

floorboard swells with moisture the brass strips either side of the foot rest can jam on the floorboard. The angle of the face of the foot rest needs to be arrived at by sitting in the boat and trying a mock up. I used 23° from the vertical. The critical bit is the gap between the bottom rear corner of the footrest and the brass bar: if it's too small, the footrest will jam and resist being moved; too great and it will not lock.

When sailing, the footrests can be slid under the thwart and out of the way. I used some lumps of elm and $\frac{3}{8} \times \frac{1}{8}$ " (10mm x 3mm) brass strip and $\frac{1}{4}$ " (6mm) diameter brass rod. The flat strip is drilled and screwed to the sides of the elm block. The brass rod is a tight fit in holes at the end of the strip and held in place with Loctite 601 retainer, avoiding the need to use solder and making assembly easier.

Adrian Noyes' improved steam box

Do you have a decent steamer? By which I mean a device for steaming timber, not a large merchant vessel. I started off with the usual piece of cast iron downpipe with a fire under it, just about sufficient to bend in a few doublers, provided that the wind didn't blow the heat away or the fire out. Such is the optimism of youth.

There then followed, in consequence of a big rebuild, a massive affair powered by a firetube boiler which had once driven a small steam engine. It leaked, and was patched up with fireclay but it produced huge amounts of steam, provided there was a full-time fireman who also had to carry the water to it in buckets. That the vast steam box leaked badly was not a problem with so much steam on tap and the device reminded me of the Paddington Station of my childhood.

Small boat building in my present premises required something more compact: a modest box supplied by what had been a domestic hot water cylinder, heated by a gas burner. The box degenerated quite quickly, leaking steam and hot water inside the workshop. The cylinder was too big, took ages to raise steam and consumed a great deal of gas, which had become expensive. Leaking steam condensed under the tin roof, dripping on to teak and mahogany which would eventually have a varnish finish. The time had come to give this proper thought with a view to creating something much more efficient.

The resulting set-up consists of an airtight 10' (3m) long box of best quality marine ply, glued and screwed together, insulated with polystyrene sheet. There is a lightweight extension which plugs into the mouth – giving extra length for gunwales and suchlike – supported by a bracket on the shed frame. The door is hinged in an 'over centre' fashion: it remains open when fully raised and otherwise is self-closing once a timber is clear of the mouth. The whole thing is bracketed to the wall at a 1:10 incline which causes the steam to escape toward the door and the condensate to flow to the back of the box, returning to the boiler via the feed pipe. Thus, there is pre-heated feed water!

The boiler started life as a rather dumpy cylinder of obsolescent pattern. I cut a 4" (100mm) diameter hole in the bottom and welded in a capped tube nearly the full height of the cylinder to make a hot spot in the steam space, in the hope of 'superheating' the steam. Feed water is from a small tank

normally used as a central heating header, supplied via a valve, a 'T' to receive the condensate and another for a draincock discharging outside. The boiler, supported on a fabricated frame, is lagged with roof insulation retained by wire mesh. A finely controllable industrial burner provides the heat.

In action, this set-up is a great success. Having spent countless hours over many years, doing battle with junk systems, being able to concentrate on bending timber rather tending the steamer is no bad thing. Raising steam takes just 10 minutes at full throttle and the box is hot and ready for loading in 25, which makes it a quick start. As I tend to begin a bending job first thing in the morning, my usual practice is to light up a low flame and then have breakfast, by which time the whole thing is heated through with a small gas usage. Due to the effective lagging, there is very little heat loss and with most of the feedwater being recycled, the boiler only needs a manual top-up every hour. Once running, only a low flame is needed to provide a steady throughput of steam. This steamer has been in use for 6 years, with no sign of deterioration other than quite a lot of rust in the feed tank and drain off water. Clearly, the boiler is going the way of all things. I have considered adding glycol or heating system inhibitor to the water but am concerned that this may do no good to the timber being steamed. Can anyone out there advise me? And maybe the steam is somewhat superheated, for it is none too visible and fabric-lined industrial rubber gloves are no defence against it.

The burner makes a syncopated rumbling sound, as they do and if set too high, the excess steam pressure causes the door to flap gently giving off steady puffs of steam. Thus, it is known as the Dragon. When 'alive', my granddaughter sensibly refuses to go anywhere near it.

