MECHANIZED COINAGE

A businessman and engineer in Birmingham, England, revolutionized manufacturing and minting with the steam engine.

Hello again! Winter is here, and it is a great time to reflect on our hobby. When the holidays are over and it's too cold to be outdoors, there is no better opportunity to study our little gems and think about how they were made.

Birmingham, England, became a center of the Industrial Revolution in the late 18th century, largely as a result of the efforts of Matthew Boulton and James Watt. An English manufacturer and engineer, Boulton (1728-1809) was a leading entrepreneur whose innovations in minting technology changed the world, earning him the title "Master of Modern Minting." James Watt (1736-1819) invented the first commercially successful steam engine, which became the cornerstone of the Industrial Revolution.

Watt and Boulton became partners in 1775. Over the following three decades, the new methods and inventions they introduced changed Great Britain and the world. Boulton's financial, administrative and marketing skills enabled Watt to improve on his steam engines, while Boulton sold them and also incorporated them in his own factories. Boulton eventually built the engines himself, adapting them for new applications beyond their original use in pumping water from coal mines.

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Boulton's Soho Manufactory became the largest industrial complex in the world. However, Britain's coinage was failing to keep pace with the times. Copper coins, the backbone of the local economy, were in short supply, and counterfeiting was rampant. So many fakes were in circulation that the Royal Mint stopped producing copper issues from 1775 to 1797, making the shortage even worse. As the Industrial Revolution took hold and more people began to work for wages in mines and factories, the demand for low-denomination coinage increased, com-

MATTHEW BOULTON BEGAN *striking coinage at his Soho Manufactory, pictured below, in the mid-1780s. This halfpenny (top) was struck by the British government in 1775, after which it stopped producing copper coinage for more than two decades. Boulton was contracted to resume production in 1797. This penny (bottom) was made with a steam press at his facility.* Not Actual Size

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pounding an already difficult situation.

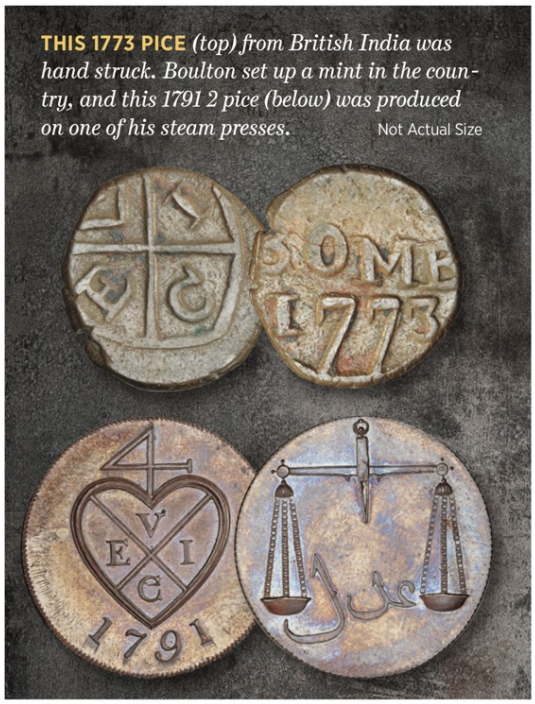
The main problem with producing small change was that it took the same amount of effort to create low-value copper coins as it did to strike higher-value silver and gold pieces. This was made worse by the fact that copper issues were needed in much larger numbers, and the Royal Mint did not have the machinery, manpower or incentive to produce sufficient small-denomination specimens. Because of their poor quality and low mintages, copper coins became heavily worn, making them easier to counterfeit and thus creating a Catch-22. Rather than assist its poorer citizens, the government preferred to use its limited resources to produce silver and gold coinage, which had the greater purchasing power it needed to support its own activities.

Workers needed to be paid in small change, and merchants needed these denominations for commerce, so businessmen began purchasing tokens to supplement the Royal Mint's coinage. These were supplied by private die-sinkers who made halfpenny-size tokens. Most of these businesses were located around Birmingham. The term "Birmingham coiners" became synonymous with counterfeiters because it was easy for die-sinkers to create unauthorized designs or copy the worn Royal Mint pieces.

In 1783 Boulton petitioned the British government to strike copper pieces to replace the circulating fakes and eliminate the need for merchant's tokens. He won his first government coinage contract in 1786. By 1789, he had eight steam presses operating at the new Soho Mint. Employing the latest minting techniques, it was the world's first mechanized coining facility to use steam engines. The result was coinage that was of higher quality and quicker and cheaper to produce than ever before.

THIS 1830 8 REALES *(top) was struck using a screw press in Guanajuato, Mexico. The mint received new equipment from England in 1831, and this 1833 piece (bottom) was produced using a Boulton steam press.* Not Actual Size

Boulton purchased state-of-the-art minting equipment and hired the most talented workmen, who made advancements in the machinery and techniques. In 1789 Boulton hired Jean-Pierre Droz (1746-1823) from the Paris Mint, which at the time was the most advanced coining operation in the world. Droz had worked in Paris to improve the minting process, inventing a better split collar for creating edge lettering and assisting in the development of an automatic planchet-feed and ejection system for manually operated screw presses. At Soho, Droz engraved dies and created new technologies for the steam-powered presses, especially the automatic systems that were critical to speeding up production rates. When he returned to the Paris Mint in 1799, Droz was replaced as chief engraver by Conrad Heinrich Küchler (1740-1810), who produced the dies for the British cartwheel pieces of 1797 while employed at the Soho Mint.



THIS 1773 PICE *(top) from British India was hand struck. Boulton set up a mint in the country, and this 1791 2 pice (below) was produced on one of his steam presses.* Not Actual Size

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Boulton made tremendous improvements in die-making, hubbing, blanking and striking at the Soho Mint. Beyond this, he was responsible for revolutionizing coin production worldwide through his sale of steam presses and by establishing complete mints in Russia, Mexico, Denmark, Spain and India. The Soho Mint also supplied blanks to other facilities, including more than 20 million to the U.S. Mint. In 1805 Boulton helped rebuild London's Tower Mint. His presses were used for more than seven decades—until 1882—a testament to their quality and his ingenuity.

Boulton improved coin-production technology more than any other person in history, permanently changing the look of issues and ensuring that high-quality, reliable coinage would be available to everyone—not just the rich.

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