

Moneying was restricted to guilds or mints which were authorized by the ruler to produce coins. They took raw metal (typically silver) and produced coins of particular weights and sizes, and with markings that generally identified both the reigning sovereign, and the moneyer that produced the coin. The value of the coin was not stamped on the coin itself – its weight in silver defined its value. In fact, people sometimes cut coins into pieces to make change (a practice used in the middle ages forward).

To mint coins using the hammered method, some basic tools were necessary.

- Hammers
- Shears
- Facilities for melting silver
- Scales
- Punches for engraving
- Files for shaping dies and punches

Engraving Tools

If you examine coins closely (like the example below), you can see that the patterns and words on the coin are made up of a relatively small number of simple shapes, like lines, arcs, triangles, dots, lozenges, and so on. Highly skilled engravers handled creating the portraits and other designs. These shapes are made by punches that create dents in the face of the die used to stamp the coin. Before creating coins, a moneyer has to create a set of punches that can create all the shapes and letters needed to make coin faces.



A basic punch set might include these shapes:



Dies

Coins were stamped between two dies, the top die (also called a trussel or hammer die) with the obverse (front) image, and a bottom die (also called a pile or anvil die) with the reverse (back) image. The diameter of the die matched the size of the coin to be made. For a Roman AE4 coin, the die would have been 14mm in diameter, while a Follis would have been 26mm in diameter. These dies were made from iron, and were rarely hardened since the die material was much harder than the coin material, the dies would last for a decent amount of time, even though they weren't hardened. A typical lower die might be able to produce 36,000 coins, while an upper die could produce 20,000. In period, dies were around 4" long, to give a person enough room to get a gloved hand around the top and bottom dies while the coin was struck.

To prepare dies for engraving, the moneyer wanted to get the face of the die as flat and square as was possible (by square, I mean at right angles to the axis of the die). The period way to do this was to run the die face along a file for a long time, checking and tuning the face as you go, until it's flat and square. Then the die face was polished in order to get smooth and shiny coins.

Engraving the Dies

The first thing to explain is that when dies were engraved everything was done in reverse! Everything createe on the die would appear in mirror-image on the coin (the term for this is that the die is engraved "in intaglio", meaning reversed). It was not uncommon in medieval coins to see mistakes made in this process – a letter reversed, for example.

A coin die (in the middle ages) generally started with a line of pellets (dots) around the outer perimeter of the die. These were imprinted on period coins to prevent people from trimming the outer edges off and reducing the value of the coin. The obverse face typically had a rendering of the king, and the king's name or some slogan, while the reverse identified the moneyer or mint that produced the coin. On Roman coins the obverse would have contained a likeness of the Emperor and an inscription with his name and any titles, while the reverse would depict any number of gods, depictions of battle and other pictures as well as further inscriptions to include mottos, mint, valuation marks and control marks.

Dies were engraved using a punch set and a hammer. The process was pretty straight forward, the engraver would place a punch on the die face, align it carefully, then tap it sharply with a lightweight hammer to get a good clean imprint. This was repeated until the desired design was finished. They would then do the same to the bottom die.

Making Flans

A flan was a blank disk of metal that would be struck to make a coin. In period, silver or gold (the ancient romans also use copper) was melted down, poured out into molds and hammered into sheets of a measured thickness, then cut into circles (flans) with shears. The flans were weighed, and any that were under-weight were melted down again and the process was repeated until a supply of accurately weighted flans had been produced. For high-value coins (like those made from gold), the flans would have been made intentionally too heavy, then after the coins were struck, they would be filed or trimmed to the exact weight, which allowed the final appearance of the coin to be adjusted before it left the mint.

Strking Coins

When striking the coins, an anvil or large stump/block of wood with a hole drilled into it would have been used to aid in the process. One of the dies would have been placed inside of the hole, face-up. A flan would have then been placed on the bottom die, with the top die being placed face-down on the flan. The mint worker would then wrap one hand around the dies in order to hold the top die vertical and keep the dies centered on the flan. Finally, either the worker or an assistant would strike the top die sharply with a sledgehammer, and thus a coin was produced. It is estimated that a typical lower die might be able to produce 36,000 coins, while an upper die could produce 20,000.

References

Coffman, James, The Moneyers Handbook, Self-published, Reprint 2005.

Hammered Coinage, http://en.wikipedia.org/wiki/Hammered_coinage

Zander H. Klawans, Handbook of Ancient Greek and Roman Coins, Printed 2003