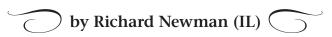


Colonial and Early American Watchmakers



enjoy reading history and lately have been trying to better understand the difficult conditions in which eighteenthcentury colonial watchmakers worked, as well as the broader historical context that affected their lives. While there are numerous books and articles available about eighteenth-century American clockmakers, I find it interesting that comparatively little has been written about American watchmakers of the prefactory era. When I asked other scholars about this, the most common response was simply that watches sold in America were "English," or that watchmaking was just a sideline occupation of clockmakers. The upshot of both of these answers was the same: watchmaking in America before the introduction of factory production was not particularly worthy of study. Passing remarks in publications support this view. This one is from the book Clocks: "During its early years American watchmaking, in contrast to both American clockmaking and European watchmaking, had virtually no existence as a craft." From attitudes like this, and a lack of fact-based research, people have interpolated that eighteenth-century watchmaking did not contribute much to the clockmaker's trade nor influence the development of watchmaking in America as a whole.

A quick perusal of eighteenthcentury newspaper advertisements, however, suggests that clockmakers offering watches as a sideline to their primary business and simple retailers acting as agents for English makers were not the only players in the American watch trade, nor were they necessarily the dominant players. The newspaper advertisements alone reveal brisk watch sales by a growing number of "watchmakers" who not only sold watches but also claimed to be able to repair all types of escapements and complications, make a wide variety of specialized parts, as well as manufacture watches. The appearance and growth of specialists in the watch trade, long before the idea of mass production entered the minds of the Pitkin brothers and A. L. Dennison, is an area of American horology that is underresearched and, therefore, I believe not fully appreciated.

Studying eighteenth-century American watchmaking presents a number of problems. For instance, very few shop records survive. Today, the written documents most readily available to scholars are little more than passing mentions in contemporary public records like newspapers, city directories, and census returns. For further clues, rare surviving watches also can be read as documents. To make sense of these fragmentary pieces of the puzzle, all of the sources need to be studied in a broader context than the traditional antiquarian focus. Judging individual watches with a primary eye to condition, originality, and the name on the dial reveals little. By looking at watches and advertisements against the background of historical events, such as wars and economic cycles, broad patterns begin to emerge that reveal how watchmaking grew and changed in colonial and postcolonial America.

A Snapshot of Colonial America

By 1700, the English had become firmly established in the New World primarily along North America's eastern seaboard. The European population in the American colonies that included about a quarter million people in 1700 grew so rapidly that it increased fourfold, to over one million, by 1750. By 1800, it had quadrupled again, to more than five million.² As a point of reference, at the time of the American Revolution, the population back in England was only about three times larger, approximately seven to eight million.

The European population in the New World grew at such an unprecedented rate due to many factors. The Crown's primary means of encouraging colonization was to grant free land, which reveals quite a bit about the opportunities and promise offered by America. In a society where land ownership equated to wealth and power, the prospect of free land in America, combined with fairly consistent availability of work for laborers due to America's vast resources, created an environment that proved attractive to Europeans of all classes. Whether relatively well-off or downright poor, access to land presented the prospect of upward mobility and wealth and an opportunity to achieve a better life for their children. Immigrants continued to stream into North America, and once there they tended to have larger families than those who stayed behind. The unprecedented population and economic growth benefited the American colonies and the mother

Please don't picture crowded cities; the majority of the population lived in the countryside and tended to coalesce around small towns and villages. In general, picture an environment where the vast majority of people moved from their ports of arrival farther inland and, therefore, farther from the sources that supplied European articles.

The expanding territory not only fueled the exportation of raw materials, but the large and growing colonial European population, one with tremendous consumer confidence and expectations of moving up in society and class, created a significant new market for finished products of all kinds. In a relatively short period of time, America became a vibrant and important economic engine of the British Empire and by mid-century became Britain's largest export market. Furniture, silver, glassware, porcelain, guns, books, clocks, watches, textiles, upholstery, and other luxury items, commonly called "fancy goods," were imported and sold by fancy goods retailers in towns across the colonies. Of course, the ocean was the transportation highway for these goods. This, in turn, spurred the shipping industries on both sides of the Atlantic and contributed to the great growth of port towns like Liverpool, Bristol, Boston, and New York.

Although an ocean apart, colonists did what they could to make the periphery of the empire as much like the center as possible, and a strong association with predominantly English cultural traditions transcended everyday experiences and expectations. All indications suggest that by the middle of the century even clock and watchmakers were starting to behave like their London counterparts and focused on the growing middle class and their seemingly unending appetite for various luxury goods and services.

Watches in Colonial America

During the first half of the century, watches remained relatively uncommon even in major European cities, let alone in the comparatively primitive colonies. Watches were luxury items that only the rich could afford and tended to be less accurate than the local tavern clock, town clock, or the ever-reliable sundial—at least on sunny days. That is not to say that keeping time was not important.



Figure 1. Colonial watch signed S. Bagnall, Boston. Early verge fusee movement with original silver champleve dial, square baluster pillars and fully pierced and broad symmetrical cock signed S. Bagnall, Boston. Outer pair case unmarked, inner case London assay date letter for 1741-42 (case maker unidentified). Samuel Bagnall, born 1718, worked from about 1740-1760 and is the son of Benjamin Bagnall, one of the first recorded colonial watch and clockmakers known to be working in Boston in 1712. This timekeeper is the earliest surviving colonial American watch that I know of. The extent of work performed in America, beyond adjusting and rating, is likely minimal.

The presence of town clocks, town criers, and town bells shows how much the colonists valued knowing the time. However, personal timekeepers simply remained beyond the reach of most citizens. As production efficiencies and increasing supply from England, Switzerland, and France made personal timekeepers more affordable, an increasing number of people found it possible to possess and maintain one. And, as the century advanced, watches increasingly became a necessity for certain professionals, including sea captains, military officers, lawyers, doctors, and midwives.

So, where did people buy watches when they could afford them? Despite the fact that personal timekeepers of any type were not commonplace until the third quarter of the eighteenth century, clock and watchmakers were present in the colonies from the beginning of the century, primarily



Figure 2. Original silver champleve dial engraved Bagnall. Relatively few champleve dials survive, as owners frequently replaced them with more fashionable and much easier to read white enamel dials that became prevalent by the middle of the century.

in the major towns of Philadelphia, Boston, New York, and Charleston.3 Proof of this is found in town meeting records and directories, probate documents, and in the many surviving examples of colonial newspaper advertisements featuring clocks and watches. Clearly, many clock and watchmakers never advertised and those who did usually placed only a few ads in total. Rita Susswein Gottesman, James Gibbs, James Whisker, J. Carter Harris, and others have thankfully documented thousands of horology-related eighteenth- and early nineteenth-century newspaper advertisements. Most common are those that informed the public of a new business venture, change of location, availability of newly arrived timepieces from the latest ship(s) arriving from Europe, repair services, lost and stolen watches, and want ads for workmen.

Please note that the samples in this paper are from J. Carter Harris (see Bibliography) unless otherwise noted.

The advertisement shown below is fairly typical by Benjamin Bagnall Jr. from 1750 (underline added by the author for emphasis):

Imported in the last ships from London, and to be sold by Benjamin Bagnall, At his house, in Front-street, A Neat parcel of gold, pinchbeck, and silver watches, watch



Figure 3. Watch paper from Samuel Bagnall watch. Watch papers not only filled the gap between the pair cases to cushion and protect against dust, but also provided the owner with repair records and reminders of where the watch was serviced. Other purpose-made items and messages, including needlework, lace, poetry and love notes, also made their way into this somewhat private space. Of course, these papers primarily served as advertising for watchmakers. This one is from Samuel Bagnall, the maker of the watch, and is perhaps the earliest surviving example of an American watch paper. It may have been placed into the watch by Bagnall when sold, or perhaps when it was brought to him for subsequent cleaning or repairs.¹⁸ The scene in the middle displays a dog, a laborer pulling a sled of goods (perhaps hides), sundials, a tallcase clock and two men in period dress. Around the circumference is an equation-of-time table that the watch owner would use to set or compare the timepiece to the local sundial.

chains, leather and silk strings, also West-India rum, long whalebone, and 4d and 3d nails by the cash.

(The Pennsylvania Gazette, February 13, 1750)

A year later in 1751 a similar Bagnall advertisement reads:

To be sold by Benjamin Bagnall, Jun. New silver watches, eight day clocks, with cases or without, twine suitable for sail-makers, net-twine, long lines and cod-lines, single F gun-powder, and tin-ovens.

(The Pennsylvania Gazette, August 8, 1751)

The Bagnall name is one of the more well-known clockmaking families out of Boston, yet it was commonplace at the time for clock and watchmakers to also out of necessity be the local silversmith, gunsmith, jeweler, and even farmer; very competent craftsmen maximized their opportunity to earn a living by leveraging retail location(s), trading contacts, reputation, and access to capital. Brother Samuel also worked in the trade (see Figures 1-3), and their father Benjamin was one of the first clock and watchmakers in Boston, setting up shop there in 1712.4

The Bagnalls may be fairly typical of early colonial clock and watchmakers. They sold and repaired clocks and watches and supplied their clients with all kinds of imported products that were in demand. Watchmakers in eighteenth-century England engaged in similar activities in that they also sold watches and luxury products to their respective middle-class clientele. Christopher Pinchbeck (1670-1732) is perhaps one of the earlier retailers in London who began to cater to middle-class consumption. He became famous for inventing an alloy called "Pinchbeck," which looked similar to gold. Pinchbeck sold many watches but advertised himself as a "toy dealer," a broad term that included all sorts of luxuries and trinkets such as chains, seals, and miniature silverware.

A significant barrier to local manufacturing was the limited availability of tooling and parts that primarily passed between buyers and sellers who knew each other. A watchmaker basically had to be an "insider" in the trade in England to do anything at the wholesale level. Only in the mideighteenth century did Peter Stubs of Warrington, in creating the trade network for his saw files, significantly improve the way that Lancashire watch parts and tooling were sold and distributed via the port of Liverpool. However, even with supply lines, most successful watchmakers in America likely had at least one family member or employee who worked as a trans-Atlantic go-between. It was simply too difficult to do business without someone to personally negotiate bills, purchase items in England, pack and ship those orders when filled, negotiate various tariffs and taxes, and get them past customs and into America.⁵

Colonial newspaper advertisements show that suppliers of parts and services to the watchmaking trade were operating in Boston, Philadelphia, and other major port towns around the middle of the eighteenth century and providing a wide range of capabilities. A 1745 advertisement by James Turner (see below), a listed Boston silversmith whose fine work was part of an exhibition in 1906 at the Museum of Fine Arts in Boston,⁶ appears to be supplying locally made silver champleve dials, which were standard on timekeepers before enameled white dials became prevalent. The other two advertisements below are by Henry Flower, who offered mainsprings and movement gilding services to the trade in 1754 and 1755, respectively (replacing broken mainsprings was one of the more common repair needs, and perhaps Flower had a rolling mill that allowed him to turn out passable mainsprings, cut to length as needed, using local blister steel from New Jersey).7

James Turner, Silversmith & Engraver, Near the Town-House in Cornhill, Boston, Engraves all sorts of copper plates for the Rolling Press, all sorts of Stamps in Brass or Pewter for the common Printing Press, Coats of Arms, Crests, Cyphers, &c., on gold, Silver, Steel, Copper, Brass or Pewter. He <u>likewise makes Watch Faces</u>, makes and cuts Seals in Gold, silver, or Steel: or makes Steel Faces for Seals, and sets them handsomely in Gold or Silver...

(The Boston Evening-Post, June 24, 1745)

To be sold by Henry Flower, Watch-maker, At the sign of the Dial, in Second-street,

Philadelphia, <u>Choice Watch-Springs by</u> the dozen, made in this city, and warranted to be good...

(The Pennsylvania Gazette, April 4, 1754)

Henry Flower, Watchmaker, at the sign of the Dial, in Second-street, between Blackhorse Alley and Chestnut-street, Makes and repairs all sorts of watches and clocks in the best manner. <u>Likewise gilds sword hilts</u>, watch movements and Pinchbeck cases, chased or plain, snuff-boxes, watchchains, or any thing of the kind.

(*The Pennsylvania Gazette,* September 18, 1755)

Watchmakers in America were also challenged by not having the division of labor and specialization that was in place in England where, by some estimates, as many as 40-100 people would have a hand in making a typical watch and its approximately 140 parts—although, if one counts all the pieces in the little fusee chain the number grows much larger.8 Please see Exhibit 1 in the appendix for a listing of the primary disciplines involved in making an English watch. It provides valuable insight regarding division of labor and associated responsibilities of these specialists. The mystery of watchmaking, and the word "mystery" was a common layman descriptor at the time, was simply because the skills, knowledge, and technology to be a competent watchmaker was unlike any other business at the time-it was state-of-the-art and trade secrets were closely guarded by the guild structure in England, which limited the free dissemination of information. Some aspects of the trade, like making dust caps, were so closely held that although millions were churned out over the years no "outsider" knew how they were made until very recently when a single example of a cap maker's lathe turned up on eBay.9

In addition to tools and supplies, fancy goods retailers and watchmakers also needed skilled labor to perform watch repairs. That labor was arriving every day, and the trade also benefited by the fact that English watchmakers were not exempt from conscriptions; many English soldiers, having seen America, chose to stay. Watchmakers in the colonies also arranged for established journeymen working back in England to come to America in exchange for free passage and a 3- to 5-year indenture.¹⁰ Some fine craftsmen were working in this environment, although prosperity was anything but guaranteed. There were many periods of economic downturn, regional instability, boycotts, and illness that wiped out businesses of all kinds. Previously mentioned Benjamin Bagnall Jr. had his possessions and watchmaker's tools sold in 1753 to settle debts with creditors, according to The Pennsylvania Gazette, and economic cycles were particularly harsh on the fancy goods trade that had high store overheads and significant amounts of money tied up in a relatively illiquid fashion-sensitive stock. Unlike silverware, only the case of a precious metal watch could be melted and instantly converted into currency.

Generally, it wasn't until about 1760-1770 that fancy goods retailers and specialists including wig makers, silversmiths, bookbinders, cabinetmakers, and tailors were supplying gentlemen in Philadelphia, Boston, New York, and other colonial cities with locally made goods and services that were comparable quality to those available in London. Cheaper prices, convenience, business relationships, and local patriotism added to the appeal of buying locally made goods. However, for all the reasons already cited, colonial manufacture of watches lagged behind. Basically, quality watches could be more inexpensively made in England than anywhere else and therefore the vast majority of watches sold in America were by people who specialized in importing and/or retailing either fancy goods or hardware. Many called themselves watchmakers because they also sold watches and performed minor repair

and cleaning services (complicated repairs were often sent back to England). It is interesting to note that many watchmakers in both England and America, especially later in the century, never made or repaired an actual watch. They conducted the business and hired skilled help to do the actual work. Fast-forward for a moment to the mid-nineteenth century and realize that the fancy goods retailers and watchmakers of colonial and early America had by then evolved into a network of watch retailers and jewelers that spanned the country and made it possible for Royal E. Robbins and other factoryera watchmakers to mass distribute and service their timekeepers. In a nutshell, retailers have always played an important role in industry, and the watch trade is no exception, even in the eighteenth century.

Colonial and Early American Watchmakers

In addition to the business of import-**L**ing and selling European watches and providing a wide range of repair services, a few colonial watchmakers were actually engaged in making watches. This is not to imply that they made them from scratch. Finished movements, unfinished movements, and complete watches had been available from Lancashire suppliers as early as the first quarter of the century, providing London watchmakers with movements. Even eminent London watchmakers such as Windmills, Goode, Quare and Horseman, and Ellicott received their movements, I assume unfinished, from Lancashire as evidenced by surviving records from as early as 1713.11 Watchmakers in America with English connections likely leveraged the same well-established English watch supply centers although evidence suggests that locally made components were available and therefore utilized. Who made the first watch in the American colonies and when is unknown. Again, newspaper advertisements by watchmakers promoting their own watches instead of imports, probate records, and newspaper notices that describe lost or stolen colonial watches provide important insights into local watchmaking activities.

An early example of a colonial watchmaker apparently promoting his own watches is by James Atkinson. He arrived in Boston from London in 1744 and worked as a clock and watchmaker until his death in 1756. In these advertisements, from 1745 and 1753, respectively, and others, he offers watches "made in a complete manner of his own name" along with various accessories and parts.

lames Atkinson, Watch-Maker, in Cornhill, near the Market in Boston, from the North-Side of royal Exchange in London. Makes and sells all Sorts of Watches and Clocks made in a complete manner of his own name, warranted, a variety of both he has now by him: also repairs all sorts of Watches in a careful and expeditious Manner; finishes the Dial Plate, &c. and fits them up in all Respects compleat [sic] and as reasonable as in London; sells Ladies Chains for Watches, and all sorts of Men's Chains, Seals, Gold and silver and plain Watch Strings, Ear-Rings, Diamond Rings, &c. ... Has likewise sundry Goods to dispose of, imported in the last Ships from London, ...

> (Boston Gazette, January 8, 1745)

James Atkinson, Watch-Maker from London, Opposite the Governor's House, near the Secretary's Office in Halifax; Repairs and cleanses all Sorts of Watches, at the lowest Prices, with Fidelity and Dispatch. Sells all Sorts of materials for Watches, Viz. Main Springs, Glasses, Pendants, Keys, Seals, Strings, Chains, Enamil Dyal Plates [sic], &c. Buys Old Silver, Gold and silver lace, &c.

(*The Halifax Gazette,* August 25, 1753)

Competing with imported watches proved particularly challenging. English subjects in the colonies wanted the same selection and quality options as were available in England, and all types of colonial-made goods from wigs to silver had to overcome a prevailing reputation of being vastly inferior and less fashionable than European imports. The very nature of watches being high technology, fashion-sensitive and an important utility proved particularly difficult to sell vis-à-vis European imports that were readily available and assumed to be of higher quality. However, following the victory over the French in the long and expensive Seven Years War (1756-1763), also known as the French and Indian War, the colonies experienced renewed land expansion and economic development, which greatly increased wealth and further fueled consumption; the interconnection of population growth, increased spending on luxury goods, and world politics were providing the right conditions for more watchmakers to try to compete with imports.

Shortly after the end of the Seven Years War, new unpopular taxes, including the Stamp Act of 1765 (repealed in 1766) and Townshend Acts of 1767, were enacted on the colonies to help defray the enormous cost of achieving victory over the French. Initially designed to raise revenues by taxing luxury goods, the taxes had the added appeal of attempting to counter what was acknowledged by many in the English Parliament and the American colonies alike to be excessive consumer spending and detrimental accumulation of personal debt. Of course, unintended consequences took over from there. Between 1764 and the beginning of the Revolutionary War in 1775, colonists organized a series of boycotts of British goods in protest that devastated trade to the advantage of local merchants. In 1766, for example, English sterling silver exports declined by 80 percent due to the widespread popularity of the non-importation movement.12



Figure 4. Isaac Thomas no. 4779, Willistown, PA. Verge fusee movement with rather crude champleve dial that may have been made in the colonies. Pair cases by Henry Billingshurst with London assay date letter mark for 1764. Thomas (1721-1802) was one of the most prolific eighteenth-century Chester County clockmakers.

These events motivated more colonial watchmakers to place advertisements promoting locally made watches instead of disfavored English watches to appeal to consumers and indirectly demonstrate support for the non-importation movement.

Thomas Skidmore, in advertising specifically as a watch finisher from London with experienced staff, is asking the public to consider that his locally made watches are as good as those imported from England or Ireland. Note in his advertisements following that guineas were the gold currency of gentlemen, as opposed to the sterling currency of the trades, therefore perhaps making an overt class distinction appeal for business. Skidmore is also making and supplying "wheels, pinions, verges, &c" to the trade, indicating that a market exists for specialized parts. But the most telling statement in my view was his search for an apprentice who will have the opportunity to make and finish movements "which is not very common in America." Skidmore's commentary on the state of watchmaking in 1766 provides additional evidence that watches are being made in the colonies.



Figure 5. Closeup of Isaac Thomas champleve dial that may have been made in the colonies.

Wanted, an Apprentice to a Watch-maker; he must be a lad of Genius, and of creditable parents; he must serve Seven Years, and notwithstanding he will have an Opportunity (which is not very common in America) of making the Movement, and finishing the same, the Apprentice Fee (if small) provided the Boy Suits, will be accepted...N.B. The said Skidmore learnt his Business in London.

(*The Pennsylvania Gazette,* November 20, 1766)

Watch finisher, from London, Now living opposite the Court-house door, in the borough of Lancaster, Undertakes to make good, sound, and neat silver watches, for £12 currency; and as many people have been under the necessity of importing good watches from England or Ireland, he now assures those who would incline to have good watches, that he has, besides himself, two regular bred workmen from England; the one a movement-maker, and the other a motion-maker: Therefore any person who wants a watch, he will warrant it for three years, without mending, to the purchaser, and whatever size the purchaser chooses, from the size of a half dollar, to a larger, they may have, and in three months time from bespeaking of it. He also repairs watches after the neatest and best manner, and at a reasonable price.



Figure 6. Leslie & Price no. 1040, Philadelphia. Verge fusee movement with round pillars, white enamel dial, and gold hands. Pair case by John Turner (London) with London assay date letter mark for 1793, and duty mark of King George III looking to the right, which was used from 1786 to 1798, and indicates that the special duty, levied to pay off the debts incurred during the War of American Independence, was paid on the silver case. Robert Leslie and Isaac Price were in business together from 1791 to 1798 and seem to have been one of the more prolific importers of English watches at the time. Robert Leslie was born into a London watchmaking family and met Isaac Price in Philadelphia. Leslie returned to London and supplied the watches in what appears to have been a very successful 3,500-mile relationship.

N. B. He also makes wheels, pinions, verges, &c. for watch-menders, which he will sell low. Any person wanting a watch of Twenty Guineas price, may be here supplied as in London.

(*The Pennsylvania Gazette,* September 24, 1767)

Deteriorating support for English goods may have also motivated other working watchmakers, like John McLean, to enter the market and communicate that he too was capable of making watches locally (likely finishing an imported movement as previously discussed). In the following sample of advertisements from Boston, Philadelphia, and Baltimore, watchmakers are making the case that colonial watches are as good as those from London—a sort of "buy American" campaign. Notice that references to imported watches are absent from these advertisements.



Figure 7. Effingham Embree no. 790, New York. Verge fusee movement with round pillars, white enamel dial, and gold hands. Pair case by Bartholomew Need (London) with London assay date letter mark for 1793, and duty mark of King George III looking to the right. Embree is a celebrated clock and watchmaker working in the years 1781 to 1796. He was born in Flushing, Long Island, in 1759, and may have apprenticed with relative Thomas Pearsall in New York, becoming his partner in the firm Pearsall and Embree from 1781 to 1789.

John McLean Movement Maker, & Watch Finisher, Begs Leave to acquaint his Friends and the Public, That he has open'd the Shop formerly occupied by him, right over against the Watch-House, and next Door to Mrs. Jane Eustis's in King-Street. –Where those that are pleased to favor him with their Custom may depend on having their Work executed in the best and most reasonable Manner. Said McLean is now at Work on a Watch, the whole of which will be finished in the Province, except the Two Plates and Cases.

(*The Boston Gazette,* October 9, 1769)

The advertisements for John Wood Jr., who worked in Philadelphia from 1760 to 1793 and was succeeded by Ephraim Clark, another celebrated Philadelphia clock and watchmaker, in 1791 (see Figure 9), indicates a pretty extensive watchmaking business that included Philadelphiamade watches and the ability to supply a full range of tools and parts to the trade.



Figure 8. Stephen Van Wyck, no. 104, New York. Verge fusee movement with round pillars, white enamel dial, and gold hands. Pair case by James Gouldsbrough (London) with London assay date letter mark for 1792, and duty mark of King George III looking to the right. Upon Embree's retirement in 1796, Van Wyck continued the business at Embree's location and advertised in the May 26, 1797, New-York Daily Advertiser, "successor to Effingham Embree. No. 275 Pearl Street." 19



Figure 9. Ephraim Clark, no. 409, Philadelphia. High-grade verge fusee movement with engraved dust cap, white enamel dial, and intricate gold hands. Pair case by John Ellison (Liverpool) with Chester assay date letter mark for 1800. Clark (active from 1780-1811) succeeded John Wood, a distinguished clock and watchmaker discussed in this article. Clark significantly contributed to Philadelphia clockmaking, and his descendants later expanded the business to become America's largest importer and reseller of clockmaking castings and forgings.²⁰



Figure 10. Caleb Wheaton no. 1505, Providence. Verge fusee movement with round pillars, white enamel dials, gold hands, and rare calendar feature, ca. 1796. Wheaton was a renowned tall clock maker in Providence who solicited fellow Quakers to help identify London contacts that could supply "any Article in the Watch Business."²¹

Imported, and to be Sold, by John Wood, clock and Watch-Maker, At the Corner of Front and Chestnut-streets, Cast and forged clock-work, sheet brass, finished faces, cast watch-work, clock pinions cut, hard brass wire, pillar brass, clock bells, watch case springs and buttons, gold, silver and pinchbeck pendants, fusee chains, chain hooks, silk strings, catgut, flour emery, rotten stone, pumice stone, silvering, borax, pinion wire, click steel, steel wire, small square steel, flat ditto, clock hands, watch ditto, Turkey oil stones, polishing stones, crocus martis, gilding wax, and scratch brushes, clock gravers, clock turn benches, watch ditto, enameled dialplates, watch bench vices, hand and tail vices, sliding tongs, cutting nippers, watch beak irons, small hammers, watch-case hammers and stakes, broaches, pinion and frame gauges, clock and watch screw plates, punches, spring saw frames, braces and bitts, spring blowers, steel tweezers, dividers, calipers, scrapers, freesing tools, beam compasses, clock and watch plyers, riveting tools, endless screw keys, blow pipes, screw drivers, black wax, watch pendulum wires, bunting chains, oil stone





Figures 11 and 12. Aime Brandt, Philadelphia. Brandt came to Philadelphia from Switzerland sometime before 1795. Several of his Philadelphia watches survive and all appear to be nicely finished with signed movements and dials as shown in this example.

slips, coloured watch papers, &c. Also all kinds of clock and watch files, and a parcel of silver watches.

(*The Pennsylvania Gazette,* June 27, 1771)

John Wood. --- Philadelphia-Made Watches. The subscriber, having engaged in his employ some capital workmen from London, in the different branches of watchmaking, can furnish any gentlemen with repeating, horizontal, seconds, or plain watches, warranted good. - The advantage of having the maker of such machines on the spot, is obvious to every purchaser, as reputation and interest will engage him to put out of his hands such work only as will give satisfaction; which will be the constant endeavour of the publick's [sic]humble servant, John Wood.

(*The Pennsylvania Journal*, October 24, 1771)

David Evans of Baltimore also promoted locally made watches. His reference to "absence at Camp" in the second advertisement from 1779 is likely meant to point out his service fighting for independence to appeal to the patriotic public. Also notice that he no longer mentions workmen from London, as stated in the earlier 1773 listing, preferring instead to use the term "European Workmen" in the later 1779 advertisement.

David Evans, Clock and Watch-Maker, From Philadelphia. Informs his Friends and the Public, that he has opened Shop, at the Sign of the Arch-Dial and Watch, next Door to Messieurs Shields and Mattison, Hatters, and adjoining Mr. Francis Sanderson's, Coppersmith, in Gay-Street; Where he makes musical, horizontal, repeating and plain Clocks, in the neatest manner, and newest fashion, and at the lowest prices. He likewise makes Watches (having employed workmen, regularly bred to the different branches of Watchmaking in London) which he engages to be as good, and equal in quality to any imported...

> (The Maryland Journal and The Baltimore Advertiser, August 20, 1773)

David Evans, clock and Watch-maker has for Sale, at his shop, in Gay-street, Baltimore, a few finished Eight Day clocks, of different prices. Likewise Watch Chrystals, [sic] Mainsprings and Borax. – He begs leave to inform the Public in general and his Old Customers in particular, that, as the business of his shop has been much neglected during his absence at Camp, and otherwise, that he has now two excellent Workmen, regularly bred to the business in Europe, and flatters himself, with the above assistance, in future, to give general

satisfaction to those Ladies and Gentlemen who please to employ him. – N. B. New Watches, when bespoke, made on the shortest notice.

(The Maryland Journal and Baltimore Advertiser, March 2, 1779)

Charles Geddes advertised on at least 13 occasions between 1773 and 1784, often highlighting his London-based training as a finisher similar to other advertisers cited here. In this example, Geddes seeks recovery of a lost watch that was made by him and carries his signature. I wonder what his "one of the kind" made watch, referenced in this advertisement, looked like!

Charles Geddes. Two Guineas Reward. Lost on the evening of Thursday last, A Silver Watch, with a silk strap, and pinchbeck seal, maker's name Charles Geddes, New-York; she is of singular construction, having no figures for the minutes on the dial-plate, which is the only one of the kind, with a cap, of Mr. Geddes's make in America; the name is engraved on the works and cap, so that she may be easily detected, if exposed or offered for sale...

(The Pennsylvania Ledger: or the Philadelphia Market-Day Advertiser, January 21, 1778)

Numerous examples of lost and stolen watches, like the Geddes advertisement above, highlight a benefit of having a locally made watch and possible assistance of the watchmaker to facilitate its return. Unlike hallmark codes on English silver and other precious metals that were trade information and therefore not something a buyer could easily understand, ordinary people could read a name and address that had been engraved on a watch. With this practice, local watchmakers and retailers distinguished themselves from their competitors who only offered European-signed watches. They benefited

from selling American-signed watches and locally manufactured silver articles and other fancy goods. Benefits included free advertising, the biggest profit possible, as well as a new client base composed of domestic production-minded patriots. Engraving the name and location was early advertising, a statement that one was reputable and established, and also served as a reminder to the owner where to get the piece serviced. You can bet that the owner opened the back of the case many times to show off the movement, and in so doing advertised the watchmaker.

It is interesting to note that many watchmakers, both in America and England, happily engraved any name requested, as an alternative to the watchmaker or retailer's name, to make a sale. Having a family name engraved on the watch either as a memento mori or as a simple vanity was also an anti-theft measure, because a lost or stolen watch had a greater likelihood of being recovered and returned if it bore the owner's (or local watchmaker's) name and city. A wonderful American example is by James Stewart, who solicited customized orders for imported English watches.

Said Stewart informs the gentlemen and ladies of Baltimore and its vicinity, that he purposes importing from Europe, horizontal, striking, and repeating watches, patent seconds, stop and plain watches, which may be depended on as they will be of the first quality, and made by the first workmen in London or Dublin, and chosen on the spot by a brother of said Stewart's, who is perfect master of the business.

He further requests that the gentlemen and ladies who wish to embrace this opportunity, may come forward on or before Saturday the 4th August, to give their directions (which they may depend being attended to) whether they will have their own name or the makers on the watch, the figure of the dial plate, if the cases are to be

gold or silver, or if they wish to have them made in London or Dublin...

(The Baltimore Evening Post, July 27, 1792)

Lost and stolen advertisements are important because they provide evidence that watches were in circulation. Of particular added interest are those that also cite serial numbers, because, while tenuous, a low serial number may be an additional indicator of local assembly or finishing.13 Examples from newspaper notices include number 12, described as a silver watch by Edward Duffield, Philadelphia, lost in 1770, and number 7 also by Duffield stolen in 1774 (Duffield was one of the earliest Philadelphia clock and watchmakers, who also produced instruments used by Benjamin Franklin in his experiments.14); number 25, described as a plain silver watch by Thomas Stretch, Philadelphia, lost in 1782; and this example from John Wood (the same watchmaker discussed previously):

John Wood. --- Was Lost, Near Carlisle, the 9th instant, a Silver Faced Watch, of a pretty large size; makers name, John Wood, Philadelphia; No. 8. Whoever finds said Watch and brings her to Mr. John Rhine, Tavern-Keeper, Carlisle, shall have Two Dollars reward.

(*The Carlisle Gazette,* September 11, 1793)

Perhaps it is fitting that the last advertisement I've chosen is by Thomas Harland, who is universally recognized for the number of important American horologists who learned their trade as apprentices under his guidance, including Daniel Burnap.

Thomas Harland, Watch & clock Maker, From London, Begs leave to acquaint the public, that he has opened a shop near the store of Christopher Leffingwell, Esq; in Norwich; where he makes, in the neatest manner, and on the most improved principles, horizontal, repeating, and plain

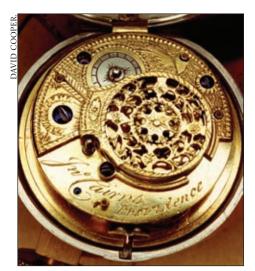


Figure 13. John Cairns, Providence. Earliest documented example of an American-made watch, and subject of an extensive article by David Cooper in the February 2002 *NAWCC Bulletin*, evidencing locally made components and assembly, ca. 1790. Verge fusee movement with enamel dial, gold hands, and fully pierced balance cock signed John Cairns, Providence.

watches, in gold, silver, metal, or covered cases. Spring, musical, and plain clocks; church clocks, regulators, &c. He also cleans and repairs watches and clocks with the greatest care and dispatch, and upon the most reasonable terms.

N. B. Clock faces engraved and finished for the trade. Watch wheels and fuzees [sic] of all sorts and dimensions cut and finished upon the shortest notice, neat as in London, and at the same price.

(*The Norwich Packet,* December 9, 1773)

The last battle of the Revolutionary War was fought in 1781 at Yorktown, VA, and the subsequent Treaty of Paris in 1783 generally marks the end of the American colonial period. My guess is that the number of colonial watchmakers who offered their own line of watches were few, likely under 25, but this is no more than an educated guess on my part. I am only aware of a few surviving American colonial-era watches. Two are shown in Figures 1–5 and both were likely finished in England (performing all that was necessary to as-

semble, adjust, and generally prepare the timekeeper for sale with the desired finish quality) although the rough champleve dial on the Thomas may indicate that the dial was made in the colonies. As of this writing, the earliest surviving example of a watch substantially made in America is circa 1790 by John Cairns (Figure 13) as documented by David Copper in 2002.15 Fortunately, the probate of the Cairns estate also survives, evidencing watchmaking tools and supplies consistent with local watchmaking, including an unfinished movement. I am aware of several similar probate records; for example, Myer Cohen's estate from 1798 (Richmond, VA) includes "7 boxes of watch movements, another box of same,"16 and Rudy Stoner's estate of 1769 (Lancaster County, Pennsylvania) includes 1 unfinished horizontal watch, 1 unfinished alarm watch, and 6 other unfinished watches (see Exhibit 2 for the complete estate inventory).

Toward the end of the century, when competition and excess production drove down the prices of watches-making them more affordable and available than ever before more American watchmakers, such as Leslie & Price, Benjamin Clark, and Ephraim Clark of Philadelphia; Effingham Embree, Stephen Van Wyck, and Henry Griffen of New York; and Joshua Lockweed of Charleston, just to name a few, retailed their own line of watches that they apparently imported to their specification and desired finish quality, complete with their name engraved on the back plate.

It is important to note that there has never been an in-depth study of pre-mass production American watchmakers, let alone those from just the eighteenth century. A key challenge, completely unresolved to this day, is how to tell with certainty where work was performed when the watchmaker was essentially English, trained in English methods, using English tools, but working in America.

Regardless, even in the case of

watches ordered complete, that may or may not have had some level of finishing done in America, these men conducted the watchmaking trade under their name, reputation, and warranty, and were "watchmakers" every bit the equal of the term used in England at the time.

Conclusion

The history of watchmaking in **■** eighteenth-century America is more interesting and complicated than previously thought and certainly far greater in scope than prevailing attitudes and publications commonly suggest. Evaluated with an eye toward the interconnectedness of population growth, increasing consumption and world politics, newspaper advertisements provide compelling evidence that a significant watchmaking industry composed of watchmakers, finishers, parts suppliers, and a sodistribution network phisticated of fancy goods retailers was rooted early in eighteenth-century colonial America. Colonial and early American watchmakers of that era mark the true beginning of the American watch industry.

Reflecting on the implications of a thriving watchmaking industry in eighteenth-century America with fellow enthusiasts inevitably leads to discussions regarding the following three key questions:

1. Why aren't there more surviving watches?

First, the number of watchmakers working in the colonies was relatively small and the few who attempted to sell their own line of watches, including those advantaged by the non-importation movement leading up to the Revolutionary War, apparently could not compete with available imports on a sustained basis. Later in the century, when significantly more people could afford a watch and prices came down due to greater supply, more American makers succeeded in offering their own

line of watches. However, this was still an extremely small proportion of watches sold in America. The repair records for Jedediah Baldwin, who was once an apprentice for Thomas Harland, and then continued in the repair trade working in Connecticut and New Hampshire, survive from 1793 to 1810. Two hundred years ago, only 35 of the 2,000 watches he serviced, or approximately 1.5 percent, were signed by North American watchmakers.¹⁷

Second, American makers were not in the same league as master watchmakers in Europe who achieved international name recognition. Many European timepieces survived due to the engraved name of a celebrated maker, or the quality of the finish, accuracy of the timekeeper, rarity of the movement, provenance, etc. Even European movements were sometimes saved for these reasons, though their silver or gold cases were scrapped for cash. In comparison, surviving colonial and early American examples, with few exceptions, are technically unspectacular verge movements with soon-forgotten maker names. Few were made to start with, and they suffered the fate of being scrapped like most nondescript watches over the past two hundred years. Also, nonprecious metal cased watches, which I speculate may have represented a large proportion of watches sold in America, had no significant precious metal content and therefore were simply discarded.

Last, taxes were often levied on personal property that included gold and silver watches and therefore there was a very real disincentive to keep obsolete watches lying around. For all these reasons and more, surviving examples are rare.

The author is keenly interested in assembling a list of colonial and early American watches to further this topic. If you have knowledge of North American (Canada/U.S.) signed surviving watches (or movements), particularly those made up to 1830, please send pictures and the following information to the email address

listed at the end of this article:

- name and city (must be North American) as exactly engraved on the watch movement
- 2. serial number engraved on the watch
- 3. whether there is a dust cap, and engraving on it if present
- 4. all inner case marks and outer case marks
- 5. case material
- 6. escapement type
- 7. inventory of watchpapers if present (name, location, and any markings on the back)

2. Why has early American watchmaking gone unstudied?

Tn stark contrast to early Ameri-Lcan watches, voluminous research into early American clockmakers and clocks has been undertaken because the wooden cases (and wooden and brass movements) have allowed scholars to study American craftsmanship, materials, and production techniques as a segment of American antique furniture. Priced as antique American furniture, early American clocks have passed from generation to generation as treasured and valued heirlooms, and many continued to serve as perfectly acceptable timekeepers through the years, adding to their appeal. Early American watches in particular have lagged considerably behind. The study of watch production techniques is not as well developed nor has the field received as much scholarly attention.

3. There is no actual proof that the activities described in eighteenth-century advertisements are truthful, inferring that watchmakers and suppliers greatly embellished their actual accomplishments to attract customers and one-up the competition.

would be surprised if those adver-Lising did not put their capabilities in the most favorable terms; however, it was customary in colonial America to call people out publicly when deceived; and no such accusations, which surely would have been placed in the same publication as the original claim, exist to my knowledge. In addition, parts suppliers had absolutely no possible motive to deceive the trade. If suppliers were making available a full range of component parts, then it stands to reason that demand existed to use them. Finally, probate records and newspaper notices for lost or stolen watches give evidence of watches in circulation and therefore help support advertisement claims.

I think the contrary is more reasonable. Foremost, watchmakers in America were businessmen, and some of these Yankees, having persevered to establish a going concern in the colonies, applied every bit of their life experiences to practice their trade to their fullest capabilities. However, newspaper advertisements alone do not constitute proof; it is particularly problematic to accept manufacturing from scratch, given the technical difficulty, cost, and assumed availability of rough movements. What is clearly needed is a careful study of advertisements, historical documents, and surviving American watches, as well as further understanding into international production, trade practices, and politics that affected early American watchmaking.

Acknowledgments

Work on this article began over a year ago when my questions concerning the history of an early American watch in my collection were brushed aside by those I consider to be experts in the field of horology. My first draft bears little resemblance to this paper as I struggled to reconcile the limited information available in published books, NAWCC *Bulletin* articles, auction

catalogs, and eighteenth-century newspaper advertisements against my own views and those of fellow watch-collecting enthusiasts. I thank Doug Caulkins, David Cooper, J. Carter Harris, Tom McIntyre, and Tom Spittler for reviewing drafts and providing their valued input and encouragement. Special appreciation goes to David Grace whose knowledge of American history, passion for horology, and patience in dealing with amateurs (such as I) is unsurpassed. This paper would remain

unfinished without his insights that are integrated throughout. Lastly, I thank my dad and friend who helped edit this work.

☐

About the Author

Richard Newman holds an MBA from Northern Illinois University and has worked for the better part of 25 years in the banking industry for J. P. Morgan in information technology and international product management. He became interested in clocks and watches at an early

age, following in the footsteps of his father.

Richard is interested in eighteenth-century clocks and watches, and this is his fourth article for the *Bulletin*. He is a member of Chicago Chapter 3, British Horology Chapter 159, and Pocket Horology Chapter 174. His interest in colonial American watches is relatively recent and stems from a chance encounter with David Cooper at a Denver Regional in 2001. He can be reached at rpnewman@yahoo.com.

Appendix

Exhibit 1 Taken verbatim from Rees's Clocks Watches and Chronometers (1819-1820)²²

The best watch-movements are made at Prescot, in Lancashire, by persons called movement-makers, who furnish the movement complete to the London watchmakers. The following is a list of the principal workmen employed in manufacturing a movement, previously to its coming into the hands of the London watch-maker.

- 1. The frame-maker, who makes the frame; that is to say, the two plates, the bar, and the potance.
- 2. The pillar-maker, who turns the pillars, and makes the stud for the stop-work.
- 3. The cock-maker, who makes the cock and the stopwork.
- 4. The barrel and fusee-maker, who makes the barrel, great wheel, fusee, and their component parts.
- 5. The going fuzee-maker, who makes the going fusee, (the means by which the watch is kept going while winding up,) when made use of.
- The centre-wheel and pinion maker, who makes the same.
- 7. The small pinion-maker, who makes it of wire, previously drawn by another workman, called pinion-wire; the third and forth wheels, and escapement wheel-pinion; and in the case of repeaters, the pinions of the repeating train of wheels: these are all finished in the engine.
- 8. The small wheel-maker, who makes the third and forth wheels, and the wheels of the repeating train for repeating movements, and rivets them to their pinions.
- 9. The wheel-cutter, who cuts the wheels.
- 10. The verge-maker, who makes the verge of vertical watches.
- 11. The movement finisher, who turns the wheels of a proper size previously to their being cut, forwards them to and receives them from the wheel-cutters, examines all the parts as they are made, to see that they are as they should be; and finally completes the movement, and puts it together.

12. The balance-maker, who makes the balance of steel or brass.

Note. – The brass balance is preferred to the steel balance by some watch-makers, in consequence of the latter being subject to the influence of magnetism: but others prefer the steel to the brass balance, in consequence of the latter being more influenced by variation of temperature than the former.

13. The pinion wire-drawer, who prepares the pinion wire; this, however, may be considered as only a branch of the trade of wire-drawing.

The plates and wheels are now all made out of rolled brass; but formerly, when it was to be had, they were made of Dutch brass, it being considered preferable to the English.

The movement, in the state in which it is sent to the watch-maker, consists of the frame, composed of two plates, connected together by four or five pillars, as the case may be, which pillars are riveted to one of the plates, called the pillar-plate; the wheels, consisting of the great wheel attached to the fusee, the second or centre wheel, the third and fourth wheels, the fusee and barrel, potance and stop-work, which latter are attached to the upper plate, (so called in contra-distinction to the pillar-plate,) but the potance screwed to it is between the plates; and lastly, the cock screwed to the outside of the upper plate.

The following is a list of workmen to complete a watch from the state in which the movement is received from the country:

- 1. The slide-maker who makes the slide.
- 2. The jeweller, who jewels the cock and potance, and, in a more forward state of the watch, any other holes that are required to be jeweled.
- 3. The motion-maker, who makes the brass edge; and, after the case is made, joints and locks the watch into the case, and makes the motion-wheels and pinions.
- 4. The wheel-cutter, who cuts the motion-wheels for the motion-maker.
- 5. The cap-maker, who makes the cap.
- 6. The dial-plate-maker, who makes the dial.
- 7. The painter, who paints the dial.
- 8. The case-maker, who makes the case.

- 9. The joint-finisher., who finished the joint of the case.
- 10. The pendant-maker, who makes the pendant.
- 11. The engraver, who engraves the name of the watch-maker on the upper plate; and also engraves the cock and slide, or index, as the case may be.
- 12. The piercer, who pierces the cock and slides for the engraver, and afterwards engraves them.
- 13. The escapement-maker, who makes the horizontal, duplex, or detached escapements; but the escapement of a vertical watch is made by the finisher.
- 14. The spring-maker, who makes the main-spring.
- 15. The chain-maker, who makes the chain.
- 16. The finisher, who complets the watch, and makes the pendulum-spring, and adjusts it.
- 17. The gilder, who gilds the watch.
- 18. The fuzee cutter, who cuts the fuzee to receive the chain and also balance-wheel of the vertical escapement.
- 19. The hand-maker, who makes the hands.
- 20. The glass-maker, who makes the glass.
- 21. To these must be added the pendulum-spring wiredrawer, who draws the wire for the pendulum-springs, which is almost a distinct trade.

... The principal London watch-makers order the movements, as above described, of the movement-makers of Prescot, who make them according to the calipers they receive from each maker with their orders. But the ordinary description of movements may be purchased at most of the watch-tool shops in London; one of the chief of which is Fenn's, No 105, Newgate-street, where every description of clock and watch-maker's tools and engines may also be procured at moderate prices.

Author's Note: While published in 1819, the manufacturing process for watches in England remained relatively unchanged and therefore this account is relevant to the time period of this article. A similar account describing the relationship between London watchmakers and suppliers from the late eighteenth century states "It may be thought a bold assertion that the best movements for the very best watches made up in London are frequently the efforts of ingenious artists of the Branch in the Town of Liverpool & its vicinity, after which they are put together adjusted (or what is more properly the Technical term finished) by Artists in the Metropolis – not that a watch always bears the name of either finisher or motioner, the wholesale Dealers or principal Shopkeepers are the names generally which appear upon the time pieces – It is rarely the real name of the finisher for that is the person who may be reckoned accountable for the qualities of the piece avowed although there are some exceptions."23

Exhibit 2

Estate of Rudy Stoner, 1769

Lancaster County, Pennsylvania²⁴

The inventory of Stoner's estate was done on 19 July 1769 by gunsmiths William Henry and Henry DeHuff.

- 1 watch, £5/0/0
- 1 timepiece and case, £5/0/0

- 1 new 8 day clock, £12/0/0
- 1 small time piece with alarm, £2/10/0
- 1 chime, £12/0/0
- 1 horisontal watch, unfinished, £2/10/0
- 1 alarm watch, unfinished, £4/0/0
- 5 other watches, unfinished, £2/10/0
- 1 oz old silver, £0/8/0
- 1 Watch, unfinished, £1/0/0
- 1 springs, warranted, £2/15/0; 6 do, £1/4/0
- 2 clock faces, £0/8/0
- 7 doz & 4 Watch Christials, £0/14/0
- 9 hour hands, £0/8/0
- 3 Chenea Watch faces, £0/14/0
- 2 do, £0/5/0
- 5 setts of Hands for Watches, £0/10/0
- 4 toys for Watches, £0/2/0
- 7 Watch Chains, £0/5/0
- 2 Magnifying Glasses, £0/2/6
- 1 Cutting Engine for Watch work, £12/0/0
- 2 Bench Vices, £2/0/0
- 1 Fuse Engine, £1/5/0
- 1 polishing Engine, £0/15/0
- 1 prass Lathe, £0/10/0
- 1 Adjusting Tool, £2/0/0
- 2 Stakes, 1 Hamer for watche Cases, £0/12/0
- 1 Beckhorn #3 screw plates, £1/0/0
- 4 pair cutting Nipper, £0/4/0
- 5 pair of plyers, £0/6/0
- 3 pair of Handvices, £0/6/0
- 2 pair of Stidlongs & 1 pinvice, £0/8/0
- 3 pair of Dividers, £0/10/6
- 1 Large clockmakers Lathe, £0/15/0
- 1 Smaller do, £0/15/0
- 1 Magnet Artificial, £0/15/0
- 1 Fusee Engine for Clock work, £0/10/0
- 1 Barrel Tool, £0/4/0
- 1 cutting Engine for Clock work, £8/0/0
- 1 Machine for making Clock Chains, £0/3/0
- 1 Stock Vice, £1/5/0
- 1 Adjusting Bob, 1 Spring Blewer, 1 Caleper, £0/14/0
- 4 Hammers & frosting tools, £0/12/0
- 1 clock head, £0/5/0
- 1 pair of Small Scales, £0/1/6
- 1 par of Bellasses, £3/0/0
- 1 Anveal, £3/0/0
- 1 Small do, 3 pair Tongs & 2 Hammers, £1/6/0
- 3 pair of Lead Flasks, £0/12/0
- Led Patrons, £0/4/0
- 1 Brace, 1 Square & Scriping Tool, £0/12/6
- 2 Screw plates, 1 Countersink, 1 Small finning Lathe, £0/7/6
- 12 Arbers with brass Collects, 9 do with wood, £0/5/3
- 1 Barrel arbor for Clock Work, 1 do for Watch work £0/8/0
- 12 turning tools, £0/2/6
- 8 Ingravers, £0/2/8
- 5 Opners & 1 Burnishers, £0/1/0
- 6 Turning Tools, £0/2/0
- 4 Brass Scrapers, 1 Reemer with 2 Stakes, £0/2/6
- 5 doz.: watch makers files with Handles, £1/10/0
- 1 doz: & 8 do., £0/8/4
- 2 Doz: & 2 do, new, £0/18/0
- 25 Burnishers Opners Sliting files & Turning Tools,

£0/12/6

7 Doz: Collects, £0/2/4

26 Drills & Opners, £0/4/2

2 blowpipes, 2 spring Pliers, £0/6/0

1 foot & 1/2 pinnion wire, £0/3/0

2 Counter Sinkes, 2 Rivetings tools, 1 Gage, £0/2/6

4 Watch makers files, £0/5/0

2 pair Callipers, 2 pair Compasses, 1 pair of Dividers, £0/3/6

6 Clock bells, £0/18/0

1 set Chime bell patrons, £0/2/6

1 Spinthel & Wheel lathe, £0/15/0

1 Small Stone Collerd Case, £0/15/0

1 Blew do., £0/7/6

1 Bird Organ, £0/10/0

8 lb pewter patrons, £0/8/0

1 Case of Tool Drawers, £1/0/0

1 Case of Bench drawers, £0/7/6

1 Glais'd Case for holding watches, £0/3/0

1 Brass Morter & pistol, £0/5/0

2 Chene plates, £0/12/0

1 lot of Ground in Henry Mussers Town, £10/0/0

1 Fucee Gun, £2/15/0

ESTATE TOTAL £600/19/2

[Stacy B. C. Wood Jr. "Rudy Stoner" *Journal of the Lancaster County Historical Society*, Vol. 80, No. 2]

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