



**Hawley  
Collection**  
@ Kelham Island Museum

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

### **TOOLS OF THE TRADE**

#### **Coopering Trade**

**White Cooper, Dry Cooper, Bobber, Wet cooper, Tight cooper, Dry-tight cooper, Master Cooper; hooper; rush gatherer**

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

A **cooper** is a maker and repairer of casks made from wood. Today most wooden casks are made with the aid of machines but until the 1950s hand making and repairing casks was a highly skilled, physically demanding job and had a seven year apprenticeship.

There are four main types of cooper depending on the type of casks made:

- **White Cooper** – made straight-sided open casks to hold water, milk, butter, cheese, coal
- **Dry Cooper (or 'Bobber')** – made casks for dry goods e.g. tools, fruit, vegetables, seeds
- **Wet (or 'Tight') Cooper** – made casks for long term storage of liquids under pressure e.g. beer, wine, spirits
- **Dry-Tight Cooper** – made casks for goods where moisture/air needed to be kept out e.g. flour, gunpowder, fish, tar, oils

The **village cooper** was usually a White Cooper doing maybe a little wet-tight work. In the cities coopers specialised, making casks for specific purposes varying in different parts of the country, e.g. for breweries (who often employed their own coopers), fishing industry (herring, whale meat), gunpowder, rum and provisions (for the Navy), slave trade and smuggling! The Navy employed its own coopers on its ships - at the beginning of the 19thC a Master Cooper in the Navy earned £2 5s 6d a month.

##### **Ancillary Trades**

**Hooper** – made hoops for coopers out of hazel

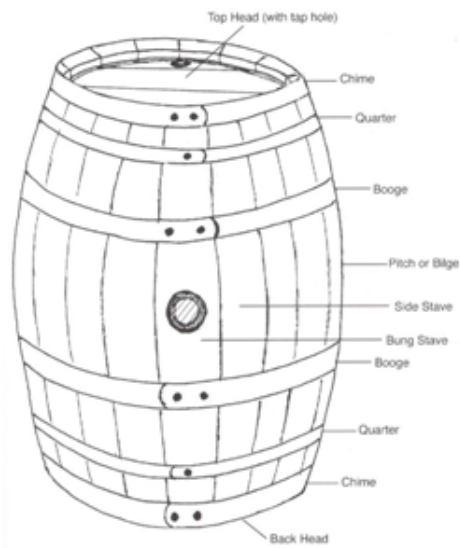
**Rush Gatherers** – cut and gathered rushes which were placed in the joints in a cask.

## The people, the work, the tools

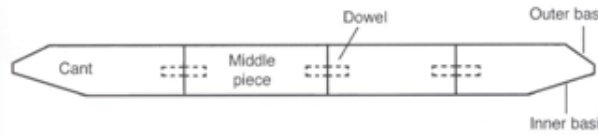
**The cooper:** first roughly cuts the staves using an **axe** then hollows them using a **long knife or crumming knife**. The staves are joined on a **jointer** and when enough staves are ready they are raised up or placed inside a hoop for the correct capacity of cask. Then a process of applying the hoops and shaping the cask over heat or steam begins using a **trussing adze** to hammer on the hoops. Once the cask is shaped it is 'chimed' - the ends of the staves or chimes are shaped using an **adze** and smoothed with a **topping plane**. The cooper then uses a **chiv** to give a perfect curve to the inside of the chime ready for the groove to be cut for the head of the cask with a **croze**. When both ends of the cask have been chimed and the chime hoops have been applied, the capacity is checked and the inside of the cask is smoothed with an **inside shave or roundshave**. The permanent metal hoops for the cask are then prepared, with rivets hammered in on a **bick iron (cooper's anvil)**. The radius of the heads for each cask are measured and made by joining timber with dowel, using a **dowelling stock** to bore the holes for the dowel. Both sides of the head are shaved with a **swift** and a **bow saw** used to cut it to size. The edges are then shaped to fit in the groove with a **heading knife or drawshave**. Once both heads are in place a **buzz** is used to smooth the outside of the cask and the metal hoops are driven into their final positions using a **hammer and driver**. The bung-holes or tapholes are made using a **tapered auger**.



Coopers' tools from the Hawley Collection  
(L to R) Top: reverse two-handed crumming knife  
Bottom: axe, roundshave, crumming knife



*The wooden cask and its parts.*



*A section through a head.*



Sawing the head with a bowsaw



Chiming the cask with an adze

### DID YOU KNOW?

A barrel is just one size of cask. Casks are named according to the amount they hold:

Pin - 4.5 gallons

Firkin - 9 gallons

Kilderkin - 18 gallons

Barrel - 36 gallons

Hogshead - 54 gallons

Puncheon - 72 gallons

Butt - 108 gallons (2 x Butt = 1 tun)

**Information from:** Ken Hawley and The Hawley Collection at Kelham Island Museum, Sheffield, June 2011. Photographs courtesy of Shire Publications.

**Further information:**

'Coopers and Coopering' by Ken Kilby, 2004, Shire Publications Ltd.

'Making A Barrel' by John Boakes, Smith Settle Ltd.