

This cover illustration portrays a mid-eighteenth century brassworks in France and shows techniques very briefly described by Joseph Harris in his Journal after a visit to Baptist Mills brassworks on the outskirts of Bristol (see pages 8-12).

At the rear of the scene, each one of the three frames consists of a pair of massive stones held apart by iron spacing bars placed at their extremities. This formed the required cavity for use as a mould in which to cast plate brass. The whole assembly was securely clamped and then hoisted to a suitable angle enabling the molten metal to be poured.

The metal for this purpose was produced in furnaces beneath the circular tops or 'mouths', shown at A, B and C. These were the only working accesses to the three chambers behind the darkened wall above Figure 7. A section through three furnaces from a different French source of illustrations can be seen on page 9 of this Journal. The ducts shown below Figure 7 gave access, from the ashpit below the pierced baseplate of the furnace, to an air supply from the exterior of the building. This facilitated a through draught which could be controlled by the amount of opening left at the furnace mouth.

The furnace chamber contained a number of crucibles, Diderot mentioned eight when annotating this drawing but Joseph Harris saw seven in the Baptist Mills furnaces. They contained the raw materials of brassmaking, the copper, zinc ore and charcoal, but the form in which they were used showed important differences between Baptist Mills and the Continent by the time of Harris's visit. The zinc ore, calamine is indicated in this drawing on the far right, outside the 'building', where it is being calcined in heaps, T. These were left smouldering for 8-12 hours, reducing the zinc carbonate to an oxide which could then be used for brassmaking. On Mendip this was carried out in wood-fired reverberatory furnaces.

The illustration is Plate 142 from a *Diderot Pictorial Encyclopaedia of Trades and Industry*, edited by C C Gillispie, published by Dover in 1959 and consisting of 485 plates from *L'Encyclopédie ou Dictionnaire Raisonné des Sciences des Arts et Métiers* compiled by Denis Diderot in 1763.

