

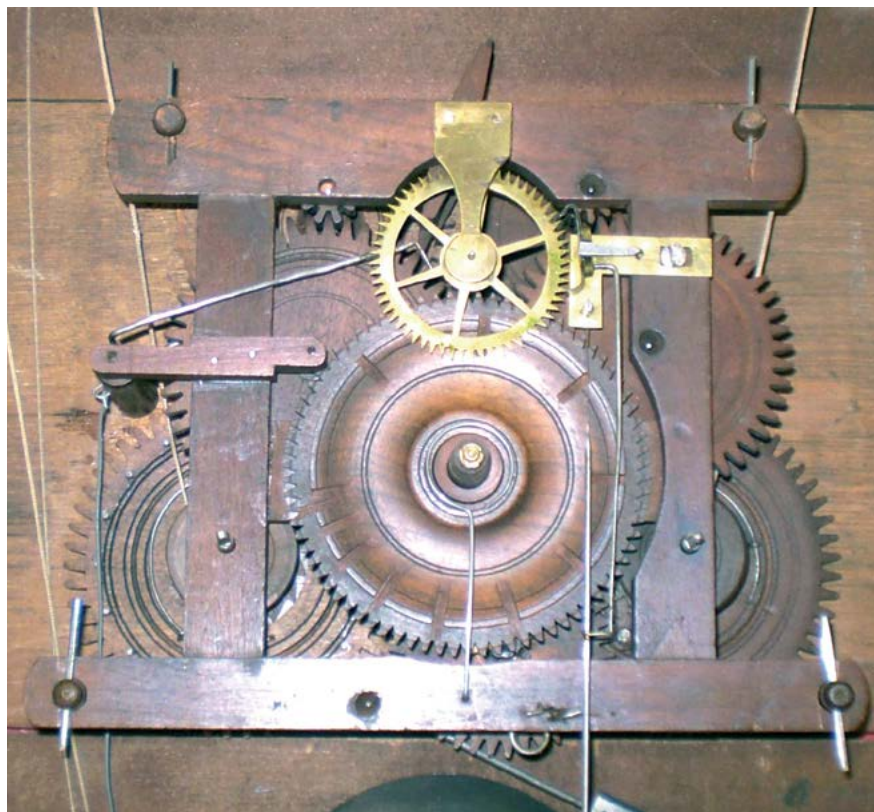
# Overview of Connecticut Wooden Shelf Clock Movements: *Terry, Groaner, and Torrington*

by Andrew H. Dervan, FNAWCC (MI)

**B**y the mid-1820s, various shelf clocks with 30-hour wood movements were being mass-produced in Connecticut and sold around the United States. Three 30-hour wooden movement types were developed, manufactured, and identified as Terry, Groaner, and Torrington, and within each type there were several variants. Each movement typically used quartersawn oak plates, cherry wheels, and mountain laurel pinions; they had minimal metal content with only a brass escape wheel and bridge and steel wires. This article provides a brief background on wood movement shelf clock development and acquaints readers with the general configuration of these three movement types.

The story begins with Eli Terry who was trained by Daniel Burnap to manufacture 8-day brass tall clock movements. However, Terry decided to make more eco-

nomical wood tall clock movements. By 1805 he was manufacturing these wooden tall clock movements in batches and trying to sell them, but it was difficult doing both efficiently. In 1807 Levi and Edward Porter approached him to manufacture 4,000 tall clocks that they would market. He accepted their contractual offer. The Porters provided him upfront funding that allowed him to purchase a building, set up the factory, hire workers, and develop the manufacturing process. By 1810 he completed manufacturing the 4,000 tall clock movements and delivered them to the Porters. This act surprised Connecticut clockmakers and demonstrated that wooden tall clock movements with interchangeable parts could be mass-produced. Eventually, Terry sold his factory to fellow clockmakers Seth Thomas and Silas Hoadley, who continued manufacturing the same 30-hour wooden tall clock movement.<sup>1</sup>



**Figure 1.** Eli Terry's wooden strap wooden movement with count wheel.



**Figure 2.** Eli Terry's 5-arbor wooden movement with count wheel.

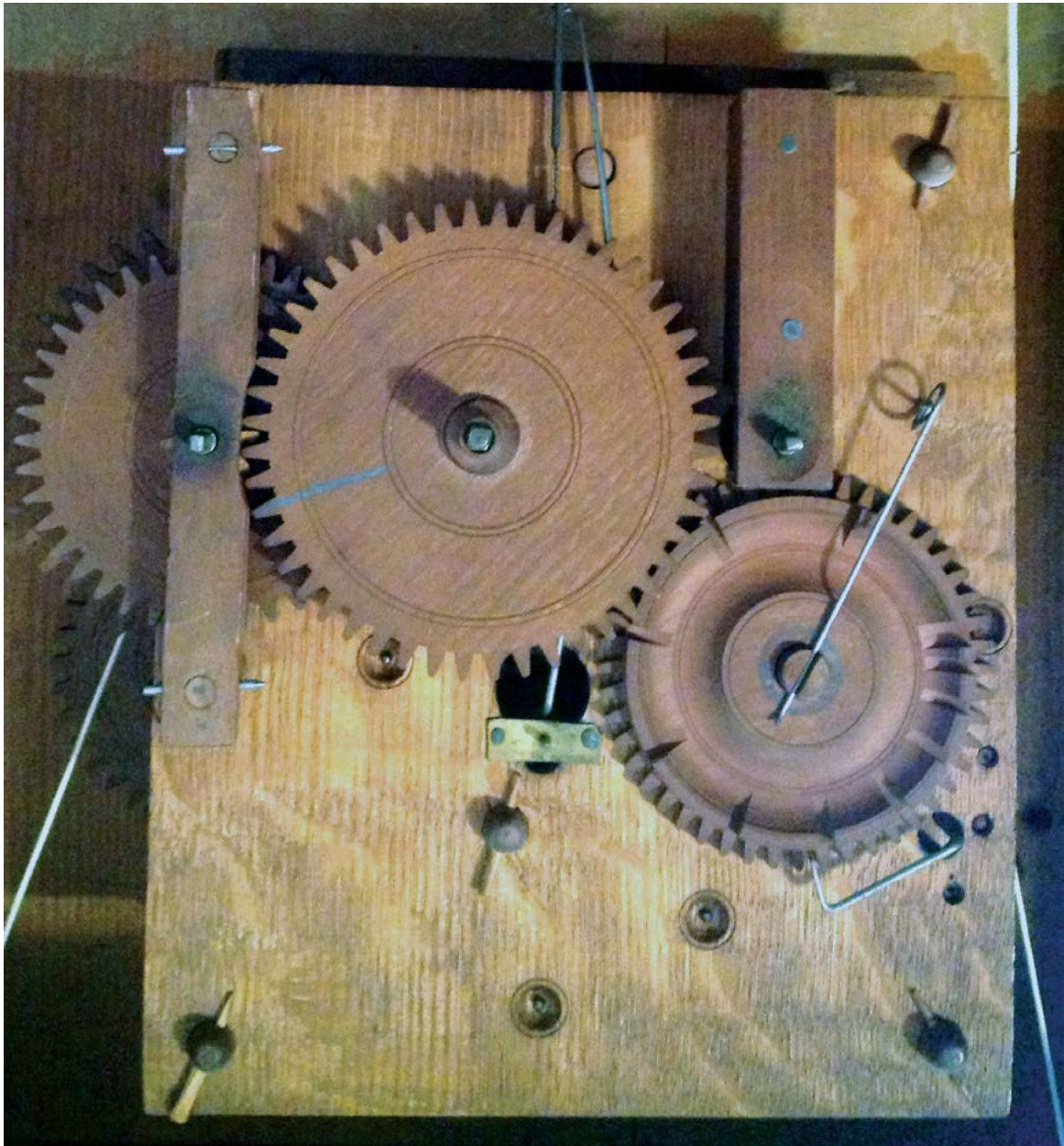
## Terry Movement

For his next project Terry began working on the development of a smaller wooden movement<sup>2</sup> that would fit in a shelf clock, so he could market a complete clock at an affordable price. Eight-day brass movement tall clocks in mahogany or cherry cases sold for between \$50 and \$65. Thirty-hour wooden movement tall clocks sold for between \$25 and \$35, depending on whether they were in grain-painted pine or hardwood cases. Terry wanted to produce and sell a complete shelf clock for \$15. He believed he could mass-produce these movements by using a similar technology and process that he had developed for manufacturing tall clock movements. By 1816 Terry had developed an initial 30-hour

wooden movement (Figure 1), cased it in a simple box case, and submitted his first clock movement patent.<sup>3</sup>

Terry continued to refine his 30-hour wooden movement, and by the early 1820s he finalized what collectors refer to as the Terry 5-arbor movement (Figure 2). The movement dimensions are 8" high, 6-1/2" wide, and 1-3/4" between plates. The plates are held together by five turned wood pillars pinned by wood pegs. These movements are driven by 3-1/2 lb. round weights. Installing a pulley for the weights in the case's top helped increase the clock's run time. Winding holes for all the movement variations typically are found just above 5 and 7 on the dial.

Terry's 5-arbor movement eventually became the



**Figure 3.** Groaner movement. COURTESY OF PAT HAGANS.

standard movement in production for more than 20 years, with many minor variants from various movement makers.<sup>4</sup> In the early 1800s the economy ran on a barter system, because very little cash and very few banks existed. As a result, these movements became a “Connecticut clock currency” with clockmakers often paying casemakers with a small cash payment and the remaining amount with movements.

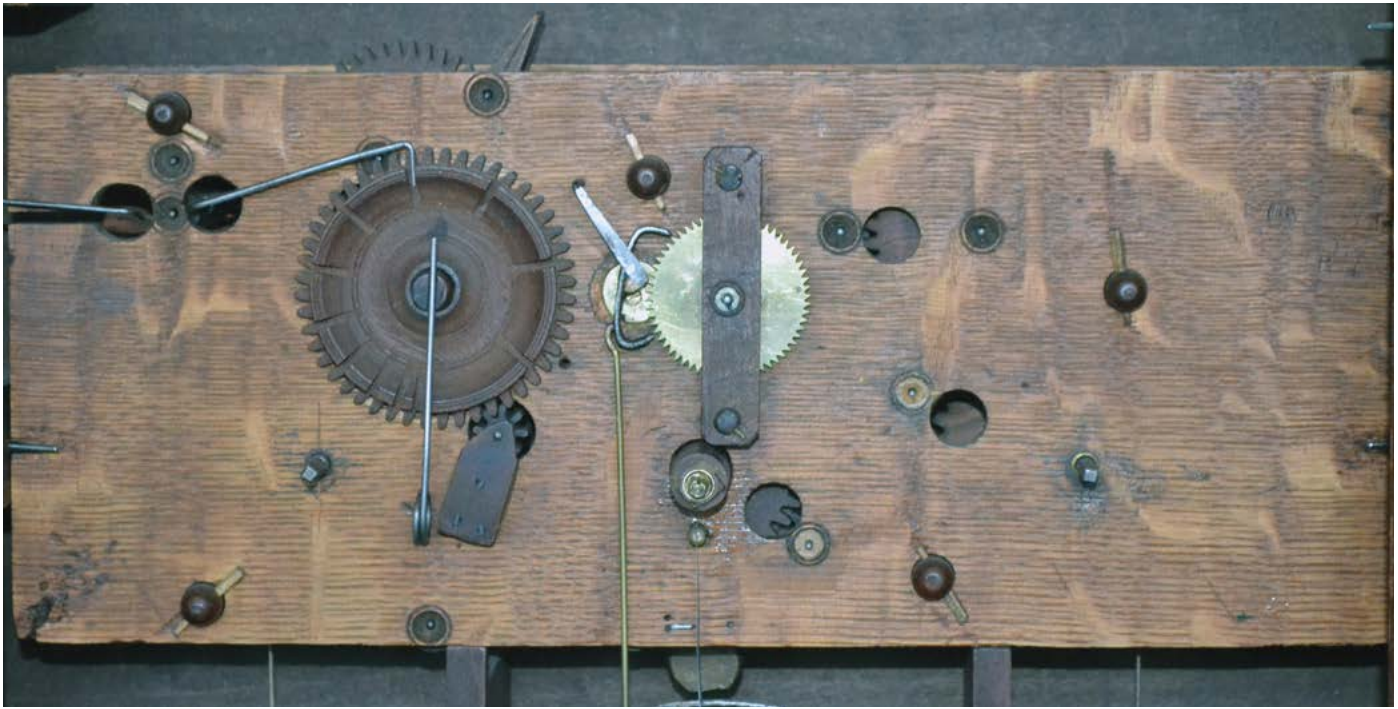
From 1816 to 1826 Terry submitted to the US Patent Office many clock movement patent applications. These submissions included his initial patent application and follow-up applications with improvements and corrections to his initial movement designs.

Terry’s patents and the patent infringement lawsuit

Terry filed against former partner Thomas in 1826 convinced many clockmakers to either acquire rights from Terry to manufacture his movement legitimately or develop alternate movements that did not infringe on his patents. A few makers created unique movement variations with enough changes that they did not infringe on Terry’s patents. One well-known example was former partner Hoadley’s upside-down movement; others were from Noble Jerome and Mark Leavenworth. There were also several alarm variants from Terry and other makers.<sup>5</sup>

### **Groaner and Torrington Movements**

In the early 1800s two alternate movements became



**Figure 4.** Five-arbor Torrington movement (Type 6).

popular and competed with Terry's movement. One is known as a Groaner<sup>6</sup> (Figure 3) because of the load sound it makes during striking, which resulted from the large wheels in the strike train turning and the loud bell on the outside top of the case. It is attributed to Chauncey Boardman, a prominent clockmaker in Bristol, CT, and resembles a small 30-hour tall clock movement that sits on a seat board. The second is the Torrington, named after the municipality where it originated in Connecticut. Created by clockmaker Norris North, the Torrington is also known as the East West movement, because it has rectangular plates with a longer axis in the horizontal direction.

Chauncey Jerome encouraged Boardman to develop the Groaner movement to use in his bronze-looking glass clock, and Jerome used it for about five or six years in his various clock-making partnerships. The Groaner underwent the following variants: Luman Watson placed the escape wheel outside the plates, and Noble Jerome developed a thin movement used for only a short time. The Groaner movement wound at 3 and 9 on the dial. A few Groaner alarm variants have been dated to approximately 1835.<sup>7</sup> A standard Groaner movement's dimensions are 8-1/4" high, 7" wide, and 1-7/8" between plates. The movement is driven by 4-1/2 lb. and 5-1/2 lb. square weights. Groaner movement cases were typically used in longer than standard shelf clock cases.

The Torrington movement was developed by North circa 1818. His first movement was a 4-arbor version, and the weights were pulled up like 30-hour tall clock

movements. It was produced until circa 1824 and was succeeded by an improved 5-arbor Torrington movement that wound like the Terry movement. The 5-arbor movement was easier to manufacture and more reliable than the 4-arbor movement; it was produced until the early 1830s and was used by other makers in Torrington (Figure 4). The 5-arbor Torrington movement wound at 3 and 9 on the dial but at a wider spacing than on the Groaner movement because of its rectangular plates. The weights were not compounded and hung directly off the 5-arbor Torrington movement. Its dimensions are 4-15/16" high, 9-1/2" wide, and 1-15/16" between plates. The plates are held together by five turned wood pillars pinned by wood pegs. Four-arbor and 5-arbor Torrington movement variations have been well documented.<sup>8</sup>

By the late 1820s the pillar and scroll case style was replaced with various stenciled or carved half-column and splat case styles. By the early 1830s the Terry-type movement and its variants were almost exclusively produced because the Groaner and Torrington movement production had dropped off significantly.

The Panic of 1837, the worst economic downturn the US had experienced since it was founded, brought clock production almost to a standstill. When production resumed, Noble Jerome's patented 30-hour stamped brass movement became the new standard, and other makers copied it or developed variations to avoid infringing on his patent. The 30-hour wooden movement production continued on a limited basis by a few makers up to about 1845.

## Conclusion

Production of the 30-hour wooden shelf clock movement began about 1816 and continued to about 1845. Enormous quantities were produced for affordably priced shelf clocks. As movement production increased, their prices dropped, and simpler case styles evolved, resulting in reduced clock prices and more affordable wooden movement clocks. Chapter 194, known as the Cog Counters, is devoted to wooden movement clocks. If anyone has an interest in wooden movement clocks, please consider joining the Chapter by visiting [www.cogcounters.org](http://www.cogcounters.org).

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## Acknowledgments

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## References and Notes

1. Kenneth D. Roberts and Snowden Taylor, *Eli Terry and the Connecticut Shelf Clock*, 2nd ed. rev. (Fitzwilliam, NH: Ken Roberts Publishing Co., 1994), 5-59.
2. No copies of patents prior to 1836 exist because of the US Patent Office fire. The general belief was that Eli Terry's early patent was poorly written with weak claims and errors, so he filed a series of patents later.
3. Seth Thomas became interested in the idea of selling a complete shelf clock with a wooden movement. The new ornate pillar and scroll case quickly replaced the plain box clock. Thomas purchased the rights to the clock and began producing off-center pillar and scroll case clocks.
4. Snowden Taylor had carefully studied these variations, and he created a chart for researchers to identify the movement shop that produced a movement based on defined characteristics. Snowden Taylor, "Characteristics of Standard Terry-Type 30 Hour Wooden Movements As A Guide to Identification of Movement Makers," *NAWCC Bulletin*, No. 208 (October 1980), Part 1.
5. A. Bruce Burns, "8-Day Wooden Movement Shelf Clocks," *NAWCC Bulletin*, No. 144 (February 1970): 129-154. Ward Francillon, "Wood Movement Alarms," *NAWCC Bulletin*, No. 148 (October 1970): 575-612. A. Bruce Burns, "Terry Standard Thirty-Hour Wood Movement Clocks," *NAWCC Bulletin*, No. 149 (December 1970): 734-762. Chris H. Bailey, "From Rags to Riches to Rags: The Story of Chauncey Jerome," *NAWCC Bulletin Supplement No. 15* (Spring 1986), 24-44. Snowden Taylor, *Clocks of Mark Leavenworth* (Fitzwilliam, NH: Ken Roberts Publishing Co., 1987), 17-60.

6. "Clock," Google Patents, accessed March 3, 2016, <https://patents.google.com/patent/US4914A>.

7. William L. Wadleigh Jr., Answer Box, *NAWCC Bulletin*, No. 188 (June 1977), 307. Bailey, "From Rags to Riches to Rags," 8-23. Tom Spittler, Research Activities, "T.W. T.W & Co, and Luman Watson, Cincinnati, Ohio," edited by Snowden Taylor, *NAWCC Bulletin*, No. 310 (October 1997), 604-606. Ward Francillon, "Move Wood Movements Alarms: The Groaners," *NAWCC Bulletin*, No. 167 (December 1973), 28.

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## About the Author

Andy Dervan joined the NAWCC in 1997 and found clock collecting fascinating. He has found researching the histories of various makers and companies as challenging and exciting as collecting. His principal collecting interest is weight-driven clocks from the late nineteenth and early twentieth centuries. He recently retired from DuPont Performance Coatings and spends some of his free time writing articles for the *Watch & Clock Bulletin* and volunteering at Henry Ford Museum and a local animal shelter.