

BRITAIN'S CARTWHEEL COINAGE OF 1797

By George Manz

You've probably heard these words and names before: Cartwheel, Soho, Matthew Boulton, and James Watt. But did you know how instrumental they were in accelerating the Industrial Revolution?

Like the strands of a rope, the history of Britain's 1797 Cartwheel coinage is intertwined with the Industrial Revolution. And that change in the method of producing goods for market is intermeshed with the Soho Mint and its owners, Matthew Boulton and James Watt.

We begin this story in Birmingham, England in 1759 when Matthew Boulton Jr., now in his early 30s, inherited his father's toy business which manufactured many items, including buttons. Later that year, or possibly the following year, young Matthew Boulton's first wife Mary died.

"While personally devastating," Richard Doty writes in his marvelous book, *The Soho Mint & the Industrialization of Money*, "the deaths of his father and his first wife helped make Soho possible. His father had left the toy business to him, while the estate of his wife, who was a daughter and co-heiress of the wealthy Luke Robinson of Litchfield, added to his growing resources."

Doty, the curator of numismatics for the Smithsonian Institute in Washington, DC, notes that Boulton eventually went on to wed Mary's sister Anne, Luke Robinson's other daughter and now sole heir to the family fortune.

Boulton built a mill which he called Soho Manufactory, named for a place already called Soho, near Birmingham. The mill was erected beside Hockley Brook, which provided the water power to help power the new factory.

But the flow of water was unreliable for the Soho factory, which required a constant amount of power to run its machines. Boulton decided the solution lay in a steam engine to pump water from the tail end of his factory back up to the pool of water in front.

ENTER JAMES WATT

A colleague named John Roebuck mentioned to Boulton that he knew a Scotsman who was working on a plan to improve the Newcomen steam engine, which could be useful to Boulton's operation. His name was James Watt.

Doty writes that Watt "hit upon the idea of a separate condenser somewhat by accident, but this apparatus (which got around the alternate heating and cooling of the cylinder and thus saved between two-thirds and three-quarters of the coal re-

quired by the simple Newcomen machine) would one day render steam engines cheap enough to compete with water, animal, and manual power, [and] would underpin the Industrial Revolution."

Roebuck and Watt joined in partnership to improve Watt's newfangled invention which promised to be much more efficient than the old one because it allowed the cylinder to stay hot, while the condenser remained cool.

Roebuck was instrumental in helping Watt obtain a patent for the condenser in exchange for Roebuck getting two-thirds of the future profits from the invention. The 14-year patent was granted in January 1769.

But by 1772 Roebuck was having financial difficulties of his own. Roebuck owed large debts and couldn't pay his bills.

One of the people Roebuck owed money to was Matthew Boulton, who knew Roebuck was in no position to pay his debt. So the ingenious Boulton suggested he would cancel Roebuck's £1200 debt in exchange for his share in Watt's patent.

Roebuck agreed to Boulton's proposal and the deal was finalized in May 1773.

At the time, Watt was still living in Scotland. But personal misfortune brought Boulton, the industrialist, and Watt, the inventor, together after Watt's first wife Margaret died during childbirth.

Watt arrived at Soho on May 31, 1774 where he was soon put to work. "His first task," Doty writes, "was to carry his improvements from the experimental to the practical stage."

Because working the bugs out of Watt's new invention was going so slowly, Boulton took on the task of extending the life of Watt's original 14-year patent.

This was accomplished in 1775 with the passage of an Act of Parliament which increased the life of the patent to 1800.

On May 22, 1775, Boulton and Watt joined in a formal partnership called Boulton & Watt, with Boulton getting two-thirds of the profits from the patent and Watt one-third. In exchange, Boulton had to pay off Watt's debts, fund his new experiments, and pay him £300 a year.

Thus a partnership was born which H.W. Dickinson called "perhaps the most momentous in industrial history" in his 1936 book titled *Matthew Boulton*.

COINAGE & INDUSTRIALIZATION

In his book on Soho, Doty makes a direct link between coinage and industrialization. "Put simply, the heart of the new economic ways involved factories of one sort or another - groupings of people performing a strictly limited number of productive tasks in buildings specifically constructed to or renovated for the purpose. These factories would be located in consideration of availability of water, fuel, and access to markets, not in recognition of earlier determinants of population settlement."

Doty continues: "From the beginning, the aspiring millowner discovered that he could only attract workers in a particular way, and with a particular commodity. And the aspiring millhand found that he could only survive in a new area full of strangers if he received a particular commodity. The commodity in both cases

was coin: the Industrial Revolution was based on the payment of regular wages, in the form of coinage."

Doty notes that "what the Industrial Revolution initially and most urgently required was a large number of low-denomination coins. Without that money, wages could not be paid. And without monetary wages, only a fool would leave the clear air of Norfolk for the sooty air of Leeds, or Manchester, or Hull, or Birmingham."

Doty writes about this major problem holding back the Industrial Revolution: "As matters stood, there was little small change in circulation, the Royal Mint having ceased copper coinage just as the Industrial Revolution was getting under way, while the last silver struck in quantity dated back to the 1750s. What predominated on the lowest end of the monetary scale, and what our worker might expect to find in his pay packet, was a motley assemblage of counterfeit halfpence and farthings (Boulton estimated that two out of every three coppers were suspect; a slightly later observer put the figure at an astounding ninety-eight percent), augmented in and after 1787 by private copper tokens - the more successful of which were also counterfeited. The centre of counterfeit production lay in Birmingham, just a mile or so from Soho - to the continued annoyance of Matthew Boulton."



THE FIRST SOHO MINT

There were three different Soho Mints over the years. The first Soho Mint was constructed in 1788 and 1789. But Boulton wanted his new mint to be different than other mints in the world. He envisioned a mint whose minting presses harnessed the power from Watt's modified Newcomen engine. Soho would become the first steam-powered mint in the world and would later employ other newly invented mechanical devices and processes as well.

By the summer of 1790, Boulton took out a patent on the steam-powered press. Doty writes that by the end of that year, Boulton "had four presses on line - plus a fifth, upon which 'to make experiments'. The mint also boasted a 'shaking machine', employed to feed the tubes which in turn fed planchets to the presses; five layers in (finger devices for positioning planchets and removing the struck coins); and eight cutting out presses (two complete, the other six nearly so)" as well as other industrial innovations.

BOULTON'S FIRST COINS

Although it was Boulton's wish that he mint the official coin of the realm, minting British coins would have to wait. Boulton's first copper coinage were one keping, two keping and three keping coins minted in 1786 and 1787 for Bencoolen, the East Indian Company's possession on the island of Sumatra.

By 1789, Boulton, as a subcontractor to John Westwood, began to mint tokens for use in England and Ireland, as well as Parys Mine tokens for Thomas Williams in Wales.

Doty writes that by 1791, Boulton was working on a new order for Williams. But these halfpence differed from the previous order because they were "struck in a collar, for Boulton had finally managed to perfect the collar/ejecting mechanism on his press. The absolutely vertical edge, the precise, shallow relief inform us that here is a modern piece of money." In all, Boulton produced more than a million halfpence for Williams struck with the 1791 date.

Later that year, Boulton got an order for coinage for the East India Company's settlement in Bombay. During the course of the year, the Company ordered more than 17 million coins for distribution in the Bombay Presidency. They included half-pice, pice, 1&1/2 pice and half-anna coins.

Boulton and Watt were soon producing many other coins and tokens as well, including the famous large Monneron tokens for the French mercantile firm Monneron Frères, as well as one cent, 10 cent, 25 cent, 50 cent and dollar coins for the Sierra Leone Company for use in British West Africa.

Over the next few years, Soho produced coinage for many countries including Bermuda, the East India Company's colony in Madras, the African Committee of Merchants for the Gold Coast, as well as a wide variety of tokens for use in Britain.

Unfortunately, the Soho Mint was losing money. Boulton was forced to borrow money to keep his enterprise afloat and he wasn't getting as much business as he would have liked.

In a letter written February 18, 1796 to Robert Wissett, an important ally who worked for the East India Company, Boulton wrote: "I remember you asked me if my Mint is employed to which I answer with a Sigh, No except now & then a day for a few provincial 1/2 pence." (The spelling is as it was originally written).

But despite the doom and gloom, Boulton's fortunes were about to turn for the better. Britain was experiencing a worsening copper shortage. And after many years of lobbying the British government to let him produce copper coinage for Britain, Boulton was about to get his wish.

THE CARTWHEEL COINAGE OF 1797

A motion to mint copper coins was introduced in Parliament on March 3, 1797. Doty writes that "Richard Brinsley Sheridan introduced a motion in the House of Commons requesting a copper coinage from the King, to be minted in the form of pence, twopence and threepence (the latter concept would soon be dropped, when it became clear that a threepenny copper piece would be too heavy for commerce)."

That same day, Boulton received word that his firm was about to be awarded the contract to mint the official copper coins of Great Britain.

Coin production began at Soho on June 19, 1797. And what coinage it was.

Two coins were ordered: a 36 mm. pence weighing exactly one ounce and a 41 mm. twopence with the weight of two ounces of copper, which were their respective values in copper.

By the KING.
A PROCLAMATION
For giving Currency to a new
Coinage of Copper Money of One Penny
and Two Penny Pieces.

GEORGE R.

Whereas, in consequence of the unanimous Address of Our Commons of Great Britain, in Parliament assembled, praying, that We would be graciously pleased to give Directions that Measures might be taken for an immediate Supply of such Copper Coinage as might be best adapted to the Payment of the Laborious Poor in the present Exigency; We have thought fit to order that certain Pieces of Copper should be coined, which should go and pass for One Penny and Two Pennies, and that each of such Pieces of One Penny should weigh One Ounce Avoirdupois, and that each of such Two Penny Pieces should weigh Two Ounces Avoirdupois; the intrinsic Value of such Pieces of One Penny and Two Pennies, Workmanship included, corresponding as nearly as possible with the nominal Value of the same respectively; every such Piece having, on one Side thereof Our Effigies or Portraiture, with Our Name or Title, and on the Reverse the Figure of Britannia, represented sitting on a Rock in the Sea, holding a Trident in her Left Hand, and a Branch of Olive in her Right Hand, with the Year of our Lord: And whereas Penny and Two Penny Pieces of Copper, of the Weight and Description aforesaid, have been coined, and will be soon ready for Delivery, according to the Orders that We have given for that Purpose: We have therefore, with the Advice of our Privy Council, thought fit to issue this Our Royal Proclamation, and We do hereby ordain, declare and command, That all the said Pieces of Copper Money, to be coined as aforesaid, shall be current and lawful Money of Our Kingdom of Great Britain, and shall pass and be received as current and lawful Money of Our said Kingdom, that is to say, such Penny Pieces as of the Value of One Penny, and such Two Penny Pieces as of the Value of Two Pennies, in all Payments and Transactions of Money; provided that no Person shall be obliged to take more of such Copper Money in any one Payment, than shall be of the Value of One Shilling, after the Rate aforesaid. Given at Our Court at St. James's, the Twenty-sixth Day of July One thousand seven hundred and ninety-seven, in the Thirty-seventh Year of Our Reign.

God save the King.

Previous to the issue of these coins, pennies were composed of silver. This new coinage marked the first time Britannia appeared on pence and twopence. Britannia appeared on the British penny for the last time in 1970.

The pence and twopence were not only minted in 1797, but also in 1798 and 1799. All bear the same date: 1797. Boulton had the dies destroyed on July 26, 1799.

Doty notes the total number of pence and twopence that were minted at Soho consisted of 43,969,204 pence and 722,180 twopence for a grand total of 44,691,384 coins.

"To assist the immediate circulation of the new money," writes Glyn Davies, in his monumental book *A History of Money: From Ancient Times to the Present Day*, "Boulton managed to obtain early orders from bankers in Scotland as well as from the larger number of smaller bankers in England and Wales, while the government agreed to use the coin straight away to pay the armed forces and their suppliers in Deptford, Greenwich, Woolwich, Chatham, Skegness, Portsmouth and Southampton."

The coins were called Cartwheels because of their resemblance to the wheels on carts. Due to their massive size and weight, they were not universally popular at the time.

But over 200 years after they were produced, they are attractive coins which have much to teach us. □

George Manz writes for numismatic publications in Great Britain, the United States and Canada. He is president of George Manz Coins, specializing in Canadian, Newfoundland, U.S. and world coins, as well as medals, tokens, numismatic books and odd and curious money. Free lists (please specify which lists you want) are available from George Manz Coins, PO BOX 3626, Regina SK S4P 3L7 Canada. (306) 352-2337, email: g.manz@sk.sympatico.ca website: www.georgemanzcoins.com.

SOURCES

Davies, Glyn. *A History of Money: From Ancient Times to the Present Day*. University of Wales Press. Cardiff, 1994.

Dickenson, H.W. *Matthew Boulton*. Printed for Babcock and Wilcox. Cambridge University Press. Cambridge, 1936.

Doty, Richard. *Money of the World*. Grosset & Dunlap, Inc. and The Ridge Press, Inc. New York, 1978.

Doty, Richard. *The Soho Mint & the Industrialization of Money*. Published by the National Museum of American History, Smithsonian Institution in association with Spink and The British Numismatic Society. Spink. London, 1998.