



## CHARCOAL

Charcoal is a black porous substance with a high carbon content made by heating wood out of contact with air. At a time when no other fuel was available to reach temperatures required for smelting it was vital for the production of iron, glass, lime and gunpowder, as well as armour, weapons, horseshoes, tools and household goods.

The production of charcoal is one of the oldest crafts, going back at least 5,500 years, the first true chemical process.

With its association with lime burning, the iron industry and the production of gunpowder the Tandridge area depended heavily on the charcoal burner.

Because of the nature of the industry no material evidence can be found but maps, sales details, the apportionments which accompany the tithe map and trade directories can give clues. Names to look for are Colliers, Coleman (and variations such as Colman, Coalman, Collman etc.). Also 'furze'.

Around Lingfield the current Ordnance Survey map shows a Colliers Wood to the west of the road from Lingfield to Felcourt and the tithe map shows a Colliers Field and Little Colliers Field to the left of the track leading west opposite Jacksbridge. Around Dryhill there are various Furzewoods and a map of 1739 shows two Coleman fields at Chellows Farm.

### **The Burner's Life**

The craft was often carried out by families and in some parts of the country was seasonal, from April to November, in some places only in the summer and autumn. The wood was always cut in the winter when the sap was lowest.

Life revolved around the kiln which had to be watched constantly, any admission of air ruining the work of some two weeks. The burners generally lived in turf-covered huts on site. Families were raised in such huts.

There were different levels of skills and commercial competence. Some burners were nomadic, hiring themselves out to woodland owners or fuel merchants. Some were more settled, only operating in specific areas and hiring labourers themselves - i.e. 'master' burners, perhaps living in cottages with wives and children carrying food to the sites.

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It is difficult to establish a clear picture of wages but in the 14<sup>th</sup> century Crown employed burners were paid 3d per day. In the years before the First World War a burner could earn 20/- to 30/- per week, just below that earned by a blacksmith. In Nottingham in 1750 “3/- per dozen” was paid to a jobbing burner (possibly refers to standard sacks).

### **The Traditional Forest Kiln**

Kilns had to be built with care, the knowledge being passed down the generations.

The hearth, or floor, had to be level. Uniform combustion depended partly on air rising from the soil so animal burrows had to be avoided. Light, loamy soil was preferred as this was warm and would absorb moisture and the tarry liquids. Clay was cold and would lengthen the time to burn. Choice of wood was also important. Beech, oak, hornbeam and ash were preferred, but for the production of gunpowder alder, willow and blackthorn gave the best results. If there was no natural protection from wind a break had to be constructed of lattices, wood, bracken and sacking.

The wood for burning was cut into lengths of 3-4 feet (1-1.25m) and any thicker than 6 inches (150mm) were split. It was then stacked to dry for at least 6 months. Finally it was placed in a wide circle round the site of the kiln, roughly graded and heaps made of branches, grass, straw, bracken (furze) and finely sieved earth.

The centre of the kiln was marked with a peg and string tied to this to mark out the circumference. The kiln had to remain stable during the burn when the wood would shrink and the heap subside. The chimney was made in various forms and the wood stacked around the flue. The collected litter was then spread over the wood to stop the earth cover falling in, and then the earth was spread evenly over with a space left at the bottom to let air in until the burn was established.

A fire of scrap wood and charcoal from a previous burn was made and when this was a glowing mass it was shovelled into buckets and poured down the chimney, which was left open for 3-4 hours (or longer if the wood was too green) to make certain the kiln was well alight.

When damp patches appeared, showing that combustion was proceeding and that the remaining moisture was being driven out of the wood, the top of the chimney was closed with grass sods and the base sealed. Holes were punched in a circle below the cap. To draw the fire outwards and downwards holes would be made lower down, the previous ones being sealed, as the changing colours of the vapours showed the progress of the carbonisation, white, turning darker, finally hazy blue.

The kiln would gradually subside to about a third of its original size and the burner had to be ready to repair the earth surface. An experienced burner would also judge the progress by the smell of the smoke.

When burning was complete a small area of earth was removed and 2-3 buckets of water poured in and the earth replaced, perhaps done in 7-8 sections. The steam quenched the charcoal. More earth was put on, patted down, to exclude air and the kiln left to cool for at least half a day.

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When the kiln was opened the charcoal was sieved to remove earth and dust and unburned pieces were put aside to start the next kiln.

### **The Burner's Hut**

Huts were built close to the site, with the door facing the kiln. It could contain a 'fireplace', doorways were usually curtains of sacking. Beds were built on poles lengthways, fixed with stakes driven into the ground, covered with brushwood and straw-filled sacks. On more permanent sites there could be a table and outside an oven made from a metal drum lagged with turf and with a metal plate as a door. The huts were reasonably weatherproof and warm but could let in rain.

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#### Sources:

*Woodcolliers and Charcoal Burning* - Lyn Armstrong

*Charcoal and Charcoal Burning* - D W Kelly

Various maps and documents at the Lingfield Library and Surrey History Centre, Woking