Chapter 00311

1830 Inventor of the Torsion 12-month Clock

AARON DODD CRANE 1804-1860

and wife

SARAH A. CAMPBELL

Caldwell NJ
and Roxbury MA

Betsey Pearce branch #1.

Aaron enters the Pearce tree via the Job Crane and Betsey Pearce 1786 marriage. No blood relation.

Not to be confused with three other Aaron Crane's.

Aaron is the same generation #3 as our

Joseph Pierce and Nancy Jacobus.

8/24/2024

Aaron Dodd Crane (1804-1860) of Caldwell, New Jersey, was a clockmaker of brilliant inventiveness who worked outside the mainstream.

Most of his contemporaries concentrated their energies on the mass production of technically unremarkable clocks. Crane was a versatile inventor whose best-known work, the torsion pendulum clock (patented in 1841), was startlingly original. This clock employed a torsion pendulum, slowly revolving about the vertical axis in alternating directions, and incorporated a new escapement of Crane's own design. It worked with such freedom of friction that it was capable of running for extremely long periods.

Crane advertised his clocks as "month clocks," "twelve-month clocks," and "376-day clocks." He liked to refer to himself as the "One Year Clockmaker." (Source unknown)

Aaron Dodd CRANE was the son of Bethuel N. CRANE and Abigail 'Abby' HARRISON. All well respected 1700-1800s family names from Caldwell and West Orange NJ.

Six generations back from Aaron was **Jasper Crane** 1602-1680. Jasper was born at Bradley, England and migrated to NJ. A 6/11/1937 Caldwell Progress newspaper article refers to the ancestral home of the Crane family as Suffolk County, England, a short distance from the Chilton Church near Sudbury.

Later, Jasper was sent by English King in 1665 with Captain Robert **Treat**, John Curtis and John Treat **from** Branford, Milford and Guilford, Connecticut. Robert Treat and Jasper Crane are credited as Newark NJ founders.

They reviewed the NJ lands and were sent back with power to select a site for a town and make a purchase with the Indians. The Indians called it Passaic but the new inhabitants prefered Newark after an English town from where their Pastor Pierson had come. Nearly the entire town of Trumbull, CT came to live at Newark, NJ on 6/24/1667.

In 1672, Jasper's third child Azariah Crane #1 age 23 married Mary Treat, daughter of founder Robert Treat.

I think Azariah Crane's son of the same name later became a doctor neighbor of Henry Pearce #1 in Fairfield NJ. Need to verify more. This Azariah #2 had a 1711 child Job Crane who married our Elizabeth 'Betsey' Pearce in 1786. This shows the Crane-Treat connection to the Fairfield NJ Pearce's.

Relationship: Jasper CRANE to Aaron Dodd CRANE

Aaron Dodd CRANE is the 4th great grandson of Jasper CRANE

Self

Jasper CRANE
b: Jul/18/1602
Bradley, England
d: Oct/19/1680
Newark, NJ

Alice LEAVE
b: 1608
d: Aug/26/1675
Newark, NJ

Son

Azariah CRANE
b: 1649
New Haven, CT
d: Nov/05/1730

Grandson

Nathaniel CRANE
b: 1680
d: 1760
Montclair (West Bloomfield) NJ

Great grandson

William CRANE
b: 1716
d: Aug/1784

2nd great grandson

Jonas CRANE
b: Jul/30/1750
NJ
d: Oct/17/1806
Caldwell, NJ

3rd great grandson

Bethuel N. CRANE
b: 1780
d: Aug/26/1854

4th great grandson

Aaron Dodd CRANE
b: May/08/1804
Caldwell, NJ
d: Mar/10/1860
Roxbury, MA

1840

About 1840, Aaron Dodd Crane thought it was time to fix the world's clock.

Oh, sure, the run-of-the-mill swinging pendulums kept perfectly fine time, but they required constant winding or pulling. How tedious.

So Crane developed what some clock history books call a revolutionary timekeeping advance — the rotary or torsion pendulum. By using a rotating pendulum ball suspended on a thin wire, the Caldwell, N.J., clockmaker was able to keep clocks running for a year between windings. Of course, he also developed a 30-day and an eight-day model for people who enjoyed the winding.

After receiving a patent for his brainstorm on Feb. 10, 1841, Crane started the appropriately named Year Clock Co. Unfortunately ...

"They really weren't very popular," said Don Summar, librarian for the National Association of Watch and Clock Collectors in Columbia, Pa. "They were rather expensive to make."

As a result, the idea didn't get ticking again until the Germans picked up the concept in the late 19th century. From the 1880s to World War I, 17 German companies cranked out their version of the 400-day clocks. Still, they never caught on in the United States and their popularity died out in Europe between the wars.

Then, as the troops returned from World War II, the clocks suddenly caught fire again. Germany and Japan began mass production and they became one of the most popular gift items ever produced. And, somewhere along the line, they were nicknamed anniversary clocks, perhaps because they only had to be wound on the yearly anniversary of their purchase.

About 15 years ago, time ran out for the mechanical marvels, Summar said. Since then, only quartz versions of the clock have been produced.

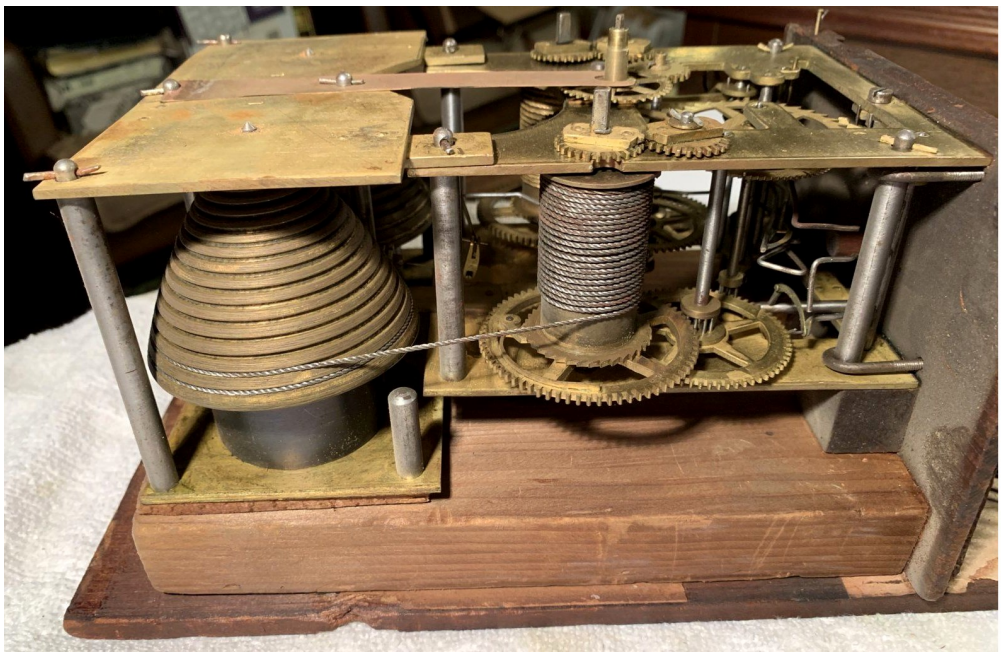
Article by Roger Schlueter, Belleville News Democrat, Illinois, 7/17/1988

2019 Review: People still talk about the 1830 Dodd clock.

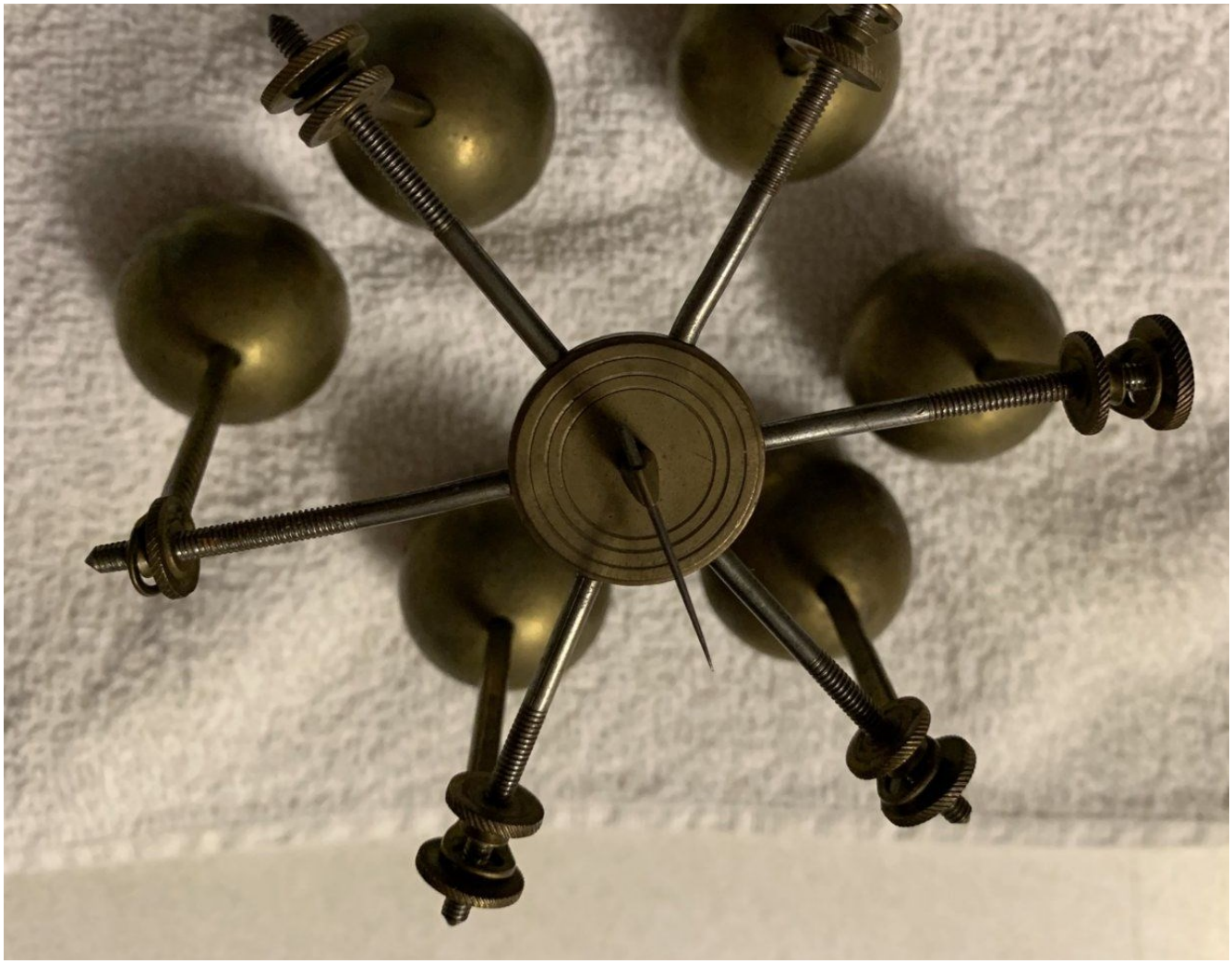
“It's an extremely rare circa 1848-1850 Boston Clock Co. **Aaron Dodd Crane** Patent Twelve Month Torsion Clock. When I found it it was missing its 6 ball pendulum. I showed the owner a photo of the proper pendulum, left my card and asked her to contact me if she found it.

A day later she let me know that she had found it and asked me to pick it up! The lady, who is in her mid 70's said that the clock had been inherited from her grandparents, who had lived in Boston.

For those of you that don't know, **Crane** was an American inventor and clockmaker who invented and patented the first torsion clock in **1830**. He also invented the first year runner, a clock that ran for a full year on one winding. This was decades before European clockmakers reinvented the torsion clock, what we now know as Anniversary Clocks and later Atmos Clocks.” (Warren Brook, 2/24/2019)



Clock parts



2/24/2019 from Glenber: “What a fantastic piece of history! Congratulations.“

2/24/2019 from Brian Fisher: “Torsion clocks have a long period (fewer escape clicks over the same period of time) and don't require much energy because they don't have to fight gravity. When you hold the torsion pendulum at full rotation, very little force is required compared to holding a traditional swinging pendulum at its apex.”

2023 Auction

Aaron Dodd Crane Carousel Year-going Astronomical Timepiece

Boston Clock Company, circa 1850. Gilt frame on a marble base. Original painted metal dial, skeletonized fusee movement, signed Boston Clock Co., 375 Days and with 1841 to 1855 patent dates. Sun disk and moor ball with shutter, with glass dome on ebonized base.

Literature Note: Frederick Shelly. "**Aaron Dodd Crane** - An American Original". Ht. 20 x W 11 in.

Auction Date: Sep 30, 2023.
Estimate: $30,000-$50,000