



**Hawley
Collection**
@ Kelham Island Museum

HAWLEY COLLECTION SHORT GUIDES TO SHEFFIELD TRADES

TOOLS OF THE TRADE

Silver, Hollowware, E.P.N.S* Trade

*Electro Plated Nickel Silver

Silversmith, Brazier, Engraver, Chaser, Saw-Piercer, Spinner
Associated Trades: Die Sinker, Silver Wire Drawer, Burnisher, Buffer,
Silver Caster, Model Maker, Designer

Overview of the trade

A **Silversmith** makes objects from precious metals, turning sheet metal into **hollowware** e.g. dishes, bowls, cups, vases, candlesticks, trays and other articles of household silver. Silversmiths use hammers to form or shape the metal and may also cast small pieces in moulds, e.g. knobs, feet, handles, which they then solder onto the body of a piece.

Stamping and rolling are machine processes; dies or moulds are used in machines to shape and stamp out decorated and undecorated pieces. The quality of the stamped piece relies on the skill of the die sinker who cuts the die, and the stamper operating the machine. This method allows **flatware** – forks, spoons, knife handles, and hollowware to be produced cheaply in large numbers.

Snarling is the raising of a design from the inside of a cylinder of silver or E.P.N.S., e.g. a candlestick stem.

Spinning is a method of shaping bowls, cups etc. in large numbers.

Silverware can be decorated in several ways: chasing or repoussé work (chasing in high relief), saw-piercing, engraving, applied relief decoration. Chasing, repoussé and saw-piercing are highly skilled and labour intensive so were reserved for more expensive items. **Engraving, saw-piercing and applied relief decoration** are carried out on the finished raised piece, whereas **chasing or repoussé**, as methods of making indents or relief patterns directly into the metal, are carried out as part of a piece's manufacture.

The people, the work, the tools

Silversmith: Highly-skilled silversmiths can make a bowl or teapot from a flat sheet of silver by placing it over a cast iron stake or head, forming and compressing the metal into a hollow form using a **raising hammer**. This **raising** process is the purest form of silversmithing. A **planishing hammer** with a highly polished steel face cushioned and wired in place on the hammer head may then be used to smooth the surface. For **snarling** (raising within a cylinder of metal) the piece is held over a **snarling iron** (a piece of steel with one end bent upward and shaped) and when a hammer is struck onto the iron, the vibration makes a corresponding mark in the piece.

Silver Spinner: shapes silver or metal on a wooden chuck attached to a lathe. The chuck is carved to give the desired shape for the pieces to be produced.

Silver Chaser: places the basic article in pitch or over a ball of **pitch** then uses **punches** and **chasing hammers** to make larger and larger indents and finally the desired decoration or shape **embossed** into the surface of the piece. **Repousse work** uses the same tools and technique but from the opposite side or reverse of the piece.

Silver Engraver: Designs for engraving are drawn on paper which is then attached to the piece and the main features are marked out with pin holes and dusted with chalk. The silver engraver draws the pattern into the surface of a piece and uses tools to cut away the silver following the design. The basic tools are the **graver** to make a single cutting line, the **spotter** to produce large spots, the **wiggler** with a square edge to make zig-zag lines, the **pecker** to make two parallel wavy lines and the **threader** to make a series of fine parallel lines, like shading in an illustration. They consist of a 100mm/4 inch lengths of hardened steel of various thicknesses sharpened obliquely, at an angle, at the cutting end. The blade is attached to a small handle shaped like a mushroom head which is held in the palm of the hand with the blade between the fingers, like holding a pen.

Saw Piercers: produced intricate filigree pieces. From an original drawing a design was cut into a brass sheet which became the master pattern or 'scale' and this was inked and transferred to the silver piece using a piece of tissue paper glued in place. The piece was then pierced with punches or drills at intervals on the design and a **saw** blade could then be threaded through the holes to cut out the desired shapes. Machine punch-piercing replaced saw-piercing except for the most expensive pieces.

Burnisher: Finished pieces of silverware were '**burnished**' with steel tools to close the pores and smooth the surface of the silver and polished with rouge or after c. 1910 '**buffed**' on a series of rotary wheels of leather or cloth.



Stages of forging a spoon

Sterling silver

1st Heat

2nd Heat

3rd Cold forged

4 Rat tail drop stamp cold

5 Bowed by drop stamp, bent & filed



**Repousse work
on a finished silver tray**



Raising a bowl



**Piercing saw, planishing hammer and
raising hammer,
from Hawley Collection**

**Saw Piercing - photograph from
Hawley Collection**



**Burnishing tools from
James Dixons & Sons
in the Hawley Collection**



Did you know?

Pitch

The pitch used by chasers is a mixture of pure pitch, a filler (or stiffener), and an emollient (softening medium). Here is an example of a recipe:

16 parts [pitch](#)

20 parts plaster of Paris

4 parts [resin](#)

1 part [tallow](#)

The pitch is heated until molten. Plaster of Paris is added a small amount at a time. Resin and tallow are then mixed in.

There were different strengths of pitch for Winter and Summer to account for differences in temperature.

Information from: Ken Hawley and The Hawley Collection at Kelham Island Museum, Sheffield, June 2011

For further information see: 'Sheffield Craftsmanship – Decorating Metal', 1996, Joan Unwin, Ken Hawley, Chris Ball.