



## PROJECT DECONSTRUCT – *Ideas and techniques*

# Pergola

I was recently called upon by my mother to help re-treat her garden bench, something that is required every 2-3 years to keep it from decaying. As part of this, I decided to give the untreated Pergola I built for her, to provide some shade about 12 years ago, a thorough inspection. I hate building in maintenance to projects, so when we created the Pergola I used some surplus iroko (*Milicia excelsa*) and declared to a sceptical mother – always the most demanding client, with the exception of your wife – that it did not require any treatment. It has weathered down nicely over the years to an array of silver and grey colours with some lichen, etc. in places. There is some minor warping and

12 years ago, **Chris Grace** made a shady arbour for a garden seat and it's still holding up well

twisting of the thinner parts, but no discernible rot and it's still structurally sound. In part, this is due to placing the legs on slabs to keep them clear of the soil and perpetual damp, but also to the choice of timber.

The original request, 12 years ago, was to help my mum choose a pergola to provide shade in her garden for her favourite bench. Having looked around at the available offerings on the market, predominantly in softwoods, and having seen one in a local garden slowly collapse over a few years, I decided that it had to be made from hardwood and designed and constructed to last. I had talked myself into yet another job!



The pergola was made using pieces of leftover iroko



### Making the frames

I had surplus iroko from a decking project, so I designed the pergola around the sizes of timber I had and the bench it was to go over. I used half-planks to form the uprights and rails, before planing them all. I glued the side and rear frames, then clamped and screwed them into place with counterbored holes, which will later be plugged. I achieved a tight and well-aligned butt joint by using clamps loosely placed across the joint, together with longer ones to pull it together before screwing.



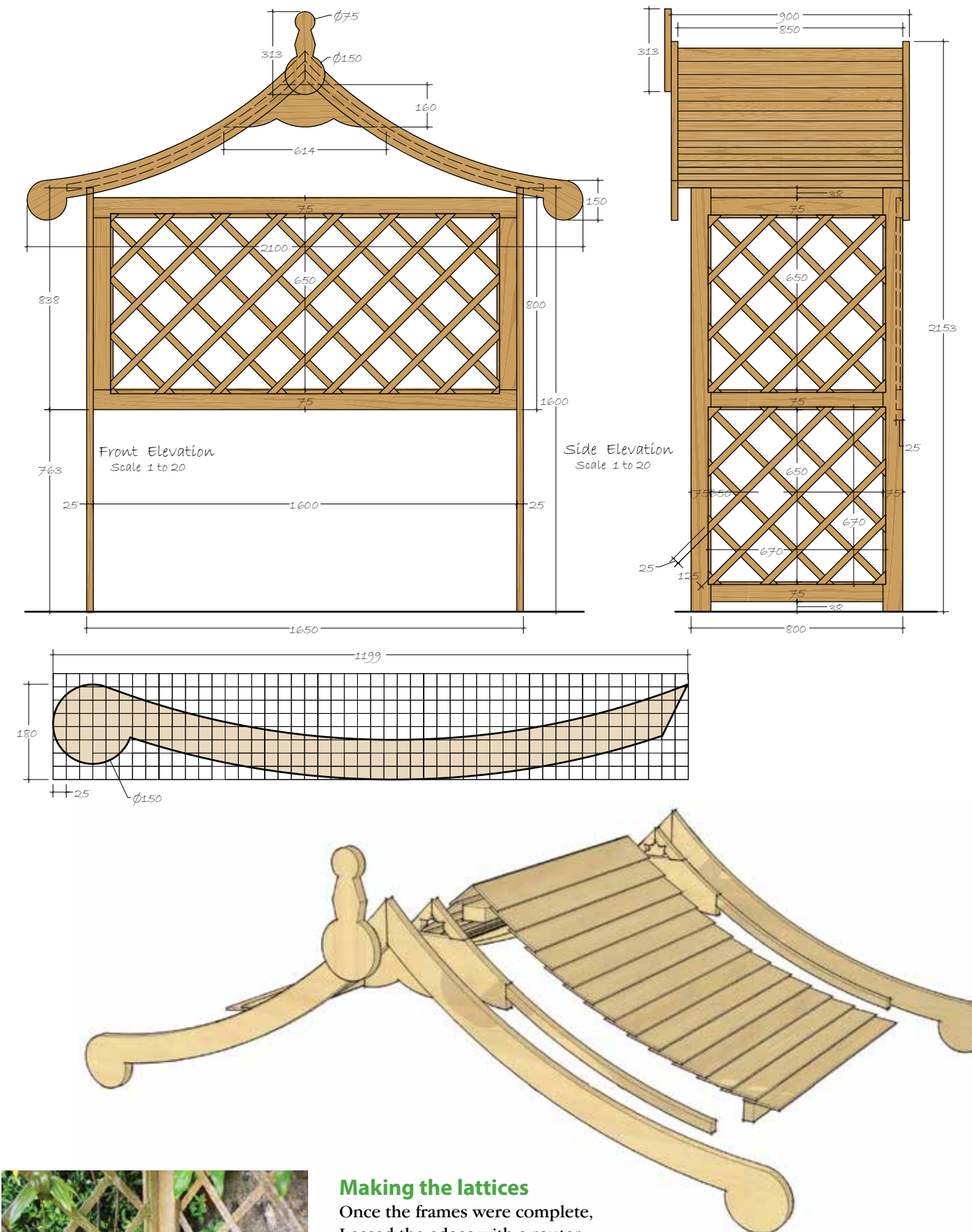
A tight and well-aligned butt joint was achieved by using a selection of clamps



The side and rear frames were glued then clamped together



Half-planks were used to form the uprights and rails



The lattice was installed one layer first and then the other at 90° on top

### Making the lattices

Once the frames were complete, I eased the edges with a router and created a rebate to take the latticework. The lattice is simply ripped on a tablesaw and the finish on mine was good enough for this project.

I attempted to weave the lattice, but the iroko was too stiff and I wasn't happy with the result, so it was

installed one layer first and then the other at 90° on top. When I installed the lattice, I cut small triangles so that the top layer could be screwed into the frame rebate without distorting the wood. I screwed the rear panel to the top of the sides on installation.





**A central front-rear beam was installed in the peaked roof for rigidity**



**Some different timber was used for the exterior roof slats**



**The main roof beams were bandsawn out of wide boards and some of the curved offcuts were used to support the roof slats**

### The peaked roof

The peaked roof needed to be well braced to avoid it splaying and collapsing over time. A central front-rear beam was installed for rigidity.

The main roof beams were bandsawn out of wide boards and some of the curved offcuts were used to support the roof slats. I joined them with beams at the sides, which enabled me to create a slight overhang at the front.

By this stage in the process I had run out of wood in suitable sizes, so a quick trip to a local timber merchant got me some 1.50m × 50mm lengths that could be bandsawn down to 6mm-thick roof slats.

### Adding decoration

It was now time to add some decoration. As my mother was keen on yoga at the time, my wife suggested I incorporate chakras into the design. I selected three designs I thought I could carve and set to the task, armed with just a knife. Not easy in iroko, but the result was acceptable and mum was delighted with the 'personalised' decoration. I placed the solar plexus – the third chakra – on the left, the sacral – second chakra – on the finial and the heart – fourth chakra – on the right lobe.

Installation took all three of us a couple of hours, as we had assembled the main components, arranged slabs for it to sit on, nailed on all of the roof slats and hoisted that into place. The whole thing was screwed to foundation slabs with stainless brackets. ■



**The whole structure was screwed to foundation slabs with stainless brackets**



**The third chakra was placed on the left, the second chakra was placed on the finial and the fourth chakra was placed on the right lobe**