

Jabez Carter Hornblower  
1744-1814

*Jabez Carter Hornblower, Engineer and Inventor*  
(1744-1814)

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## Chapter 1

“Jabez” is a biblical name meaning sorrow or trouble. For the firstborn child of Jonathan and Ann Hornblower the name was indeed prophetic; troubles plagued him throughout his life. His middle name, Carter, came from his mother’s family. Although he was the only Hornblower child given a middle name, he was often confused with a younger brother, Jonathan Junior, who is often called Jonathan Carter Hornblower. This confusion persists today in a number of books and an occasional scholarly article.<sup>1</sup>

If we look only at the low points of the life of Jabez Carter Hornblower, we might wonder how he kept going through seventy years of losses and failures. Yet, he had an amazing resiliency and recovered from depressing circumstances including bankruptcy and debtor’s prison. Despite negative judgments on his character, Jabez had many good qualities. Fortunately his daughter Annetta Hornblower Hillhouse wrote a brief biography of this intriguing figure. His nephew, journalist and writer of memoirs Cyrus Redding, added to the story. Jabez wrote many letters that have survived; yet not all of these have not been studied in relation to his life story.

Ann Carter Hornblower gave birth to her first child, Jabez, on 21 May 1744 in Staffordshire, England. He was christened on 10 December 1744, at St. Leonard, Broseley, Shropshire, where Ann’s family lived. Jonathan Hornblower’s parents, Joseph and Rebecca, were members of a closely-knit circle of Baptist friends of Thomas Newcomen, inventor of the atmospheric steam engine. (See article on Joseph Hornblower for the full story.) After twenty years of erecting steam engines for pumping water out of the tin and copper mines in Cornwall, Joseph moved to Bristol where he lived until his death in 1762.

A few months following their son’s birth, Ann and Jonathan left Jabez in the care of his maternal grandparents, Thomas and Elizabeth Carter, while they traveled to Cornwall, a journey of approximately 200 miles over rough roads. Jonathan replaced his father, Joseph, as a builder of Newcomen steam engines. Thomas was a lawyer “of some eminence” practicing in Broseley. He was also the godfather of his first grandson, Jabez. Jabez must have joined his parents in Cornwall once they were established there, but eventually he did return to Broseley to be educated in the legal profession by his grandfather Carter. Jabez’ daughter relates this version of the story: “His father wished him to study the law, but consulting his own [Jabez’] inclination he was placed under a carpenter; a mutual unsuitability of temper led to an early separation, and Hornblower immediately sought an employment where his mechanical bias would have a wider scope.”<sup>2</sup> At age eighteen or so Jabez decided to become an engineer like his father.

Curiously Cyrus Redding, who provided the information that the eldest son had abandoned the legal profession, doesn't mention his uncle's name in the family history he included in *Yesterday and To-Day*.<sup>3</sup>

Two years after the birth of Jabez, a second son, Jethro, was born to Ann and Jonathan. During the next years, they had eleven more children, all born in Cornwall, and all given biblical names beginning with the letter "J." Once settled in Cornwall Jabez worked for his father learning about the Newcomen engines that were vital to the economic life of southwest England. In 1765 he assisted his father in the erection of an engine at Wheal Sparnon, where he was paid 12/6 per week, according to the Wheal Sparnon Cost Book.<sup>4</sup> He married Mary John (sometimes given as Johns or St. John), who was from Madron, near Penzance, Cornwall, on 18 December 1765. He and Mary resided at Trewidden, Madron. During the time he lived in Cornwall Jabez was connected with the Salem Baptist Church. He and Mary had four children.<sup>5</sup>

Annetta Hornblower Hillhouse wrote that about 1768-1770 Jabez was engaged to erect a steam engine and some other machinery at Rotterdam, and was invited back a second time to superintend similar operations. Possibly Jabez did travel to Holland before 1770, but if he did so, it was not to build steam engines, and there is no other mention of such a trip. All other sources place him there for the first time in 1776.

Thomas Carter may have been disappointed in his godson's decision to give up the study of law, nevertheless when he wrote his will he granted a life estate in his real property to his wife, and on her death Jabez was to inherit the property. Thomas Carter died in 1772; his will was proved in October of that year. The date of Elizabeth's death is not known, but her daughters Ann Hornblower and Sarah Phillips were appointed trustees to see that his desires would be carried out, and Sarah's daughter, Rosamond Phillips was made sole executrix.

During his lifetime Jabez traveled throughout Great Britain and abroad to work on innovative projects. According to Jabez' daughter, in the early to mid-1770s he had made improvements in the towns of Truro in Cornwall and Tewksbury, Gloucester, north of Cheltenham. His name is occasionally linked with sale notices. On the 2<sup>nd</sup> of January 1775, an item appeared in the *Sherborn and Yeovil Mercury*: Jabez Carter Hornblower—'Tregavara' Madron sale. (The newspaper carried news from the southwest of England, mainly Somerset, Cornwall, Devon and Dorset.)

## **Chapter 2: Clever, Industrious, a Good Engineer**

The lives of inventor James Watt and the Hornblower brothers, especially Jabez and his younger brother Jonathan, were intertwined for nearly three decades. The industrial revolution, spurred by the invention of Newcomen's atmospheric steam engine, spread through Great Britain, especially in Manchester, Birmingham and the mining regions of Cornwall. Watt, born in 1736, was just eight years older than Jabez. He often missed school and was educated at home by his mother. Over a period of years Watt worked on an engine that would use a significantly lesser amount of coal than the

Newcomen engines then in use in the copper and tin mines of Cornwall. In 1769 Parliament granted him a patent for his new engine, but financial difficulties prevented him from completing a full-sized working engine. That same year, Watt's son, James Watt, Junior, was born. In 1775 Watt, Sr. and Matthew Boulton became partners, with the latter becoming owner of a two-thirds interest the patent and also providing much needed funds to Watt. In 1776 the first Watt engine began operating near Birmingham, and orders for Watt engines came from mine owners in Cornwall and engineer Jonathan Hornblower Senior. Rather than sell the engines outright, Boulton and Watt worked out a system whereby they would manufacture the engines and see to the installation and the mine owners would pay a royalty, or premium, based on the savings in coal gained by using a Watt rather than a Newcomen engine. Watt worked out a formula to calculate the savings. This method gave him and Boulton a steady income as long as the engines were in operation until the expiration of Watt's patent.

In early 1769 Jan Daniël Huichelbos van Liender, a resident of Rotterdam, contacted an English merchant, John Enslie, about Watt's engine. Enslie, a partner in a Dutch business firm, lived in both Rotterdam and England. Enslie was well acquainted with James Watt. The Dutch were interested in using engines as pumps to draining low areas of the country. At that time Watt, not yet a partner with Matthew Boulton was still in the process of working out problems with the new invention and was not interested in learning more about a possible Dutch project. Not long after this first inquiry, the newly formed Batavian Society for Experimental Philosophy took on the project, the building of a demonstration model to show that steam power could be used to replace Dutch windmills. The project was to go forward using the technology of the time—the Newcomen atmospheric engine.<sup>6</sup>

Watt had another reason for delaying the export of his engine—he wanted to do so only to countries that would grant him a patent, which Holland at the time would not. Eventually Boulton and Watt would build engines there.

The Batavian Society hired Jabez, then only thirty-two years old, to build a Newcomen engine under the direction of Van Liender. The parts were to be made in England and shipped to Rotterdam. Cyrus Redding, the son of Jabez' sister Joanna, recalled that his uncle went to Holland in 1775 to build some engines for the Dutch government. Redding remembers his uncle saying that whenever they conversed together, the Prince of Orange or Stadtholder would always hold Jabez fast by the large buttons then worn on the coat. (This was William V. The Stadtholder was chief executive and military commander, a hereditary position.) Redding does not mention his uncle by name, possibly because he did not want to connect his uncle's later notoriety to his own career at the time he published his memoirs in 1863.<sup>7</sup>

The purpose of the engine was to show that steam could replace the windmills that were used to pump water from the low-lying lands into storage basins. This worked well enough until the summer months when the winds failed, leaving the water to stagnate on the land and in canals. The engine was not successful because although it worked well, the large rocking beam did not. The defect was not a result of any fault of

Jabez, who made suggestions to improve it. The Batavian Society rejected his ideas.<sup>8</sup> William Blakey made another attempt between 1776 and 1778 in Rotterdam with an engine based on that of Newcomen's partner, Savery, but he had no better luck.

Despite the disappointment with the engine, Jabez made good friends in Rotterdam, especially with Huichelbos van Liender, who highly regarded his work. The two men corresponded by letter, and thanks to the work of Jan Adrianus Verbruggen on his Ph. D. thesis published in 2005, *The Correspondence of Jan Daniel Huichelbos van Liender with James Watt*, the content of letters between Jabez Hornblower and Van Liender are available in the form of summaries made in 1937. Unfortunately most of the original documents of the Batavian Society were destroyed in the Rotterdam 14 May 1940 German blitz. Despite the loss of the originals, the summaries provide balance to the later unflattering picture of the Hornblower family drawn by friends of James Watt.<sup>9</sup>

Watt, unable to exploit his invention until he and Matthew Boulton became partners, went to Parliament in 1775 and petitioned for a fourteen-year extension of his patent. A few members were critical of the action because it gave Watt a monopoly in engine building until the 1800 expiration date, but Boulton had influential friends and the objections were overcome. In 1776 Jonathan Hornblower Sr. began working on two Watt engines, one at the Ting Tang copper mine near Redruth, and the other at Wheal Busy mine in Chacewater. The next year James Watt and his wife Ann made their first visit to Cornwall and met the Hornblower family in person. The relationship was amicable, even though Watt knew that Jonathan had reservations about the new version of the steam engine. Watt even attended Baptist services with the engineer and his family.

By May 1777 Jabez was back in Cornwall. On May 24<sup>th</sup> he wrote to Van Liender from Penzance, telling him how much he missed Rotterdam. He complimented the excellent treatment he received in Holland. He reported that he had visited a Watt engine that supplied water to a distillery (possibly in London.) He was disappointed in the fuel consumption, which was greater than he had expected. His own father was building a Watt engine, so he would be able to compare it soon. He also mentioned that his brother was working on an invention that will use one-tenth of the fuel. This was Jonathan Jr.<sup>10</sup>

In November 1777, another item appeared in the *Sherborn and Yeovil Mercury*: Jabez Carter Hornblower – Penzance, Madron sale. Perhaps he was selling machinery or other items, as did his brother, Jethro. Jabez did gain employment erecting Watt engines along with his father and younger brothers. Although James Watt recognized that Jabez was talented, he had private doubts about him. Samuel Smiles, writing in 1865 in his *Lives of Boulton and Watt* said of the Hornblower sons: "Jabez, one of the cleverest, had spent some time in Holland, from whence he had returned with some grand scheme in his head for carrying out an extensive system of drainage in that country. Like his father and the other sons, he was employed in erecting Watt's engines, which had the effect of directing his attention to the invention of a new power which should supersede that of his employer."<sup>11</sup>

In the footnote Smiles quotes from a Watt letter. “Watt befriended Jabez like the other members of his family, as appears from the following passage in a letter to Boulton (6<sup>th</sup> September, 1778): ‘Capt. Paul has turned Jabez adrift, having for some time taken umbrage at him because he would do his work well and therefore expensively. Jabez has a bad wife, is poor and unhappy. He is very clever, a good engineer, and industrious, though he seems not to have the faculty of conciliating people’s affections. I fear he will go to Holland, and as he can hurt us [there being no patent for the engine secured there] I must try to get him bread here.’”<sup>12</sup>

Watt soon found work for Jabez that would keep him in England, and incidentally, take him far from Cornwall where his younger brother was working on his own steam inventions. While his new employer had doubts, Jabez was full of praise for Watt, whom he regarded as the best mechanical engineer alive, possessing an “enormous knowledge of all kinds of physical phenomena.”<sup>13</sup>

Unfortunately there is no explanation as to what Watt meant by Mary Hornblower being a “bad wife.” In the letter to Van Liender written October 15 from Tressaddren, Cornwall, (near Redruth) Jabez apologized for not having written his friends in Rotterdam sooner. He wrote that if van Liender knew what had befallen him, he would wonder how Jabez could still be “among the living.” He didn’t say more about this, but he had good news, he had been commissioned to erect a Watt engine, one that included many of his brother’s inventions. Watt was then in Cornwall and experimenting with a rotary engine that, if it worked, would solve the problems encountered in Rotterdam.

Despite Watt’s reservations, he and the Hornblowers were still on good terms. Watt was anxious for Jabez to become familiar with a new engine being installed in the Poldice tin mine near Redruth, where an older Newcomen engine had failed to keep up with the waters flooding the excavation. He had offered Jabez a position in Birmingham.

At the beginning of 1779, the thirty-four year old Jabez began working for Boulton and Watt in Shropshire, where he would be the engineer for the erection of engines at Ketley and Donnington Wood. He was to receive a guinea per week, with an additional three guineas for the expense of his journey should he need to return to Poldice, and the same for the return trip. Lacking money and influence to obtain a patent from Parliament, it was not practical for Jabez to continue to work on his brother’s invention to raise water cheaply. He seems to have left his family in Cornwall while he worked in Shropshire.<sup>14</sup>

We know the Hornblowers in Cornwall and the Carter family in Shropshire maintained close ties, for in May 1775, on the 29<sup>th</sup> of that month, Jonathan Hornblower, Jr. wed his first cousin, Rosamond Phillips, in Shiffnal, Shropshire. Rosamond’s mother was Jonathan’s aunt Sarah Carter Phillips, the younger sister of Ann Carter Hornblower. Rosamond went to Cornwall with her new husband, but apparently her grandmother, Elizabeth Carter continued to live in Shropshire with Sarah and her children.

### **Chapter 3: “Turbulent Times”**

Boulton and Watt were manufacturing new engines for two sites owned by Richard Reynolds and his son William, who were involved in updating machinery and adding new technology in the ironworks near Telford, Shropshire. Watt also made an engine for the Pennydarren mine in Wales. (This site also is called Pennyda.) Jabez was to oversee these projects. During 1779 he wrote a series of letters to Boulton and Watt, as well as Huichelbos van Liender. The letters to the latter continue into 1780 and come from sites in North Wales as well as Broseley.

Jabez, with a reputation for being prickly and described as a perfectionist in his work, was under pressure to do a good job for the highly admired Watt. He dealt with many problems as the work progressed, but his methods of doing so further enhanced his reputation of being difficult to get along with. Lacking the maturity and long experience of his father, it was probably foreseeable that Jabez Hornblower and Watt, who was anxious about the reputation of his engines, would have conflicts. Jabez criticized some of the workmen, and in so doing aroused hostility that was returned in complaints to Boulton.

Jabez wrote a series of letters to Boulton and Watt beginning January 1779. These letters survive and are archived in the Boulton and Watt collection in the Birmingham Central library. He also wrote several more letters to Huichelbos van Liender. An in-depth discussion of these letters, including those Jabez wrote to van Liender, is beyond the scope of this brief article. In short, Jabez worked on the Ketley and Donnington Wood engines. In letters to Boulton reporting on the progress of the work at Donnington Wood, Jabez expressed concern about the workmen and smiths, who wanted constant directions. He had other complaints about the operation of the machines; insults that were made to him, and calls in the middle of the night to attend to frivolous accidents. The workmen had their own complaints, and the growing animosity toward Jabez prompted Matthew Boulton to send Hornblower back to Cornwall. Jabez apparently returned to Cornwall briefly, then traveled back to Ketley to attend to a burst pipe. He complained about the slovenly manner of the smiths there. His comments about Donnington Wood offended the workers and he was reassigned to Cornwall.

On July 30<sup>th</sup> Jabez wrote to James Watt that his affairs could not be settled quickly. He had been informed of the death of the “mother of Mrs. H,” and learned from his brother Jonathan that she died without a will but had effects worth seeking after. He asked Watt to employ him somewhere else until matters were settled. The mother of Jabez did not die until 1802, and his wife’s mother was from Cornwall, so it is reasonable to assume that “Mrs. H’s mother” could have been his grandmother Elizabeth Carter, for whom we still have no death date. She probably died in Shropshire. The executor of the Carter estate was the wife of younger brother Jonathan, Rosamund Phillips Hornblower. Rosamond died in Cornwall a few months later on the 25<sup>th</sup> of October 1779.

On the 30<sup>th</sup> of August Jabez was still in Ketley, Shropshire. There were no more letters to Boulton or Watt after that date, but he wrote to van Liender on 14 November 1779 from Pwellheli, Caernarvonshire, North Wales, to tell his friend that he had been

very busy. Apparently he had been in Cornwall, but was now erecting an engine for a Mr. Weston. This was Ambrose Weston, Watt's attorney.<sup>15</sup> Once finished in Wales Jabez planned to return to Cornwall to work on a favorite project, a copying machine.

A few days previous to this letter, Mary Hornblower wrote a desperate letter to James Watt asking him what had become of her husband. Apparently Mary and her children had remained in Cornwall while Jabez worked in Shropshire. She had not heard from him and did not know his whereabouts. From the time of his departure to North Wales his letters must not have reached Cornwall. Mary said her brother-in-law had been helping her as much as he was able, but she and her family were in desperate financial straits. Jabez rarely mentioned family affairs in his letters, and we do not how her plight was resolved.<sup>16</sup>

While Jabez was in North Wales he was working on plans for new inventions and modifications of older steam engines. In April of 1780 he wrote to Van Liender from Penshynder, telling him that he had heard that a patent for a copying machine had been applied for and asked him to find out if it was true. He also said that he knew that Matthew Boulton had visited Holland, but did not know the outcome in regards to an engine to be built there. A few months later Jabez mentioned the copying machine again. The machine he had asked about earlier had in fact been granted a patent, but Jabez believed his own machine would be much cheaper to operate. In view of the turbulent nature of the times, he would not say how his machine worked, but was prepared to carry two of them to Holland to try to obtain a patent there.

Jabez mentioned no names in respect to the copying machine, but in 1780 James Watt obtained a patent for a hectograph copying machine. Without knowing more about the Hornblower machine, we can't say whether or not the two machines were similar, but there was never a suggestion that either man got his idea through contact with the other.<sup>17</sup>

Still, Jabez again mentioned "turbulent times" and that it was unwise to send drawings of a scoopwheel he was working on, for fear the information would fall into hands of "adversaries." In an earlier letter Van Liender had asked about a "Jones engine," but Jabez replied that he had been bound to strict secrecy and could not say anything about it. Jabez did talk to Jones and attempted to negotiate an agreement between him and Van Liender to send an engine to Holland if the latter could get him a patent at no cost. John Jones did write directly to van Liender, and according to Verbruggen, the Jones machine was based on the Savery engine and was similar to the engine built by William Blakey in Rotterdam.<sup>18</sup>

Jabez asked Van Liender to do another favor for him, to go and see a painter, Mr. Prey. Jabez had been trying to sell some of his paintings, but without success. He apparently had them in his possession and if he could not sell them, promised to return them. During this period Van Liender had been in been in England looking for a mining venture to invest in. Jabez wished his friend luck, but warned him not to expect much because the entire industry had the characteristics of a lottery.

The August 23<sup>rd</sup> letter was the last to Van Liender. Possibly Jabez returned to Cornwall in late 1780 because his father's health had been failing. On November 13 Jonathan Hornblower signed his last will and testament, and in December he died "of the stone," probably kidney stones. Thirty-six year old Jabez Carter Hornblower now stood at the head of the family.

In early 1781 Jabez was working again in Shropshire. A few months later, on 16<sup>th</sup> April 1781, Joseph Rathbone of the Coalbrookdale Company wrote to Boulton and Watt describing Hornblower as "a troublesome man and a tearaway, always quarreling with the workmen." Boulton and Watt brought engineer William Murdoch from Cornwall to replace Jabez Hornblower at Donnington Wood.<sup>19</sup>

Whether Jabez was dismissed from the employ of Boulton and Watt or left on his own is not known. Possibly he was dismissed because he could not get along with his workers. By mid-1781, however, Watt had an overriding reason to discharge any Hornblower family member in his employ. In July 1781, Jonathan Hornblower, Jr. was granted a patent for the compound engine that he had been working on since 1775. Perhaps the new patent was part of the reason Jabez had been so cautious about revealing too much in his letters to Van Liender. Once Jonathan had the patent, the Hornblowers had indeed entered turbulent times. James Watt no longer wanted any member of the family working for him. Certainly it was not beyond the anxious, insecure Watt to give the impression Jabez had been dismissed because he had a bad attitude and could not get along with the workmen or employers.

#### **Chapter 4: "Jabez does not want abilities"**

Even had Jonathan Senior lived a few more years, the relationship between the Hornblowers and Watt would have ended. Watt had felt anxious over the difficulty in extending his own patent, but now he was furious. This was an invention Watt claimed for himself. He was angry with the entire family, whom he called "the Horners" or "Trumpeters" and referred to them as "the ungrateful, idle, insolent Hornblower's," or the "Imps of Saton [sic.]"<sup>20</sup>

In a letter to Boulton dated 16 July 1781 Watt wrote ". . . I am much vexed by this affair, Jabez does not want abilities, the rest are fools . . ." <sup>21</sup>

Although the Cornwall adventurers were beginning to chafe under the necessity to continue paying premiums to Boulton and Watt, none of them were willing to risk taking a chance on erecting one of Jonathan's new compound engines. He did install one in a collier at Radstock near Bristol in 1782. Agents of Boulton and Watt kept a close watch on the progress of the engine, and reported back in August that all of the Hornblowers were in the neighborhood to work on it. Jabez worked with Jonathan and his brothers in Cornwall as well as Bristol, where he eventually settled and went into business as an engineer.

Boulton threatened to bring an action against Jonathan for patent infringement, but by 1784 had not done so. Watt even bribed the engineman of Jonathan Hornblower's engine to give them further information on their competitor's machine and performance. The Radstock engine did not perform well and Watt, feeling more optimistic that the competition would not take business from him, held off. Boulton believed an action should be commenced before Hornblower could build an engine in Cornwall, yet for the time being the threat worked to frighten off any potential Cornish adventurers. At one point Watt's son, James Watt, Jr., wrote a list of pros and cons of bringing a lawsuit, but Watt deferred any action.

Early biographies and histories that retold the story of the Watt-Hornblower conflicts lasting from 1780 to 1815 lacked objectivity in that the authors were concerned with vindicating the reputation of James Watt. His only surviving son, James Watt Junior, died childless in 1848. In his will the younger Watt named James Patrick Muirhead, a cousin and an attorney (his maternal grandmother was first cousin to the senior Watt,) as his literary executor. In addition to having access to Watt's papers and letters, Muirhead spent many hours with Watt Jr. over period of fifteen years. In 1858 he published his work *The Life of James Watt*.<sup>22</sup> In its pages he vigorously defended the reputation of Watt against the engine pirates in the mining districts of Cornwall and the newly industrializing areas of Great Britain. His account of the lawsuits brought by Boulton and Watt are not, therefore, an objective assessment of the proceedings, but a brief by the lawyer defending a client.

Unfortunately, Muirhead's fiery language and one misplaced parenthetical name (see below) confused nineteenth century readers as well authors of later scholarly works, making it difficult to find a true picture of the "tribe of pirates and trumpeters," as Watt called his opponents. Watt's letters are full of demeaning statements about the men he accused of piracy. Those who have written about the Hornblower family, especially Jabez and Jonathan, often failed to look at the lives of Jabez and Jonathan as a whole, or take into account the religious beliefs and family lives of these two men. The letters of Jabez, as well as those of Jonathan Jr. to his uncle Josiah in America, were not available until relatively recently. A reader of the early biographies of James Watt could conclude that Jabez Carter Hornblower was an enemy, perhaps the worst enemy, of the inventor. In Watt's view Jabez and his brothers stood at the head of a line of eighteenth century "pirates" who sought to use Watt's steam engine without paying for the privilege. Watt and his business partner, Matthew Boulton, faced financial difficulties and dreaded the risk of losing the patent on the Watt engine. Yet even Watt regarded Jabez as a man with great talent and ability, as did many of the contemporaries of the Hornblower family.

About the same time Jonathan was granted his patent, another inventor and patent holder, Richard Arkwright, brought an infringement action to protect his patent on a cotton spinning frame used in his newly built cotton mills in Manchester. The defendants in Arkwright's case at law questioned the validity of the patent and the case dragged on from 1781 to 1785. An early victory was overturned in a later trial when two witnesses appeared and testified that an earlier inventor had conceived the spinning frame. Watt, ever anxious about the validity of his patent, watched the suit against Arkwright with

dismay. Although he was reluctant to bring an action against the Hornblower engines, Watt nevertheless continued to make threats. Although Watt did not take Jonathan to court over his engines, he continued to threaten the adventurers who used the engines and was ready to file an action as late as 1800.<sup>23</sup>

In the early 1780s Jabez had settled in Bristol. He was listed the Bristol Directory for 1785 as “Jabez Hornblower, occupation engineer, engineering profession, Address St. Philip’s Plain, Bristol.” He continued working on ideas for useful machines, for example, in 1786 he sent the Bath Agricultural Society a “Description of a model of a machine for communicating motion at a distance,” published in Vol. IV.<sup>24</sup>

His business in Bristol failed. On 9 Dec 1786, a notice appeared in the *London Gazette* that Jabez Carter Hornblower had been declared a bankrupt. The *Gazette* notice stated that Jabez Carter Hornblower of the Parish of St. Philip and Jacob, in Co. of Gloucester, adjoining the city of Bristol, Iron manufacturer, Dealer and Chapman was declared a bankrupt and required to surrender himself to the commissioner on the 9<sup>th</sup> 10<sup>th</sup> and 23<sup>rd</sup> Days of January next and make a full Discovery and disclosure of his Estate and Effects, and where creditors were to come to prove their debts. (The names of the creditors and the amount of debt are not known.)

Despite setbacks, Jabez did not lack for new projects. According to daughter Annetta, the erection of the Penitentiary at Northleach near Cheltenham was entirely under his direction. The Northleach House of Corrections, a model prison built after passage of the Penitentiary Act of 1779, was begun in 1787 and completed in 1791. Whatever trials he had gone through while working for James Watt, and later his bankruptcy did not deter Jabez from beginning anew. His first wife, Mary apparently died in the early 1780s, although we lack a death record. On the 24<sup>th</sup> of September 1787, the forty-three year old Jabez married twenty-eight year old Ann Hanbury in Bridgnorth, Shropshire, a few miles south of Telford and Shiffnal. Perhaps they met through family connections or had become acquainted when he was working near Telford.

Earlier that same year negotiations between Boulton, Watt, Huichelbos van Liender and the Dutch government resulted in an agreement that a Boulton and Watt engine could be licensed in Holland. Huichelbos van Liender would have liked Jabez to return to Rotterdam to work on the engine, but Watt would not allow it. On the 13<sup>th</sup> of April 1787 V an Liender wrote to Watt from Rotterdam, expressing dismay that Jabez Carter Hornblower had fallen from Watt’s good graces. He wished that Jabez could be sent over, because he was able and knew how to instruct the carpenters and workmen, (quite the opposite of his reputation in Shropshire) and he also knew something of the Dutch language.

Watt would not agree to hire Jabez again. He claimed that Jabez had done a poor job in the execution of his last two engines, and hinted that there were other reasons not to send him. He preferred to send a Mr. Logan despite the fact the man had delayed in setting out, and was a drunken fellow, although honest and ingenious.<sup>25</sup> Van Liender replied one week later expressing surprise at what the Watt had written about J. C.

Hornblower, because when Jabez had been in Holland in 1775 and '76, he'd done a good job, Van Lieder had found him very clever. He wished that he could reinstate the engineer into the good graces and good opinion of Watt.<sup>26</sup>

While Watt continued to threaten anyone who seemed likely to order one of Jonathan Hornblower's engines, he also worked on another approach to eliminate his rival. He attempted to buy the patent from Jonathan, using Jethro Hornblower as the intermediary, but he was rebuffed. He also tried buying an interest in the Tincroft mine when he learned the owners showed some interest in Jonathan's machine. When Jonathan went to Parliament to ask a grant of an extension to his patent, just as Watt had done in 1775, Watt and Boulton engaged the support of influential friends to make certain that no extension would be granted. Jonathan's patent expired in 1795.

### **Chapter 5: "All the bells in Cornwall would be rung at our overthrow"**

When a defendant in an action for patent infringement questioned the validity of the patent, the judge presiding over the trial had the option of calling a special jury to decide the issue. Special jurors were well educated in the law, but not necessarily in science or machines and processes. Proving a patent infringement depended in part on the skill with which the original patent specification had been drafted.

In one type of case the defendant had simply manufactured reproductions of Watt's engine, knowing full well that he was infringing. The defendant may have made just a few machines for his own use or for sale. The Manchester firm of ironmongers Bateman and Sherratt was an example of this kind of infringement, and John Wilkinson, who had made parts for Watt's engines, was another.

Another type of piracy or alleged piracy came from patentees of other engines. An inventor might use a part for a new invention claimed by Watt to be by his own patent. Drawings and descriptions for new patents were made public, thus giving holders of earlier patents a chance to examine them for a possible infringement. Watt believed that Jonathan's patent of 1781 infringed his 1769 patent, but after considering the cost and likelihood of losing at trial, he held off, while waiting to see how successful Jonathan would be.

As much as Boulton and Watt might wish to avoid an expensive lawsuit, they believed that a failure to act against one infringer would signal others to would ignore the patent, resulting in loss of future revenues. In 1793 the business partners brought an action against former employee Edward Bull, who in 1792 began building engines in Cornwall that Watt claimed were essentially the same as his. The case began in the Court of Common Pleas before Lord Chief Justice Eyre and a special jury. Bull defended himself by calling into question the validity of Watt's patent on the basis of the insufficiency of the specifications. While the court found for the plaintiffs on the infringement, the judges were evenly divided for and against the validity of the patent. The case dragged on unsettled until 1799. Boulton and Watt clients in Cornwall watched

the case closely. Taking a chance that Watt would lose as had Arkwright, the Cornish adventurers began defaulting on payments.

Josiah, younger brother of Jonathan, Sr., had settled in New Jersey after he brought the first steam engine to America in 1753. Once the war between Britain and her former colonies ended, packet ships again crossed the Atlantic carrying letters to Uncle Josiah from Jonathan Jr. and other family members. Jonathan wrote to his uncle on 28 April 1793 and again on 3 May updating the family news. He reported that Jabez had married a second time, had one child (Annetta, born 1790) and was living in London, although keeping his activities there to himself. Jonathan was of the opinion that Jabez should go to America. Jabez was capable, intelligent, and always did well in whatever he undertook, but was too easily aggrieved when met with criticism or disapproval of his employers. Although Jonathan corresponded with his brother and asked him what he was doing in London, Jabez would not say.<sup>27</sup> In light of his fear of information falling into the hands of spies of his adversaries, the probable reason for his silence is not difficult to guess. (Presumably in an earlier letter Jonathan related the news that his younger sister Jemima, born in 1757, had died in 1790, several months following her marriage to Thomas Trestrail.)

By 1790 Jabez had moved to London and was established as a maker of steam engines and other machinery. He went into business with J. A. Maberley, a London carrier, who had purchased Isaac Mainwaring's double cylinder pendulum steam engine patent, granted in 1791.<sup>28</sup> He hired Jabez to improve the Mainwaring engine and the two men became partners, Maberley supplying the capital and Jabez the expertise and inventiveness. Jabez designed a "pendulum steam engine," using two cylinders and cylinder covers. Jonathan had used the covers for years, contending that they had been used prior to Watt's patent and were therefore available to him. Watt had not objected. Jabez argued that the separate condenser was not an original invention of Watt that could be protected by a patent. He also made other modifications. The separate condenser was believed to be an adaptation of an improvement to the Newcomen engine by "Mr. Gainsborough, the pastor of a dissenting congregation at Henley-upon-Thames, and brother of the painter of the of that name." Jabez claimed that some of the Cornish adventurers had intended to adopt Gainsborough's model, and that Watt had been informed of Gainsborough's ideas through an acquaintance. Believing that cylinder covers had been used before the date of Watt's patent and that Gainsborough's claims were valid, Jabez openly defied the restrictions laid by Watt's 1769 patent.<sup>29</sup>

Years later, Justice Joseph Bradley, who had married Mary Hornblower, a granddaughter of Jabez uncle Josiah, wrote:

"The family were one and all possessed of high mechanical ability, and in ordinary circumstances would have thriven in their occupation. Their education from childhood had befitted them for leaders of men-directors of work-but on reaching the age when their talents would have been most productive of results they found the patents of Watt had closed every door of entrance upon engine construction on them. The very ability, manipulation and implements which the family had evolved in half a century of

intelligent labour, was absorbed with their business in the workshops of Boulton and Watt, while for themselves there was neither tolerance nor endurance as foremen or workmen in engine construction.”<sup>30</sup>

With the outcome of the Bull case uncertain and payments from Cornwall dropping off, Watt and Boulton could not afford to delay further. Despite years of threats, they took action not against Jonathan in Cornwall, but against Jabez and Maberley, who had installed an engine at a colliery (a coal mine with the buildings and work yards) near Newcastle in northeast England. On 1 January 1796, Boulton and Watt obtained an injunction in the Court of Chancery against Hornblower and Maberley restraining them from building further engines, and against the owner of the colliery restraining him from using the engine. Maberley then negotiated with Matthew Boulton in an effort to get relief from having to pay premiums on engines already built in return for a promise that he and his partner would give security not to infringe in the future. Watt might have conceded on the royalties, but Hornblower and Maberley defied the injunction and with the help of Arthur Woolf, a Cornish engineer, began building a new engine for the Meaux & Co. brewery in London. (Modern spelling is Meux.) Despite the expense and uncertainty of upholding their patent, Boulton and Watt proceeded with to take the legal side of their case to trial in the Court of Common Pleas.<sup>31</sup>

In a letter to Thomas Wilson, Boulton and Watt’s agent in Cornwall, James Watt Jr. wrote that the following Tuesday, May 24<sup>th</sup>, Jabez was going to make a motion to the court to dissolve the injunction. Watt thought Hornblower had little chance of succeeding. The day of the motion the lawyers for both sides failed to appear—they were busy electioneering. The motion was put off for two days, and was finally heard on June 4<sup>th</sup>. Boulton and Watt planned on making a motion to send Hornblower and Maberley to prison for contempt of court for ignoring the injunction. Watt Jr. asked Wilson to keep this to himself. The Chancellor confirmed the injunction, and in reporting on the motion, Watt Jr. said his side did not move for contempt, but believed that if they had done so they would have succeeded. Since the injunction was still in force, the winning side claimed it no longer mattered whether Jabez was in prison or at large. Jabez had been humbled, and the way was clear for Boulton and Watt to bring an infringement action.<sup>32</sup>

In his account of the trial in *The Life of James Watt*, either James Muirhead or an editor inserted a name in brackets in the narrative. The text on page 404 states that Boulton and Watt plaintiffs against Mr. Bull and, “. . . in the other, Messrs. [Jonathan] Hornblower and Maberly.” This mistake, and perhaps wishful thinking, appeared in the 1858 and later revised editions.<sup>33</sup> Those relying on Muirhead’s version of events perpetuated the mistake down into the twenty-first century. To further the confusion, in her memoir of her father Annetta mentions “circumstances which led to the trial in which he, [JCH] along with his brother Jonathan, were opposed to Bolton and Watt” had already been noticed. While Jonathan was definitely in opposition to Watt, he was not a part of the 1795 trial except as a witness for his brother. Annetta Hornblower, born in 1790, was a young child during the trial years.

As each side gathered affidavits and served subpoenas, Watt's son dealt with a growing problem in Cornwall. The adventurers from the Poldice mine wanted abatement on the premiums on one of their engines, but Watt hated to set a precedent that could result in loss and a plague of new problems with other mine owners. Watt Jr. wrote a counter-proposal asking for a lump sum payment for a smaller amount.

Watt Jr. was pleased with the victorious outcome in the Chancery. He told Wilson that Hornblower and Maberley immediately asked to meet with him to work out a compromise, but the son, feeling confident, insisted on the same terms that "other pirates" had accepted: full payment of the premium and a penalty bond not to infringe in the future and all costs incurred by the defendants in the proceedings. He and his father believed that Hornblower and Maberley had financial support "from Cornwall." Watt was anxious to find out who those supporters were and promised that those who paid part of the defendants' expenses would top the list for the next infringement action.<sup>34</sup>

No settlement resulted and the trial was scheduled for December.

Meaux & Co also attempted to compromise but Watt refused unless Maberley also conformed. Watt was determined that the trial before a special jury would feature an even stronger band of witnesses than had testified at the Bull trial. He wanted Thomas Wilson, the partners' agent in Truro, Cornwall, to testify, but Wilson was having financial difficulties and as a result had run up debts on the credit of Boulton and Watt. Watt and his partner were also having financial difficulties of their own and feared that if they lost the case at trial, all the firm's creditors would begin hounding them for payment. They asked Wilson for payment, but he could not do it at that time. Watt reassured him, but this longstanding relationship would come to an end, but not before the despondent

By November Watt sent subpoenas to Wilson, Richard Mitchell and Murdock, telling Wilson he should be in town (London) by December 4<sup>th</sup>. Lodging would be provided for them and other witnesses at the Langbourne Coffee house. Members of the Hornblower family and their supporters also traveled the long road to London.

### **Chapter 6: "Mercy was not Forgotten"**

The case was tried in the Court of Common Pleas beginning 16 Dec 1796 before a special jury. Lord Chief Justice James Eyre, who had presided over the Bull case, presided again over this historic case. Boulton and Watt had called a number of eminent engineers and scientists, Fellows of the Royal Society, to testify, including Watt's old friend from the University of Glasgow, Professor John Robison. The two dozen witnesses subpoenaed also included John Roebuck, an early backer of Watt's invention, Thomas Wilson, Watt's agent in Cornwall, and William Murdock, the engineer who had replaced Jabez at Donnington Wood.<sup>35</sup>

According to Muirhead's account of the trial, the defense included Hornblower brothers Jethro, Jesse, and Jonathan, all engineers, and Jabez' son, Jabez Junior, "and of him the description given is, that *'he calls himself an engineer.'*" Only Joseph, the

youngest surviving Hornblower brother, did not travel to London from Cornwall. (Josiah, the youngest of the Hornblower children, was not an engineer. He died in September 1795.) Arthur Woolf, the mechanic who erected and maintained the Meaux brewery engine, also appeared for the defense, and according to him, Jabez defended himself well in court, speaking for two hours in his shirtsleeves. The most prominent witness was Joseph Bramah, inventor of the hydraulic press and other useful items. Bramah, whose testimony was cut short at trial, published a lengthy letter in 1797 addressed to the Chief Justice. (Watt called it ninety pages of unorganized nonsense.) The defendants also had the support of many who opposed monopolies and who believed that Watt had deliberately drawn his specifications to be as obscure as possible.<sup>36</sup>

The witnesses for Boulton and Watt stated that Jabez and other members of the Hornblower family had worked for Watt and had derived knowledge of the steam engines through their employment. Family members had access to the drawings of the engines. In turn Hornblower and Maberley attacked the patent on the grounds that the specifications were vague and insufficient. Jabez maintained the separate condenser was not an original invention of Watt that could be protected by a patent. He claimed it was an adaptation of an improvement to the Newcomen engine by “a Mr. Gainsborough.” This was Humphrey Gainsborough, mentioned above, the brother of artist Thomas Gainsborough, who claimed to have invented the separate condenser before Watt had patented his. Watt’s friend, writer and inventor Richard Lovell Edgeworth, had been shown Gainsborough’s condenser and had made a drawing of it that he showed to Watt. Gainsborough had been at the point of bringing an action against Watt, but his sudden death in August 1776 ended that threat. Despite Watt and friends’ ridicule of this claim, Gainsborough might have proved his claim had he lived.

The defendants failed to make their case, and Boulton and Watt emerged the victors. In February 1797 Hornblower and Maberley made a motion for a new trial. The counsel for Watt thought it was a frivolous motion brought as a means to delay payment of costs and to load the trial record with objections. The court rejected the motion. The next step was to lodge an appeal, which the defendants did, allowing them another delay in payments, although following the verdict against him Maberley closed his business and discharged his workers. James Watt Jr. presumed that Maberly and Hornblower had gone to Cornwall to rally their supporters. At the end of December James Watt Jr. wrote to Wilson that friends had said that the engineering business had cost Maberley at least £8,000.<sup>37</sup>

Watt was anxious to find out the identity of Hornblower and Maberley’s Cornish supporters. He wrote that he rejoiced to learn that “Daniell” was in for part of Maberley’s expenses. Watt planned on making Daniell the first in line as defendant in the next action he would bring against the infringers. This was Ralph Allen Daniell, one of the adventurers then negotiating with Boulton and Watt over unpaid premiums. Daniell eventually settled. The income produced from the mines eventually brought Daniell great personal wealth.<sup>38</sup>

The case dragged on through 1798 when counsel for both sides argued the issues on two separate occasions “with great ability” according to the opinion of the justices. The decision was announced in 1799, with a verdict for Boulton and Watt on the crucial point of the separate condenser—Watt’s 1769 patent was valid and Jabez had infringed it. The appeal also settled matters in the case of Edward Bull, who was also judged to have infringed Watt’s 1769 patent. The partners now set out to collect the rest of the delinquent premiums.

Muirhead wrote:

“The verdict of the jury, on occasion of both of the trials . . . having gone in favor of the patentees, . . . That decision has always been viewed as one of great importance to the law of patents in this kingdom, and was, of course, productive of momentous consequences in a pecuniary point of view to the patentees; as, besides heavy damages and costs being recovered from the actual defendants, the remainder of the horde of delinquents were thereby, at last, awed into subjection, and compelled to disgorge a large portion of their illegal gains. In judgment on the vanquished, however, mercy was not forgotten by the victors; and the terms of settlement insisted on were, it is believed, generally satisfactory to all parties.”<sup>39</sup>

Boulton and Watt settled with the rest of the Cornish adventurers. After the patent expired, Watt retired.

Despite the loss, Jabez continued to write and come up with new ideas. In February 1799 he resided at Pitman’s Buildings, City Road, and wrote a letter: “Description of an improved method of laying water pipes” for *The Repertory of Arts and Manufactures*. He wrote a number for short articles for *Nicholson’s Journal* on technical aspects of steam engines.

## Chapter 7: “A Wretched Prisoner”

In 1800 Jabez lived at St. John’s Row, City Road, in the parish of St. Luke, London. This area of Finsbury was close to Ironmonger’s Road. He had put his engineering skills to work and on 3 March 1800 was granted a patent for “A new machine and method of glazing calicoes, cottons, muslins, etc.” He built some experimental machines, but encountered a problem with the glazing process. He continued working on it and was about to erect an improved machine. Unfortunately, the person who had bought the patent grew tired of the expense and repeated problems. He locked up the machinery and refused to allow further work on it until the patent ran out. Annetta Hillhouse wrote, “the business was settled by arbitration.” Once again Jabez was left with an innovative idea, but no means to profit by it.<sup>40</sup>

In August of 1800 another Hornblower sister died. This was Julia, born in 1758, who had married John Moyle “a person of property who deals in the tin trade.” One of her sons, Samuel Moyle born in 1784, followed what was now a family tradition and

became an engineer. Then on 29 May 1802 Ann Carter Hornblower died in Chacewater and was buried in the Kenwyn Churchyard. Her husband's will had given her a life estate in all of his property and made her his executor. Now the estate was to be divided among her surviving children. One-half of the estate was to be divided equally among her surviving daughters, and two-thirds of the remainder among the surviving sons according to a formula that gave the greater share going to the younger sons, and the lesser shares to the older. Ann had discretion as to disposing of the remaining one-third.

With debts amounting to thousands of pounds, and a young family to support, Jabez must have felt mounting despair. Two more children had been born to his family following the birth of daughter Annetta—Elise Hanbury Hornblower in 1796 and Jemima Hanbury Hornblower in 1800. A sad footnote to this time of struggle was the record of the burial of a Jabez Hornblower, age six weeks, 14 July 1804, Parish of Abode: East Row, City Road. Buried in same cemetery where Jabez himself would later be laid to rest, this was most likely the fourth child of Jabez and Ann.

From 1803 to 1805 Jabez was imprisoned in the King's Bench Prison in Southwark, a debtor's prison where the fictional Mr. Micawber, Dickens' novel *David Copperfield*, would later be imprisoned for debt. This was a strange twist of fate for the man who had worked on the model prison at Northleach less than two decades earlier. Although considered to be better than other prisons, King's Bench was still dirty, overcrowded and prone to outbreaks of typhus. Prisoners had to provide their own food, drink, and bedding. Eventually his family was able to get £2,000 pounds from his estate to set him free. (Possibly this sum came from his parent's the settling of his mother's estate.)

James Watt wrote that within a few years after the close of the litigation, Jabez was "almost starving, a wretched prisoner in the King's Bench."<sup>41</sup> He may have been wretched, but Jabez was not idle because he continued to write articles for *Nicholson's Journal*. In 1806 Olinthus Gregory published the first edition of his *Treatise on Mechanics, Theoretical and Practical and Descriptive* [*Gregory's Mechanics*.] This edition published an article on the early history of the steam engine by Jabez Carter Hornblower. The appearance of this history caused a great deal of consternation to James Watt and his friends. In addition to reviving the claim of Humphrey Gainsborough, Jabez pointed out that that "much of the merit ascribed to the fertile mind of Mr. Watt really originated with Mr. John Wilkinson, who was always foremost in the improvement of any thing which related to the iron foundry."<sup>42</sup> He also discussed Jonathan's engine with great enthusiasm.

Of this treatise, Muirhead said that, "his animosity against his former patrons had not ceased, and it vented itself in a sort of tract or memoir on the steam-engine, printed in Dr. Olinthus Gregory's 'Treatise on Mechanics,' in 1807. That paper, although it scarcely deserved such notice, met with a crushing demolition in an article in the 'Edinburgh Review,' which is understood to have proceeded from the pen of Professor Playfair, and was at the time termed his Olynthiac Oration."<sup>43</sup> Once again, Watt's loyal friends acted to protect his reputation as an inventor. Jabez' article, while presenting the

Hornblower side of the infringement cases, did not drop to the level of name-calling and personal attacks used by Watt and his admirers.

In subsequent editions Gregory published an abridged version of the original article, stating that early on he had known nothing of Mr. Hornblower except that a friend thought highly of him and that he should be allowed to tell his own story.

As I have been exposed to much calumny and misrepresentation for admitting that historic sketch into my work, I beg to remark that I did it *solely* from motives of benevolence. Till the time my second volume was preparing for the press, I knew nothing of Mr. Hornblower; but a friend of mine, on whose judgment I placed great reliance, who was well acquainted with Mr. H. and thought highly of his moral character, as well as of his mechanical skill, had a full persuasion that, through a series of unfortunate circumstances, he had never had justice done him, and urged me to allow Mr. Hornblower to tell his own story. I yielded to his solicitations, and in consequence exposed myself to the malevolence of certain writers, who, in one short note of ten lines\*, published *four* positive willful falsehoods, for the honourable purpose of injuring my reputation. I, however, forgive them, although they treated me unjustly; and trust they will, ere now, have forgive me for permitting an injured (though perhaps hasty) man, to defend his own cause and that of his family. He is now beyond the reach of those who wished to promote his welfare, as well as those who, by unfairly depreciating his character, involved him in ruin. His latter years were rendered comfortable, not by the liberality of his countrymen, but by an opulent and scientific *Swede*, who knew how to appreciate and to reward his merit as an engineer.”\*\*

\* Edin. Review, vol. xiii, p 327.

\*\* We need scarcely remark here on what must appear evident to all, viz. that, by this short explanation, the Doctor’s conduct in this affair rises by his benevolence and generosity of heart far above the malevolent attacks of interested writers; whilst it excites in the breasts of every reader the deepest commiseration for the injuries of the neglected Hornblower.<sup>44</sup>

In 1808 a J. C. Hornblower of 13 Featherstone Street, City Road, London wrote “Letter on outside passengers in coaches” published in Parliamentary Papers 1808, and in June 1809 he wrote a statement addressed to the Committee on the house of Commons titled “Broad Wheels and the Preservation of the Turnpike Roads and Highways.” In 1810 Jabez was living at “Banner St. St. Lukes, London.” (Banner Street is almost a continuation to the east of Featherstone Street.)

Hornblower nephew Cyrus Redding arrived in London from his native Cornwall in 1806. Redding was the son of Robert Redding, a Baptist minister in Truro and Chacewater, and Johanna Hornblower Redding. Cyrus, just twenty-one, had gone to the big city to make his way as a journalist. In addition to writing about his uncle’s

experience in Holland, Cyrus wrote that later in life his uncle went to Sweden “for a similar purpose.” That he doesn’t mention this “engineer of celebrity” by name makes it appear that he would prefer not to be linked directly to his notorious relative.<sup>45</sup> (His *Fifty Years of Recollections* was published in 1858, the same year Muirhead publish his *Life of James Watt*, so it is understandable that Redding would not be prepared to rebut Muirhead’s portrayal of the Hornblower family.)

Annetta Hornblower Hillhouse wrote that in 1810 “a German gentleman who knew of Hornblower’s talents and engineering abilities engaged him to design and erect an extensive brewing establishment in Sweden.” Possibly this German gentleman was connected with the family of Ernst Friedrich Wunderlich, born in Württemberg, who married Eliza (Elise) the second daughter of Ann and Jabez in March of 1815. His employer was so pleased with the engineer’s work that he continued to pay him a salary after the completion of the contract. “Thus it has been stated that the latter years of the life of Jabez “was rendered comfortable, not by the liberality of his countrymen but by the liberality of an opulent and scientific Swede who knew how to appreciate and reward his remit as an engineer.”<sup>46</sup>

In *Yesterday and To-day* Redding wrote that he had been learning German from the husband of his cousin, a “Suabian gentleman.” (In the early nineteenth century Württemberg was a separate state in southwestern Germany and included parts of Swabia.) This describes Ernst Wunderlich.

Even without giving the names of family members, Redding drops clues as to their identity. In another passage, he tells about his aunt who had returned from Sweden. This would have been Ann Hanbury Hornblower. Redding wrote:

“In the midst of these studies I found an aunt, who had been some time resident in Stockholm where she became acquainted with Madame de Stael, had arrived in England. She came with the lioness of the day for a fellow passenger. Madame de Stael lived in Argyle Street, nearly opposite the residence of Lord Aberdeen, and had been several months in London.”<sup>47</sup>

The “lioness of the day,” famous author Madame Germaine Necker de Stael, had lived in Paris for many years. Among her friends were the brightest Parisian intellectuals. Her criticisms of Napoleon annoyed him so much that he eventually forced her to flee France. She traveled to several European countries, including Russia, Germany, and Sweden. She spent the winter of 1813 in London, where a stream of cabinet ministers, politicians and the intellectuals of the country streamed to her drawing room. She wasn’t receiving guests the day Redding called with his aunt, but she must have respected her acquaintance because later she did allow the young journalist to call on her.

Jabez returned to England from Sweden in 1813 and died in London on 11 July 1814 at age seventy. On 14 July 1814 he was buried in the Bunhill Fields Burial Ground, City Road, London. (Parish of Abode was Lower Smith Street.) John Wesley, the

Methodist preacher who had converted thousands in Cornwall, was buried there. His chapel stands in City Road opposite the cemetery. John Bunyan, who wrote *Pilgrim's Progress*, and Daniel Defoe, author of *Robinson Crusoe*, also lie here.

According to Annetta, her father, “destitute of capital” the wants of a large family to supply, “could only exert his talents under the control of others.” “In this unpropitious situation he was alternately the sport of hope and disappointment.” Although the reader senses that life in the Hornblower household was difficult, his children looked at him with pride at his example in not giving in to the most trying circumstances. “His exemplary tenderness, affection and self denial, in his domestic relations should above all be recorded to his honour.”

Of his children by first wife Mary Hornblower know only that he had a son named after him and three other children. By second wife Ann Hanbury, he had four children, the youngest possible a son also named after his father. Ann lived until at least 1851—she appears in the English census for that year as a 92-year old widow. Daughter Annetta Hanbury Hornblower married John Wilson Hillhouse and they had three daughters together. Elise Hanbury Hornblower married Ernst Friedrich Wunderlich. Daughter Jemima Hanbury Hornblower did not marry. Together with her mother Ann and niece, Jemima Emily Hillhouse, she ran a boarding school for young girls in London.

Jonathan Hornblower, nine years younger than his elder brother, would die just seven months later. Watt outlived the two Hornblower brothers by five years, dying in 1819, his reputation as a philosopher and inventor intact. Matthew Boulton preceded them all, dying in 1809.

Jabez Carter Hornblower was a highly intelligent and creative man. Perhaps it was his great abilities that made him impatient with those less gifted, who did not see the world as he did, or as his daughter put it, he lacked “that flexibility of disposition” necessary to rise in the world. Nevertheless, he earned the affection and esteem of many individuals and his own family. He deserves to be remembered for his accomplishments and for his own place in the history of the steam engine.

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### Endnotes

<sup>1</sup> Over a period of twenty-five years thirteen children were born to Jonathan and Ann. They gave all of the children biblical names beginning with the letter “J.” Five of the sons were engineers; all of the children lived to adulthood except for one daughter.

<sup>2</sup> Robert Stuart, *Historical and Descriptive Anecdotes of Steam-Engine and of their Inventors and Improvers*, Vol. II, Wightman and Cramp, London (1829). “Memoir by A. Hillhouse,” p. 638-9. [http://www.google.com/books?id=UAOAAAYAAJ&printsec=titlepage&source=gbs\\_v2\\_summary\\_r&cad=0](http://www.google.com/books?id=UAOAAAYAAJ&printsec=titlepage&source=gbs_v2_summary_r&cad=0)

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All direct quotes by Annetta Hornblower Hillhouse (1790-1860) are from this article written by the daughter of Jabez Carter Hornblower and Ann Hanbury Hornblower. Jabez was in his mid-fifties when Annetta was born in 1790, and had already lived a full life that she knew little about.

<sup>3</sup> Cyrus Redding, *Yesterday and To-day*, Vol. I, T. Cautley Newby, London, (1863) p 136.  
[http://www.google.com/books?id=OSMLAAAAYAAJ&printsec=titlepage&source=gbs\\_v2\\_summary\\_r&cad=0](http://www.google.com/books?id=OSMLAAAAYAAJ&printsec=titlepage&source=gbs_v2_summary_r&cad=0)

Also T. R. Harris, “The Hornblower Family: Pioneer Steam Engineers,” *Trevithick Society Journal*, 4 (1976). Harris wrote that Jabez was left with Thomas and Elizabeth Carter when the parents moved to Cornwall. I have found no other source for this statement.

<sup>4</sup> Harris, 20.

<sup>5</sup> Harris, 7, notes added post publication of original article. The names of these four children are not known, although he did have a son named Jabez. The Baptist records for the Salem Baptist church thus far do not show a baptism for Jabez or his children. Possibly the Jabez listed in the 1785 Birmingham Directory as a button-maker was his son, although this could have been his Uncle Jabez, his father’s younger brother. There was a marriage record for Jabez John Hornblower and Eliza Pearce in Holborn, St. Andrew, Middlesex, in 1798. Mary John Hornblower died either after late 1779 or early 1780s.

<sup>6</sup> Jan Adrianus Verbruggen, *The Correspondence of Jan Daniel Huichelbos van Liender with James Watt*, Ph.D. Thesis, Universiteit Twente (2005.)  
<http://doc.utwente.nl/50447/> The Batavian Society for Experimental Philosophy was founded June 3 1769. About this time Steven Hoogendijk (1698-1788) was in the process of organizing or creating the foundation for the Batavian Society. [Verbruggen thesis p 15] He built engine for Batavian Society. [Batavian Society: A Dutch learned Society residing in Rotterdam, founded in 1769 as foundation for the furtherance of experimental philosophy (or Science)]

<sup>7</sup> Cyrus Redding, *Yesterday and To-day*, 136.

<sup>8</sup> Verbruggen, 15-16, 365.

<sup>9</sup> Verbruggen, 5.

<sup>10</sup> Vebruggen, 80.

<sup>11</sup> Samuel Smiles, *Lives of Boulton and Watt*, John Murray, London (1865) 296-7.

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[http://www.google.com/books?id=6EUOAAAAYAAJ&printsec=titlepage&source=gbv2\\_summary\\_r&cad=0](http://www.google.com/books?id=6EUOAAAAYAAJ&printsec=titlepage&source=gbv2_summary_r&cad=0)

<sup>12</sup> Smiles, Footnote #2 on 296-7.

<sup>13</sup> Verbruggen, Summary, 80. Quotes from summaries of letters from Jabez to Van Liender are found on pages 80-2; abbreviations are JCH for Jabez and HvL for Van Liender.

<sup>14</sup> Verbruggen, Letter from JCH to HvL, 10-15-1778.

<sup>15</sup> Ambrose and James Weston, attorneys had their offices on Fenchurch Street in London. They handled legal affairs for other inventors as well.

<sup>16</sup> Letter, Mary Hornblower to James Watt, 09-11-1779, Archives of Soho, Birmingham Central Library.

<sup>17</sup> Verbruggen, JCH to HvL 8-23-1780. Watt copy machine patent granted 1780-1830, Registration 86/457.

<sup>18</sup> Verbruggen, Letters JCH to HvL 01-25-1779; 04-03-1779. Jennifer Tann, "Mr. Hornblower and his Crew: Watt Engine Pirates at the End of the 18<sup>th</sup> Century" *Transactions of the Newcomen Society*, 51 (1980).

<sup>19</sup> Paul Andrew Luter, "The Hornblower Saga," *Broseley Local History Society Journal* No 26, 2004. Luter paints an unattractive picture of Jabez. William Murdoch, a Scottish engineer, worked for Boulton and Watt in Cornwall for ten years, then in Birmingham. He invented improvements to the steam engine, and in the 1790s his best-known invention, gas lighting.

<sup>20</sup> Harris, "The Hornblower Family," 21.

<sup>21</sup> Harris, 21.

<sup>22</sup> James Patrick Muirhead, *The Life of James Watt*, John Murray, London (1858). [http://www.google.com/books?id=\\_b8GAAAAYAAJ&printsec=titlepage&source=gbv2\\_summary\\_r&cad=0](http://www.google.com/books?id=_b8GAAAAYAAJ&printsec=titlepage&source=gbv2_summary_r&cad=0)

<sup>23</sup> Cornwall Record Office [CRO]  
[http://crocat.cornwall.gov.uk/DServer/dserve.exe?dsqIni=Dserve.ini&dsqApp=Archive&dsqDb=Catalog&dsqCmd=Overview.tcl&dsqSearch=\(\(text\)=%27James%20Watt%27\)](http://crocat.cornwall.gov.uk/DServer/dserve.exe?dsqIni=Dserve.ini&dsqApp=Archive&dsqDb=Catalog&dsqCmd=Overview.tcl&dsqSearch=((text)=%27James%20Watt%27))  
Letter James Watt Jr. to Thomas Wilson, 31-01-1800 re more trials. Prepared a declaration against Jonathan Hornblower to be served that day.

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11 Feb 1800 Watt Jr. & Matthew Robinson Boulton to Wilson, 11-02-1800, Hornblower procured a delay.

2 April 1800 M R Boulton to Wilson, 02-04-1800, re a trial of Hornblower, possibly Jonathan.

<sup>24</sup> Harris, 21-2.

<sup>25</sup> Vebruggen, Watt to HvL, 04-19-1787.

<sup>26</sup> Vebruggen, HvL to Watt, 04-27-1787

<sup>27</sup> H. S. Torrens, "Some Newly Discovered Letters from Jonathan Hornblower (1853-1815) *Transactions of the Newcomen Society*, 54, (1982) 189-200.

<sup>28</sup> See also T. R. Harris, *Arthur Woolf, The Cornish Engineer, 1766-1837*, D. Bradford Barton, Ltd, Truro (1966). Maberley's name is also spelled Maberley, also spelled Maberly. In this earlier work Harris gives the Maberley partner name as David, who had acquired the part of the [Jonathan] Hornblower patent formerly held by Winwood, p. 22, also footnote 2.

<sup>29</sup> Harris, 22-3.

<sup>30</sup> Harris, 21. Bradley was a US Supreme court justice from 1870 to 1891.

<sup>31</sup> Tann, 99-100. Under the English legal system, Chancery courts granted injunctions, while the trials took place in the Courts of Common Pleas. There may have been as many as ten H & M engines. Boulton and Watt call the defendant David Maberley, trial note says Stephen Maberley. These may have been the sons. See footnote 28 above. *Wakefield's Merchant and Tradesman's General Director for London*, (1790), listing for John Maberley, Address Castle Street, Long Acre, London, Occupation currier, leather work. Meaux & Co: Modern spelling is Meux, pronounced myooks. Despite the setback, the Meux family breweries prospered and Henry Meux was granted a baronetcy. According to Harris in *Arthur Woolf*, the senior partner in the firm was Richard Meux.

Meaux's Brewery was on Liquorpond Road near what is now Clerkenwell Road and Leather Lane, an area now part of the Borough of Finsbury.

<sup>32</sup>CRO, James Watt Jr. to Thomas Wilson 18-05-1796. Watt Jr. traveled from Soho to London to attend the hearing. He wrote Wilson that Hornblower and Maberley had filed nine affidavits from brothers Jonathan, Jethro, and Jesse Hornblower, and son Jabez Junior; also Joseph Bramah, Rowntree, David Watson, a Mr. Strode and Arthur Woolf, the latter two their own journeymen, and all of them, according to Watt, pirates themselves. Woolf remained at the brewery as resident engineer until 1808. He

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experimented with high-pressure steam and in 1805 obtained a patent for a compound steam engine.

<sup>33</sup>Muirhead, 404 of the 1858 edition, and 391 of the second, revised edition of *Life of Watt*. Witnesses against B & W were John Braithwaite, William Braithwaite, Jabez Hornblower, Thomas Rowntree and Richard Trevithick. Tann, footnote 31 p 21.

<sup>34</sup> CRO, Letters, Watt Jr. to Wilson, 04-05-1796; 04-05-1796.

<sup>35</sup> Tann, 100, T. Barnes, J. Rennie and P. Ewart.

<sup>36</sup> Harris, 24. Also Harris, *Arthur Woolf*, 25.

<sup>37</sup> CRO, letter Watt to Wilson, 30-12-1796.

<sup>38</sup> CRO, letters Watt to Wilson 23-06-1796; Watt Jr. to Wilson 11-01-1797. Watt called Daniell “a cowardly knave in the background.” M. B. Boulton to Wilson, 13-02-1797.

<sup>39</sup> Muirhead, 403. The report of the case can be found at 8 T.R. 95; (King’s Bench 1799); 1 Carpmael’s Reports. P. C. 156.

<sup>40</sup> Harris, 25; Hillhouse “Memoir.”

<sup>41</sup> Muirhead, 393.

<sup>42</sup> Muirhead, 361. Boulton and Watt had used the Wilkinson Iron foundry to construct the parts for the steam engines, but once they learned Wilkinson had pirated engines, that association came to an end.

<sup>43</sup> Muirhead, 392-3

<sup>44</sup> Footnote quoted in Elijah Galloway, *History of the Steam Engine, from its first invention to the present time*, Cowie and Co., London, (1826) 62-3.  
[http://www.google.com/books?id=oWzfuQ6eXMsC&printsec=titlepage&source=gbs\\_v2\\_summary\\_r&cad=0](http://www.google.com/books?id=oWzfuQ6eXMsC&printsec=titlepage&source=gbs_v2_summary_r&cad=0)

“History of the Steam Engine,” contributed to *A Treatise of Mechanics, Theoretical, Practical and Descriptive*, by Olinthus Gregory, LL.D. The article has been attributed to Jonathan Hornblower Junior, or at least to the hybrid creature known as Jonathan Carter Hornblower. This seems to be the article that according to Annetta H. Hillhouse was printed in *Pantologia*, edited in part by Olinthus Gregory.

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<sup>45</sup> Redding, *Yesterday and To-day*, 136. William Pole called Jabez a “well known as an engineer of celebrity, but was principally engaged out of Cornwall.” William Pole, *A Treatise on the Cornish Pumping Engine*, Part I, J. Weale, London, (1844.)

<sup>46</sup> Hillhouse. So far I haven’t been able to identify the Swede.

<sup>47</sup> Cyrus Redding, *Fifty Years of Recollections*, Vol I, Charles J. Skeet, London (1858) 242.  
[http://www.google.com/books?id=78YEAAAAYAAJ&printsec=titlepage&source=gbs\\_v2\\_summary\\_r&cad=0](http://www.google.com/books?id=78YEAAAAYAAJ&printsec=titlepage&source=gbs_v2_summary_r&cad=0)