

Boulton Father of Mechanized Press

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By Kerry Rodgers, World Coin News
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Two hundred and twenty-one years ago, Matthew Boulton coupled James Watt's steam engine with a coining press and ushered in the era of high quality, mass-produced, milled coins. This year is the bicentenary of his death and is an appropriate time to reflect on the debt society and numismatists far and wide owe Boulton.

Metal Man

Matthew Boulton was born on Sept. 3, 1728, in Birmingham, where his dad manufactured a range of small metal products. At age 21 he became a partner and general manager of the family business.

In 1759 he formed a partnership with John Fothergill to establish the Soho Manufactory on Handsworth Heath, where a water-driven metal-rolling mill existed. Here they produced a variety of small metal products such as buttons, buckles, boxes, japanned ware, silverware and ormolu, using assembly-line mass-production on a considerable scale. Henry Ford would have been impressed. They established a reputation for high quality work.

Boulton was way ahead of his time. The factory was equipped with a range of labor-saving

devices. Wherever possible, he employed interchangeable components in his different products and used the latest in available technology to mass-produce these. Little was sub-contracted out. All aspects of design, production and marketing were kept under one roof.

And Boulton was right into occupation safety and health. His workers enjoyed clean, well-lit and well-ventilated premises. They even had employment insurance.

Round about 1767, Boulton struck up the acquaintance of Scot James Watt. Boulton was looking for some way to increase his throughput. To do so, he required a better power supply. Watt for his part needed facilities to develop and manufacture his steam-engine. When Watt's business partner got into financial strife in 1772, Boulton accepted a two-thirds share in Watt's patent in payment for the debt.

In 1775 Watt and Boulton entered into a formal partnership and were joined by William Murdoch. It was Boulton who provided the facilities, capital and wherewithal to ensure the steam engine became a commercial success. It was the Boulton & Watt steam engine that would help power the Industrial Revolution.

Master Minter

With that particular show on the road, Boulton turned his gaze to coins. They were, after all, just another small metal product. He was fascinated by the problem of the mass production of a standardized coinage. He discussed it at length with James Watt.

In the late 18th century, quality control at the Royal Mint was non-existent. Their minting technology was crude at best. There was little control over coin size. The product was easily counterfeited. By 1786, it was estimated that up to two-thirds of English coinage in circulation was counterfeit. The Mint's answer was to simply cease production, leading to a country-wide coin shortage.

In 1788, Boulton set up the Soho Mint Mk I within the Soho Manufactory. It contained eight steam-driven presses, each of which could strike 70 to 84 coins per minute. Getting this enterprise fully up to speed proved costly in both money and headaches. But within months, the first ever machine-powered mint was producing copper and silver coins for the East India Company, Sierra Leone and Russia - when it was not producing high quality uniform blanks for other mints. The new system represented a major breakthrough in the mass-production of images.

Boulton spent a great deal of time in London trying to get the British government's attention as he believed he now had the answer to the Royal Mint's problems. He was largely ignored by Whitehall, but across the channel the French showed interest and invited him to consider minting their coins.

He was also plagued by industrial spies and rivals. The latter tried to reproduce his patent presses, while at the same time urging the government to close Boulton's mint down. However, Boulton's persistence paid off. In 1797, he was commissioned to mint an entire new copper coinage for Britain, starting with 45 million penny and 2-penny pieces. The smaller denominations followed later.

To frustrate counterfeiters, Boulton proposed new designs, related to other systems of Imperial measurement. His penny would weigh 1 ounce and have a diameter such that 17 would measure 2 feet. His halfpenny would be half an ounce with 10 to a foot, and the farthing a quarter-ounce with

12 to a foot. He topped these three off with a massive 2-ounce twopence that had just eight to the foot. The coins had broad raised rims. Their inscriptions and designs, by leading European medalist K chler, were impressed on the field below. And, as all good Aussie collectors know, these were the renowned cartwheel coins that would become part of Australia's proclamation coinage.

So successful was the Soho Mint that Boulton & Watt presses and engines were used to re-equip the Royal Mint and mints abroad. The Cornish mines, who were Boulton's main copper suppliers, were hard-pressed to keep up with the throughput. Copper prices swung wildly, contributing to rioting in the streets. The Industrial Revolution was in full swing and Boulton was leading the charge.

His innovative coin designs, however, would prove just too much for the purses and pockets of His Majesty's subjects, let alone the bureaucrats of the Royal Mint. They were discontinued by the end of the century.

'Lunatick' and Philanthropist

In his spare time, Boulton was a founder member of the illustrious Lunar Society. This was an informal learned society that doubled as dinner and social club. Its members consisted of Midland's industrialists, natural philosophers and assorted intellectuals who met regularly from 1765 to 1813 in Birmingham and Lichfield.

The name signified that the meetings occurred at full moon, when the extra light made the journey between club and home safer. Naturally, the members called themselves "lunaticks." Along with Boulton and Watt were makers and shakers such as Erasmus Darwin, Joseph Priestley and Josiah Wedgwood. Corresponding members included Benjamin Franklin, Thomas Jefferson and Antoine Lavoisier.

Boulton was extremely active in Birmingham society. He campaigned for establishment of the Birmingham Assay Office and served on committees involved in establishment of a General Hospital and in development of the Birmingham Dispensary to provide medicines and medical care to the poor. In 1794 he became High Sheriff of Staffordshire.

He was a lifelong Handel fan and promoted early music festivals to raise funds for the hospital and to enhance the tone of Birmingham's cultural life. His son noted that in many respects the Soho Manufactory doubled as an art school. Promising apprentices received tuition in drawing and were encouraged to attend plays and exhibitions to develop their artistic sensibilities.

In 1756 Boulton had married Mary Robinson, a distant cousin and heir to a large fortune. They had no children and she died in 1760. He subsequently married Mary's sister, Anne, despite this being perceived by the church as incestuous. He and Anne had a son, also called Matthew, who took over the business along with James Watt's son in about 1800. It was the mint of the two sons that struck the fourth issue reduced-size copper coinage of George III.

Matthew Boulton died on Aug. 18, 1809. As his legacy, he left us his coinage press able to rapidly strike coins of a uniform weight and size. These coins are the direct forebears of those we use today. His techniques remained in use around the world for many years. Along the way, he also developed a simple way of reeding and lettering edges to further frustrate forgers. The Royal Mint took a little while to adopt this latter proposal, 170 years in fact.

It was Boulton's steam-powered, pneumatic 5-inch screw coining presses that were purchased by the Heaton family in 1850 and used to establish the Birmingham Mint. I believe Matthew would have approved.

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