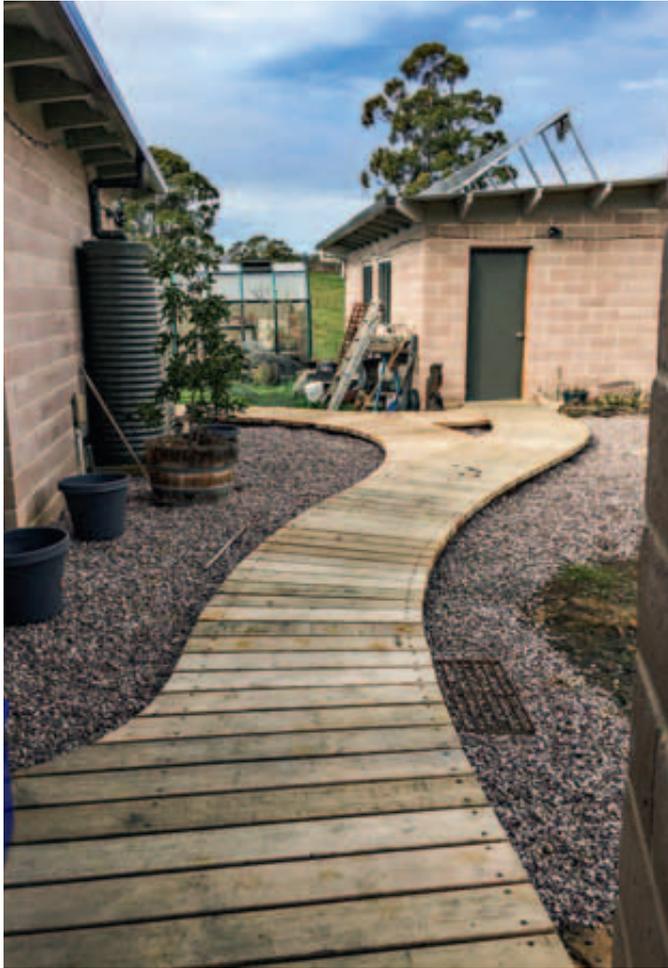


# Curved connections

BY ALEX JERRIM

*'In life, as in art, the beautiful moves in curves'*

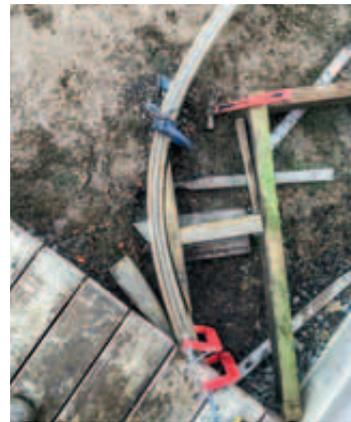
— EDWARD G. BULWER-LYTTON



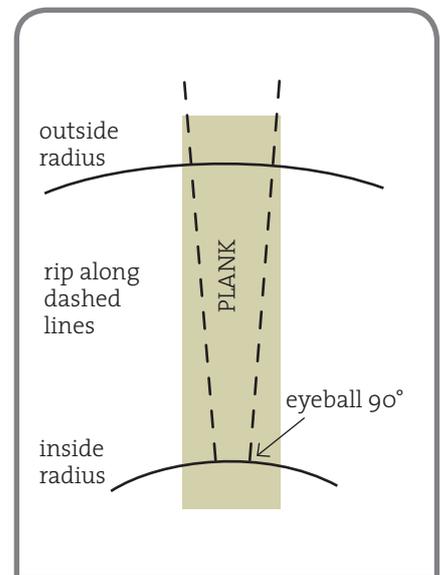
Recently I helped friends design and construct a curved path – and never have these words resonated more with me. The newly built house, with separate garage, is outlined by straight lines and sharp edges. This contemporary form contrasts uneasily with a landscape that flows across rolling pasture and hills of native bush that wend their way towards Mount Wellington. A sweeping, curvaceous wooden path and deck emerged as the way to relax the contrast and connect life in and around the house with the natural world.

To begin we used thin battens to scribe flowing lines around the main building. Then we stood back and put the curves to the feel-good test. We fine tuned the curves then used surveyor's spray paint to mark the coming structure's outline.

Marking out a curve on the ground is easy. But to create a structure that follows a changing radius presents all sorts of design and implementation challenges. The rails that support the pathway planks would have to be bent around tight curves and each plank



shaped individually to accommodate the differences between inside and outside radii. We used a variety of steam bending techniques to negotiate the curves and to calculate the shape of each plank – to be made from 150 x 50mm quarter-sawn Tasmanian oak. We would stand above where it was to go and eyeball a 90°ish angle off the inside radius of each side of the plank (see diagram).





There is a limit to how far you can bend a piece of wood before it breaks on the outside edge or fails due to a compression fracture on the inside. Essential to an effective bend are long, straight, continuous fibres, with no knots. Our rails were 100 x 50mm treated pine. Timber merchants rarely sell knot-free small dimension treated pine. To circumvent this problem, we purchased oversized timber and ripped it down to size; we laminated the waste and used it in sections of the path that are straight.

Some of the tighter curves were beyond the bending limitations of a 100 x 50mm section. For these we either reduced the rail width by 12mm or ripped just the tightest section of the piece so it comprised three narrow laminations (see photo opposite page centre). For ripping we used a handsaw, because the kerf on a power saw would have been too wide and on a bandsaw it would have been tricky to rip just one part of a 6m long rail into three. Of all the bending we did only one piece failed.

Our 6m long steam box was a great find – a cheaply made plywood packing crate destined for landfill that I happened to notice out the back of a warehouse. We dismantled the box, rebuilt and sealed it with liquid nails and then insulated it with surplus roofing batts and foil. To create the steam we used an old Fowlers preserving boiler. We achieved sufficient steam in the box within one hour even though on several days snow was falling!

The final bending challenge was to build the forms that each steamed 6m length could be bent around. The C-section posts that they would connect to were not up to the sideways forces that the bending action would apply. So each section of rail needed its own individual bending form to complement the radii it was to fit (see photo). Problems solved, from this point it was hard physical work – about 250 person-hours.

At the time of writing, the project is almost finished. In my mind's eye, nature has fashioned a wooden stream to flow around the house then off into the valley below. The result confirms beauty does move in curves. ♦

*Alex from Wisdom Through Wood teaches traditional woodworking at his property in southern Tasmania and helps friends with 'interesting projects.'* [www.wisdomthroughwood.com](http://www.wisdomthroughwood.com)

*For comprehensive information about steam bending see Timber Bending: The Secrets of Wheelwrighting by M.C. Hendrickson (2010). \$35, ISBN 9780646540825. [www.skillspublish.com.au](http://www.skillspublish.com.au)*

## Web sights...

### BLOOMING FLAGSTONES

Darcia McKnight from the USA says, 'My backyard is a cottagey sort of mess most of the time. This is my patio, with *Mazus reptans* between the flagstones. It blooms most dramatically in April, but has at least a few blooms for most of the growing season. There are sections of the patio that get too hot for *Mazus* in the summer and we've experimented with several sedums with limited success.'

[www.callicarpa.org/oakleaf-woods/](http://www.callicarpa.org/oakleaf-woods/)



### BRICK BREAKS

Panayoti Kelaidis' blog, Prairiebreak hosts 'Horticultural and botanical musings from the Rockies, Great Plains and beyond. In humble tribute to Goddess Flora.' He visited the garden of Mike and Jane Sullivan in Wyoming USA, with this stunning solution to accommodate drainage from the roof. Jane pointed out that she brings back many of these round stones from her trips around the world.

The brick pathway includes some granite pieces that had been discarded after a renovation at Wyoming State Capitol. ♦ [prairiebreak.blogspot.com.au](http://prairiebreak.blogspot.com.au)

