

STEAM BENDING & LAMINATING TIMBER

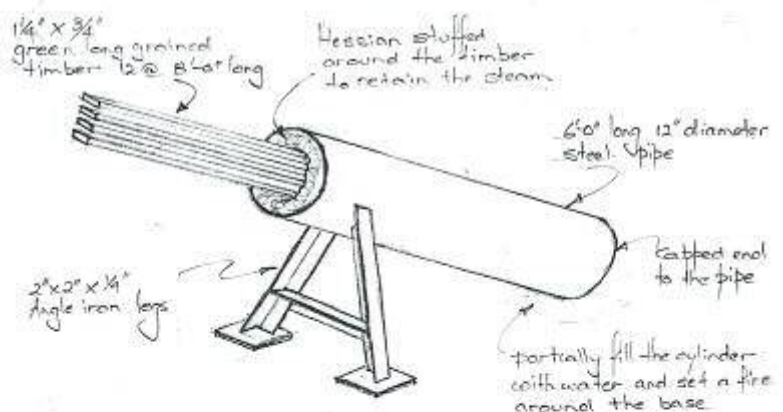
Steam Bending Timber

When my father built caravans (Broadway) in the 50s, he steam bent the corner timbers and I often helped him do this.

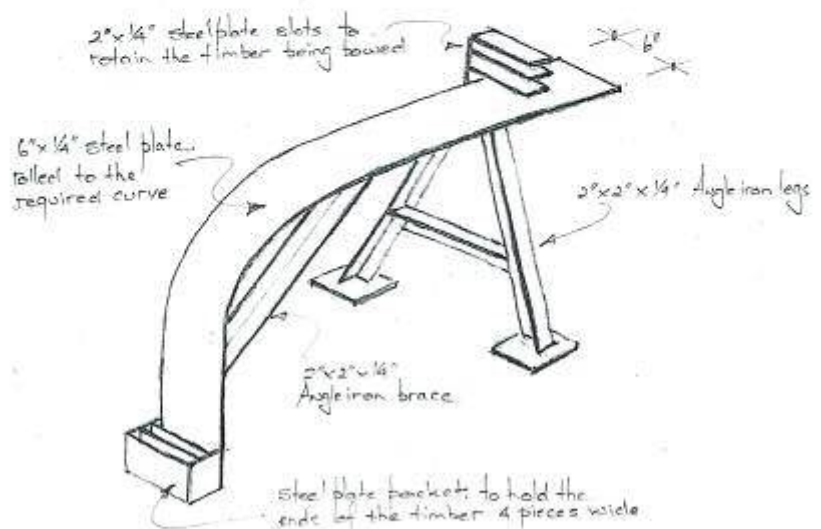
Firstly he did not faithfully Steam the timber, he more boiled it. His method was as follows – He used Karri Timber from W.A. The timber must be a long grain timber free from all defects and imperfections i.e. knots, splits or stakes. He used unseasoned timber i.e. Green, this makes it much easier the size he used was $1\frac{1}{4}'' \times \frac{3}{4}''$ 32 x 19. I have often thought if I was to steam bend bows for a caravan. I would see if I could get some roof tile batons as these are unseasoned and are 38 x 25 off saw. If you go down this path they would have to be fresh and used immediately, as they will dry out very quickly.

Dad had a 6'0" length of 10-12" diameter pipe with one end closed off. Mounted on two pieces of angle iron so as the pipe was at about 25 degrees. This sat out in the back yard of his factory. As his factory did not have a blower/exhaust system all the saw dust and shavings went on the floor. This is where my brother and I came into the picture, on Saturday we would clean up the factory all the sawdust, shavings and offcuts were taken out the back piled up around the above mentioned pipe. We would then fill the pipe with water and put in 12 pieces of the 32 x 19 Karri timber in the pipe. Dad would then pack a wheat bag in the top of the pipe with the timber projecting out as it was about 8'0" long. Longer enough to go from the bottom of the van to the top. His vans only had a curve on the bottom. The fire was then lit and we would spend the afternoon playing with the fire. At about 5 o'clock just before we went home the timber was

BOWING TIMBER FOR CARAVAN FRAMES



STEAMER/BOILER



Bow Former



removed and put into a jig to form the curve. This was a simple affair just a piece of 6" plate steel formed to shape slightly sharper than required, braced up with angle iron so as to stand up. On the bottom and top it had pieces of steel welded on for the timber to slip into. It would hold 4 pieces on the bottom with 3 layers on top of each other. Dad would leave it there until he needed a set of 4 most likely Monday morning.

Laminating Timber

When I made my 1950s replica tear drop caravan I laminated the curved member of the frame. I used 2 pieces of 32 x 7 and 1 piece of 32 x 4 Oregon (clean no defects). We had just completed a special building project using selected Oregon imported for the job direct from Canada, fortunately a few offcuts were left. The 4mm



piece ran around the van from front to back to the line of the hatch as the front and roof lining was 3.2mm thick and the hatch lining was 6.5mm thick.

I simply screwed timber blocks to a sheet of MDF glued, and bent the oregon around the blocks and put on as many clamps as possible to hold it to the blocks. The remainder of the frame is 32 x 19 Australian Oak.

About 4 years ago the rear roof bow broke on my 1928 Falcon Knight Tourer. I pulled the old one out and measured it up it was about 2000 long 60mm wide and 35 thick with a radius on each end. The original was steam bent out of American Oak. American Oak is very expensive and not available green in Australia. I decided to laminate rather than steam bend. I laminated together 2/25mm and one 9mm MDF boards making a piece 59 thick then cut out the shape of the bow to the inside radius then took out 35mm i.e. to the outside radius. I then machined up 2 or 3 pieces of Australia Oak 60 x 3 and tried to bend these around the jig but they broke before they got any near the radius required I then decided to use plywood as the bow is fully wrapped with fabric and is not seen. A sheet of 4mm good quality ply was purchased (possibly Marine grade) this was cut into 60mm wide strips across the sheet. 18 strips required. The first layer was two 1200 pieces butted end to end. The next layer was a 600 long piece 1200 long piece and a 600 long piece so as to stagger the joints. All layers then followed this pattern. Once glued it was put into the jig and 3 bar clamps were used to pull it up. A few small wedges were driven in the ends if there were any gaps. I used water resistant PVA glue. When it



was dry and removed from the jig. it was very strong. I shaped the ends with a side axe rasp and belt sander so as they would fix into the hood irons, then completed the fabric, a very successful job.

Ray Mossop