

SHOW AND TELL: Pat Gooch showed members an unusual Swedish gallery clock with a large, heavy movement. Jon Start took the opportunity to show and tell members about an unusual clock he purchased, one he knows little of and hopes to learn more about.

Those wishing to know more about Chapter 101 and its happenings are encouraged to check out our website or to contact President Jon Start at 269-998-1665.
—Richard Weiderman

MINNESOTA

20. O.T. LANG
LOCATION: Various
WHEN: Third Saturday of odd-numbered months
MEMBERSHIP INFORMATION: Steve Scidmore
EMAIL: StSc112358@gmail.com
WEBSITE: https://Minnesotawatches.com/otlang

JANUARY MEETING: Thirty-seven members and guests attended the January meeting at Elsie's restaurant in Minneapolis. The meeting was presided over by Chapter President Gary Anderson. Diane and Darold Hanson served as hosts.

PROGRAM: Annual Restoration Projects hosted by Dennis Ondik with presenters Mark Jefferis, Richard Zielike, Gary Anderson, Don Miller, Darold Hanson, Bill Thomas, and Garth Antila.

Mark Jefferis presented a collaboration between Susan Wood and him. This project is not a restoration but rather the construction of new clocks based on an Eli Terry clock from 1816 in the Smithsonian. For the wood, Mark sourced quartersawn laurel, poplar for the fly, and quartersawn walnut from a dining room table. The wood was cut and left to dry in a box. Pinions came from cherry. Mark started with a measured drawing by George Bruno but there is also a video by Mr. Bruno that was very helpful. Mostly hand tools were used but Susan has a vintage Chronos gear-cutting engine that was employed. At this point, Mark discovered that one of Bruno's measurements was out of spec. Mark's niece, a mechanical engineer, came to the rescue by correcting the measurements and supplying a CAD diagram. His niece again came to the rescue when this project needed a plotting for a 13-tooth rachet. Mark did some turning with a lathe made from a treadle-powered Singer sewing machine but eventually turned to a modern Sherline lathe. As humidity can affect the roundness of parts, testing was done with a microwave. Susan turned steel arbors and friction plates. The practice frame was made of quartersawn walnut and oak with pinions made of laurel and features all tenon construction. Mark and Susan make one gear at a time and test fit as they go. The project is not yet finished and one can now appreciate Eli Terry's accomplishments more than 200 years ago.

(From right) Mark Jefferis, Gary Anderson, Darold Hanson, Bill Thomas, Richard Zielike, Don Miller, and Garth Antila all presented on their quite substantial projects to Chapter 20.

Richard Zielike displayed a restored Junghans mantel clock that he acquired from an elderly friend and collector. Richard started with the case by removing and cleaning

"embellishments" that were both wood and cast metal. The metal parts proved difficult to clean. The movement needed a lot of attention and Richard wore out a number of bristle discs from cleaning the arbor. There was also a lot of what appeared to be gunk on the barrel. This turned out to be built-up solder that was from a previous barrel cover repair. Richard replaced the barrel cover with one from Hermele. Other repairs included fixing very rusty hinges that were also not flat, and dealing with a missing rear latch. The working clock is now quite nice.

Gary Anderson's project was a 21-jewel, 18-size Hamilton model 940 pocket watch he found on eBay. The watch was quite rusty so Gary "cooked" the nickel movement parts in alum solution to get rid of all the rusty steel parts. He also cleaned parts as best as he could with One Dip and cotton swabs. Next Gary sourced a pallet fork and tried to convert the watch to a single roller but that did not work. Finding a pallet fork and an escape wheel for an 18-size double-roller Hamilton is not easy, as not many were made. Eventually he found these parts but said the price was high. The dial was sourced on eBay but the seller packed it poorly and it chipped in transit. Gary was able to glue the chips back in. Original hands were also found on eBay. Gary used a case made in the 1970s by Paul Graeling. You would never guess the condition of this watch before Gary restored it.

Don Miller presented two projects. The first was a Seth Thomas ship's clock with a chime (two arbors). The clock was purchased on eBay and sold as non-running, but in fact it did run. The movement actually turned out to be in pretty good shape. The case was cleaned with Brasso polish, #0000 steel wool and cotton swabs. The before and after pictures pretty much told the story. The second object was an 18-size Hamilton 933 pocket watch that came from a parts container. The watch had plates and a balance, but it had a broken balance staff and other parts had to be sourced. Encouragingly, this watch had an early serial number for this model, circa 1895, and had matching serial numbers. Don had Gary Anderson turn a new balance staff. The watch had its original hands and case but Don had to source a new mainspring and some other parts. This watch went from a parts project to a smooth runner.

Darold Hanson presented an Accutron Astronaut IV in a very ornate gold-filled case featuring gold embellishments that included gold nuggets, diamonds, and rubies. This model has two crowns with the second adjusting a second hour hand similar to a GMT. The function is novel and rather complex with 36 parts. One hour hand was missing and was remade from a pocket watch hand that Darold broached to the right size. This watch also has an instant date change but the spring that operates it was cracked and also had to be replaced. Darold noted that the gear trains on Accutrons with dates are more complex than many people realize. With the date fixed, the watch ran for one day and then a coil went bad and had to be repaired. Other than these problems, the movement is like any other 218 Accutron.

Bill Thomas presented a Canadian National Railroad clock manufactured by Pequegnat with a 12/24-hour dial similar to Canadian Railroad pocket watch dials. This model, the Moncton, has double springs, requiring two arbors, and runs 15 days on a winding. This was a highly regarded Canadian-manufactured clock and is similar to a Seth Thomas No. 2 15-day clock. Bill took it to Blackstone Manor Clock Repair, a very reputable Twin Cities clock repair firm, and had them go through it.

Last up, Garth Antila presented a pendulum banjo clock that was initially a bit of a mystery. On a trip to California in 2022, Garth happened in to an antiques mall and spotted this clock with no name on the dial. Assuring the proprietor that he knew something about clocks, he asked to remove the hands and dial. Underneath were Chelsea markings in an area milled into the plate. The clock was in excellent shape, except for missing the top finial, but we also know that all modern Chelsea clocks are spring- and not pendulum-driven. In any case he bought the clock at a bargain price and brought it home in the overhead bin on the airplane! Fortunately, a recent *Bulletin* article (no. 462, March/April 2023) provided clues to its origin. It seems that this was probably a Boston/Chelsea transitional clock. Boston Clock Co. was probably the original marking but it was milled down and replaced by Chelsea. If so, that puts the clock date sometime in the 1897–1898 range. This clock also features a rather clever pendulum lockdown mechanism for transporting. Garth had to do relatively little except find an appropriate finial replacement. From the condition of the case and dial you would never guess that this clock is over 120 years old. —*Steve Scidmore*

Larry Boucher shows Chapter 36 members a comical reverse-running street clock.

MISSOURI

36. HEART OF AMERICA
LOCATION: Trailside Center, 9901 Holmes Rd., Kansas City, MO 64131
WHEN: 1 p.m. the first Sunday of even-numbered months
MEMBERSHIP INFORMATION: Mark Parkins, 913-208-5369
EMAIL: parkins66209@yahoo.com
WEBSITE: https://new.nawcc.org/index.php/chapter-36-heart-of-america

FEBRUARY MEETING: Twenty-one members of Chapter 36 gathered for their regular meeting on Sunday, February 4 at their new location at the KCMO Trailside Center. President Mark Parkins noted a quorum in calling the meeting to order. Mark welcomed guest Daniel Herr.

Mark began the business portion of the meeting by reporting that a Chapter member had recently come across a later model Murda clock with an electric rather than spring movement. It would have been a great addition to the Murphy Davis program clock presentation at our October 2023 meeting. Minutes of the December meeting were passed after a motion by Wayne Herrmann and second by Larry Boucher. Treasurer Nancy Spieker as usual had printed the balance sheet and income report in the latest newsletter. We have learned from Florent Wagner not to approve the report like the minutes but rather to "present the financials and file them for review." Nancy now needs a volunteer to review 2023 finances. Nancy mentioned that some members' dues were still due. Mark fielded comments about the newsletter arriving late for many members. The problem seems to be delivery delays in the local Kansas City post offices.

PROGRAM: The program was a combination show-and-tell and horological restoration contest. In the notice of meeting members had been encouraged to bring a watch or clock restoration project in keeping with the Chapter's customary February contest. Members were also encouraged to start a project for the February 2025 meeting.

Joe Loar showed a large bandstand torsion pendulum clock and a Waterbury crystal regulator. Joe had refinished the polished brass surfaces of the clocks by cleaning with scouring pads and emery papers, and he polished the brass with rouge and a buffing wheel. Joe coated the brass with spray can lacquer and provided the tip of placing the work in a warm oven (approximately 200 degrees) to fix any unevenness or alligatoring. Joe's presentation, which included photos, provided a good example of methods for preparing a restoration entry.

Steve Waitzmann brought an 1890s brass musical clock with a simple balance wheel movement and a music box in the base. Measuring about a foot tall, the front of the clock had molded images of Beethoven and Wagner. Greg Arey showed an uncommon miniature Sessions octagon drop clock with an 8-inch dial and calendar hand. Larry Boucher showed a cast iron elephant with a clock dial on its side and drunkard's street clock. The electric movement of the clock had a reverse movement that ran counter-clockwise. Wayne Herrmann described the frustrating restoration of a small RA clock with a tiny brass movement. Wayne created a "quick pivot" for one arbor by turning down an 8d nail.

Barbara Boucher won the 50/50 drawing. Continued thanks to Wayne Andrews who brings the can and tickets for the drawing. —*Thaine Damman*

Ed Bushway shares his circa-1800 Acadian kitchen clock with Chapter 13.

NEW YORK

13. WESTERN NEW YORK
LOCATION: Ascension Parish, 19 Sumner St., Batavia, NY 14020
WHEN: 11 a.m. the third Sunday in January, March, May, July, and October
MEMBERSHIP INFORMATION: Ed Oleksy
EMAIL: clock14086@yahoo.com

JANUARY MEETING: About 30 members and guests gathered on a snowy day to attend this meeting. A good mart was held during meet and greet time.

Eric Hooker called the meeting to order at 11 and Ed Oleksy introduced two prospective members, Stuart Gray and Mike Fletcher. The treasurer's report was reviewed and approved.

The election of officers was held and the new slate is President Carey Magee, Vice President Joe Walters, Treasurer Tom Stengel, Secretary tbd.

David Richardson spoke on behalf of the members to thank Eric Hooker for more than 15 years as president of the Chapter as well as director prior to that. He also served three years as chairman of the Eastern States Regional as well as curator/conservator of the Hoffman Clock Museum in Newark, NY. Eric leaves an impact on his fellow horologists, always sharing his knowledge of clock repair and history, organizing the many meetings, and often presenting an educational program. The new president, Carey Magee, will bring his abilities to the club and it will continue to thrive.

Tom Stengel has been in contact regarding our normal meeting place in East Bethany, which is closed due to a water shortage in the wells of that area and he will let us know when we can return.

SHOW AND TELL: Dave Richardson showed two Oswald clocks made in Germany in the early 1900s in the form of Scottie dogs with the left eye telling the hour and the right eye telling the minute. They had been donated to the Hoffman Clock Museum. Joe Walters purchased a clock made by the Ball Watch Co. Ball, who developed accuracy for railroad watches to prevent collisions due to improper timekeeping, also made wall clocks in the schoolhouse style for the RR offices and stations.

Ed Oleksy showed a one-handed clock made in Warrington, PA, circa 1913-1923. The 30-hour shelf clock has a brass movement with a hairspring patented by Fredrick Windsor in 1913. It was simple and cheaply made and is now scarce. A factory fire in 1923 ended production and destroyed all records.

Ed Bushway presented a simple pressed oak kitchen clock circa 1800 with an interesting lineage. It came from the Acadian people in Nova Scotia of which Ed and his wife are both descendants. These French folks were expelled from Nova Scotia when they refused to pledge allegiance to the British. About 11,000 were sent to British colonies in America of which 2,000 resettled in Massachusetts, including Ed's forefathers. Ed explained that his father, himself, his children, and his grandchildren all learned to

tell time with this family clock. The clock has the timeline provenance inscribed inside the back and he stressed the importance when possible of keeping such history with clocks you collect. —*Beth Lewis*

55. CENTRAL NEW YORK
LOCATION: CNY Living History Center, 4386 State Rte. 11, Cortland, NY 13045
WHEN: First Sunday of February, April, June, and November
MEMBERSHIP INFORMATION: President Chad Sopp or Secretary Chris Beattie
EMAIL: timesmithantiques@gmail.com, beattie@hws.edu
WEBSITE: new.nawcc.org/index.php/chapter-55-central-new-york

FEBRUARY MEETING: Chapter 55 met on February 4 as 35 members gathered to enjoy each other's company and some clocks and watches. Not a bad number of attendees for an upstate New York winter morning. President Chad Sopp presided over the business meeting and our Show and Tell. Updates were announced by a couple of committee members for Eastern States Regional August 2–3.

PRESENTATION: The presentation was "An Unordinary Day in the Life of a Clock Repair Shop & A Couple of House-Call Short Stories" by shop owner Chris Beattie. Chris reviewed some of the work that had recently come across his bench, including wooden works tooth replacement, replacement of exterior/soldered-on bushings, and repair of an early English grandfather clock suspension spring. The group was shocked to see a photograph of a movement that had come in for repair that contained a dead cockroach!

Chris also showed pictures and talked about the creation of new parts from a box of junk stock that he keeps in the shop. A small piece of brass was harvested from an old American movement plate to make a suspension rod seat to hold a forked pendulum rod. Another piece of thin brass was harvested to replicate an original bowed glass retaining tab that was missing from a bezel. Another project was the making of a cuckoo clock bellow lifting wire from a paperclip.

While on the road last year, Chris and wife, Tammy, visited and shared photos of the self-proclaimed largest operational cuckoo clock in the world. This cuckoo clock is a two-story structure in Sugarcreek, OH. Lastly, Chris shared a couple of funny house call stories from his travels operating a clock repair shop. If you repair clocks and watches long enough and conduct house calls, you see some really strange things and meet some very interesting people. —*Chris Beattie*

NORTH CAROLINA

17. CAROLINA
LOCATION: Lexington Masonic Lodge, 468 Central Ave., Lexington, NC 27292
WHEN: Mart 9:30 a.m., classes 10:15 May 11, July 13, September 14, November 9
MEMBERSHIP INFORMATION: Terry Hall
EMAIL: tehall2018@gmail.com
WEBSITE: https://new.nawcc.org/index.php/chapter-17-north-carolina

JANUARY MEETING: Chapter 17 President David Pendley opened the meeting welcoming the 31 in attendance. This was our first meeting of 2024 and our first Saturday meeting. Chapter 17 welcomed past members Bill Budusky and Kurt and Judy Lawrence. William Whitaker was recognized as a guest.

An active mart was held with plenty of items for sale/trade, a few items for silent auction, and a "free table." David Pendley conducted a clock education class, concentrating on the setting of racks and snails with about 15 in attendance. Dave Dawson won the door prize and Bill Budusky cashed in on the 50/50 drawing.

PROGRAM: Vice President Don Whitaker gave a talk and demonstration of gold leaf application. Don's PowerPoint presentation showed just how much patience and skill he has dealing with gold sheets 0.000107 to 0.000148mm thick. —*Terry Hall*

Mark Zaun speaking to Chapter 126 on Seth Thomas pocket watches.

126. WESTERN CAROLINAS
LOCATION: Dana Community Center, 2879 Upward Road, Flat Rock, NC 28731
WHEN: 9:30 a.m. on the second Saturday of odd-numbered months
MEMBERSHIP INFORMATION: John Wagner
EMAIL: drjrwagner@gmail.com
WEBSITE: https://new.nawcc.org/index.php/chapter-126-western-carolina

NOVEMBER MEETING: Western Carolinas NAWCC Chapter 126 enjoyed an informative presentation by Mark Zaun on Seth Thomas pocket watches. Mark shared that these late 19th- early 20th-century limited production run watches varied in their number of jewels and overall quality. Most interesting were the pocket watches that vividly demonstrated the features, quality, and similarity to New York Standard watches.

The meeting also featured an auction with two clocks graciously donated by Carlos and Fran Kennedy as well as David Moline to benefit the Chapter. On the Open Watch & Clock Help Bench, one member received guidance in diagnosing a slow-running balance wheel clock movement. If you are traveling to Asheville, please consider joining our community of horology enthusiasts for a meeting.

Scheduled speakers for 2024 include Avarun Parthiban sharing on bushings and bearings, and John Wagner discussing International Time Recorder (ITR) clocks.
—John Wagner

Chapter 23's Earl Harlamert (left) is joined by Seth, Matt, and Tim Gitzinger in presenting a wooden works and a schoolhouse clock to the Oakwood Historical Society Museum.

OHIO

23. BUCKEYE
LOCATION: Moraine Civic Center, 3050 Kreitzer Rd., Moraine, OH 45439
WHEN: June 1, August 3, October 5, December 7
MEMBERSHIP INFORMATION: Peggy Goodwin
EMAIL: pjgoodwin@fuse.net
WEBSITE: https://new.nawcc.org/index.php/chapter-23-buckeye-23

FEBRUARY MEETING: The Buckeye Chapter welcomed 40 members and their guests to the Moraine Civic Center, a welcome diversion from the cabin fever we all experience in the cold winter months. But it was balmy inside with lots of buy-sell-trade activity happening during the mart and the always popular engaging with fellow horology enthusiasts to exchange ideas and information.

PROGRAM: Members were encouraged to bring in their Best of/Worst of timepieces to display. Votes were cast (by secret ballot, of course) to determine the winning entry in each of those categories. Congratulations to Mike Goodwin for his Best of entry and Bob Fink who

won the honors for Worst of timepiece. Both won a gift card for their winning entries.

On January 27, members of the Buckeye Chapter were on hand to present two clocks to the Oakwood Historical Society in Oakwood, OH. Earl Harlamert presented a Marsh, Williams & Co. wooden-works pillar and splat clock (manufactured in Dayton) that was given to our Chapter by an anonymous donor in Oakwood. A Seth Thomas schoolhouse clock was donated and presented by the Gitzinger family, also Oakwood residents.

The end of 2023 brought much sad news to our Chapter, with the loss of three longtime members. Jim Caldwell passed away in mid-November and was a regular attendee at our bi-monthly meetings until a few months ago. Jim possessed a delightful, upbeat personality, and he thoroughly enjoyed engaging other members in conversation. You could always count on Jim to bring cookies or brownies to our picnic and potluck lunches, proudly announcing that he personally baked them (and they were quite good!).

On Christmas Day, we lost Chuck McKinney. He served on the Chapter's board of directors multiple times, conducted a number of workshops over the years on various aspects of watch and clock repair, and was our "Ask the Expert" for watches at our Chapter meetings for several years. Chuck was a friend and mentor to so many in our Chapter.

On December 29, we learned that Anthony "Tony" Poole from Williamstown, KY, passed away. He was an active member of the NAWCC and our Chapter until just a couple of years ago. Tony was a man of many interests and active in his community.

In February 2024, we learned of the loss of Rick Strese from Florence, KY. Rick joined the NAWCC in early 2022. Our hearts go out to the families and friends of these four gentlemen.

Anytime you're travelling in the Dayton/Cincinnati area on a weekend that our Chapter meets, by all means, please come join us. All NAWCC members are welcome at our meetings, and your presence certainly contributes to the fun. —*Peggy Goodwin*

Stephen Pajewski and Raymond Mailki at the February meeting of Chapter 37.

PENNSYLVANIA

37. ALLEGHENY
LOCATION: Tepper Hall, 4765 Forbes Ave., Pittsburgh, PA 15213
WHEN: First Sunday of even-numbered months
MEMBERSHIP INFORMATION: John Scott
EMAIL: alleghenyclockchapter37@gmail.com

FEBRUARY MEETING: Twenty members, CMU students, and guests met at Tepper Hall for a regular Chapter meeting on Sunday, February 4. Thanks to Librarian Raymond Mialki for making the arrangements and presiding over the meeting. The meet and greet and mart lasted until 10:30 a.m. Three CMU students were interested in starting a clock and watch club on campus. Steve Pajewski may sponsor the club if Carnegie Mellon approves it. We may be able to have the meetings at Tepper Hall. Dr. Stephen Pajewski, CMU faculty staff and his wife, Pye, attended the meeting. Stephen is the senior academic advisor and program manager and has been at the Tepper School since 2010. We hope the ties of a student clock and watch club would enable us to meet at CMU. Raymond Mialki retired from CMU this past week and he is unable to reserve us a classroom for our Chapter meetings.

Ron Horton presented a hands-on demonstration on re-silvering dials to Chapter 144.

PROGRAM: Raymond Mailki showed pictures and discussed the St. Thomas Memorial Episcopal Church's tower clock. The clock is located Oakmont, a suburb of Pittsburgh. The church was celebrating their 150th anniversary, and Ray was invited and they shared their brochures. Raymond discussed the history of the clock, the mechanism and the changes that were made to it. In 1895, the tower clock came from a factory and was put in a chapel across the street. In 1907, the church moved the tower clock into the current building. Strikers took turns winding the clock on Thursdays. The neighborhood residents didn't mind the round-the-clock chimes striking. Changes were made over the years; currently an electric rewind has been installed to eliminate the need for manual winding.

Discussions continued about passing the ownership of the Heeren Tower Clock to the Children's Museum, where the clock now resides. The committee will compose a letter asking the director of the museum if they will take ownership. Then talks will begin and concerns from both sides will be noted. Volunteers for an executive committee are being accepted.

Charlie Zurcher is keeping a scrapbook on the history of the Chapter. The history of the tower clock is available in an August 1977 *Bulletin* article by J.R. Lamberton, "Born Again: The Heeren Building Clock."

Other meeting places are being looked into. Charlie Zurcher will check to see how much it would cost to rent the Masonic Hall. *—John Scott*

SOUTH CAROLINA

144. PALMETTO STATE
LOCATION: Lizard's Thicket, 7938 Garners Ferry Rd., Columbia, SC 29209
WHEN: 9:30 a.m., the first Saturday of even-numbered months
MEMBERSHIP INFORMATION: William McCoy, Dave Graley, Helga Crandall
EMAIL: info@lowcountryhorology.com, dlgraley@aol.com, thcrandall@hargray.com

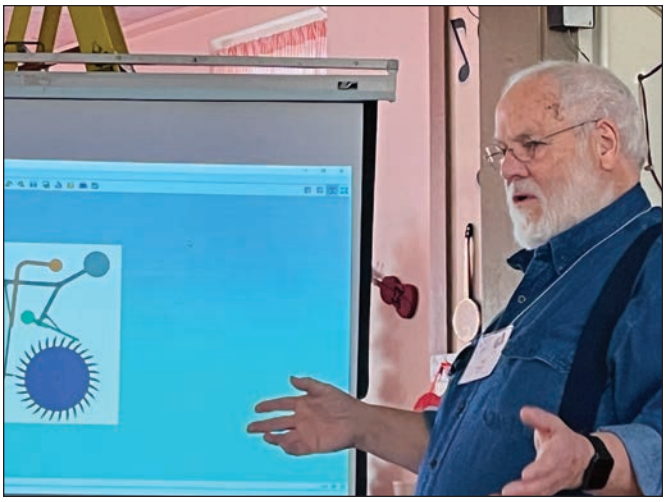
FEBRUARY MEETING: Thirteen members were in attendance. Our usual mart that included clocks, watches, tools, and books was followed by our formal business meeting.

After that, Chapter member Ron Horton presented a hands-on demonstration on re-silvering dials, clearly showing the processes and end result. At the conclusion of the program, we sat down to our customary lunch, provided by the Chapter for members, spouses, and guests. *—Dave Graley*

TENNESSEE

42. TENNESSEE VALLEY
LOCATION: Farms Bradbury Community Center, 3343 Buttermilk Rd., Kingston, TN 37763
WHEN: First Saturday of even-numbered months
MEMBERSHIP INFORMATION: Fran Geier
EMAIL: fcgeier@gmail.com

FEBRUARY MEETING: President Anthony Manis called the meeting to order at 11 a.m. He welcomed 26 members. Fran Geier read the minutes from the



Neil Bingham discusses the grasshopper and other escapements in his presentation to Chapter 42.

December meeting. Dawn Thomas moved to approve the minutes as read and Renee Coulson second the motion. The motion passed.

Michael Manis gave us two groaners. Practice Groaner: Where do bad rainbows go? To prisms of course! Groaner: All attempts to escape time are doomed to fail. So it remains a time-sensitive, ticking temporal issue!

PROGRAM: Paul Young, vice president, introduced our speaker, Neil Bingham, to educate us on escapements we see on a regular basis. Neil first showed the recoil escapement, which has a backward motion with each impulse and teeth pointing counterclockwise. It is used in kitchen clocks that have short pendulums. This escapement is accompanied by heavy weight or mainspring which tends to accelerate wear of the palettes and escape wheel teeth. As lubricant ages and picks up contamination, it forms a slurry that eats away at the escapement.

The deadbeat escapement was designed by Richard Towneley in 1675 and later modified and introduced by George Graham. The teeth of the wheels are clockwise and when engaged it stops dead. The brass against steel escapement produces minimal wear, thus requiring no lubricant, making it more accurate. The pendulum is free swinging except when receiving an impulse. This escapement became the standard for accurate regulators using a 1-second period in a 39-inch pendulum.

The grasshopper escapement was invented by British clockmaker John Harrison in 1722. It has only one pallet engaged at a given time. As the pendulum swings, it uses about 2% of its energy to reverse the gear train to release the locking pallet, but regains the energy from the impulse pallet. Harrison's marine chronometer has this escapement, which was very complex and took about a decade to make. In 1760 there were 120 ships under sail and it was impossible to equip each ship with this type of clock. Fortunately, accurate pocket watches were becoming available. In 1759, Harrison's H4 was introduced, which employed a balance wheel escapement. The advantage of the H4 was that it was less complex, not susceptible to the effects of motion and rough seas and could be manufactured in less time. Palettes were made with 2mm diamonds.

In 2015 the Guinness World Record organization declared the Burgess B Clock to be the most accurate mechanical clock with a pendulum swinging in air. The sealed clock was electronically wound and in 100 days the maximum error did not exceed -$^{5}/_{8}$ of a second with a maximum deviation of 3/4 second. The Burgess B Clock uses the grasshopper escapement. A modern clock, it has a gear train of Duralumin, oil free Nylotron races, synthetic V notch quartz pads, and polyether ether ketone pallets making it not the same as the Harrison clock, which used brass, steel, and lignum vitae rollers.

Neil's favorite escapement is Bernie Teppike's deadbeat escapement without a crutch that has the accuracy of plus or minus $^{1}/_{10,000}$ second per day with an air swinging pendulum. He is hoping its 100-day Guinness trial will be held someday. Everyone enjoyed the program!

Our delicious potluck luncheon followed the program. We would love to have you join us for a visit if you are in the area. Please contact Fran Geier for more information.
—Fran Geier

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48. KING COTTON TIMES
LOCATION: Junior League Building, 3475 Central Ave., Memphis, TN 38111
WHEN: Second Sunday of odd-numbered months except for May 21; mart 1:30 p.m.; regular meeting 2 p.m.
MEMBERSHIP INFORMATION: Ray Smith, 901.272.0939
EMAIL: rsmithtn@hotmail.com

Phil Wallace presents "What Not to Do in Clock and Watch Repair" and "Buying and Selling Clocks in 2024" to Chapter 48.

JANUARY MEETING: The meeting was called to order by John Williams, our Chapter president. Thirteen members and guests attended. Thanks to all who came.

Welcome first-time attendees Joey Miller, Mackey Moore, and Matt Fumich. We hope to see you in future meetings.

The club approved a clock repair class. The class is limited to eight students. It begins January 30 and will run weekly for 10 weeks. Classes will be in John's shop in Bartlett, TN. Calvin, Curt, and John will be the instructors.

PROGRAM: Phil Wallace presented "What Not To Do In Clock And Watch Repair" and "Buying And Selling Clocks In 2024." Phil's insight is based upon his experience in buying, selling, and repairing clocks.

When buying a clock, look for a good repair job, made by someone experienced. However, a clock with a bad repair can still be salvageable. Avoid clocks with bad veneer patches. You want the clock to look old. Avoid clocks that are over-restored. Look for quality dial repair. Clocks are only original one time. Keep the original glass and mirrors if possible.

When repairing, use Hide Glue. Avoid using Elmer's glue. Phil recommends Deft Clear Wood Finish. It is best to wear gloves when handling clocks. Do not handle brass with your hands.

Replace bushings with original type. Phil recommends using liquid cleaner instead of using an ultrasonic cleaner. *—Ray Smith*

TEXAS

15. SOUTHWESTERN
LOCATION: Pflugerville Rec Center, 15822 Foothill Farms Loop, Pflugerville, TX 78660
WHEN: Third Saturday of each month except August and December
MEMBERSHIP INFORMATION: Pat Holloway
EMAIL: patricia.w.holloway@gmail.com

JANUARY MEETING: Jay Holloway kicked off the new year with a discussion of English clockmaking. Very early on, English clocks were primarily imported. Later, the Huguenots, who had clockmaking knowledge, were being persecuted in other countries. They were welcomed in England, and brought this knowledge with them.

King Henry VIII and Queen Elizabeth I both encouraged clockmakers to settle in London. Clockmakers from other countries also came to England. In the early 1600s, craftsmen from other trades joined together and petitioned to form a new organization. About 10 years later, King Charles I granted a charter for the formation of a clockmaker's company. This company protected the local clock trade and instituted strict rules for manufacturing and apprenticeship programs. Following a civil war in the mid-1600s, clockmaking expanded and had over 40 specialists in London.

The desire for clocks increased, and the knowledge of the pendulum made its way to England. Despite the losses due to the plague and the Great Fire, clockmaking expanded in the second half of the century with Hooke's wheel-cutting machine, the invention of the recoil escapement, and pendulum suspension springs. The Royal Observatory and Greenwich's designation as the prime meridian were also central in the growth of English clockmaking. Key inventions, and the resulting accuracy, continued through the remainder of the 1600s.

By the 1700s and into the 1800s, many of the changes were related to an increased variety in style and complications.

FEBRUARY MEETING: Pat Holloway presented "Let's Get with the Program: A Look at Early American Program(me) Clocks." The program clocks discussed were based on mechanical clocks and were primarily used to ring bells and sound other alarms in schools. No human intervention was required, the device saved time and money, and allowed flexible schedules for various buildings or areas.

The individuals and companies discussed were Samuel F. Estell – Estell's Program Clock; Andrew J. Reams – Program Clock Co. of Chicago; Julius W. Hansen – Hansen Program Clock Systems; Ralph E. Murphy and W. C. Davis – Murphy-Davis Signal Clock Co (Murda) and Davis Signal Clock Co; J. R. Moore – Eureka Clock Co. Some of these individuals were jewelers and/or watchmakers, one was also known as a clock designer, one sold school furniture and equipment, and one was a school teacher/principal. Regardless of their background, all were trying to solve the same problem.

All of the men held multiple patents related to their program solutions except for Murphy and Davis, for whom Pat discovered no patents. At least 20 patents were found for Samuel F. Estell, with only four related to clocks. His other inventions ranged from an improved rat trap, to a tricycle, to a reamer that removed burrs from cut pipes. Interestingly, city directories for two years listed Mr. Estell as "inventor."

Both Estell and Reams found the most clock success in Chicago, however Estell had spent much of his early adult life in Richmond, IN, and moved to California after his time with program clocks in Chicago. In addition to Estell's time in Indiana before moving on, Julius Hansen found success in Princeton, IN, and built his company there. Kansas was represented with Reams from Augusta, and Murphy and Davis who had settled in Topeka. J.R. Moore represented the great state of Texas.
—Pat Holloway

124. LONE STAR
LOCATION: Hurst Conference Center, 1601 Campus Dr., Hurst, TX 76054
WHEN: June 1, August 3, and October 5
MEMBERSHIP INFORMATION: eve.slough@sbcglobal.net
WEBSITE: www.chapter124.org

FEBRUARY MEETING: Our first One-Day Meeting of 2024 was held at the Hurst Conference Center in Hurst. This is a new venue for us and is working well. The meeting started with a mart. Then Tim Brownlee started our general meeting during which we mostly discussed the upcoming Lone Star Regional in March. After the short meeting Bill Edwards gave a presentation on electromagnetic clocks. After the wonderful presentation and exhibit, we held a small live auction. A lunch was served after the auction. We are finding that the auctions are helping with attendance. The meeting adjourned at 1 p.m.

REGIONAL: Our Lone Star Regional was held on February 29–March 2 in Mesquite. I believe our attendance was close to last year with almost 400 registered. Thanks to Phil Ball and Brian Schmidt, preregistration and on-site registration respectively, for their hard work in getting everyone registered.

The exhibit theme was calendar clocks and featured more than 20 examples from the US, Germany and Japan. Manufacturers included Seth Thomas, Gilbert, Waterbury, New Haven, Welch, and the Ithaca Calendar Clock Co. We appreciate those who loaned their clocks for the exhibit. And thanks to Mike Brazil, Jon Anderson, Hugh Slough, and Tim Brownlee for setting up the exhibit panels.

During the day on Friday, attendees had a number of educational opportunities. Craig White gave a presentation titled "Potpourri of Shop Tool Ideas: New Ideas for Making Your Projects Better." This was followed by Richard Cox demonstrating the art of re-silvering clock dials. Mike Dempsey presented "Making Clock Parts with Modern Machinery and Methods." And closing out the afternoon, John Acker talked about "The Relationship between Timekeeping and Bells."

Gerald Greener kept everyone informed of the day's schedule, door prize winners, and lost and found items as the mart announcer. And William Slough kept things

(from left) Chapter 139 members Bob Kleemann, Marcus Bush, and Andy Staton troubleshoot a clock movement.

moving with an almost endless slate of silent auctions in the mart.

Special thanks to Evelyn Slough for working with the hotel to produce a delicious banquet meal, and to Debbie Hoganson for putting together the table centerpieces/door prizes. At the banquet Geoffrey Parker, our national representative, gave an uplifting talk on new ideas for moving the NAWCC forward. He used the Swatch watch as an example of how to reach new markets and attract younger people. Chapter 124's highest award, the David Tips Volunteer of the Year Award, was given to Larry Thomas. Certificates of Appreciation were presented to volunteers by Geoff Parker and Tim Brownlee. And we could not have had a successful silent auction, live auction, It's for Free, Let's Make a Deal, and Chapter Table without the leadership and hard work of Tom Hefner, and his crew of Myron Patrick and Wayne Hall. Friday night's live auction realized higher prices than last year, thanks to a carefully curated item list and the skills of auctioneer Jim Sargent. Also, special thanks to our Treasurer Tim Henz for keeping track of the large number of financial transactions that make our Regional run so smoothly.

Saturday saw things winding down, but still a healthy attendance for Public Day, and something for the kids to do at the Children's Table headed by Cathy Slough. The Regional events do take a lot of work, but the reward of meeting old and new friends with new stories and ideas is worth it. Thank you out to all those unnamed who volunteered to make the Lone Star Regional a success! *—Tim Brownlee*

139. SAN JACINTO
LOCATION: Grace Community Church, 1021 Campbell Rd., Houston, TX 77055
MEMBERSHIP INFORMATION: Steve Egloff
EMAIL: stephen.egloff@yahoo.com
WEBSITE: chapter139.com

MARCH MEETING: Following a show-and-tell segment and tech session where members offered assistance with a troublesome clock movement, Steve Egloff gave a presentation on restoring neon electric clocks. He stressed the importance of maintaining the original character and finish of the clock, as well as safely repairing the high voltage components.

Next, Bill Zukley gave members an update on a new design for the Chapter 139 website. The new website is still under construction, but members appreciated the new streamlined look and gave suggestions for additional items. *—Bill Hardy*

VIRGINIA

34. OLD DOMINION
LOCATION: Holiday Inn Gateway, 515 Bypass Rd, Williamsburg, VA 23185
WHEN: February 11, April 14, June 9
MEMBERSHIP INFORMATION: Judy Draucker
EMAIL: jtdraucker@gmail.com
WEBSITE: www.nawcc-ch34.com

FEBRUARY MEETING: Thirty attended the February 11 meeting of Old Dominion Chapter 34. Our exhibit and mart opened at 10:30. One interesting aircraft clock brought in by Greg Hannahs was recovered from a crash landing on the aircraft carrier Randolph in the 1950s. Another interesting clock was an ornate Tompion lantern model. Our usual procedure is to have each exhibitor get up and tell a story about their item. A ticket is given to each presenter, and the winner receives a free lunch.

PROGRAM: We watched the video *General Movement Servicing – Part I* by Ken De Lucca, director of education at the NAWCC School of Horology in Columbia, PA. The video covered clock disassembly, inspection, polishing of pivots, bushings, and final assembly.

Vice President Michael Schulman introduces Ken De Lucca's clock servicing video to Chapter 34.

After our buffet lunch, our president, Rick Robinson, presided over the business meeting. He requested that members keep in mind the upcoming election of officers in April, and emphasized the importance of the VP/program chair, as programs are the heart of our meetings. As is our tradition, door prizes were given by drawing of tickets given to all attendees.

The next program was Part II of Ken's video. Our members enjoyed the videos and discussed various techniques of clock repair in addition to those presented by Ken. Following the video, the meeting was adjourned. *—Ed Fasanella*

CANADA

121. BRITISH COLUMBIA
LOCATION: Burnaby Central Railway, 120 N Willingdon Ave., Burnaby, BC V5C 6K1
WHEN: First Thursday of each month at 6:30 p.m.
MEMBERSHIP INFORMATION: Derek Denton
EMAIL: ddenton@dccnet.com

Ray Saunders thanks Brian Carlson from BC Model Railway Engineers for his presentation to Chapter 121.

FEBRUARY MEETING: Our new president, Scott Brown, started the meeting off with welcoming the members to our new location and outlining our program for the evening. The topic was railway time, and the guest speaker was Brian Carlson from the BC Society of Model Railway Engineers. Brian gave a great presentation on railway time, and shared his pocket watch collection of many railway watches used on the rails from 1850 to 1950. Brian explained how watches and time schedules were used to run both Canadian and American railways. He showed some interesting CPR pocket watches circa 1908 valued at the time around $150 each, which would have been expensive in that era.

Ray Saunders gave an enlightening demonstration on repairing of pocket watch dials that have been chipped or damaged. Thank you, Ray, we learned from your guidance.

SHOW AND TELL: This featured a history talk by Al Glen on pocket watches used on the CPR in the 1930s. This was a really good outline of how they used the timepieces to operate railroads and meet the schedules required.

David Smith showed a fine railway pocket watch with interesting transparent back to view its mechanical workings.

Our meetings are now on Zoom, which is greatly appreciated by the membership. *—Derek Denton*

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NAWCC

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Connect with other time enthusiasts for education, horological advocacy, and comradery.

May 3: Introduction to Antique Clocks (Columbia, PA)

May 4: American Shelf Clock Tablets with Stenciled Borders (Columbia, PA)

June 12-14: American Clock Time/Strike Movement (National Convention)

Visit nawcc.org/education to register

NAWCC School of Horology · 454 Poplar Street · Columbia, PA 17512 · 717.684.8261
Ken De Lucca, Education Director, kdelucca@nawcc.org

In Memory Of

We recognize here those individuals and Chapters whose gifts to the NAWCC were given in memory of fellow members.

Shirley Crowder given by Don & Karen Barrett
Margaret Devane given by Russ & Geni Youngs
Charles Kroll given by Shenandoah Valley Chapter 32
Howard Moses given by Shenandoah Valley Chapter 32
John Munro given by Charles W. Robertson Jr.

Obituaries

John Basmajian
54784 Altadena, CA

Jimmie Caldwell
120272 Dayton, OH

Shirley Crowder
186737 Orange Park, FL

Thomas Deprez
183448 York, PA

Margaret Devane
166874 Shoal Creek, AL

Larry McCarty
58816 Edmond, OK

Charles McKinney
70355 Carlisle, OH

Howard Moses
152739 Blacksburg, VA

Wallace Napier
25593 Keller, TX

Anthony Poole
19890 Williamstown, KY

Malcolm Prevatte
174989 Denver, NC

Gregory Scinto
186150 Ringwood, NJ

David Stanislaw
134866 Wichita, KS

Theodore Stiller
29712 Milwaukee, WI

Rick Strese
186176 Florence, KY

David Strudler
147774 Jackson, NJ

Donald Warrener
187023 East St Paul, Manitoba, Canada

William Woernley
5933 Homer, NY

In Memoriam articles for the *Watch & Clock Bulletin* are written to mark the passing of an NAWCC member. Submission guidelines are as follows:

- A maximum of 550 words submitted in a Word document. Including birth-death dates is recommended. Text will be edited for grammar, spelling, style, and word count.
- Images are optional, and there is typically a limit of one image. High-resolution images are preferred (a minimum of 300 dpi or 1,000 kb) and must be submitted as a separate .jpg, .tiff, or .pdf file. Do not embed the photo in the Word doc. Images of very low resolution/quality may be rejected.
- The author's name and state must be included.
- Deadlines for In Memoriam articles are the first of the month, 60 days prior to publication (e.g., the deadline for the March issue is January 1).
- Send text and image files to editor@nawcc.org.

Cryptogram

MAY/JUNE 2024

A cryptogram is a word puzzle in which one letter stands for another. If you think X = O, it will equal O throughout this entire puzzle. The solution is trial and error. Puzzle solvers, please email your answer, name, and Chapter affiliation to mart@nawcc.org. All emails will be acknowledged (if you receive no acknowledgment, please resend). Mail your answers to NAWCC, Inc., Attn.: Publications Dept., 514 Poplar St., Columbia, PA 17512-2130. Your name will be listed in the next available puzzle section. **(Clue A = G).**

Q G P E V K F T V E Q G P B M Q K G C M S P D

L T V E Q P H T C M O O P D Q G M H M A D M L H

V E D L K P, Y F Q Q G P L H T W L D M Q L V H

E V D G V D V O V A Z L T Q G P F H L J P D T P.

— D P Y P K K M T Q D F Q G P D T, *G M H R T* V E

Q L C P

The Adventures of Sherclock Holmes – *Awful and the Night Visitors*

"I decided to call you to the station, rather than having me visit you at home," said Inspector Lamainspring, as Sherclock and Dr. Watchson entered the London constabulary branch. "If I can't figure this one out right away, I'm going to have to release the lot of them." "What seems to be the problem?" asked Sherclock as he took a seat in the Inspector's chair. "I've got four suspects in the robbery of the museum yesterday. They are the three spouses of those ruffians we had a couple of months ago, plus one more," said the Inspector, clearly annoyed with the seating arrangements. "We know that each of them visited the museum once yesterday, so the last one who visited must be the culprit. The facts that we have been able to gather so far are that Ms. Awful visited the museum at 8:00 o'clock, Ms. Belligerent visited at 9:00 o'clock, Ms. Callous visited at 10:00 o'clock, and Ms. Deceitful visited at 11:00 o'clock. At least one of the four visited in between the visits of Ms. Awful and Ms. Belligerent. Ms. Awful did not visit the museum before both Ms. Callous and Ms. Deceitful (i.e., Ms. Awful visited after at least one of Callous and Deceitful). And finally, Ms. Callous did not visit the museum between the visits of Ms. Belligerent and Ms. Deceitful. Sherclock, you must help us figure out how to proceed soon, or we won't be able to keep them. Sherclock! Where are you going?" cried the Inspector as Sherclock stood up and motioned for Dr. Watchson to follow him out the door. "Inspector," said Sherclock as he walked out the door, "you don't need to proceed with your questioning at least. You already have the information you need to make your arrest." "Sherclock! Wait!" yelled the Inspector as he raced after what he thought was his last chance.

If you figure out the name of the robber, that is, who visited the museum last, email your answer, name, and Chapter number to SherclockPuzzle@nawcc.org, and you will be mentioned in the next issue. *(Courtesy of Jim Guinn)*

Puzzle Answers

MARCH/APRIL 2024

Cryptogram Answer: Dost thou love life? Then do not squander Time; for that's the Stuff Life is made of.
— Benjamin Franklin, *Poor Richard's Almanack*

The Adventures of Sherclock Holmes — The Dilemma of Prisoners
There may be other ways to solve this problem, but I made three tables, one for each possible heister. In each table, I arranged all the possible height arrangements versus all the possible age arrangements along the sides. Each clue removed some of the possible solutions, leaving Callous as the heister and the oldest of the three, and Awful as the youngest. Awful is the tallest of the three, but it cannot be determined which of Belligerent or Callous is taller than the other. I borrowed the idea for this puzzle from George J. Summers's wonderful book, *The Great Book of Mind Teasers & Mind Puzzlers* (New York: Sterling Publishing Co., Inc., 1986).

Congratulations to the NAWCC members who submitted correct answers. The Chapter with the most solvers is 124. The names are listed below in the order received.

Cryptogram – Mar/Apr 2024

Jim Bryant — Ch 22, 89
Fritz Lotze — Ch 59
Neil Gallensky — Ch 160
Joanne Holly — Ch 31
Tom Chapell — Ch 6
Bob Feiertag — Ch 22, 23
George Augustas — Ch 124
L. Scott Petersen — Ch 1, 133, 134
Michael Dion — Ch 148
Elinor Kline — Ch 23
George & Marietta Matto — Ch 31
Greg Ruda — Ch 6, 194
Dale Kiesewetter — Ch 12, 134, 194
Ken Stein — Ch 35
Mike Graham — Ch 84, 148
Ralph Ferone — Ch 3, 47, 66, 159, 194, 195
Ron Jensen — Ch 34
Paul Manfredo — Ch 37
Ann Prasil-Karam — Ch 28, 195
Robert Bulver — Ch 91
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John Cox — Ch 17
George Emery
Jim Powers — Ch 8, 89, 189, 194
Chuck Edwards — Ch 124
John Acker — Ch 124, 139, 168, 195
Barb Cline — Ch 29
Stuart Gray — Ch 13
Anders Eriksson
Terrence Turgyan — Ch 142
Dick & Dorothy Baker — Ch 13, 55
Art Kruppenbacher — Ch 13
Pat Holloway — Ch 15, 22, 120, 124, 139, 195
Deb Lockwood — Ch 55
Cheryl Comen — Ch 2, 148
John Wilman — Ch 84
Bill Yee — Ch 31
Jim Wynne — Ch 34
George Winkle
Jay Broad — Ch 14
Nancy Burke — Ch 37
Mike Essi
Bart Polachek — Ch 19
Cornelius & Mary Frances Blevins — Ch 29
Randy Grunwell — Ch 24
Jim Hartog — Ch 119
Edward Sass — Ch 124
Roland Pizzini — Ch 139
Bill Scales — Ch 5
Robert Linkenhoker — Ch 136, 178, 180
Harry Firth — Ch 36

Cryptogram – Jan/Feb 2024

Elinor Kline — Ch 23
John Acker — Ch 124, 139, 168, 195
Anders Eriksson
Harry Firth — Ch 36

Sherclock Holmes — The Dilemma of Prisoners

Art Kruppenbacher — Ch 13
Steve Hossner — Ch 31
Chuck Montrose — Ch 84
Mike Katz — Ch 19, 154, 156
Jay Broad — Ch 14
Tim von Reyn — Ch 89

Honorable Mention
Edward Sass — Ch 124

Sherclock Holmes — Sum Difficulties

Ken Stein — Ch 35
L. Scott Petersen — Ch 1, 133, 134
Mike Katz — Ch 19, 154, 156

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610-446-2664

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with serial number 52mn
i.e., 52hundred series
see plads.com/m57/AT52mn.jpg
least 3 are known to exist
AT&Co. #5221 #5236 #5274
which per website, same as
Boston Watch Co. S/N 60mn
see plads.com/m57/BWCo6000/

ALSO EXAMPLES OF
Am Watch Co. Waltham
Silver Cases On 3/4-plate
KW18 (M59), KW16, KW20
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WANTED
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South Bend 0s Model 151
RON GERLT rondgerlt@gmail.com
712-621-0675

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The deadline for receipt of advertisements and payment is 3 p.m. Eastern time on the first of the month prior to the month of publication. The NAWCC reserves the right to edit and place all copy.

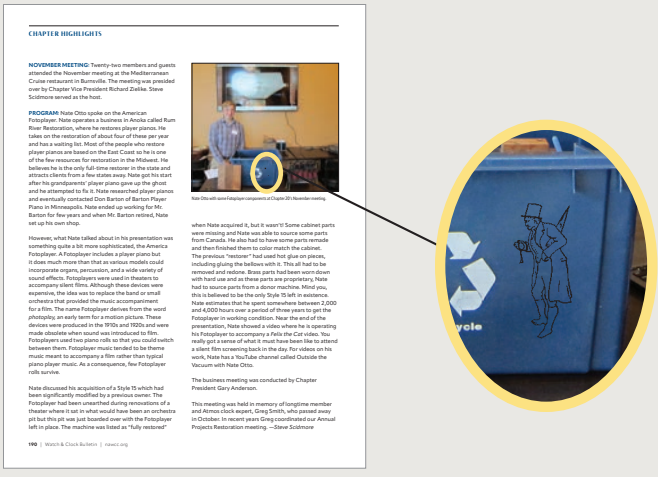
Alerts regarding stolen items are listed at no charge in one issue only.

Tommy Ticker Search

MARCH/APRIL 2024

In the March/April 2024 issue, Mr. Ticker was hiding on the blue bin on page 190. Congratulations to these sharp-eyed readers who found him:

Scott Hill (NH)
David B. Shaffe (VT)
Vance Bryant (NY)
Marlo Davis (PA)
Amanda Mellinger (PA)



CHAPTER HIGHLIGHTS

NOVEMBER MEETING: Twenty-two members and guests attended the November meeting at the Mediterranean Cruise restaurant in Burnsville. The meeting was presided over by Chapter Vice President Richard Zielke. Steve Scidmore served as the host.

PROGRAM: Nate Otto spoke on the American Fotoplayer. Nate operates a business in Anoka called Rum River Restoration, where he restores player pianos. He takes on the restoration of about four of these per year and has a waiting list. Most of the people who restore player pianos are based on the East Coast so he is one of the few resources for restoration in the Midwest. He believes he is the only full-time restorer in the state and attracts clients from a few states away. Nate got his start after his grandparents' player piano gave up the ghost and he attempted to fix it. Nate researched player pianos and eventually contacted Don Barton of Barton Player Piano in Minneapolis. Nate ended up working for Mr. Barton for few years and when Mr. Barton retired, Nate set up his own shop.

However, what Nate talked about in his presentation was something quite a bit more sophisticated, the America Fotoplayer. A Fotoplayer includes a player piano but it does much more than that as various models could incorporate organs, percussion, and a wide variety of sound effects. Fotoplayers were used in theaters to accompany silent films. Although these devices were expensive, the idea was to replace the band or small orchestra that provided the music accompaniment for a film. The name Fotoplayer derives from the word *photoplay*, an early term for a motion picture. These devices were produced in the 1910s and 1920s and were made obsolete when sound was introduced to film. Fotoplayers used two piano rolls so that you could switch between them. Fotoplayer music tended to be theme music meant to accompany a film rather than typical piano player music. As a consequence, few Fotoplayer rolls survive.

Nate discussed his acquisition of a Style 15 which had been significantly modified by a previous owner. The Fotoplayer had been unearthed during renovations of a theater where it sat in what would have been an orchestra pit but this pit was just boarded over with the Fotoplayer left in place. The machine was listed as "fully restored"

Nate Otto with some Fotoplayer components at Chapter 201's November meeting.

when Nate acquired it, but it wasn't! Some cabinet parts were missing and Nate was able to source some parts from Canada. He also had to have some parts remade and then finished them to color match the cabinet. The previous "restorer" had used hot glue on pieces, including gluing the bellows with it. This all had to be removed and redone. Brass parts had been worn down with hard use and as these parts are proprietary, Nate had to source parts from a donor machine. Mind you, this is believed to be the only Style 15 left in existence. Nate estimates that he spent somewhere between 2,000 and 4,000 hours over a period of three years to get the Fotoplayer in working condition. Near the end of the presentation, Nate showed a video where he is operating his Fotoplayer to accompany a *Felix the Cat* video. You really got a sense of what it must have been like to attend a silent film screening back in the day. For videos on his work, Nate has a YouTube channel called Outside the Vacuum with Nate Otto.

The business meeting was conducted by Chapter President Gary Anderson.

This meeting was held in memory of longtime member and Atmos clock expert, Greg Smith, who passed away in October. In recent years Greg coordinated our Annual Projects Restoration meeting. —*Steve Scidmore*

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If you find Mr. Ticker's image as shown here, email editor@nawcc.org with your name and the page number and his location. Entries are due by the 1st of the month before publication. Good luck!

SOUTHERN REGIONAL: *New Orleans*

WE ARE BACK ! - At our original hotel in Metairie, LA
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FRI.SEP.20 & SAT.SEP.21, 2024

See July/Aug 2024 issue of the NAWCC BULLETIN for registration form and full details, or contact chairman Steve Barnes 504-319-8134.

Rocky Mountain Regional

July 27 & 28, 2024
Boulder County Fairgrounds
Longmont, Colorado

COLORADO CHAPTER NO. 21 NAWCC

For detailed information/registration form, see NAWCC21.com/regional
or call Dave Fornof at 720.879.4173 or email at stitchnthyme@msn.com

"Full refunds on tables & admission if canceled." The NAWCC, its officers and members and the Rocky Mountain Regional Colorado Chapter No. 21 are not responsible for any loss injury or tort during

2024 Great Lakes Chapter 6 "All MI Meeting"

We have arranged for a special Chapter meeting inviting all MI and nearby NAWCC members.
Saturday, August 17, 2024, 9 AM – 1 PM, Tailgate 9 – 10 AM. Mark Your Calendars!

Mart: Bring clocks, watches, parts, misc., to sell or trade.

The event will be held at the Lord of Life Lutheran Church, 5051 Pleasant Valley Rd., Brighton, MI. From westbound I-96 take exit 150 and go north to the church; from eastbound I-96 take exit 151, cross the freeway and take westbound I-96 and follow above directions.
$5 admission and $5 tables. Tables are limited, one per person, so please reserve in advance.
In the event of cancellation, we will post on the NAWCC message board and our NAWCC website, or if not a Chapter Member, call before making the trip.

Contact: Ray Fowler, 313-588-5858, ref588@me.com or
Tom Morris, 734-282-1725, thomasm326@gmail.com

LIBRARY & Research Center

Lending Library Form

NAWCC members may borrow by mail up to three books or videos at a time, in any combination. Please use the Library's online catalog (nawcc.org > Research > Search Our Catalog) to make sure the items you want are available for lending. If the number of holdings is more than one, the item should be available to lend. If you have any questions about whether a book or video is available to lend, please contact the Library at research@nawcc.org or 717.684.8261, ext. 230. Books with "Spec" at the beginning of their call number are Special Collections and may not be borrowed. A complete list of the video programs is available at nawcc.org.

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2		
3		

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June 13 - 16, 2024

Chattanooga Convention Center
One Carter Plaza, Chattanooga

Host Hotel: Chattanooga Downtown Marriott, Two Carter St, Chattanooga

Member Registration
2024 National Convention

Print, scan, & email to
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-or-
Mail with payment to:
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514 Poplar Street, Columbia, PA 17512-2130

Questions? Email convention@nawcc.org

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Registration

Registration	**@ $80.00 per person**	
Optional Events		
Friday Early-Bird Mart Entrance	@ $50.00 per person	
Saturday Night Banquet	@ $55.00 per person	
Old Timers & Fellows Luncheon	@ $38.00 per person	

Special Access Needs or Dietary Restrictions?

Registrations using this form accepted up to May 27, 2024

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National Association of Watch & Clock Collectors • National Watch & Clock Museum • Library & Research Center
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– 2024 –
Convention Workshops

June 12–14:
NAWCC AMERICAN-STYLE CLOCK TIME/STRIKE MOVEMENT WORKSHOP

This introductory course is aimed at analyzing the American-style, time-and-strike clock movement, which is often the "bread and butter" of many clock repair centers.

Day 1: The focus will be on the power source (open mainspring) and safety considerations. Participants will then explore the motion works and related components to the dial hands. After this, there will be an examination of the escapement (recoil).
Day 2: The focus will be on the strike train and its related components. There will be a discussion of "Lock." "Warning" or "Run-To-Warning," "Run," and back to "Lock" sequence. All necessary lever action will be considered and explained.
Day 3: Participants will be requested to disassemble and reassemble the movement at least five times to uncover the trials and pitfalls of this process. Upon completion of reassembly, each movement will be checked for proper operation.

Register at nawcc.org > Events

June 14:
AWCI BUILD A WATCH WORKSHOP

ARCHIE PERKINS MOBILE CLASSROOM

Join AWCI's Watchmaking professionals at the NAWCC National Convention in Chattanooga, Tennessee, on Friday, June 14, 2024, for a day of watchmaking. Our Build a Watch 2.0 includes a newly designed in-house watch case in stainless steel or PVD, your choice of 6 dials, and 6 different styles of hands and is taught in our state-of-the-art mobile classroom.

This is your opportunity to assemble a Swiss-made ETA 6497 movement, lubricate the moving parts, install a dial and hands, and case up **your very own watch before wearing it home.**

Register at https://awci.memberclicks.net/bawnawcc

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~~MARCH/APRIL~~	~~FEBRUARY 1, 2024~~	SEPTEMBER/OCTOBER	AUGUST 1, 2024
~~MAY/JUNE~~	~~APRIL 1, 2024~~	NOVEMBER/DECEMBER	OCTOBER 1, 2024

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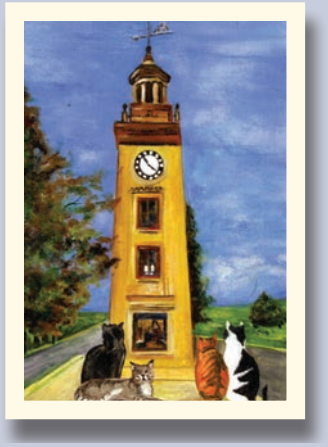

National Watch & Clock MUSEUM

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giftshop@nawcc.org • museum.nawcc.org/shop

Dates to Remember

Access information about Regionals, the Convention, and the Symposium from **nawcc.org » Events.** All Regional meetings must be scheduled through Convention Committee Coordinator John Koepke, PO Box 21263, El Sobrante, CA 94820 • 510.236.2197 • jskoepke@comcast.net.This listing includes events that have been confirmed as of February 21, 2024.

2024 NAWCC NATIONAL CONVENTION
June 13–16, 2024 • Chattanooga, TN
Co-Chairs: Chris Martin and Glen Kitts

2024 NAWCC WARD FRANCILLON TIME SYMPOSIUM
October 21–24, 2024 • Sturbridge, MA
Co-Chairs: Cathy Gorton and Howard Cohen

MAY 2024

MAY 17-19—PACIFIC NORTHWEST*
Host: Mt. Rainier Ch. 135
Cohosts: Pacific-Northwest Ch. 31, Inland Empire Ch. 53, British Columbia Ch. 121
Location: Monarch Hotel and Conference Center, Clackamas, OR
National Representative: Sherry Kitts

JULY 2024

JULY 26–28—ROCKY MOUNTAIN*
Host: Colorado Ch. 21
Cohosts: Colorado Centennial Ch. 100, Colorado West Timekeepers Ch. 138, Boulder Horological Society Ch. 160
Location: Boulder County Fairgrounds "Barn A," Longmont, CO

AUGUST 2024

AUGUST 2-3—EASTERN STATES*
Host: Central New York Ch. 55
Cohosts: Toronto Ch. 33, Western New York Ch. 13
Location: Utica University Nexus Center, Utica, NY
National Representative: Philip Morris

AUGUST 23-25—ALL TEXAS CHAPTERS*
Host: San Jacinto Ch. 139
Cohosts: Southwestern Ch. 15, Five State Collectors Ch. 80, Lone Star Ch. 124
Location: Houston Marriott Westchase, Houston, TX

SEPTEMBER 2024

SEPTEMBER 14—MID-AMERICA*
Host: George E. Lee-Michiana Ch. 26
Cohost: Western Michigan Ch. 101
Location: Northern Indiana Event Center and Tru by Hilton, Elkhart, IN

SEPTEMBER 20–21—SOUTHERN*
Host: Creole Ch. 43
Cohost: Magnolia Ch. 41
Location: Copeland Tower and Comfort Inn & Suites, Metairie, LA

OCTOBER 2024

OCTOBER 11–12—NORTH COAST*
Host: Lake Erie Ch. 28
Cohost: Ohio Valley Ch. 10
Location: Best Western Plus, Strongsville, OH

NOVEMBER 2024

NOVEMBER 1–2—MID-EASTERN*
Host: Philadelphia Ch. 1
Cohosts: Keystone Ch. 158, Susquehanna Ch. 193
Location: York Expo Center and Wyndham Garden, York, PA

NOVEMBER 15–16—MKOA*
Host: Sooner Time Collectors Ch. 74
Location: Will Rogers Gardens, Oklahoma City, OK

JANUARY 2025

JANUARY 17–18—KENTUCKY THOROUGHBRED
Host: Kentucky Thoroughbreds Ch. 140
Cohost: Kentucky Bluegrass Ch. 35
Location: Clarion Hotel and Conference Center, Lexington, KY

JANUARY 23–25—SOUTHWEST CALIFORNIA*
Host: San Diego County Ch. 59
Cohost: Vista Ch. 136
Location: La Mesa Community Center, La Mesa, CA

**Public day offered*

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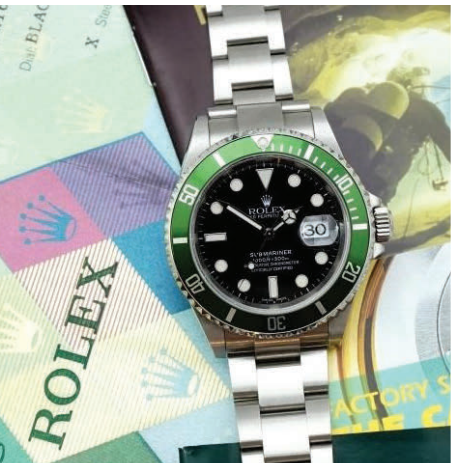






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