

# Joseph Mulliken's Account Book

By Damon Di Mauro (MA)

**A**mong the archival material from the Lynn Historical Society, now housed at the Phillips Library of the Peabody Essex Museum in Rowley, MA, is an “unidentified business daybook of watch repairs (1793–95).”<sup>1</sup> As the internal evidence will show, this account book can now be attributed to Joseph Mulliken (1771–95) of Salem, MA. Though one of the most elusive members of the illustrious clockmaking family, Joseph’s account book provides at once a pointed and panoptic view of horology at a time of unprecedented commercial growth for the seafaring town of Salem, which, by 1790, had become the sixth largest and the wealthiest per capita in the nation.<sup>2</sup> In New England, she was only rivaled by her neighbor 16 miles to the south. “Boston was the Spain, Salem the Portugal, in the race for Oriental opulence,” observed one writer. “Boston followed Magellan . . . around the Horn; Salem sent her vessels eastward . . . around Africa, along the path blazed by Vasco da Gama.”<sup>3</sup> The wharves and warehouses built to support the search for silks and spices also required a vast infrastructure, attracting every trade, from spar-makers, sailmakers, and ropemakers to painters, carvers, and smiths. Finally, the flourishing commerce abroad was matched by an accrued interest in the higher pursuits at home, hence Salem enjoyed an architectural, scientific, and intellectual renaissance.<sup>4</sup>

Joseph Mulliken was the younger brother of Samuel Mulliken II (1761–1847), one of the most esteemed clockmakers of the Massachusetts clan, and likewise Haverhill born.<sup>5</sup> Both brothers came of age during the American Revolution and its aftermath: Samuel’s second marriage was to a daughter of Colonel Ezra Newhall (1733–98), who had been at Valley Forge and taken part in the battles of Trenton and Princeton,<sup>6</sup> whereas Joseph joined a detachment of Haverhill’s militia in January 1787 to suppress Shays’ Rebellion, an armed uprising in Western Massachusetts in response to the state government’s aggressive tax and debt collection.<sup>7</sup> Samuel and Joseph’s clockmaking cousins Nathaniel Mulliken II (1752–76) and Jonathan Mulliken (1746–82) were also involved in the Revolution: the former was a Minuteman,



**Figure 1.** From the *Salem Gazette*, March 19, 1793, 3. COURTESY OF THE AMERICAN ANTIQUARIAN SOCIETY.

present on the Lexington Common on April 19, 1775,<sup>8</sup> then saw his house and shop burned by the British; the latter engraved a famous version of “The Boston Massacre” and also engaged in privateering based out of Newburyport.<sup>9</sup>

If the normal apprenticeship period lasted seven years, Joseph would have joined his elder brother, Samuel, in Newburyport about 1785, returned with him to Haverhill during the years 1787–88, and concluded his training with him in Salem circa 1792.<sup>10</sup> Samuel

Mulliken’s own account book shows that in 1789 he had taken responsibility for assuring Joseph’s board with a certain “Mr. Burrell.”<sup>11</sup> In return, as Samuel’s list of expenses suggests, Joseph probably began doing typical journeyman work for him: “Making and finishing 2 Clocks” (£2–8s), “Making 1 Clock Movement” (18s), “Making time peace” (9s), “fixing 2 Old Clocks” (10s), “Making 3 Clock Movements” (£3–4s).<sup>12</sup> In any event, by 1793, having at last reached his majority age of 21, Joseph was poised to stand on his own two feet and twice



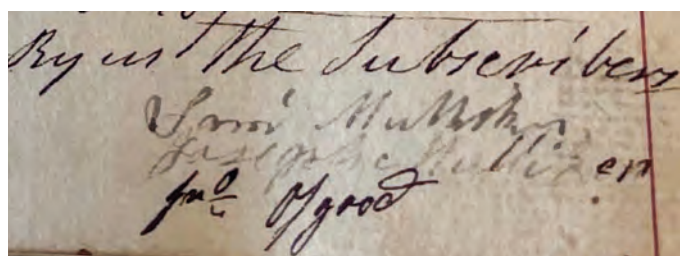
*Stearns Building, Washington and Essex Streets, Salem, in which the East India Marine Society occupied rooms from 1799 to 1804. From a contemporary wood engraving*

**Figure 2.** Illustration of the Stearns building, from Walter Muir Whitehill, *East India Marine Society and the Peabody Museum of Salem: A Sesquicentennial History* (Salem, MA: Peabody Museum, 1949), 17.

advertised in the *Salem Gazette* (Figure 1) that he had secured space in William Stearns and Jonathan Waldo's newly constructed brick store (1792).<sup>13</sup> The commercial building was designed by celebrated architect and craftsman Samuel McIntire (1757–1811) and soon proved to be a town landmark, for, as Salem diarist Rev. William Bentley (1759–1819) noted at the time, “There are few brick buildings, and few to attract particular notice.— Some have lately been built, or raised to three stories, but the buildings are generally two upright stories” (Figure 2).<sup>14</sup> The Stearns Building, as it came to be known, housed stores and offices on the first two floors. It was crowned by Washington Hall on the third floor, presenting “a curious survival in the Doric style of the old-time English assembly room, with built-in seats along the walls, fireplace and a music gallery at one end,”<sup>15</sup> which became a major social center for the town. The conspicuous venue bespoke an auspicious beginning for Joseph Mulliken's shop. As ill fortune would have it, though, he perished just two years later in early August 1795, at age 24,<sup>16</sup> ostensibly as a result of scarlet fever (Figure 3).<sup>17</sup> Just a week earlier in late July, the epidemic had also claimed the life of the youngest sibling of the Mulliken clan, 18-year-old John (1777–95).<sup>18</sup> There can be no doubt that John had come to Salem to apprentice as well.



**Figure 3.** Headstone of Joseph Mulliken, Broadstreet Cemetery, Salem, MA. AUTHOR'S PHOTO.



**Figure 4.** Joseph Mulliken, *Account Book 1793–1795*, Lynn MSS 141:16. COURTESY OF THE LYNN MUSEUM & HISTORICAL SOCIETY. AUTHOR'S PHOTO.

The account book bears the incipit “Salem March 10 1793” at the head of page 2.<sup>19</sup> The author immediately speaks of paying a six-month “rent” to Stearns & Waldo.<sup>20</sup> His last discernable notation is a £9-9-9 tally of earnings from “J[une] to July” 1795.<sup>21</sup> This time frame obviously corresponds to the known dates of Joseph Mulliken's short-lived horological career. Moreover, the author refers several times to his “brother Samuel,”<sup>22</sup> with whom he says he boards,<sup>23</sup> who likewise helps establish him in the trade—supplying him most notably with “cast brass” and what he calls “kittle brass” (read: scrap material)<sup>24</sup>—and finally with whom in September 1793 he also forms a “Company.”<sup>25</sup> A “Joseph Mulliken” even signs the account book at one point.<sup>26</sup> His faint signature occurs at the bottom of what appears to be an inventory of tools allotted to him. A third partner, fellow clockmaker John Osgood (1770–1840), also signs (Figure 4).

Until now, it was commonly thought that John Osgood had apprenticed with his “Uncle” Michael Carleton (1757–1836) of Bradford and Haverhill, MA, who was a brother of his father's first wife.<sup>27</sup> Even though Osgood's own grandson explicitly states otherwise, “Grandfather's business, which he learned at Salem, Mass., was that of a clock maker and silversmith, which of course included the repairing of watches and jewelry,”<sup>28</sup> this did not seem possible to historians because it was known that he had briefly worked in Andover, MA (circa 1791–92) and indeed had signed two clocks from there,<sup>29</sup> before finally settling in Haverhill, NH, in 1793 (Figure 5).<sup>30</sup> And yet, there can be little doubt that this third partner was the same John Osgood of Haverhill, NH, for Joseph Mulliken writes on January 4, 1794, “This day agreed with my brother Samuel to give up to him all the wright & title I have to property in the hands of Jn<sup>o</sup> Osgood at Haverhill Cohos for thirty pounds.” *Cohos* in the Algonquian language, sometimes transcribed as *Cowass*, was the frontier region of northern New Hampshire, of which the town of Haverhill was the county seat. The name soon changed to simply Coos (pronounced “kó-os”), and it is precisely from “Haverhill, Coos” that John Osgood signs two ads for his clockmaking services in 1793,<sup>31</sup> and another in search of a journeyman clockmaker in 1795.<sup>32</sup> It is not clear how the Mulliken brothers came to hold land in the New Hampshire hinterlands,<sup>33</sup> but it now appears that John Osgood, after having learned the craft in Salem under Samuel Mulliken, continued a business relationship with him although removing northward, perhaps to operate a branch shop in partnership with the Mullikens or simply with a view to maintaining supply lines from the two major port cities of Boston and Salem. He must have traveled periodically to Salem to meet with his partners. In his account book, Joseph records supplying him with “1 Eight Day Clock,” “2 Watch faces,” “1 Inside watch Chane,” and “200 Watch papers.”<sup>34</sup> There were also “Company” trips that Joseph Mulliken took to Boston for accessories such as “Cappitols



& Bases,” “locks,” “Clock base hinges,” and “Clock Bells” (Figure 6).<sup>35</sup>

With authorship of the account book now reasonably established, it would be well to consider how it came to reside at the Lynn Historical Society. It is known that Samuel Mulliken left Salem in 1796, bought property in Lynn, and became a successful tanner there.<sup>36</sup> As a holder in a clockmaking company with outstanding business, it is likely that he would have taken charge of his brother’s account book and brought it with him to Lynn. What happens next is a matter of conjecture, but it appears that the account book found its way into the hands of fellow Lynn tanner Joseph Moulton (1798–1873).<sup>37</sup> Next to an entry dated November 1794 concerning his father, also named Joseph Moulton (1772–1812),<sup>38</sup> he signs his name, the date, and his age at the time (Figure 7).<sup>39</sup> If the account book was saved for posterity, it is probably because Joseph Moulton Jr. also happened to be an avid antiquarian. He was known to have “collected a valuable library of miscellaneous books”<sup>40</sup> and to have penned a historical sketch of the morocco leather business in Lynn, in which he even mentions the contribution of Samuel Mulliken.<sup>41</sup> His own son Joseph T. Moulton (1853–92) followed in his footsteps, becoming both a morocco manufacturer and a local historian.<sup>42</sup> One writer renders him this tribute:

The people of Lynn are greatly indebted to him for the collection and preservation of much that is useful as well as interesting in her history. He has prepared copies of the earliest existing town records, and had them published in the Historical Collections of the Essex Institute. He has also collected and published the inscriptions from the oldest graveyards of Lynn, Lynnfield and Saugus, and has prepared genealogies of the Moulton and Mansfield families.<sup>43</sup>

Given their antiquarian proclivities, it stands to reason that the account book passed from father to son and that it eventually made its way to the Lynn Historical Society.

Returning to the account book itself, Joseph Mulliken did not follow standard “double-entry” practice, according to which the left side is marked “debits” (showing the purchaser’s name, date, what was obtained, and value of the exchange), while the right side is marked “credits” (indicating whether currency changed hands or the debt was repaid through some sort of commodity exchange or personal service). Mulliken was strictly linear in his record keeping, mixing indiscriminately services rendered and received, while consigning monthly balances to a rudimentary ledger at the end of the volume.<sup>44</sup>

An opening page of the account book is titled “Memorandum of gold smith work sold.”<sup>45</sup> This record begins in September 1793 and continues to June 1794.



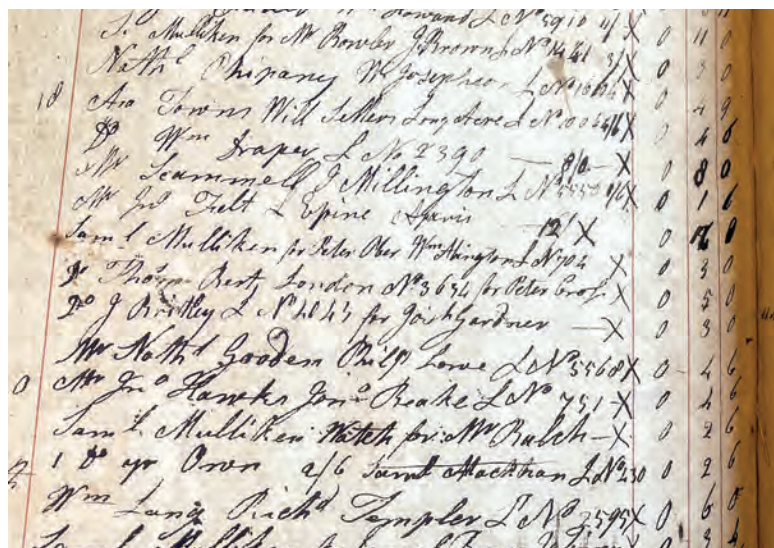
**Figure 5.** John Osgood tall clock signed “Haverhill.” COURTESY OF DELANEY CLOCKS.

Company of Mulliken, Osgood and Bell			
To Cash paid for Equalling	1/2	1/2	1/2
To four Broaches 1/2	1/2	1/2	1/2
To 1/2 Watch pliers 1/2	1/2	1/2	1/2
To 1/2 Flour of Amoy 1/2	1/2	1/2	1/2
To 3 files at 1/2	1/2	1/2	1/2
To 3 Inches Blue Wire	1/2	1/2	1/2
To 5 Lbs Coppered Brass 1/2	1/2	1/2	1/2
To 2 Clock files at 1/2	1/2	1/2	1/2
To 1/2 doz Clock base hinges 1/2	1/2	1/2	1/2
To 6 Clock Bells at 1/2	1/2	1/2	1/2
To Expenses & Time going to Boston 1/2	1/2	1/2	1/2

**Figure 6.** Joseph Mulliken, Account Book 1793–1795, Lynn MSS 141:14. COURTESY OF THE LYNN MUSEUM & HISTORICAL SOCIETY. AUTHOR’S PHOTO.

Joseph Moulton Jr.			
To 1/2 doz Black Watches at 7 dollars	2	11	0
To 1/2 doz Silver Watches at 10	10	0	0
To 1/2 doz Black Watches at 10	10	0	0
To 1/2 doz Black Watches at 10	10	0	0
To 1/2 doz Black Watches at 10	10	0	0
To 1/2 doz Black Watches at 10	10	0	0
To 1/2 doz Black Watches at 10	10	0	0
To 1/2 doz Black Watches at 10	10	0	0
To 1/2 doz Black Watches at 10	10	0	0
To 1/2 doz Black Watches at 10	10	0	0

**Figure 7.** Joseph Mulliken, Account Book 1793–1795, Lynn MSS 141:39. COURTESY OF THE LYNN MUSEUM & HISTORICAL SOCIETY. AUTHOR’S PHOTO.



**Figure 8.** Joseph Mulliken, Account Book 1793–1795, Lynn MSS 141:49. COURTESY OF THE LYNN MUSEUM & HISTORICAL SOCIETY. AUTHOR'S PHOTO.

The items sold include buckles, spoons, thimbles, necklaces, and buttons. The account book elsewhere evidences other light metal work, from making “Large Dore hands,” “Money Weights,” a “Dore Knocker,” and a “Bell Pipe to Gun,” to turning “Engraver handles,” “Nuts,” “brass Nobs,” and a “Large Swivell,” to “Mending Umbrellas,” “Cleaning Baggonate” (i.e., bayonet), and “fixing sword.”<sup>46</sup>

There are few indications of Joseph Mulliken making 8-day movements in the account book. Most of his efforts on that score were confined to cleaning and repair. His patrons included the most prominent and prosperous men of the town. He serviced the tall clocks of shipping magnates George Crowninshield (1734–1815),<sup>47</sup> Colonel Benjamin Pickman (1740–1819),<sup>48</sup> and Elias Hasket Derby (1739–99).<sup>49</sup> Among the Revolutionary luminaries, Joseph Mulliken repaired the “chime clock” of Major Joseph Sprague (1739–1808), who had participated in a standoff known as “Leslie’s Retreat” (1775), which foiled the British in their search for cannon,<sup>50</sup> and he repaired the tall clock of General John Fiske (1744–97), the commander of the *Tyrannicide*, the first vessel of war commissioned by the new government (1776).<sup>51</sup> In the realm of the arts and sciences, Joseph oiled architect Daniel Bancroft’s (1746–1818)<sup>52</sup> clock, and he cleaned inventor Rev. John Prince’s (1751–1836) clock on two occasions.<sup>53</sup> As shall be seen, Mulliken had a close working relationship with Prince in another capacity as well.

Joseph Mulliken did a great deal of piecemeal work for his brother Samuel. For instance, he made “Jacks,” “Jack Pullies,” a “Chane of Jack,” did “work fixing & putting up Jacks,” and, according to one particular entry, supplied him as well with “9 Main Springs, 6 Watch hands, 6 Bows & pendants, 3 Watch Strings.”<sup>54</sup> In return, Samuel

provided him with parts, possibly for repair, such as “Cast Brass for Clock,” “1 Sett Iron Work,” “tin cases for weights,” and a “laythe wheal.”<sup>55</sup>

By and large, though, the collaboration between the Mulliken brothers revolved principally around watch cleaning and repair. As late as 1786, Rev. William Bentley had noted in his diary that there were “few clocks & watches in the Town in families.”<sup>56</sup> By the late 1780s, however, Salem was in rapid economic expansion as a result of shipbuilding and foreign commerce. Samuel Mulliken himself sought to import old-world watches, as attested by a 1792 ad he placed in the *Salem Gazette*: “Just received from LONDON, and for sale by Samuel Mulliken, in SALEM, a few new Watches.”<sup>57</sup> Between the years 1788 and 1792, he records in his “watchbook” approximately 500 entries.<sup>58</sup> Between the years 1793 and 1795, Joseph Mulliken records almost 800 entries in his. Like his elder sibling, Joseph carefully notes each watch owner, the given watchmaker, and the serial number of the movement. About two dozen of these entries were brought to him by his brother Samuel, either as overflow from his own thriving business or because he was devoting himself to another aspect of the trade (Figure 8). It would require a separate study to do justice to the array of European watchmakers recorded by the Mullikens. Suffice it to say, while the great majority of watches hailed from London, followed by Paris, Liverpool, and Dublin, as was the case in Samuel’s “watchbook,” an expanding list of provenances is also cited in Joseph’s account book such as Bristol, Plymouth, Chichester, South Hampton, Glasgow, Canterbury, Cirencester, Versailles, Saumur, Strasbourg, Macon, Bordeaux, Amsterdam, and Stockholm. Evidently, the Salemites were reaping the benefits of an early kind of globalization. Among the more conspicuous citizens to entrust their watches to Joseph’s care were the following: diarist Rev. William Bentley, owner of a London watch made by John Charleson; plutocrat and politician William “Old Billy” Gray (1750–1825), who possessed a Paris watch made by Le Roy; architect Samuel McIntire, who brought in a watch made by a Londoner surnamed Hamilton; cabinetmaker Nehemiah Adams (1769–1840), who left two London watches made by William Hope and Robert Gibbon, respectively; and polymath Nathaniel Bowditch (1773–1838), who left a London watch made by James Linsley.<sup>59</sup>

Joseph Mulliken sold upwards of 40 watches during his brief career.<sup>60</sup> They are variously described as “gold,” “silver” or “pinch back.” Ten were of French handiwork, and the origins of the others were not noted. When not sold outright, they were sometimes taken on a trial basis, to be returned or exchanged if the customer was not satisfied. At other times, customers paid partly for a new watch in exchange for an old one. On several occasions, a certain William Newell took watches to sell on Joseph’s behalf, presumably on commission.



Newell (perhaps “Newhall”?) was quite possibly from Lynn and took his merchandize there to sell.<sup>61</sup> It is in the context of the local watch trade that the curious case of Ezra Batchelder (1769–1858) comes to the fore. Several tall clocks are known to have been signed by this farmer-blacksmith based in nearby Danvers (originally known as Salem Village), though his clockmaking activity has been thought to have commenced circa 1803. And yet, in Joseph Mulliken’s watchbook, on four occasions Ezra Batchelder leaves watches, from three different watchmakers (F. Moore, London; John Grigg, London; Atkinson), for repair.<sup>62</sup> One theory could be that he was dabbling in horology himself and resorting to a true professional once he came to an impasse. In possible confirmation thereof, in December 1794 Joseph Mulliken sold Nathaniel Batchelder “an old Engoin [i.e., engine] dd [i.e., delivered] yr Brother Ezra.”<sup>63</sup> There is no way of knowing whether the engine was employed in clockmaking or not, although it can be established that Ezra Batchelder did have a sibling named Nathaniel (1765–1855), who was a blacksmith in Danvers.<sup>64</sup>

Following in the footsteps of his elder brother Samuel,<sup>65</sup> Joseph Mulliken did considerable light-metal work for renowned cabinetmaker-merchants Elijah Sanderson (1751–1825) and Jacob Sanderson (1757–1810),<sup>66</sup> who happened to be extended family transplanted in Salem. Elijah Sanderson, a celebrated veteran of the Battle of Lexington,<sup>67</sup> had married Mary Mulliken (1757–1825), daughter of clockmaker Nathaniel Mulliken I (1722–67).<sup>68</sup> Mary was thus a first cousin to Samuel and Joseph. A receipt exists among the Sanderson brothers’ papers at the Phillips Library of the Peabody Essex Museum, detailing the work that Joseph Mulliken had done for them:<sup>69</sup>

1793 March	
Cleaning pr lifting hands...	£ 0-1-0
1794 May	
26 Staples for Carpeting...	0-3-3
1794 November 27	
fixing 12 Locks with fall Staples...	0-12-0
1794 December 11	
18 Small pieces of brass for Traveling desks...	0-3-0
fixing 6 Locks with fall Staples...	0-6-0
10 Large brass wires for Clock Case...	0-5-10
pr hinges for glass dore...	0-0-3
1795 June 12	
20 Large wires for Clock Case...	0-11-8
24 Small do...	0-4-0

2 pr hinges ...	0-0-6
1795 June 28	
20 Large wires for Clock Case...	0-11-0
24 Small do...	0-4-0
2 pr hinges ...	0-0-6
	£ 3-3-0

Most of these transactions are also mentioned in Joseph Mulliken’s account book, except those occurring in the June prior to his death.<sup>70</sup> He does record, however, work done in three consecutive months of 1793 for acclaimed cabinetmaker Nehemiah Adams: “1 Capt scuthon for fall of desk” (September), “Mending Saw & pr Brass for desk” (October), and “Mending Bow for desk” (November).<sup>71</sup>

Perhaps one of the most noteworthy chapters in Joseph Mulliken’s brief career was his work on behalf of Rev. John Prince, pastor of the First Church of Salem from 1779 to 1836.<sup>72</sup> Prince had apprenticed as a tinsmith and pewterer before matriculating at Harvard College and taking a divinity degree. He owes his place in history



**Figure 9.** Portrait of Rev. John Prince, *The American Journal of Science and Arts* 31 (1837).

as an innovative designer, popularizer, and repairer of scientific instruments, especially the air pump, microscope, and telescope, many of which he supplied to colleges and academies across the country.<sup>73</sup> During the period of 1792–95, which somewhat overlaps with Joseph Mulliken’s short career, Prince was in correspondence with London instrument makers who adopted—without appropriate credit—his improvements to the lucernal microscope.<sup>74</sup> Locally, Prince animated a cénacle of fellow scientific enthusiasts under the aegis of the lately formed Salem Philosophical Library and which came to have its seat in his home.<sup>75</sup> In matters of theology, he tended to be more of a moderate, preferring scientific enterprise to pulpit polemics. When the great “Dark Day” of preternatural gloom fell upon New England on Friday, May 19, 1780—now known to have been caused by smoke from Canadian forest fires—while other preachers saw a portentous sign from heaven, he demurred. As one Salem diarist noted the following Sunday, “Mr. Prince preached, but said not a word of the dark last Friday; many think it very odd in him to omit it, when Dr. Whitaker thought it clearly pointed at the prevalent sins of this day.”<sup>76</sup> The populace was greatly shaken, but Prince’s very sangfroid was eloquent and bespoke a Newtonian understanding of the universe.<sup>77</sup> Eventually, he became a fellow of the American Academy of Arts and Sciences as well as a member of the Massachusetts Historical Society and the American Philosophical Society. In 1795, Brown University honored him with an LLD degree (Figure 9).

Rev. John Prince’s early training in the trades allowed him to do much of the metal work in instrument making himself. However, in a letter to the president of Williams College in September 1795 concerning the construction of an equatorial (an astronomical instrument used to determine spring and autumn equinoxes), it immediately becomes clear that he is referring to Joseph Mulliken and his brother John, on whom he apparently depended and whose untimely deaths left him in a bind:

On my return home, the ingenious young man [Joseph], whom I have always employed to do my brass work, and who had begun the brass box for the needle, could not finish it immediately. His brother [John] who worked with him, was very sick of a fever, and required all his attention. The brother died. In two days more he took the fever himself, and died in ten days, and left me destitute of workmen to finish the matters I had undertaken. I got the instrument from his shop as soon as I could in the unfinished state, and went to work myself to complete it; and when I had done it to my own satisfaction, as I supposed, to my great disappointment and mortification, I found all the labor was lost.<sup>78</sup>

Prince then relates how the brass box attracted the needle once installed, only surmising later that the impurity of the brass (steel or iron particles would have accidentally mixed in the casting) had rendered it magnetic. Presumably, Prince later recast the instrument correctly, because in 1803 he prevailed upon Harvard College to purchase it.<sup>79</sup>

Joseph Mulliken’s working relationship with Prince was close and at times intense, spending up to 10- and 11-hour days working on projects for him.<sup>80</sup> It appears from the above that younger brother John was now Joseph’s own apprentice, having perhaps begun with eldest brother Samuel.<sup>81</sup> It also appears that Joseph may have been doing brass work for Prince for some time, while still apprenticing with Samuel, whose own account book records several transactions with the instrument maker: charges for hours of labor, both furnishing and finishing cast brass, as well as “making Brass gasket,” “making plates 2 pillars,” “making 2 screws,” and “washing plate.”<sup>82</sup> In any event, according to Joseph’s account book, he serviced Prince’s clock and sold him several watches.<sup>83</sup> On numerous occasions, he cites work done on microscopes (“buttons,” “kees,” “light pieces & tools for making screws,” “brass for two short tubes,” and a “regulator”) and on telescopes (most notably “joints”).<sup>84</sup> In May 1794, Joseph records having traveled to Boston on Prince’s behalf to procure “Surveying Brass.”<sup>85</sup> In October of the same year, Joseph charges Prince for “Cast Brass” and “kittle Brass” as well as for two days of “work on Surveying Instrument,” including making “3 ferrills for Bottom Ends.”<sup>86</sup> In a similar vein, whether for navigational or surveying purposes, he mentions cleaning and repairing a “Quadrant.”<sup>87</sup> As might be expected, Joseph had intimate knowledge of Prince’s most well-known instrument, used in scientific experiments: “fixing Collet on pipe of air pump,” “Drilling holes in Air pump,” and “work on Copper tubes for Air Pump.”<sup>88</sup>

However, what does not seem to have been known heretofore about Rev. John Prince’s instrument-making endeavors is that he was also at work on an orrery. Ever since clockmaker Joseph Pope (1748–1826) had constructed his brass and mahogany working model of the solar system, on which he had labored for 12 years, there was piqued interest in the popular imagination. In 1788, when an attempt to persuade Harvard to purchase the device failed, members of the American Academy of Arts and Sciences based in Boston petitioned the General Court of Massachusetts for permission to hold a lottery to raise the necessary funds. Incidentally, both Prince and Pope were members of the Academy, elected in 1785 and 1788, respectively. Rev. William Bentley took due note of Pope’s orrery while visiting Harvard in September 1793.<sup>89</sup> In any event, in his account book, Joseph Mulliken makes several references to working on Prince’s device:

1794 June 11	
work on Orrary...	£ 0-5-0
1794 July 12	
Cleaning & Mending two Circles	
Globes	£ 0-5-0
1794 July	
Cleaning 2 Brass pieces belonging to Globe	
making screw	£ 0-1-0
1794 October	
work on lite piece & Orary	£ 0-3-0
1794 October 31	
Cleaning some parts of Orary	£ 0-1-6
1794 November 8	
work on Orary	£ 0-1-6 <sup>90</sup>

Turning now from the stars to the seas, there is also evidence in the account book that Joseph Mulliken did work for nautical-instrument maker Benjamin King (1740–1804). He turned brass for him, in one case to make “nobs,” made “large swivells,” and did some work on “an Old pr of Ears for Compass.”<sup>91</sup>

In the realm of industry, the Mulliken brothers soon found themselves in a supporting role during the establishment of a duck (sailcloth) manufactory in Salem. Ships obviously relied on sails to drive them, and the paucity of domestic duck production was a perennial problem for the colonists, who were wholly dependent on European importation.<sup>92</sup> In 1746, for the protection of the British cloth industry, an act of Parliament had even required that all duck be stamped with the name and location of manufacture. When the Revolution broke out, all English sailcloth importation abruptly ceased, which left the colonists to scramble to fit out vessels with supplies from France, Holland, and Russia. The shortfall during the war probably contributed to redoubled efforts to manufacture duck afterward, as it was seen as vital to the success of the new nation. In 1789, George Washington visited the new duck manufactories in Boston and in Haverhill and did not spare his praise.<sup>93</sup>

On January 2, 1790, Rev. William Bentley notes in his diary that the Salem selectmen offered a tract of land adjoining the Old Almshouse on Pickering’s hill for a duck manufactory.<sup>94</sup> By late February, a mechanic was at work on the spinning jennies, modeled on those developed in Boston and Haverhill, but with improvements for added efficiency and capacity.<sup>95</sup> In early April, Bentley reports, “The Duck House is up & covered.”<sup>96</sup> On July 17, he notes, “This day the Duck Manufactory began their first piece of Duck. They have

been long spinning, but a full supply of flax is not to be obtained.”<sup>97</sup> In spite of vast plans for expansion, the want of flax proved to be a continuing vexation, though the duck that was turned out earned “high encomiums . . . by persons who have used them for long voyages.”<sup>98</sup>

In Samuel Mulliken’s account book, the first reference to the new business appears on July 24, 1790, when he records “fixing shuttle,” something he would do on several other occasions, and once as many as 18 at a time.<sup>99</sup> In October, he was again at work for the proprietors of the company, “Turning & Making 5 spindles with Gaskets” and “1 Looper.”<sup>100</sup> The following year, he repaired two jennies and made a “Spindle & Socket.”<sup>101</sup> Like his brother, Joseph Mulliken continued making parts and doing repair work to support the industry. In his account book, the name of the chief owner of the duck manufactory, Daniel Rust (1772–1804),<sup>102</sup> appears over two dozen times. Rust’s claim to glory came in 1799 when his factory outfitted the *Essex* with sails woven from his duck.<sup>103</sup> Rust also owned a twine factory, which Joseph Mulliken mentions three times,<sup>104</sup> but the work was similar, so it is difficult to discern for which business he altered “whirls,” fixed “shuttles,” turned “spindles,” mended “loopers,” or made “hooks.”<sup>105</sup> There is a contemporary description of the twine factory by Rev. William Bentley (August 30, 1793):

In the morning I visited the Twine factory. . . . I saw for the first time the spinners turn their own wheels, by fastening to their side a hook joined to a rope passing over their heads over a pulley, to another pulley bellow the axis of the wheel & thence obliquely to the pulley on the axis of wheel, & leading round a pulley at the other end of the spinning loft.<sup>106</sup>

The twine factory was eventually lost to an “incendiary” in 1805. As Bentley also notes in his diary, “In a twine factory everything is liable to fire. The least indiscretion in this situation might be fatal,” and indeed probably because of a “segar,” the entire factory “was one sheet of flame in a few minutes.”<sup>107</sup>

Finally, likewise in the realm of technology, it would be well to mention Joseph Mulliken’s relationship with Thomas C. Cushing (1764–1824), one of the most important printers of the period. Beginning in 1786, Cushing published first the *Salem Mercury* and then the *Salem Gazette*, which in 1794 he relinquished to William Carleton (1772–1805), his partner at the “Bible and Heart Book-Shop,” only to resume control again in 1797, working until ill health forced him to withdraw in 1822.<sup>108</sup> In addition to the watch- and jack-repair work Joseph Mulliken did for Cushing,<sup>109</sup> he writes of “fixing 2 pieces Brass for Printing,” “fixing Brass for printing,” “Making 2 Rools [rolls?] for printing,” and “repairing tipe.”<sup>110</sup> In return, he paid Cushing for a “dictionary” and a “Pocket Book.”<sup>111</sup>

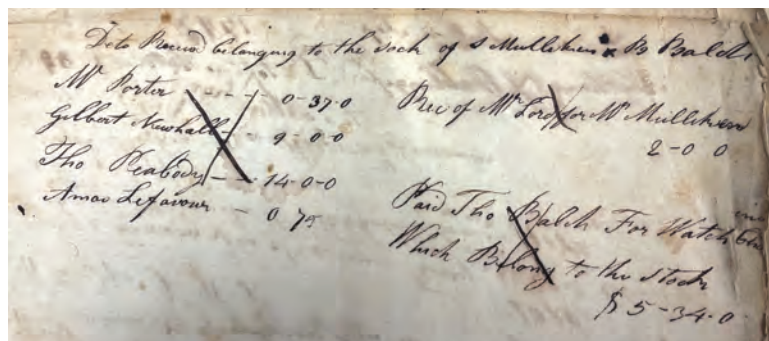


Less than four months after Joseph Mulliken's passing, a watchmaker named James Dalrymple (circa 1765–1839) from Ireland had moved into town and began advertising that he intended to commence “business in the Shop the late Mr. Joseph Mulliken occupied, in Court-Street, part of Major Waldo's Brick-Store.”<sup>112</sup> As for Samuel Mulliken, despite a thriving watch-repair market in Salem, it is not clear why he left for the adjacent town of Lynn a year later and opened a tannery there. Perhaps the sudden loss of his two younger brothers was too painful and he no longer had their skills to rely on. In any case, according to an editor's note in Col. Benjamin Pickman's (1741–1819) history of Salem, Samuel Mulliken's shop was later used in watchmaking by Benjamin Balch (1793–1842) and his successive partners.<sup>113</sup> Balch appears to have bought him out. The first page of Balch's own account book, from the summer of 1796, makes reference to the “stock” belonging to Samuel Mulliken (Figure 10).<sup>114</sup>

In the final analysis, Joseph Mulliken's account book opens a fascinating window into the multifarious activities of an “ingenious young man,” to reprise the words of Rev. John Prince, and whose earthly existence was all too brief. At the same time, it provides a glimpse into a fledgling clockmaking “Company” in which the Mulliken brothers worked together with John Osgood to share tools, relay supplies, and divide labor.

## Acknowledgments

Thanks go to Bob Frishman, Sara Schechner, the anonymous reviewer, and the staff of the Phillips Library in Rowley, MA, for their assistance in composing this article. All infelicities are the author's own.



**Figure 10.** Benjamin Balch, Account Book 1796–1798, MSS 220. COURTESY OF PHILLIPS LIBRARY, PEABODY ESSEX MUSEUM, SALEM, MA. AUTHOR'S PHOTO.

## Notes and References

1. Joseph Mulliken, *Account Book 1793–1795*, Lynn Manuscripts (MSS) 141 at the Phillips Library of the Peabody Essex Museum, Rowley, MA.
2. For a brief overview, see “Why Salem Succeeded” in James Duncan Phillips, *Salem and the Indies: The Story of the Great Commercial Era of the City* (Boston: Houghton Mifflin Company, 1947), 1–8.
3. Samuel Eliot Morison, *Maritime History of Massachusetts 1783–1860* (Boston: Houghton Mifflin Company, 1921), 84. In addition to the European, West Indian, and China trade, Salem ships visited Russia, Japan, India, Malaya, Australia, and Africa (Zanzibar in particular). Later, the city seal carried the motto *Divitis Indiae usque ad ultimum sinum* (“To the furthest port of the rich East”). See also Douglas Steward, “Salem Sets Sail,” *Smithsonian Magazine* (June 2004): 92–99.
4. See “The Intellectual Life in the City” in James Duncan Phillips, *Salem and the Indies*, 191–208.
5. On this clockmaker, see my previous article, “Samuel Mulliken's Account Book,” *Watch & Clock Bulletin* 62, no. 445 (May/June 2020): 184–96. For his famed dwarf clock, considered an American masterpiece, see Frank L. Hohmann III, *Timeless: Masterpiece American Brass Dial Clocks* (New York: Hohmann Holdings LLC, 2009), 154–55, as well as Theodore R. Crom, “An American Beauty: The Samuel Mulliken II, Salem, Mass., Dwarf Clock,” *NAWCC Bulletin* 37, no. 299 (December 1995): 756–61.
6. See Henry F. Waters, *The Newhall Family of Lynn, Massachusetts, Part 1* (Salem: Printed for the Essex Institute, 1882), 69.
7. See George Wingate Chase, *History of Haverhill* (Haverhill, MA: Published by the Author, 1861), 440.
8. Nathaniel Mulliken was also an oft-cited witness to the dramatic events of that day: “Not a Gun was fired by any Person in our company on the Regulars, to our knowledge, before they fired on us.” See *inter alia*, Ezra Ripley, *A History of the Fight at Concord: On the 19th of April, 1775* (Concord [MA]: H. Atwill, 1832), 38, and Charles Hudson, *History of the Town of Lexington*, vol. 1 (Boston, MA: Houghton Mifflin Company, 1913), 196.
9. The plate was of nearly similar size as that of Paul Revere, with only slight variation. See David McNeeley Stauffer, *American Engravers Upon Copper and Steel* (New York: Burt Franklin, 1907), 185. As for privateering, in 1781, Jonathan Mulliken petitioned the Commonwealth of Massachusetts for a letter of marque to outfit the *Beaver* with “Six Carriage Guns,”



- so it could “Cruise against the Enemies of these United States.” See John James Currier, *History of Newburyport, Mass: 1764–1905*, vol. 1 (Newburyport: Printed for the Author, 1906), 635–36.
10. In 1792, the surviving siblings of the Mulliken family in Haverhill, MA, sold a lot of land to Peter Bradley of the same town. Both Samuel and Joseph were said at the time to be “clockmakers” in Salem (*Essex Registry of Deeds, South District*, Book 154, 252–53).
  11. Samuel Mulliken, *Account Book 1783–1792*, MSS 505 at the Phillips Library of the Peabody Essex Museum, leaf 93 recto.
  12. Samuel Mulliken, *Account Book 1783–1792*, MSS 505, leaf 83 recto.
  13. *Salem Gazette*, March 19, 1793, 3; April 2, 1793, 4. See also Henry W. Belknap, *Artists and Craftsman of Essex County, Massachusetts* (Salem, MA: The Essex Institute, 1927), 108. Dr. William Stearns (1754–1819) was a Salem apothecary and grocer. Jonathan Waldo (1756–1817) was also an apothecary, but he styled himself a “merchant” and was active in town affairs and the local militia.
  14. Rev. William Bentley, “A Description and History of Salem,” *The Massachusetts Historical Society Collections*, 1st Series, vol. 6, 1799, 228. The “Stearns Block,” as it came to be called, was the first commercial brick building in Salem. It was razed in 1902.
  15. Frank Cousins and Phil M. Riley, *The Colonial Architecture of Salem* (Boston: Little, Brown, & Co., 1919), 222.
  16. *Salem Gazette*, August 11, 1795, 3; *Independent Chronicle*, August 13, 1795, 3.
  17. Noah Webster, *A Brief History of Epidemic and Pestilential Diseases*, vol. 2 (London: G. Woodfall, 1800), 30. See also Dr. Ernest Caufield, who notes, “During 1795 there were scarlet fever deaths in at least sixteen Massachusetts towns. The Boston epidemic began in the spring. At least seventeen died in Beverly, and eleven in Topsfield” (“Some Common Diseases of Colonial Children,” *Transactions of the Colonial Society of Massachusetts* 35 [April 1942]: 34–35). Curiously, diarist Rev. William Bentley doesn’t mention the epidemic until his entry of October 16: “Extremely difficult to break the old custom of keeping the dead several days. The Fever which has prevailed has at last justified the caution that has been used in the great Cities of carrying away the dead at the earliest hour which could be convenient,” from *The Diary of William Bentley, D.D., Pastor of the East Church, Salem, Massachusetts*, vol. 2 (Salem, MA: Essex Institute, 1907), 162.
  18. *Salem Gazette*, August 4, 1795, 3. Youngest brother John had relocated to Salem probably to learn clockmaking from Samuel as well.
  19. Lynn MSS 141:2. Since there is writing on the inside jacket of the account, this is where page numbering begins for the purposes of this analysis.
  20. Lynn MSS 141:5.
  21. Lynn MSS 141:47.
  22. Lynn MSS 141:5, 6.
  23. Lynn MSS 141:5, 17.
  24. This occurs from April to August 1793 (Lynn MSS 141:4). I owe the insight about “kittle brass” to Bob Frishman.
  25. See references to the “Company,” Lynn MSS 141:14, 15, 17.
  26. Lynn MSS 141:16.
  27. See Brooks Palmer, “John Osgood, Clockmaker of the Merrimack and Connecticut River Valleys,” *Early American Clocks*, ed. Don Maust (Uniontown, PA: E. G. Warman Publishing Co., 1971), 16.
  28. Alfred Blaisdell, “John Osgood, Clockmaker and Silversmith,” in Kathryn Blaisdell, *Over the River and Through the Years*, Book Four ([No. Haverhill, N.H.]: Blaisdell, 1982), 240.
  29. See Bob Frishman, “Clocks of Andover,” *Watch & Clock Bulletin* 56, no. 409 (May/June 2014): 257–58.
  30. See Donn Haven Lathrop, “John Osgood, Master and Maker,” *NAWCC Bulletin* 42, no. 325 (February 2000): 47. Rev. John Quincy Bittering has Osgood becoming a citizen in 1795 (*History of Haverhill, N.H.* [Haverhill, NH: Cohos Steam Press, 1888], 96–97). William F. Whitcher just has him arriving in town before 1795 (*History of the Town of Haverhill New Hampshire* [Concord, NH: Rumford Press, 1919]: 609–10). By 1797–98, he was already the town clerk; see Whitcher, *History of the Town of Haverhill New Hampshire*, 421.
  31. *Spooner’s Vermont Journal*, November 11, 1793, 3; November 18, 1793, 3.
  32. *Mirror*, February 27, 1795, 3.
  33. It is noteworthy that a cluster of towns in the Upper Connecticut River Valley (Haverhill, NH; Bradford, VT; and Newbury, VT) shows that there must have been a significant migration from those of the same names in the Merrimack Valley in Massachusetts. From Gideon Tibbetts Ridlon’s voluminous genealogy, it is clear that a number of Mullikens from the Bradford, MA, line ended up in this region: *History*

*of the Families Millingas and Millanges of Saxony and Normandy: Comprising Genealogies and Biographies of Their Posterity Surnamed Milliken, Millikin, Millikan, Millican, Milligan, Mulliken and Mullikin, A. D. 800–A. D. 1907* [Lewiston, ME: Self-published, 1907], 205, 206, 215, 220, 221, 249.

34. Lynn MSS 141:15, 41, 44. The watch papers were provided through the intermediary of a certain John Page, possibly a prosperous merchant (1751–1838) who advertised in the *Salem Gazette* (June 15, 1790, 4; April 10, 1792, 3; July 21, 1795, 3). At one point, Joseph himself received 500 watch papers from Page (Lynn MSS 141:37). According to Bob Frishman, the watch dials were almost certainly sourced from England or Europe. Nobody in the colonies had the skills and equipment to make them.
35. Lynn MSS 141:14.
36. On Samuel Mulliken's move to Lynn, see Di Mauro, "Samuel Mulliken's Account Book," 190–91.
37. For a short biography, see *Memorial Biographies of the New England Historic Genealogical Society* (1871–1880), vol. 7 (Boston: Published by the Society, 1907), 42–44. For his tanning activities, see "Ye Ancient City of Lynn," *Boot and Shoe Leather Recorder* 21, no. 19 (August 10, 1892): 39, 47–49, cf. 45, 53, 75.
38. This Joseph Moulton was a native of Lynn. He engaged in the shoe business, which eventually failed, whereupon he moved to Northampton, MA. See *Memorial Biographies*, 42–43. On this figure, see also John T. Moulton, "The Moulton Pedigree," *The Essex Antiquarian* 2 (1898): 46–47.
39. Lynn MSS 141:39.
40. *New England Historical and Genealogical Register*, vol. 28, July 1874, 339.
41. "Lynn Leather Production," *Shoe and Leather Reporter* 54, no. 5, Supplement, August 4, 1892, lxxviii–xciii.
42. See David N. Johnson, *Sketches of Lynn* (Lynn, MA: Thomas P. Nichols, 1880), 320–31; and Henry William Moulton, *Moulton Annals* (Chicago: Edward A. Claypool, 1906), 111–14.
43. Moulton, *Moulton Annals*, 112.
44. Lynn MSS 141:47.
45. Lynn MSS 141:3.
46. Lynn MSS 141:6, 7, 8, 10, 15, 17, 19, 30, 46.
47. Lynn MSS 141:18. Along with his five sons, Crowninshield founded a shipping business that engaged in trade in the West Indies, Europe, India, and China. The Crowninshield's Wharf was one of three major town wharfs at the time. A painting of the wharf by George Ropes Jr. can be found in the Peabody Essex Museum in Salem, MA.
48. Lynn MSS 141:21. Pickman was a lieutenant colonel of the First Essex County Regiment. A loyalist, he sailed for England in 1775, but returned to Salem a decade later. John Singleton Copley painted his portrait (1758–61).
49. Lynn MSS 141:22. As the owner of privateers during the Revolution, Derby's fleet of 85 vessels captured 144 enemy ships. Following the war, Derby was at the forefront of the lucrative foreign trade, sending the first New England vessel, the *Grand Turk*, to China. Derby amassed one of the largest maritime fortunes in America.
50. Lynn MSS 141:17. Sprague also operated one of Salem's most prominent import-export businesses during the second half of the 18th century.
51. Lynn MSS 141:45. On Fiske, see Frederick Clifton Pierce, *Fiske and Fisk Family* (Chicago: W. B. Conkey Co., 1896), 102–3.
52. Lynn MSS 141:43. Rev. William Bentley described Bancroft as "the most able Architect we had." He goes on to say, "We gave more to the genius of Macintire, as a Carver, but as a practical man in every part of Carpentry in house building, I have never known Mr. B's superior" (*The Diary of William Bentley*, vol. 4 [Salem, MA: The Essex Institute, 1914], 525).
53. Lynn MSS 141:15, 25.
54. Lynn MSS 141:10, 15.
55. Lynn MSS 141:17.
56. Rev. William Bentley, *The Diary of William Bentley, D.D., Pastor of the East Church, Salem, Massachusetts*, vol. 1 (Salem, MA: Essex Institute, 1905), 32.
57. *Salem Gazette*, June 26, 1792, 4.
58. Mulliken, *Account Book 1783–1792*, MSS 505, leaves 71 verso, 72 recto, 84 verso, 85 recto, 85 verso, 86 recto, 86 verso, 87 recto, 87 verso, 88 recto, 88 verso, 89 recto, 89 verso, 93 verso, 94 recto, 95 recto, 96 verso.
59. Lynn MSS 141:48, 53, 56, 57, 60 (cf. 25, 33, 36, 41). The account book refers to Gray as "junior," which, although his father was Abraham, is how he signed his correspondence to distinguish himself from the other William Grays in the town. See Edward Gray, *William Gray of Salem, Merchant: A Biographical Sketch* (Boston: Houghton Mifflin Co., 1914), 39.



60. Lynn MSS 141:9, 10, 11, 12, 13, 14, 15, 20, 21, 22, 23, 24, 25, 26, 30, 31, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45.
61. Probably William Newhall Jr. (1751–1805), a cordwainer from Lynn. For what it may be worth, in 1789 Samuel Mulliken married into the Newhall family. See Henry F. Waters, *The Newhall Family of Lynn, Massachusetts*, Part 1 (Salem, MA: Printed for the Essex Institute, 1882), 69.
62. Lynn MSS 141:54, 55, 56, 61.
63. Lynn MSS 141:40.
64. Frederick Clifton Pierce, *Batchelder, Batcheller Genealogy* (Chicago: Press of W. B. Conkey Company, 1898), 465–66.
65. Mulliken, *Account Book 1783–1792*, MSS 505, leaves 21 verso, 29 verso, 36 verso, 53 verso, 69 verso.
66. On these enterprising brothers, see Mabel M. Swan, “Elijah and Jacob Sanderson, Early Salem Cabinetmakers,” *Essex Institute Historical Collections* LXX, no. 4 (October 1934): 323–64, as well as H. W. Belknap, “Furniture Exported by Cabinet Makers of Salem, with Special Reference to the Sandersons,” *The Essex Institute Historical Collections* LXXXV, no. 4 (October 1949): 334–59.
67. At the 50th anniversary of the Battle of Lexington, Elijah Sanderson gave a formal deposition recounting its main events, including the British setting fire “to widow Mulliken’s house; then to the shop of Nathaniel Mulliken, a watch and clock maker” (see *Independent Chronicle & Boston Patriot*, April 27, 1825, 2). “Widow Mulliken” was the spouse of clockmaker Nathaniel Mulliken I. The shop set ablaze here belonged to his son Nathaniel Mulliken II.
68. Mary Mulliken had a brother named Samuel (see Gideon Tibbetts Ridlon’s *History of the Families Millingas and Millanges of Saxony and Normandy*, 201). This had led to the false assumption that she and the clockmaker Samuel Mulliken were siblings. In fact, they were first cousins.
69. See *Elijah and Jacob Sanderson Papers, 1780–1827*, Phillips Library, MSS 246, Book 1, Folder 5.
70. For those transactions he does record, see Lynn MSS 141:5, 21, 39, 40, 42, 44.
71. Lynn MSS 141:14, 18, 20.
72. For a biography, see Charles W. Upham, “Memoir of Rev. John Prince,” *The American Journal of Science and Arts* 31 (January 1837): 201–22.
73. On Prince, see especially Sara J. Schechner, “John Prince and Early American Scientific Instrument Making,” in *Sibley’s Heir: A Volume in Memory of Clifford Kenyon Shipton*, ed. Frederick S. Allis Jr. and Philip C. F. Smith, Publications of the Colonial Society of Massachusetts, no. 59 (Boston: Colonial Society of Massachusetts, 1982), 431–503.
74. See Harold L. Burstyn, “The Salem Philosophical Library: Its History and Importance for American Science,” *Essex Institute Historical Collections* XCVI, no. 3 (July 1960): 169–206.
75. Burstyn, “The Salem Philosophical Library,” 180.
76. *The Diary of William Pynchon of Salem*, ed. Fitch Edward Oliver (Boston: Houghton, Mifflin, and Company, 1890), 63.
77. For Thomas J. Campanella, the portent-seeming “Dark Day” had a paradoxical effect upon Colonial America: it “shook the old social order and helped propel society toward a new day of Enlightenment reason” (“Mark Well the Gloom’: Shedding Light on the Great Dark Day of 1780,” *Environmental History* 12, no. 1 [January 2007]: 54).
78. Quoted in Upham, “Memoir of Rev. John Prince,” 207–8.
79. “I offer this instrument to ye Gentleman of ye corporation of Harvard College as it is, with both its telescopes, for ye moderate price. . . . And perhaps they never will have so good an opportunity of purchasing so valuable an instrument of this kind so cheap—As ye equatorial is ye only instrument, which describes ye path of ye heavenly bodies, it is very useful for instruction in astronomy, and is perhaps ye best for illustrating ye principles of dialling—I am desirous of see[ing]: it placed in ye apparatus of ye university, as such capital instruments give importance to it abroad,” quoted in Schechner, “John Prince and Early American Scientific Instrument Making,” 478.
80. Lynn MSS 141:12.
81. There are a few fleeting references to brother John in Joseph’s account book: Lynn MSS 141:38.
82. Mulliken, *Account Book 1783–1792*, MSS 505, leaves 68 verso, 69 verso, 72 verso, 76 verso, 78 verso. On one occasion, Samuel Mulliken furnished cast brass and “turned nubs” for instrument maker Benjamin King (1740–1804), so perhaps he was working with Rev. John Prince (Mulliken, *Account Book 1783–1792*, MSS 505, 69 verso).
83. For the clock cleaning, see Lynn MSS 141:15, 25. Rev. John Prince brought watches made by John Hope, John Shroud, and Robert Martin, all of London (see Lynn MSS 141:14, 36, 57, 62).

84. Lynn MSS 141:6, 7, 8, 9, 10, 11, 12, 13, 25, 27, 28, 29, 40, 45.
85. Lynn MSS 141:22.
86. Lynn MSS 141:37.
87. Lynn MSS 141:25, 26.
88. Lynn MSS 141:25, 35, 36, 38.
89. *The Diary of William Bentley, D.D.*, vol. 2, 61.
90. *The Diary of William Bentley, D.D.*, vol. 2, 32, 33, 34, 37, 38.
91. *The Diary of William Bentley, D.D.*, vol. 2, 40, 41, 46.
92. I am indebted here to Elton W. Hall, "Sailcloth for American Vessels," *The American Neptune* 31, no. 2 (Salem, 1971): 130–45.
93. *The Diaries of George Washington*, vol. 4 (1789–1799) (Boston: Houghton Mifflin Company, 1925), 37–38, 46. By 1792, the manufactory in Boston was employing 400 hands and spinning out 2,000 yards of duck a week. See James Leander Bishop, *A History of American Manufactures from 1608 to 1860*, vol. 1 (Philadelphia: Edward Young & Co., 1861), 419–20.
94. *The Diary of William Bentley, D.D.*, vol. 1, 135.
95. *The Diary of William Bentley, D.D.*, vol. 1, 149–50, cf. 198.
96. *The Diary of William Bentley, D.D.*, vol. 1, 158.
97. *The Diary of William Bentley, D.D.*, vol. 1, 186.
98. *The Diary of William Bentley, D.D.*, vol. 1, 202, 350, 399.
99. Mulliken, *Account Book 1783–1792*, MSS 505, leaves 38 verso, 57 verso, 58 verso, 63 verso, 69 verso, 70 verso.
100. Mulliken, *Account Book 1783–1792*, leaf 47 verso.
101. Mulliken, *Account Book 1783–1792*, leaves 62 verso, 66 verso, 67 verso.
102. Daniel Rust was a sea captain turned manufacturer. He sailed from Bordeaux and died at sea. See Albert D. Rust, *Rust Family* (Waco, TX: Published by the Author, 1891), 152–53.
103. Ralph Delahaye Paine, *The Ships and Sailors of Old Salem* (New York: Outing Publishing Company, 1909), 293.
104. Lynn MSS 141:7, 10, 35.
105. Lynn MSS 141:6, 7, 9, 10, 11, 12, 13, 14, 26, 29, 30, 32, 35, 36, 37, 39, 40, 41, 44, 45, 46.
106. *The Diary of William Bentley, D.D.*, vol. 2, 27.
107. *The Diary of William Bentley, D.D., Pastor of the East Church, Salem, Massachusetts*, vol. 3 (Salem, MA: Essex Institute, 1911), 191.
108. See Harriet Sylvester Tapley, *Salem Imprints 1768–1825: A History of the First Fifty Years of Printing in Salem, Massachusetts* (Salem, MA: The Salem Institute, 1927), 75–94. On Cushing and Carleton, see Joseph T. Buckingham, *Specimens of Newspaper Literature*, vol. 2 (Boston: Charles C. Little and James Brown, 1850), 118–36. Carleton was a frequent client of Joseph Mulliken, but only for watch-related issues; see Lynn MSS 141:7, 8, 10, 12, 17, 24, 30.
109. Lynn MSS 141:19, 22, 28, 34, 37, 56, 57, 63, 65.
110. Lynn MSS 141:7, 26, 34, 35.
111. Lynn MSS 141:29.
112. *Salem Gazette*, December 15, 1795, 3; December 22, 1795, 1. By January, Dalrymple had moved in: *Salem Gazette*, January 26, 1795, 1; cf. *Salem Gazette*, May 31, 1795, 4.
113. "Some Account of Houses and Other Buildings in Salem, from a Manuscript of the Late Col. Benj. Pickman," *Historical Collections of the Essex Institute* 6, no. 3 (June 1864): 103–4. The subsequent firms were Balch & Smith and Balch & Lamson.
114. Benjamin Balch, *Account Book 1796–1798*, MSS 220 at the Phillips Library of the Peabody Essex Museum.

## About the Author

Damon Di Mauro teaches in the Department of English, Languages, and Linguistics at Gordon College in Wenham, MA. He is writing a book with Bob Frishman on the Mulliken family of clockmakers, to be published by the Concord Museum.