

American Backcountry Tall Clock



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UNEXPECTED RESEARCH TWIST

Sundial maker

Goldsmith Chandlee,
Winchester VA

His Genius  His Customers

When the clock asked, “How do you set the correct time?” it was unexpected that the question would lead to an inventive Backcountry **genius with exceptional skills, knowledge, and ingenuity?**

His name is:

Goldsmith Chandlee
(in French Script)

The following collection of photographs with narratives explores but one area of his expertise which is evidenced in his sundials. He deserves the title, **polymath.**



G:Chandlee *Brass Sundials*



Introduction: Goldsmith Chandlee could provide another way to set time by the sun. It was not a new way, but making the instrument required a skilled and knowledgeable craftsman.

Goldsmith Chandlee's precise **brass sundials** are engraved on **9 3/8 inch square** plates. They have **custom made** angles for their gnomons and numeral positions based on the Latitude of owners homes. These were relatively expensive. They have **5 minute** marks providing more accurate readings than his smaller generic angled cast pewter models with **15 minute** marks. **Initials of owners** were engraved along with their **Latitude** listed in degrees and minutes.

Time **Numeral styles** – Imported clock dials used by Chandlee in his tall clocks began to **change from Roman to Arabic** about 1800 and this helps to date sundials. The TBM dial with Roman numerals probably predates ca. 1800 – another confirming clue is that Thomas Bryan Martin, (TBM). died in 1798.

The W in Winchester changes from **W** to **W**:

The date of this switchover is not known, all that can be said now is sometime after ca. 1800, it changed. His Arabic JG dial has the changed W which begins to show up in his engraved surveyor compasses as well.

Note: Each sundial's engraving pattern is unique.

Goldsmith CHANDLEE, WINCHESTER VA



Map of part of Virginia showing known customers' home places for which he crafted **custom made brass sundials** based on their Latitude.

Goldsmith Chandlee's shop was in Winchester at the top green star.

JG and RW initials are at locations of the sundials latitude indication. The unidentified owners and homes could be along the East West line from the placement of the initials:

RW – identity unknown – Lat. 39 degrees, 5 minutes (Lat. East West Line about 6 miles S of GC shop);

TBM – Greenway Court -- Near White Post -- Lat. 39 degrees;

JH – John Hite House – Near Stephens City -- Lat. 39 degrees;

LL – Woodlawn Plantation – Near Mount Vernon -- 38 degrees, 40 minutes;

JG -- ? – Lat. 38 degrees, 20 minutes (Perhaps, near Mount Crawford VA);

JM – John Marshall House, in Richmond – Lat. 37 degrees, 20 minutes;

*His **readymade pewter sundials** all had the same latitude angle based on Chandlee's shop/home location at Lat. 39 degrees, 11 minutes.*

G:Chandlee Sundial's Size



**5 1/8
Inches
Square
Cast
Pewter**



**9 3/8 Inches Square
Engraved Brass**

Are you surprised the pewter dial is about the size of an adults small hand? Until I learned their dimensions, I had assumed the photographs I saw of Chandlee's sundials were of the larger size.

Logic suggests that, Goldsmith Chandlee, by producing both small pewter and larger brass engraved sundials, was meeting the needs of the price sensitive marketplace.

G:Chandlee *Pewter* Sundial & Mold



What can be learned from this pewter collection?

Chandlee's **pewter dials** are smaller -- **5 1/8 inches square**. All his cast dials are made for the **same latitude** equal to Chandlee's home/shop in Winchester. They are smaller, **less costly** and less accurate with **15 minute marks**.

Imported clock dials used by Chandlee in his tall clocks began to change to from **Roman** to Arabic numerals about 1800 and this helps to conclude that the **mold was made prior to ca. 1800**. This brass mold was used to make all his known **pewter "generic" dials**.

The mold's **W** is consistent with his early use of this font style.

Detailed information and illustrations of Chandlee Sundials follow. Added facts and illustrations appear in the Addendums.

Goldsmith
Chandlee

Working
Winchester
1784-
d. 1821



This pewter dial was made by Goldsmith Chandlee (1751–1821) who came to the Shenandoah Valley in 1775. First he settled near Stephensburg (now Stephens City) and about 1783 moved 9 miles north to Winchester VA where he built two shops and a foundry. He is best known for making clocks, and scientific instruments. Yes – Goldsmith is his name, not his trade. (3 of his early clocks with Brass clock dials and no sundials say Stephensburg. His “Winchester” clocks have imported painted dials.

Chandlee was one of six clockmakers in a Quaker family. His father Benjamin trained him in Maryland before he moved to Virginia. This highly skilled versatile craftsman could make: Clock works; surveyor’s tools; money, pharmacy and steelyard scales; simple and specialized surveying compasses; medical tools; a 6 ft. long astronomical telescope; as well as doing lapidary, engraving, etc. In his foundry he cast pewter, silver, bronze and brass. His father also made clocks, mathematical instruments such as compasses and one known theodolite.

Today, reportedly 22+ of G. Chandlee’s sundials are known to survive. Several are in museums. This pewter sun dial is in The Museum of the Shenandoah Valley (MSV) Winchester VA. Cast into his pewter dials is “Chandlee Winchester.” Note: His **pewter dials do not have Latitude notations**. Those identified as being in museums are mostly **cast pewter** with fewer known **engraved brass**. All known brass dials are described herein.

One **brass dial is engraved Lat. 38 Degrees, 20 Minutes; customer undetermined**.

The other known brass sundials have engraved latitudes corresponding to their owner’s homes. Their gnomons have angles equal to their latitude pointing up to the North Star for exacting shadow accuracy.

See star rotation video demonstrating N Star as center of earth's rotation. 0:59 sec.
<https://www.youtube.com/watch?v=IV8PVzPZcBk>

Chandlee, Winchester VA, Pewter Cast Dial Note X II gap for Noon shadow; 15 min. marks



The XII numeral has the X and II separated by a **small gap** the width of the gnomon.. This is to allow for the shadow of the thickness of the gnomon. Coming up to XII you read the time by the **left edge** of the gnomon's shadow; **at X II you read noon when the shadow and gap are perfectly aligned**, after XII you read from the **right edge**. It was normal for good sundials to have this space, otherwise there is a time around noon when the time cannot be read at all because the scale is in total shadow caused by the gnomon. Thomas Tompion, England's most famous clockmaker, did the same with his sundials. Source Brian & Joy Loomes writing about an English sundial made 1663-1664. See *article*:

<http://www.brianloomes.com/collecting/bedfordsundial/>

Goldsmith Chandlee's gap at 12 shows the work of a fine and knowledgeable craftsman, **one of the best American producers of clock works and of fine brass scientific instruments in his time**. Note the **15 minute markings**. This sundial is in the collection of the MSV.

Using less costly pewter for casting dials may have been the decision of a businessman meeting the needs of marketing. Perhaps other clockmakers sold his sundials with their clocks. Confirming his marketing is an Oct. 14 1807 Baltimore advertisement by Patton and Jones, clock and watchmakers, saying they had "surveyors" compasses and chains, complete, made by Goldsmith Chandlee, Winchester VA, warranted equal in quality to any offered in Baltimore, at manufacture's prices.

See basic information on **sundials** – **video** 2:32 <http://www.youtube.com/watch?v=tI0GqYJha1Q>

Search term: sundial Canada science YouTube

Chandlee's Brass Mold for Casting Pewter Sundials



This is the **brass mold** Chandlee made to cast his pewter sundials in his foundry at the NW corner of Piccadilly and Cameron Streets, Winchester VA, ca. 1784-1821.

Chandlee's Brass mold for casting pewter sundials



39.19 degrees is Latitude at Chandlee's home/shop

The dials were cast as one piece. The gnomon's 39.2 degree angle corresponds to the latitude of Chandlee's home/shop in Winchester VA. The gnomon angles of the mold and three of his pewter dials measured the same 39.2 degree angles, suggesting he did not alter the angle of the pewter cast sundials to correspond the purchasers' home latitudes.

His larger engraved brass sundials were made to the individual latitude of his customers' residences.

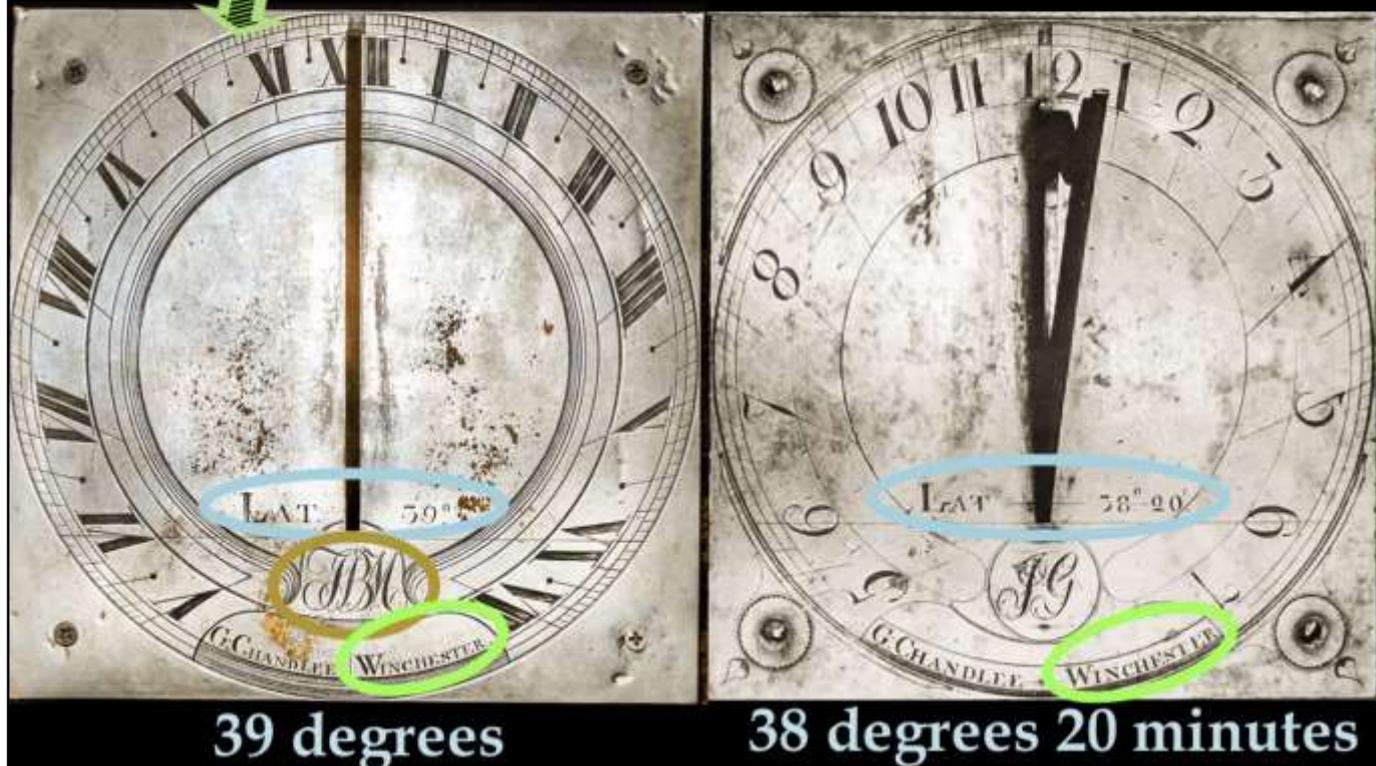
The sundial and mold are possessions of the Museum of Early Southern Decorative Arts, (MESDA), Winston Salem NC, where Associate Curator, Daniel Ackerman, generously arranged for the opportunity to photograph their Chandlee items and review their object files on 11/12/2015.

More information and photos are in the Addendums.

Brass Engraved Sundials by G:Chandlee

Note: 5 minute marks; Roman/Arabic #;

Latitude; Initials *TBM* - *JG*



Examination of two Chandlee Brass Dials

TBM sundial made for Thomas Bryan Martin, Greenway Court, which is located at Latitude 39° 02' 45" (modern GPS measurement).

The JG sundial possibly made after 1800 mimicking the change to Arabic numbering on imported painted clock dials used by Chandlee. Another possibility for the Arabic numbering could be customer's wish. Research continues to identify JG. Observe the change in W in Winchester and engraved pattern.

It is likely these brass engraved sundials with precise 5 minute markings were made for discriminating wealthy customers.

Both brass dials above measure 9 3/8 inches square. (*TBM measured by author – JG measurement online, Metropolitan Museum, NYC*) This may indicate he had three separate casts: 1. The dial plate which he engraved; 2. the gnomon approximating the latitude angle, and 3. "fixing wedge" for securing the gnomon to the base plate; which in turn is mounted on a leveled stand.

G:Chandlee Sundial's Gnomon Analyzed

Chandlee's home/shop is at GPS 39.19° Latitude

Gnomon - Pewter Sundial MSV



Gnomon Assumptions tested

The assumption that Chandlee made his dials with extraordinary precision is correct. Measurements with a digital protractor were made of two pewter sundials in the collection of The Museum of the Shenandoah Valley (MSV) in Winchester VA.

The **gnomon's** of his "generic" Latitude pewter dials measured **39.2° which matches** his **home/shop location** at Piccadilly and Cameron Streets, Winchester VA at **GPS Lat. 39.19° = to 39°11' 08"**, Note digital protractor measures at .05 increments, e.g. 0.15, 0.2, 0.25. Conclusion: Chandlee was precise.

Nick Powers, Curator of Collections, MSV, kindly made Chandlee's objects available for examination and photographing, on 7/8/2015. Note the spoon's silver marks; and diversity of Chandlee's work, abilities, skills and knowledge. More photos in Addendum.



G:Chandlee Sundial's Angles Analyzed

Shadow < from
12 to 4pm or 8am



Pewter -- Plate and
gnomon cast in 1 piece.

Mold made ca. < 1800

Hour spacing angles
calculated for Lat. 39.2°

Gnomon measures 39.2°

Actual Latitude of
Winchester G. Chandlee
Home/Shop is $39^\circ 11' 08.0''$
= 39.19°



Brass -- Plate engraved -
Gnomon attached.

Early example - ca. < 1800

Hour spacing angles
calculated for Lat. 39°

Actual Lat. Greenway
Court is $39^\circ 02' 24'' =$
 39.04° - Home of TBM
near White Post, about
10.35 Lat. mi. S. of G:C



Brass -- Plate engraved -
Gnomon attached.

Later example - ca. >1800

Hour spacing angles
calculated for Lat. $38^\circ 20' =$
 38.33°

Latitude $38^\circ 20'$ is at
Mount Crawford VA,
about 52 Latitude miles S.
of G:C

Shadow Angle Assumptions tested

It was assumed that Chandlee designed each of these sundials to have **gnomons and numbering with correct angles**. He could have used **trigonometry or geometry** to calculate his angles. The angles from the lower side of the gnomon were checked against the "Horizontal Sundial Shadow Angle Calculator." which uses a **trigonometry formula** based on a user provided latitude.-- **Tangent $\alpha = \text{sine } \beta \times \text{tangent } 15^\circ$** -- The resulting calculated **angle for 12 to 4 or 8 o'clock** was selected for the digital protractor comparison. For using the formula on a calculator see: <http://www.sundials.co.uk/tbcal.htm>). Note Chandlee had a book "Arithmetical Tables" in his probate inventory and likely had trig. tables.

The pewter dial's latitude is not marked. However, the gnomon's angle on his pewter dials measure 39.2° . This is the same measurement as his home/shop latitude - Piccadilly and Cameron Streets, Winchester VA which is at GPS Lat. 39.19 degrees = to 39 degrees, 11 minutes 8 seconds. This sundial was designed for accuracy at his house.

The Brass dials have engraved Latitudes from which the number position calculations are based. Results - The pewter (47.60 degrees), JG (47.05 deg.) and TBM (47.45 deg.) angles were identical to their respective latitude angle calculator results. The digital protractor measurements were made from the near side of the lower end of the gnomon which is consistent with the gap alignment at 12. **This confirms that Chandlee did the calculations and construction of each dial with exacting detail using 1790's tools and instruments.** The angle measurements were made of enlarged photographs using a digital protractor measuring in 0.05 degree increments.

TBM Brass **Sundial** by G:Chandlee for
Thomas Bryan Martin, Roman Numerals
House Greenway Court - Lat. 39° 02' 34"
Engraved Lat. 39°



**Clock and sundial made by Goldsmith Chandlee
for Thomas Bryan Martin**

Martin lived at **Greenway Court, which by modern GPS Latitude measurement is at 39° 02' 34"**. The dial is engraved Lat. 39°.

Martin's initials (*TBM*) are in a French Scroll font. They **appear on both the imported painted clock dial and the 9 3/8 inch brass sundial.**

At the time craftsmen learned to engrave a particular font from a style book. These fonts are consistent with engraved and inked lettering on other Chandlee clocks, lapidary, and instruments, though later ones have a few subtle changes such as on early

items using **W** and later **W** (both variations of Bodoni fonts) as well as size of lettering. The Chandlee **TBM sundial and clock are the only matching companions known.** Primary evidence is the lettering on the respective dials, location and provenance.

G:Chandlee's *TBM* Sundial & Clock Provenance

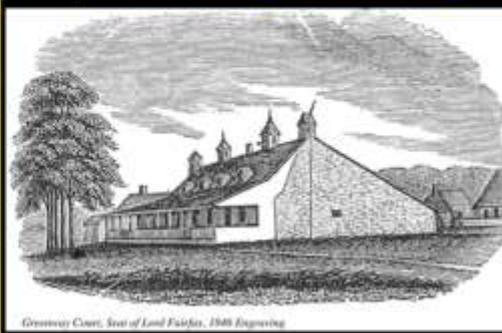


Provenance: Gnomon is not original.

The **sundial** was given to the Clarke County High School in 1950 by Miss Martha Mason Kennerly; the **clock** was given to the Clarke County Historical Association (CCHA) by Miss Nellie Cook Kennerly in 1956; *both sisters are descendants of the heir of the Greenway Court property who received it by the will of TBM; neither sister married and they lived at Greenway Court, White Post VA.* Sometime after 1965 the sundial's gnomon was broken off and the base detached from its column. In 1984 the sundial was found in the high school principal's closet. On July 18, 1984 the school transferred the sundial to the Clarke County Historical Association. Then, in 1985, the CCHA had Smithsonian Institution conservators manufacture a gnomon to match the Chandlee design, including the correct fixing wedges used to adjust the gnomon to 39 degrees when mounting it to the base. The brass gnomon was chemically treated to match the patination of the dial plate. After washing and drying, it was hot waxed with BARECO 180 microcrystalline wax and lightly buffed with a cotton cloth when cold. The photo at left correctly shows the visual appearance of the patination; top right shows a silver like appearance, apparently a reflection from the defused photography lighting. The clock and sundial companions are on display at the CCHA, Berryville VA.

Photos taken by author, 03/22/2015, with same digital camera and lighting. Permission to do so, and the information in the above paragraph was graciously provided by the Archivist Mary Thomason-Morris of the Clarke County Historical Association, Berryville Va.

Greenway Court - Land Office Home of *TBM* Clock and Sundial



Who was TBM?

Thomas Bryan Martin (1731–1798) was an 18th-century English American land agent, justice, legislator, and planter in the colony (and later U.S. state) of Virginia and in present-day West Virginia. Martin was the land agent of the Northern Neck Proprietary for his uncle Thomas Fairfax, 6th Lord Fairfax of Cameron (1693–1781). He represented Hampshire County (now West VA, county seat Romney) in the House of Burgesses from 1758 to 1768 and served alongside George Washington representing adjacent Frederick County (Winchester VA is County seat) from 1758 until 1761. Washington was elected in 1761 to serve Fairfax County, from Mount Vernon which he officially inherited in 1762. Of note, the city of Martinsburg, West Virginia was named for Martin.

Martin was born in Kent in 1731, and was the grandson of Thomas Fairfax, 5th Lord Fairfax of Cameron (1657–1710) through his mother Frances Fairfax Martin. Raised in humble surroundings in England, Martin relocated to Virginia at age 20 (1751) to assist his uncle Lord Fairfax in administering the Northern Neck Proprietary, which encompassed up to 5,000,000 acres (20,000 km²), about ¼ of Virginia. Martin resided with his uncle on their frontier **Greenway Court estate** in present-day Clarke County. Lord Fairfax employed a teenaged George Washington, a distant Yorkshire relative, to survey his lands lying west of the Blue Ridge (his first employment).

Following the death of Lord Fairfax in 1781, Martin's brother Reverend Denny Martin Fairfax inherited the Northern Neck Proprietary and Thomas B. Martin was given the Greenway Court estate (Source Wikipedia). It is likely that **Chandlee made the clock and sundial – ca. 1785-1795** – based on dating the clock dial (Tennent's book). The **sundial** was discovered in a dark corner of the surviving **land/estate office pictured**.

About Greenway Court. See: <http://allenbrowne.blogspot.com/2012/05/greenway-court.html>

<https://books.google.com/books?id=8d9CAAAIAAJ&dq=Some%20Old%20Historic%20Land%20marks&pg=PA102#v=onepage&q&f=false>

More photos in addendum.

Mystery – Who first owned G:Chandlee

Sundial engraved: *RW* LAT. 39° 5'

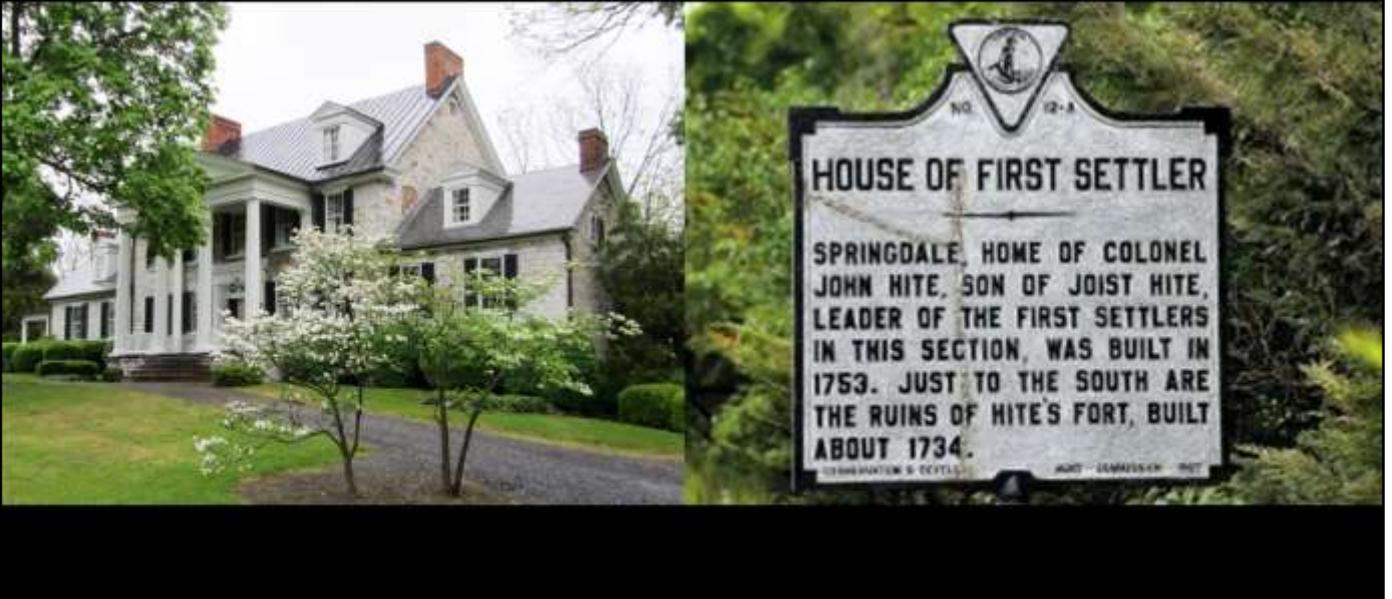


**The original owner of this Goldsmith Chandlee brass sundial is yet to be determined.
Note lower quarter engraving similarity to the TBM dial**

Description:

1. Brass Sundial
2. Made for "RW"
3. Arabic Numerals – likely made 1800 -1821 based on use of Arabic Numerals and makers death.
4. Placement of Latitude – 39 degrees and 5 minutes – and "G:Chandlee ~ Winchester" is unique to the four other known images at this time, though with some similarity to the TBM dial.
5. Latitude measurement to 5/60 minutes is first to be observed at this level; others apparently rounded to 10/60 minutes.
6. Each minute of Latitude equals 1.15 miles, so the first owner's house is likely along an East West 6 mile wide line, the center of which runs about 6 miles south of Chandlee's shop location at Piccadilly and Cameron Streets, Winchester VA. Most likely areas would be Winchester City, Frederick and Clarke Counties VA for the initial research for possibilities.
7. One possibility is Robert Wood (1749 - 1801) or his son Dr. Robert Wood (1776 – 1855) at the Wood/Glass -- Glen Burnie House -- located at The Museum of the Shenandoah Valley, Winchester City, 39 degrees and 11 minutes. This is the same latitude as Chandlee's shop and a few miles north of the usual bounds of his measurements. There is a known Goldsmith Chandlee tall clock made for Robert Wood (which one?) in the Museum's collection.
8. Another possibility: Judge Robert White, (1759-1831) who lived at 407 S. Washington St. Winchester VA; house burned 1835, new dwelling known as Byrd House. 39.18 degrees = 39.10 minutes.
9. Another is Dr. Robert White Jr., *the Judges uncle*, (1734-1815) who inherited Dr. Robert White Sr. house and farm near Hayfield VA, 1752 and lived there till he died in 1815. 39.23 degrees =39 degrees 13 minutes
10. Another is the Judges son, Robert Baker White, born March 17, 1785, died July 6, 1826, settled in Winchester, was a well-known lawyer and was clerk of what in now the Circuit Court.
11. The compass rose in the center and placement of the NSEW marks are unique.
12. Questions –Which Robert Wood likely ordered the Dial (and Clock)? Where did Dr. Robert live – could this correspond to the Latitude 39 degrees, 5 minutes; or did some other RW live at that Lat?
13. Also, Could one of the Robert Whites have been the purchaser?

JH Brass **Sundial** by G:Chandlee for
John I. Hite (1714-1791); Roman Numerals
House near Stephens City VA - Lat. 39° 6' 32"
Engraved *JH*, Lat. 39°



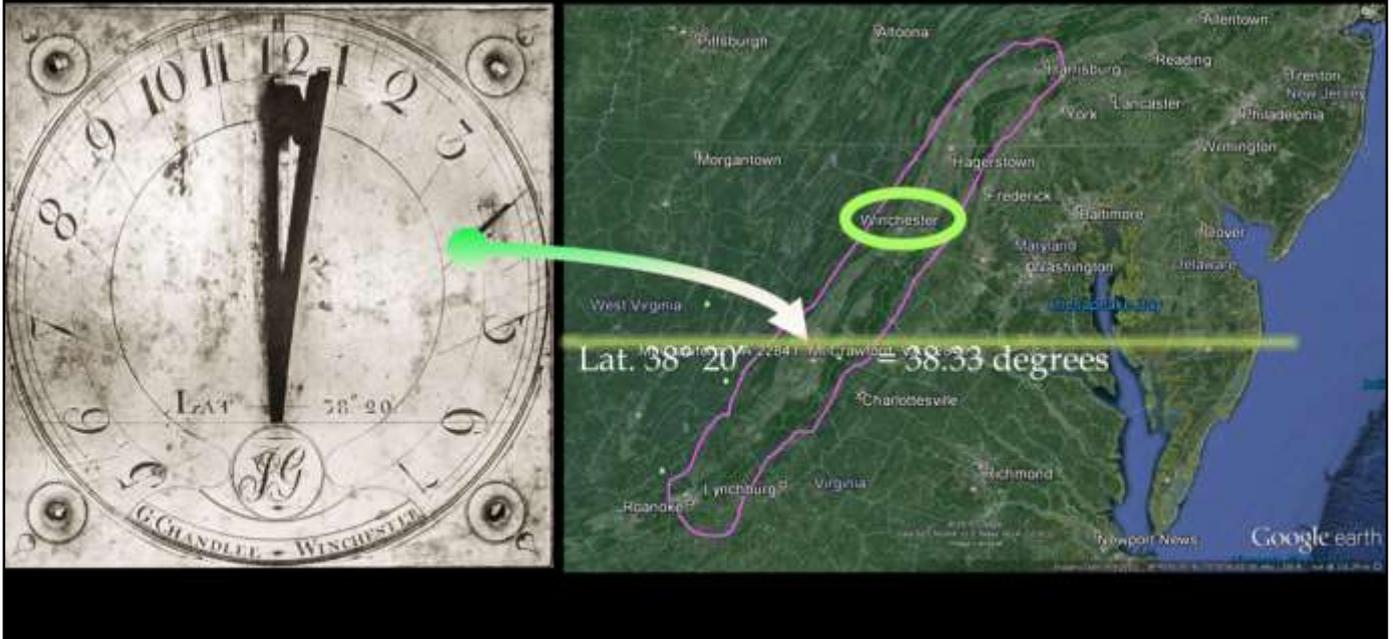
The John Hite House, also known as Springdale, is located near Bartonsville, Frederick County, Virginia. The original center house was built in 1753, and is of native limestone laid in irregular ashlar with some random-coursed limestone rubble used on its secondary walls.

John Hite, eldest son of Yost Hite and Anna Maria, was born about 1715. He was a man of unusual cultivation for his times, wrote a good hand and became very successful as a business man, possessing much of his father's energy and executive ability. He was given lands on Opequon Creek, at a place called by the traders and natives, "Red Bud." In 1753, he built the colonial stone dwelling, "Springdale." The date, with the builder's initials, "J. H.," is cut on a dressed stone in the front of the house. In 1787, he built the first a brick house in the Valley; about 1 mile south of Springdale at the northern side of Newtown, now Stephen's City, was expanded, then torn down in 1982. Two years after building the brick house he built the first merchant mill in the Valley.

Col. John Hite was vestryman in Christ Episcopal Church in Winchester, Va., in 1752. Captain in charge of a precinct and member of a "Council of War," 1744; Colonel in the French and Indian war, 1756, and Justice of the Commonwealth of Virginia, 1756. He was active in the affairs of church and state, became prominent in all public movements. (Reference, Kercheval's "History of the Shenandoah Valley.")

Sundial likely ordered before his death in December, 1791, when Roman numerals were standard for tall clock dials. The decorative engraving is similar, but slightly simpler compared to the TBM sundial, which has multiple circular inscribed lines.

JG Brass Sundial by G:Chandlee for ? Arabic Numerals, Late “W” Engraved Lat. $38^{\circ} 20' = 38.33$ degrees Who is JG?



Who ordered this sundial from Chandlee? The engraved “Lat. $38^{\circ} 20'$ ” and “JG” are good clues. Other sundials with engraved Latitudes have high correlation of accuracy to the Latitudes of known owner’s homes. So this leads to Mount Crawford VA in the Valley, which is at $38^{\circ} 20'$ which as a decimal = 38.33 degrees. Arabic Numerals suggest it was made after 1800 and the W in Winchester is of a late style but date it began is unknown.

An East West band about 4 miles North and south of $38^{\circ} 20'$ in the Valley would be a good starting place to search for JG in the Valley. The northern boundary approximately runs through Dayton VA and the southern through Weyers Cave. The middle would run through Mount Crawford (arrow point at 38 degrees 20 minutes). One possibility is John Grattan, ca 1720-1792, jurist, VA Delegate, who lived at GPS $38^{\circ} 20' 31''$, 1 mi. S Mount Crawford, Rockingham County.

A fact against this connection is that it is likely the sundial was ordered after 1800 when Arabic numerals were beginning to be used on imported painted dials coming from England. Did it accompany a Chandlee clock?

An unlikely possibility is Grattan, who died in 1792, specified that Chandlee use Arabic numbers for an early dial. The style of the Late W rules this out. His only child with JG initials (John) died in Georgia while serving in a Virginia Regiment during the Revolutionary War ending 1783. Item file at the Metropolitan Museum, NYC has nothing on provenance other than it was bought from an Antiques dealer in Connecticut. Research continues.

Mystery – where is *LL Sundial*? P.1

Woodlawn GPS Lat. 38° 43' 0.12"

LL Sundial Engraved 38° 40'

Is there a matching Chandlee clock?



Built in **1805**, this grand house overlooking the Potomac River was a gift (**1799**) from **George Washington** to his nephew, Major Lawrence Lewis, and his wife, Eleanor "Nelly" Custis.

Nelly was granddaughter of Martha Washington, and was raised at Mount Vernon as part of the First Family. Fittingly, the President asked Dr. William Thornton, architect of the U.S. Capitol, to design a new house for the young couple and provided 2,000 acres of his estate. This beautiful 5 part Palladian style house, called Woodlawn, is open to the public and owned by National Trust for Historic Preservation. What is the sundial connection?

A **sundial consistent with the brass model** is described in "Dixie Clockmakers" by James W. Gibbs; 1979; p. 93, - "**There on a spacious lawn was a beautiful sundial inscribed . . . Lat. 38 degrees 40 minutes, American Manufacture, 1808, G. Chandlee Winchester**" (*"American Manufacture" appears on other Chandlee instruments and may be related to the patriotic spirit spurred in 1805 by England's impressment of American seaman, one of the causes of the War of 1812.*) This dial was at the house of Lawrence Lewis Stevens, Edgewater NJ. He was descended from Lawrence Lewis, who was given Woodlawn Plantation (**1799**) by his Uncle, George Washington. Coincidence - Woodlawn, on a hill overlooking Mount Vernon, is at Latitude 38° 43' 0.12" = **38.7167° (modern GPS measurement)**.

Mystery - where is *LL* Sundial? P.2

Here is the *LL* compass by Chandlee



Family tradition is G. Washington had ordered a surveyor's compass from Chandlee as a gift to Lawrence Lewis with engravings "L. Lewis" on the face and initials "LL" on the 6" diameter brass cover. The fact the *LL sundial* is dated **1808** means it would have been made 9 years after **Washington's death 12/14/1799**, so probably not a GW ordered gift to Lewis. Note the **new style "W" on the compass** suggests it was made after 1800.

This suggests Lewis, at least for the sundial and probably the compass, dealt directly with Chandlee. Woodlawn is about 80 miles East of Chandlee's location in Winchester, about 24 hours for a horse walking – three days travel time including rest. This helps establish the reputation and customer base of a backcountry clock and instrument maker. *(Does anyone know the whereabouts of the sundial and perhaps matching clock? Photos, anonymous or credited, would provide a great comparative addition.) There must be others out there. Photos - Cowan's Auctions.*





JM Brass Sundial for Chief Justice John Marshall; Arabic Numerals - Early "W" House, Richmond VA,



"The Great Chief Justice"

Family information is that the sundial stood in the garden. For what timepiece?

John Marshall, the longest serving Chief Justice, US Supreme Court, built this house, 1788-1790, in the new growing Capital of Virginia. This is where he and his wife, Mary Willis Ambler (Polly) Marshall, lived and raised their family. This is Richmond's oldest surviving brick house. It is maintained by APVA Preservation Virginia and is open to the public

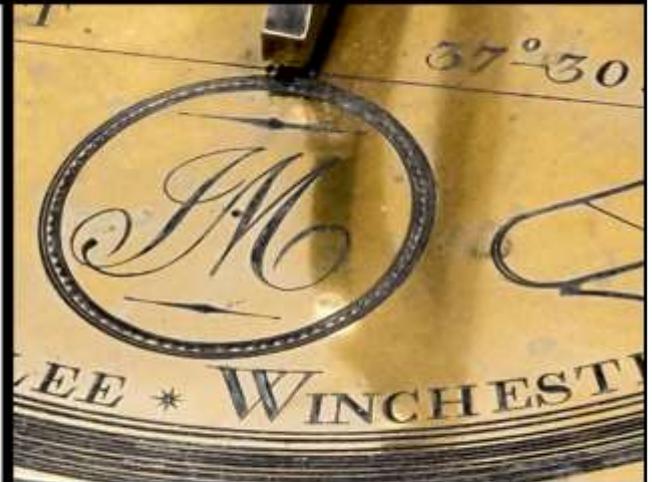
John Marshall was born, in a log cabin, 1755, in the Western frontier of the new colonies near Germantown, in what is now Fauquier County VA. His education was primarily at home, one year at a boarding school, and at 18 he began the study of law with a lawyer in Warrenton. This study was interrupted by the Revolutionary War in which he served as 22 year old Lt. Company Commander at the Battles of Brandywine and Germantown PA, later becoming a Captain. He endured the unspeakable conditions with Gen. George Washington at Valley Forge. Following his enlistment (age 27), he studied law briefly with George Wythe at William and Mary; was elected to Phi Beta Kappa, and admitted to the bar. He began his practice of law in Fauquier County where he was elected to the Virginia House of Delegates in 1782 and in 1787 in Henrico County (Richmond). This began his four decades of elected and appointed public service including being Chief Justice from 1801 until his death in 1835. He was the first and probably most important person, of only a few, to serve in all 3 branches of the federal government – Executive - Secretary of State under President John Adams; Legislative – elected as a VA Representative in House of Representatives; Judicial - Chief Justice. appointed by Adams, confirmed by Senate.

As one of the Nation's Founding Fathers, he is credited with reshaping the Court into a powerful effective body through decisions, most importantly Marbury v. Madison, 5 U.S.137 (1803), holding Congress cannot pass laws that are contrary to the Constitution and it is the role of the Judicial system to interpret what the Constitution permits. He has been described as "the most consequential American never to be President".

JM Brass Sundial by G:Chandlee for

Chief Justice John Marshall;
Arabic Numerals – Early “W”

House, Richmond VA, at Latitude 37° 32' 31"
Engraved Lat. 37° 30'



“The Great Chief Justice”

John Marhsall’s sundial by Chandlee was given to the Association for the Preservation of Virginia Antiquates, APVA, in 1942 by a great grandson of John Marshall.

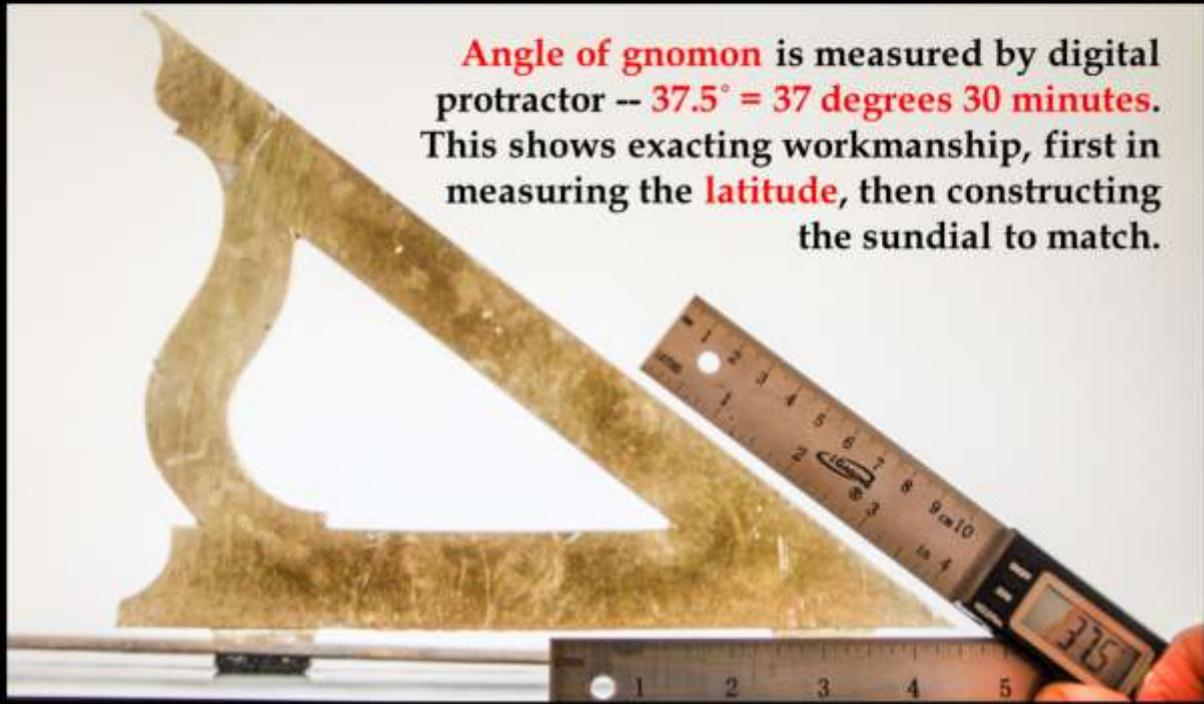
Dial Observations: Clue for date of making; Chandlee’s change from Roman to Arabic numbering probably began when imported English painted tall clock dials he used began to change to Arabic about 1800 --

The Bodini font style *W* changes to **W** later in his working period ending upon death in 1821 (date of changeover not determined) -- Like other Chandlee brass sundials, it is 9 3/8 inches square -- It is assumed that the normal almost black patina that would have formed was polished away sometime in its life -- This dial does not have indications of frequent polishing that would have worn away engraving to some extent -- It currently has a polished look shown by the reflection of the gnomon -- It has a protective coating, perhaps lacquer.

Jennifer Hurst-Wender, Director of Museum Operations and Education, Preservation Virginia, graciously provided Chandlee’s objects for photographing and records research assistance.

JM Brass Sundial by G:Chandlee for

Chief Justice John Marshall;
House, Richmond VA, at Latitude $37^{\circ} 32' 31''$
Engraved Lat. $37^{\circ} 30' = \text{decimal } 37.5^{\circ}$



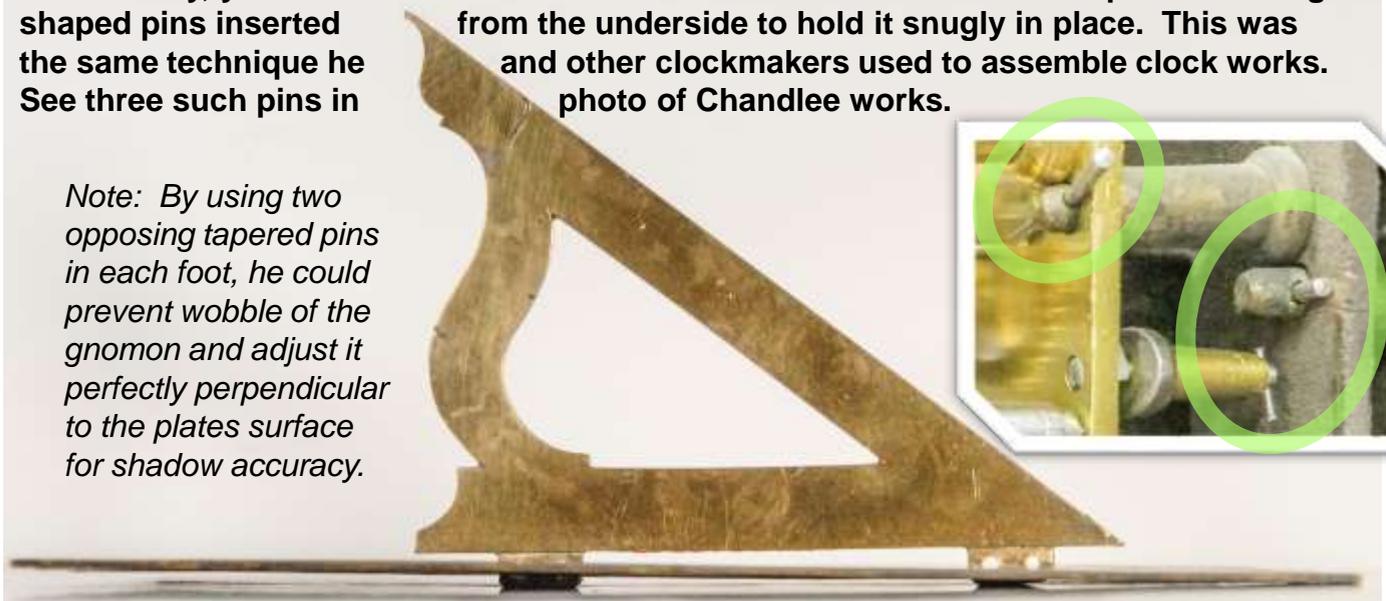
Angle of gnomon is measured by digital protractor -- $37.5^{\circ} = 37 \text{ degrees } 30 \text{ minutes}$. This shows exacting workmanship, first in measuring the **latitude**, then constructing the sundial to match.

John Marshall's sundial has a gnomon angle measuring the same angle as the Latitude of his house in Richmond

Below, you see space between the base plate and the gnomon with feet extending through slots in the sundial's plate. In the 1980s, the gnomon was removed to make exact parts patterns for five replicas that were made. When photographing, no effort was made to push the gnomon in place out of an abundance of caution.

Fortuitously, you see the round holes in the feet that would have had tapered or wedge shaped pins inserted from the underside to hold it snugly in place. This was the same technique he and other clockmakers used to assemble clock works. See three such pins in photo of Chandlee works.

Note: By using two opposing tapered pins in each foot, he could prevent wobble of the gnomon and adjust it perfectly perpendicular to the plates surface for shadow accuracy.



JM Brass Sundial by G:Chandlee for

Chief Justice John Marshall;

House, Richmond VA, at Latitude 37° 32' 31"



Engraved Lat. 37°
30' = decimal

37.5°

Trig. Calculation
for *Shadow angle*

Sundial time =

8:00 am and 4:00

pm is 46.52°

Calculating Shadow Angles According to Latitude

When Chandlee was making his calculations for laying out the time on his sundial, he likely applied a trigonometry formula based on the latitude -- $\text{Tangent } \alpha = \text{sine } \beta \times \text{tangent } 15 \tau$.

Today, you can use an internet "HORIZONTAL SUNDIAL SHADOW ANGLE CALCULATOR." Simply insert "37.5" degrees latitude and it gives a chart with the decimal angle for any given time. The result for 4am and 8pm is 46.52°. The angle measurement of Chandlee's sundial was made with a digital protractor that measures to .05 degrees. The 46.50° measurement is right on with the Calculator's answer. Chandlee's craftsmanship is proven precise.

The measurement for the Shadow Angle is made from the inside corner of the gnomon to the inside of the gap at noon.



Chief Justice John Marshall



The 2080 pound Liberty Bell, at Independence Hall, Philadelphia, cracked-while tolling his death. A fitting token to one of the most important of our Founding Fathers. He molded the highest court of the land into a powerful and respected third branch of government. It is said George Washington founded our nation, John Marshall defined it.

Image of 1914 \$500 bill.

And, he set his timepiece with a Chandlee sundial.

JM Brass Sundial by G:Chandlee

Did he also engrave these for John Marshall? Sealing Wax Watch Chain Fob



The mesh chain is passed through a button hole; a snap hook at one end of the chain is attached to the pocket watch; at the other end a personal letter or document seal and jewel plate was added as a useful weight to keep it hanging in place. The watch was kept in a fob pocket of a vest or pants. Fob means to cheat or misrepresent. In a sense the watch pocket and chain was meant to cheat any would be thief from removing personal valuable items. *Historical note: In time, such a sealing wax stamper began to be referred to as a fob.*

It is a guess that Chandlee kept blank fobs on hand, or readily available, to engrave for customers. His probate inventory lists watch chains.

The French Scroll engraving on his JM sundial and these fobs is very similar. The stamper has deeper engraving for impressing a 3D image on the sealing wax. This likely accounts for some of the engraving differences. An engraver learns a style, but just as in handwriting, no two signatures are ever exactly alike. If they are, one is likely a forgery. Did Goldsmith Chandlee engrave the fobs? I believe the circumstantial evidence reaches the preponderance of evidence standard, a greater than a 50% chance. It is not yet beyond a reasonable doubt: That would require some documentary or other significant evidence. Read on to see if you agree. *(Note: Watch not Marhsall's, it belonged to a relative and shown here to give the fob context.)*

JM Gold Fob; was it engraved by G:Chandlee for Chief Justice John Marshall?



Mirror Image



Gold Hand Stamper for marking Wax Seals

Mary Willis Marshall

MW

Photo at top left and bottom right flipped horizontally to show mirror image of the stamper for comparison to the sundial engraving. Stamper plate is about the size of a fingertip, with a cone shaped grip.

John Marshall

JM



Original Appearance



Mirror Image

Items at John Marshall House, Richmond VA
-- Stamper possibly engraved by Chandlee



Original reversed appearance of the engraved Wax
Stamps -- JM, MWM

Mary Willis Ambler Marshall died December 25, 1831, at Richmond, Virginia, at the age of 65; she was buried at Shockoe Hill Cemetery, Richmond, VA. Most who knew John Marshall agreed that after Mary's death, he was never quite the same.

John's last written statement about Mary was penned at his home on December 25, 1832, exactly one year after her death:

“This day of joy and festivity to the whole Christian world is to my sad heart the anniversary of the keenest affliction which humanity can sustain. While all around is gladness my mind dwells on the silent tomb, and cherishes the remembrance of the beloved object which it contains.

On the 25th of December 1831 it was the will of Heaven to take to itself the companion who had sweetened the choicest part of my life, had rendered toil a pleasure, had partaken of all my feelings and was enthroned in the inmost recesses of my heart. Never can I cease to feel the loss and to deplore it. Grief for her is too sacred ever to be profaned on this day, which shall be during my existence devoted to her memory.

On the 3rd of January 1783, I was united by the holiest bonds to the woman I adored. From the hour of our union to that of our separation I never ceased to thank Heaven for this its best gift. Not a moment passed in which I did not consider her as a blessing from which the chief happiness of my life was derived. This never dying sentiment, originating in love, was cherished by a long and close observation of as amiable and estimable qualities as ever adorned the female bosom.

I have lost her! And with her I have lost the solace of my life! Yet she remains still the companion of my retired hours - still occupies my inmost bosom. When I am alone and unemployed, my mind unceasingly turns to her.”

What is the John Marshall & G:Chandlee connection?

I was researching how Marshall, living in Richmond Virginia, had a sundial made for the Latitude of his house by a craftsman who lived and worked 136 horse and buggy miles away in Winchester VA, located in the Shenandoah Valley backcountry. Then I discovered varying descriptions of the same tale. My Synopsis: Marshall arrives at the McGuire's Tavern, Winchester, in an ancient broken gig. He is dressed in rusty cloths, his knee buckles loosened. In the tavern some young men are debating the merits of the Christian religion. Marshall just listened. One combatant turned to the man from the country and said, "Well my old gentleman, what think you of these things?" He responded with a "most eloquent and unanswerable appeal." He spoke for an hour answering one by one each of the elements of the arguments he heard. He lectured with such simplicity and energy that not another word was uttered. They wondered who the man was, only to later learn he was the Chief Justice of the United States. *Aside: Marshall loved to debate with about 30 friends at the monthly lawyers dinners he hosted at his Richmond house, often taking either side of an issue.*

A disheveled Chief Justice Marshall (in torn breeches, at left) was elegant in speech as he chatted in taverns while riding circuit.

Library of Congress



After reading this, I knew I had hit a home run when I looked up the address of the McGuire Tavern and Inn on the Valley Pike (now Loudoun Street) which consisted of two log buildings and stables across the rear alley on Braddock Street and replaced by the Taylor Hotel after burning in 1846. It was across from the old court house, and a football field's length away from Goldsmith Chandlee's shop and house. Tales about Chandlee tell of him sitting in his counting house – shop, using his sly humor to banter with customers and friends. I now had circumstantial evidence of how the link and probable friendship between the sundial user and maker likely came about. But, there is more.

. . . connection? Continued

Further evidence of Marshall's link to Winchester, the Frederick County seat, evidenced in surviving letters addressed to: A younger brother, James Markham Marshall 1799, 1806 (*a lawyer who was a federal judge for a short time and performed diplomatic errands for the U.S. government*), nephew Martin Marshall, 1816, and son Tom, 1797 (Thomas) living there.

He reportedly came to Winchester on official business regularly. Further, Marshall and his family summered at Oak Hill, the family home in nearby Fauquier County, where he lived until his marriage. (*His judicial duties in DC and the Circuit Court of Virginia and North Carolina took him from home for six months each year.*) The surviving Marshall family house is adjacent to the stage road to Winchester, which is a several hour gig ride away (25 miles), He would first head North for seven miles along the amazingly scenic Crooked Run Valley on the eastern side of the Blue Ridge Mountains, then turning West over Ashby's Gap and down into the fertile rolling hills of the Shenandoah Valley. Next he would ferry across the Shenandoah River. Riding on he passed wheat fields, plantations, mills, houses of friends and acquaintances, before reaching the mercantile center at the North end of the Shenandoah Valley.

Two of the locations he passed had Chandlee sundials, both in Clarke County; Dearmont Hall – a pewter dial – now at The Smithsonian; and Greenway Court – a brass dial made before 1800 for Thomas Bryan Martin, heir of Lord Fairfax, now at the Clarke County Historical Association.

Coincidences – John Marshall has a close connection to Thomas, 6th Lord Fairfax (1693-1781) at Greenway Court, and his heirs, both in his early years of learning and later as a lawyer representing the Fairfax heirs (beginning 1786) – including Denny Martin Fairfax and Thomas Bryan Martin (1731–1798) . (Certainly he would have seen the TBM sundial and tall clock at Greenway made by Chandlee. Both TBM items have Roman Numerals making them older than Marshall's Arabic sundial.



Thomas, Sixth Lord Fairfax

Goldsmith Chandlee became administrator of Lord Fairfax's estate and he would have dealt extensively with Marshall in the ongoing legal land matters eventually ending up before the US Supreme Court – Note Marshall recused himself from all consideration of the case -- *Martin v. Hunter's Lessee*, 14 U.S. 304 (1816)

See: https://en.wikipedia.org/wiki/Martin_v._Hunter's_Lessee

. . . connection? Continued

John Marshall's father and mother home schooled their children. John Marshall's father was prospering as a surveyor and land agent for Lord Fairfax. His father and indirectly John had access to Greenway Court's library, one of the largest in the Colonies, brought from England by Fairfax, an Oxford graduate. Greenway Court was a center of learning and culture in this frontier location. Thomas (and fellow surveyor George Washington) borrowed freely from the extensive collection of classical and contemporary literature. Fairfax was known as a kind, gentle person, often giving people new land who had bought land parcels to find them unsuited for farm production and making them whole for the land they cleared. He also was known to share the produce of his land with the poor, certainly a good model for others. Fairfax was undisturbed during the Revolutionary War and George Washington undertook to secure the safety of a friend and person recognized for his contribution to the American nation's growth.

There were no schools in the region at the time. All Marshall children were accomplished, literate, and self-educated under their parents' supervision. At age 12 John had transcribed Alexander Pope's *An Essay on Man* and some of his *Moral Essays*. At 14 he attended one year at a boarding school -- Classmate future President James Monroe.

To capture more of John Marshall's life, see https://en.wikipedia.org/wiki/John_Marshall

For further understanding and sundial related linkages read about his impressive parents and family:

https://en.wikipedia.org/wiki/Thomas_Marshall_%28U.S._politician%29

This tribute to John Marshall's wife Mary Willis Ambler Marshall captures the lives of both, The story of the locket helps explain why John had both of their initials engraved in stamper fobs at the end of his watch chain.

<http://www.womenhistoryblog.com/2011/03/mary-willis-ambler-marshall.html>

For more on Marshall: See Extensive Resource: [*John Marshall, Definer of a Nation*](#); Jean Edward Smith, 1996, 736 pages.

"My gift of John Marshall to the people of the United States was the proudest act of my life. There is no act of my life on which I reflect with more pleasure." 1826 - John Adams (1735-1826); Second President United States (1797-1801)

Early Homes of John Marshall that put him near Winchester VA and G:Chandlee

He was **born** September 24, 1755 in a **log cabin, 2 rooms down, 2 loft rooms**, at **Germantown**, then about 12 dwellings which later disappeared. It was in Prince William County a part of which broke off to become Fauquier in 1759. His family lived there from **1755-1765**. Its location is marked by a monument.



The Hollow

near Markham VA
Like the log house,
2 rooms down, 2 up;
38 miles NW of
Germantown VA.
1765-1773, age 9-17

At age 35, Thomas Marshall moved his young, growing family (**John, 1755**; Elizabeth, 1756; Mary, 1757; Thomas, 1761; James, 1764) to his newly constructed one-and-a-half story frame house on a beautiful rise just north of present-day Markham, Virginia. Five more children were born to Thomas and Mary Marshall while living at the Hollow (Judith, 1766; William and Charles, 1767; Lucy, 1768; Alexander, 1770) bringing the total number of children living in the house to ten before moving to Oak Hill near Delaplane, Virginia. In addition to the 12 Marshall family members, a Scottish minister, James Thomson, in 1767 came to live there for a year. He was educated at Marischal College in Aberdeen and graduated from Glasgow University. He tutored the children in Latin in return for room and board, later becoming minister of Leeds Parish. Where did all thirteen people sleep?

The Fauquier County Deed Book reveals that Thomas Marshall leased in 1765 a 330 acre tract encompassing this property from Thomas Ludwell Lee and Richard Henry Lee, American statesman from Virginia best known for the motion in the Second Continental Congress calling for the colonies' independence from Great Britain. The lease was to run the lives of Thomas, Mary, or John, whichever was longest. Unlike many log houses built on the frontier at that time, the Hollow is a rare existing example of a wood frame house that has not been incorporated into a more recent structure.

A 1910 picture of The Hollow from 1916 biography of John Marshall by Albert Beveridge

Early Homes of John Marshall Oak Hill 1773 – 1783

Age 17-27. Delaplane VA, five miles East of Markham.

John's father now had money from his surveying for Lord Fairfax so he could buy land and construct the wood-frame seven room (4 down, 3 up) dwelling completed in **1773** when John Marshall was 17. It is a classic example of Virginia's colonial style, functional rather than monumental .

It is from here he travelled 17 miles to the County seat, Warrenton, where he read the law with an attorney. He left to serve as Lt. then Capt. In the Continental Army, studied law 3 months at William and Mary, admitted to the Bar in 1780, returned home to practice law, and was elected to the Virginia legislature.

After marrying in 1783, he lived in Richmond and DC and he used Oak Hill as a retreat.

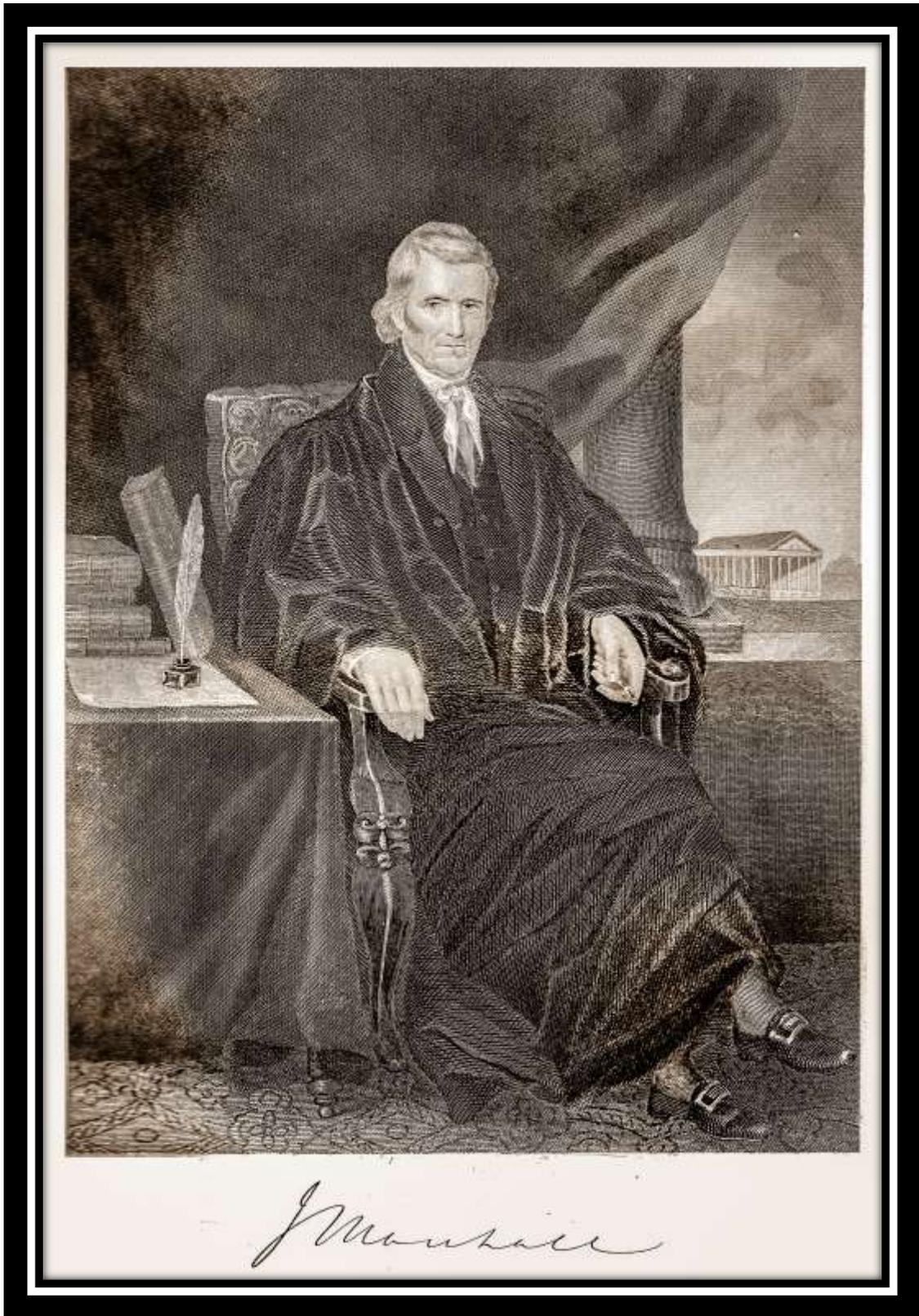
John Marshall became the owner of Oak Hill in 1785 when his father, Col. Thomas Marshall, moved to Kentucky where he was a leading figure in that State's settlement. Upon his death Thomas left his family 200,000 acres in VA and KY, quite a progression from a frontier log cabin.

Although John Marshall lived mostly in Richmond and Washington during his adult life, he kept and used his Fauquier County property, making improvements. **In 1819 he built an attached Classical Revival house as a residence for his son, Thomas.**

These Fauquier County dwellings help put a part of Marshall's storied life in context with his association to Winchester and as a notable customer of Goldsmith Chandlee in the Virginia backcountry.

What an interesting web is woven. Chandlee made the sundial for certain, whether he engraved the fobs is something less than beyond a reasonable doubt.





“The events of my life are too unimportant, and have too little interest for any person not of my immediate family, to render them worth communicating or preserving” John Marshall

Steel engraving of John Marshall by Alonzo Chappel

Marshall's Connections to Winchester/Chandlee,

Questions:

What timepieces did he have?

When did he get the watch? Ans. He had 2 in 1815 personal property Tax List.

Could this be the timepiece he set with the sundial?

Did he have a tall clock by Chandlee or anyone else?

Would like photos of timepieces etc.

Compare GW fob displayed in Williamsburg to Marshall's

Does JH sundial lend to evidence of how gnomon was manufactured – cast to size or filed to correct angle by comparing with JM.

Contact Smithsonian library re watch photos, records etc.

John Marshall Papers, Manuscripts and Rare Books Department, Swem Library,
College of William and Mary.

[<http://ead.lib.virginia.edu/vivaxtf/view?docId=wm/viw00076.xml>]

Box-folder 5:4

Gold pocket watch probably made by Liverpool watchmaker Robert Roskell and belonging to U.S. Chief Justice John Marshall, [ca. 1799-1825].

Physical Location: On permanent loan to the Smithsonian Institution and on display at the U.S. Supreme Court Building in Washington, D.C.

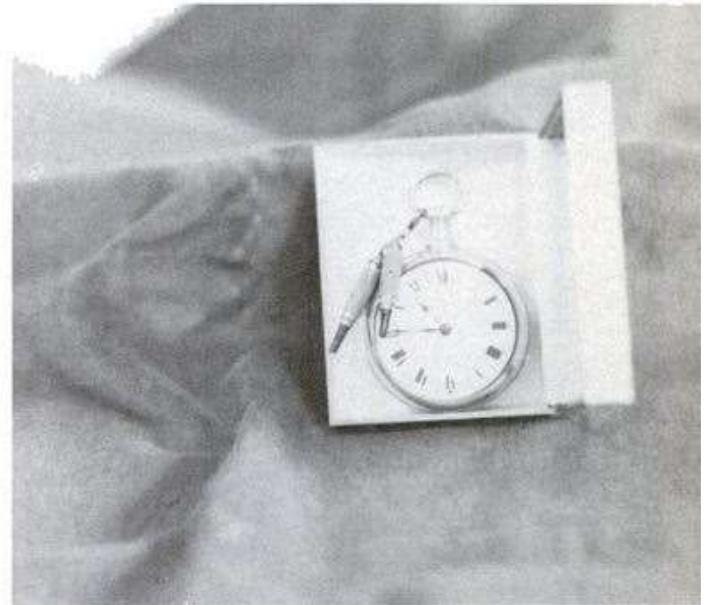
Had family in Winchester VA confirmed in Letters to Son Tom (1797), Brother John Markham Marshall, (1799, 1806) and Nephew Martin Marshall (1816). Reportedly stayed at McGuire's Inn, then two Log buildings and stables, across from the old court house and about 1 block from Chandlee's home and shops. Tales about his presence there reported in the Winchester newspaper. Suggested he never resided in Winchester but came on official business.

THOSE WHO attend the American Bar Association's annual meeting in Washington this August will see a preview of the Supreme Court's new historical exhibit located in the Supreme Court Building. A major item in the exhibit is a watch once owned by Chief Justice John Marshall and worn two years ago by Lewis F. Powell, Jr., when he was sworn in as an associate justice of the Court. Chief Justice Burger (left) is shown with Prof. William F. Swindler (center) of the Marshall-Wythe School of Law of the College of William and Mary, who is chairman of the new Advisory Committee on the History of the Judiciary; and Richard H. Howland (right), special assistant to the secretary of the Smithsonian Institution. Below is a photograph of the Marshall watch.



A recent acquisition for the projected historical exhibit and an example of the type of "association item" the committee hopes to locate for various members of the Court over the past 184 years is a watch once owned by Chief Justice Marshall. The watch attracted news interest two years ago when Lewis F. Powell, Jr., of Richmond, Virginia, wore it at the time of his swearing-in as an associate justice of the Court. The watch was owned by Jay W. Johns, president of the Virginia Trust for Historic Preservation, who subsequently presented it to the College of William and Mary, where Marshall took his only formal legal study. The college and the donor have agreed to place it on indefinite loan with the Court for the historical exhibit. A descendant of Chief Justice Marshall has advised that she will send Marshall's watch fob to the collection.

An offer of a fine eighteenth century set of dinnerware also has been received, and recently descendants of Chief Justice Morrison Waite sent to the Court a black onyx desk set used by him when he was in office, 1874 to 1888.



1865); Samuel Chase (1796–1811); Tom C. Clark (1899–); Benjamin R. Curtis (1809–1874); William

John Marshall Personal Property Tax, 1815 (Source: APVA Preservation Virginia)

Watches

Double Case of Gold – 1

Single Case of Gold – 1 Ed. Possibly the watch in article above.

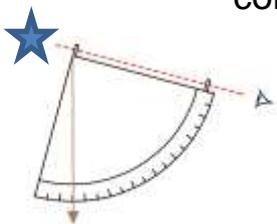
Clocks -- 0

Interpreting and Comparing the Sundials



Chandlee's Readymade Pewter & Custom Made Brass Versions

- ❑ His 5 1/8 inch square pewter “readymade” sundial was “Better” than a **Noon Mark** for conveniently setting a timepiece.
 - ❑ Notice how accurate his measurements of the angles to the North Star by Latitude were; and his skill to design a mold for a one piece cast to make this generic sundial. It became less accurate the further N or S you were from Winchester. (*Accuracy at the time was actually unimportant – it was a status symbol for those wanting the best.*)
 - ❑ His house/foundry/shop were on the NW corner of Piccadilly and Cameron Streets, Winchester at digital latitude 39.19°– gnomon is 39.2°.
 - ❑ He likely used a quadrant to obtain the angle to the North Star, and convert the measurement to a mold for his pewter dials.
 - ❑ **For the custom made brass sundials**, he cast a separate gnomon, then attached it to the dial plate carefully crafting it to the latitude’s angle. It required going to the customer’s location to determine the Lat. by measuring the North Star’s angle from level.
 - ❑ This would be the “Best” way for accurately setting a clock.
- ❑ For his time, his knowledge, skills and abilities were amazing.



Numbers and Marks p.1

Goldsmith Chandlee's Sundials	Pewter 	Brass TBM - Thomas Bryan Martin	Brass JG = unidentified	Brass LL = Lawrence Lewis
Numbers Marks on Sundial	No LAT. # Gnomon measured 39° 12'	LAT. <u>39°</u> <i>TBM</i>	LAT. <u>38° 20'</u> <i>JG</i>	LAT. <u>38° 40'</u> AMERICAN MANUFACTURE 1808
Place	G:Chandlee Winchester Home/shop	Greenway Court, home TBM	Lat. Line near Mount Crawford VA	Woodlawn Plantation Home LL
Homes by GPS	<u>39°11'24"</u> 	<u>39° 02'</u> 	? 	<u>38°43'0.12"</u>
Lat. N/S Distance from G:C	<u>G:C Shop Ground 0</u>	<u>10.35 mi. S.</u>	<u>52 mi. S.</u>	? <u>32 mi S.</u>

**Numbers/Marks tell a story: Provenance – Locations --
Comparative values -- Latitude N/S distances**

1 Degree Latitude = 69 miles north or south = 60 nautical miles
 1 Minute = 1.15 miles = 1 nautical mile
 1 Second = 101 Feet

Pewter Dials G:Chandlee's pewter dials are cast in one piece. They would provide less particular customers with less accurate measurements of time. **Readymade version. The plow horse.**

Brass Dials His larger, custom made engraved brass sundials provided more accurate shadow calculations, surely at a higher price. Each required determining the owner's LAT. Then a custom gnomon angle and time mark placements were determined. **Bespoke version. The show horse.**

Numbers and Marks p.2

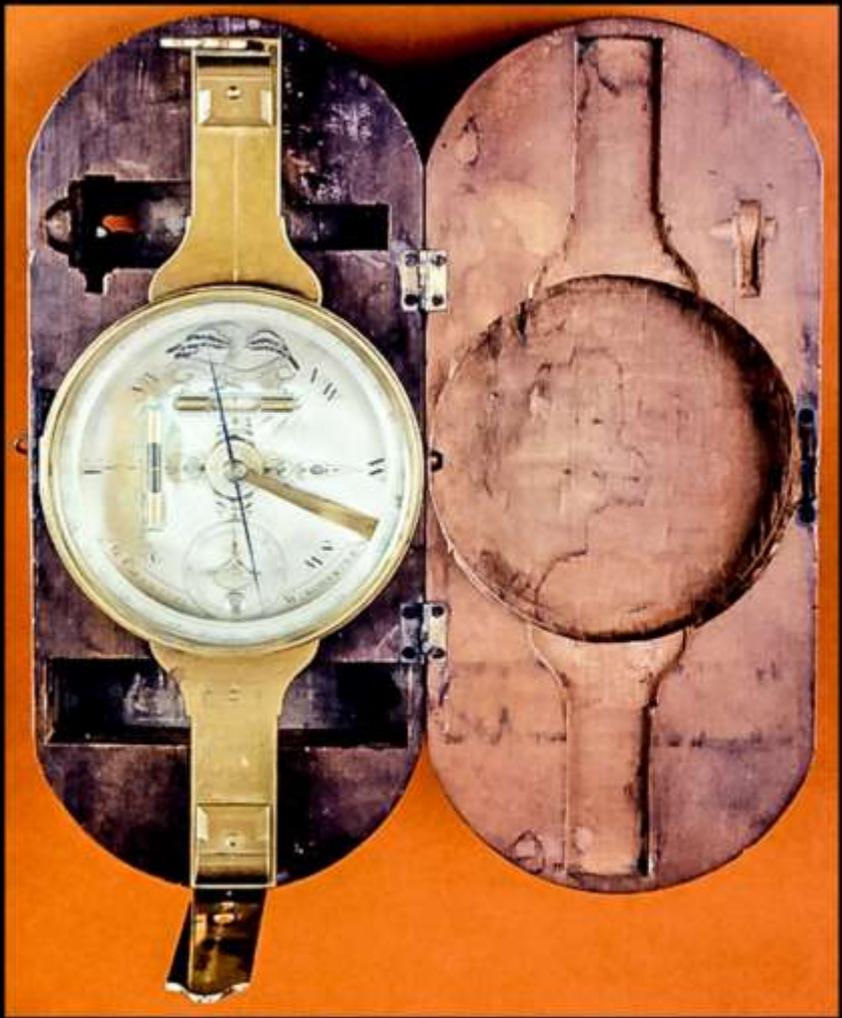
Goldsmith Chandlee's Sundials	Pewter 	Brass JM = John Marshall	Brass JH = John Hite	Brass RW New Discovery
Numbers Marks on Sundial	No LAT. # Gnomon measured 39° 12'	LAT. <u>37° 30'</u> 	LAT. <u>39°</u> 	LAT. <u>39° 5'</u> 
Place	G:C Chandlee Winchester Home/shop	JM home Richmond VA	JH home Stephens City VA	?
Homes by GPS	<u>39°11'24"</u> 	<u>37° 32' 31"</u> 	<u>39° 06' 32"</u> 	?
Lat. N/S Distance from G:C	<u>G:C Shop</u> <u>Ground 0</u>	<u>116 mi. S.</u>	<u>5 mi. S</u>	<u>3-4 mi. S</u>

Museum docents are asked, "what would that cost in today's money". Economists say you cannot determine that accurately -- no cost-of-living records, etc. So let's look at comparisons at the time, as docents are instructed to answer in a comparative way: Such as, "Only 6 percent of those southerners wealthy enough to have probate inventories had a clock in 1775." As an example, comparisons can be made from a few items in G:C's estate sale, and appraisal. References: Goldsmith Chandlee in Virginia Silversmiths, Jewelers, Clock and Watchmakers, 1607-1860, Their Lives and Marks; by Catherine B. Hollan; (2010); Complete Court Records of Estate Sale, Handley Library, Winchester: [See probate documents in Addendums.](#)

6 pewter sundials sold for total \$6	2 Compasses \$54, \$55
Dial mold \$5.00	Pocket compass, wood \$1.25
1 eight day clock, long sec. hand and case \$80	2 small size surveyors compasses \$50
4 8 day clocks, short sec. hand, \$160	1 small compass \$7
Clock walnut \$41.50	12 Spirit level tubes \$3; Quadrant \$10
Clock with case mahogany \$60. \$61	Bed, bedding, bedstead \$19
Clocks without cases \$27-\$32	Feather bed and stead \$30
Walnut cases only, \$16 each	6 silver table spoons, \$15
Clock faces \$9 for 2	4/12 doz. Silver tea spoons \$9
19 pair clock hands \$1.30	Cow \$10.50, 3 Hogs @ \$2.50 each
6 second hands, \$0.50	1 blind horse \$10
1 box clock glass, \$13	Carriage w/ harness \$100 (Highest item value)

Surveyor's Compass

G.
Chandlee
Winchester
Virginia
-worked
there
1784-1821



This is a Goldsmith Chandlee **compass** with **2 spirit levels** which **could have been used to set-up a customer's sundial and/or noon mark**. This one is in the Colonial Williamsburg Foundation's collection. The dial has **exceptional engraving with later style W and an eagle holding in its beak a banner reading "American Manufacture."** Chandlee compasses are about 5 ½ inches in diameter and with arms it is 15 inches in length. He made other compasses listed in his probate documents as: Pocket, small, wood, and mariner.

It is not known if a person setting up a sundial would have known how to adjust for the deviation from magnetic north and true north. The necessity for doing this was known in scientific circles and by surveyors. Goldsmith Chandlee would have known this, being a surveying instrument maker. He, or an apprentice may have done the setups.

The need in the Valley for a common time standard was not a priority. Perhaps, all they were concerned with was a general standard between their own sundial and their clock. The need for standard times had not yet arisen (such as need for scheduling trains running in opposite directions on a main line track between branch or siding locations). No written evidence about setting clocks in the Valley has been located. More research and luck is needed. What can be said is that sundials were the common way to set clocks in this period.

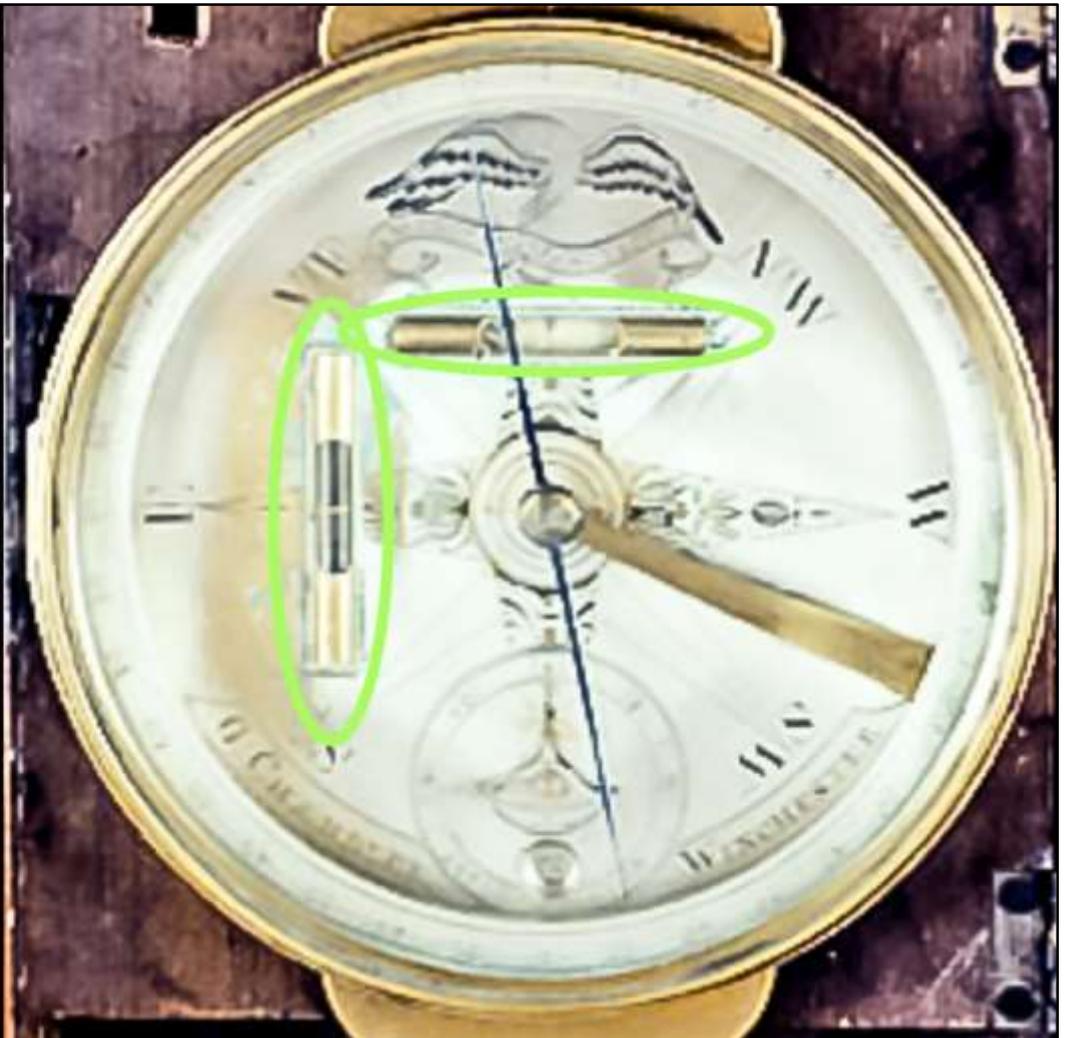
I Imagine Goldsmith saying: "Now that we have agreed upon a price for your bespoke (custom-built) clock, **how do you want to set it: With a simple solar noon mark; or a cast pewter mini sundial that can be read at any sun time with 15 minute markings; or the large elegant and accurate brass engraved sundial made for your exact latitude to include 5 minute marks and your initials in French scroll lettering? Also, I can add extra engraving flourishes like I did for Col. Martin. As your humble servant, which may I prepare for you?**

More on Chandlee: http://surveyhistory.org/goldsmith_chandlee1.htm

Surveyor's
Compass
with Spirit
Levels

-
Goldsmith
Chandlee
Winchester
VA

-
1784-
1821



To set up a sun dial, it would be mounted on a base whose top would likely be leveled with a carpenter's level. Then the sundial would be mounted to point the gnomon North. The compass needle would point to Magnetic North. For accuracy, it should point to true north. Usually **Magnetic North** and **True North** are not the same. This **difference is called declination**. A correction needs to be made so the gnomon is pointing to the North Star for time accuracy.

Remember that the sun travels 15° westwards in one hour.; thus, 1 degree = 4 minutes.

Research surprise: Magnetic North changes over time. **Charts show declination in the Valley today (2014) at -10 degrees (West)**. However, **1790 Charts show it was 0 degrees since Magnetic and True North were the same**. The 2014 declination is minus 10 degrees (10 degrees=40min). Thus, today a sundial in the Valley set to Magnetic North would be about 40 minutes ahead of solar time, if accurately measured. Let's see another complication to accurate measurement - **The Equation of Time** - in the next 2 pages.

All of this is interesting history about an American Backcountry / Shenandoah Valley craftsman with sophisticated knowledge and manufacturing skills who provided both middling and gentry class customers with time-keeping and other sophisticated scientific instruments.

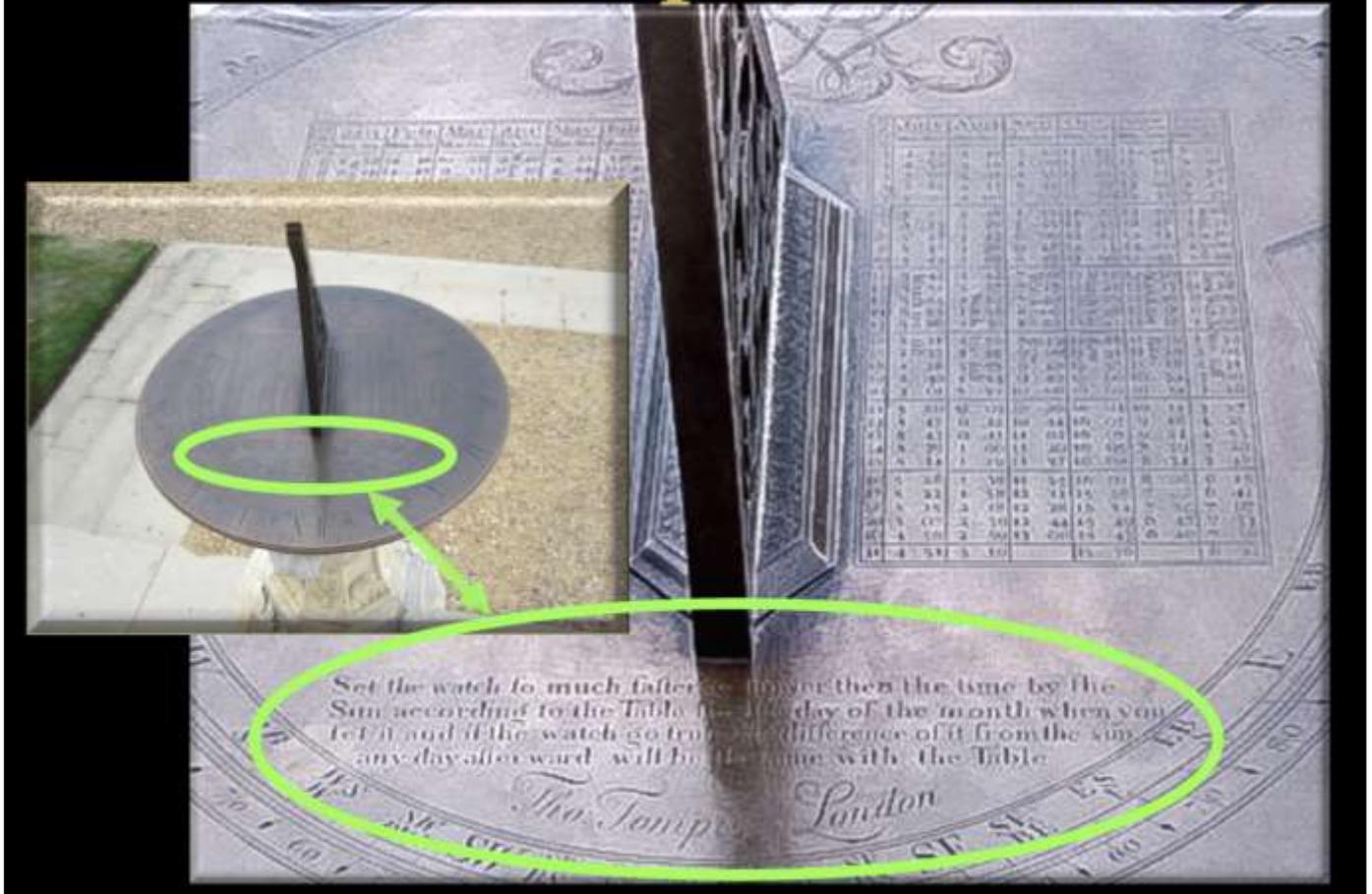
Sundials could be made to be very accurate. Thomas Tompion made dials to accompany his regulator clocks that took into account the wobble of the earth and the elliptical orbit. Let's look at his special sundial before leaving this topic.

Reading on Declination: :

http://en.wikipedia.org/wiki/Magnetic_declination

Search term: wiki declination

Tho. Tompion Sundial



Originally, this sundial was a companion instrument to one of Thomas Tompion's equation clocks which was used to regulate other clocks. This is no ordinary sun dial. Tompion (1639–1713) was perhaps England's greatest clockmaker

Here he took into account knowledge of variation of the earth's distance from the sun and wobble. There is "Sun Time which varies" (two causes) and "Clock Time or Mean Time," which is a yearlong average of daily variances which is exactly 24 hour days. // The chart on the dial shows the daily "Sun Time" differences from the "Mean Time" on the calendar. ///

Inscribed directions: "Set the Watch so much faster or slower than the time by the Sun according to the Table for the Day of the Month when you set it, and if the Watch go true, the difference of it from the Sun and Day afterwards will be the same with the Table"

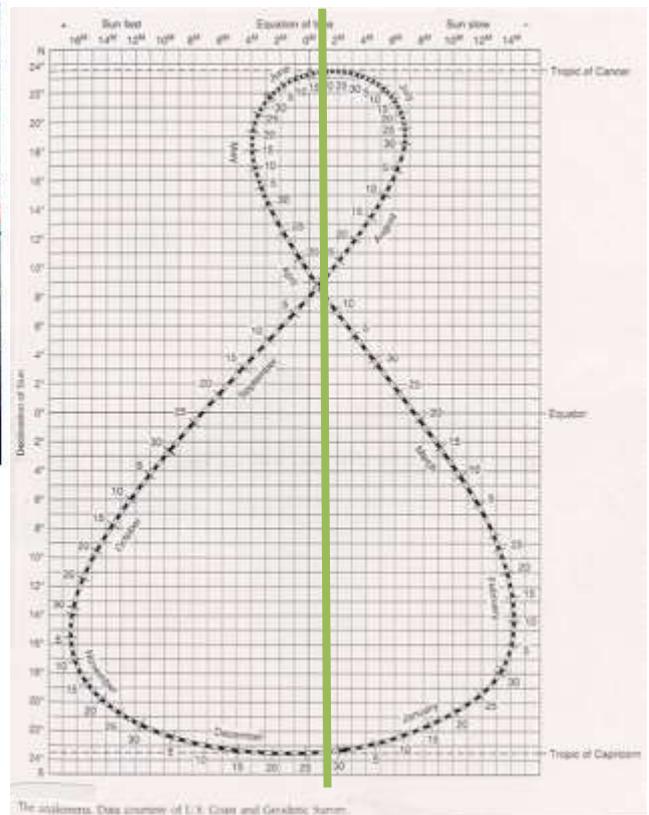
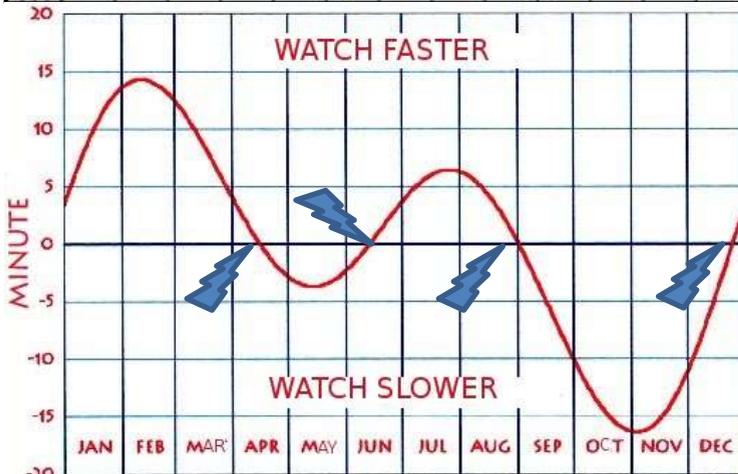
Reading:

See http://en.wikipedia.org/wiki/Equation_of_time

Search term; Equation of Time

Equation of Time - Sundial

DAY	Jan		Feb		March		April		May		June		July		August		Sept		October		November		December		DAY
	m	s	m	s	m	s	m	s	m	s	m	s	m	s	m	s	m	s	m	s	m	s	m	s	
1	0	32	10	53	9	54	1	28	-5	31	-5	5	0	53	3	36	-2	28	-12	45	-18	60	-13	51	1
2	1	0	11	1	9	43	1	10	-5	39	-4	56	1	5	3	33	-2	47	-13	4	-19	2	-13	29	2
3	1	28	11	8	9	31	0	52	-5	46	-4	46	1	17	3	29	-3	6	-13	23	-19	3	-13	6	3
4	1	56	11	15	9	18	0	34	-5	52	-4	36	1	28	3	24	-3	25	-13	42	-19	3	-12	42	4
5	2	23	11	21	9	5	0	17	-5	58	-4	26	1	39	3	19	-3	45	-13	60	-19	2	-12	18	5
6	2	50	11	26	8	51	0	0	-6	3	-4	16	1	49	3	13	-4	5	-14	18	-18	60	-11	53	6
7	3	17	11	30	8	37	-0	17	-6	7	-4	5	1	59	3	6	-4	25	-14	36	-18	58	-11	28	7
8	3	43	11	34	8	23	-0	34	-6	11	-3	54	2	9	2	59	-4	45	-14	53	-18	55	-11	2	8
9	4	9	11	36	8	8	-0	51	-6	15	-3	43	2	18	2	51	-5	6	-15	10	-18	51	-10	36	9
10	4	34	11	38	7	53	-1	8	-6	18	-3	31	2	27	2	43	-5	27	-15	26	-18	46	-10	9	10
11	4	58	11	39	7	38	-1	24	-6	20	-3	19	2	36	2	34	-5	48	-15	42	-18	40	-9	42	11
12	5	22	11	40	7	22	-1	40	-6	22	-3	7	2	44	2	25	-6	9	-16	58	-18	33	-9	14	12
13	5	45	11	39	7	6	-1	56	-6	24	-2	55	2	52	2	15	-6	30	-16	13	-18	26	-8	46	13
14	6	8	11	38	6	50	-2	11	-6	24	-2	43	2	59	2	4	-6	51	-16	27	-18	17	-8	18	14
15	6	30	11	36	6	33	-2	26	-6	24	-2	30	3	6	1	53	-7	12	-16	41	-18	8	-7	49	15
16	6	52	11	33	6	16	-2	41	-6	24	-2	17	3	12	1	41	-7	33	-16	54	-17	58	-7	20	16
17	7	12	11	30	5	59	-2	55	-6	23	-2	4	3	18	1	29	-7	54	-17	7	-17	47	-6	51	17
18	7	32	11	26	5	42	-3	9	-6	21	-1	51	3	23	1	17	-8	15	-17	19	-17	36	-6	22	18
19	7	52	11	21	5	24	-3	23	-6	19	-1	38	3	28	1	4	-8	36	-17	31	-17	23	-5	53	19
20	8	10	11	15	5	6	-3	36	-6	17	-1	25	3	32	0	50	-8	58	-17	42	-17	10	-5	23	20
21	8	28	11	9	4	48	-3	49	-6	14	-1	12	3	35	0	36	-9	20	-17	52	-16	56	-4	53	21
22	8	45	11	2	4	30	-4	1	-6	10	0	59	3	38	0	21	-9	41	-18	2	-16	41	-4	23	22
23	9	1	10	55	4	12	-4	13	-6	6	0	46	3	40	0	6	-10	2	-18	11	-16	25	-3	53	23
24	9	17	10	47	3	54	-4	25	-6	1	0	33	3	42	-0	10	-10	23	-18	20	-16	8	-3	23	24
25	9	32	10	38	3	36	-4	36	-5	56	0	20	3	44	-0	26	-10	44	-18	27	-15	51	-2	53	25
26	9	46	10	30	3	18	-4	46	-5	50	0	7	3	45	-0	42	-11	5	-18	34	-15	33	-2	23	26
27	9	59	10	22	3	0	-4	56	-5	43	0	5	3	45	-0	59	-11	26	-18	41	-15	14	-1	53	27
28	10	11	10	13	2	41	-5	6	-5	36	0	17	3	44	-1	16	-11	46	-18	46	-14	54	-1	24	28
29	10	23	10	4	2	22	-5	15	-5	29	0	29	3	43	-1	33	-12	6	-18	51	-14	34	-0	55	29
30	10	34			2	4	-5	23	-5	21	0	41	3	41	-1	51	-12	26	-18	55	-14	13	-0	26	30
31	10	44			1	46			-5	13			3	39	-2	9			-18	58			0	3	31



Graphical Introduction to Equation of Time. Christiaan Huygens published the first table in 1662 after 2 years of calculating and confirming his data. His contribution to developing the first pendulum clock (1657) is described later. Marks show the 4 times a year a sundial is accurate. Tables were published in almanacs available in the valley. No documentation of use in the Valley found, yet.

Goldsmith Chandlee Remembered



Goldsmith Chandlee, Clock and Scientific-Instrument maker

His adult life in Stephensburg (Stephens City) 1775-1783 and Winchester VA 1784-1821 were his productive years. Described as a small, spare man, brown eyed, sociable, witty, fond of company and possessing a fund of sly humor. He was husband of three wives and father of seven children.

He bought the ½ acre lot 63 at the NW corner of Piccadilly (189' 9") and Cameron Streets (119'), Winchester where he built a foundry and a shop. Here he manufactured his clocks, surveyor's instruments, scales of various sorts, a telescope, and other items of silver, brass, bronze and pewter. He lived above the shop a few years before building a brick house on the lot.

It is said except for coach, carriage and wagon works, he operated the largest single manufacturing industry for producing goods.

He also maintained a counting room where he bought and sold bills of exchange, bonds, notes, soldiers' certificates and military warrants. He was active in the affairs of the city. He was a member of the Volunteer Fire Company and one of the Justices of the Corporation. He appears to have been trusted by his friends and associates for his judgment and business acumen, for his name appears on records as a selected executor or appointed administrator of estates, both large and small; and often chosen as an arbitrator in cases of dispute. **Dr. Robert Dunbar, was the executor of the Lord Fairfax estate who died without a will. When Dunbar died Chandlee acted as the executor of the Dunbar estate and also was appointed as administrator of the Lord Fairfax Estate. Denny Martin Fairfax in England inherited the Fairfax estate. He gave Thomas Bryan Martin Greenway and the lands around it. Thus, Chandlee as administrator successfully represented the heirs in related land matters in the courts while engaging attorney John Marshall.**

Being a Quaker, he was active in Quaker affairs as well. He is buried in the graveyard at the Hopewell Meeting House; RIP. Incidentally, like his pewter sundials, his tombstone is diminutive, about 13x17 inches. The stone's lettering is like his regular Bodoni font engraving on his various instruments. Wonder if he engraved his own gravestone.

Sources: *Six Quaker Clockmakers*, by Edward C. Chandlee, 1943; *Winchester Evening Star*, October 8, 1955 and August 5, 1943.

See interesting Addendums – Goldsmith Chandlee's probate: Appraisement; Sale; and Remembered items from his files at the Handley Library, Winchester VA.

“A Clockmaker’s Business Plan 18th Century”



- ▣ Clock maker sets up shop.
 - Meets customers
 - **Bespoke** clock agreed upon
 - ▣ Clock Works - ?
 - ▣ Dial – make vs. import
 - ▣ Case – engages maker
 - Contributors: Brass and Iron foundry men; glass maker; saw mill operator.

Works – some early valley clock makers such as James Huston, Staunton, machined the clock parts, assembled them, and personally engraved the single sheet brass dial. // Later – perhaps 1790’s – clock makers bought some finished parts and assembled them, or bought works imported from England. //

Dials – In 1772, in England, a new style Painted Dial appeared. // However, commerce with England was essentially stopped during the lead up to the Revolutionary War, which ended September 3, 1783. // In 1784, a merchant in Baltimore advertised he had painted dials sized 12, 13, and 14 inches. // From this time, most Valley dials that survived are English imports. //

Cases – the Clockmakers engaged local carpenters, joiners, or cabinet makers (in order of increasing furniture making skills) to produce a case. Seldom did a clockmaker have cabinet making skills.

Customers -- Household inventories of Virginia gentry record tall clocks and cases as the most valuable objects in houses, unless the family owned extraordinary silver or lavish bed furnishings. So a customer base was limited.

Thomas Bryan Martin Companion Clock/sundial photos p1

Photo Addendum of Goldsmith Chandlee's only known companion TBM Tall
Clock and Brass Sundial at the
Clarke County Historical Association, Berryville VA.



Approximate Dimensions:

Case

Height – 97 $\frac{3}{4}$ inches to top of finial

Lower Hood – 30 " H to top finial, 19"W, 11
1/4 " Deep

Waist – 37 $\frac{3}{4}$ " H, 14 $\frac{1}{2}$ W, 8 $\frac{1}{4}$ " D

Door – 32" H, 10" W

Base – 19" H, 18" W, 10" D

Wood – My layman's guess, Solid Cherry;
other people said, mahogany, and walnut.

Finials and feet are not originals

Painted Dial – Square – 13" Height – 18"

English import sizes were 12, 13, or 14"

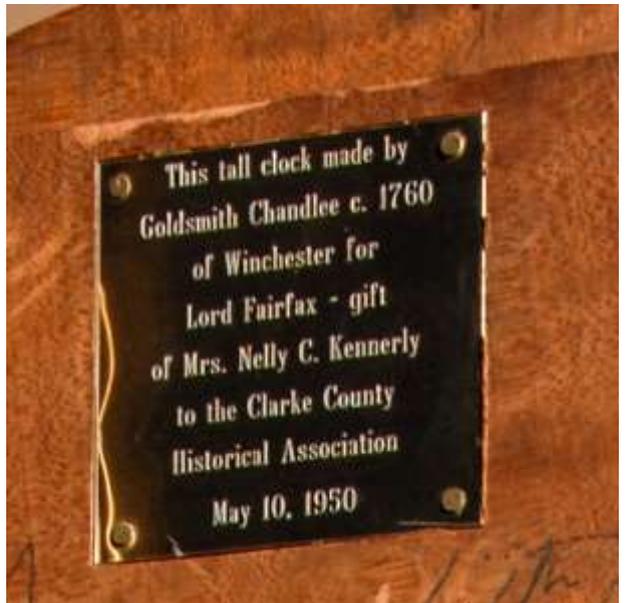


Dial is import from England – matches work of Osborne Manufactory, Birmingham, ca. 1785-1795



Dial is import from England – most closely matches work of Osborne Manufactory, Birmingham, ca. 1785-1795

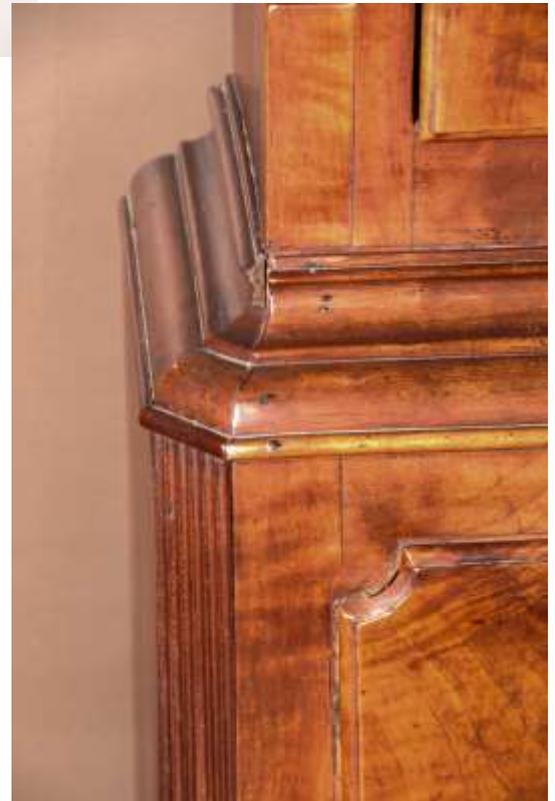
Thomas Bryan Martin Clock/sundial photos p3



Penciled name and date of servicing clockmakers, "Dotty Lee" looks like a child's hand. Information on brass plate probably incorrectly states made "for Lord Fairfax" who d. 12/7/1781, because painted dials from England are not known to have been imported during Revolutionary War ending 9/3/1783. More likely made for his nephew, Thomas Bryan Martin, ca. 1785-1795 based on dating the dial with author M. F. Tenant examples. Note G. Chandler, helped Martin as an appointed Administrator of Lord Fairfax's estate.



39 inch one second pendulum, Left weight hourly bell strike train, right weight for the time train, eight day clockworks by Chandlee



Chandlee's clock cases made by various makers. Maker of this case unknown.



Clock's companion Brass Sundial's visual appearance of patination.



Clock's companion Brass Sundial as it appeared in 1943 edition of "Six Quaker Clockmakers" by Edward E. Chandlee; page 120 showing the original gnomon. Current replica gnomon is very similar.



Goldsmith Chandlee's TBM Clock

Left: Photo in 1943 edition of *Six Quaker Clockmakers* by Edward E. Chandlee; page 122 – Owner Miss Nellie C. Kennerly. Note feet and finials are missing.

Right: Photo 2015 of same clock with replacement finials and feet. Similar finials seen on other Chandlee clocks.

Edward Chandlee, in his book, estimated Goldsmith made 40 clocks in his lifetime, and pictured 13. See “full view” of book:

<http://catalog.hathitrust.org/Record/007557296>



Brass Dial's Silver appearance is reflection of diffused lighting; 9 3/8 inches square. This gnomon is a replica of the original.



Companion sundial and clock. French Scroll font for initials, Bodini font elsewhere. W is Chandlee's early style.

G. Chandlee Sundial and other items at MSV – Photos p1

Photo Addendum of Goldsmith Chandlee's Pewter Sundial, Silver Teaspoon, Surveyor's Compass, and Clock, at The Museum of the Shenandoah Valley (MSV), Winchester VA -- A demonstration of the breadth of skills and knowledge of a Shenandoah Valley clockmaker



G. Chandlee Sundial and other items at MSV p2



5 1/8 inches square

G. Chandlee Sundial and other items at MSV p3



G. Chandlee Sundial and other items at MSV p4



Back of G. Chandlee's 5 1/8 inch pewter sundial at MSV.

G. Chandlee Sundial and other items at MSV p5



Silver Teaspoon and Silver Marks, G or C? W E WM? - customer?
GC for maker Goldsmith Chandlee

G. Chandlee Sundial and other items at MSV p6

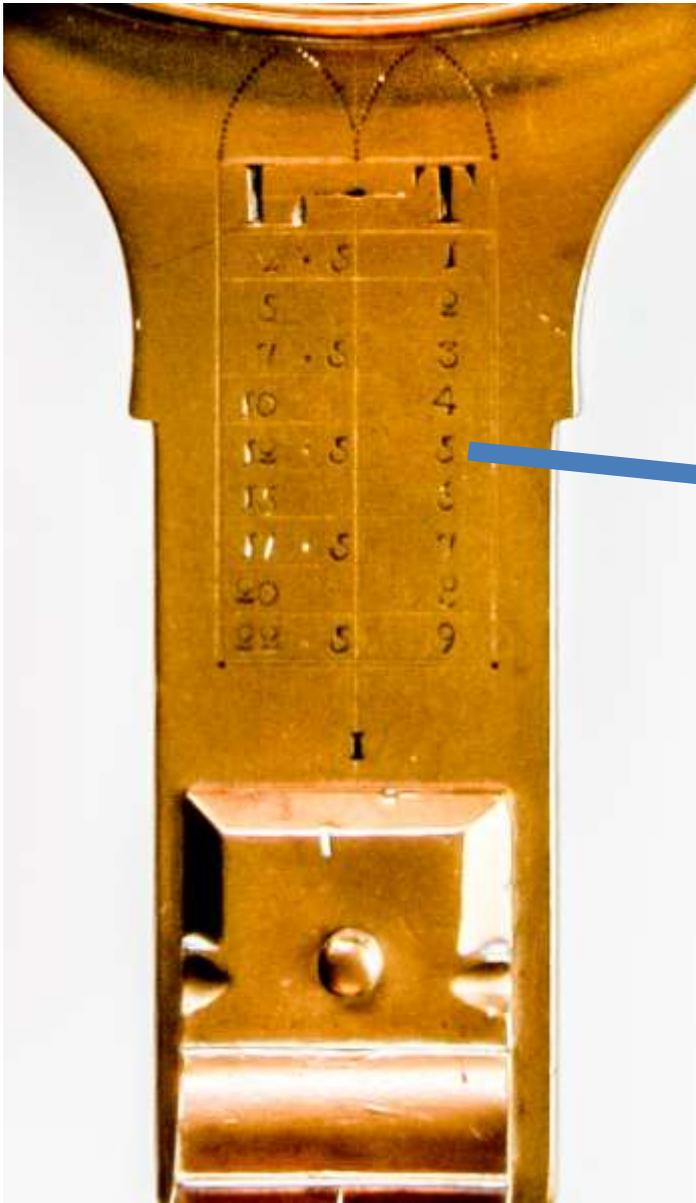


Sight Vane



Surveyor's Compass – 15 inch length – 6 7/16 inch diameter

G. Chandlee Sundial and other items at MSV p7



Chandlee's Surveyor's Compass L - T Table

Links and Tenths length
calculating table attributed to G.
Chandlee.

It converts tenths of perches to
links and vice versa.

12.5 Links = 5/10 of a perch

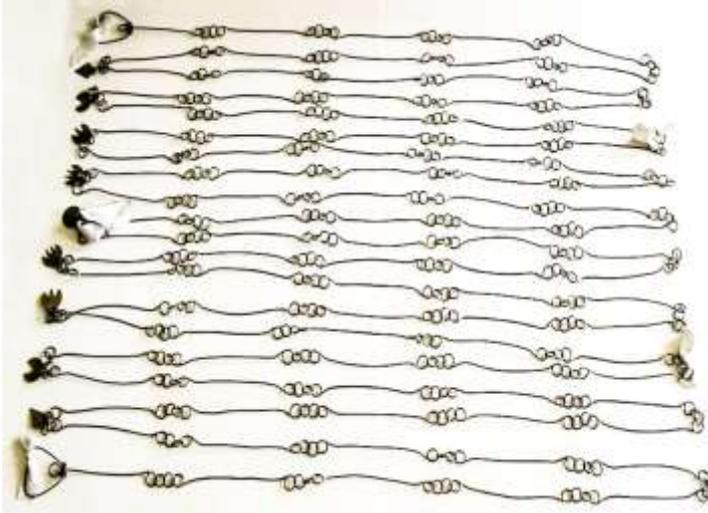
A surveyor's chain = 100 links:
A rod, pole or perch is $\frac{1}{4}$ of a
chain (16.5'), which was the
common imperial land distance
and area measurement.

In context:

A chain is 66 feet, is 22 yards;
perch is 16.5 feet, $\frac{1}{4}$ chain;
link is 7.92 inches, $\frac{1}{100}$ chain;
furlong is 10 chains is 660 feet, is
220 yards, is $\frac{1}{8}$ mile;
acre is 1×10 chains (66' x 660' =
43,560 sq. ft.).

Sample of distance measuring
Chain:

Note white Ribbons mark $\frac{1}{4}$ chain
indicators that = a perch = 25
links. Dark tags on left are at 10
links or tenths of a chain. On
longer stretches, two people, one
at each end of the chain, would
'flip flop' end for end. One person
would remain stationary while the
other walked past.



G. Chandlee Sundial and other items at MSV p8



Surveyor's Compass -- Bottom -- showing mounting post, 2 knobs for counting dials and 2 knobs for mounting the sighting vanes.
For more information on Chandlee's inventiveness re Tables and counting dials, see: <http://archives.profsurv.com/magazine/article.aspx?i=823>

G. Chandlee Sundial and other items at MSV p9



Compass Model – early W -- unknown purpose – any ideas? 1. Drill hole pattern? 2. ?

G. Chandlee Sundial and other items at MSV p10



Front and Back
13 inch length – 5 1/8 inch diameter – W early style

G. Chandlee Sundial and other items at MSV p11



Seldom used script font signature on both objects - French script font - same font as customer's initials on his brass Sundials.

G Chandlee

Paper advertisement found in wood box for a Surveyor's compass.



**Goldsmith Chandlee items showing his breadth of production.
MESDA museum, Winston Salem NC**

Pewter sundial, 5 1/8 inches square.



**Goldsmith Chandlee items showing his breadth of production.
MESDA museum, Winston Salem NC**

Back of MESDA pewter sundial dial, showing etched name and date – maybe T J
McClun (Thomas Jr. Clun?)-- Possible date above may contain 1 ___ 8



Goldsmith Chandlee items showing his breadth of production. MESDA museum, Winston Salem NC

Establishing the ownership of the MESDA pewter sundial made by Goldsmith Chandlee with barely legible etching on the back; Maybe T J McClun or McClung

Evidence From: THE QUAKER McCLUNG FAMILY -

<http://freepages.genealogy.rootsweb.ancestry.com/~rootsr/Mc-Quaker.htm> *What can be said is the Thomas McClun (McClung) family lived near Winchester VA and had a growing family that would have been of an age to own a sundial. The McClun's were members of the Hopewell Meeting, Frederick County and Chandlee at the nearby Center Meeting in Winchester VA.*

1-1 THOMAS McCLUN The first known ancestor of this line was born in Scotland or Ireland about 1690. He married Elizabeth Hainan 19 June 1714. They were both of Rathfryland, County Down, Ireland. They were married at the house of Robert Wilson. They were members of the Society of Friends. Thomas dropped the final letter "g" from his name in order to distinguish it from that of a neighbor named McClurg. He afterward expressed regret for having mutilated the name, and advised his children to restore the letter to their name upon attaining their majority. Some of his descendants did so, while others omit the letter to this day. We will record the name in this record as each family writes it.

3-2 THOMAS McCLUN, Jr (1730-d1808) Could this be the Chandlee sundial Owner and account for the possible *T J* appearing before *McClun*. The third child of Thomas and Elizabeth Hainan McClun was born 8 May 1730 in PA. He moved from Chester County, PA to near Winchester, VA about 1754. He died 21 Oct. 1804. He was a farmer and carpenter. He married 12 Nov 1761 to Hannah Perkins. She was born Sep 1740 to Isaac and Mary Perkins. Hannah was the eleventh of fourteen children. She died 27 May 1812. They were members of the Society of Friends. The following minutes of Hopewell Meeting of Frederick County, VA is on record 26 Mar 1759: "Thomas McClun produced a paper to this meeting condemning his proceedings in hiring a man in his room to go out a scouting against the Indian enemie, also appearing in the field to muster, all which he now condemns to the satisfaction of this meeting and this meeting orders James Wright to read the said paper at the close of a first day's meeting and return it to the clerk to be recorded."

5 Oct 1761, "Thomas McClun was allowed 12 pounds more than his former bargain for building the Hopewell meeting house, which augments the sum to 55 pounds, 10 shillings." Reportedly he was the builder of the first section of the surviving Hopewell Meeting – later expanded.

"The friends appointed to see the orderly accomplishment of the Thomas McClun's and Hannah Perkins' marriage report the same was decently accomplished." 8 Oct 1771. This meeting appoints Thomas McClun Overseer in the room of Joseph Lupton until further orders." Thomas and Hannah had thirteen children.

6-3 THOMAS McCLUN The sixth child of Thomas and Hannah Perkins McClung was born 24 Feb 1771, d. 1 June, 1843 (Married about April 1793 to Elizabeth Bailey; they lived in VA, had 7 children.) *Ownership of the dial is not established, but there is a possibility of McClun family connection. Research & Speculation by Walt H. Sirene, November 21, 2015.*

**Goldsmith Chandlee items showing his breadth of production. MESDA museum,
Winston Salem NC**

Pewter mold for 1 piece cast of pewter sundial



**Goldsmith Chandlee items showing his breadth of production.
MESDA museum, Winston Salem NC**

Brass mold for casting single piece pewter sundials;
Goldsmith Chandlee, in Winchester VA ca. about 1784-d.1821
Roman Numerals used in his earlier work period.



Goldsmith Chandlee items showing his breadth of production.

MESDA museum, Winston Salem NC

MESDA Information about pewter sundial mold

Period Room Worksheet

05/15/2002

4372

Mold, sundial (DATE MADE: 1779-1821 EARLY: 1779 LATE: 1821)

Chandlee, Goldsmith (1751-1821)

Winchester, Virginia

brass

DESCRIPTION: Two extant parts of a three part mold for making cast pewter or lead sundials; remaining two parts comprise the mold for the face of the sundial and the gnomon; the vacant area between the two parts of the mold on which the face is engraved is for the formation of the gnomon; each corner of the mold (when two pieces are fitted together) has an iron pin within a decorative surround; the sundial face is engraved in reverse with Roman numerals and a compass rose at the base of the gnomon. The graduated dial marks fifteen minute intervals from 5 A.M. to 7 P.M. The maker and place of manufacture are also engraved on the mold.

STYLE: The MESDA research staff has recorded several sundials, tall-case clocks, and transits made by Chandlee including a sundial of the same style (2397.2) that was previously on loan to MESDA and one currently in the MESDA collection (4144).

According to John Bivins, this mold had a third section, a brass casting with an open square cavity which fit firmly with the existing sections. The sides of the remaining pieces are beveled to ensure a close fit. The sprue or spout into which the molten metal was poured for the casting would have been on the back of the third part. Bivins speculates that the sprue was probably several inches long in order to provide the weight necessary to fill the entire cavity of the mold. The iron pins on the parts of the mold which form the dial plate served both to separate the parts of the mold to achieve the desired thickness of the final product and to provide holes for mounting screws to install the finished sundial.

**Goldsmith Chandlee
items showing his
breadth of production,
MESDA museum, Winston
Salem NC**

**Surveyor's Compass
Made for I. Fawcett**

At N, engraved
Fleur de lis



Goldsmith Chandlee's Outkeeper "P"

Goldsmith Chandlee placed an outkeeper on his compasses like none other.

The outkeeper that Goldsmith Chandlee invented and developed had no equal. Chandlee's outkeeper is operated from the bottom of the compass. As the knob is advanced, the integers 1 through 16 can be viewed through a window as seen from above the compass. At the same time the knob advanced, a pointer or hand moved to point to the numbers 0 through 320, engraved on the face of a dial in 20-unit increments. So, as the number of "outs" is counted from 1 through 16, the dial/hand arrangement converted the "outs" to poles; 320 poles = 1 mile. Thus, we had our first automatic data collector, which is so popular in today's electronic/computerized world of surveying. - See more; his inventiveness at:

<http://archives.profsurv.com/magazine/article.aspx?i=823>



Goldsmith
Chandlee
items showing
his breadth of
production,
MESDA
museum,
Winston Salem
NC

Surveyor's
Compass
Made for I.
Fawcett



**Goldsmith Chandlee items showing his breadth of production. MESDA museum,
Winston Salem NC**

Perhaps only known Chandlee surveyor's compass tripod



Goldsmith Chandlee items showing his breadth of production. MESDA museum,
Winston Salem NC

Chandlee note, 1813, regarding delivery and price of surveyor's Compass and Chain,
£10-2-6

Respected Friend Winchester 23^d of 1^{mo} 1813

I have been requested by Joshua
Whitman of your Town to send a Compass & Chain
to thy care - please to receive it & let him know
if it he is to pay thee for it - the

Price of Compass & Chain - is £10-2-6
also what our Friend Basscutt charges for Carriage he is
to pay, when he receives the Money may send by ~~the~~
~~Post~~ to him paying thyself for Trouble with
the business thy attention to the business will
much oblige thy friend

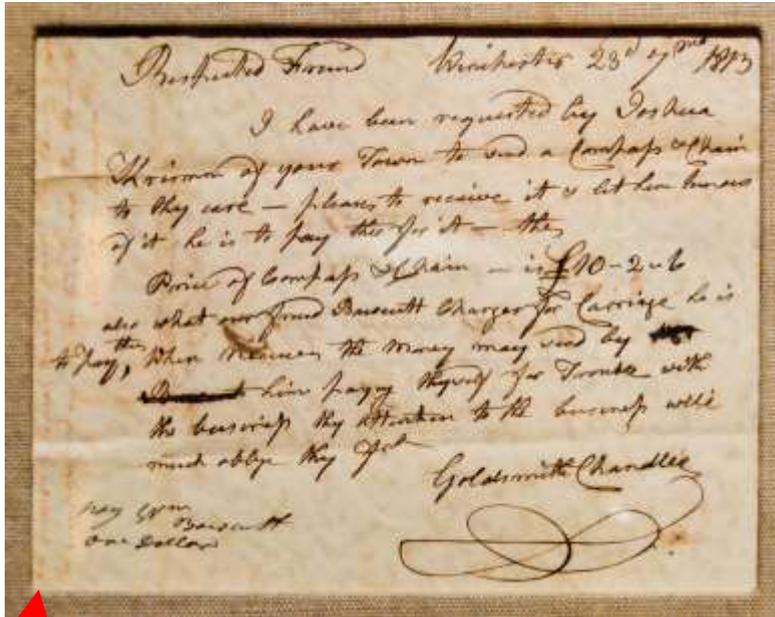
Goldsmith Chandlee

pay W^m
Basscutt
one Dollar



Goldsmith Chandlee items showing his breadth of production. MESDA museum,
Winston Salem NC

Chandlee note Interpretation by Walt H. Sirene, November 22, 2015



£10-2-6
6.
10"8"6

This posted From Winchester 23^d 7^{mo} 1813

I have been requested by Joshua
Thrisman? of your town send a Compass & Chain
to thy care – please to receive it & let him know
of it he is to pay this for it – the
price of Compass & Chain – is £10-2-6
also what our friend B____cutt? charges for carriage he is
to pay this when receives the money may send by
him paying thyself for trouble with
this business thy attention to the business will
much oblige thy *fnd* (Is *fnd* abbreviation for Quaker Friend?)

pay Wm B____cutt?
one Dollar

Goldsmith Chandlee

NB August 3d Jerimiah H____? read this _____? and gave
the Compass and _____? on the 23rd Paid the money to
William B____cutt?

(NB = “Latin for Nota bene”. Came into English usage 1711 indicating
“Note something important”.)

Goldsmith Chandlee sundial and items at John Marshall House, Richmond VA Page1



Goldsmith Chandlee sundial and items at John Marshall House,
Richmond VA which is at Latitude 37 degrees 30 minutes.

Page 2



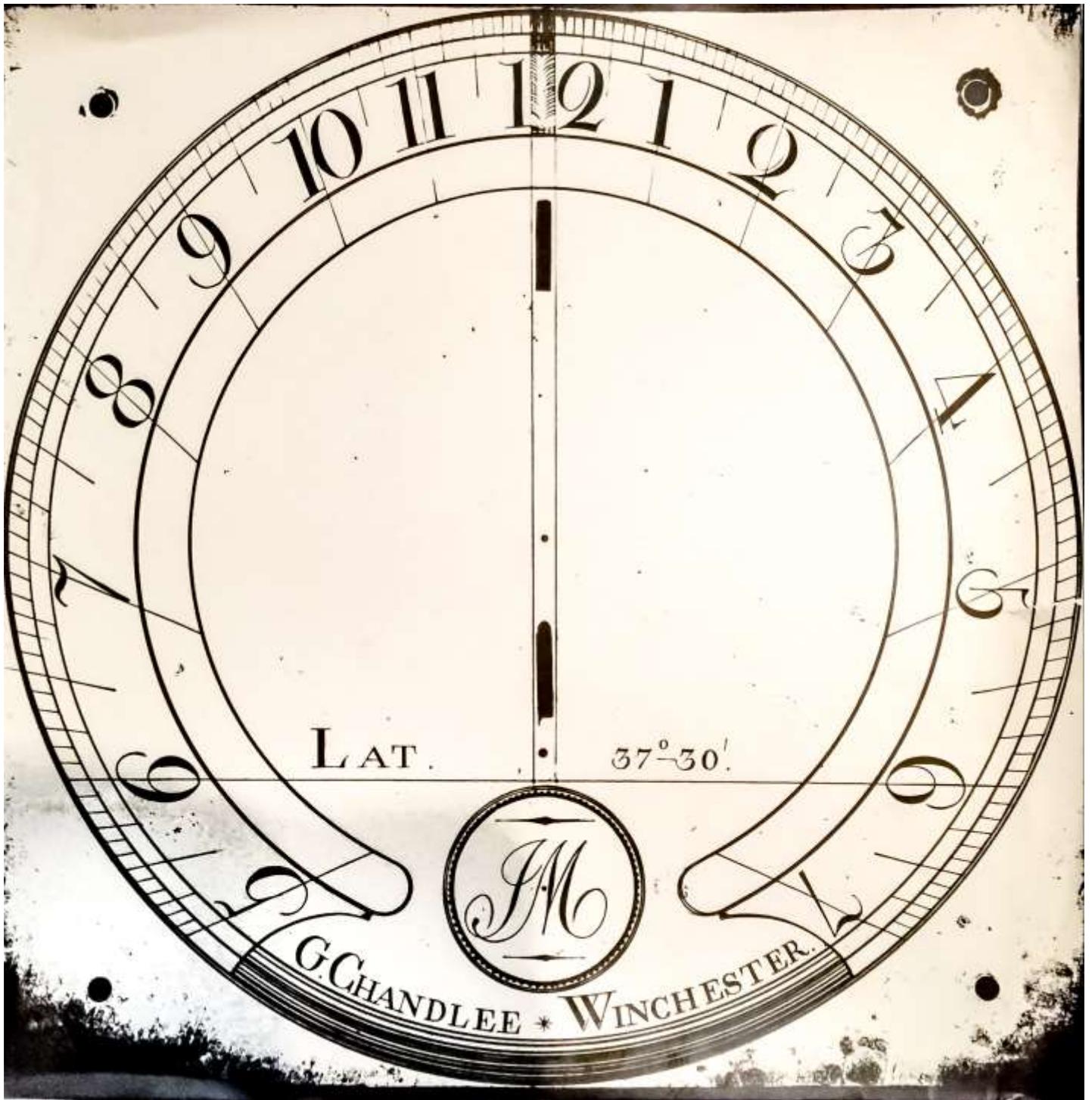
Goldsmith Chandlee sundial and items at John Marshall House,
Richmond VA; Brass; Engraved Sundial Page3



**Goldsmith Chandlee sundial and items at John Marshall House,
Richmond VA** **Page 4**

Backside of John Marshall's sundial made by Goldsmith Chandlee. Note how design provides for gnomon feet to pass through the plate.





Apparently the blueprint for the five reproduction sundials made Ca. 1973

Reproduction of Sundial Unveiled at Marshall House

By Betty Pettinger

Times-Dispatch Staff Writer
The time on the sundial said 11 a.m.

Everybody's watch said noon, but the sundial was right for telling the "sun" time, the time by which John Marshall would have regulated his life. In his day, there was time for everything and saving daylight was of no consequence.

A reproduction of John Marshall's sundial was unveiled at noon yesterday in the garden of the John Marshall House in the presence of members of the Tuckahoe Garden Club, which has landscaped the garden, officials of the Association for the Preservation of Virginia Antiquities, which maintains and manages the house, and other dignitaries. City Manager Manuel Deese arrived late to represent the city, which owns the property, but took part in the festivities.

The unveiling of the sundial, copied by a firm in Utah from the original sundial, which will remain in storage, was unveiled yesterday in celebration of John Marshall's 225th birthday, which is today.

Mrs. Kenneth R. Higgins, a descendant of the famed jurist, and former chairman of the John Marshall House Committee of the APVA, also called by one of the speakers "god-mother" of the house, unveiled the sundial with the assistance of Robert H. Garbee of Lynchburg, president of the APVA and Mrs. Fred Harrison,

a Marshall descendant and member of the Tuckahoe Garden Club.

During the ceremonies S. Douglas Fleet, another former Marshall House committee official, paid tribute to the Tuckahoe Garden Club, which did the original landscaping of the house about 30 years ago. After John Marshall High School was razed, the house renovated and the John Marshall Courts Building erected, the club again assumed the task of developing a little garden at the house.

The plan for the garden was developed by Mrs. Higgins' husband, a local landscape architect. The brass sundial is in the center, on a masonry pedestal, surrounded by brick and gravel paths, borders of bulbs, daylilies and ground cover, and green lawns dotted with old and new magnolias, four boxwoods from Marshall's home in Fauquier County, a willow oak and a mulberry tree. The latter was found on the South Side and transplanted to the garden because Marshall records refer to the presence of a mulberry tree. The entire garden is bordered by young American hollies, which, when they grow, will offer privacy from the street on one side and the encroaching John Marshall Courts Building on the other.

The sundial contains John Marshall's initials, the name of the maker, G. Chandlee of Winchester, and Richmond's latitude, 37 degrees, 30 minutes.

A limited number of reproductions will be made and sold.

The story of the sundial goes back some years to a note from a Marshall cousin in West Virginia to Mrs. Higgins inquiring about Marshall's sundial, which had been given by the cousin's brother to the house.

Mrs. Higgins, who had never heard of the sundial, rushed to the house and after a long search discovered various pieces of it in various places. She took it all home and worked on it a week, putting it together and cleaning it.

She found that Chandlee, the sundial's maker, came to Winchester in 1775 from Chester County, Pa., and that he was also a watchmaker, brass founder, silversmith and maker of surveyors' instruments and scales. He was also a volunteer fireman, prepared legal papers, was an official of the court and altogether an important citizen of Winchester.

Also on display at the house yesterday were a silver coffee-pot and sugar bowl given by Mrs. Higgins in honor of Marshall's birthday. They are part of a service which belonged to Marshall's son, Dr. Jacquelin Ambler Marshall, and his wife who lived in Fauquier County. The service was made by William Mitchell Jr., a Richmond silversmith and one of the organizers of Hollywood Cemetery.

During his talk, Fleet paid tribute to "the great India of Richmond" who saved the

Marshall House from destruction when plans for the erection of the old John Marshall High School in 1907 called for its demolition.

225th BIRTHDAY — Mrs. Kenneth Higgins, Robert H. Garbee and Mrs. Fred Harrison admire sundial at the John Marshall House. They celebrated the anniversary of his birth 225 years ago.



Staff Photo by Tommy Price

1973-754



Reproduction sundial stolen from the garden of the John Marshall House

Along with copper downspouts

Goldsmith Chandlee sundial and items at John Marshall House, Richmond VA

Was this the timepiece he set with his Chandlee sundial? Page 7

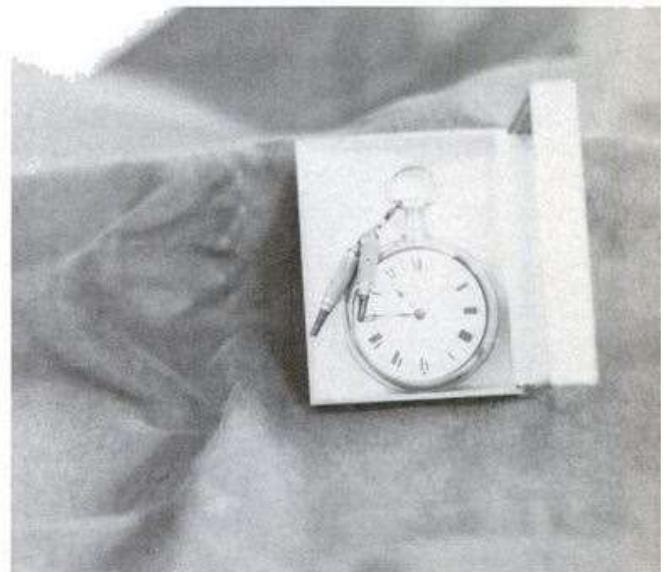
Supreme Court Exhibit

THOSE WHO attend the American Bar Association's annual meeting in Washington this August will see a preview of the Supreme Court's new historical exhibit located in the Supreme Court Building. A major item in the exhibit is a watch once owned by Chief Justice John Marshall and worn two years ago by Lewis F. Powell, Jr., when he was sworn in as an associate justice of the Court. Chief Justice Burger (left) is shown with Prof. William F. Swindler (center) of the Marshall-Wythe School of Law of the College of William and Mary, who is chairman of the new Advisory Committee on the History of the Judiciary; and Richard H. Howland (right), special assistant to the secretary of the Smithsonian Institution. Below is a photograph of the Marshall watch.



A recent acquisition for the projected historical exhibit and an example of the type of "association item" the committee hopes to locate for various members of the Court over the past 184 years is a watch once owned by Chief Justice Marshall. The watch attracted news interest two years ago when Lewis F. Powell, Jr., of Richmond, Virginia, wore it at the time of his swearing-in as an associate justice of the Court. The watch was owned by Jay W. Johns, president of the Virginia Trust for Historic Preservation, who subsequently presented it to the College of William and Mary, where Marshall took his only formal legal study. The college and the donor have agreed to place it on indefinite loan with the Court for the historical exhibit. A descendant of Chief Justice Marshall has advised that she will send Marshall's watch fob to the collection.

An offer of a fine eighteenth century set of dinnerware also has been received, and recently descendants of Chief Justice Morrison Waite sent to the Court a black onyx desk set used by him when he was in office, 1874 to 1888.



1865); Samuel Chase (1796–1811); Tom C. Clark (1899–); Benjamin R. Curtis (1809–1874); William

**Goldsmith Chandlee sundial and items at John Marshall House,
Richmond VA Sealing Wax Stamper as Watch Fob.**

GC Engraving?

Page 8



Original

Appearance

Mirror



Mirror Images

Goldsmith Chandlee Probate Appraisements, Transcription in Handley Library, Winchester VA files

Annotations by author

Note, probates at this time often had both appraisement and sale documents as seen here.



1 eight day clock, long second & case \$40. Tall Clock values \$ 80.00
 4 " " short " 16. 160.00

Tall Clock values

2 Walnut Cases 32.00
 9 pr. Clock Hands (gilt) 3.00
 6 second " " .75
 19 pr. Steel " blk " 2.00
 2 Gravers .16
 2 3/4 # Scotch Stems .50
 1 Doz. Suit level Tubes 1.00
 2/3 " Brass Pinions .50
 1 Small Clock 5.00
 1 box Conty 14 lights Clock, Glass 8.00
 1 Clock lergine 50.00
 1 Deviding " 15.00
 1 " " small 6.00
 1 Stake 1.00
 1 Dial Mould 5.00

Sundial mold? Mould English spelling

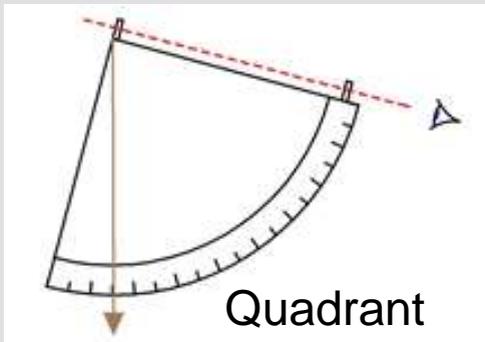


1 9/12 Doz Bow Strings 2.00
 1 " " Watch chains, steel 4 strans 5.00
 2 Chains 6 " 1.00
 9 Watch Chain Seals 2.50
 3 10/12 Doz. Watch Rings 3.00
 2 1/12 " MainSprings 3.50
 3 " Watch Dials 1.12 1/2
 1 Watch Chain (Seel) .12 1/2
 2 Doz. Steel wires 1.00
 4 1/2 " Watch Hands (Gilt) 2.00
 2 3/12 Doz Files 2.50

Amt. Carried Forward

\$393.66

2 Saw Blades .50
 1 Burnisher .25
 12 Files 1.00
 3 papers polishing powder .18
 2 " Ink .16
 5 Gross Watch Glasses 35.00
 2 11/12 Doz File shafts 1.50
 10 Branches (Clock & Watch) 1.60
 2 set of die for figures .30
 1 Old Watch 2.00
 1 Balanced Stool 2.50
 1 first oil Stone .12 1/2
 2 tide Sticks .50
 1 doz. pr. watch hands (Gold) 1.00
 6 1/2 " Key Pipes .65
 1 1/2 " Chain Hooks .12 1/2
 4 1/2 " Watch, hair springs 1.00
 8 Vnges 2.00
 2 5/12 Doz. Steel Watch Hands .50
 16 Case Springs 1.00
 31 " Buttons 1.00



Quadrant



2 large Compasses (Lowayers) 120.00
 1 " " " unfinished 40.00
 3 Tea Squares 15.00
 2 Brass Sealers (1 foot long) 10.00
 2 " " 9 inches long 5.00
 4 " " 6 " 3.50
 4 " " 4.00
 12 Protractors 9.00
 1 Small Compass 7.00
 1 Quadrant 10.00
 2 Case pgratting instrument 16.00

Quadrant could measure Latitude?

Carried Forward

\$685.25

1 Case Platting instrument 7.00
 7 pr. Dividers 2.50
 15 " " 5.00
 4 Pocket Compasses (Trap box) 1.00

(2)

1 Pocket Compass (Wood)	1.25
2 Mariner " Unfinished	4.00
1 lot Pattern	1.25
1 box "	.25
1 lot Fish skins	.50
1 Seal Tool	1.50
1 pr. Button Molds	.37 ¹ / ₂
1 lot pinions	.25
1 plate for copy plate printing	.50
1 lot Watch tools	5.00
1 Magnet	3.00
1 lot Tools	1.00
parts of small pocket compasses	.25
78 ¹ / ₂ Spellon @ 13¢ per	10.20 ¹ / ₂
1 lot Brass tubes	.25
Compass needles	.06
7 vials with some locking	.50
1 Tan plate stove (with pipe)	16.00
1 Sec. " "	10.00
1 Cooking Stove (with apparatus)	40.00
1 Regulator	20.00
13 ¹ / ₂ Sheet Brass @ 68¢ ft.	10.71
1 Glass Stand	.25
1 Barrel tool (Watch)	.50
1 lot of tools in small box	.50
1 " " old files	.25
1 " " " "	.25
1 Doz. old Files	1.50
1 " " "	1.00
1 lot " "	.50

Amt. Carried Forward

\$832.30

1 Thane Lathe	2.50
1 lot Hammers	.50
1 long Lathe	10.00
1 lot of Tool for compass work	3.00
1 part of a Clock	2.00
1 " " "	4.00
4 small Boro Lathe	4.00
1 lot of Arbomers	.25
1 Barue tool for Clocks	.25
1 lot of Clock-maker tools	3.00
1 large Turkey Oil Stove	1.00
1 lot of Files &C	2.00
1 lot of Clock wheel patterns	.25
1 Clock Dial	1.00
1 " " "	8.00
2 Gold Scales	.75
3 suveyers chains	7.50
2 Dial plates & 1 stele	2.00
6 Pewter Sun Dials	3.00
2 pair scales	.50
15 Iron Weights	2.00
1 Hackle	1.50
4 Sticks Black Ball	.32
2 barrels Tarr	6.00
148# Tobacco (tan 18) Heat 130 20¢	26.00
42 Leafer @ 10¢	4.20 ¹ / ₂
49 ¹ / ₂ Peuter " @ 20¢	9.90
1 Cheese Hoop	.06
164 tallors @ 12 ¹ / ₂ ¢	20.50
1 stone jug	.50
1 Earthern "	.25
1 Large Spinning Wheel	1.00
3 Small " "	6.00

Amt. Carried Forward

\$966.08

1 Patent Head	1.00
12 Corn Brooms	.75
2 Beamers	15.00
2 large chest of Drawers	10.00
1 Watering Pot	1.50
1 small Cupboard	6.00

6 pewter sundials



(3)

2 Corner Cupboard	3.00
1 Large Chest	1.00
23 Spools	1.00
1 Man's Saddle	1.00
1 pr Saddle Bags	1.50
A small piece of Leather	1.50
3 Desks	20.00
1 Book Case	3.00
3 Dining Tables	12.00
2 Breakfast "	5.00
4 Waiters	1.00
7 Green Col. Chairs	7.00
7 Yellow "	7.00
7 Mahogany "	7.00
2 Arm "	1.00
1 Arm large "	1.00
2 pr. Shovel & Tongs	2.50
5 " And Irons	4.50
1 Carpet	3.00
1 "	4.00
1 " 25 $\frac{1}{2}$ yds @ 62 $\frac{1}{2}$ ¢	16.10
1 Stair Carpet	4.00
old Carpet	2.00
7 Stuff Bottom Chairs	7.00
26 Sheets	27.00
13 Pillow Cases	3.00
5 pr. Window Curtains	7.50
10 Table Clothes	15.00
6 long towels	2.00
16 Short "	3.00
2 silk Bed Curtains	9.00
	<hr/>
	Amt. Carried Forward.
	\$1184.93
1 sett Cotton Curtains	.25
3 Counterpins	7.50
6 Quilts (Cotton)	18.00
5 " Stuff	6.00
6 Coverlids & 3 blankets	39.00
2 Bolster ticks	.50
1 Waggon Cover	2.50
4 $\frac{1}{2}$ yds linin	2.06 $\frac{1}{2}$
9 " Cotton Linin @ 25¢	2.25
1 Bot	2.00
2 Cloth Baskets	.50
1 Small Table	.50
1 Chamber	.10
2 old chests	1.50
1 Auger & Plain	1.25
1 Large Iron Kettle	1.50
1 small " "	1.50
3 Dutch Ovens	4.50
2 large iron pots	3.00
2 small " "	2.00
1 Tea Kettle	2.00
1 Mortar	.75
1 Iron Skillet	1.50
1 Bellmettle Kettle	3.00
1 Lathorn	.50
1 Candle box	.25
1 Warming Pan	2.00
2 stone milk pots	.75
1 pickle pot	.30
8 Earthern "	1.00
2 wooden buckets	.75
1 tin "	.25
4 earthern jugs	1.25
5 " pans	.33
2 stone jars	.50
3 pair pot hooks	1.00
1 Grid Iron	1.50
1 pr smokking Irons	.75
	<hr/>
	Amt. Carried Forward.
	\$1298.72 $\frac{1}{2}$

(4)

1	Baker Iron	.75
1	set Large Iron Ladles & Forks	1.00
1	lot Skimmers	.25
1	Coffee Mill	.25
1	lever	.10
1	pair steelyards	.33
2	Wooden Bowls	.50
1	Bench	.25
1	Draugh Trough	1.00
2	pot racks	3.00
2	Bread Trays	.25
3	Coffee Pots	.75
1	doz. Large Knives & Forks	1.25
1	" Small	.75
7/12	" " "	1.00
1	Window Shade	1.00
2	Stuff Window Curtains	2.25
2	Washing Tubbs	2.00
1	Cleaver	.25
1	Wood Saw	1.00
1	Hand "	1.25
1	Clothes Brush	.12 ¹ / ₂
1	Shovel	.50
1	Axe	1.00
1	Carriage & Harniss	100.00
1	Map of the Frederick County	2.00
1	Fly Brush	.06
2	Locking Glasses @ 2.	4.00
2	" " small	.62
1	Pitch Fork	1.00
1	Scythe	.75
1	lot of Sand Flasks	3.00
1	Shop Bellows	2.50
1	pr Tongs castings	.25
1	Short Plough	1.50
6	old Chairs	1.50
"	Coals	.60
Sorn supposed to be 6 BBL.		12.00

Amount Carried Forward.

\$1449.30¹/₂

Books.		
1	Volume of Inal Visitor	.25
1	" George Ansons Voyage	.50
1	" Dixons	.25
1	" History of Insurrection	.06
1	" Captain Riely Narrative	1.00
1	" Johnsons Dictionary	.75
4	" Penns Works 4 books	20.00
5	" Josephines 5 "	1.25
1	" Immortal Martor	.37
1	" British Spy	.25
1	" Voyages to North America	.06
1	" Diaephine	.25
1	" Clarksons Works	.75
1	" Wm. Lancy	.12
1	" Physics	.25
1	" Pinkertons Geography	.25
1	" History of Virginia	.12 ¹ / ₂
1	" Paridise Lost	.62
1	" Job Scots Journal	.25
1	" Kanay Treaties	.25
1	" Daniel Staunton	.25
1	" George Whiteheads	.50
1	" Practical Piety	.25
1	" John Griffith	.25
1	" Moores Journal	1.00
1	" Rides & Progress	.25
1	" John Richardson	.25
1	" Speake	.12 ¹ / ₂
1	" Letters	.25
1	" Navigations	.12 ¹ / ₂
1	" English Reader	.50 ¹ / ₂
1	" lot of Pamphlets	.50

(5)

1	Volume of Pamphlets		.80
1	"	Monthly Magazine	.25
1	"	John Churchman	.12 $\frac{1}{2}$
1	"	English Physician	.12
		Amt. Carried Forward	<u>\$1463.23</u>
1	lot Pamphlets		.50
1	"		.50
1	The Philanthropist		.50
2	books		.37 $\frac{1}{2}$
1	volume of Lukes Principals		.25
1	"	Family Advisor	.25
1	Cathiern		.12 $\frac{1}{2}$
1	lot pamphlets		.20
7	Arithmetical Table		.21
1	Volume Primitive Christianity		.25
1	"	Mary Neah	.25
5	Razors & 1 strap		1.50
1	pair Spectacles		.25
1	Carrister bont Powder		.12 $\frac{1}{2}$
1	box Clock glasses, 12 lights	50¢ each	6.00
2	Vices		6.00
2	"		4.50
	A lot of Pewter Dishes & Bowls		2.50
	A lot of Quans & Glass Wans		10.00
	An old Wagon & gears		10.00
1	Blind Horse		1.25
4	Glass Jars		9.75
78	pots @ 12 $\frac{1}{2}$ ¢		6.00
20	nests 4 pots in each @30¢		5.72
26	" 3 " @22¢		3.75
60	small pots @ 6 $\frac{1}{2}$ ¢		.36
9	" " 4¢		1.30
13	" " 10¢		.50
8	" " 6 $\frac{1}{2}$ ¢		2.50
10	Gallon Jugs @25¢		2.20
11	" " 20¢		.87 $\frac{1}{2}$
7	" " 12 $\frac{1}{2}$ ¢		.24
3	1/8 " " 8¢		.25
1	large pot		2.00
5	pickle " 40¢		1.28
8	large pans 16¢		1.20
12	Small " 10¢		
		Amt. Carried Forward.	<u>\$1551.64</u>
4	Small Pans @8¢		.32
18	" " 4¢		.72
7	Chambers 12¢		.84
4	Flower Stands 17¢		.68
2	Killidaracipes		.25
1	pr. Spoon Moulds stools unfinished		.75
7 $\frac{1}{2}$	ft Pewter @20¢		1.55
29	Leads 3¢		.87
11 $\frac{1}{2}$	Brass 20¢		2.32
62	old Brass 10¢		6.20
8	" 25		2.00
	Tumblers		.25
6	wire glasses		.50
1	round Stake		1.00
8	Watch Brushes		1.00
2	Holten Chains		3.00
1	Family Bible		9.00
1	4/12 Doz. Silver Tea Spoons		15.00
6	Silver Table Spoons		.50
1	Lamp		3.50
	Sundry articles of Glass ware		.62
1	Japan & 1 Wooden Sugar Bowl		1.50
1	set of Knives & Forks		.50
1	Decanter		1.00
A	Wash Stand		1.50
2	" each \$1.25 & .25		.75
2	Rust Boston Chairs		30.00
1	Feather Bed & Stead		.25
1	Perpitual Alurmack		



(6)

A Lot Quean, Japan & China Ware & other	7.00
1 Bed Stead, Bottom & Covering	25.00
1 " " " "	25.00
1 " " " "	15.00
33# Carpet Stripes @6¢	1.98
1 Bed Stead & Cov.	20.00
58 lbs Rags @ 3¢	1.74
Sundry Wearing Apparel	30.00
1 Bed & Covering	12.00
1 Bed, Bed Stead	12.00
	<u>1788.78½</u>
	Amt. Carried Forward
1 Spring Rat Trap	.50
1 Frying Pan	1.00
13 Candle Sticks	4.00
1 small paint stone	.50
17½ # Iron @ 6½ ¢	1.09½
3 Kegs	1.50
1 Chain	.75
10 Bushels Plaster @ 75 ¢	7.50
Sundry Barrels & C in the Celler	2.00
1 Pea Grubing Hoe	.25
5 Pea Bags	1.00
1 Cow \$10., 3 Hogs @ \$2.50 each	17.50
16 Black Bottles & 1 Stone Bottle	1.50
1 Reel	1.00
1 lot of Earthern Ware	.50
1 Woman Saddle	2.00
1 Barometer	5.00
	<u>1836.38½</u>
	Amt. Carried Forward
2 small size Surveyors Compasses	50.00
2 pr. old bed steads	1.00
1 old Magazine	.25
1 pr. shears	.50
1 pr. Casters	2.50
12 Clock Bells	3.00
1 pr. Patturns, 1 Funnell, 1 Mallet, Candle Moulds &c.	.50
A Lot of Oats, Grass, & C in the Ground	8.00
	<u>1902.13</u>

Daniel Gold,
John Hoff,
Henry Beatty.

At a Court held for the Corporation of Winchester the
31st Day of October, 1823.

This Appraisement of the estate of Goldsmith Chandlee Deceased
was produced to the Court and ordered to be recorded.

Tests:
Lem'l Bents, Clk.

A COPY.
CORPORATION CLERK'S OFFICE
WILL BOOK L PAGES 289-300 Inc.

Goldsmith Chandlee's Probate Sale - Transcription in Handley Library 1

Buyers: 1. George Graves is assumed to have been an apprentice of GC and advertised he took up clock making at GC's location. He bought numerous manufacturing items. 2. Mary Chandlee Thompson is GC's daughter by 1st wife; bought many household items. 3. Eunice Rogers Allen Chandlee is GC's 3rd wife. 4. Benjamin Chandlee is GC's son.

A MEMORANDUM OF ARTICLES BELONGING TO THE ESTATE OF GOLDSMITH
CHANDLEE, DECEASED SOLD THE 10TH DAY OF 4TH MONTH 1821.

Andrew Bush	1 Lot of old flour barrels.	.31
R. T. Baldwin	1 wood saw	.55
Andrew Bush	1 Lot old Keys and barrels	.60
George Sharp.	1 meat tab	.37½
Dan'l. Hartman	1 " "	.50
James Stockhorn	1 large keg	.45
Andrew Bush	2 old Saddles	.55
Andrew Bush	1 lot old pans & 1 old jug,	.12
James Raper.	1 pair Saddle bags.	1.30
Andrew Bush	1 lot Ladles & pot hooks.	1.50
William Seabright.	2 pieces upper Leather.	1.52
Andrew Bush	1 old looking glass and 1 cord	.13
Joseph Sidebottom.	2 Pewter tea pots and 1 salt cellar	.40
Eunice Chandlee	1 lot of spools.	.12½
Ditto	8 Pewter Plates.	1.02
	6 Pewter Plates.	1.06
Jonathan Robinson	1 Pewter Dish	1.06
Mary Thompson	2 pewter Dishes and 1 pewter Basin	.70
Eunice Chandlee	1 Basket	.41
Josiah Fawcett,	1 doz.....	.25
R. T. Baldwin,	1 pitchfork.	.77
Joseph Sidebottom.	1 Brass Clock	.12½
John Hardy	1 Small wheel	.50
Josiah Fawcett	1 do do	1.25
Beall Bishop.	1 do do	.50
Jonathan Lukins	7 Chairs (armed)	6.50
George Culler	8 old chairs.	1.25
Michael Haymaker.	2 old barrels (with some beans)	.12½

Goldsmith Chandlee Probate Sale - Transcription Handley Library 2

Daniel Gold	old carpet & old table	.35
Samuel Johnson	1 duger and 1 plane	.35
Jonathan Lukins	2 pair old andirons, pick & Shovel	.50
George Sharp	1 lot of dishes and 1 plate	.35
R. T. Baldwin	1 pair scales.	1.37½
Daniel Gold	1 lot custard cups and old tureen	.26
do	1 Hackle	.77
Jonah Fawcett.	1 pair small scales.	.38
Josiah Fawcett	1 sett Weight.	.71
William Thompson.	1 glass ink stand	.13
do	1 perpetual Almanac	.25
Wm. G. Singleton		.40
Mayr Thompson	1 wheel head	.40
H. Beatty	1 lot Black Ball, grator	.30
Jospaih Fawcett	4 crocks.	.36
Benjamin Chandlee	Hard shoap.	
Mary Thompson	1 pair brass topped andirons	2.90
Andrew Bush	1 pair stalyards	.57
Mary Thompson	1 mortar	.90
Andrew Bush	1 Lanthorn, Candle mōles & Sugar Funnel.	.80n
Robert Gray	1 Rat trap	.33
George Sharp	1 candle stand.	.12½
Henry Grove	1 old table	.13
H. Beatty	1 lot stone jars.	1.12½
Samuell Brown	1 knife cleaner.	.12½
Joseph Sidebottom.	1 shovel	.75
Joshua Lupton	1 hoe	.33
L. H. Davis.	1 Lot old tin ware, box and half peck	.50
Samuel Brown.	1 keg with some grass seed	.06½
S. H. Davis,	7 earthen jugs and 1 jar.	.70
Eunice Cha ndlee	1 large wheel	.26
R. T. Baldwin	1 pair brass topped andirons	1.45
do	1 wood saw carriage	.06½
Eunice Chandlee	1 Reel	.26
Samuel Bryarly	1 pair broken andirons	.76
John Hoff (Butcher)	1 wood saw carriage, 1 hand saw	1.30
Sameul Brown	1 lot crockery ware, etc.	.25
Richard Kidd.	1 pair Bedsteads.	.53
Samuel Brown.	2 rakes.	.10
Josiah Fawcett,	1 Scythe.	.66
Samuel Brown.	2 Stone Jugs.	.25
Michael Haymaker,	1 box old iron & 4 brooms.	.27
William Hamilton	1 old Bed stead	.50
James Stackhouse.	7 brooms.	.50
James Roper.	1 compass.	55.50
Joseph Castleman	1 ditto	54.00
William Davidson	1 ditto	36.50
George Graves.	1 ditto	26.50
ditto	1 ditto	26.00
Benj Chandlee.	1 case surveyor's instruments.	7.50
A. C. Smith.	1 case surveyors instruments.	8.75
George Graves.	1 do do	7.45
do	1 small compass.	2.50
do	1 brass square.	2.50
do	1 do	2.25
do	1 do	2.31
George Sharp.	1 protractor.	.50
George Graves.	1 brass scale (12 inches.	1.50
do	1 do (12 inches)	1.50



Laying out
sundials?

Goldsmith Chandlee Probate Sale - Transcription Handley Library 3

H. Beatty,	1	Brass scale	6 inches	1.25
George Graves.	1	"	6 inches	.75
James Roper.	1	"	6 inches	.75
George Graves.	1	"	9 inches	1.00
do	1	"	9 inches	.95
William Naylor	1	protractor		.40
Ely Beall.	1	do		.30
George Graves.	1	"		.29
George Sharp.	1	"		.27
James Roper.	1	"		.26
H. Beatty	1	"		.28
George Graves	1	"		.26
Benjamin Chandlee.	1	"		.27
do	1	Quadrant.		4.75
George Graves.	1	pair dividers.		.51
H. Beatty.	1	"		.41
George Graves.	6			1.50
George Sharp.	3			.82
James Roper.	2			.76
Daniel Hartman	1			.50
Ely Beal.	1			.50
Moses Walton	1			.26
I. Bryarly	2			.52
George Sharp.	1			.50
Moses Walton	2			.32
John Pugh.	1	Clock (without case/		32.00
Mary Thompson	1	do with mahogany case.		61.00
William Thompson	1	Steel watch chain		.47
William G. Singleton	3	Steel Watch chains.		1.38
Mary Thompson	1/2	doz steel watch chains.		2.40
H. Beatty	1	watch		1.00
Josiah Fawcett	1	do with Walnut case.		40.50
Benjamin Chandlee.	a	lot (about 3 doz watch keys)		2.25
Mary Thompson	1	watch		1.00
James Mindeth	1	Clock without case.		27.00
Eunice Shandlee	1	clock with Walnut case.		20.00
George Graves	1	Clock.		6.80
Nathan Parkins.	1	Whetstone.		.55
Daniel Hartman,	2	Watch Seals.		.50
Alfred McVicker.	5	Steel Watch chains		2.36
Edward Pendleton	1	watch		1.00
Thomas Campbell.	1/2	doz chains.		2.30
Nathan Parkins.	1	box and compass		1.25
James Meredith	4	watch seals.		.80
Dan'l Hartman	6	doz watch glasses.		6.26
ditto	1	gross watch glasses.		4.25
ditto	1	gross " "		6.25
ditto	1	gross " "		4.80
Benjamin Chandlee	1	gross " "		7.10
Eunice Chandlee	1	window blind.		.32
George Culler.	2 1/2	doz mainsprings.		1.25
ditto	2	watch seals.		.29
Joseph Castleman	1	surveyor's chain.		1.52
William Davidson	1	" "		1.50
Henry Beatty	1	" "		1.40
George Graves.	1	Lot Steel wire.		1.40
James Meredith,	2	Gravers.		.12 1/2



George Graves.	8 brass pinions.	.12½
do	1/2 doz clock second hands.	.50
do	9 pair clock hands (gilt)	3.05
George Cullen.	4½ doz gilt watch hands.	1.30
George Graves.	2 saw blades.	.55
do	1 doz files.	1.46
Benjamin Chandlee,	1 Burnisher.	.30
George Graves.	19 pair clock hands.	1.30
Thomas Campbell	a lot of files (26	3.00
George Graves.	a lot of Watch hands in a box.	1.01
do	14 level tubes.	1.25
do	6½ doz key pipes.	.33
do	a lot case springs and buttons.	.65
George Cullen	a lot chain hooks, springs and hands.	.35
do	8 verges.	.13
Thomas Campbell	1 size stick.	.40
George Cullen	1 do	.40
do	3 watch dials.	.40
George Graves.	8 Watch brushes.	1.25
George Cullen	a lot file handles.	1.32
James Meredith.	a lot of polishing and ink powder	.50
R. T. Baldwin.	1 small Funnel	.06½
George Graves.	3 clock bells.	1.55
George Bullen.	9 clock Bells.	2.30
Henry Beatty.	1 Pocket Compass (returned to Benj)	.50
Jonathan Lukins.	1 do do	.29
J. Bryarly	1 do do	.31
Samuel Johnston	1 do do	.32
George Graves.	a pr Scotch stone	.51
Martin Hastings,	1 cook stove etc.	66.00
Eunice Chandlee	a lot of castings, etc.	2.00
Mary Thompson.	a lot of castings, etc.,	2.50
Thomas Hieste.	1 pot with hooks.	.55
Joseph Sidebottom.	1 ovan	.25
Thomas Hieste	1 pot rack	.36
Mary Thompson	1 churn.	.50
William Hamilton,	1 skillet.	.12½
Mary Thompson.	2 Buckets (1 tin 1 Wooden)	.50
Jonathan Lukins.	1 Bucket, Wooden Bowl, etc.	.43
Jonathan Lukins,	1 small tub and old sifter.	.36
Thomas Hieste,	1 Bench	.26
Levi A. Wickham	2 halter chains.	1.08
Josiah Fawcett.	1 piece of iron.	.56
Thomas Keenan	2 pieces stone	.25
Mary Thompson	1 doe trough.	.75
James Meredith	1 corner cupboard.	4.00
Daniel Gold.	3 pieces stair carpet.	2.45
do	25-¾ yards carpeting.	13.30
Wm. Henning.	1 Sett knives and forks.	1.55
George Sharp.	1 pair brass candlesticks.	1.00
Mary Thompson	1 pair do do	.55
Thomas Keenan	3 brass candlesticks.	.55
Henry Grove.	2 iron & 1 brass candlesticks.	.25
Daniel Gold.	1 wash bason.	.25
Mary Thompson,	1 large dish.	1.00
George Sharp.	1 Spice case.	3.05
Levi A. Wickham.	5 glass jars.	1.91
do	a lot of rags.	1.01

Goldsmith Chandlee Probate Sale - Transcription Handley Library 5

Thomas Brown.	a lot Black Bottles (17)	1.10
Levi A. Wickham.	1 keg Tobacco	
do	1 keg tobacco.	
Thomas Brown	bottles.	.35
George Graves.	1 box clock glass.	13.00
do	2 phials lacker.	.25
George Sharp.	6 flasks	.37 $\frac{1}{2}$
Josiah Fawcett..	1 cupboard.	2.00
Augustine C. Smith	1 Rileys narrative.	2.00
William Bryarly	Voyace round the world.	.95
James Stackhouse	1 book (History)	.36
Benjamin Chandlee	1 book Flu Works.	.65
Jonathan Lukins.	Clarkson's works, 3 vols.	2.50
Benjamin Chandlee	Johnson's dictionary.	1.10
Joshua Lupton	Christians Progress.	.80
Henry Grove	1 lot Pamphlets.	.07
Josiah Fawcett	1 do	.12 $\frac{1}{2}$
Nathan Parkins.	Rural Visitor.	.42
George Sharp.	1 lot pamphlets.	.12 $\frac{1}{2}$
Benjamin Chandlee.	1 " "	.12 $\frac{1}{2}$
Thomas Heist.	1 " "	.12 $\frac{1}{2}$
Josiah Fawcett.	1 " "	.12 $\frac{1}{2}$
George Sharp.	9 Table books.	.09
Henry L. Grove.	1 lot books.	.02
James Stackhouse.	1 ditto	.06 $\frac{1}{2}$
Henry L. Grove.	1 Book	.12 $\frac{1}{2}$
Thomas Hiet.	1 lot Books.	.12 $\frac{1}{2}$
Nathan Parkins	Paradise Lost.	.25
Josiah Fawcett	1 book Churchman	.25
David Hollingsworth.	Moore's Hournal.	.25
Benjamin Chandlee.	Spy.	.25
do	John Richardson.	.25
do	2 books.	.25
James Stackhouse.	1 do	.26
Nathan Parkins.	1 do	.25
Mary Thompson.	1 do	.26
David Hollingsworth	Josephus 5 vol.	1.37 $\frac{1}{2}$
Benjamin Chandlee	1 book	.12 $\frac{1}{2}$
do	1 do	.25
do	1 do	.12-
Mary Thompson	1 do	.53
Jesse Brown.	1 do	.12 $\frac{1}{2}$
Samuel Johnston	1 do	.27
James Meredith	1 do	.55
B. Chandlee	1 do	.37 $\frac{1}{2}$
George Brent.	1 do	.50
Henry Grove.	books.	.09
B. Chandlee.	2 books.	.12 $\frac{1}{2}$
do	1 sermon book	.25
Nathan Parkins.	Christian Primitive.	.51
do	1 book	.37 $\frac{1}{2}$
Joseph Sidebottom	2 books.	.06 $\frac{1}{2}$
B. Chandlee	Washing n Will.	.25
do	1 Book	.16
Joseph Sidebottom.	2 do	.06 $\frac{1}{2}$
B. Chandlee	1 Book	.16
R. T. Baldwin	1 Thermometer.	5.00
Graves.	2 Clock faces.	9.00

Goldsmith Chandlee Probate Sale - Transcription Handley Library 6

B. Chandlee	2 Razors.	.80
do	2 do	.75
Mary Thompson.	1 dining table.	3.75
Kid	1 razor & strop.	.13
Mary Thompson	1 Breakfast. table.	2.50
Mary Thompson	lot of spoons.	.42
Jonathan Lukins.	1 real (Wheel)	.50
James Stockhouse.	6 wine glasses & waiter.	.50
Andrew Bush	lot tumblers	.17
Daniel Gold.	Tea pots,	.13
Richard Kid.	Lot Queen's ware.	.30
do	do plates tea pots.	.30
Thomas Brown	Lot of plates.	.66
Andrew Bush.	lot of small plates.	.30
do	do dishes.	1.39
Richard Kid.	Candle stick & Candle	.32
do	Box knives & forks.	.38
Thomas Brown	Watering pot.	.75
Jonathan Robinson	Pewter dish.	.75
George Sharp.	" one ditto basons.	1.00
James Meredith	one ditto basons.	1.01
do	one dish.	.52
Thomas Hiest	one ditto dish.	.65
Daniel Gold.	Lot pewter plates.	.48
Andrew Bush.		.63
Richard Kid.	Arm Chair.	.30
Jonathan Robinson	one ditto.	.50
Thomas Brown,	Low chair	.26
Andrew Bush	Shovel & tongs.	.86
do	Iron Hook	.17
John Hoff	Iron Kettle	3.35
Thomas Brown	Ash Barrel	.15
Daniel Gold	Rocking Chair	1.30
Eunice Chandlee	lot chairs 1/2 doz.	6.07
Hickey	Gingerbread chest (box)	.22
Thomas Brown	Saddle	1.10
Andrew Bush	Saddle pad.	.25
John Foster	1 tub large.	.95
James Meredith	1 do do	.90
Samuel Bryarly	7 Stuff Bottom chairs one armed.	6.00
Jacob Bowers.	one walnut dining table.	2.00
Hickey	one ditto breakfast do.	1.25
Samuel Bryarly	Lot old iron	.77
Jacob Bowers.	one lot old iron.	.50
Josiah Fawcett,	Horse.	10.00
James Stockhouse.	Blacksmith's vise.	2.36
Jonathan Lukins	one ditto.	2.30
George Cullen.	one ditto.	3.05
Josiah Fawcett.	lot old iron & bones (tea kettle)	1.00
Jonathan Robinson	4 frizzing tongs	.17
Thomas Brown	1 bbl, box & ct.	.06
Samuel Bryarly	lot of Sundries in box.	1.25
do	lot of sundries old stuffs.	1.55
Thomas Brown	small grindstone	.50
Benj. Chandlee.	Clock engine.	54.00
do	one round horn Stake.	2.75
George Graves.	Graduating engine & appt.	25.00

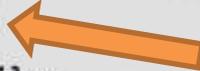
Goldsmith Chandlee Probate Sale - Transcription Handley Library 7

George Cullin.	Glass stand Springtools.	.55
Benj. Chandlee	Dial plates.	3.30
George Graves,	lot watch tools.	5.75
Thomas Brown.	1 Dial.	.29
George Sharp.	1 do	.25
Moses Walton	1 do	.25
Bell.	1 do	.26
James Meredith	1 do	.28
Andrew Nolan	1 do	.27
Benjamin Chandlee	glass cover and letters.	.50
George Groves.	Balance Tool.	.50
do	Sundry Brass plates.	.76
Charles Little	Pocket compass and box Mahogany	1.00
Benjamin Chandlee	Dial Model	5.00
do	Magnet.	4.00
Jos. Sidebottom.	Small scales & weights.	.08
George Graves.	do do do	.39
do	lot of tools rulers & weights	.37
do	one set of dyes for stamping figures.	1.00
do	one compass part finished.	9.00
Benj. Chandlee.	2 small pocket compass part finished.	1.00
Samuel Meredith.	Small pocket compass.	.31
George Graves.	Small dividing engine.	5.00
Benj. Chandlee	pair button models.	.65
George Graves.	one scale tool.	2.00
do	1 pr brass scales.	.47
do	3 lots of old brass.	2.50
do	8 pr Brass castings.	1.00
Benjamin Chandlee.	Punch and Stake.	.25
George Graves.	Stake.	.51
do	Lot of tools.	.80
Thomas Brown.	Spoon models.	.70
Jonathan Lukins.	Large Shears.	.71
Thos. Heist.	one lot old files.	.17
Jonathan Lukins.	one do large do.	1.15
Thos. Hiest.	do do do	1.25
Thomas Brown.	do broken do	.25
George Graves.	Role Lathe.	6.25
do	lot tools punches, etc etc.,	.12;
do	one large lathe.	13.00
do	lot sundry tools.	4.25
John Foster.	lot clock work.	7.00
George Graves.	one do do	4.75
do	2 lathes.	4.25
Alfred W. Vickers.	2 do	4.50
George Graves.	lot tools.	3.75
do	barrel tool.	1.50
do	1 scoup plate.	1.05
Benj. Chandlee	Bell patterns.	.25
George Graves.	1 lot tools.	7.50
do	large turkey oil stove	1.00
do	1 lot tools.	5.25
Benj. Chandlee	3 clock wheel patterns.	.12½
George Graves.	Stove ten plate & pipe	.25
George Graves.	Stake and Block.	4.75
George Reed.	4 boxes sundries (old brass)	2.60



6 pewter sundials?

Sundial Mold?



Mold + larger items purchased by son Benjamin . Chandlee who had moved to Baltimore. Died 4/18/1822, 1 year after sale.

Assumption Model = mold

Goldsmith Chandlee Probate Sale - Transcription Handley Library 8

Thomas Brown	4 boxes sundries (old brass)	.60
Thomas Heist.	lot of sheet lead	1.45
Benjamin Chandlee.	one clock.	20.00
Thomas Heist.	Iron wire.	.56
George Graves.	Sheet brass 41 cts. (continued)	
George Reed.	Spelter. 78 $\frac{1}{2}$ at 12 $\frac{1}{2}$ ct.s "	9.81 $\frac{1}{2}$
George Reed.	Show case.	1.00
Benjamin Chandlee	lot Shark's skins.	1.00
George Reed.	Box pewter	.65
Alfred McVicker.	one clock face.	2.15
Thomas Brown,	one waggon	7.56
Eunice Chandler	Carriage.	60.00
Hickey	Cow.	10.50
Josiah Massie.	Waggon Gears.	2.86
Thomas Brown.	Sett Gears.	3.20
Henry Beatty	3 hogs.	10.25
Samuel Bryarly	1 Stove.	6.00
Andrew Bush.	1 plane.	.65
T. W. Thomas.	Iron pot.	.80
John McElwe	axe for cutting wood.	.70
George Graves.	Sundries bellows & flasks & sands	5.00
Thomas Brown.	box with lid.	.05
do	Charcoal.	1.10
Jonathan Lukins.	1/2 doz earthen jugs 1 gallon	.76
Thomas Brown.	1 pickle pot.	.13
John Hoff.	1 do "	.15
Jonathan Lukins.	1 do "	.14
John Hardy,	1 do "	.19
Thomas Brown.	1 do "	.22
Levi Wickham,	1 lot Jar and crock.	.23
do	1 do "	.22
do	1 do " "	.23
Haymaker.	1 do	.25
Joseph Sidebottom.	1 do	.26
Levi Wickham.	1 do	.30
Do.	1 do	.30
Joseph Sidebottom.	1 do	.26
John Brown.	1 do	.38
Arch. McGill.	1 do	.35
Josiah Fawcett.	1 do	.37
John McElwe.	1 do	.40
George Sharp.	1 do	.57
Levi Wickham.	1 do	.45
do.	1 do	.51
do	1 do	.46
James Meredith.	1 lot earthen ware.	.56
Thomas Brown.	1 do do	.19
Jonathan Lukins.	1 do do	.38
Wm. M. Holliday.	1 do do	.50
Henry Beatty	1 do do	.60
Josiah Fawcett.	1 do do	.40
ditto	1 do do	.54
ditto	1 do do	.40
Jonathan Lukins.	1 do do	.51
John Hoff.	1 do do	.45
Levi Wickham.	1 do do	.42
Jacob Bowers	1 do do	.40
James Meredith.	1 do do	.46

Goldsmith Chandlee Probate Sale - Transcription Handley Library 9

Andrew Bush.	1 lot Earthen ware.	.60
William Jolliff.	1 do do	.45
Josiah Fawcett.	1 do do	.61
William Jolliff.	1 do do	.51
do	1 do do	.35
Capt. Kyger.	1 do do.	.60
do	1 do do	.51
Joshua Lupton.	1 do do	.63
James Meredith.	1 do do	.70
Wm. M. Holliday.	1 do do	.45
George Cullin.	1 do do	.52
Arch. McGill.	1 do do	.47
Andrew Bush.	1 do do	.68
Henry Beatty.	1 do do	.47
Jonathan Lukins.	1 do do	.43
Andrew Bush.	1 dp do	.59
Jacob Hendricks.	1 do do	.56
Levi Wickham.	1 do do	.39
Joshua Lupton	1 do do	.61
Thomas Brown	1 do do	.83
John Hoff.	1 do do	.79
Thomas Kennin	old desk.	3.50
Thomas Heist.	Walnut desk	10.00
M. R. Seal.	looking glass.	2.05
Benjamin Chandlee.	map of Frederick County.	2.00
Andrew Bush.	4 $\frac{1}{2}$ yds Linen.	2.11 $\frac{1}{2}$
Bunice Chandlee	Lot of Bed quilts.	16.50
do.	Looking Glass	2.00
do	Bed Bedstead etc.	18.00
Mary Thompson.	Bed, Bedding & bedstead.	19.00
Rueben Strange.	Waggon tent (cover)	3.50
Mary Thompson.	Bed cloths.	9.00
Josiah Fawcett.	9 yards cambric.	2.25
Mary Thompson.	2 coverlids.	11.00
do	1 bed quilt.	3.00
Benj. Chandlee.	1 do do	3.00
Jacob Bowers.	1 pair sheets.	2.30
Andrew Bush.	1 pair sheets.	1.05
Job Hendricks.	1 do do	.95
James Meredith.	1 do do	2.90
James Stockhouse.	1 do do	2.25
James Meredith.	Single do	.75
George Cullins.	Pillow cases. one pair.	.36
James Stockhouse.	do do do	.45
do	do do do	.35
Mary Thompson.	do do do	5.00
George Cullin.	one table cloth.	.40
Andrew Bush.	one ditto.	.38
Jacob Bowers.	Bed & Curtains.	.34
James Stockhouse.	2 long towels.	.50
Benjamin Chandlee.	2 do do	.50
do	2 do do	.50
R. Strange.	3 short.	.51
Benj. Chandlee	3 " do	.50
Charles Litle.	3 " do	.62 $\frac{1}{2}$
Benj. Chandlee	3 " do	2.00
George Cullin.	Window Curtains.	1.00
Andrew Bush.	do do	1.60

Benj. Chandlee	two pair window curtains.	1.00
James Meredith	Bed quilts.	1.00
Andrew Bush.	do	1.10
George Cullin.	do	1.75
Thomas Robinson	one blanket.	2.25
William Roberts.	one bed quilt.	1.50
J. Robinson.	one ditto.	1.50
Thomas Heist.	one ditto.	1.50
Thomas Robinson.	one blanket.	1.65
George Cullin.	one quilt.	1.00
George Sharp	one blanket.	1.76
Thos. Robinson.	ditto.	1.60
Thomas Robinson	one case drawers.	8.25
Benj. Chandlee.	lot bed curtains.	6.00
Thos. Kennan	Walnut Bureau.	6.75
Benj. Chandlee.	Bed & Bedstead, etc.,	19.00
Jacob Bowers.	Cot bedstead.	3.25
Thomas Brown	Bed, Bedstead, etc.,	20.00
James Meredith,	case of Drawers.	2.00
George Graves,	do do	6.13
Eunice Chandlee.	Walnut chest & side saddle.	2.00
Eunice Chandlee	1 arm chair.	.25
"	bed and furniture.	22.00
"	warming pan	1.00
"	2 chairs.	1.00
"	candle stand	1.00
"	wash stand	1.00
"	table and furniture.	5.00
"	writing desk & Bible	6.00
"	Lot Silver spoons.	12.00
"	do cups & Saucers & Spoons.	7.00
20	Bottles & Vial.	.50
"	Shovel & Tongs.	1.50
"	Andirons.	1.00
"	Carpet.	.50
"	Looking Glass.	.50
"	Window curtains.	1.00
Jonathan Lukins.	Desk & bookcase.	8.60
Mary Thompson	Carpet, Chairs & Knives.	10.00
George Kidd.	Bed & Bedding.	14.50
George Graves.	do	10.01
Alfred McVicker.	one chest.	.75
Benj. Chandlee	one ditto	.50
Henry Beatty.	Ground plaster Paris, at 40cts.	2.86
Mos. Fawcett.	Barrel tar.	1.50
Henry Beatty	Barrel tar.	1.50
B. Chandlee.	Tallow	5.00
ditto.	ditto	5.00
Andrew Bush.	40 pounds of Tallow at 11 $\frac{1}{2}$	4.60
Hickey	40 " " " "	3.90
Andrew Bush.	5 bags.	1.75
Benjamin Chandlee.	42 pounds of Hard soap.	4.62
Levi Wickham.	1 keg Tobacco 130 pounds	31.84
George Graves.	1 tenplate stove & pipe.	13.15

George Graves.	15 $\frac{1}{2}$ Sheet Brass.	6.45 $\frac{1}{2}$
do	5 pouns sheet brass at 41°	4.62
Josiah Fawcett.	Carpet yarn at 7cts.	2.30
Henry Beatty.	10 bushel ground Plaster Paris	4.00

\$ 1,586.48 $\frac{1}{2}$

Old Barrels etc., sold at Market to divers persons amounting to 16.00

\$ 1,602.48 $\frac{1}{2}$

Mary Thompson 1 lot spoons. etc.,

5.00

\$ 1,607.48 $\frac{1}{2}$

At a Court held for the Corporation of Winchester the
31st day of October 1823.

This Sale Account of the Estate of Goldsmith Chandlee
deceased was produced to the Court, and ordered to be Recorded.

Teste:

Lent. Brent. Claerk.

Notes sent
Edwin E. Chandlee,
Phila - Pa -

4501

Goldsmith Chandlee.
Notes from the City and County Records
and
Local and family Traditions.

Notes Richard Griffith sent to Edward E, Chandlee, author "Six Quaker Clock Makers" – published 1943,

The very first mention to be found of Goldsmith Chandlee in Virginia is in the Hopewell Monthly Meeting records, where under date of 5th of 6th month 1775 he presented his certificate of membership to that Meeting from Nottingham Meeting in Pennsylvania. It is probable that he settled in or near what is not Stephens City, but at that time was called Stephensburg and his earliest work is dated at that place. Another reason to suppose this is true arises from the fact that in 1781 when the preparative Meeting at Crooked Run (now Nineveh, Warren Co., Va.) was raised to be a Monthly Meeting, Goldsmith Chandlee appears as a member. Crooked Run Meeting was but five miles from Stephensburg, whereas Hopewell Meeting house was sixteen miles distant. For several years Goldsmith Chandlee was Clerk of Crooked Run Monthly Meeting. It is not unlikely that he was at first associated with another Quaker silversmith named William Richardson, who had his shop between Winchester and Stephensburg.

He probably moved to Winchester in 1784 as that year he purchased from Dolphin Drew lot No. 63 on the north-west corner of Cameron and Piccadilly streets. On this lot he erected his silversmith shop, his brass foundry and the shop in which he made astronomical and surveying instruments. Here also was his residence. The lot fronted 118 feet on Piccadilly street and 202 feet on Cameron street. At first he lived

Goldsmith Chandlee remembered 2

- 2 -

over the silversmith shop, but some years before he died he built a brick residence which fronted on Piccadilly. He was a Justice of the Corporation of Winchester, and as such, sat upon the Bench of Justices of the Hastings Court. He also acted as a "conveyancer" and wrote deeds, mortgages, trusts, wills and other legal papers. Somewhere in his establishment he had a "counting room" which I have seen referred to in the City records, and the business conducted there, was much the same as a modern bank. He bought and sold Bills of Exchange, Soldiers Certificates and Military Land Warrants, Single Bills, Bonds, Notes, etc.

He was a silversmith, clocksmith, watchsmith, lapidary, brass founder and manufacturer of telescopes, sextants, compasses, dividers, graduated rules, protractors, sun dials, apothecary scales, money scales, steelyards, and a special type of lancet of his own invention. It had a hammer, as on a pistol, and when the trigger was pulled, the incision was instantly made by the force of a spring.

Goldsmith Chandlee was a recognized leader in the financial circles of all Northern Virginia and his business, save for coach, carriage and wagon works, was the largest single industry in Winchester in the way of manufactured articles.

My family have told me of his standing, as I will presently relate, but the fact/acted as executor^{that he} of an amazing number of wills and was so frequently appointed or chosen to act as arbiter in disputes and compromised law suits are evidences of his high reputation and also his popularity. All of these things are matters of record. When he died he was acting as executor of the wills of David Brown a very wealthy friend, John S. Woodcock who had been collector of quit-rents for Lord Fairfax,

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a Miss Mary Rust and Dr. Robert Dunbar of Winchester, and some other smaller estates.

As executor of John S. Woodcock he handled a considerable portion of the Fairfax estate. A certain Col. Thomas Bryan Martin, a nephew of Lord Fairfax who resided with his uncle at Greenway Court and was one of the heirs of Lord Fairfax, died unmarried and by will left most of his property to his family in England, among whom were three Misses Martin. John S. Woodcock was executor of the will of Col. Martin, but died shortly after the Colonel naming Dr. Robt. Dunbar as his executor. Dr. Dunbar died in a short while and named Goldsmith Chandlee as his executor, and upon him devolved the task of finally settling all of these estates. An effort was made to have the Fairfax lands escheat to the Commonwealth, but Chandlee stoutly resisted this and was largely instrumental in saving for the Misses Martin their inheritance. He also acted as financial agent for a certain Thomas Farnley a wealthy Friend who removed to the "free state" of Ohio and left a large estate of lands and money in Virginia which Chandlee managed until his death.

In addition to his plant in Winchester Goldsmith Chandlee owned a farm in Frederick County, several thousand acres in Harrison and Randolph Counties (now West Va.) and 500 acres in Logan County, Kentucky.

His capacity for getting things done must have been enormous for in addition to his wide spread business activities, he served astvarious time as Clerk of Crooked Run Monthly Meeting, and later as Clerk of Fairfax Quarterly Meeting. He was appointed one of the Trustees by the will of Sarah Zane of Philadelphia to administer certain philanthropic legacies left by her. He was also a Trustee of the Sarah Zane Fire Company established

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by her will, and still existing in Winchester.

Goldsmith Chandlee died some time before May 12, 1821. There is filed in the Corporation Clerk's Office in Winchester a Power of Attorney bearing the foregoing date signed by Goldsmith Chandlee Jr. "of the State of Ohio", "Mary Thompson, Widow of the State of Virginia and Eunice Chandlee, Widow of the same State", appointing Benjamin Chandlee of Baltimore Town as administrator of Goldsmith Chandlee, deceased. This instrument further states that the said Benjamin, Goldsmith Jr. and Mary are the only surviving children of Goldsmith Chandlee and that Eunice Chandlee is his widow. Goldsmith Chandlee left no will, and his son Benjamin living in Baltimore was granted letters of administration upon his estate. It appears from our records that this son Benjamin died shortly after his father and that Samuel Brown of Winchester finally settled the estate, a wealthy friend of Winchester, whose family had formerly lived in Cecil County, Maryland.

So far as I can find Goldsmith Chandlee, ^{married} but twice, but I understood Mrs. Chandlee to say he had three wives. I cannot find a third marriage of record here.

His first wife was Hannah White, being the daughter of Nathaniel White a friend who had removed from Chester County, Pa. and settled near Stephensburg, whom he married at Hopewell Feb. 15, 1776. When his wife died has not been ascertained, but June 12, 1811, he married Eunice Allen, widow of Joseph Allen and daughter of Edward and Hannah Rogers. Joseph Allen was a resident of Shenandoah County and lived on Smith's Creek near New Market, Va. I note that none of Goldsmith Chandlee's children seem to have attended the marriage, as none sign the

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except his daughter.
marriage certificate. The next year his son Benjamin removed
to Baltimore, where he was living at the time of his death.

Goldsmith Chandlee Jr. married Phoebe Neill in 1810,
and removed to Ohio in 1818.

The foregoing information has been obtained from
the City and County records and Friends' records.

I will now state what I have heard from my family
in regard to Goldsmith Chandlee. I believe it should be considered
more than casual tradition for the following reason. My father
was born in 1848 and spent much time with his grandfather who lived
on Apple Pie Ridge near Hopewell. From June 1862 until June 1867
he lived entirely with his grandfather, whose name was John
Griffith and who was born in 1777 and died in 1870. This man
knew Goldsmith Chandlee intimately and admired him much. I have
been told that he was a rather small man, spare, and with black
eyes. He was fond of company, much given to hospitality and
entertaining. Had quite a reputation locally for a sort of sly
humour. He made and presented to John Griffith a telescope. I
saw the remains of it about 45 years ago. It was about five
inches in diameter and nearly six feet long, and had engraved
upon it the owners and the makers name, with a short sentence
of presentation that I cannot now recollect. I have been told
that Goldsmith Chandlee was an intimate friend of Lord Fairfax,
but this I rather doubt, since I have learned of his business
connection with Col. Martin, and as Lord Fairfax died in 1781
at the age of 92. That he was very friendly with Col. Marting
is certain.

Goldsmith Chandlee was pictured to me as man who
exemplary in every way, and lived strictly according to Friend's

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Discipline, which of course, made him perfect, in the eyes of my family.

It has been related to me that Goldsmith Chandlee spent most of his time in his "counting room", but personally inspected and signed every article that was manufactured in his establishment. I have heard, but cannot now recall, a good deal about his shop equipment, but I remember they were all called "engines", which/^{to me}as a boy meant "steam engine", and I remember it being explained to me that formerly any kind of machinery was called "engine".

There was much talk of "Young Goldy" Chandlee Jr. who had been somewhat wild in his youth. His marriage to Miss Neill was a great occasion in Winchester, and was said to have been the largest wedding ever held at Center Meeting.

I do not recall ever having heard my father mention Benjamin Chandlee or Mrs. Mary Thompson. He always referred to the second Mrs. Chandlee as "the Widow Allen" who was described as a "tasty Friend", being not quite so strict in matters of "plain dress" as some thought she should. It was stated that she wore jewelry, in her defense it was stated that the jewelry was confined to moonstones and pearls, which apparently were not considered as worldly as diamonds, etc.

Perhaps I had better say, that as an only child, I was much in my father's company, and always had a desire to learn about persons he called "valuable Friends". According to my father, Goldsmith Chandlee seemed to be "valuable Friend" No 1., with some slight edge held by George Fox and William Penn.

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Winchester, Va.

May 7, 1942.

Mr. Edward E. Chandlee,
Philadelphia, Pa.

Dear Mr. Chandlee:-

Answering first your request for references on the various executorships held by G. Chandlee will say that proof of these is to be found in the records of the Frederick County Clerk's Office as follows:

Daniel Brown in Will Book 11 p 476 (1820)

John S. Woodcock in Will Book 302 p 141 (1808)

Dr. Robert Dunbar in Will Book 9 p 368 (1815)

Miss Mary Rust in Will Book 302 p 425 (1814)

Thomas Farnley "Farnley -vs- Hay" Chancery Causes Ended 1814

As to the Ms. the first correction I have made is on page 2. Center Meeting was never a Monthly Meeting, and therefore never a Meeting of record. But the Minute Books of Fairfax Quarterly Meeting (To which Hopewell M. Meeting belonged) and the Minute Books of Crooked Run Mo. Meeting are in the hand writing of G. Chandlee for many years.

Also on page 2 I have made a correction, showing that the purchase of a lot in Winchester by G. Chandlee from Dolphin Drew is recorded in Deed Book 6 p 291 in the City Clerk's and not in the County Clerk's office, as you had it. This also answers your "5" on page 3.

On page 4 I have changed "He was a founder--" to "He was a charter member" The reference is the Minute Book of the Union Fire Co., Winchester, Va. "G. Chandlee was also a trustee of the Sarah Zane Fire Co, but at a much later day. Answering your "6", also on page 4, this should read "sat on the Bench of Justices of the Hustings Court in--"

Reference is "Order Books of Corporation Clerk's Office, Winchester, Va."

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Also on page 4, I have changed "who was the third executor for the Thomas Lord Fairfax estate" to "who was the executor of one of the executors of Thomas, Lord Fairfax"

On page 5 you r "8"-- The reference is "Deed Book 26 p 93, Frederick County Clerk's Office". You will note I have changed your text to read "sold by Jacob Fry of the town of Woodstock and County of Shenandoah".

Also on page 5 I have added "Shenandoah County" after Smith's Creek, as there is not and never was a post office named Smith's Creek in this part of the state.

The reference to your "9" on page 6 is "Corporation Clerk's Office, Winchester, Va., Deed Book 1 p308 (1803).

Answering your marginal query also on page 6 will say that both Harrison and Randolph Counties are now in West Virginia.

I shall have to ask \$20.00 for this work. Our older records are only partly indexed and I had to go through some of the books page by page and actually spent 21½ hours. I trust you will not feel this is too much.

I recieved your note asking for a photo of the lancet. I felt uncertain of getting a good picture, so borrowed the lancet and sent it to you by insured post yesterday. It belongs to Mrs. Cartwright an aged widow and cousin of mine. It was bought by her great-grandfather, Isaac Hollingsworth, (also my gr. grandfather) from G. Chandlee and descended to her. I am asked to state that she would be glad to sell it for anything she could get-- she has little, almost no means. I could not find Chandlee's name on it, but an affidavit as to it's history could be readily obtained.

Sincerely yours,

American Backcountry Tall Clock



The clock
that asks
questions

Illustrated
Horological
Study

Walt H. Sirene