



Shipwright's Tools

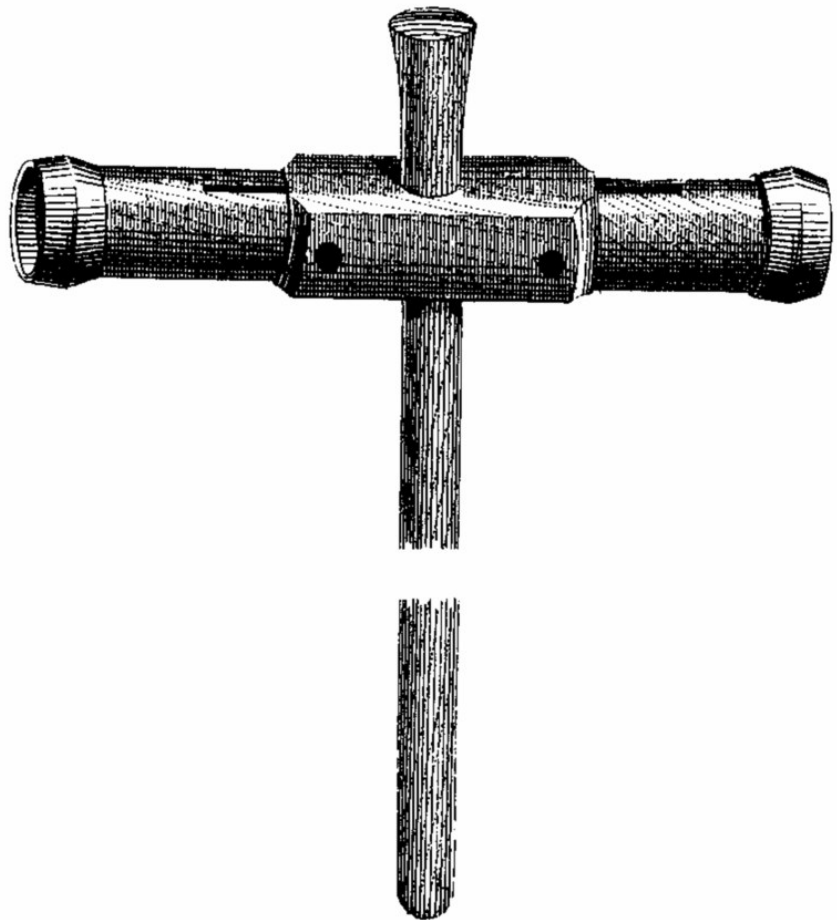
A second article on shipwright's tools, this time by MHA member from Darwin, Tony Duvollet. Tony is a shipwright and lives aboard his yacht.

Caulking Mallet & Irons

The tools of trade used by traditional shipwrights and boatbuilders are as varied and unique as some of the tradesmen. Most are used by other trades such as carpenters, joiners, cabinetmakers, coffin makers, etc. But some are unique and peculiar to boatbuilding. Some handed down from generation to generation. Always a source of pride. Many shipwrights developed or adapted tools to suit a particular purpose. I am still of that habit. Probably the most unique and distinctive symbol of the trade is the Caulking Mallet and Irons. The best irons were crafted by blacksmiths to the shipwright's specifications. Some were mass-produced in the UK. But the mallet was always custom made. In Australia the mallets were turned on a lathe in ironbark, spotted gum, river gum, jarrah, etc., but the best were made of the Amazon rainforest timber *lignum vite*. A timber so hard and heavy it was used for bushes and bearings and sold by weight, including the offcuts. Enduring generations in Europe, they tended to crumble in the dry heat in Australia.

The actual mallet head was about 18ins long (that's 450mm for those that are not bi-lingual), 2ins (50mm) diameter at the ends. The mid-section was rectangular in cross-section through which passed the handle. This handle was removable for easy transport and generally secured with a small wedge. Such are the forces imposed on the face of the mallet, and to add weight, that the ends are reinforced with boiler-tube ferrules. Boiler-tube is extruded seamless and unlike standard tube, will not split under pressure. Additional reinforcing was given by copper through-fastenings, roved and riveted, through the mid-section, either side of the handle. Between the boiler-tube ferrules and the

mid-section a slot was cut into each barrel, with a hole, double the width of the slot, at each end, to prevent splitting. As a naive and gullible apprentice (I did go looking in the store for a left-handed screwdriver, but I never fell for the can of striped paint trick, honest) I was told that these slots were to make the mallet whistle. But 40 years on, and hopefully, a tad wiser, I now know that they were



there to give 'spring' to take up the jarring effect of constantly striking a steel iron. This also gives 'bounce' or recoil, springing the mallet back for the next blow.

The irons were made in many shapes and sizes, with many adaptations but all with the same aim. To feed-in the caulking material, be it either oakum or cotton into the seam and then tamp it home hard. Basically there were three types of iron.
Making.
Setting.



Bent.

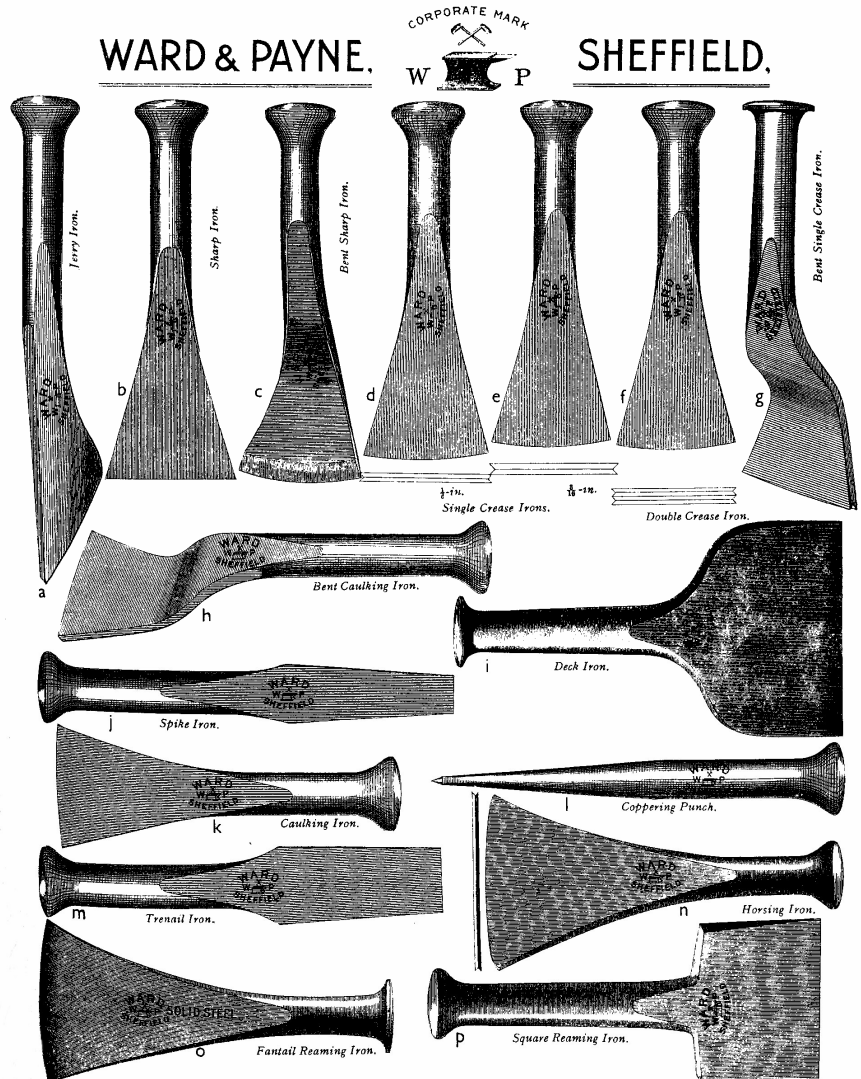
The making iron was about 6 to 7ins (150 to 175mm) long, as indeed were the other irons, rounded head, a fine narrow neck tapering outwards to a wide 3ins (75mm) feather-edged slightly curved blade. This was used for feeding oakum or cotton into the seam in a series of loops, loose or tight according to the thickness and depth of the seam. The setting irons were similar in shape to the making iron except instead of a feather-edge, they finished in various thicknesses to suit varying seam widths. A concave groove was filed into the curved edge. This allowed the caulking material to be tamped home hard forming horizontal 'beads'.

The bent irons were simply a set of making and setting irons bent either into an 's' to suit caulking the seam alongside a hatch coaming or cabin side or bent into a curve to enable caulking those awkward angled seams on the garboard. Narrower bladed making and setting irons were used in the seams of butt joints, stealers and the joggles in scarf joints.

Cleaning-out old seams was done with an iron similar to a bricklayers chasing tool. Some shipwrights would bend the tang of an old file at right-angles then file or grind the end to a triangular point, also with the aim of cleaning-out old seams.

Beetling or hawsing mallet and irons. The mallet was similar in shape to a croquet mallet but much larger, requiring two hands to swing. Beetling irons, again similar in shape to ordinary making irons but larger and fitted with steel-rod handle, similar to those handles used by blacksmiths. These were used on caulking the larger timber vessels. Oakum was fed lightly into the seam then housed (hawsed) home; one man on the mallet, another handling the iron. Must have required quite a degree of cooperation. Although the tools were in the store shed where I served my time, I never saw them in use.

As with most tools, balance is very important. Even more so with caulking mallets and irons, for you have to be comfortable to be able to caulk all day. The use of a brick bolster would make the old Caulkers turn in their graves and I shudder and have to walk away when I see it happening. No style, no finesse. Not good form. The use of these unique tools has declined with the advent of Bondwood, strip-planking, and, dare I say it, plastic, steel and Ferro. But they can never be replaced by power tools. I suppose the closest they came to mechanical caulking is when they used to 'caulk'



the overlapping plates of riveted ships with air-driven tools.