

Tin-working on Dartmoor (2)

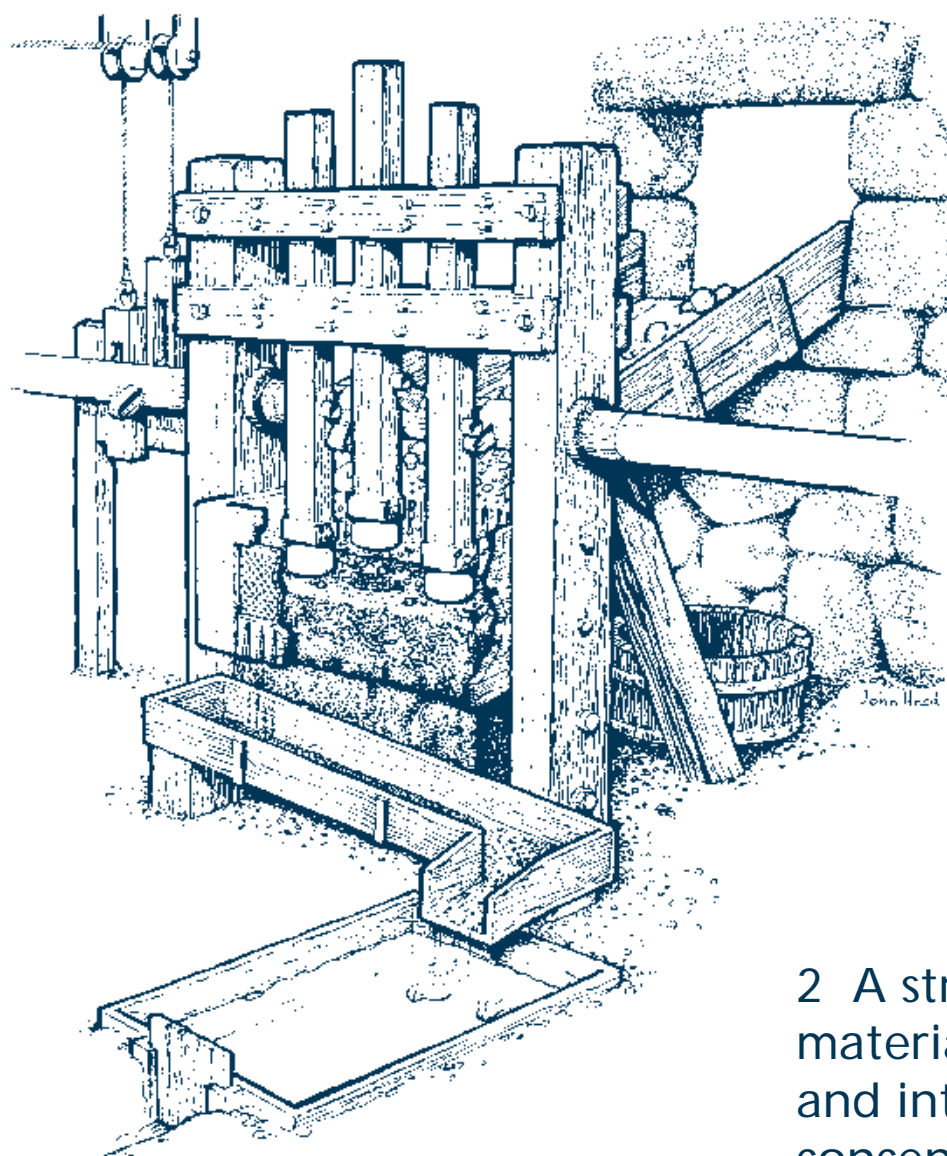


Dartmoor Poster

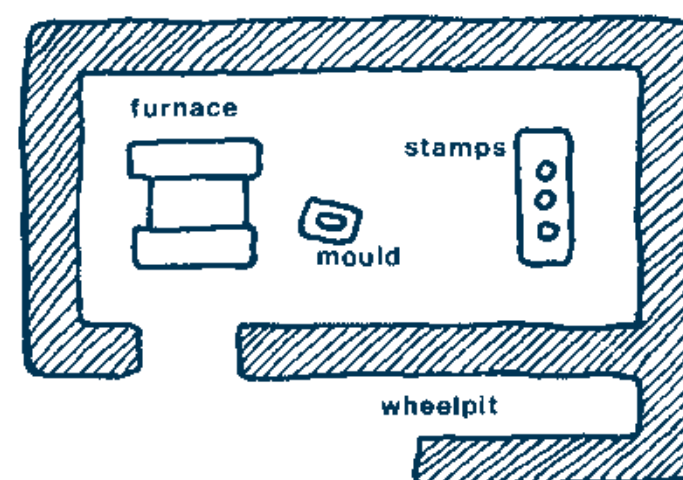
Shown here are the water-powered stamping machinery and bellows for a blast furnace inside a tinner's mill of about AD 1600.

Within the National Park about 40 mills of this period have some structure surviving although most are in a very ruined state. Many are in remote areas of the moor. Care should be taken not to damage any walls or to disturb any mortarstones or mouldstones lying around.

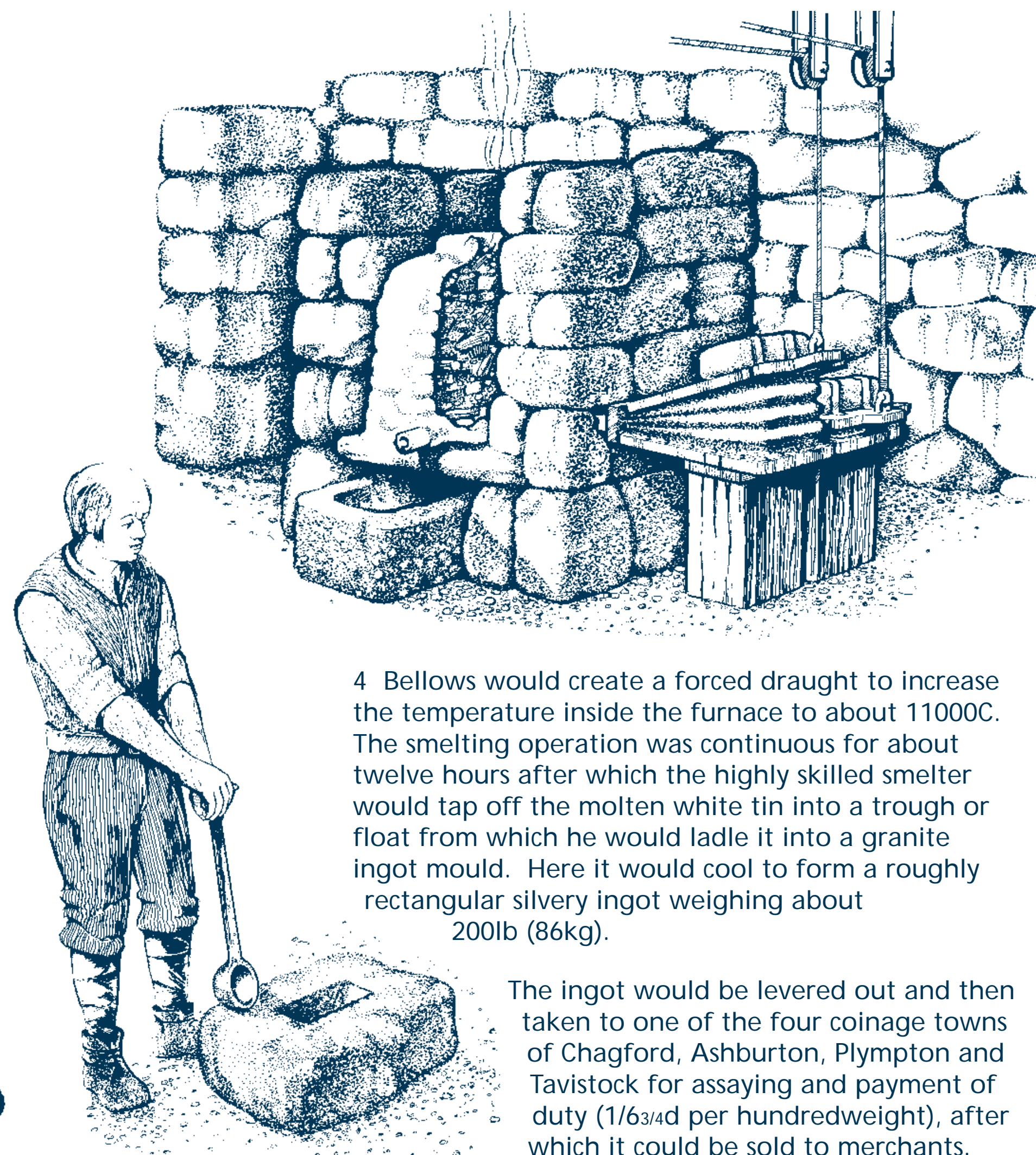
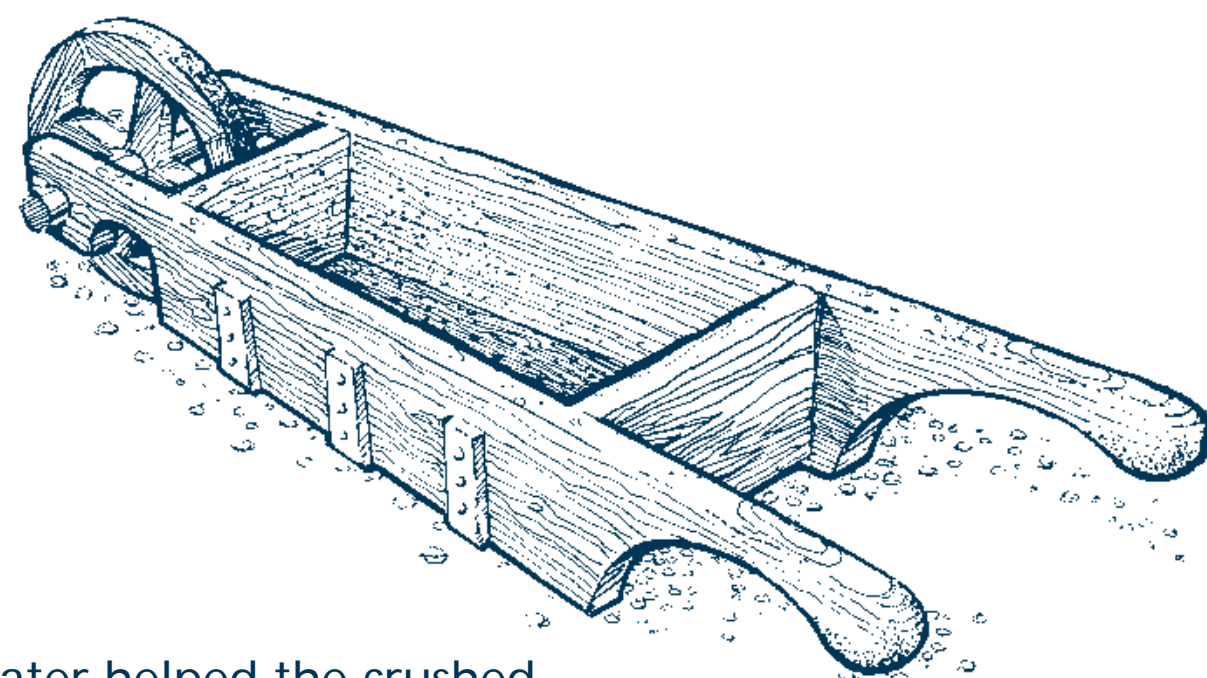
1 The rock brought from the tinwork was first fed under the stamps. Three stamps are shown here falling on to a granite mortarstone. The stamps were raised and dropped by the rotating action of the extended axle of a waterwheel. The stamp heads were probably of iron and these crushed the ore-bearing rock to a fine sand (they also slowly wore away the top surface of the mortarstone, creating characteristic smooth cup-like hollows).



2 A stream of water helped the crushed material pass through a grate (perforated screen) and into a settling pit or buddle where the first concentration of the tin would take place.



3 After numerous further settling processes the fine black tin would be ready for smelting in the blast furnace. The furnace surround was a substantial structure free-standing within the mill. The actual furnace was of lighter construction and probably sealed with clay. The unsmelted tin would be packed inside with layers of peat charcoal and then lit.



4 Bellows would create a forced draught to increase the temperature inside the furnace to about 11000C. The smelting operation was continuous for about twelve hours after which the highly skilled smelter would tap off the molten white tin into a trough or float from which he would ladle it into a granite ingot mould. Here it would cool to form a roughly rectangular silvery ingot weighing about 200lb (86kg).

The ingot would be levered out and then taken to one of the four coinage towns of Chagford, Ashburton, Plympton and Tavistock for assaying and payment of duty (1/63/4d per hundredweight), after which it could be sold to merchants.

For further information, and a list of other Dartmoor Posters and Fact Sheets available, contact the:
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