



**Hawley  
Collection**  
@ Kelham Island Museum

## **HAWLEY COLLECTION SHORT GUIDES TO SHEFFIELD TRADES**

### **TOOLS OF THE TRADE**

#### **File Trade**

**file cutter/ file cutter's lad / file cutter outworker/ file forger/ file forger's lad/ file grinder/ file hardener/ file maker/ file manager/ file smith**

##### **Overview of the trade**

**File Makers:** created files (metal cutting tools) which were used to remove excess material from metal, wood and other materials. In the past, before mechanisation and the development of interchangeable parts, files and filing were very important in the construction of mechanisms from watch making to heavy engineering. Component parts were roughly shaped by forging or casting, or machined to an approximate size, and were then carefully filed to fit one another. The files were made in a number of stages, frequently with each stage being carried out by a different person. Files were made in sizes from 3 inch (7½ cms) to 24 inch (60 cms) long excluding the tang (handle). They were made in any length and in many shapes, the most common being Flat, Square, Round, Half Round and Three Square (triangular). They were also made in various cuts including Coarse (Bastard cut) for removing a lot of material, Medium (Second cut) for finer work and Fine (Smooth cut) for fine, accurate work. Combining these variations allowed a file maker to produce a huge range of files to suit all needs.

File cutting by hand declined in Sheffield after the introduction of file-cutting machines around 1860 and had been almost entirely replaced by machine-cut files by the end of World War II. The last hand file cutter in Sheffield finished working around 1960 and the entire Sheffield file industry had collapsed by 1990.

##### **The people, the work, the tools**

**The File Forger:** hand forged file blanks (the starting shape) from steel rods of about 8 – 10 ft (2.5 – 3.5 m) lengths, which were carried from the steel works to the file workshop on the shoulder of the **File Forger's Lad**. The file forger used a **forging hammer** and a **boss** (a suitably shaped groove in a steel block) wedged into a **gate** (slot) in an anvil. The blanks were then annealed (softened) and ground (smoothed).

**The File Grinder:** ground the file blanks to remove blemishes.

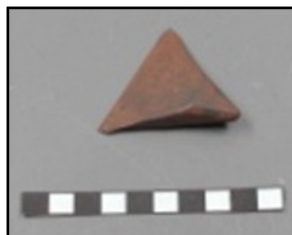
**The File Cutter's Lad:** File Cutters generally worked as **outworkers** for larger firms. Their **Lad** would collect the ground blanks from the file forgers and return the cut ones to him when collecting the next load. The Lad (or sometimes the File Cutter's wife or daughters) stripped (made flat) the blanks ready for cutting.

**The File Cutter:** placed the blank on a piece of **lead** and laid it on a '**stiddy**' (an anvil with leather stirrups, set in a wooden or sandstone block or **stock**, bedded in fresh horse manure which cushioned the blows and helped prevent the file cutter from getting file cutter's elbow). A **file cutting chisel** was held between thumb and two fingers, placed on top of the file and struck with a **file cutting hammer**, cutting a tooth (line) into the blank. This was repeated hundreds of times to create the cut surface of the file. The weight of the hammer was crucial as little or no force was used on the downward blow, the hammer being lifted to a consistent height and dropped onto the chisel head. File cutters needed a comprehensive range of hammer sizes from 2oz to 8lb, as well as being able to achieve consistency of cut over a long working shift. The file cutter's foot in the leather stirrups of the **stiddy** held the blank securely whilst being cut. After approximately 2 inches (5cms) of the blank had been cut, the blank was moved forward to the 'start' position again by loosening the pressure on the stirrup and tightening it again. The file was then turned over to cut the reverse side, the piece of soft lead protecting the cut side from being damaged. (Death from lead poisoning was common – symptoms included blue lines around the gums, grey skin and stomach complaints). One end of the file, the tang, was left uncut and the handle was eventually attached to this. The cut file was then hardened and tempered (by being heated to a high temperature and then rapidly cooled in oil), scoured (cleaned), proved (tested), oiled (to prevent rusting) and wrapped in acid free paper (to prevent them rubbing together) and tied with string ready for sale. File cutters in Sheffield were called 'nicker peckers' because the sound of the rhythm of their hammering sounded like woodpeckers.

### File forger's tools



File forging hammer; boss for forming a three square file blank; a flat and a three square file blank



**File cutter's tools:** file cutting hammer; file cutting chisel



**A file forger at work**



**Men and women file cutters at work**

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